A monograph of the Afrotropical *Cassidinae* (*Coleoptera*: *Chrysomelidae*) Part II. Revision of the tribe *Aspidimorphini* 2, the genus *Aspidimorpha* HOPE

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ABSTRACT. Afrotropical species of the genus *Aspidimorpha* are reviewed, keyed and figured. Four new subgenera are proposed: *Afroaspidimorpha* (type species: *Cassida nigromaculata* HERBST, 1799), *Aspidocassis* (type species: *Cassida confinis* KLUG, 1835), *Semiaspidimorpha* (type species: *Aspidomorpha chlorina* BOHEMAN, 1854), *Spaethiomorpha* BOROWIEC (type species: *Aspidomorpha haefligeri* SPAETH, 1906). The genus comprises 132 species in the Afrotropical Region, 26 of them new to the sciences: *A.* (s. str.) *andrei* (Zaire), *A.* (s. str.) *atrodorsata* (Zaire), *A.* (s. str.) *bertiae* (Madagascar), *A.* (s. str.) *collarti* (Gabon and Zaire), *A.* (s. str.) *corrugata* (Madagascar); *A.* (s. str.) *fampanamboensis* (Madagascar), *A.* (s. str.) *filiola* (Zimbabwe), *A.* (s. str.) *flaviceps* (Angola), *A.* (*Spaethia*) *heroni* (Kenya), *A.* (*Aspidocassis*) *hiekei* (Senegal and Togo), *A.* (s. str.) *incerta* (Cameroon, Equatorial Guinea and Zaire), *A.* (s. str.) *levissima* (Cameroon), *A.* (s. str.) *mirabilis* (Rwanda, Uganda, Urundi and Zaire), *A.* (s. str.) *montanella* (Uganda and Zaire), *A.* (s. str.) *muehlei* (Zaire), *A.* (s. str.) *obuduensis* (Nigeria), *A.* (*Afroaspidimorpha*) *pseudoareata* (Kenya, Uganda and Zaire), *A.* (s. str.) *rubroornata* (Madagascar), *A.* (*Semiaspidimorpha*) *salazarensis* (Angola), *A.* (s. str.) *sankuruensis* (Zaire), *A.* (s. str.) *sassii* (Kenya), *A.* (*Weiseocassis*) *sculpturata* (Tanzania), *A.* (s. str.) *setosa* (Equatorial Guinea, Republic of Central Africa, Republic of Congo and Zaire), *A.* (*Aspidocassis*) *tanolaensis* (Madagascar), *A.* (s. str.) *tuberosa* (Zaire) and *A.* (s. str.) *uluguruensis* (Tanzania). The following new synonymies are proposed: *Aspidimorpha adumbrata* SPAETH, 1917 = *A. zavattarii* SPAETH, 1941, *Aspidimorpha apicalis* (KLUG, 1833) = *Cassida dorsomicans* FAIRMAIRE, 1904, *Aspidimorpha areata* (KLUG, 1835) = *A. areata* ssp. *egregiata* SHAW, 1955, *Aspidimorpha biguttata* (FABRICIUS, 1775) = *A. Schubotzi* WEISE, 1912 = *A. biguttata* var. *Bertolonii* SPAETH, 1905 = *A. candens* SPAETH, 1906 = *A. biguttata* var. *Katonae* SPAETH, 1912 = *A. biguttata* var. *sulphurea* SPAETH, 1912, *Aspidimorpha bimaculata* (FABRICIUS, 1792 = *A. bimaculata* var. *cordigera* SPAETH, 1902, *Aspidimorpha confinis* (KLUG, 1835) = *A. concinna* WEISE, 1899, *Aspidimorpha dissentanea* BOHEMAN, 1862 = *A. insculpta* BOHEMAN, 1862, *Aspidomorpha icterica* BOHEMAN, 1854 = *A. flavens* SPAETH, 1912, *Aspidimorpha irrorata* WEISE, 1898 = *A. lateralis* WEISE, 1899, *Aspidomorpha isparetta* BOHEMAN, 1854 = *Aspidomorpha galamensis* BOHEMAN, 1854 = *Aspidomorpha ludibunda* BOHEMAN, 1862 = *Aspidomorpha dispilota* BOHEMAN, 1862: 261; *Aspidimorpha kasaiensis* SPAETH, 1932 = *Weiseocassis sublaevis* SPAETH, 1934, *Aspidimorpha pellucida* WEISE, 1899 = *A. schoutedeni* SPAETH, 1912, *Aspidimorpha puncticosta* BOHEMAN, 1854 = *A. argillacea* WEISE, 1896, *Aspidimorpha severini* SPAETH, 1902 = *A. severini* spp. *ovambana* SPAETH, 1928, *Aspidimorpha striata* WEISE, 1896 = *A. prasina* WEISE, 1899.

Key words: entomology, taxonomy, monograph, *Coleoptera*, *Chrysomelidae*, *Cassidinae*, *Aspidimorpha*, Afrotropical Region.

INTRODUCTION

The second volume of the monograph of the Afrotropical *Cassidinae* comprises a review of the genus *Aspidimorpha* HOPE, large and extremely difficult taxonomically. It is widespread in the tropics and subtropics of the Old World. Only Australopapuan species have been revised recently (BOROWIEC 1992), a revision of Oriental species is in preparation. *Aspidimorpha* is one of the largest genera of the *Cassidinae*, c. 180 nominal species were proposed (including new species described in this book), divided into 10 subgenera. The centre of distribution, with 132 species and 8 subgenera, is in the Afrotropical Region. All the Afrotropical species and 5 subgenera are endemics of the Region.

African species have never been revised, only key to the subgenus *Spaethia* was published (SPAETH 1924). Many species are extremely variable in shape and colouration, and especially species of the nominotypical subgenus are very difficult to identify. Often specimens from various geographic populations of the same species are more different than specimens of different species from the same area. Thus, old museum specimens without detailed label data are impossible to identify correctly. The male genitalia and spermathecae are very uniform within the group of species and in this book they were not used as taxonomical characters. Sometimes the best diagnostic character in case of specimens of similar species was a geographic range, thus detailed distribution maps are included for almost all species. Maybe, some species treated here as vicariant are, in fact, subspecies of the same taxon, but because of the scarcity of material and lack of biological data for most of the species I have never decided to describe subspecific taxa.

The following abbreviations have been used in the text (in brackets names of curators):

AB - coll. A. BIEŃKOWSKI, Moscow, Russia;
BG - coll. B. GRUEV, Plovdiv, Bulgaria;
BM - Bloemfontain Museum, Bloemfontain, South Africa (S. LOUW);
BMNH - British Museum Natural History, London, England (S. SHUTE);
CAS - California Academy of Sciences, San Francisco, USA (D. KAVANAUGH);
CMN - Canadian Museum of Nature, Ottawa, Canada (R.S. ANDERSON);
CMNH - Carnegie Museum of Natural History, Pittsburgh, USA (R.L. DAVIDSON);
CNCI - Canadian National Collection of Insects, Ottawa, Canada (L. LESAGE);
CTM - Cape Town Museum, Cape Town, South Africa (V. WHITEHEAD);
DEI - Deutsche Entomologisches Institut, Eberswalde, Germany (L. DIECKMANN);
DNSM - Durban Natural Science Museum, Durban, South Africa (A. HEERES);
DS - coll. D. SASSI, Milano, Italy;
DZPAS - Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, Cracow, Poland (J. PAWŁOWSKI);
EGS - coll. E. GOWING-SCOPES, Halstead, England;
EO - coll. E. OBERMAIER, Würzburg, Germany;

ER - coll. E. RILEY, Texas, USA;
FMNH - Field Museum of Natural History, Chicago, USA (E.H. SMITH);
HH - coll. H. HERON, Queensburgh, South Africa;
HK - coll. H. KIPPENBERG, Herzogenaurach, Germany;
HNHM - Hungarian Natural History Museum, Budapest, Hungary (Z. KASZAB and O. MERKL);
IFAN - Institut Fondamental d'Afrique Noire, Dakar, Senegal (R. ROY);
IRSN - Institut Royal des Sciences Naturelles, Bruxelles, Belgium (L. BAERT and and M. CLUDTS);
ITZ - Instituut voor Taxonomische Zoölogie, Amsterdam, The Netherland (B. BRUGGE);
IZPAS - Zoological Institute, Polish Academy of Sciences, Warsaw, Poland (S. A. SLIPIŃSKI);
JM - coll. J. MAUSER, Freiburg, Germany;
JW - coll. J. WOJTUSIAK, Cracow, Poland;
LB - coll. L. BOROWIEC, Wrocław, Poland;
LU - Zoological Museum, Lund University, Lund, Sweden (R. DANIELSSON);
MCSNT - Muzeo Zoologico di Storia Naturale, Trieste, Italy (G. ALBERTI);
MCZC - Museum of Comparative Zoology, Cambridge, USA (D. FURTH);
MD - coll. M. DÖBERL, Seeweg, Germany;
MHNG - Musee d'Histoire Naturelle, Geneve, Switzerland (I. LÖBL);
MKB - Museum Koenig, Bonn, Germany (M. SCHMITT);
MM - Manchester Museum, Manchester, England (C. JOHNSON);
MNHN - Muséum National d'Histoire Naturelle, Paris, France (N. BERTI);
MRAC - Musée Royal d'Afrique Centrale, Tervuren, Belgium (J.DECELLE);
MS - coll. M. SNIZEK, České Budějovice, Czech Republik;
MSU - Montana State University, Bozeman, USA (M. IVIE);
MZSNG - Museo Zoologico di Storia Naturale, Genova, Italy (R. POGGI);
MZSNV - Museo Zoologico di Storia Naturale, Verona, Italy (M. DACORDI, including private coll.);
MZUF - Museo Zoologico dell'Universita, Firenze, Italy (L. BARTOLOZZI);
NIC - National Collection of Insects, Pretoria, South Africa (B. GROBBELAAR);
NMB - Naturhistorisches Museum, Basel, Switzerland (M. BRANCUCCI);
NMM - National Museum and Monuments, Bulawayo, Zimbabwe (L. HANCOCK);
NMML - Natinaal Natuurhistorisch Museum Leiden (J. KRIKKEN);
NMP - Narodni Muzeum, Prague, Czecho-Slovakia (J. BILY);
NMW - Naturhistorisches Museum, Wien, Austria (H. SCHÖNMANN);
NRS - Naturhistoriska Riksmuseet, Stockholm, Sweden (P. LINDSKOG);
OSU - Ohio State University, Columbus, USA (Ch. TRIPLEHORN);
PMNH - Peabody Museum of Natural History, New Haven, USA (C.L. REMINGTON);
RB - coll. R. BEENEN, Nieuwegein, The Netherlands;
RR - coll. R. REGALIN, Milano, Italy;
SD - coll. S. DOGUET, Noisy le Grand, France;
SEMC - Snow Entomological Museum, LAWRENCE, USA (R. BROOKS);
SL - coll. S. LUNDBERG, Luleå, Sweden;

SMF - Senckenberg Museum, Frankfurt-am-Main, Germany (R. ZUR STRASSEN);
SMNS - Staatliches Musem fur Tierkunde, Stuttgart, Germany (W. SCHAWALLER);
SZ - coll. S. ZOIA, Milano, Italy;
TM - Transvaal Museum, Pretoria, South Africa (S. ENDRÖDY-YOUNGA);
TW - coll. T. WAGNER, Museum Koenig, Bonn, Germany;
UA - coll. U. ARNOLD, Berlin, Germany;
USNM - United States National Museum, Washington, USA (R. WHITE);
WM - Windhoek Museum, Windhoek, Namibia (E. MARAIS);
WS - coll. W. STEINHAUSEN, München, Germany;
ZMC - Zoologisk Museum, Copenhagen, Danmark (O. MARTIN);
ZMHU - Zoologisches Museum, Humboldt Universitat, Berlin, Germany (F. HIEKE);
ZMUH - Zoological Musum, University of Helsinki, Helsinki, Finnland (H. SILFVERBERG);
ZSM - Zoologische Staatssamlung, Munchen, Germany (G. SCHERER);
AT - allotype;
HT - holotype;
LT - lectotype;
PT - paratype(s);
PLT - paralectotype(s);
ST - syntype(s);
TE - type;
Le - body length;
Wi - body width;
Lp - length of pronotum;
Wp - width of pronotum;
Ex - maximum width of explanate margin of elytra;
Wd - width of elytral disc;
Le/Wi - body length/width ratio;
Wi/Wp - maximum width of elytra/width of pronotum ratio;
Wp/Lp - width of pronotum/length of pronotum ratio.

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REVIEW OF THE SPECIES

Tribe: *Aspidimorphini* CHAPUIS, 1875

Aspidimorphites CHAPUIS, 1875: 406.
Aspidimorphini: BOROWIEC, 1994: 42.
Aspidomorphitae: SPAETH, 1914 c: 129.
Aspidomorphini: SPAETH in HINCKS, 1952: 336; GRESSITT, 1952: 460; SEENO and WILCOX, 1982: 175; BOROWIEC, 1992: 121.

This tribe is probably artificial and in my tribal classification of the subfamily *Cassidinae* I synonymized it with the tribe *Cassidini* (BOROWIEC 1995 a), but in the present monograph the tribe *Aspidimorphini* is treated in its traditional sense. The tribe includes all the Old World cassidoid genera with pectinate claws.

Genus: *Aspidimorpha* HOPE, 1840

Aspidimorpha HOPE, 1840: 158 (type species: *Cassida miliaris* FABRICIUS, 1775, by original designation); CHAPUIS, 1875: 407; SEENO and WILCOX, 1982: 175; BOROWIEC, 1992: 123, 1994: 12.
Aspidomorpha [!]: AGASSIZ, 1846: 16; SPAETH, 1914 b: 67; HINCKS, 1952: 336; 1962: 243; GRESSITT, 1952: 460; GRESSITT and KIMOTO, 1963: 948; CHEN et al., 1986: 578.
Afroaspidimorpha BOROWIEC, n. subgen. (type species: *Cassida nigromaculata* HERBST, 1799, by original designation), subgenus.
Aspidocassis BOROWIEC, n. subgen. (type species: *Cassida confinis* KLUG, 1835, by original designation) subgenus.
Dianaspis CHEN et ZIA, 1984: 80 (type species: *Aspidomorpha denticollis* SPAETH, 1932 = *Dianaspis bifoveolata* CHEN et ZIA, 1984, by monotypy); BOROWIEC, 1992: 124 (as subgenus), subgenus (Oriental Region).
Iphinoë SPAETH, 1898: 540 (type species: *Iphinoë ganglbaueri* SPAETH, 1898, by monotypy), homonym (preoccupied by *Iphinoë* BATE, 1856).
Megaspidomorpha SPAETH, 1943: 48, nomen nudum (type species not designated).
Megaspidomorpha HINCKS, 1952: 336 (type species: *Cassida chlorotica* OLIVIER, 1808, by monotypy); SEENO and WILCOX, 1982: 175.
Neoaspidimorpha BOROWIEC, 1992: 126 (type species: *Aspidomorpha septemcostata* WAGENER, 1881, by monotypy), subgenus (Australian Region).
Semiaspidimorpha n. subgen. (type species: *Aspidomorpha chlorina* BOHEMAN, 1854, by original designation), subgenus.
Spaethia Berg, 1899: 79 (new name for *Iphinoë* SPAETH not BATE, 1856) ; SPAETH, 1914 b: 78 (as subgenus of *Aspidomorpha*); HINCKS, 1952: 336 (as syn. of *Aspidomorpha*), subgenus.
Spaethiomorpha BOROWIEC n. subgen. (type species: *Aspidomorpha haefligeri* SPAETH, 1906, by monotypy), subgenus.
Weiseocassis SPAETH, 1932 b: 3 (type species: *Aspidomorpha striata* WEISE, 1896 = *Aspidomorpha prasina* WEISE, 1899, by original designation), subgenus.

An extremely heterogenous genus. Strongly specialized beetles with body usually almost circular and very broad explanate margin of pronotum and elytra. Clypeus flat or only slightly elevated. Venter of pronotum always without antennal grooves. Prosternal process expanded apically. Antennae elongate, segment 3 usually distinctly longer than segment 2. External side of tibiae usually canaliculate

only in basal and distal parts. Elytra often with conical postscutellar tubercle. Elytral puncturation usually fine, only occasionally strong, subrugose to rugose, regular to completely irregular. Claws with pecten on both sides or external pecten obsolete. Tropics and subtropics of the Old World, only two species occur in the eastern part of the Palaearctic Region.

KEY TO THE SUBGENERA

1. Tarsal claws with distinct pecten on both sides, external pecten sometimes short, then elytra with postscutellar tubercle (figs 319-320, 714-715, 985-986, 1145-1146). ..... 2.
-. Tarsal claws with distinct pecten only on inner side, external pecten very short or obsolete (figs 64-65, 106-107, 167-168, 215-216). Elytra usually regularly convex (fig. 164) or depressed (fig. 179), rarely gibbous (fig. 225), only occasionally with postscutellar tubercle (fig. 298). ..... 4.
2. Labrum strongly transverse, without median emargination (figs 139, 149, 158). Body large, length usually above 12 mm, upper side always uniformly yellow. Elytra always without postscutellar tubercle, regularly convex (figs 136, 138, 146, 148, 155, 157), and completely irregularly punctate. ..... *Megaspidomorpha*
-. Labrum moderately transverse, usually emarginate (figs 317, 330). Body varies from small to large, but length usually below 12 mm, upper side often with dark pattern. Elytra often with postscutellar tubercle, or gibbous, puncturation usually partly or completely regular. ..... 3.
3. Third antennal segment not or only slightly longer than the fourth (figs 309, 318). Body oval, elytral puncturation strong, regular, or partly disordered by elytral relief, disc of elytra regularly convex (figs 307, 314, 316). ..... *Weiseocassis*
-. Third antennal segment usually distinctly longer than the fourth (figs 325, 331, 345). Body varies from oval to circular, elytral puncturation usually fine, if strong then often partly irregular to rugose. Elytral disc varies from regularly convex (fig. 343) to gibbous (fig. 1159) or with postscutellar tubercle (fig. 913). ..... *Aspidimorpha* s. str.
4. Base of elytra usually wider than pronotum (fig. 163), occasionally as wide as or slightly wider than base of pronotum (figs 1, 3). Pronotal sides from angulate to rounded. Body usually depressed (figs 47, 179) or regularly convex (fig. 164), occasionally gibbous to angulate in profile (fig. 298). Third antennal segment usually not or only slightly longer than the fourth (figs. 6, 113, 207), occasionally third segment distinctly longer than the fourth (fig. 300). Dorsal surface often maculate. ..... 5.

-. Base of elytra not or only slightly wider than pronotum (figs 231, 258, 285). Pronotal sides angulate. Body usually slightly gibbous. Third antennal segment elongate, always distinctly longer than the fourth (figs227, 254, 288). Dorsal surface always uniformly yellow or green.
..... *Spaethia*

5. Puncturation of elytra completely irregular, surface appears dull or rugose, explanate margin strongly punctate. Dorsal surface always uniformly yellow to green.
..... 6.

-. Puncturation of elytra partly or completely regular, surface appears glabrous, explanate margin impunctate or shallowly punctate but than elytral puncturation completely regular. Dorsal surface often maculate.
..... 7.

6. Puncturation of elytra does not appear rugose, disc regularly convex to subangulate in profile. Last tergite in both sexes not modified.
..... *Aspidocassis*

-. Puncturation of elytra very strong, appears rugose, disc with conical tubercle, last tergite in male prolongate, forms triangular process (fig. 304).
..... *Spaethiomorpha*

7. Body almost circular. Base of elytra distinctly wider than pronotum, pronotal sides broadly rounded (figs 163, 178, 217).
..... *Semiaspidimorpha*

-. Body oval to elongate-oval. Base of elytra equal to or moderately wider than pronotum, pronotal sides subangulate to almost rounded (figs 1, 3, 31, 46, 60).
..... *Afroaspidimorpha*

Subgenus: *Afroaspidimorpha* Borowiec, new subgenus

Small species, length always below 8 mm. Body elongate-oval to oval, base of elytra not or slightly wider than base of pronotum. Elytral disc depressed or regularly convex, always without postscutellar gibbosity or tubercle. Pronotum elliptical, sides angulate to rounded. Puncturation of elytra regular, punctures large on whole row length. Clypeus with distinct clypeal grooves. Labrum broad, with distinct median emargination. Claws with obsolete outer pecten. Africa and Madagascar.

Type species: *Cassida nigromaculata* Herbst, 1799. Gender: feminine.

KEY TO THE SPECIES

1. Pronotum maculate (figs 12-17).
..... 2.

-. Pronotum immaculate.
..... 3.

2. Pronotum with four black spots in transverse row, spots sometimes grouped in two together on each side of disc (figs 12-15). Elytral black pattern varable (figs 9-15), forms usually three complete bands, occasionally whole disc black.
..... *areata*

-. Pronotum with large black spot, deeply emarginate anteriorly (figs 16-17). Elytral black pattern quite constant (figs 16-17), never forms complete transverse bands, usually in anterior part of disc large black round spot not connected with lateral band, in the middle large reniform spot, sometimes narrowly connected with lateral band.
..... *pseudoareata*

3. Explanate margin of elytra with both humeral and posterolateral spots or only with posterolateral spot (figs 31, 46, 60, 53).
..... 4.

-. Explanate margin of elytra immaculate.
..... 11.

4. Explanate margin of elytra with both humeral and posterolateral spots.
..... 5.

-. Explanate margin of elytra with only posterolateral spot.
..... 7.

5. Length below 7.2 mm.
..... 6.

-. Length above 7.5 mm.
..... *nigripes*

6. Legs yellow.
..... *multiguttata*

-. Legs mostly black.
..... *nigritarsis*

7. Species from Africa. Elytral punctures without brown areolae, disc often with reddish or black spots of various number and size.
..... 8.

-. Species from Madagascar. Elytral punctures with broad brownish areolae, without spots, but areolae sometimes partly coalescent.
..... *polyspila*

8. Posterolateral spot and elytral pattern (if present) deep black.
..... 9.

-. Posterolateral spot and elytral pattern (if present) reddish, occasinally brown, never deep black.
..... 10.

9. Clypeus elongate (fig. 33).
..... *longifrons*

-. Clypeus broad (fig. 62).
..... *nigromaculata*

10. Larger, length 6.3-7.6 mm. Pecten of tarsal claws longer, extending to 1/4-1/3 length of claw (fig. 92).
..... *severini*

-. Smaller, length 5.4-6.3 mm. Pecten of tarsal claws shorter, extending to c. 1/6 length of claw (fig. 29).
..... *loennebergi*

11. Species from Madagascar. Elytral punctures with broad brownish areolae, without spots, but areolae sometimes partly coalescent.
..... 12.

-. Species from Africa. Elytral punctures without brown areolae, disc uniformly yellow or with reddish or black spots of various number and size.
..... 13.

12. Pecten of tarsal claws longer, extending to 1/4 length of claw (fig. 80). Clypeus slightly convex with fine clypeal lines distinct only in basal half of clypeal plate (fig. 78).
..... *polyspila* (form without posterolateral spot)

-. Pecten of tarsal claws extremely short, only slightly extending behind margin of claw (fig. 23). Clypeus flat with clypeal lines distinct on whole length of clypeal plate (fig. 21).
..... *fallaciosa*

13. Pecten of tarsal claws very short extending to 1/6 length of claw (figs 7, 29, 99).
..... 14.

-. Pecten of tarsal claws longer, extending at least to 1/4 length of claw (figs. 35, 64, 92).
..... 17.

15. Clypeus convex, groundcolour of elytra green or argillaceous to reddish-brown, ventrites usually partly brown to black, occasionally uniformly yellow.
..... 16.

-. Clypeus flat, groundcolour of elytra yellow, disc often with reddish to dark brown spots, ventrites always uniformly yellow.
..... *loennebergi* (form without posterolateral spots)

16. Pronotal sides broadly rounded (fig. 95), elytra uniformly green.
..... *virens*

-. Pronotal sides angulate (figs 1, 3), elytra argillaceous to reddish brown, usually with brownish or black pattern, occasionally uniform but never green.
..... *areata*

17. Elytral disc uniformly yellow or with black spots.
..... 18.

-. Elytral disc with reddish spots.
..... *severini* (form without posterolateral spot)

18. Clypeus elongate (fig. 33).
..... *longifrons* (form without posterolateral spot)

-. Clypeus broad (fig. 62).
..... *nigromaculata* (form without posterolateral spot)

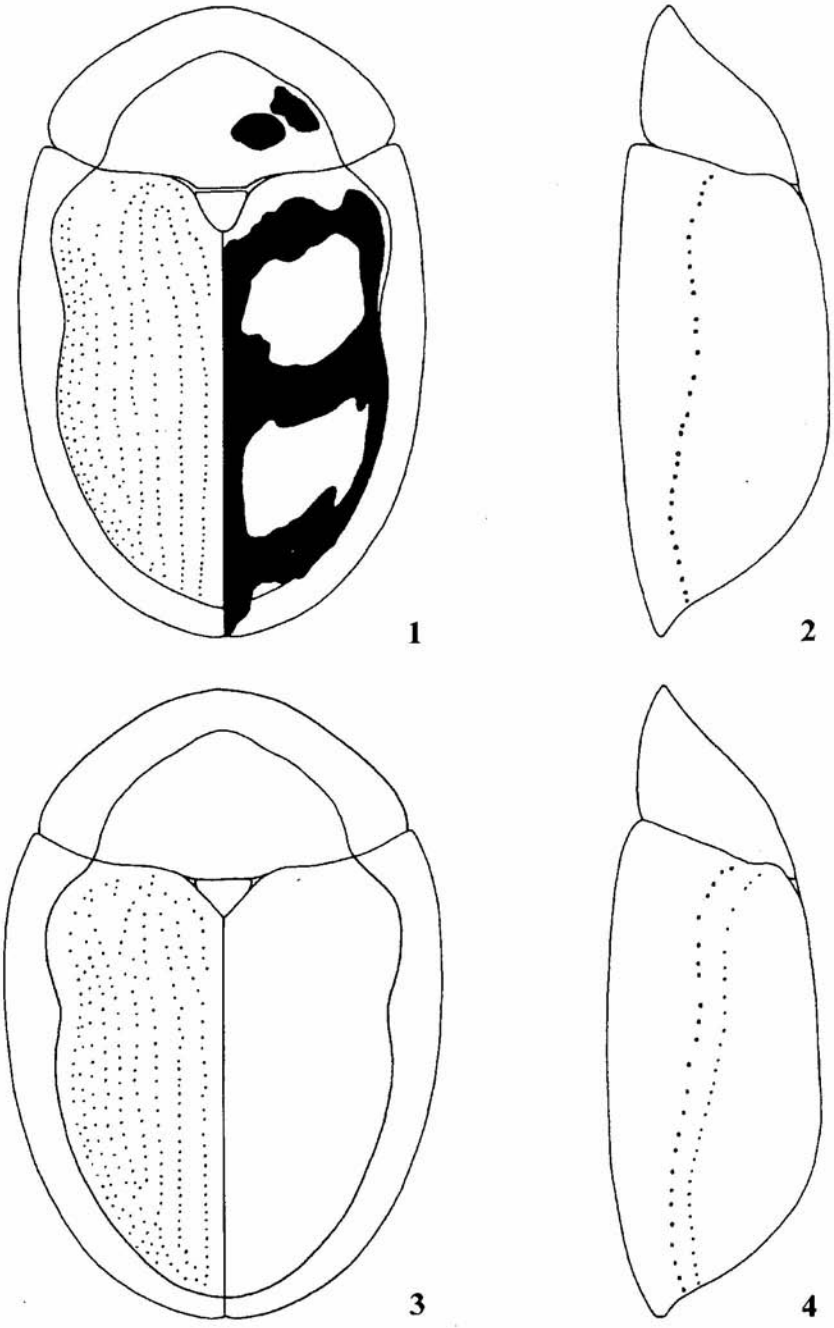
Aspidimorpha (*Afroaspidimorpha*) *areata* (KLUG, 1835)

Cassida areata KLUG, 1835: 48 (HT in ZMHU); BOHEMAN, 1854: 364, 1856: 124, 1862: 299.
Aspidomorpha areata: WEISE, 1896 c: 20; SPAETH, 1909: 277; 1910: 278; 1912 b: 505; 1915 a: 1; 1924: 290; 1932 b: 5; 1943: 50; SHAW, 1955: 231; 1956 a: 259; 1961: 10; 1963: 458; BOROWIEC, 1985 a: 227; 1985 b: 440; 1986: 792; ZAJCEV, 1989: 300 (larva).
Aspidomorpha (*Aspidomorpha*) *areata*: SPAETH, 1914 b: 73.
Aspidimorpha areata: BOROWIEC, 1995 b: 370.
Aspidomorpha areata var. *Duvivieri* SPAETH, 1902: 449 (LT in IRSN, PLT in IRSN, MM); WEISE, 1903: 223.
Aspidomorpha (*Aspidomorpha*) *areata* ssp. *Duvivieri*: SPAETH, 1914 b: 73.
Aspidomorpha areata ssp. *Duvivieri*: SPAETH, 1924: 291.
Aspidomorpha areata ab. *duvivieri*: SPAETH, 1932 b: 5.
Aspidomorpha areata var. *nigripennis* WEISE, 1903: 223 (LT in ZMHU); SPAETH, 1932 b: 5 (as syn. of *obscuripennis*).
Aspidomorpha (*Aspidomorpha*) *areata* ab. *nigripennis*: SPAETH, 1914 b: 73.
Aspidomorpha areata ssp. *egregiata* SHAW, 1955: 232 (HT in MRAC, PT in MM); 1972: 60, **n. syn.**
Cassida Coronula BOHEMAN, 1854: 365 (LT in NRS, PLT in BMNH), 1856: 124, 1862: 300; SPAETH, 1924: 291 (as syn. of *areata*).
Aspidomorpha (*Aspidomorpha*) *areata* var. *?coronula*: SPAETH, 1914 b: 73.
Aspidomorpha areata ab. *coronula*: SPAETH, 1932 b: 5.
Cassida obscuripennis BOHEMAN, 1856: 124 (TE in ?MNHN), 1862: 300; SPAETH, 1924: 291 (as syn. of *areata*).
Cassida (*Cassida*) *obscuripennis*: SPAETH, 1914 b: 119 (as possible synonym of *areata* ab. *nigripennis*).
Aspidomorpha areata ab. *obscuripennis*: SPAETH, 1932 b: 5.
Cassida inconstans FAIRMAIRE, 1893: 156 (ST in IRSN, MM); KOLBE, 1898: 345; SPAETH, 1924: 291 (as syn. of *areata*).
Aspidomorpha inconstans: SPAETH, 1909: 278.
Aspidomorpha (*Aspidomorpha*) *inconstans*: SPAETH, 1914 b: 75.
Aspidomorpha areata ab. *inconstans*: SPAETH, 1932 b: 5.

DESCRIPTION

Le: male: 5.7-8.1 mm, female: 6.4-8.4 mm, Wi: male: 3.9-5.8 mm, female: 4.1-5.9 mm, Lp: male: 2.1-2.9 mm, female: 2.2-2.9 mm, Wp: male: 3.4-4.5 mm, female: 3.5-4.8 mm, Ex: male and female: 0.8-1.1 mm, Wd: male: 3.2-4.5 mm, female: 3.4-4.6 mm. Le/Wi: male: 1.30-1.48, female: 1.42-1.56, Wi/Wp: male: 1.14-1.29, female: 1.17-1.23; Wp/Lp: male 1.55-1.70, female: 1.52-1.67. Body elongate-oval (figs 1, 3).

Extremely variable species (figs 9-15). Typically coloured specimens have pronotum reddish-yellow, disc with four large, black spots in transverse row, scutellum reddish-yellow, elytra reddish yellow, disc with black pattern as in fig. 14, explanate margin only with black sutural spot. This form predominates in the southern part of the distribution range. The black pattern can be increased or reduced, the darkest specimens have whole elytra black, the palest have only two pronotal spots and elytral pattern reduced to round spot close to scutellum, band from humerus to the middle of submarginal interval, and round spot in the middle of disc, or pattern forms black band along suture and along submarginal interval, or pattern is brownish, only slightly darker than neighbouring surface, only occasionally whole pronotum and elytra reddish-yellow to yellow. Pale forms

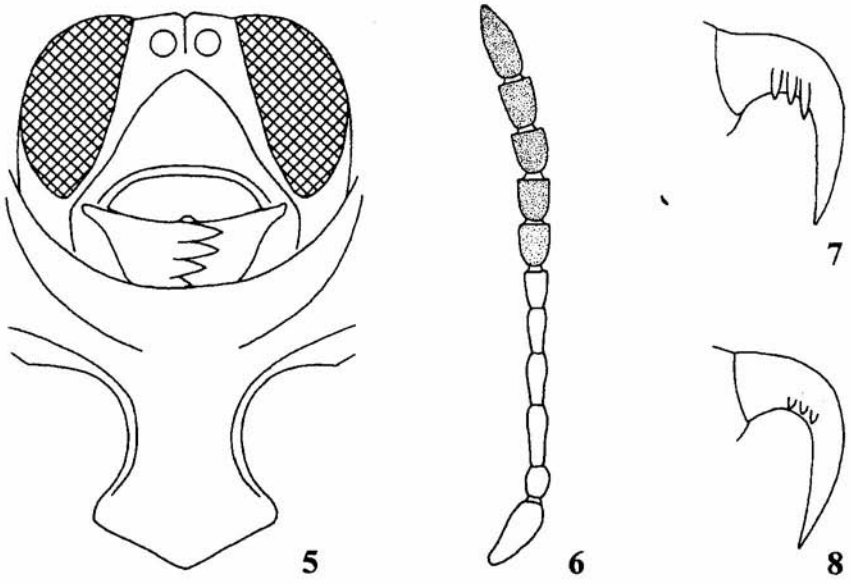


1-4. *Aspidimorpha areata*: 1, 3 – body in dorsal view, 2,4 – body in profile; 1-2 – typical form, 3-4 – form *egregiata*

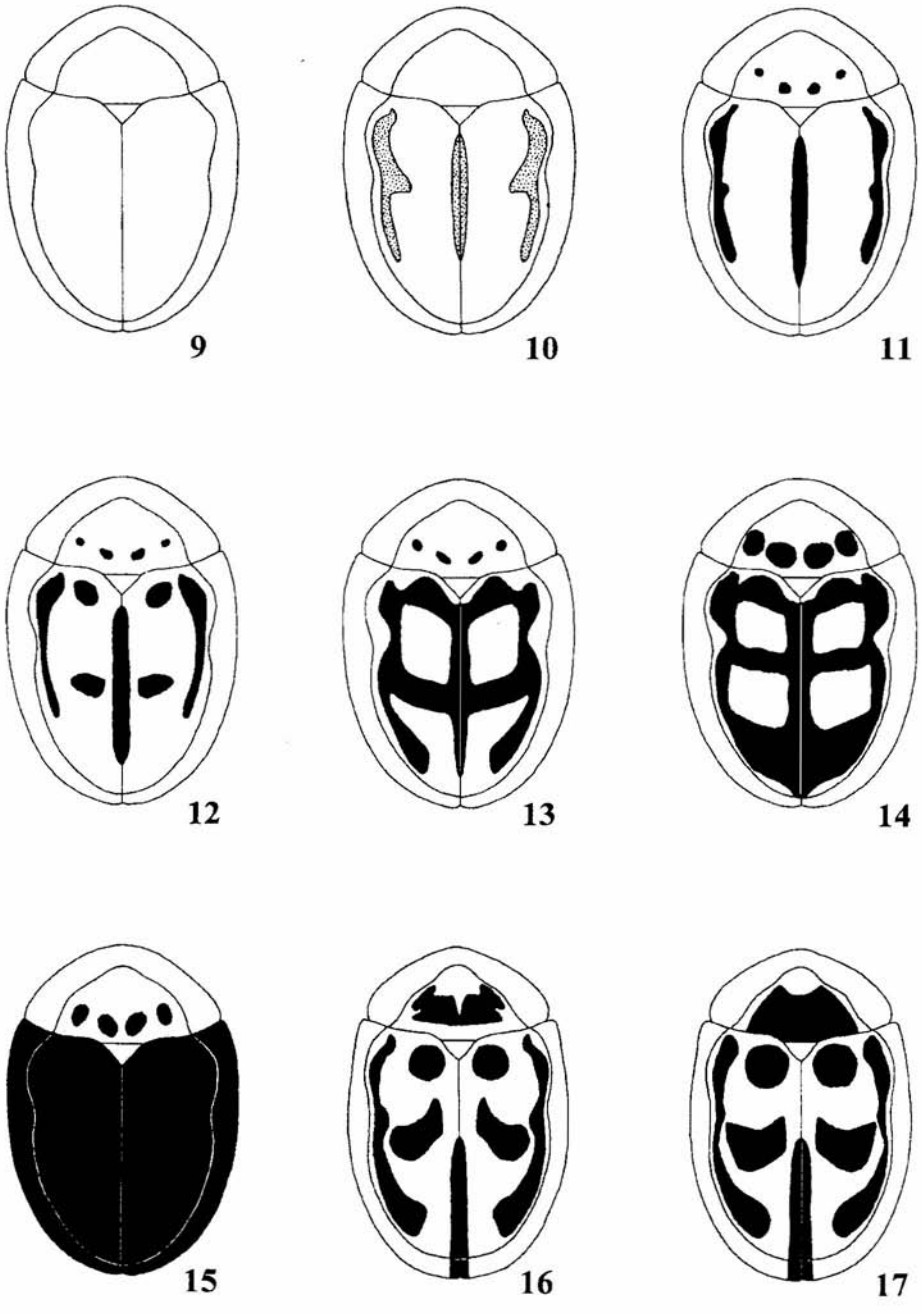
occur often in submountain regions from Uganda to Malawi. Ventrites also variable, typical form has head, thorax and abdomen black, except reddish lateral part of sternites, legs mostly black, fore tibiae and tarsi often mostly yellowish to brown. In the darkest specimens ventrites wholly black except brownish external margin of protibia. In pale specimens black is only central part of thorax and abdomen, in the palest form ventrites, including legs, completely yellow. All intermediate forms have been observed, usually there is no correlation between pale colouration of dorsal and ventral side, and specimens almost completely pale dorsally have completely black ventrites, and rarely specimens with distinct dorsal pattern have ventrites mostly pale. Antennae varying from uniformly yellow to mostly infuscate, specimens with black ventrites have usually more infuscate apical segments than specimens with pale ventrites, in the commonest form four to five apical segments infuscate.

Pronotum subellyptical, with maximum width behind the middle, sides subangulate, in forms from the southern part of the distribution range usually more angulate than in forms from the mountain regions of the northern part of range. Disc moderately convex, smooth, slightly opaque, with very small microreticulaton and extremely fine pricks. Explanate margin indistinctly bordered from disc, flat, smooth, microreticulate, slightly opaque.

Scutellum triangular, often shallowly impressed in the middle, microreticulate, without punctures. Base of elytra smooth, not or only slightly wider than base of pronotum, elytral margins simple (figs 1, 3). Shape of disc varies, in



5-8. *Aspidimorpha areata*: 5 – head and prosternum, 6 – antenna, 7 – inner side of claw, 8 – outer side of claw



9-17. Variation of dorsal maculation: 9-15 – *Aspidimorpha areata*, 16-17 – *A. pseudoareata*

specimens from southern part of the range and midlands and lowlands of the central part of the range disc slightly depressed (fig. 2), elytra more elongate with sides less convex, in populations from mountain and submountain regions elytra are stouter, more rounded on sides, disc more convex, slightly depressed in anterior part but with exposed slope. In all forms no tubercles, puncturation of disc regular, fine, punctures in sutural half of disc c. twice smaller than in lateral part, on slope only slightly smaller than in anterior part of disc. Scutellar row with 6-10 punctures. Rows not impressed, punctures in rows moderately dense, distance between punctures twice to thrice wider than puncture diameter, only in two sutural and submarginal row punctures denser, partly almost touching each other. Punctures in marginal row c. three to four times larger than punctures in central rows. Intervals flat, in sutural half of disc c. five to six times wider than rows, in lateral part of disc twice to thrice wider than rows, their surface smooth, slightly opaque to shiny, with very small microreticulation. Explanate margin narrow, strongly declivous, varies from impunctate to shallowly and sparsely punctate, surface often appears slightly irregular but can be also completely regular and shiny. Margin of elytra simple, does not form a gutter. Apex of elytral epipleura bare in both sexes.

Head broad, clypeus c. twice wider than long (fig. 5), very convex, the most convex in the subgenus, dull, distinctly microreticulate, with few small punctures. Labrum broad, deeply emarginate to 1/3-1/2 length. Antennae moderately elongate (fig. 6), extending to mid coxae, length ratio of antennal segments: 100:47:93:77:67:60:63:54:70:65:114.

Claws pectinate on inner side only, outer side micropectinate (fig. 8), pecten with three to four short teeth extending to 1/6 length of claw (fig. 7).

Sexual dimorphism indistinct. Males slightly smaller and stouter than females.

Larva and bionomics were described by ZAJCEV (1989) and in more detail by HERON (pers. com.):

Ootheca: Small, flattened, and contains a single ovum. A colourless papery membrane is laid down on the leaf surface upon which the ovum is deposited. The upper surface covering scale is colourless initially, transparent, with a prominent double ridge along each side of a longitudinal central depression running the length of the membrane and imparting bilateral symmetry. Fine transverse striation or corrugations are also present. One end of the covering membrane is extended with a flared, rounded termination. The oothecae are flat, devoid of any excremental covering, and almost rectangular in appearance. The colour changes rapidly after being deposited with the final product being brown to dark yellowish-brown. They are deposited singly on both the upper and lower leaf surfaces (rarely, two may be found, slightly overlapping) usually parallel to a vein. The size varies from 3.0x1.5 mm to 2.0x1.0 mm. Ova measure 1.25x0.75 mm and are initially whitish, changing to caramel-brown, with an olive-greenish central area.

Larvae:

First instar: Newly emerged larvae are whitish and partially transparent. Later they assume a light green colouring with a characteristic darker median

line. The supra-anal process is dark brownish-black and hosts clumps of filamentous faeces which are oriented across the furca, approximately mid-way along their length, and measures 2 mm across. These may assume the shape of an inverted shallow chevron. The lateral spines are pale whitish-green. Spines 1 to 6 and 8 are larger than the remainder apart from 15 and 16 which are greatly elongated, being approximately thrice longer than the others. Spines 7, 9 and 10 are roughly equal in length (shorter than 1 to 6 and 8) but 11-14 are very short (approximately half the length of 3). The larvae vary from 1.0x0.5 mm to 2.0x0.75 mm and the first period lasts 3-4 days.

Second instar: Leaf-green, with the characteristic longitudinal median line of a darker hue. Larvae reach approximately 2.5x1 mm (supra-anal process about 1 mm). The cast first instar exuvium, together with first instar filamentous faeces (now commonly matted) are retained in the supra-anal processes but, from the second instar onwards, no further faeces are retained.

Third instar: Larvae are well camouflaged on the upper leaf surface, leaf-green in colour (shading a little towards the head and paling laterally) with the darker median line (not a marking but a transparent region permitting the internal organs and beating heart to be visible). The supra-anal process hosting cast exuviae is held horizontally unless the larva is disturbed, in which case it is raised and held slightly forward over the body. Size is roughly 3.5x1.75 mm.

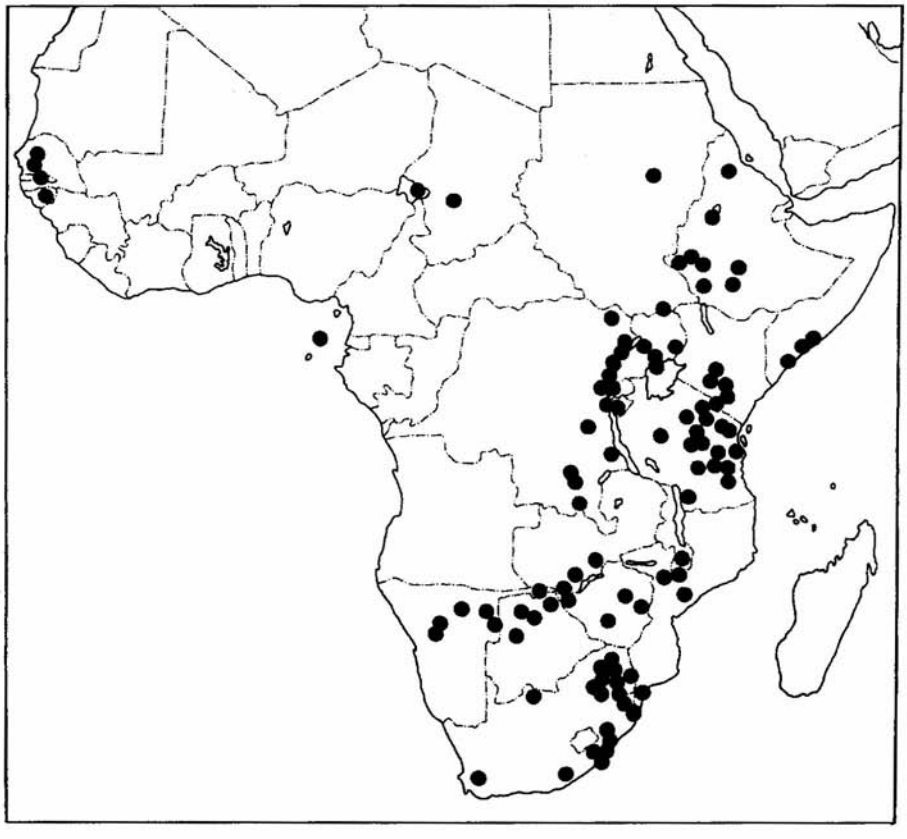
Fourth instar: Body size reaches approximately 4.5x3.0 mm (4.5x2.0 mm excluding the lateral spines). The supra-anal process plus exuviae reaches 4.0x1.0 mm. The colour is leaf-green to yellowish-green with diffuse yellowish at bases of the 3rd and 6th lateral spines. lateral spines paler yellowish-green.

Fifth instar: The body is flat (to roughly 2 mm in height) with an elongated oval shape and measures between 7.0x4.0 mm and 8.0x4.0 mm (8.0x5.0 mm and 8.0x5.5 mm including lateral spines). The colour is leaf-green to yellowish-green, paling posteriorly. Lateral spines arrangement: 3 (on prothorax), 3 (on mesothorax), 2 (on metathorax) and 8 (on abdomen). They are yellowish-green with conspicuous setae, most of almost equal size. Relative spinal size: 15>16>6 9 10>4 6 8 11 12 13 14>3 5>1 2. The first two spines on the prothorax arise from a common base. The supra-anal process is green to brownish and contains the exuviae of all the earlier instars as well as the matted remnants of the filamentous faeces from instar 1. The length of the exuvial pile is 5 mm. The head is a translucent whitish-green with black ocelli and some brownish-black shading about the mouthparts. A conspicuous white spiracle is present on the mesothorax. The underside is leaf-green to yellowish-green and the larvae are glabrous. Always solitary.

Pupa: The body is flat, oval and glabrous, measuring 7.0x4.0 mm (7.0x4.5 mm including lateral projections) or a little larger. The colour is leaf-green. The explanate margin of the pronotal disc is translucent green and slightly depressed anterolaterally, with about 68 marginal spinules of which two pairs are about three times larger than the remainder. There is no obvious median depression on the pronotal disc and its margins exhibit a diffuse brownish tinge to the green

colouring. The abdomen hosts five pairs of flattened leaf-like lateral projections of a translucent pale brownish colour. Segments 7, 8 and 9 are generally obscured by the cast exuvium of the final instar and the supra-anal process, still hosting earlier cast exuviae, is held forward over the abdomen, reaching roughly mid-way along the pronotal disc. The spiracles on abdominal segments 1 to 5 are black: that on the first segment being about twice the size of the remainder and flattened. The other spiracles are as high as wide. The underside of the pupa is leaf-green apart from the pale brown eyes. Pupae are commonly observed on the upper leaf surfaces of the food-plants (larvae do not abandon the plant to pupate). Just prior to imagine emergence, the pronotal disc becomes suffused with pale orange. Pupal period lasts 8 to 12 days.

Newly emerged imagines: Upon emerging, the imago is essentially whitish to colourless with the pale leaf-green body colouring being visible through the elytral and pronotal discs. The four pronotal maculae darken first, and the



18. Distribution of *Aspidimorpha areata*

irregular quadrilaterals of the elytra become suffused with orange, as also the head is beneath the pronotum. Underside pale green. First the pronotal disc, then the explanate margin of the elytra become suffused with pale orange-yellow, and finally the black elytral bands appear (pale grey at first, darkening). The underside changes from light green to olive-green and black. Within two hours the colours are fully developed, unlike metallic species such as *Aspidimorpha icterica* (=*flavens*) which take up to ten days before acquiring their full colouring.

Behaviour: The imagines are shy, seldom being observed upon the upper leaf surface except in early morning sunlight or in the sun after a period of cool, damp weather. When disturbed, they readily drop to the undergrowth and feign death. Activity is mostly confined to the hot sunny hours and, during heavy overcast or damp conditions, they retire from the leaves, secluding themselves during daylight hours, at which time most of the feeding was done. Pairing takes place 7 to 12 days after emergence. The species is triple-brooded in the Natal: October-November, December-January and March-April. The dry winter months are spent as imagines hidden away in leaf litter.

Parasite: Pupa killed by *Brachymeria* sp. (*Hymenoptera*: *Chalcididae*).

HOST PLANT

Convolvulaceae: *Ipomoea* sp. (ZAJCEV, 1989); *Ipomoea batatas*, *I. cairica* *I. fistulosa* and *I. plebeia* (HERON & BOROWIEC 1997).

DISTRIBUTION

Almost whole Africa south of Sahara, but predominantly in East and South Africa (fig. 18).

REMARKS

Typically coloured specimens distinctly differ from all the congeners in pronotum with row of four large black spots. *A. pseudoareata* at first glance has similar elytral pattern as typically coloured specimens of *A. areata* but differs in pronotal pattern with two large spots, usually coalescent and forming one, large bilobate spot. Most specimens of *A. areata* differ from its congeners (except *A. pseudoareata*) in black clypeus. Form with yellow clypeus and uniformly yellow dorsal part of body differs in convex clypeus (*A. areata* is the only species of the subgenus with clypeus distinctly convex). SHAW (1955) described from mountain regions of E Zaire a new subspecies *A. areata* spp. *egregiata* but this form represents only one of the numerous forms of geographical variation of the species with no distinct borders with lowland populations and I treat it as synonym of the nominotypical form.

MATERIAL EXAMINED

BOTSWANA: Bechuanaland, 1 (MCZC); Chubatsu Hills, Chobe Game Res., VII 1968, 1, G.W. HAAKE (TM); Kalahari, 1 (MCZC); Okavango, Crocodile Camp, 17 II 1974, 1, P.E. REAVEL (TM); Okavango, Thamalakane Riv., XII 1973, 1, P.E. REAVEL (TM).

BURUNDI: Bururi, 1, R.P. GIRAUDIN (MRAC); Plaine de la Ruzizi, IV 1966, 2, V-VII 1968, 7, S. N'DANI (MRAC).

CHAD: Bol, Lago Ciad, IX 1987, 3, MELANDRI (MZSNV); N'Gouri, distr. Kanem, IX 1958, 1, P. RENAUD (MRAC).

ETHIOPIA: Aruschi-Galla, Znai See, 6, NAUMANN (ZMHU); Dierer Vall., 10 VI 1911, 1, KOVÁCS (HNHM); Erythraea, Mareb, 1 (ZMHU); Gambela, 30 km W Abobo, 10 VII 1984, 2, RYBALOV (SMNS); Illubabor Prov., 15 km NW of Chora, VI 1973, 1, G. DE ROUGEMONT (MRAC); Kaffa Prov., Mui Game Res., 700 m, 10 IV 1972, 1, R.O. CLARKE (MRAC); Lake Tana, 9, coll. LE MOULT (IRSN); Maki, 1, NEUMANN (ZMHU); Shoa, Debre Zeyt, V 1989, 1, K.WERNER (ZMUF).

GUINEA BISSAU: Bafata, VI 1954, 1, BENASSI (PMNH).

KENYA: Fort Hall, 2 (ZMHU); Ikutha, 7 (ZMHU); Nairobi, 14 VI 1919, 2, A. LOVERIDGE (MCZC), 3-4 III 1970, 1, T. PALM (LU); Nairobi, Hotel Boulevard, 1600 m, 8 I 1976, 1, N.M. ANDERSEN (ZMC); Voi, 24-28 I 1996, 1, M. SNIZEK (MS).

MADAGASCAR: Madag., 1, "MHM." (lectotype of *C. coronula*, present designation, NRS).

MALAWI: Nyassaland, Port Herald, I-III 1914, 2, J.E. OLD (BMNH); Zomba, Upp. Shire R., 3000 ft., IV-V 1896, 1, P. RANDALL (MCZC).

MOZAMBIQUE: Delagoabai, 1, MONTEIRO (ZMHU); Marromeu, 4, v. ELDIK (NNML); M. Pueji, 1 (ZMHU); mittl. Sambesi, 1, W. TIESLER (ZMHU).

NAMIBIA: Abachaus, Otjiwarongo Distr., XII 1949, 1, XII 1951, 1, VIII 1956, 1, G. HOBOHM (1 MM, 2 TM), VI 1951, 1, C. KOCH (TM); Caprivi Zipfel, Katima Mulilo, 15-24 I 1995, 1, M. SNIZEK (MS); Kavango, Takuasa, 14-19 VIII 1971, 1 (WM); Otjiwarongo, Garfield, 16 III 1979, 1, S. LOUW and M.-L. PENRITH (WM) ; Tsumkwe, Kungveld, I 1958, 1, C. KOCH (TM).

PRINCIPE IS: Ile de Prince, 1, ERMAN (holotype of *Cassida areata*, ZMHU).

RWANDA: Muko, Buganza N., 1500-1800 m, 20 VI 1951, 2, A.E. BERTRAND (MRAC); Rubona, 1966, 1 (MRAC); Ruhengeri, 1900 m, 27 I 1953, 1, P. BASILEVSKY (paratype of *A. areata* ssp. *egregiata*, MM).

SENEGAL: Bambey, 1958, 1, W. AMADOU (IFAN); Kaolack, 1 (ZMHU); Senegal, 1 (paralectotype of *Cassida coronula*, present designation, BMNH).

SOMALIA: Afgoi, 17 VIII 1977, 2, OLMI (MRAC); Bad Adda, 28 VIII 1959, 1, Miss. Biologica (MZUF); Giohar, 1-5 VIII 1970, 2, S.B.S. (MZUF); Quebbi, Vebi, 1 (syntype of *Cassida inconstans*, MM); Somalia, 1 (IRSN).

SOUTH AFRICA: Cap, 2 (HNHM); Cape Prov., Hogsback area, 17 II 1967, 1, L. SCHULZE (TM); Ingwawuma, VII 1938, 1, R.F. LAWRENCE (TM); Krabbefontein, XII 1902, 1, Dr. BREYER (TM); Kruger Nat. Park, Satara, 12 XII 1985, 1, M. SANBORNE (CNCI); Lekkerw. Kloof, 25 IX 1905, 1 (TM); Moddernck, IV 1919, 1, G. v. DAM (TM); Mphahlefastgrot, Chunies Port, I 1959, 1, R.B. COPLEY (TM); Natal, Durban, 1, MJÖBERG (LU), I 1932, 2, G. KOBROW (TM); Natal, Weenen, 1 (MCZC), III 1928, 1, H.P. THOMASSET (TM); Pienaars Riv., 1898, 8, v. JUTRZENCKA (TM); Pretoria, XI-XII 1964, 1, R. and S. MARTIN (TM); Saltpan Pta., 19 III 1934, 4, v. FITZSIMONS (TM); Soutpan, Pretoria Distr., VIII 1968,m 1, R. JONES (TM); Transkei, S coast Dwesa forest, 11 XII 1979, 1, S.

ENDRÖDY-YOUNGA (TM); Transvaal, Lydenburg, 1, F. WILMS (ZMHU); Transvaal, Mp'home, 2, M. KNOTHE (ZMHU); Transvaal, Shilowane, 1906-07, 1, H. JUNOD (MRAC); Transvaal, Warmbad, X 1935, 1, G. KOBROW (TM); Transvaal, Warmbath, V 1953, 1, A.D. MEEUSE (NNML); Transvaal, Waterberg, V 1953, 12, A.D. MEEUSE (NNML); Transvaal, Zebediela, 1040 m, 12 IX 1956, 1, R. z. STRASSEN (SMF); Transvaal, Zoutpansberg, 11 (1 CTM, 10 ZMHU), 800 m, 3 (ITZ); Waterberg, 1898-99, 3, v. JUTRZENCKA (TM); Zoutpansberg, Entabeni, XI 1931, 1, G. v. SON (TM).

SUDAN: Chartum, 1 (ZMHU); Disa, 1, ALLISON (HNHM).

TANZANIA: Arusha-Ju, XI 1905, 1, KATONA (HNHM); Dar-es-Salaam, 2 (ZMHU); Kabwe, Lake Tanganyika, VII 1992, 2, M. ZADENKUS (LU); Kafukola, 3 III 1956, 1, N.L. ANDERSON (MSU); Kilimandjaro, Kibonoto, 1000 m, 1905-6, 1, SJÖSTEDT (ZMHU); Kilimandjaro, Moschi, 1, METHNER (ZMHU); Kilimatinde, IV 1911, 1 (ZMHU); Kissakka, 15 III 1897, 2, RAMSAY and HÖSEMANN (ZMHU); Kitwi, 4 (ZMHU); Kombe-Unyanyemb, 16-20 IX 1899, 1, GLAUNING (ZMHU); Korogwe to Mkarami, 22 V 1893, 1, O. NEUMANN (ZMHU); Manjara, 3 V 1898, 1, KÖSEMANN (ZMHU); Masailand, Olumoti, 15 I 1960, 1, J. POPP (ZSM); Massai, Nyika, Burunge, VI 1893, 1, NEUMANN (ZMHU); NW Massai, Sossian-Ngorome, I 1894, 2, O. NEUMANN (ZMHU); Meru, 1, Oberl. ABEL (ZMHU); Meru, E slope, 26 I 1966, 1, J. SZUNYOGHY (HNHM); Mhonda, 1, METHNER (ZMHU); Mombo, VII 1899, 1 (ZMHU); Mombo or., 9-11 I 1996, 1, M. SNIZEK (MS); Morogoro, 9 II 1917, 2, A.. LOVERIDGE (MCZC); Moschi, 2 (ZMHU); Mous Marti, 1, KATONA (HNHM); Mtansa, 14 X 1910, 1, MOLTZ (ZMHU); Njassasee, 2 (FMNH); Pungwe Bay, XII 1903, 1, P. KRANTZ (TM); Sadami, 6 (ZMHU); Sansibar, Kitui, 1, HILDEBRANDT (ZMHU); Ugogo, 1, BERINGER and JOST (ZMHU); Uheheland, Kidugala, 1 (ZMHU); Uluguru, III 1919, 1, SCHUSTER (ZMHU); O Victoria Nyansa, Ngoroine n. Mukunge, II 1894, 2, O. NEUMANN (ZMHU).

UGANDA: Bwamba, 7 VIII 1946, 1, VAN SOMEREN (BMNH); Entebbe, X 1929, 1, G.A. MARSHALL (BMNH), I 1973, 2, H. FALKE (ER), 18 IV 1971, 1, H. GØNGET (ZMC), 8-13 XII 1994, 7, M. SNIŻEK (MS, LB); Kampala, 15-31 I 1915, 1, 20-30 IX 1915, 1, 15-30 XII 1915, 1, C.C. GOWDEY (BMNH); Masindi Distr., Budongo Forest n. Sonso, 1°45'N, 31°35'E, 19-30 VI 1995, 8, 1-10 VII 1995, 3, T. WAGNER (TW, LB); Mt. Kokanjero, SW of Elgon, 6400 ft., 7-9 VIII 1911, 1, S.A. NEAVE (BMNH); Northern Buddu, 3800 ft., 16-18 IX 1911, 1, S.A. NEAVE (BMNH).

ZAIRE: Albert Nat. Park, Kamande, 10 VI 1935, 1, H. DAMAS (MRAC); Albert Nat. Park, Lac Edward, Kamande, 925 m, 8 IV 1936, 1, L. LIPPENS (MRAC); Albert Nat. Park, Lac Edward, E Rwindi, 15 I 1936, 1, H. DAMAS (MRAC); Albert Nat. Park, Lac N'Goma, 1460 m, 19 VI 1935, 1, H. DAMAS (MRAC); Albert Nat. Park, Lac Kivu, Ruabungu, 17 X 1935, 1, H. DAMAS (MRAC); Albert Nat. Park, Mutsora, 1939, 11, HACKARS (MRAC); Albert Nat. Park, Plaine Semliki, IV-X 1937, 900-1100 m, 1, HACKARS (MRAC); Albert Nat. Park, Ruwenzori, Butahu, Semliki, 2185 m, 17 VI 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Ruwenzori, Mutawanga, 1000-1300 m, Xi 1936-II 1937, 2, HACKARS (MRAC); Albert Nat. Park, Secteur Nord, Mbungwe n.

Rumangabo, 1500 m, 5 IV-13 VIII 1957, 1, C. DONIS (MRAC); Albert Nat. Park, Secteur Nord, Muntiba, Moyenne-Lume, 1260 m, 12 XII 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Ngokoi, Talya, 1100 m, 3 X 1957, 1, P. VANSCHUYTBROECK (MRAC); Forêt de Kawa, Lac Albert, 25 IV 1929, 1, A. COLLART (IRSN); Kasongo, IX 1959, 1, P.L. BENOIT (MRAC); Kivu, Costermansville, 4, coll. ROELOFS (IRSN); Kivu, Goma, 10-20 XI 1952, 1, J. VERBEKE (IRSN); Kivu, Lwiro, 7 I 1967, 1, 10 I 1967, 2, Dr. JILLY (SMNS); Kivu, Rutshuru, riv. Musugereza, 1100 m, 9 VII 1935, 1, G.F. DE WITTE (IRSN) ; Lake Edward, Kamaude, 22 IX 1935, 1, L. LIPPEUS (paratype of *A. areata* ssp. *egregiata*, MM); Mpala, 8, J. DUVIVIER (lectotype and 4 paralectotypes of *A. areata* var. *duvivieri*, IRSN, 3 paralectotypes MM, present designation); Mwera-Wantipa, I 1945, 3, H.J. BRÉDO (IRSN).

ZAMBIA: Lusaka, 24 III 1991, 1, SCHÜLE (SMNS); 30 km E Lusaka, 20 III 1991, 1, SCHÜLE (SMNS); Lusaka, Kafue City, Kafue Riv., 1200 m, 22 XI-2 XII 1987, 1, R. MOURGLIA (SZ); Zambesi, N. Batoka, XII 1895, 1 (MCZC).

ZIMBABWE: Hope Fountain, 10 I 1923, 2, N. JONES (NMM); Matetsi, 11 XI 1978, 1, E. M. JONES (NMM); Nantwich, 7 XII 1949, 1 (NMM); Salisbury, 3 III 1913, 2, J. O'NEIL (CTM); Salisbury, Rilway Station, 3-12 IX 1976, 1, R. K. BROOKE (NMM); Umtali, III 1957, 2, N.L. KRAUSS (BMNH),

VARIA: Meogdo, 1, BENNIG. (lectotype of *A. areata* var. *nigripennis*, present designation, ZMHU) Oldunyo Samabun, 3900 ft., IX 1944, 1 (BMNH); Zambesi, 1878, 10, BRADSHAW (ITZ).

Aspidimorpha (Afroaspidimorpha) fallaciosa (FAIRMAIRE, 1904)

Cassida fallaciosa FAIRMAIRE, 1904: 274 (ST in MNHN).
Cassida (Cassida) fallaciosa: SPAETH, 1914 b: 115.
Aspidomorpha fallaciosa: HINCKS, 1962: 248.

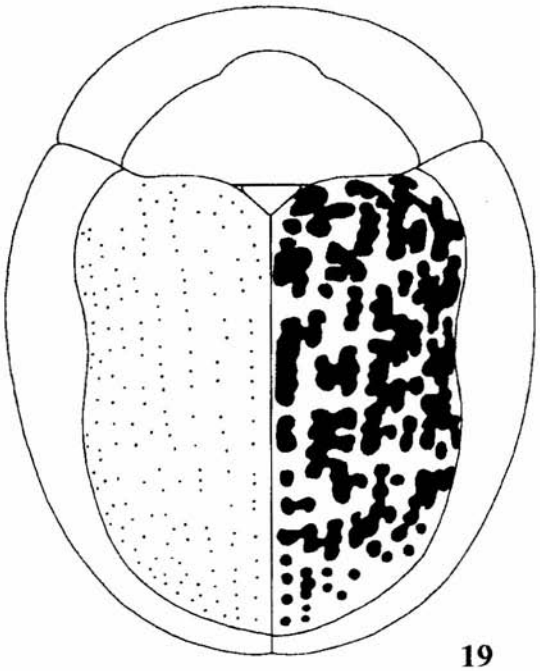
DESCRIPTION

Le: male: 7.8, Wi: male: 6.3, Lp: male: 2.8 mm, Wp: male: 5.2, Ex: male: 1.4, Wd: male: 6.2; Le/Wi ratio: male: 1.24, Wi/Wp: male: 1.21, Wp/Lp: male: 1.86. Body short-oval (fig. 19).

Pronotum uniformly argillaceous. Scutellum argillaceous. Elytral disc argillaceous, each puncture with broad, black, partly coalescent areoles. Explanate margin uniformly argillaceous. Ventrites, including head uniformly argillaceous. Legs argillaceous, femora often with narrow, brownish ring. Antennae uniformly yellow, only last segment on dorsal side slightly infuscate.

Pronotum subellyptical, with maximum width at base, sides strongly angulate. Disc moderately convex, with small microreticulation and fine pricks, smooth and glabrous. Explanate margin indistinctly bordered from disc, flat, smooth and glabrous.

Scutellum triangular, with transverse sulcus. Base of elytra smooth, as wide as base of pronotum, elytral margins simple, humeral angles rounded (fig. 19).



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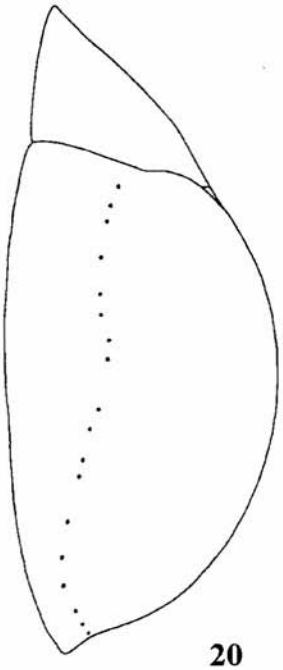

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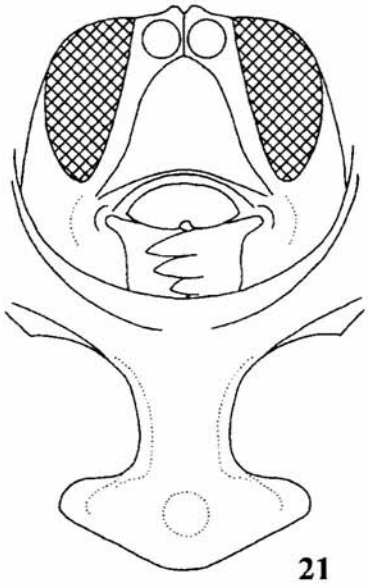

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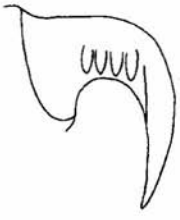

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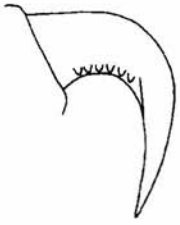


24

19-24. *Aspidimorpha fallaciosa*: 19 - body in dorsal view, 20 - body in profile, 21 – head and prosternum, 22 – antenna, 23 – inner side of claw, 24 – outer side of claw

Disc regularly convex (fig. 20), without impressions. Puncturation of disc regular, moderate, punctures in sutural half of disc c. twice smaller than in lateral part and slope. Scutellar row with 6-8 punctures. Rows only on sides slightly impressed. Punctures in rows mostly moderately dense, but partly sparse, not grouped together, disc distance between punctures varies from as wide as to five times wider than puncture diameter, on sides and in sutural row slightly denser than in other parts of disc. Punctures in marginal row distinctly larger than in central rows. Intervals mostly flat, only in females on slope slightly convex, in sutural half of disc four to five times wider than rows, in lateral part of disc 1.5-2.0 times wider than rows, their surface smooth and glabrous. Explanate margin moderate, in anterior half strongly, in posterior half moderately declivous, its surface smooth and glabrous. Apex of elytral epipleura with sparse hairs.

Head moderately broad, clypeus c. 1.6 times wider than long (fig. 21), flat, only anterior margin slightly convex, with distinct clypeal lines on whole length of clypeus, surface of clypeus with few punctures, glabrous. Labrum broad, emarginate to 1/4 length. Prosternal collar moderate, prosternal process strongly expanded apically, not impressed in the middle. Antennae moderately elongate (fig. 22), extending to mid coxae, length ratio of antennal segments: 100:47:88:76:74:65:71:60:65:63:112.

Claws pectinate on inner side only, outer side micropectinate (fig. 24), pecten with four extremely short teeth only slightly extending beyond the margin of claw (fig. 23).

Female unknown.

DISTRIBUTION

Madagascar.

REMARKS

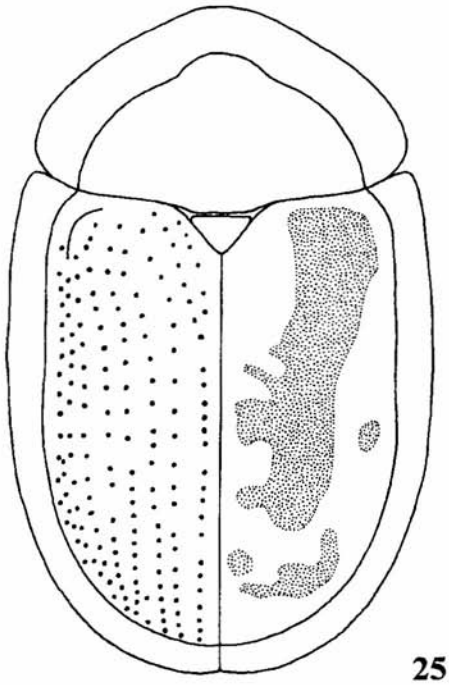
With *A. polyspila* it forms a distinct group of species distributed only in Madagascar. *A. fallaciosa* differs in black puncture areolae of elytral disc (brown in *polyspila*) and in extremely short pecten of tarsal claws only slightly extending beyond margin of the claw (in *polyspila* extending to 1/4 length of claw). See also remarks under *A. polyspila*.

MATERIAL EXAMINED

MADAGASCAR: Madagascar, 1 (syntype, MNHN); Madagascar-Ouest, dct. Majunga, forêt Ankarafantsika 120 m, XII 59, 1, RAHARIZONINA (LB); Plateau de l'Androy, Reg. d'Ambovombe, 1 (syntype, MNHN), 2 (LB).

Aspidimorpha (Afroaspidimorpha) loennebergi SPAETH, 1915

Aspidomorpha Lönnebergi SPAETH, 1915 a: 1, 1932 b: 5 (LT in NRS, PLT in NRS, MM).
Aspidomorpha (Aspidomorpha) Lönnebergi: SPAETH, 1914 b: 76 (nomen nudum).



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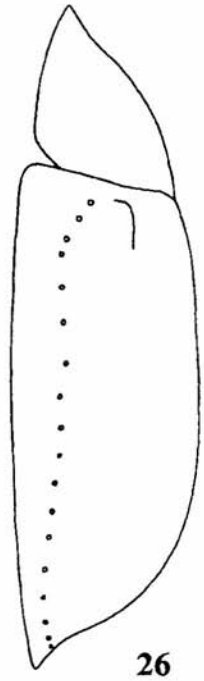

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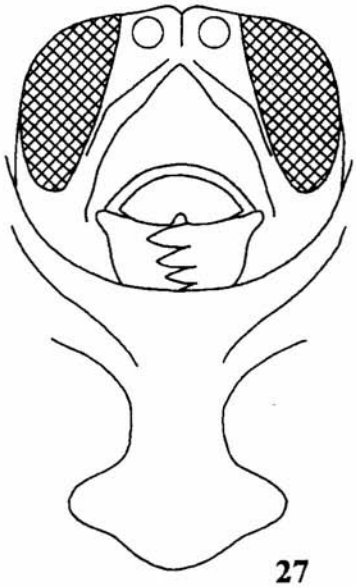

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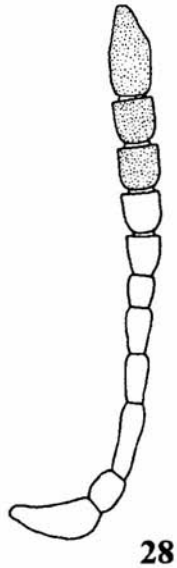

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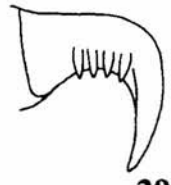

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25-30. *Aspidimorpha loennebergi*: 25 - body in dorsal view, 26 - body in profile, 27 – head and prosternum, 28 – antenna, 29 – inner side of claw, 30 – outer side of claw

DESCRIPTION

Le: male and female: 5.4-6.3 mm, Wi: male and female: 3.5-3.8 mm, Lp: male and female: 1.9-2.0 mm, Wp: male and female: 3.0-3.3 mm, Ex: male and female: 0.5-0.6 mm, Wd: male and female: 2.8-3.2 mm; Le/Wi ratio: male and female: 1.54-1.66, Wi/Wp: male and female: 1.15-1.17, Wp/Lp: male and female: 1.58-1.65. Body narrowly-oval, almost parallelsided (fig. 25).

Pronotum uniformly yellow. Scutellum yellow. Elytra mostly yellow, disc with reddish to reddish brown, occasinally dark brown variable pattern (figs 37-38). Typically coloured specimens have large, irregular, reddish to reddish-brown band from humerus to slope, its internal margin extending to first row of punctures, external margin extending to fifth row, in posterior half the band marked with small, yellow spots, explanate margin with small posterolateral spot, sutural apex only narrowly marked with red. Ventral margin of the band usually irregular, with few emarginations, slope behind the band sometimes with one or two spots, often sides with small, round spot in the middle. In the palest specimens, red is reduced to small, irregular spot behind the middle of disc, very small spot in the middle of each side, and small spot on explanate margin of elytra. Ventrites yellow, including head and legs. Antennae yellow, only apical three segments infuscate, occasionally antennae uniformly yellow.

Pronotum subellyptical, with maximum width in the middle, sides rounded. Disc moderately convex, with small microreticulation and fine pricks, smooth and glabrous to slightly opaque. Explanate margin indistinctly bordered from disc, flat, smooth and glabrous to slightly opaque.

Scutellum triangular, not or slightly impressed in the middle, microreticulate, without punctures. Base of elytra smooth, slightly wider than base of pronotum, elytral margins simple, humeral angles subangulate. Disc depressed (fig 26), with no tubercles or impressions. Puncuration of disc regular, large, punctures in sutural half of disc indistinctly to c. twice smaller than in lateral part and slope. Scutellar row with 5-6 punctures. Rows impressed only on slope, punctures in rows moderate to dense, disc distance between punctures in subsutural rows as wide as to twice wider than puncture diameter, in sutural row and lateral rows punctures very dense, with distance slightly to distinctly narrower than puncture diameter, partly punctures touching each other. Punctures in marginal row c. thrice larger than in central rows. Intervals in anterior half of disc not in posterior slightly to moderately convex, in sutural half of disc 1.5-2.0 times wider than rows, in lateral part of disc as wide as to twice narrower than rows, their surface smooth, in males glabrous, in females slightly opaque. Explanate margin narrow, in anterior half moderately declivous, in posterior part horizontal, but without tendency to form a shallow gutter, its surface with small irregular folds and sparse, shallow punctures, not appearing irregular. Apex of elytral epipleura bare in both sexes.

Head broad, clypeus very broad (fig. 27), c. 1.7-1.8 times wider than long, flat, with distinct clypeal lines converging in triangle, its surface smooth and glabrous, impunctate or with a few small punctures. Labrum broad, distinctly

emarginate to 1/4 length. Prosternal collar large, prosternal process strongly expanded apically, not impressed in the middle. Antennae short (fig. 28), extending to apex of prosternum, length ratio of antennal segments: 100:47:88:59:53:36: 44:44:47:50:106.

Claws pectinate on inner side only, outer side micropectinate (fig. 30), pecten with three to four very short teeth extending to 1/6 length of claw (fig. 29).

Sexual dimorphism indistinct. Males slightly smaller and stouter than females.

DISTRIBUTION

Kenya (fig. 94).

REMARKS

Elongate, depressed body with reddish elytral pattern nears this species only to *A. severini*. Both species usually have reddish posterolateral spots on explanate margin of elytra and uniformly yellow ventrites. *A. loennebergi* differs is smaller body size (length in *loennebergi*: 5.4-6.3 mm, in *severini*: 6.3-7.6) and especially in very short pecten of tarsal claws, extending only to 1/6 length of claw (1/4-1/3 in *severini*). The known localities of *A. loennebergi* are mostly outside the known range of *A. severini* (see fig. 94). The palest form of *A. loennebergi* with almost reduced posterolateral spots of explanate margin is very similar to small, immaculate specimens of *A. nigromaculata*, but the latter species differs in distinctly longer pecten of tarsal claws, extending to 1/4-2/5 length of claw.

MATERIAL EXAMINED

KENYA: Bura-Taita Reg., I 1991, 2, WERNER (LB); Guaso Nyiro, 3, LÖNNEBERG (lectotype and two paralectotypes of *A. loennebergi*, present designation, lectotype and one paralectotype in NRS, second paralectotype in MM); Tsavo, Voi, 27 III-4 IV 1997, 1, 11-14 IV 1997, 1, M. SNIZEK (MS, LB).

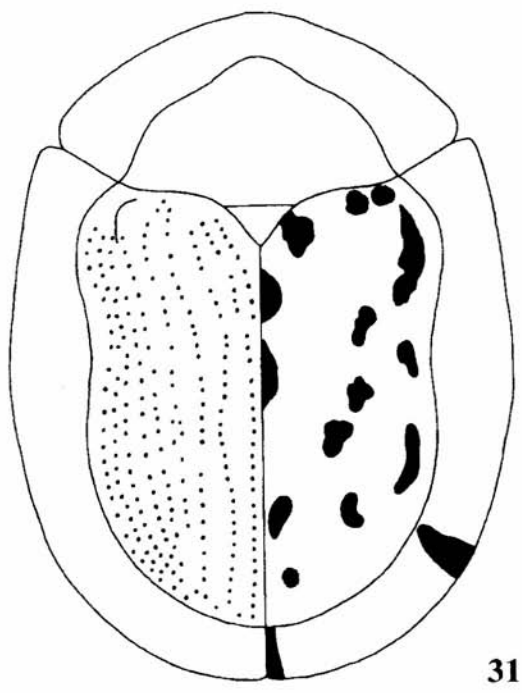
Aspidimorpha (Afroaspidimorpha) longifrons SHAW, 1961

Aspidomorpha longifrons SHAW, 1961: 13 (HT in MRAC, PT in BMNH, IRSN, MM, MRAC).

DESCRIPTION

Le: male and female: 6.7-7.4 mm, Wi: male and female: 5.0-5.6 mm, Lp: male and female: 2.3-2.4 mm, Wp: male and female: 4.0-4.3 mm, Ex: male and female: 1.0-1.2 mm, Wd: male and female: 3.4-3.7 mm; Le/Wi ratio: male and female: 1.32-1.39, Wi/Wp: male and female: 1.25-1.30, Wp/Lp: male and female: 1.67-1.79. Body oval (fig. 31).

Pronotum uniformly yellow. Scutellum yellow. Elytra mostly yellow, disc with numerous black spots (figs 43-45), in dark coloured specimens partly coalescent, in pale specimens mostly reduced, in extremely pale specimens only



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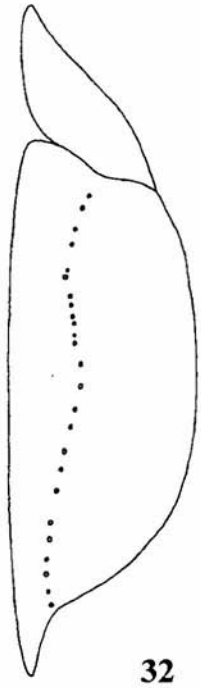

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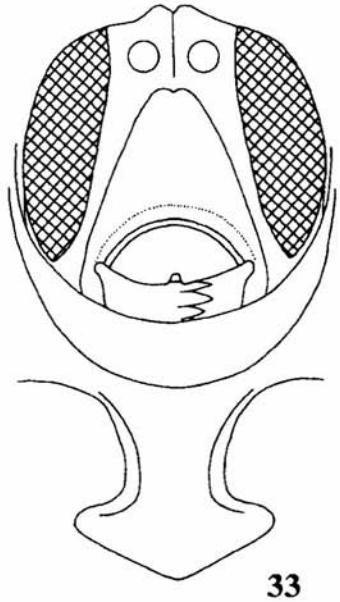

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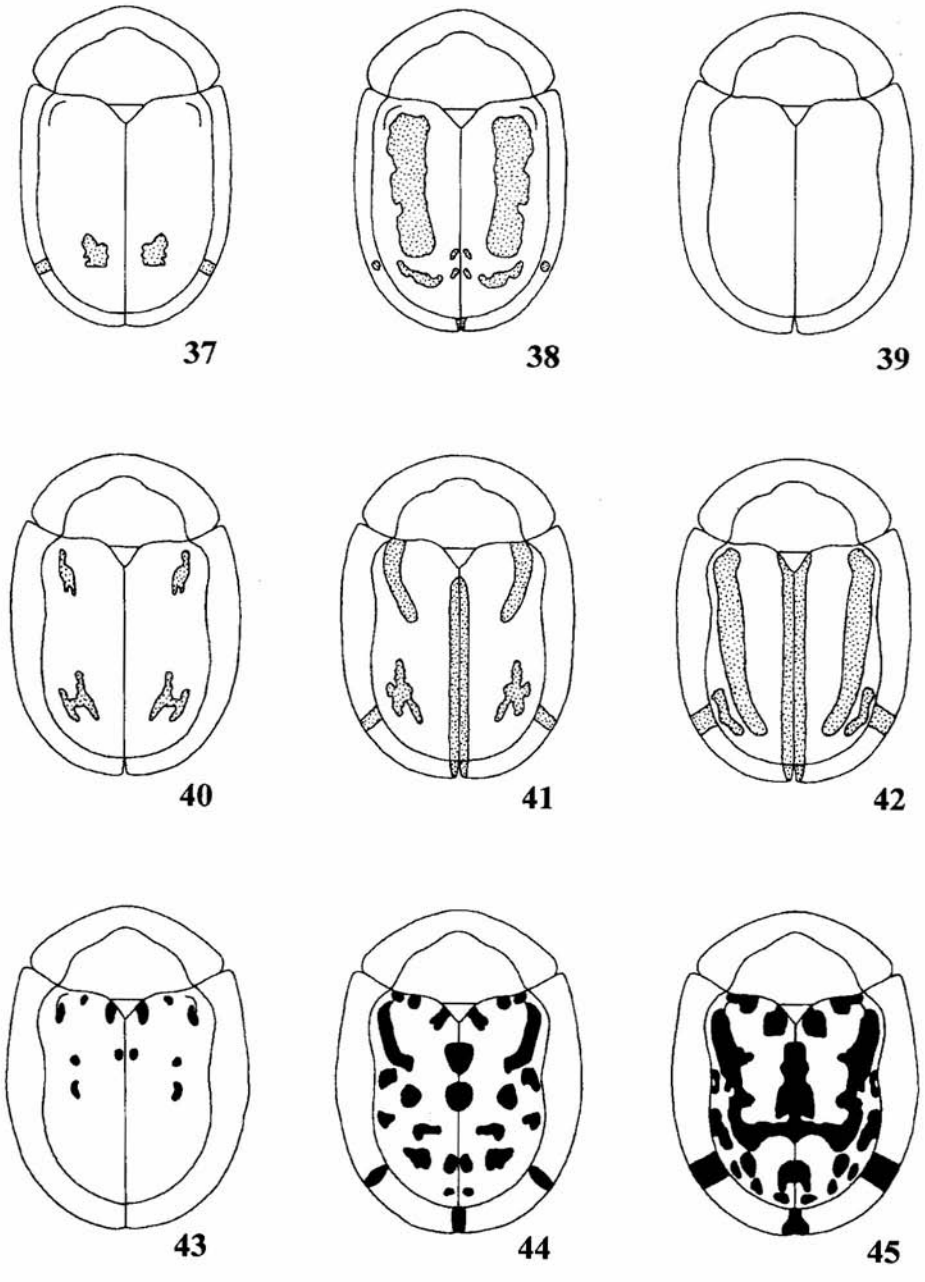
31-36. *Aspidimorpha longifrons*: 31 - body in dorsal view, 32 - body in profile, 33 – head and prosternum, 34 – antenna, 35 – inner side of claw, 36 – outer side of claw



37-45. Variation of dorsal maculation: 37-38 – *Aspidimorpha loennebergi*, 39-42 – *A. severini*, 43-45 – *A. longifrons*

anterior half of disc with 12-14 small black spots. Explanate margin in pale specimens uniformly yellow, in dark specimens with broad posterolateral and narrow sutural spots. Ventrites mostly yellow, only coxae and trochanters brown to black, sometimes abdomen infuscate in the middle, fore and mid coxae sometimes brown, occasionally thorax mostly infuscate to black. Legs yellow, tarsi often infuscate, in the darkest specimens basal half of femora infuscate to black. Six basal antennal segments yellow, remainder black, segment 7 sometimes with yellow basal part.

Pronotum subellyptical, with maximum width in the middle, sides subangulate. Disc moderately convex, with small microreticulation and fine pricks, smooth and glabrous. Explanate margin indistinctly bordered from disc, flat, smooth and glabrous.

Scutellum triangular, not impressed in the middle, microreticulate, without punctures. Base of elytra smooth, slightly wider than base of pronotum, elytral margins simple, humeral angles rounded. Disc slightly depressed (fig. 32), with no tubercles or impressions. Puncuration of disc regular, large, punctures in sutural half of disc as large as in lateral part, on slope not smaller than in anterior part of disc. Scutellar row with 6-9 punctures. Rows impressed, especially on slope, punctures in rows dense, disc distance between punctures twice narrower than puncture diameter, in posterior half of submarginal rows punctures almost touching each other. Punctures in marginal row c. twice to thrice larger than in central rows. Intervals in anterior half of disc not or slightly, in posterior distinctly convex, in sutural half of disc 2.0-2.5 times wider than rows, in lateral part of disc as wide as to twice narrower than rows, their surface smooth and glabrous. Explanate margin moderate, in anterior half moderately declivous, in posterior part horizontal, with tendency to form a shallow gutter, its surface with small irregular folds and shallow punctures, appears slightly irregular. Apex of elytral epipleura bare in both sexes.

Head moderately broad, clypeus narrow, c. 1.2-1.3 times wider than long (fig. 33), flat, with distinct clypeal lines converging in narrow arch, its surface smooth and glabrous, impunctate or with a few small punctures. Labrum broad, shallowly and narrowly emarginate to 1/6 length. Prosternal collar large, prosternal process strongly expanded apically, usually with longitudinal impression in the middle. Antennae elongate (fig. 34), extending to the middle of metathorax, length ratio of antennal segments: 100:44:96:63:68:56:66:67:67:70:133.

Claws pectinate on inner side only, outer side micropectinate (fig. 36), pecten with three (sometimes four) moderately long teeth, extending to 1/4 length of claw (fig. 35).

Sexual dimorphism indistinct. Males slightly smaller and stouter than females.

DISTRIBUTION

SE Zaire (fig. 52)

REMARKS

At first glance it is similar to *A. nigromaculata*. Typical forms of both species have black posterolateral spots of explanate margin of elytra and several black spots on elytral disc. *A. longifrons* distinctly differs in elongate clypeus (width/length ratio 1.2-1.3, in *nigromaculata* 1.6-1.7). Explanate margin of elytra in *A. longifrons* is slightly more explanate than in *A. nigromaculata*, body stouter with less marked sexual dimorphism (Le/Wi ratio 1.32-1.39 in both sexes, in *nigromaculata* in males 1.34-1.48, in females 1.46-1.64). Uniformly yellow, small specimens of *A. longifrons* are also similar to the palest form of *A. severini* but the latter species distinctly differs in slimmer body (Le/Wi ratio in both sexes 1.43-1.62).

MATERIAL EXAMINED

ZAIRE: Upemba Nat. Park, Gorges de la Pelenge, 1150 m, 19 VI 1947, 1, Miss. DE WITTE (IRSN); Upemba Nat. Park, Lusinga, 1760 m, 4 VI-12 VII 1947, 2, miss. DE WITTE (holotype, MRAC, 1 IRSN); Upemba Nat. Park, Mbuye Bala, 1750 m, 24-31 III 1948, 16, miss. DE WITTE (paratypes: 4 IRSN, 1 BMNH, 1 MRAC; other specimens: 10 IRSN), 25-26 III 1948, 6, Miss. DE WITTE (IRSN, 1 paratype); Upemba Nat. park, Mukelengia, af. Kalumegongo, 1750 m, 12 IV 1948, 3, Miss. DE WITTE (IRSN); Upemba Nat. Park, Muye, 1630 m, 6 IV 1948, 1, miss. DE WITTE (paratype, MRAC).

Aspidimorpha (Afroaspidimorpha) multiguttata SPAETH, 1935

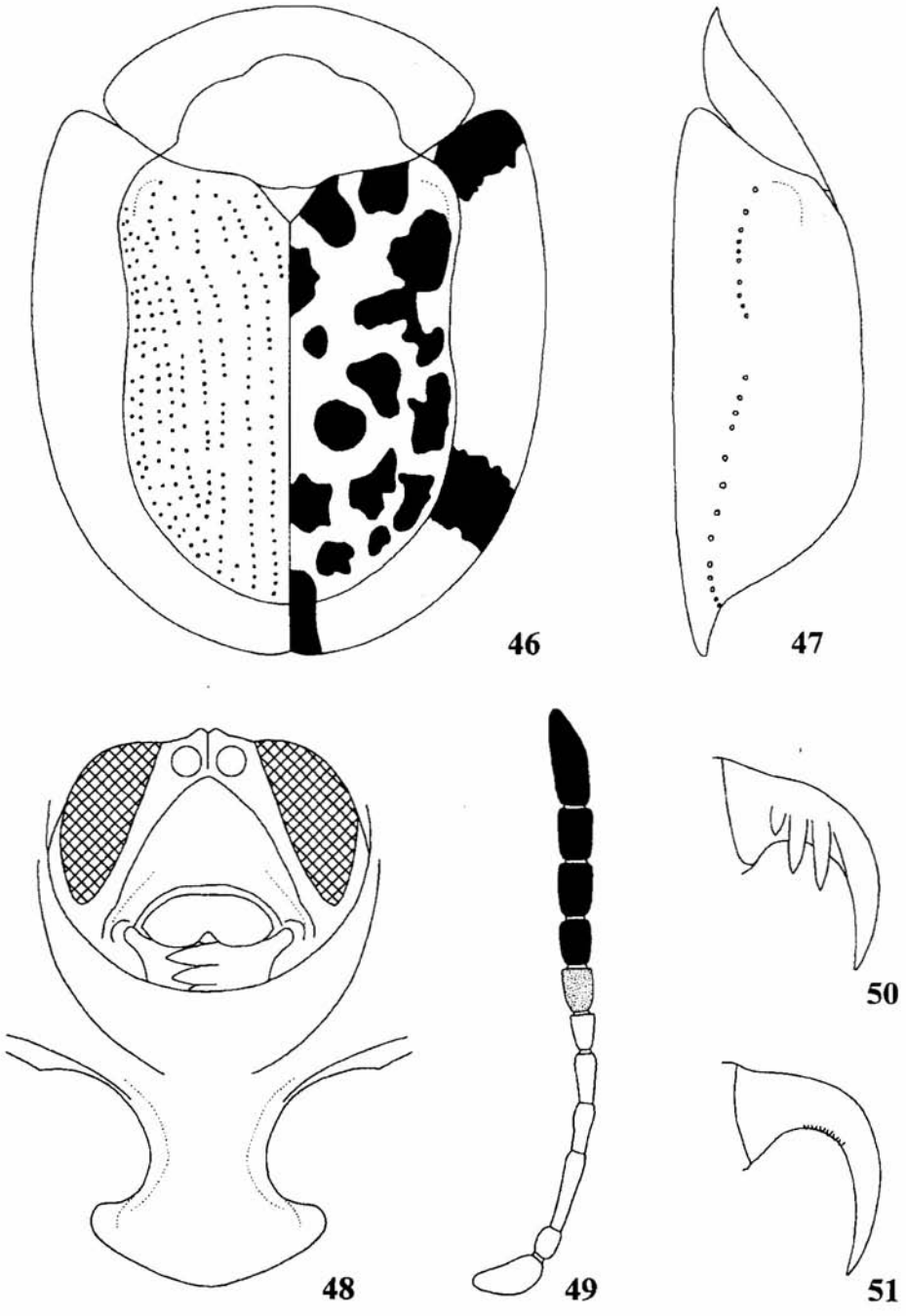
Aspidomorpha multiguttata SPAETH, 1935: 173 (ST in DEI, LB, MM, ZMHU).

DESCRIPTION

Le: male and female: 5.5-7.0 mm, Wi: male and female: 4.6-5.6 mm, Lp: male and female: 1.8-2.0 mm, Wp: male and female: 3.3-4.1 mm, Ex: male and female: 1.0-1.3 mm, Wd: male and female: 2.9-3.5 mm; Le/Wi ratio: male and female: 1.20-1.25, Wi/Wp: male and female: 1.32-1.39, Wp/Lp: male and female: 1.83-2.05. Body short-oval (fig. 46).

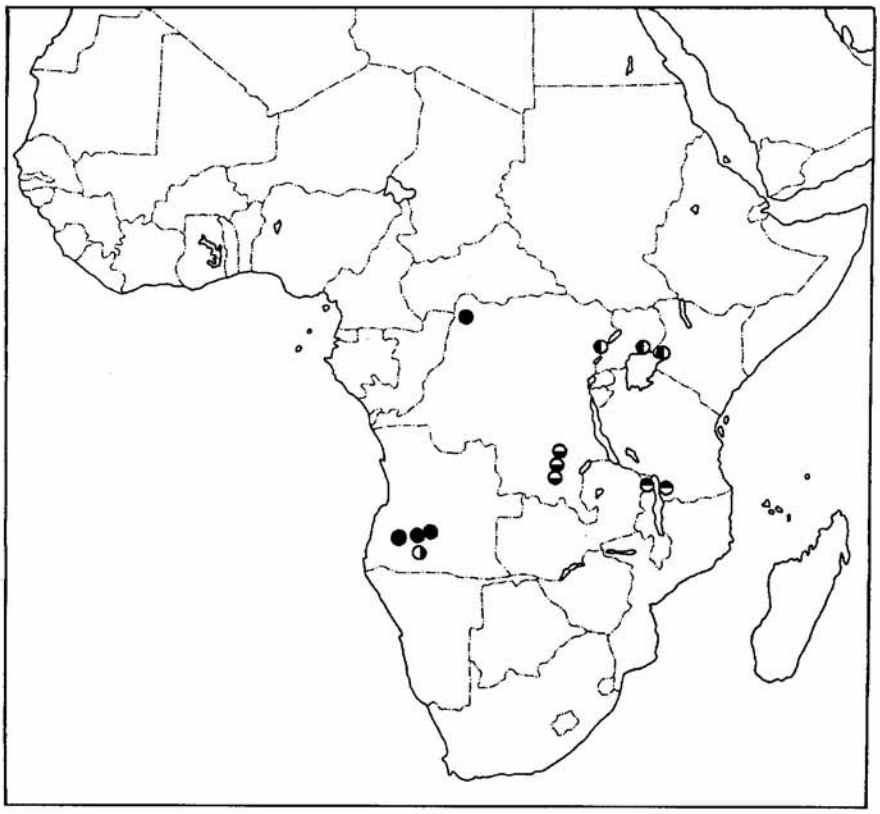
Pronotum uniformly yellow. Scutellum yellow. Elytra yellow, disc with 23-25 black spots (fig. 46), explanate margin with broad humeral, posterolateral and sutural back spots. The pattern is rather constant, in some specimens humeral and external basal spots coalescent. Ventrites mostly yellow, abdomen usually infuscate to brown in the middle, fore and mid coxae sometimes brown. Legs yellow.. Antennal segment 1-6 yellow, segment 7 infuscate to brown, segments 8-11 black (except yellow apex of ventral side of segment 11), occasionally segment 7 completely yellow.

Pronotum subellyptical, with maximum width in the middle, sides narrowly rounded. Disc moderately convex, with small microreticulation and moderately dense and fine punctures, glabrous. Explanate margin indistinctly bordered from disc, flat, smooth and glabrous.



46-51. *Aspidimorpha multiguttata*: 46 - body in dorsal view, 47 - body in profile, 48 – head and prosternum, 49 – antenna, 50 – inner side of claw, 51 – outer side of claw

Scutellum triangular, not impressed in the middle, microreticulate, without punctures. Base of elytra smooth, distinctly wider than base of pronotum, elytral margins simple, humeral angles rounded. Disc slightly depressed (fig. 47), with no tubercles or impressions. Puncuration of disc regular, large, punctures in sutural half of disc as large as in lateral part, on slope not smaller than in anterior part of disc. Scutellar row with 6-8 punctures. Rows impressed, especially on slope, punctures in rows moderately dense, in black parts of disc distance between punctures twice narrower than to as wide as puncture diameter, in yellow parts lager, up to twice larger than puncture diameter, in posterior half of submarginal rows punctures almost touching each other. Punctures in marginal row c. twice to thrice larger than in central rows. Intervals in anterior half of disc slightly, in posterior distinctly convex, in sutural half of disc 2.0-2.5 times wider than rows, in lateral part of disc as wide as to twice narrower than rows, their surface smooth and glabrous. Explanate margin moderate, in anterior half moderately declivous, in posterior part subhorizontal to horizontal, its surface with



52. Distribution of *Aspidimorpha longifrons* (white above black circles), *A. multiguttata* (black circles), *A. nigripes* (white and black circle), *A. nigritarsis* (black above white circles) and *A. pseudoareata* (black and white circle)

small irregular folds and wrinkles, appears irregular. Margin of elytra simple, does not form a gutter. Apex of elytral epipleura bare in both sexes.

Head moderately broad, clypeus c. 1.6-1.7 times wider than long (fig. 48), flat, with fine clypeal lines converging in narrow arch, its surface smooth and glabrous, with a few small punctures. Labrum broad, very shallowly emarginate. Prosternal collar large, prosternal process strongly expanded apically, not or shallowly impressed in the middle. Antennae moderately elongate (fig. 49), extending to mid coxae, length ratio of antennal segments: 100:48:104:69:65 :56:69: 61:73:69:130.

Claws pectinate on inner side only, outer side micropectinate (fig. 51), pecten with two (sometimes with third additional) long teeth, extending to 1/3-1/2 length of claw (fig. 50).

Sexual dimorphism indistinct. Males slightly smaller and stouter than females.

REMARKS

A. multiguttata, *A. nigripes* and *A. nigritarsis* form a group of species with both humeral and posterolateral spots. *A. multiguttata* distinctly differs from both the related species in uniformly yellow legs (partly or completely black in both *nigripes* and *nigritarsis*). *A. nigripes* differs also in large size (length c. 8 mm, 5.5-7.0 in *multiguttata*), and *A. nigritarsis* differs in slimmer body (Le/Wi ratio 1.35-1.38, in *multiguttata* 1.20-1.25).

MATERIAL EXAMINED

ANGOLA: Kalukembe, XII 1932, Miss. sc. suisse (syntype, DEI); Kuvangu, III 1933, 1, Miss. sc. suisse (syntype, DEI); Sangeve, II 33, 10, Miss. sc. suisse (syntypes, 4 MM, 3 DEI, 2 ZMHU, 1 LB).

ZAIRE: Ubangi, N'Zali, 3-4 II 1937, 1, H.J. BRÉDO (MRAC).

Aspidimorpha (Afroaspidimorpha) nigripes SPAETH, 1926

Aspidomorpha nigripes SPAETH, 1926: 84; 1932 b: 5; SHAW, 1961: 15 (TE lost).

REMARKS

According to original description (SPAETH 1926) the only known specimen was deposited in the Prague Museum. Dr. S. BILY, the curator of the *Coleoptera* collection in the Prague Museum informed me that the holotype had been borrowed in the fifties by S. SHAW (England). SHAW's collection is now in the Manchester Museum. During my stay in Manchester I did not find the type of *A. nigripes* in any *Cassidinae* collection preserved in the museum and has probably been lost.

ORIGINAL DESCRIPTION:

"In Grösse, Gestalt und Zeichnung an *Aethiopocassis vigintimaculata* F. erinnernd, systematisch zur Gruppe der *Asp. nigromaculata* verwandt, aber grösser

als diese Art und durch das aufgebogene Seitendach, sowie die Färbung der Beine und des Schildchen und die gewinkelten Halschildecken leicht zu unterschieden. Gerunded-eiförmig, wenig gewolbt, auf dem Rücken der Flügeldecken abgeflacht, lebhaft gelb, die Fuhler vom 5. Gliede angefangen, die ganzen Beine sammt der Trochanteren und das Schildchen tiefschwarz; dieselbe Farbe haben 11 Flecke auf jeder Flügeldecke, hievon 3 auf dem Seitendache: der 1. in der Basalecke, der 2. hinter der Mitte, der 3. an der Nahtspitze, mit seinem Gegenüber zusammenstossend; die Flecke der Scheibe stehen in 4 Quer- und 2 Länsreihen: der 1. an der Schulterbeule viel länger und etwas schmäler als alle anderen, innen ausgerandet, ausser vom 9. Punktstreif begrenzt; innen neben ihm der 2. schawach eiförmig; der 3. und 4. in einer Querreihe in der Mitte nebeneinander, der 5. und 6. und der 7. und 8. in zwei Querreichen hintereinander vor der Spitze, die äusseren weiter nach innen gerückt als die vorderen.

Kopfschild dreieckig, flach mit tiefen Stirnlinien, zestreut punktiert. Halsschild vorne viel mehr als hinten gerunded, mit stumpfwinkligen, ziemlich scharfen Ecken weit hinter Längsmitte; die gewölbte Scheibe und das schwach augebogene Vordach sind glatt. Flügeldecken an der Basis kaum breiter als der Halsschild, um die Hälfte länger als breit, and den Seiten sehr wenig erweitert, hinten breit verrundedet, auf dem Rücken ganz flach, aussen steil abfallend mit in der äusseren Hälfte stark augebogen, daher in der Mitte tief rinnenartig vertieftem Seitendach; die Scheibe mit ziemlich regelmässigen Punkstreifen, mit mässig groben Punkten und viel breiteren Zwischenräumen; Seitendach schwach runzelig. 8 x 6 mm.

Benguela: Dongo (1 Ex. aus der coll. ACHARD)."

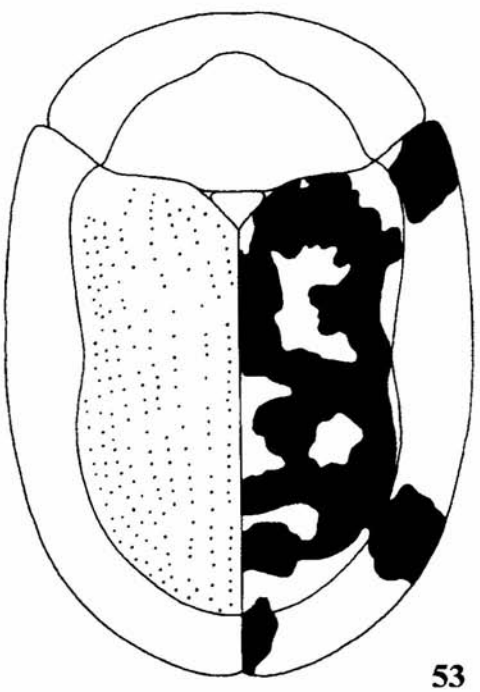
According to the original description *A. nigripes* is unique and differs from all its congeners in completely black legs and scutellum. With body length c. 8 mm it is the largest species of the subgenus *Afroaspidimorpha*. Both humeral and posterolateral spots of explanate margin of elytra place this species near *A. multiguttata* and *A. nigritarsis* but the former species has legs uniformly yellow and the latter has at least tibiae and apical third of femora yellow, both have yellow scutellum.

Aspidimorpha (*Afroaspidimorpha*) *nigritarsis* SPAETH, 1932

Aspidomorpha nigritarsis SPAETH, 1932 b: 19 (HT in MM).

DESCRIPTION

Le: male and female: 5.8-6.5 mm, Wi: male and female: 4.2-4.8 mm, Lp: male and female: 1.9-2.2 mm, Wp: male and female: 3.2-3.7 mm, Ex: male and female: 0.9-1.0 mm, Wd: male and female: 3.0-3.2 mm; Le/Wi ratio: male and female: 1.35-1.38, Wi/Wp: male and female: 1.30-1.31, Wp/Lp: male and female: 1.68. Body elongate (fig. 53).



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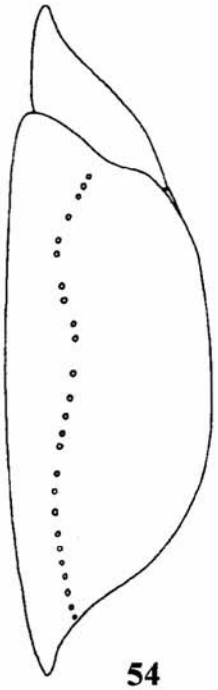

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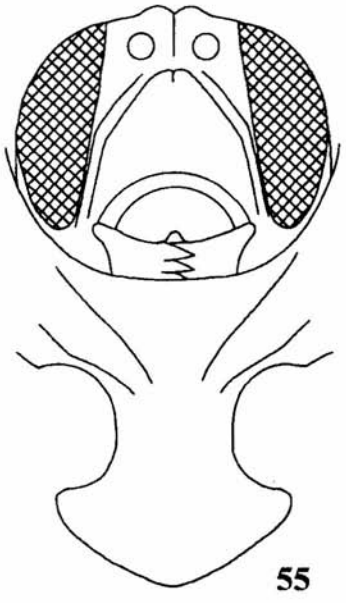

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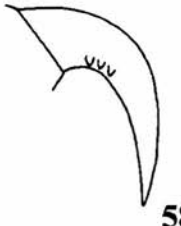


58

53-58. *Aspidimorpha nigritarsis*: 53 - body in dorsal view, 54 - body in profile, 55 – head and prosternum, 56 – antenna, 57 – inner side of claw, 58 – outer side of claw

Pronotum uniformly yellow. Scutellum yellow. Elytral disc mostly black with yellow marginal interval, anterolateral part of humerus, very small spot at basal margin close to scutellum, spot behind scutellum, irregular large spot in anterior half of disc close to suture, elongate spot at suture behind the middle of disc, and two round to oval spots in posterior half of disc, explanate margin of elytra with broad humeral, posterolateral and sutural spots (fig. 53). The pattern is rather constant, only yellow elytral spots slightly vary in size. Clypeus mostly yellow, only basal corners brown to black, sometimes sides brownish. Thorax, except yellow lateral plates, black. Abdomen black with yellow sides, sometimes last sternite mostly yellow. Coxa and femora to 1/2-2/3 length black, apices of femora yellow. Tibiae on anterior side yellow, on posterior brownish, tarsi brown to black. Basal six antennal segments yellow, remainder black.

Pronotum subellyptical, with maximum width slightly behind the middle, sides narrowly rounded. Disc moderately convex, smooth, glabrous, with small microreticulation and fine pricks. Explanate margin indistinctly bordered from disc, flat, smooth, microreticulate, glabrous.

Scutellum triangular, not or slightly impressed in the middle, microreticulate, without punctures. Base of elytra smooth, slightly wider than base of pronotum, elytral margins simple. Disc slightly depressed (fig. 54), with no tubercles or impressions. Puncturation of disc regular, coarse, punctures in sutural half of disc only slightly smaller than in lateral part, on slope as large as in anterior part of disc. Scutellar row with 6-8 punctures. Rows on sides slightly on slope distinctly impressed, punctures in rows dense to very dense, distance between punctures at most as wide as puncture diameter on sides c. twice narrower than punctures, partly almost touching each other. On yellow relief spots punctures slightly sparser than in rows. Punctures in marginal row c. twice to thrice larger than punctures in central rows. Intervals only in anterior part flat, on sides and slope convex, in sutural half of disc c. twice wider than rows, in lateral part of disc almost as wide as rows or slightly narrower, their surface smooth, glabrous, with very small microreticulation. Explanate margin narrow, in anterior half moderately declivous, in posterior half subhorizontal, but does not form a distinct gutter, its surface with irregular shallow punctures and folds appears slightly irregular. Apex of elytral epipleura bare in both sexes.

Head moderately broad, clypeus narrow, c. 1.2 times wider than long (fig. 55), flat, with distinct clypeal lines converging in narrow arch, its surface distinctly microreticulate but glabrous, with few small punctures. Labrum moderately broad, shallowly emarginate to 1/6 length. Prosternal collar large, prosternal process strongly expanded apically, deeply impressed in the middle. Antennae moderately elongate (fig. 56), extending to mid coxae, length ratio of antennal segments: 100:41:70:55:56:47:53:53:55:58:124.

Claws pectinate on inner side only, outer side micropectinate (fig. 58), pecten with three short teeth extending to 1/4 length of claw (fig. 57).

Sexual dimorphism indistinct. Males slightly smaller and stouter than females.

DISTRIBUTION

Malawi and Tanzania (fig. 52).

REMARKS

With *A. multiguttata* and *A. nigripes* it forms a group of species with both humeral and posterolateral spots of explanate margin of elytra. *A. nigritarsis* is the slimmest species of the group, it differs from *A. multiguttata* in partly black legs (uniformly yellow in *multiguttata*) and from *A. nigripes* in partly yellow tibiae and femora (uniformly black in *nigripes*). See also remarks under *A. multiguttata* and *A. nigripes*.

MATERIAL EXAMINED

MALAWI: Chitipa Distr., Jembya Res., XII 1994, 2 (LB).

TANZANIA: Kigonsera, Nyassa-See, 1930, 1, STAUD. (holotype, MM).

Aspidimorpha (Afroaspidimorpha) nigromaculata (HERBST, 1799)

Cassida nigromaculata HERBST, 1799: 277 (TE unknown); BOHEMAN, 1855: 525, 1856: 205, 1862: 487.

Aspidomorpha nigromaculata: WEISE, 1896: 19; SPAETH, 1903: 172; 1914 b: 41; 1914 b: 41, 1922 b: 999; 1924: 290; 1925: 3; 1932 b: 5; 1935: 172; 1943: 50; SHAW, 1955: 234; 1956 b: 593; 1961: 17; 1963: 459; 1968 a: 370; 1972: 63; TIBERGHIEN, 1976: 179; BOROWIEC, 1985 a: 226; 1985 b: 440; 1986: 792.

Aspidomorpha (Aspidomorpha) nigromaculata: SPAETH, 1914 b: 76.

Cassida mutabilis KLUG, 1835: 47 (TE in ZMHU); BOHEMAN, 1854: 367, 1856: 125, 1862: 301; CHAPUIS, 1880: 29; WEISE, 1896: 19 (as syn. of *nigromaculata*); KOLBE, 1898: 345.

Cassida lurida BOHEMAN, 1854: 366 (LT in NRS); 1856: 124, 1862: 301; SPAETH, 1932 b: 5 (as syn. of *nigromaculata*).

Aspidomorpha lurida: SPAETH, 1898: 540.

Aspidomorpha (Aspidomorpha) lurida: SPAETH, 1914 b: 76.

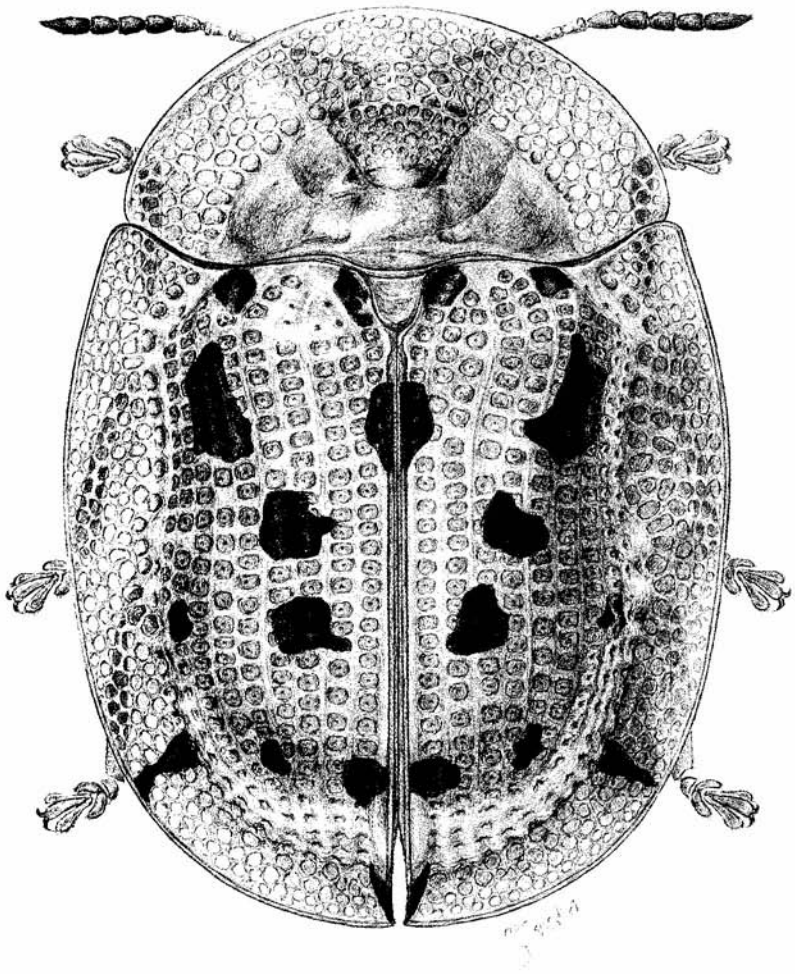
Cassida nigroguttata THOMSON, 1858: 232 (HT in MM); BOHEMAN, 1862: 360; WEISE, 1896: 20 (as syn. of *nigromaculata*).

DESCRIPTION

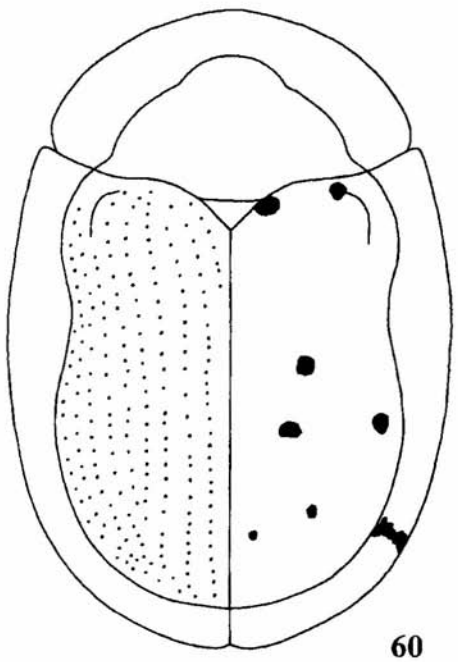
Le: male: 5.5-7.5 mm, female: 5.4-7.3 mm, Wi: male: 4.0-5.5 mm, female: 3.3-4.8 mm, Lp: male: 2.0-2.5 mm, female: 1.9-2.4 mm, Wp: male: 3.3-4.4 mm, female: 3.2-4.0 mm, Ex: male: 0.8.-1.3 mm, female: 0.5-0.9 mm; Wd: male: 2.8-3.8 mm, female: 2.6-3.6 mm. Le/Wi: male: 1.34-1.48, female: 1.46-1.64, Wi/Wp: male: 1.16-1.28, female: 1.15-1.24; Wp/Lp: male 1.62-1.76, female: 1.47-1.74. Body oval (figs 59, 60), specimens from eastern and southern part of range usually narrower with elytra almost parallelsided, especially in females.

Extremely variable species. Pronotum uniformly yellow. Scutellum yellow. Elytra in typically coloured specimens mostly yellow, disc with 17 black spots: four at base, two on sides, one in postscutellar point, two c. in the middle on intervals 2 and 3, and four on slope, explanate margin with broad posterolateral and narrow sutural spot. In dark coloured specimens spots partly coalescent and

then disc mostly black except sides and apex; in pale specimens spots reduced, in extremely pale specimens whole elytra yellow. The pale specimens are common in arid parts of the distribution, the darkest ones are more common in forest regions. In some populations from Cameroon dark pattern forms black band along sides, except marginal interval, from humerus to suture, and two spots on each elytron, one at corners of scutellum and one in 2/3 length of disc, spot near scutellum sometimes obsolete but spot in posterior part of disc divided into two separate spots. Ventrites, including head and legs in all forms yellow. Antennae



59. *Aspidimorpha nigromaculata*, habitus (by J. Świętojańska)



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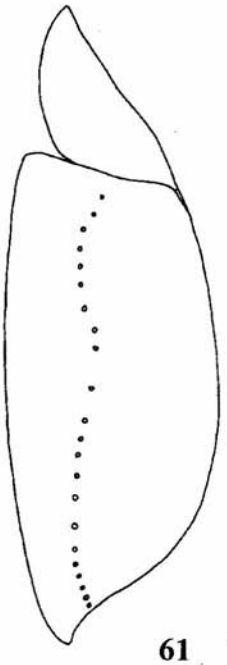

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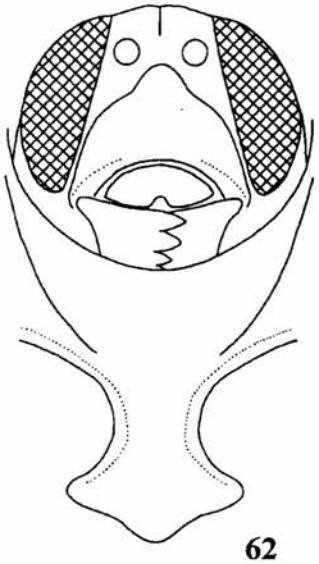

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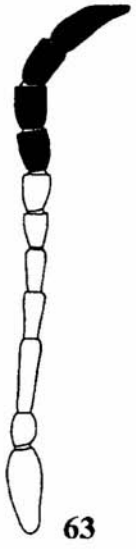

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60-65. *Aspidimorpha nigromaculata*: 60 - body in dorsal view, 61 - body in profile, 62 – head and prosternum, 63 – antenna, 64 – inner side of claw, 65 – outer side of claw

yellow, four to five apical segments infuscate to black, in the palest specimens antennae almost uniformly yellow, or only two or three apical segments slightly infuscate.

Pronotum subellyptical, with maximum width in the middle, sides rounded. Disc moderately convex, with small microreticulation and fine pricks, smooth and glabrous. Explanate margin indistinctly bordered from disc, flat, smooth and glabrous.

Scutellum triangular, not or shallowly impressed in the middle, microreticulate, without punctures. Base of elytra smooth, moderately wider than base of pronotum, elytral margins simple, humeral angles subangulate. Disc slightly depressed (fig. 61), with no tubercles or impressions. Puncturation of disc regular, moderate to coarse, punctures in sutural half of disc c. twice smaller than in lateral part and slope. Scutellar row with 7-10 punctures. Rows in anterior part of disc not impressed, on slope usually depressed, in females deeper than in males, in populations from southern part of distribution range usually deeper impressed than in populations from the western and northern parts of range. Punctures in rows moderately dense, distance between punctures in anterior part of disc twice to thrice wider than puncture diameter, in posterior half of disc and sides usually only as wide as puncture diameter or slightly wider. Punctures in marginal row c. twice to thrice larger than punctures in central rows. Intervals in anterior half of disc not, on slope distinctly convex, especially in females, in sutural half of disc twice to thrice wider than rows, in lateral part of disc as wide as to slightly wider than rows, their surface smooth and glabrous. Explanate margin moderate, in anterior half moderately declivous, in posterior part subhorizontal, with no tendency to form a shallow gutter, its surface shallowly, coarsely but sparsely punctate, but not appearing irregular, or only in posterior third appears slightly irregular. In some specimens from West Africa, especially males, puncturation of explanate margin is so shallow that the surface of explanate margin appears almost smooth. Apex of elytral epipleura bare in both sexes.

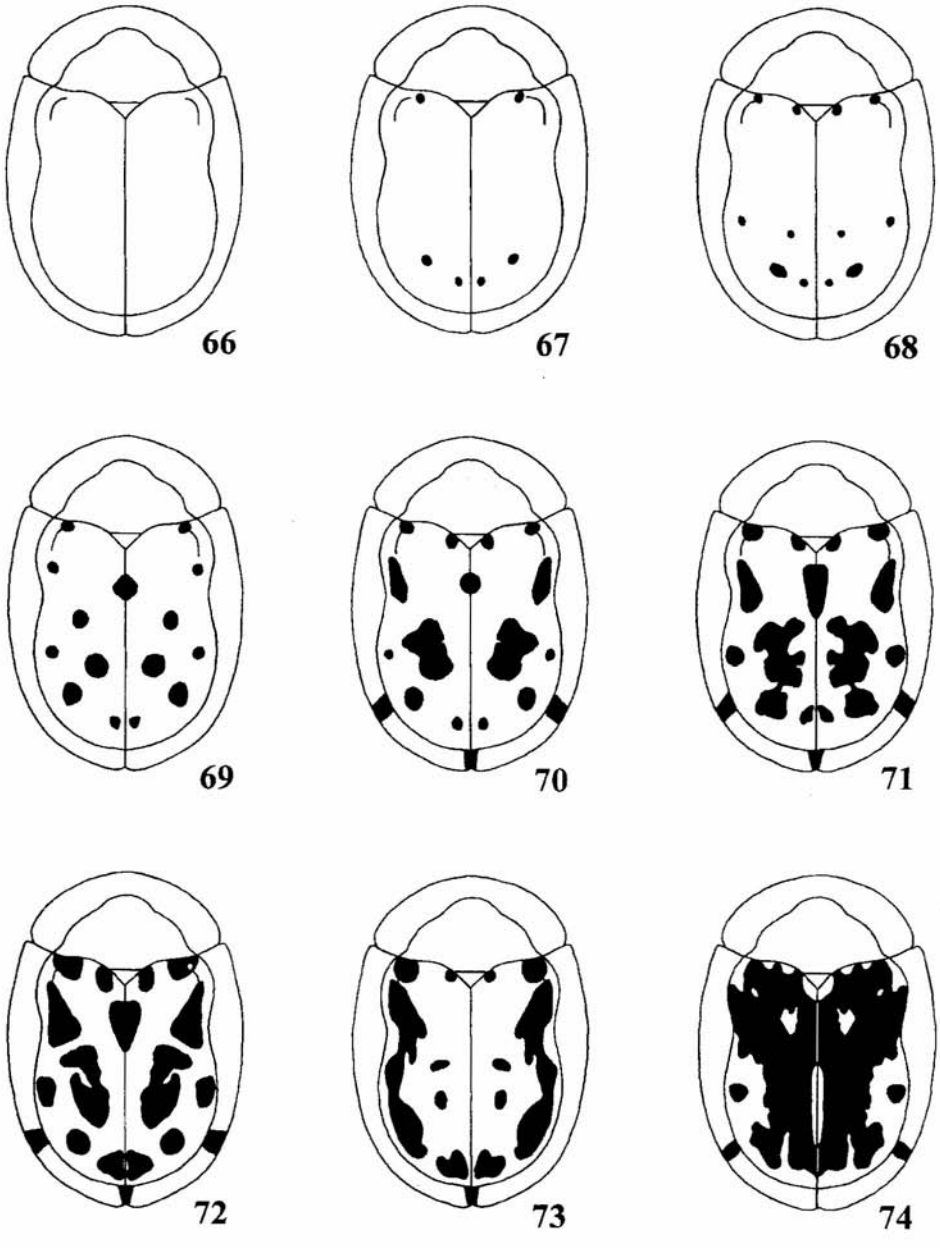
Head broad, clypeus broad, c. 1.6-1.7 times wider than long (fig. 62), flat, with distinct clypeal lines converging in narrow arch, its surface smooth and glabrous, impunctate or with a few small punctures. Labrum broad, distinctly emarginate to 1/4 length. Prosternal collar large, prosternal process strongly expanded apically, usually not impressed in the middle. Antennae moderately elongate (fig. 63), extending to mid coxae, length ratio of antennal segments: 100:40:90:58:52:44:49:49:52:56:100.

Claws pectinate on inner side only, outer side micropectinate (fig. 65), pecten with four long teeth extending to 1/3-2/5 length of claw (fig. 66).

Sexual dimorphism more distinct than in related species. Males smaller and stouter than females, with less impressed elytral rows and less convex elytral intervals.

HOST PLANTS

Convolvulaceae: *Merremia hederacea*, *Ipomoea argentaurata/heterotricha*, *I. eriocarpa* (E. OBERMAIER, pers. comm.).



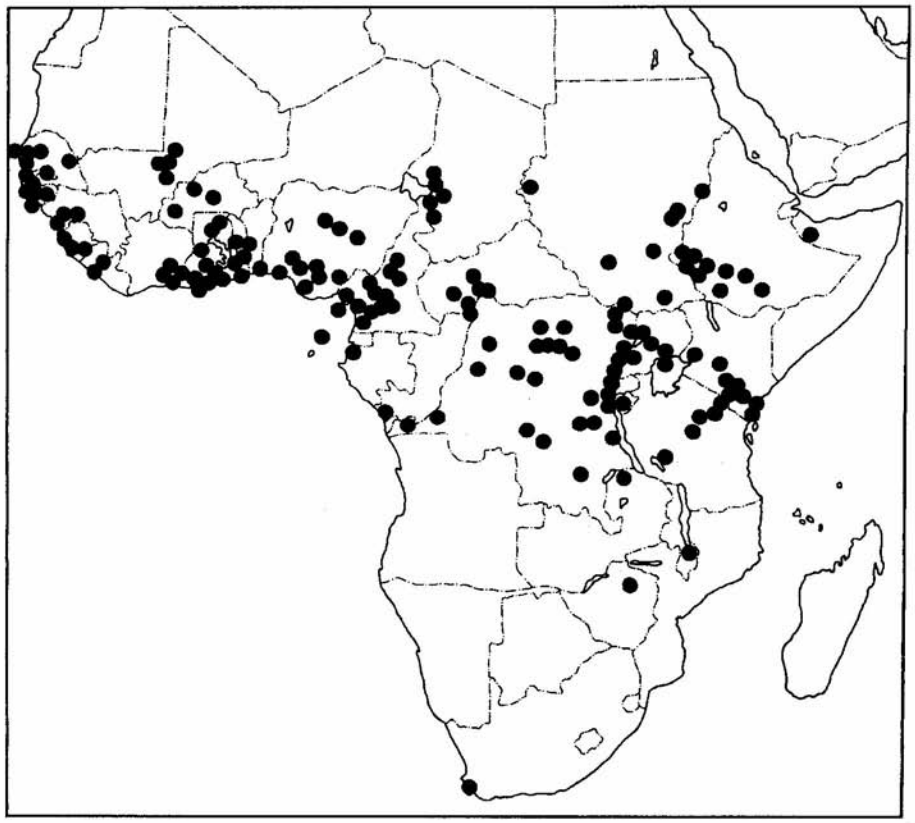
66-74. *Aspidimorpha nigromaculata*: variation of dorsal maculation

DISTRIBUTION

Almost whole Africa except extreme south (fig. 75), record from Cape based on introduced specimen.

REMARKS

With *A. longifrons* it forms a group of species with black spots on elytral disc and black posterolateral spots of explanate margin of elytra. *A. longifrons* distinctly differs in its elongate clypeus (width/length ratio 1.2-1.3, in *nigromaculata* 1.6-1.7). Explanate margin of elytra in *A. longifrons* is slightly more explanate than in *A. nigromaculata*, and the body is stouter with less marked sexual dimorphism (Le/Wi ratio 1.32-1.39 in both sexes, in *nigromaculata* in males 1.34-1.48, in females 1.46-1.64). *A. nigromaculata* is also very similar to *A. severini* but the latter species distinctly differs in reddush elytral pattern. Uniformly yellow specimens of *A. nigromaculata* are extremely similar to the palest form of *A. severini* but in the latter species elytral disc is never immaculate,



75. Distribution of *Aspidimorpha nigromaculata*

with at least a reddish spot in posterolateral half of disc. Both species are also partly separated geographically, *A. severini* has a more southern distribution than *A. nigromaculata* (see figs 75 and 94).

MATERIAL EXAMINED

BENIN: Porto Novo, 1908, 1, WATERLOT (MNHN).

BURKINA FASO: Bobo Dioulasso, V 1953, 1, J. HAMON (MRAC), 6-8 VI 1964, 1, X 1964, 1, R. SIFFOINTE (MRAC); Canton de Oué, Tougan, X 1954, 1, J. HAMON (MRAC); Ouagadougou, VII 1926, 1, VIII 1926, 2, OLSUFIEV (AB); II 1971, 90, P.C. FERNANDEZ (MRAC), V-VII 1974, 2, A. ROLLERO (MHNG).

BURUNDI: Bujumbura, 7 IX 1976, 2, F.C. ROEST (NNML).

CAMEROON: Bamum, 3 (HNHM), VI 1912, 9, OLDENBURG (NMW); Benue n. Garua, 31 VII-2 VIII 1909, 3 (LB); Bibundi, 21 X 1904, 3, G. TESSMANN (ZMHU); Djoungolo, Nkongzok, 11 II 1963, 1 (ZSM); Djoungolo, Zoatoupsi-r. Nkelkongo, 8 VIII 1963, 7, L. SEGERS (ZSM); Doume, III 1960, 1, CHASSOT (MHNG), III 1960, 1 (MRAC); Duala, IX 1912, 1, V. ROTHKIRCH (ZMHU); Farakoma, 27 III 1909, 75, RIGGENBACH (ZMHU); Jaunde, X 1923, 1 (IRSN); Joko, 10 (ZMHU); Kribi, 1 (MRAC); Kumba, 230 m, 12 II 1967, 1, W. HARTWIG (MKB); Nanga Eboko, III-IV 1959, 3, LENCZY (HNHM); Ngaoundere, 8 III 1976, 1, R.E. PARROT (CNCI); Pipinde, 1, ZENKER (ZMHU); Ubangi, Bungano, 14 III 1913, 1, v. RAMSAY (ZMHU).

CHAD: Bas Chari, Mani, IX 1904, 1, J. DECORSE (MNHN); El Hamis, 1904, 1, A. CHEVALIER (MNHN); Fort Lamy, 2, P. RENAUD (MRAC); iles du lac, XI-XII 1957, 13, P. RENAUD (MRAC); Mao, distr. Kanem, X-XI 1957, 189, P. RENAUD (MRAC); Mondou, Bebedjia, 21 I 1978, 1, G. RUELLA (MRAC); N'Gouri, Kanem Distr., 1 (ER), IX 1958, 100, P. RENAUD (MRAC); Rives du Moyen Chari, Gory-Damracu, 1904, 3, J. DECORSE (MM).

EQUATORIAL GUINEA: Fernando Poo, 12 VIII 1900, 1, L. CONRADT (ZMHU).

ETHIOPIA: Aouash, 960 m, VII 1957, 1, F. SCHÄUFFELE (SMNS); Arussi-Galla, Znai See, 1, O. NEUMANN (ZMHU); Gambela, 30 km W Abobo, 10 VII 1984, 4, RYBALOV (SMNS); Gamu-Gofa Prov., Arba-Minch, 1250 m, 29-30 V 1974, 1, G. DE ROUGEMONT (MRAC); Gamu Gofa, Konso, 1610 m, 19 III 1960, 1, 21 III 1960, 1, W. RICHTER (SMNS); Gojeb, 65 km SW of Jimma, 1450 m, 17 VII 1971, 2, 80 km SW of Jimma, 1650 m, 24 VII 1971, 3, R.O. CLARKE (MRAC); Illubabor Prov., Chora, 1650 m, VI 1973, 1, G. DE ROUGEMONT (MRAC); Illubabor, Gambela, 27 VIII 1972, 1, R.O. CLARKE (MRAC); Illubabor Prov., Pokwo, Baro riv., 25 VIII 1972, 2, R.O. CLARKE (MRAC); Kaffa Prov., Mui Game Res., 700 m, 10 IV 1972, 1, R.O. CLARKE (MRAC); Laga Narba, IX 1905, 1, M. DE ROTSCHILD (MNHN); Sidamo Prov., 10 km NW of Neghelli, 1550 m, 14 V 1975, 2, R.O. CLARKE (MRAC).

GABON: Gabon, 1 (holotype of *Cassida nigroguttata*, MM), 4 (IRSN); Libreville et env., V 1915, 1, G. BABAULT (MNHN).

GAMBIA: Bakau, 18 II 1984, 1, S. LUNDBERG (SL), 6-26 XI 1984, 3, T. PALM (LU); Bathurst, I 1968, 21, T. PALM (LU); Brikama, 22 XI 1984, 4, T. PALM (LU).

GHANA: Accra, 1950, 2, Consul BRÜGGER (NMB); Aschanti, 1, SIMON (ZMHU); Ashanti Reg., Kumasi, Nhiasu, 10-22 V 1965, 1, 24 VI 1967, 3, 30 IX 1967, 1, 10 XII 1967, 1, S. ENDRÖDY-YOUNGA (HNHM); Ashanti Reg., Kwadoso, 27 II 1969, 1, 28 IV 1969, 2, 22 V 1969, 2, S. ENDRÖDY-YOUNGA (HNHM); Axim, XI 1968, 4, BESNARD (MRAC); Gold Coast, N. Territory, 1, W. SWIRE (BMNH); Kpandu, 10 V 1972, 1, W.F. RODENBURG (NNML); Northern Reg., Banda-Nkwanta, 1-6 X 1965, 1, S. ENDRÖDY-YOUNGA (HNHM); Northern Reg., Nakpanduri, 75 km S of Bawku, 11 VII 1970, 2, S. ENDRÖDI (HNHM); Northern Reg., Nyankpala, 15 km W of Tamale, 11-20 V 1970, 29, S. ENDRÖDY-YOUNGA (HNHM); Northern Reg., Tamale, 8 I 1972, 1, S. ENDRÖDY-YOUNGA (HNHM); Takoradi, XI 1961, 6, BESNARD (MRAC); Tafo, II 1968, 2, E.O. BOAFO (1 CNCI, 1 ER); Western reg., Busua, 26 III 1969, 1, S. ENDRÖDY-YOUNGA (HNHM).

GUINEA: Camayinne, 6 km of Conakry, 1909, 1, L. DUPORT (MNHN); Conakry, 1897, 1, MACLAUD (MNHN), 1961, 2, GYÁROSNÉ (HNHM); Coyah, IV 1967, 5, 15 III-15 IV 1969, 1, K. FERENCZ (HNHM); Fouta-DJalon, Timbo, 25 XI 1902, 1, MACLAUD (MNHN); Friguiagbe n. Kindia, 1908, 1, P. PRINS (MNHN); Kalledu, V-VI 1970, 1, K. FERENCZ (HNHM).

GUINEA BISSAU: Bafatà, VII 1953, 1, IV 1954, 1, BENASSI (1 OSU, 1 PMNH); Bissagos Ins., J. Bubaque, 27 V 1927, 3, E. Hintz (ZMHU); Bissau, 9 XII 1926, 15, E. HINTZ (ZMHU); Bubaque, VI 1956, 10, BENASSI (9 OSU, 1 PMNH), VI 1960, 1 (PMNH), VI 1976,,4, SCANTAMBURIO (OSU); Cacheu, Bula, 3 VI-31 VII 1992, 6, S. PERSSON (LU); Suzana, X-XI 1954, 1, 1957, 2, ANDROLETTI (OSU).

IVORY COAST: between Adiopodoumé and Abidjan, 2 IV 1988, 3, F.-T. KRELL (SMNS); Bouaké, 20 III 1975, 1, P.M. ELSEN (MRAC); Comoé Nat. Park, VI 1994, 1, on *Ipomoea* sp., E. OBERMAIER (EO); 6 km E of Dabou, 4 IV 1988, 4 IV 1988, 1, F.-T. KRELL (SMNS); Dimbokro, 1 (IRSN); Ferkessédougou, 18 IV 1988, 6, 19 IV 1988, 2, 2 V 1988, 2, F.T. KRELL (SMNS); Kafolo, Comoé, 27 IV 1988, 1, 28 IV 1988, 1, 29 IV 1988, 1, 30 IV 1988, 2, F.-T. KRELL (SMNS).

KENYA: Ikutha, 1 (ZMHU); Kakamega Forest Reserve, 1800 m, swept, 30 I 1992, 1, O. MERKL and G. VÁRKONYI (HNHM); Kibwezi, 1, SCHOEEFFLER (ZMHU); Kitwi, 1 (ZMHU); Malindi, Gedi Forest, IV 1973, 1, V 1973, 2, H. GØNGET (ZMC); Mbuyuni, 1110 m, III 1912, 1, ALLUAUD & JEANNEL (MNHN); Meru, Materi (Mitunguu), 800 m, 8 IV 1987, 2, R. MOURGLIA (SZ); Mulango, 4 (ZMHU), 1 (FMNH); Shimba Hills, 27 V 1973, 3, 3 VI 1973, 1, H. GØNGET (ZMC); Tana Riv., Guasa Nyero, 1200-2000 m, I 1910, 1, G. VASSE (MNHN); Tsavo Nat. Park, Lion Hill nr. Voi, 500-600 m, 1, J. KRIKKEN and A.L. VAN BERGE HENEGOUWEN (NNML).

LIBERIA: Bong Town, 24 II 1988, 4, 25 II 1988, 1, 18 III 1988, 1, 21 III 1988, 2, F.-T. KRELL (SMNS); Peter Town, Montserrado County, 26 III 1988, 12, F.-T. KRELL (SMNS); Zwedru, 2-3 III 1988, 2, F.-T. KRELL (SMNS).

MALAWI: Nyassaland, Pt. Johnston, I-II 1896, 1, P. RENDALL (MCZC).

MALI: Dioura, VI-VII 1954, 1, Demange (IFAN); Kassarola, VII 1969, 1, G. PIERRARD (MRAC); Kogoni, X 1966, 3, G. SCHMITZ (MRAC); M'Pesoba, V-VII 1969, 1, G. PIERRARD (MRAC); Niafunke, VIII 1909, 1, F. DE ZELTNER (MNHN).

NIGERIA: Bensi, 1 (ZMHU); Enugu, 18 V 1962, 1, D.C. EIDT (CNCI); Ife, III 1978, 2, J. DU CHÊNE (MHNG); Ile-Ife, 7 VII 1988, 1, 9 VII 1988, 1, 11 VII 1988, 2, 13 VII 1988, 1, F.-T. KRELL (SMNS); Lagos, 1 (ZMHU); Maiduguri, X 1974-VIII 1975, 1, W. KINZELBACH (MRAC); Nsukka, 19 VII 1988, 2, 22 VII 1988, 2, F.-T. KRELL (SMNS); Ondo Prov., Ifon, 1 VIII 1934, 1, R. and L. BOULTON (FMNH); Ondo Prov., Owo, 30 VII 1934, 1, R. and L. BOULTON (FMNH); Rock Game Res., 4 IX 1978, 1 on light, P. BERON (BG); Samaru, 20 X 1969, 2, S. ENDRÖDY-YOUNGA (HNHM); Warri, VII-IX 1897, 3, Dr. ROTH (MCZC); Zaria, 1969, 1, H. ROBERTS (MRAC).

PRINCIPE IS.: Ile de Prince, 1, ERMAN (holotype of *Cassida mutabilis*, ZMHU).

REPUBLIC OF CENTRAL AFRICA: Bangui, I-III 1968, 2 (MRAC); Dar Banda, Ndewe, 1904, 1, A. CHEVALIER (MNHN); Fort Crampel, 9 (IRSN); Fort Crampel, Ubunghi, VIII-IX 1958, 1 (MRAC); Fort de Possel, IX 1904, 2, J. DECORSE (MNHN); Fort Sibut, 1 (IRSN); La Maboké, M'Baki, 1, M. PAVAN (MZSNV); Mongoumba, 1 IRSN); Oubangi-Chari, Bangui, 2 (IRSN).

REPUBLIC OF CONGO: Kuilu, 1892, 1, MOCQUERYS (MCZC).

SENEGAL: Bambey, 1945, 1, RISBEC (MNHN); Bandia, 30 VII 1980, 1, B. SIGWALT (MNHN); Dakar, XI 1952, 1, A. VILLIERS (IFAN); Dangane, 30 III 1965, 3, T. LEYE (IFAN); Dougal, 22 XI 1964, 3, R. ROY (IFAN); Fuméla, 1 XI 1965, 1, R. ROY (IFAN); Kaolack, 1 (FMNH); Kidira, VIII 1954, 1, T. LEYE (IFAN); Linguere, IX 1967, 1, DESCARPENTRIES, LEYE & VILLIERS (MNHN); N'Gor, VII-VIII 1984, 4 (SMNS); Sebikotane, VIII 1971, 1, A. VILLIERS (MNHN); Senegal, 7 (ZMHU), 12 (IRSN); Thiès, VI 1881, 1, RIGGENBACH (ZMHU); Yéne, 14 VII 1953, 8, A. VILLIERS (IFAN).

SIERRA LEONE: Freetown, S. Michel Lodge near Lakka, 9-24 VI 1988, 2, R. MOURGLIA (SZ); Kenema, III-VI 1975, 5, M. VERHAEGHE (4 IRSN, 1 MRAC); Mayamba, 1 (IRSN); Njala, 4 XI 1981, 1, L.H. ROLSTON (ER); South. Prov., Tiwai Is., 23-25 X 1989, 1, W. ROSSI (ZMUF).

SOUTH AFRICA: Cape good hope [!], 1 (BMNH).

SUDAN: Darfur Prov., El Genaina, 17 VIII 1977, 2 ad lucem, H.J. BREMER (ZSM), 9 VIII 1978, 1, 20 IX 1979, 1, J.M. ABUZINID (ZSM); Disa, 2, ALLISON (HNHM); Equatoria, Torit, 2000 ft., 27 X 1949, 1, H. HOOGSTRAAL (FMNH); Gallabat, 1932, 1, M. GRIAULE (MNHN); Sobat, 2, O. NEUMANN (ZMHU).

TANZANIA: Katisunga, Rukwa, 1 I 1951, 1, H.J. BRÉDO (IRSN); Kilimandjaro, 2, C. UHLIG (ZMHU); Sansibar, Kitui, 2, HILDEBRANDT (ZMHU); Ukalama-Singidda, 18 VI-5 VIII 1926, 1, BRANDES (ZMHU).

TOGO: Avètonou, 130-150 m, 27 VI 1988, 1, F.-T. KRELL (SMNS); Bismarckburg, 1, E. CONRADT (ZMHU); Hinterland, Wegn. Salanga, 9, DÖRING (ZMHU); Hinterland, Yendi, I 1895, 2, DÖRING (ZMHU); Kete-Kratji, 8 IX 1898, 1, Graf ZECH (ZMHU); Kolokope, 12-14 III 1970, 1, T. v. d. AUDENAERDE (MRAC); Lome, 1900, 1, SCHNEIDER (SMNS); Sokodé, Kpangalam, 3 VI 1988, 4, 4-5 VI 1988, 2, 6-7 VI 1988, 2, 7 VI 1988, 6, , 9 VI 1988, 2, F.-T. KRELL (SMNS).

UGANDA: Budongo Forest, 27-28 VIII 1971, 1, H. GØNGET (ZMC); Entebbe, 1 (ZMHU); Kadunguru, 31 XII 1913, 1, 19 I 1914, 1, C.C. GOWDEY (BMNH); Kawanda n. Kampala, II 1949, 1, G. SALT (BMNH); Kibale Forest, Toro Distr., 3 III 1973, 1, H. GØNGET (ZMC); Masindi Distr., Budongo Forest n. Sonso, 1°45'N, 31°35'E, 19-30 VI 1995, 3, 1-10 VII 1995, 2, 11-20 VII 1995, 1, T. WAGNER (TW, LB); between Seziwa and Kampala, 3500-3750 ft., 27-31 VIII 1911, 2, S.A. NEAVE (BMNH).

ZAIRE: Abok, Mahagi, 9 III 1929, 1, A. COLLART (IRSN); Albert Nat. Park, Mont Hoyo, Kisala, Muntule, 1150 m, 10 VIII 1955, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mont Hoyo, grotte Saga-Saga, 1160 m, 11-14 VII 1957, 4, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mutsora, 1939, 1, HACKARS (MRAC); Albert Nat. Park, Ruwenzori, Bomboka near Kyandolire, 1650 m, 22 X 1952, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Ruwenzori, Kakalari, Bombi, 1725 m, 10 VI 1954, 2, P. VANSCHUYTBROECK and H. SYNAVE (MRAC); Albert Nat. Park, Ruwenzori, Kivaita near Ibatama, 1780 m, 14 XII 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Ruwenzori, Ruanoli, Semliki, 1800 m, 19 VII 1954, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Butahu, Semliki, 1325 m, 25 VI 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Kanyatsi, Lac Edward, 912 m, 19 V 1957, 5, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Lesse, Semliki, 695 m, 9 VII 1957, 3, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, May ya Moto, Talya, 1180 m, 9 V 1957, 3, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Ngokoi, Talya, 1250 m, 28 XII 1956, 1, 1100 m, 27 V 1957, 2, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Nzenga, Mutawanga, 1100 m, 27 VI 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Lesse, Semliki, 695 m, 9 VII 1957, 1, P. VANSCHUYTBROECK (MRAC); S Albert See, XII 1907, 1, HERZOG (ZMHU); W Albert See, Mawambi, Ituri, IV 1908, 2, HERZOG (ZMHU); Albertville, 1 I 1950, 1, G. MARLUR (MRAC); Bamanya, VII 1971, 5, HULSTAERT (MRAC), XI 1974-IX 1975, 1, HULSTAERT (MRAC); Bambesa, 20 XII 1939, 1, J.M. VRIJDAGH (IRSN); Bobende, 14 I 1928, 1, A. COLLART (IRSN); Coquithatville, 18 VI 1956, 1, 1959, 5, P. HULSTAERT (MRAC); Equateur, Bamania, V 1958, 2, P. HULSTAERT (MRAC); Ikangi, 18 IX 1912, 2, R. MAYNÉ (MRAC); Irangi, IX 1992, 1, H. Hinkel (TW); Isangi, 1 (IRSN); Ionda, III 1971, 3, HULSTAERT (MRAC); Kasongo, VIII-IX 1959, 1, P.L. BENOIT (MRAC); Kassongo n. Stanleyfalls, 1, ROM (IRSN); Kibali, Ituri, Kilomines, IV 1958, 1, G. SMOOR (MRAC); Kisangani, 6-11 IV 1979, 1, P. BERON (BG); Kivu, Irangi, 4 I 1967, Dr. JILLY (SMNS); Kivu, E Lac Edward, Katwe, 12 VI 1935, 1, H. DAMAS (MRAC); Kivu, Kavimvira, Uvira, 1-15 V 1955, 1, G. MARLIER (MRAC); Kivu, Lwiro, 10 I 1967, 1, 19 I 1967, 1, Dr. JILLY (SMNS); Kivu, Terr. Beni, Mt Bau, 1200 m, 13 V 1953, 1, R.P. CELIS (MRAC); Lelo-Sundi, 27 X 1929, 1, A. COLLART (IRSN); Léopoldville, 16 VI 1957, 1, P. JOBELS (MRAC); Luluabourg, Kasai, 7-14 IX 1963, 1, J. DEHEEGHER (MRAC); Mahagi, Angusa, 4 IV 1929, 1, A. COLLART (IRSN); Mandimba-Masua, 13 IX 1929, 1, A. COLLART (IRSN); Maniema, Kindu, 1917, 1, L. BURGEON (MNHN); Masua, 12 IX 1929, 1, A. COLLART (IRSN); Ozeguru, Niki, 13 III 1929, 1, A.

COLLART (IRSN); W Ruwenzori, NW Beni, I 1908, 1, HERZOG (ZMHU); Sankuru, M'Pemba Zeo, Gandajika, 16 IX 1958, 1, R. MARÉCHAL (MRAC); Stanleyville, 17 VI 1928, 1, V 1929, 1, A. COLLART (IRSN); Tshuapa, Bamanya, X 1960, 1, IV 1961, 5, 15-30 IV 1961, 2, VI 1961, 3, IX 1961, 1, X 1961, 1, XI 1961, 1, I-II 1962, 1, I 1963, 2, V 1964, 1, VIII 1964, 1, IX 1964, 1, XII 1964, 1, III 1966, 1, 20-30 X 1966, 1, 1968, 52, P. HULSTAERT (MRAC); Tshuapa, Bokuma, VI 1952, 1, R.P. LOOTENS (MRAC); Tshuapa, Etata, VII-VIII 1969, 2, J. HAUWAERT (MRAC); Tshuapa, Ikela, 1955, 4, 1956, 1, XI 1956, 1, R.P. LOOTENS (MRAC), III-VI 1956, 1, R. DEGUIDE (MRAC); B Uele, Bambesa, 1 III 1958, 7 (FMNH); B Uele, Beo, IV 1958, 2 (FMNH); B Uele, Bongide, 20 VIII 1957, 2 (FMNH); H Uele, Bunie, 27 X 1956, 1, (FMNH); Uele, Ibembo, X-XI 1953, 2, R.F. HUTSEBAUT (MRAC); Ukasere, Mahagi, 19 II 1929, 1, A. COLLART (IRSN); Yangambi (Stan.), X-XII 1959, 3, J. DUBOIS (MRAC), I 1960, 2, J. DECELLE (MRAC).

ZAMBIA: Mweru-Wantipa, I 1945, 1, H.J. BRÉDO (IRSN).

ZIMBABWE: Bindura, XII 1938, 1 (MRAC); Nantchwich, 20 XII 1979, 1 (NMM).

VARIA: Seneg., 1, "Mhm." (lectotype of *Cassida lurida*, present designation, NRS).

Aspidimorpha (Afroaspidimorpha) polyspila SPAETH, 1911

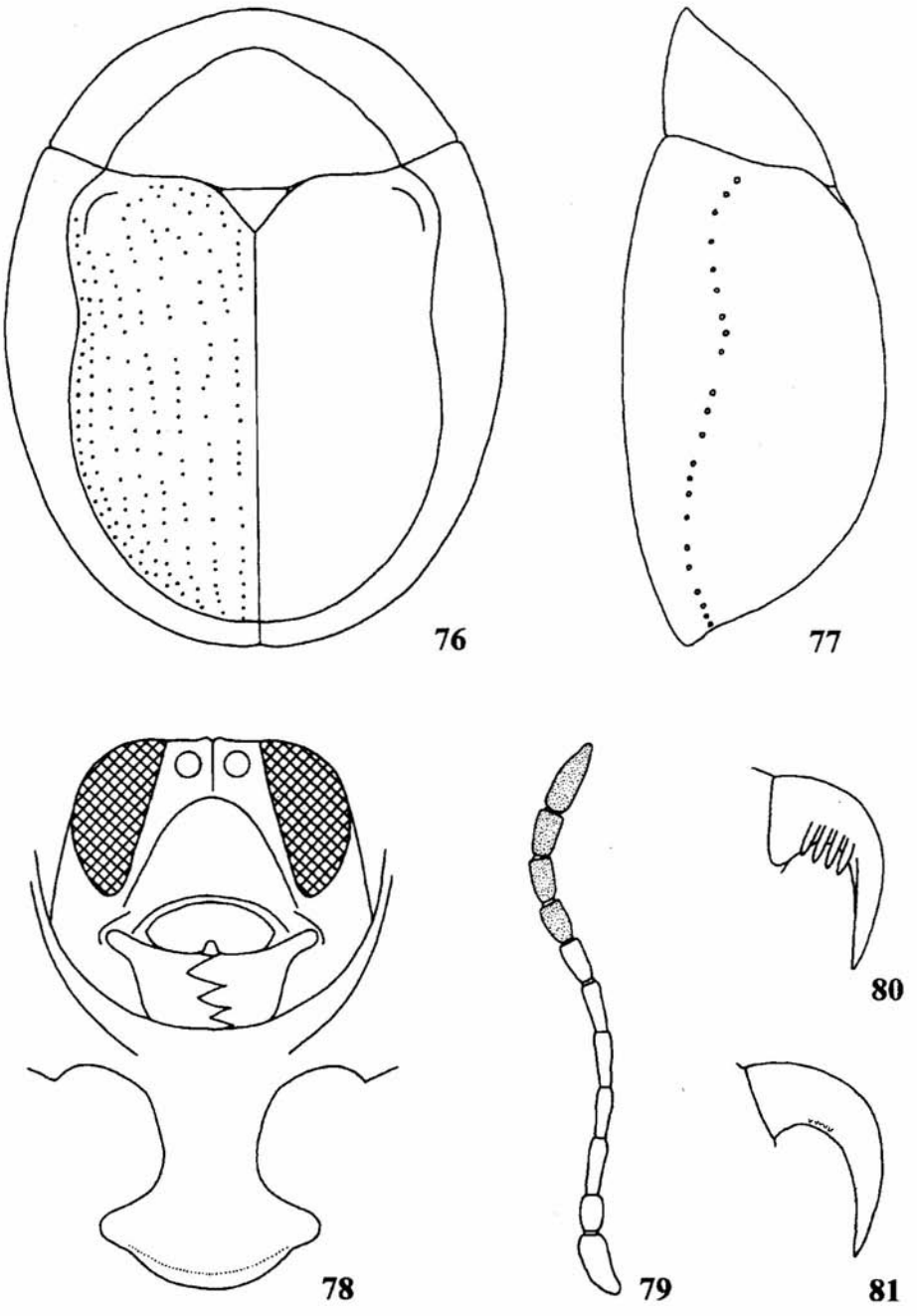
Aspidomorpha polyspila SPAETH, 1911: 264 (ST in LB, MM, NRS, ZMHU), 1932 b: 5; HINCKS, 1962: 248 (as syn. of *fallaciosa* FRM.).
Aspidomorpha (Aspidomorpha) polyspila: SPAETH, 1914 b: 77.

DESCRIPTION

Le: male: 6.8-7.5, female: 6.5-7.8-7.7 mm, Wi: male: 5.1-5.9, female: 5.2-5.5 mm, Lp: male: 2.4-2.5, female: 2.3-2.4 mm, Wp: male: 4.4-5.0, female: 4.4.6 mm, Ex: male: 1.0-1.3, female: 1.0-1.2 mm, Wd: male: 3.8-4.3, female: 3.6-3.8 mm; Le/Wi ratio: male: 1.24-1.26, female: 1.26-1.35, Wi/Wp: male: 1.16-1.17, female: 1.15-1.18, Wp/Lp: male: 1.92-2.00, female: 1.81-1.93. Body short-oval (fig. 76).

Pronotum uniformly argillaceous. Scutellum argillaceous. Elytral disc argillaceous, each puncture with broad, brown areole, sometimes areoles of neighbouring punctures coalescent and form irregular brown spots. Explanate margin uniformly argillaceous or with small brownish posterolateral spot, often not extending to margin of elytra. Ventrites, including head uniformly argillaceous. Legs argillaceous, femora often with narrow, brownish ring. Antennae yellow, three to five apical segments infuscate, occasionally all segments yellow.

Pronotum subellyptical, with maximum width at base, sides strongly angulate. Disc moderately convex, with small microreticulation and fine pricks, smooth and glabrous. Explanate margin indistinctly bordered from disc, flat, smooth and glabrous.



76-81. *Aspidimorpha polyspila*: 76 - body in dorsal view, 77 - body in profile, 78 – head and prosternum, 79 – antenna, 80 – inner side of claw, 81 – outer side of claw

Scutellum triangular, not or shallowly impressed in the middle, microreticulate, without punctures. Base of elytra smooth, as wide as base of pronotum, elytral margins simple, humeral angles rounded. Disc slightly depressed, in female more than in male (fig. 77). Puncturation of disc regular, moderate, punctures in sutural half of disc c. twice smaller than in lateral part and slope. Scutellar row with 7-9 punctures. Rows in anterior part of disc not impressed, on slope in males, not in females, slightly impressed. Punctures in rows mostly moderately dense, but partly sparse, not grouped together, distance between punctures vary from as wide as to five times wider than puncture diameter, on sides and in sutural row slightly denser than in other parts of disc. Punctures in marginal row distinctly larger than punctures in central rows. Intervals mostly flat, only in females on slope slightly convex, in sutural half of disc four to five times wider than rows, in lateral part of disc 1.5-2.0 times wider than rows, their surface smooth and glabrous. Explanate margin moderate, in male in anterior half strongly in posterior half moderately declivous, in female in anterior part moderately declivous, in posterior part subhorizontal, its surface smooth and glabrous. Apex of elytral epipleura in both sexes with sparse hairs.

Head moderately broad, clypeus broad, c. 1.5 times wider than long (fig. 78), slightly convex, with fine clypeal lines distinct only in basal half of clypeus, surface of clypeus smooth and glabrous. Labrum broad, emarginate to 1/5 length. Prosternal collar moderate, prosternal process strongly expanded apically, usually not impressed in the middle. Antennae moderately elongate (fig. 79), extending to mid coxae, length ratio of antennal segments: 100:60:87:73:77:67:63:60:67:63:102.

Claws pectinate on inner side only, outer side micropectinate (fig. 81), pecten with four short teeth extending to 1/4 length of claw (fig. 80).

Sexual dimorphism more distinct than in related species. Males smaller and stouter than females, more convex in profile, with less impressed elytral rows and more declivous explanate margin of elytra.

DISTRIBUTION

Madagascar.

REMARKS

A. polyspila and *A. fallaciosa* form a group of species from Madagascar with strongly angulate pronotal sides and elytral punctures with dark, brown or black, areolae. They are generally darker than African species with background colour argillaceous (African species have background colour usually yellow, only in *A. areata* it is often argillaceous to reddish). They are also stouter than most African species with Le/Wi ratio 1.24-1.26 (usually above 1.30 in other species), only *A. multiguttata* has a similar length/width ratio but it differs in its explanate margin with both humeral and posterolateral spots and elytral pattern of several black spots (in both Madagascan species explanate margin is immaculate or with only brownish posterolateral spots and elytral disc has no black spots, except dark puncture areolae). *A. polyspila* and *A. fallaciosa* are very similar, the latter species is slightly smaller with puncture areolae black (brown in *fallaciosa*), flat

clypeus with distinct clypeal lines on whole length (in *polyspila* clypeus is slightly convex with fine clypeal lines, distinct only in basal half of clypeal plate), pecten of tarsal claws in *A. fallaciosa* is extremely short, extending only slightly beyond margin of the claw, while in *A. polyspila* it is distinctly longer, extending to c. 1/4 length of claw.

MATERIAL EXAMINED

MADAGASCAR: Ambositra, VI, 1 (IRSN); Ambowana, 1 (syntype of *A. polyspila*, ZMHU); Ambovombe, 1 (ZMHU), 1 (LB), 4 (syntypes of *A. polyspila*, MM, LB); Madagascar, 3 (syntypes of *A. polyspila*, 2 MM, 1 ZMHU), 4 (IRSN); Majunga, Ankarafantsika, 120 m, XII 1959, 1 (LB); Morondava, fôret sud de Befasy, I 1956, 2, R. PAULIAN (MM, LB); Plateau de l'Androy, 1 (ZMHU); Plateau de l'Androy, Reg. de Ambovombe, 2, coll. DONCKIER (syntype of *A. polyspila*, 1 NRS, 1 MM); Sakarana, Lambomakandro, III 1956, 1 (MM); Tananarive, 1 (LB); Tuléar-Sakaraha, Zombitsy, 630 m, 1 (LB); Zongobory, 12 IV 1953, 3 (2 MM, 1 ER).

Aspidimorpha (Afroaspidimorpha) pseudoareata n. sp.

ETYMOLGY

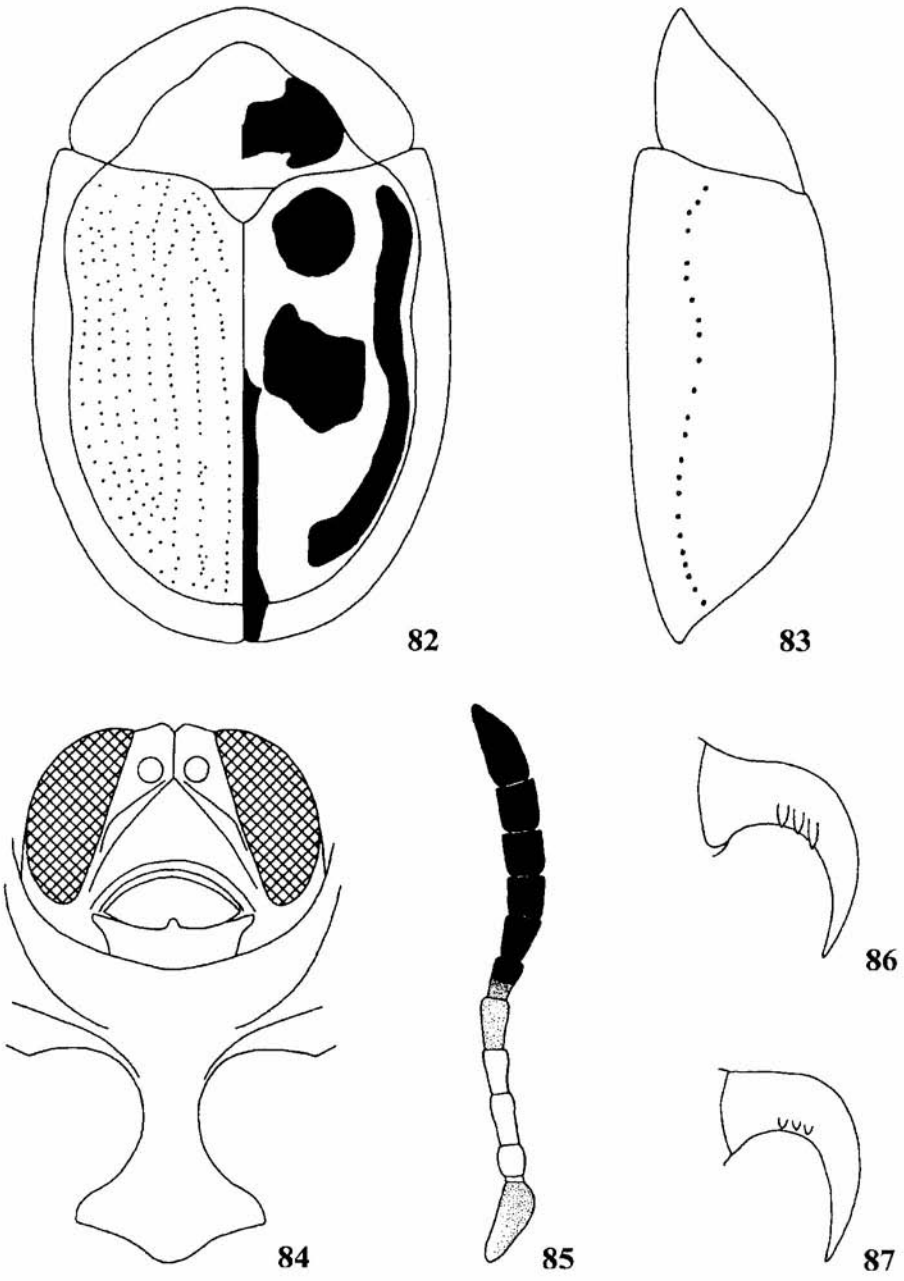
Named after its external similarity to *A. areata*.

DESCRIPTION

Le: male and female: 6.8-7.7 mm, Wi: male and female: 4.5-5.2 mm, Lp: male and female: 2.3-2.6 mm, Wp: male and female: 3.8-4.2 mm, Ex: male and female: 0.8-1.0 mm, Wd: male and female: 3.7-4.3 mm; Le/Wi ratio: male and female: 1.48-1.51, Wi/Wp: male and female: 1.18-1.27, Wp/Lp: male and female: 1.56-1.65. Body elongate-oval (fig. 82)

Pronotum yellow, disc with large, black spot deeply emarginate anteriorly, in front of scutellum transverse yellow spot. Scutellum yellow. Elytra yellow with dark pattern: large, round black spot in anterior part of disc, close to scutellum, large kidney-shaped to crescentic spot in the middle of disc, black band along sides from humerus to second interval (not reaching suture!), also posterior half of suture, including explanate margin, black. The pattern is rather constant (figs. 16-17), in some specimens central spot of disc narrowly connected with lateral band. Ventrites, including head and legs, completely black. Antennal segment 1 mostly infuscate, segments 2-4 yellow, segment 5 yellow to slightly infuscate, segments 6-11 mostly infuscate to black.

Pronotum subellyptical, with maximum width behind the middle, sides subangulate like in northern populations of *A. areata*. Disc moderately convex, smooth, slightly opaque, with small microreticulation and sparse, fine punctures. Explanate margin indistinctly bordered from disc, flat, smooth, microreticulate, slightly opaque.



82-87. *Aspidimorpha pseudoareata*: 82 - body in dorsal view, 83 - body in profile, 84 – head and prosternum, 85 – antenna, 86 – inner side of claw, 87 – outer side of claw

Scutellum triangular, not impressed in the middle, microreticulate, without punctures. Base of elytra smooth, not or only slightly wider than base of pronotum, elytral margins simple. Disc slightly depressed (fig. 83), with no tubercles or impressions. Puncturation of disc regular, fine, but coarser than in related *A. areata*, punctures in sutural half of disc c. twice smaller than in lateral part, on slope only slightly smaller than in anterior part of disc. Scutellar row with 9-10 punctures. Rows not impressed, punctures in rows moderately dense to dense, distance between punctures as wide as to twice wider than puncture diameter, only in two sutural and submarginal rows punctures denser, partly almost touching each other. Punctures in marginal row c. three to four times larger than punctures in central rows. Intervals flat, in sutural half of disc c. five to six times wider than rows, in lateral part of disc twice to thrice wider than rows, their surface smooth, slightly opaque, with very small microreticulation. Explanate margin narrow, strongly declivous, varies from impunctate to shallowly and sparsely punctate, but surface usually does not appear irregular. Margin of elytra simple, does not form a gutter. Apex of elytral epipleura bare in both sexes.

Head moderately broad, clypeus c. 1.6-1.7 times wider than long (fig. 84), convex, but less convex than in *A. areata*, dull, distinctly microreticulate, with few small punctures. Labrum narrower than in *A. areata*, shallowly emarginate to 1/5 length. Prosternal collar large, prosternal process strongly expanded apically, impressed in the middle. Antennae moderately elongate (fig. 85), extending to mid coxae, length ratio of antennal segments: 100:40:60:65:66:46:53:48:55:55:113. Segments 3 and 4 distinctly shorter and stouter than in *A. areata*, segment 4 only slightly longer than 3.

Claws pectinate on inner side only, outer side micropectinate (fig. 87), pecten with three to four short teeth extending to 1/6 length of claw (fig. 86).

Sexual dimorphism indistinct. Males slightly smaller and stouter than females.

DISTRIBUTION

Kenya, Uganda and E Zaire (fig. 52).

REMARKS

Elytral pattern and maculate pronotum place this species close only to *A. areata*. *A. pseudoareata* differs in its pronotum with a simple, large spot occupying almost whole disc (in *A. areata* four spots arranged in transverse row, sometimes only two spots or pronotum completely immaculate), constant elytral pattern without transverse bands (in *A. areata* pattern is very variable, similarly coloured specimens have complete transverse band in the middle of disc), stouter basal antennal segments with segment 4 only slightly longer than 3 (in *A. areata* segment 4 is distinctly longer than 3), slimmer labrum emarginate only to 1/6 length (in *A. areata* labrum is very broad, emarginate at least to 1/3 length), and always completely black legs (in *A. areata* only in the darkest form legs are uniformly black, usually at least fore tibia partly reddish). It distinctly differs from other species of the subgenus *Afroaspidimorpha* in its maculate pronotum.

MATERIAL EXAMINED

KENYA: paratype: Upper Kuja Valley, S. Kavirondo, 4200 ft., 5-8 V 1911, 1 (LB).

UGANDA: paratype: Mujenje, VII 1913, 1, coll. F. MONROS (USNM), paratypes: Mujenje, IX 1913, 2 (LB).

ZAIRE: holotype: Albert Nat. Park, Secteur Nord, marais Buyansha sur rive dr. Semliki, 905 m, 19 VIII 1957, 1, P. VANSCHUYTBROECK (MRAC).

Aspidimorpha (Afroaspidimorpha) severini SPAETH, 1902

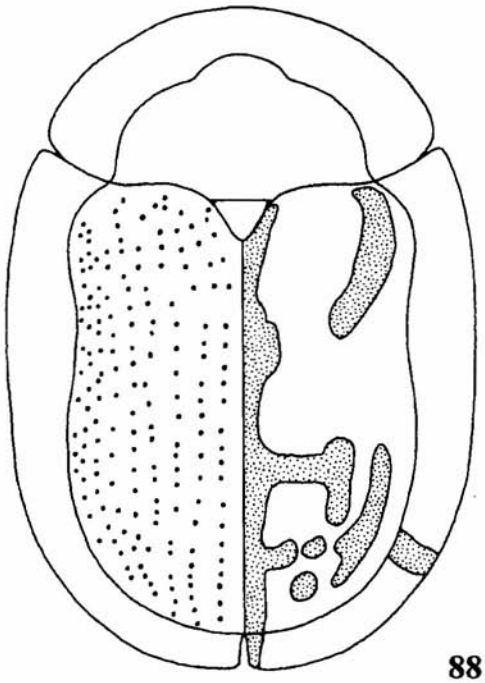
Aspidomorpha Severini SPAETH, 1902: 447 (LT in IRSN, PLT in IRSN, MM), 1932 b: 5; WEISE, 1905: 334; BOROWIEC, 1985 a: 226.
Aspidomorpha (Aspidomorpha) Severini: SPAETH, 1914 b: 78.
Aspidomorpha Severini ssp. *ovambana* SPAETH, 1928: 4 (ST in MM, NRS), **n. syn.**

Le: male: 6.3-7.2, female: 6.5-7.6 mm, Wi: male: 4.4-4.8, female: 4.1-5.0 mm, Lp: male: 2.1-2.4, female: 2.3-2.6 mm, Wp: male: 3.5-4.0, female: 3.6-4.0 mm, Ex: male: 0.9-1.1, female: 0.8-0.9 mm, Wd: male: 3.3-3.9, female: 3.0-3.7 mm; Le/Wi ratio: male: 1.43-1.50, female: 1.50-1.62, Wi/Wp: male: 1.19-1.26, female: 1.14-1.25, Wp/Lp: male: 1.54-1.81, female: 1.54-1.60. Body oval, sides only slightly convex (fig. 88).

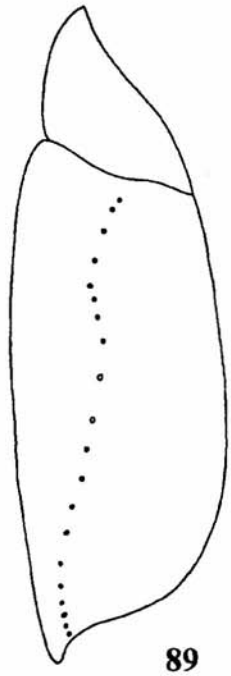
Pronotum uniformly yellow. Scutellum yellow. Elytra mostly yellow, disc with reddish to reddish brown variable pattern (figs 39-42). Typically coloured specimens have reddish to reddish-brown sutural interval and sutural row, oblique, elongate spot on humerus, elongate spot in 2/3 length of interval 4, elongate spot in apical part of interval 6, and broad posterolateral spot and narrow sutural spot of explanate margin of elytra. Sometimes there are some additional small spots between two posterior spots of disc and suture, in extreme cases disc with two long and broad bands, one along suture, and one from humerus to slope, ending in interval 4, spot on interval 6 and spots of explanate margin present. In pale specimens pattern reduced to sutural margin, small spot on humerus, and very small, indistinct spots in posterior half of disc, spots on explanate margin absent. Ventrites yellow, including head and legs. Antennae yellow, apical three to four segments infuscate to black, occasionally segment 6 with infuscate apex.

Pronotum subellyptical, with maximum width in the middle, sides rounded. Disc moderately convex, with small microreticulation and fine pricks, smooth and glabrous to slightly opaque. Explanate margin indistinctly bordered from disc, flat, smooth and glabrous to slightly opaque.

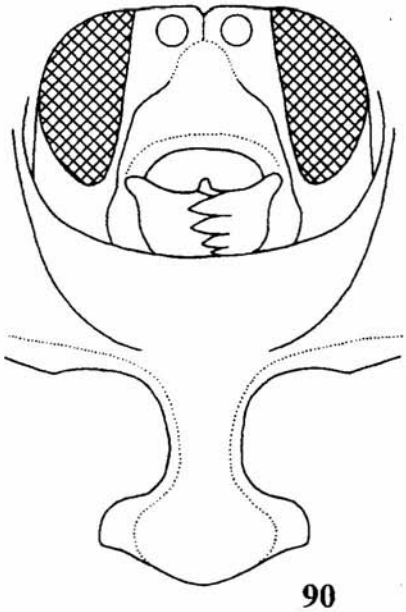
Scutellum triangular, not or slightly impressed in the middle, microreticulate, without punctures. Base of elytra smooth, slightly wider than base of pronotum, elytral margins simple, humeral angles subangulate. Disc depressed (fig. 89), with no tubercles or impressions. Puncturation of disc regular, coarse, punctures in sutural half of disc c. twice smaller than in lateral part and slope. Scutellar row with 5-8 punctures. Rows impressed only on slope, punctures in rows moderate to dense, disc distance between punctures in subsutural rows as wide as to twice



88



89



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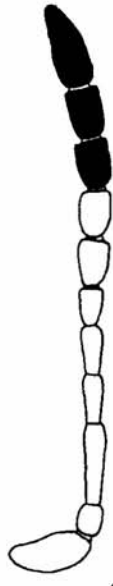

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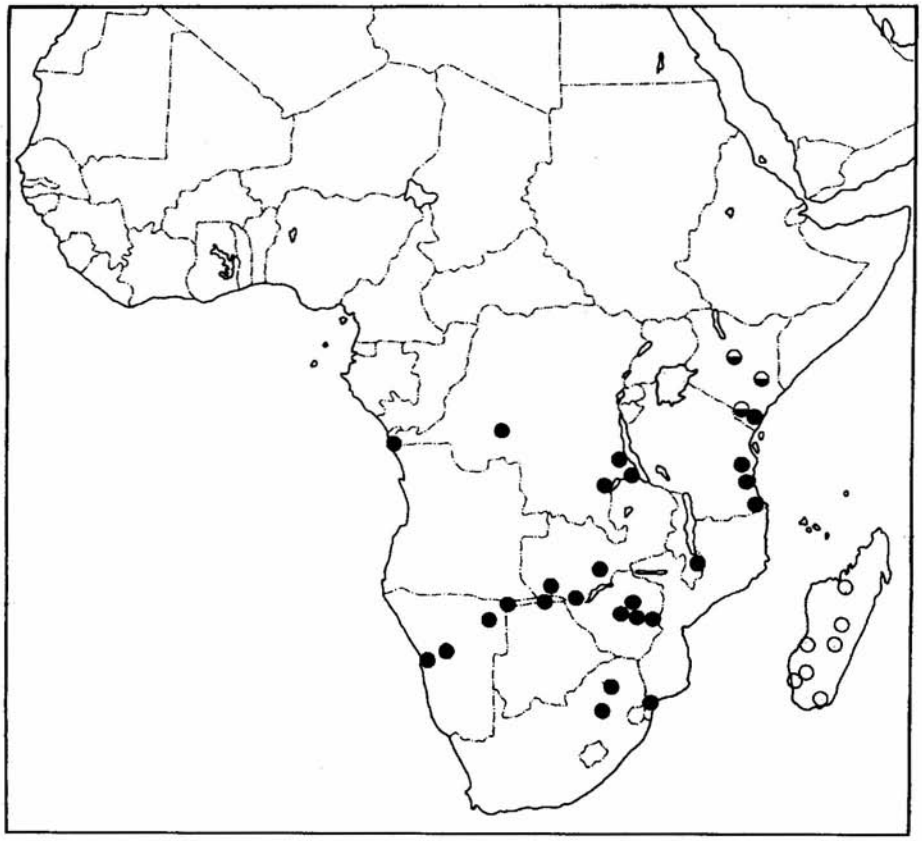
93

88-93. *Aspidimorpha severini*: 88 - body in dorsal view, 89 - body in profile, 90 – head and prosternum, 91 – antenna, 92 – inner side of claw, 93 – outer side of claw

wider than puncture diameter, in sutural row and lateral rows punctures very dense, with distance slightly to distinctly narrower than puncture diameter, partly punctures touching each other. Punctures in marginal row c. thrice larger than in central rows. Intervals in anterior half of disc not in posterior slightly to moderately convex, in sutural half of disc 2.0-2.5 times wider than rows, in lateral part of disc as wide as to twice narrower than rows, their surface smooth, in males glabrous, in females slightly opaque. Explanate margin moderately broad, in anterior half moderately declivous, in posterior part horizontal, but without tendency to form a shallow gutter, its surface with small irregular folds and dense, shallow punctures, appears slightly irregular. Apex of elytral epipleura bare in both sexes.

Head broad, clypeus broad, c. 1.6-1.7 times wider than long (fig. 90), flat, with distinct clypeal lines converging in narrow arch, its surface smooth and glabrous, impunctate or with a few small punctures. Labrum broad, distinctly emarginate to 1/4 length. Prosternal collar large, prosternal process strongly expanded apically, not impressed in the middle. Antennae moderately long,



94. Distribution of *Aspidimorpha fallaciosa* (white circles), *A. loennebergi* (white above black circles) and *A. severini* (black circles)

extending to mid coxae (fig. 91), length ratio of antennal segments: 100:40:106:63: 62:47:59:60:60:63:113.

Claws pectinate on inner side only, outer side micropectinate (fig. 93), pecten with three (sometimes four) moderately long teeth extending to 1/3-1/4 length of claw (fig. 92).

Sexual dimorphism indistinct. Males slightly smaller and stouter than females.

DISTRIBUTION

Southern Africa north to S Zaire and S Kenya (fig. 94).

REMARKS

Typical form of this species is very similar to *A. loennebergi.* Both species usually have reddish posterolateral spots on explanate margin of elytra and uniformly yellow ventrites. *A. severini* differs in larger body size (length: 6.3-7.6 mm, in *loennebergi*: 5.4-6.3 mm) and especially in longer pecten of tarsal claws, extending to 1/4-1/3 length of claw (only 1/6 in *loennebergi*). Almost all the known localities of *A. severini* are located more to the south than the three known localities of *A. loennebergi* (see fig. 94). The palest form of *A. severini* with completely reduced posterolateral spots of explanate margin is very similar to immaculate specimens of *A. nigromaculata* but no specimens with completely reduced pattern of elytra have been observed in *A. severini* and the palest form has at least a reddish spot in posterolateral part of disc. In *A. nigromaculata* the pattern, if present, is always black. In an unpublished manuscript of a monograph of the world *Cassidinae* prepared by F. SPAETH and preserved in Manchester Museum that author suggested that *A. severini* was only a subspecies of *A. nigromaculata.* Actually, both species are mostly separated geographically but have a broad zone of sympathry (see figs 75 and 94). *A. severini* ssp. *ovambana* is only an aberration of *A. severini* with no important taxonomic characters and I treat it as synonym of the nominotypical form.

MATERIAL EXAMINED

BOTSWANA: Gilchrist, X 1895, 2 (CTM).

KENYA: Arabuko Sokoke Forest Reserve, 20 km S Malindi, 27 IX-14 X 1992, 1, L. BARTOLOZZI (MZUF).

MALAWI: Nyassaland, I-II 1896, 1 (LB).

MOZAMBIQUE: Delagoa, VIII 1913, 1 (MHNG); Nlasieni, VIII 1924, 1, G. v. DAM (TM); Pueji, 1 (ZMHU).

NAMIBIA: Caprivi Zipfel, Katima Mulilo, 15-24 I 1995, 1, M. SNIZEK (MS); Karakuwisa, II 1958, 1. C. KOCH (TM); Okavango riv., Bagani, Popa Falls, 15 I-4 II 1995, 3, M. SNIZEK (MS, LB); Swakopmund, I 1955, 1 (LB).

SOUTH AFRICA: Damara, 1, DE VYLDER (syntype of *A. severini* ssp. *ovambana*, MM); Moddernck, IV 1919, 1, G. v. DAM (TM); Ovambo, 1, DEVYLDER (syntype of *A. severini* ssp. *ovambana*, NRS); Pietersburg, 1, A. Z. GAUSE (CTM); SO Transvaal, Lobombo, VII 1884, 1, F. WILMS (ZMHU); Transvaal, Pretoria,

Vater Kloof Ridge, VI 1953, 2, A. v. PEEZ (ZSM); Transvaal, 15 mls NE Pretoria, VII 1955, 2, G. RUDEBECK (LU).

TANZANIA: Mikindani, 1, SCHULZ (ZMHU), 1910, 2, H. GROTE (ZMHU); Usaramo, II 1914, 1, METHNER (ZMHU); Utete-Rufiji, Kindwitvi, 10-14 XII 1993, 3, M. SNIZEK (MS).

ZAIRE: Banana-Boma, 1891, 1, M. TSCHOFFEN (paralectotype of *A. severini*, present designation, IRSN); Beni- Bendi, Sankuru, I 1895, 1, L. CLOETENS (paralectotype of *A. severini*, present designation, IRSN); Boma, 2, M. TSCHOFFEN (lectotype of *A. severini*, present designation, IRSN, paralectotype, present designation, MM); Katanga, Mwera, 1956, 1, Th. DE CATERS (MRAC); Moliro, 800 m, XI 1953, 1, H. BOMANS (MRAC); Mpala, 1, J. DUVIVIER (paralectotype of *A. severini*, IRSN).

ZAMBIA: Livingstone, 18 II 1913, 3, H.C. DOLLMAN (BMNH); 30 km E Lusaka, 20 III 1991, 2, SCHÜLE (SMNS) ; Musosa, 980 m, XI 1953, 1, H. BOMANS (MRAC); Zambesi, Barotse Country, VIII 1896, 1 (MCZC).

ZIMBABWE: Mashonaland, Marandellas, 6 XI 1897, 1 (LB); Salisbury, 11 X 1915, 2, J. O'NEIL (NMM); Sebakwe, 1903, 1, D. DODS (CTM); Umtali, Bodong, 1 (ZMHU).

Aspidimorpha (Afroaspidimorpha) virens SHAW, 1961

Aspidomorpha virens SHAW, 1961: 21 (HT in MRAC, PT in MM).

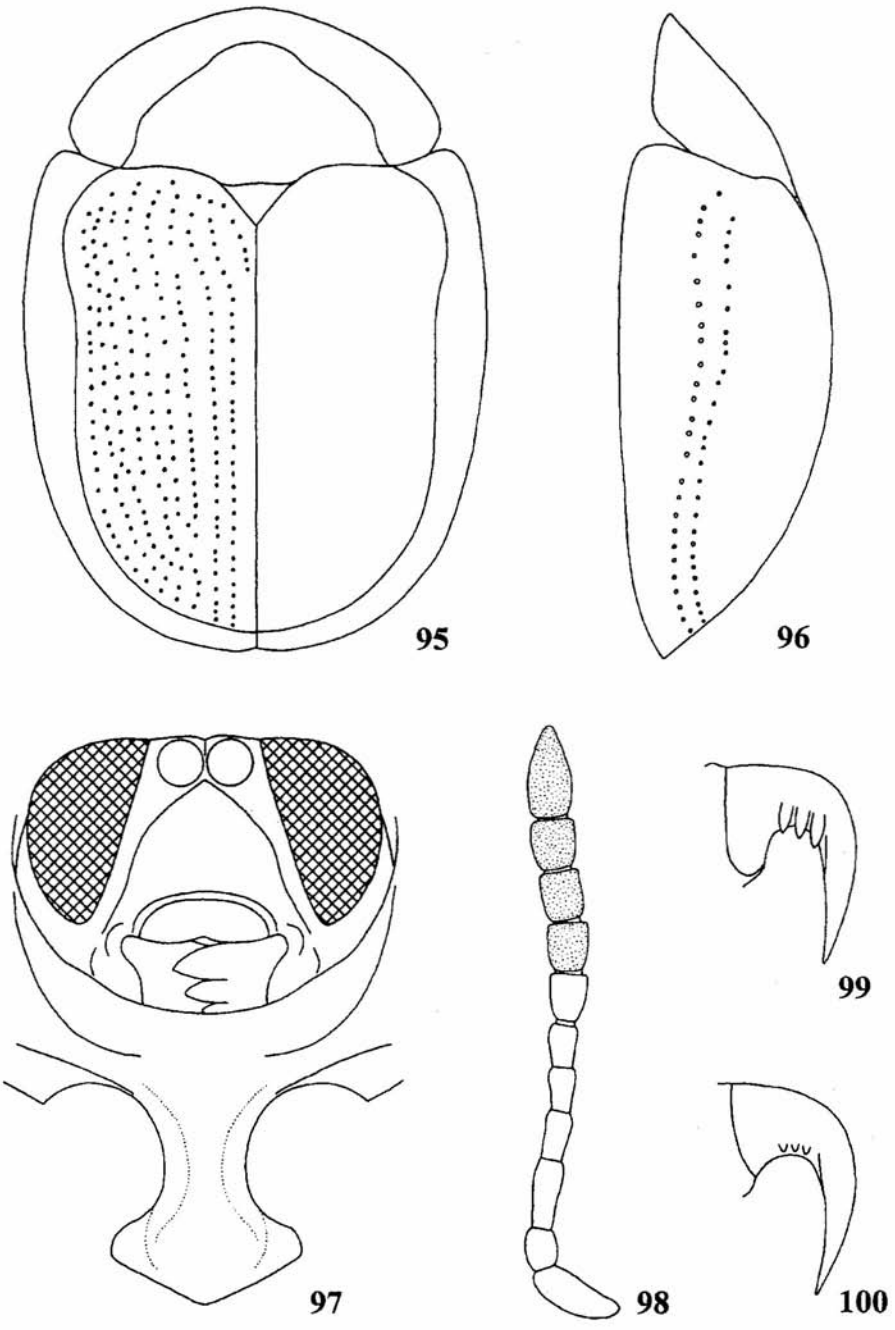
DESCRIPTION

Le: male and female: 5.1 mm, Wi: male and female: 3.6 mm, Lp: male and female: 1.8 mm, Wp: male and female: 2.9 mm, Ex: male and female: 0.7 mm, Wd: male and female: 3.0 mm; Le/Wi ratio: male and female: 1.42, Wi/Wp: male and female: 1.24, Wp/Lp: male and female: 1.60. Body oval, sides only slightly convex (fig. 95).

Pronotum and elytra uniformly yellow-green. Clypeus and prothorax yellow. Mesothorax yellow to mostly brown, metathorax mostly brown or black except yellow lateral plates. Abdomen in the middle black, sides yellow. Legs uniformly yellow. Antennae yellow, apical two to six segments infuscate.

Pronotum subellyptical, with maximum width in the middle, sides broadly rounded. Disc moderately convex, with small microreticulation and fine pricks, smooth and glabrous. Explanate margin indistinctly bordered from disc, flat, smooth and glabrous.

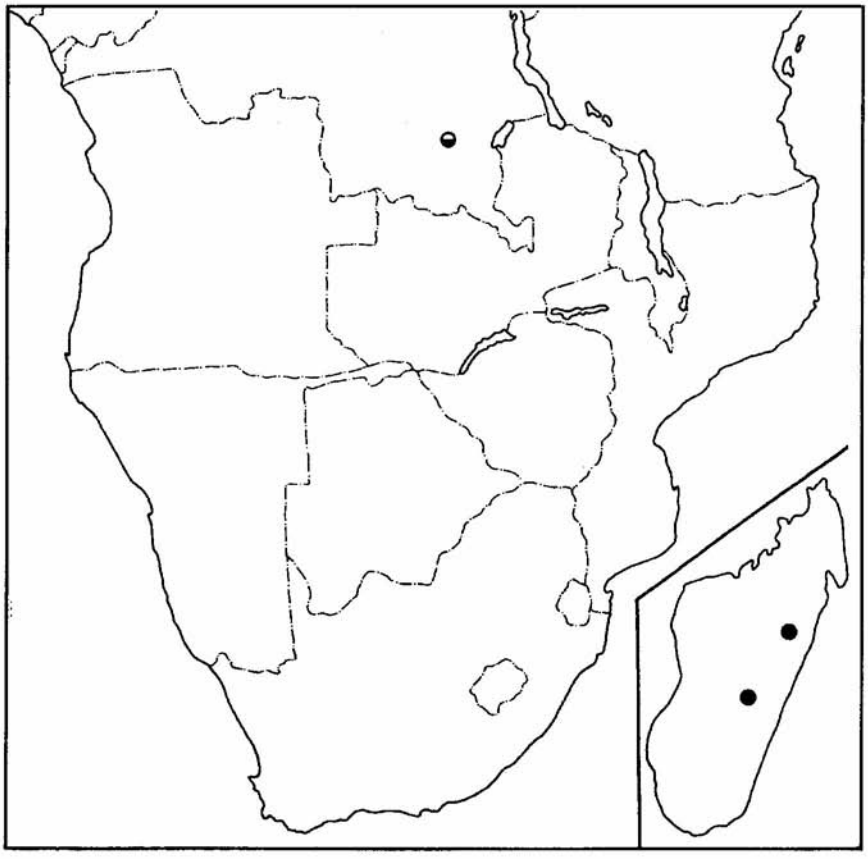
Scutellum triangular, with transverse impression, microreticulate, without punctures. Base of elytra smooth, moderately wider than base of pronotum, elytral margins simple, humeral angles subangulate. Disc regularly convex (not depressed like in similar *areata* or *loennebergi*), with no tubercles or impressions (fig. 96). Puncturation of disc regular, moderate to coarse, punctures in sutural half of disc c. twice smaller than in lateral part and slope. Scutellar row with 5-6 punctures. Rows not impressed, punctures in sutural rows dense, distance be-



95-100. *Aspidimorpha virens*: 95 - body in dorsal view, 96 - body in profile, 97 – head and prosternum, 98 – antenna, 99 – inner side of claw, 100 – outer side of claw

tween punctures slightly to distinctly narrower than puncture diameter, partly punctures touching each other; in lateral rows punctures sparser, with distance between punctures as wide as to thrice wider than puncture diameter. Punctures in marginal row c. thrice larger than in central rows. Intervals flat on whole length, in sutural half of disc three to four times wider than rows, in lateral part of disc 1.5-2.0 times wider than rows, their surface smooth and glabrous. Explanate margin moderately broad, distinctly declivous, its surface with small and sparse, shallow punctures, only close to humeral callus group of a few larger punctures. Apex of elytral epipleura bare in both sexes.

Head broad, clypeus broad, c. 1.6-1.7 times wider than long (fig. 97), slightly convex, with distinct clypeal lines converging in narrow arch, its surface smooth and glabrous, impunctate or with a few small punctures. Labrum broad, distinctly emarginate to 1/5 length. Prosternal collar large, prosternal process strongly expanded apically, not impressed in the middle. Antennae short (fig. 98), extending to mid coxae, length ratio of antennal segments: 100:50:67:65:50:44:65:56:60:56:110.



101. Distribution of *Aspidimorpha tanolaensis* (black circles) and *A. virens* (white above black circle)

Claws pectinate on inner side only, outer side micropectinate (fig. 100), pecten with three (third tooth sometimes obsolete) short teeth extending to 1/6 length of claw (fig. 99).

Sexual dimorphism indistinct. Males slightly smaller and stouter than females.

DISTRIBUTION

SE Zaire (fig. 101).

REMARKS

It is a unique species, the only one in the subgenus with uniformly yellow-green dorsum. Only uniformly yellow specimens of *A. areata* and *A. loennebergi* are similar, but in dried specimens the groundcolour is pale yellow to argillaceous, never yellow-green. *A. loennebergi* differs also in uniformly yellow ventrites (metathorax and abdomen partly black in *virens*) and flat clypeus (slightly convex in *virens*). Small specimens of *A. areata*, especially *eggregiata* form, are very similar to *A. virens* but differ in subangulate pronotal sides (in *virens* sides of pronotum are broadly rounded). In *A. areata* and *A. loennebergi* fourth antennal segment is distinctly shorter than the third, while in *A. virens* both segments are almost equal in length.

MATERIAL EXAMINED

ZAIRE: Upemba Nat. Park, Mts. Kabukumba, 987 m, entre Mabwe et Lufira, 27-28 I 1949, 1, miss. DE WITTE (holotype, MRAC); Upemba Nat. Park, Mabwe, E lac Upemba, 585 m, 20-26 I 1949, 1, miss. DE WITTE (paratype, MM).

Subgenus: *Aspidocassis* BOROWIEC, new subgenus

Small species, length always below 8 mm. Pronotum and elytra always uniformly yellow to green. Body oval to almost circular, base of elytra strongly wider than base of pronotum. Elytral disc unevenly convex, but without postscutellar gibbosity or tubercle. Pronotum ellyptical, sides more or less rounded. Puncturation of elytra completely irregular, surface of elytra usually appears more or less irregular. Clypeus with distinct clypeal grooves. Labrum broad, with distinct median emargination. Claws with obsolete outer pecten. Species from Africa and Madagascar.

Type species: *Cassida confinis* KLUG, 1839. Gender: feminine.

KEY TO THE SPECIES

1. Species from Madagascar and adjacent islands. Body usually smaller, length 4.4-6.8 mm.
..... 2.

-. Species from Africa. Body usually larger, length 6.1-7.8 mm.
..... 3.

2. Larger, length 5.7-6.8 mm. Pecten of tarsal claws longer, extending to 1/4-1/3 length of claw (fig. 106).
..... *apicalis*

-. Smaller, length 4.4-4.9 mm. Pecten of tarsal claws extremely short, only slightly extending behind margin of claw (fig. 133).
..... *tanolaensis*

3. Stouter, Le/Wi ratio 1.25-1.37. Sides of elytra rounded (figs 110, 116), profile of disc with more or less distinct angulation (figs 111, 117).
..... *confinis*

-. Slimmer, Le/Wi ratio 1.12-1.27. Elytra almost parallelsided (fig. 123), disc almost regularly convex, without angulation (fig. 124).
..... *hiekei*

Aspidimorpha (Aspidocassis) apicalis (KLUG, 1833)

Cassida apicalis KLUG, 1833: 210 (HT in ZMHU); 1833: 122; BOHEMAN, 1854: 257; XAMBEU, 1905: 144 (biology).
Aspidomorpha apicalis: BOHEMAN, 1854: 257, 1856: 106, 1862: 258; WEISE, 1896: 19, 1910: 441, 446; SPAETH, 1932 b: 5; HINCKS, 1962: 249 (incl. fig.); BOROWIEC, 1985 a: 225.
Aspidomorpha (Aspidomorpha) apicalis: SPAETH, 1914 b: 72.
Cassida decolorata BOHEMAN, 1856: 144 (HT in NRS); 1862: 347; WEISE, 1896: 19 (as syn. of *apicalis*); KOLBE 1902: 584.
Aspidomorpha lutea FAIRMAIRE, 1896: 223 (ST in ?MNHN); WEISE, 1910: 504; SPAETH, 1914 b: 73 (as syn. of *apicalis*).
Cassida dorsomicans FAIRMAIRE, 1904: 273 (ST in MNHN), **n. syn.**
Cassida (Cassida) dorsomicans: SPAETH, 1914 b: 115.

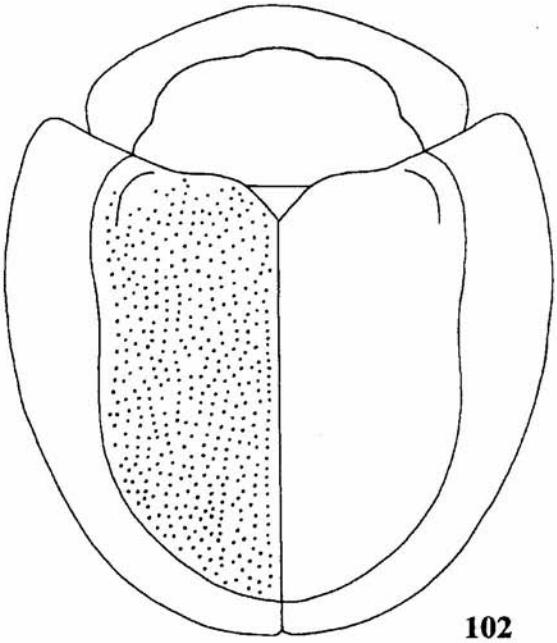
DESCRIPTION

Le: male and female: 5.7-6.8 mm, Wi: male and female: 4.7-5.7 mm, Lp: male and female: 1.7-2.1 mm, Wp: male and female: 3.5-4.1 mm, Ex: male and female: 0.9-1.3 mm, Wd: male and female: 3.4-4.0 mm; Le/Wi ratio: male and female: 1.13-1.24, Wi/Wp: male and female: 1.30-1.42, Wp/Lp: male and female: 1.86-2.10. Body subpentagonal (fig. 102).

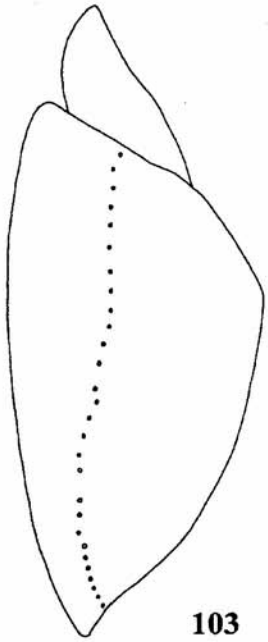
Pronotum and elytra uniformly green to yellow. Ventrites uniformly yellow. Antennae yellow with usually two last segments black, sometimes base of segment 10 yellow, occasionally apex of segment 9 infuscate.

Pronotum broad, ellyptical, with maximum width in the middle, sides rounded. Disc slightly convex, microreticulate, dull, often with small irregular folds. Explanate margin broad, hardly bordered from disc, flat, its surface slightly irregular, dull.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra smooth, or slightly serrulate, distinctly wider than pronotum, elytral margins simple, humeri subangulate. Disc strongly convex (fig. 103), slightly angulate in



102



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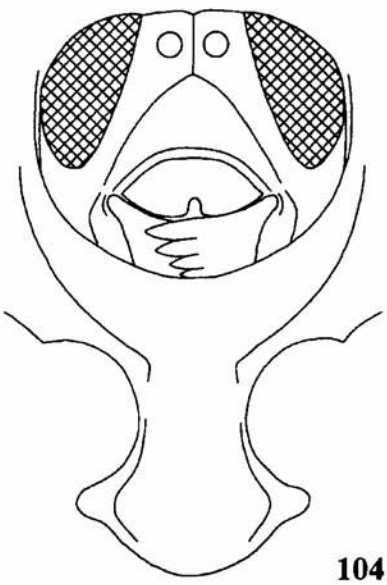

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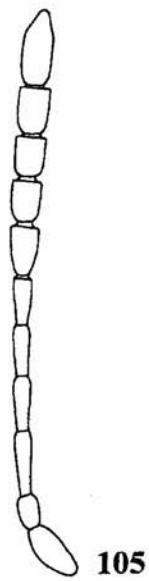


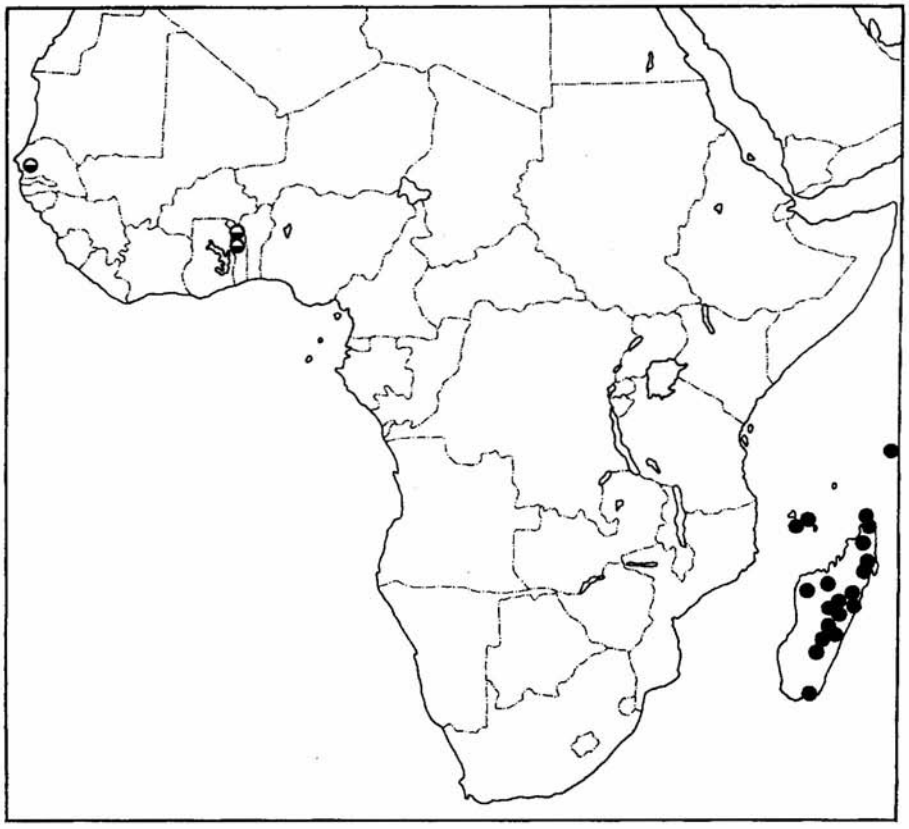
105

106

107

102-107. *Aspidimorpha apicalis*: 102 - body in dorsal view, 103 - body in profile, 104 – head and prosternum, 105 – antenna, 106 – inner side of claw, 107 – outer side of claw

profile, with no distinct impressions. Puncturation of disc moderately coarse, completely irregular, only in sutural part and in the middle of sides punctures tend to form more or less regular rows, submarginal and marginal rows regular. On slope punctures only slightly smaller than in anterior half of disc. Punctures dense, distance between punctures 0.5-1.2 times larger than puncture diameter, in specimens from Seychelles punctures are extremely dense, almost touching each other, especially in posterolateral part of disc. Sutural area margined by more or less regular and slightly impressed row of punctures, sometimes marked as more convex intervals 3 and 5. Punctures in marginal row coarse ad deep, c. thrice larger than punctures in central part of elytron. Surface between punctures, with distinct microreticulation, dull, usually does not appear rugose, only in specimens with extremely dense puncturation appears irregular to slightly rugose. Explanate margin broad, moderately declivous, completely irregularly punctate, punctures as large as those of marginal row, surface between punctures flat, microreticulate, dull but not irregular or rugose. Elytral epipleura bare in both sexes.



108. Distribution of *A. apicalis* (black circles) and *A. hiekei* (white above black circles)

Head broad, clypeus c. twice wider than long (fig. 104), glabrous, moderately elevated before antennal insertions, without or with shallow median impression, with deep clypeal sulci. Labrum emarginate to 1/5 length. Antennae moderately elongate (fig. 105), extending to the middle of metasternum, length ratio of antennal segments: 100:50:100:80:80:65:75:70:75:70:130.

Prosternal collar moderate, prosternal process strongly expanded apically, in the middle with deep impression.

Claws pectinate on inner side only, outer margin micropectinate (fig. 107), pecten moderate, with four teeth, on fore and mid leg extending to 1/3, on hind leg to 1/4 length of claw (fig. 106).

Sexual dimorphism indistinct. Male slightly stouter with slightly longer last antennal segment.

DISTRIBUTION

Madagascar and adjacent islands (fig. 108).

REMARKS

All species of the subgenus *Aspidocassis* are similar and especially *A. apicalis* and *A. confinis* are difficult to distinguish. *A. confinis* is generally larger with distinctly longer pecten of tarsal claws extending to 2/5-1/2 length of claw (1/4-1/3 in *apicalis*). Both species are separated geographically, *A. apicalis* is distributed only in Madagascar and adjacent islands, *A. confinis* in continental Africa. *A. tanolaensis*, the only congener distributed also in Madagascar differs in very small body size and extremely short pecten of tarsal claws, only slightly extending behind margin of the claw. The fourth congener, *A. hiekei* from West Africa, differs in larger, almost parallelsided body and regularly convex elytral disc (angulate in profile in *apicalis*).

MATERIAL EXAMINED

COMORES: Anjouama, 1, SOMMER (holotype of *C. decolorata*, NRS); Anjouan, X 1903, 2, VOELTZKOW (ZMHU); Johanna [Anjouan], 1, coll. CLAVAREAU (MRAC); Moheli, IX 1903, 1, VOELTZKOW (ZMHU); Morotzo, 300 m, 8-10 VII 1903, VOELTZKOW (ZMHU).

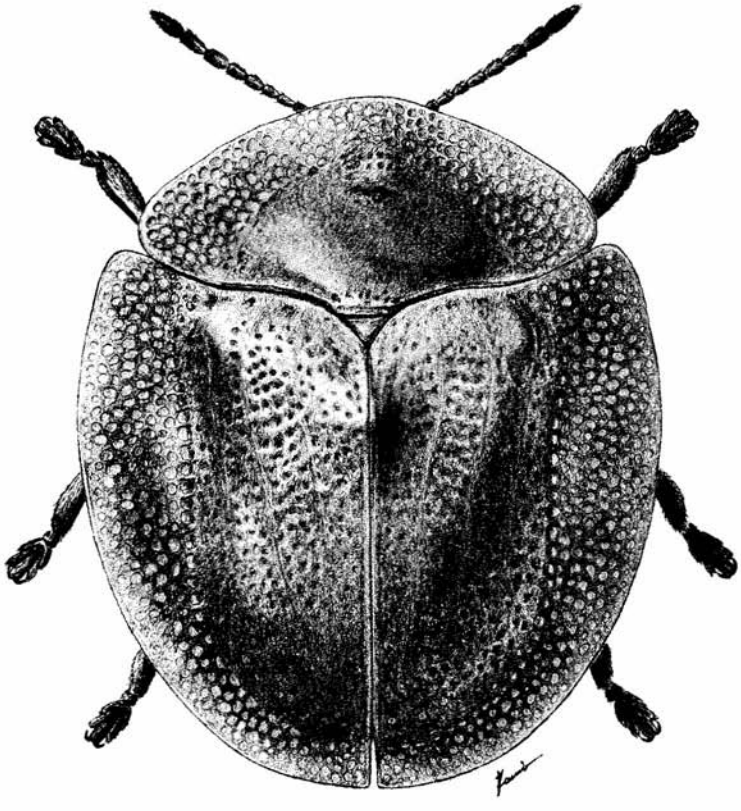
MADAGASCAR: Ambalavao, 488 km of Tananarive, 14 XI 1938, 1, H.J. LAM and A.D. MEEUSE (NNML); Ambatondrasaka, 2 (HNHM); Amber Geb., 10 (ZMHU), 3, H. ROLLE (IRSN); Antsirabe, Lac Androikiba, 8 IV 1973, 1 (ITZ); Baie d'Antongil, 2 (SD); Bezanozano, 1 (ITZ); Cap d'Ambre, 1 (ZMHU); Fampanambo, XII 1960, 1, II 1961, 1, J. VADON (MRAC); Fianarantsoa, 13 (HNHM), V 1904, 1, VOELTZKOW (ZMHU); Foret de Fito, 12 (8 MRAC, 4 LB), VI-VII 1897, 33 (MKB); Imerina, 1 (HNHM); Kap Diego, Diego Suarez, 2, FRIEDERICHS (ZMHU); Madagascar, 1 (holotype of *A. apicalis*, ZMHU), 1 (syntype of *Cassida dorsomicans*, MNHN), 7 (IRSN), 4 (NRS); Maevatanana, 9 (IRSN); Mananjari, 2, VOELTZKOW (ZMHU); Manjakandriana, Ambatomena, 1400 m, 2 XII 1971, 1, L. BLOMMERS (ITZ); Maroantsetra, II 1919, 5, coll. LE MOULT

(IRSN); Moramanga, 1 (SD), 22-29 II 1995, 1, J. MORAVEC (MS); ; Region de l'Androy, Ambovombo, 1 (SD); Tampina, côte Est, forêt de Tampina, 1, M. Lavauden (AB); Tamatave, 4 (ZMHU), 3 I 1987, 1, F. FARACI (MCSNV); TAMATAVE, et foret Alahakato, I-VIII 1888, 1 (MRAC); Tananarive, 1 (IRSN), 7 (FMNH); Vohémar, V 1912, 1 (IRSN).

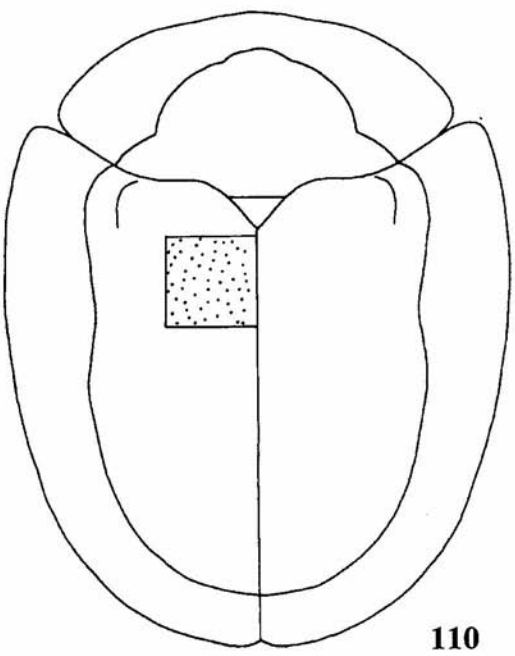
SEYCHELLES: Mahé, Glacis village, 18-31 I 1976, 15, M. and T. SIMON-THOMAS (ITZ, LB).

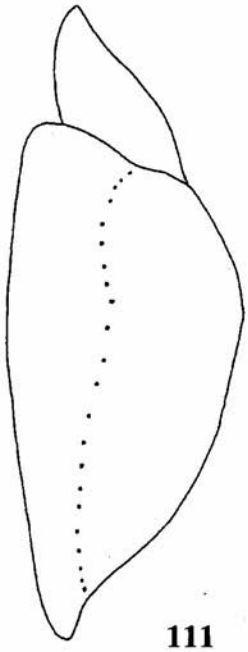
Aspidimorpha (Aspidocassis) confinis (KLUG, 1835)

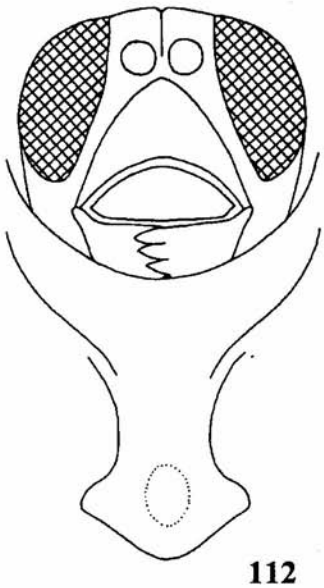
Cassida confinis KLUG, 1835: 47 (LT in ZMHU).
Aspidomorpha confinis: BOHEMAN, 1854: 256, 1856: 106, 1862: 258; KOLBE, 1898: 344; SPAETH, 1903: 177; 1914 b: 41; 1916: 41, 1925: 3; 1932 b: 5; 1938: 60; 1943: 51; MUIR and SHARP,



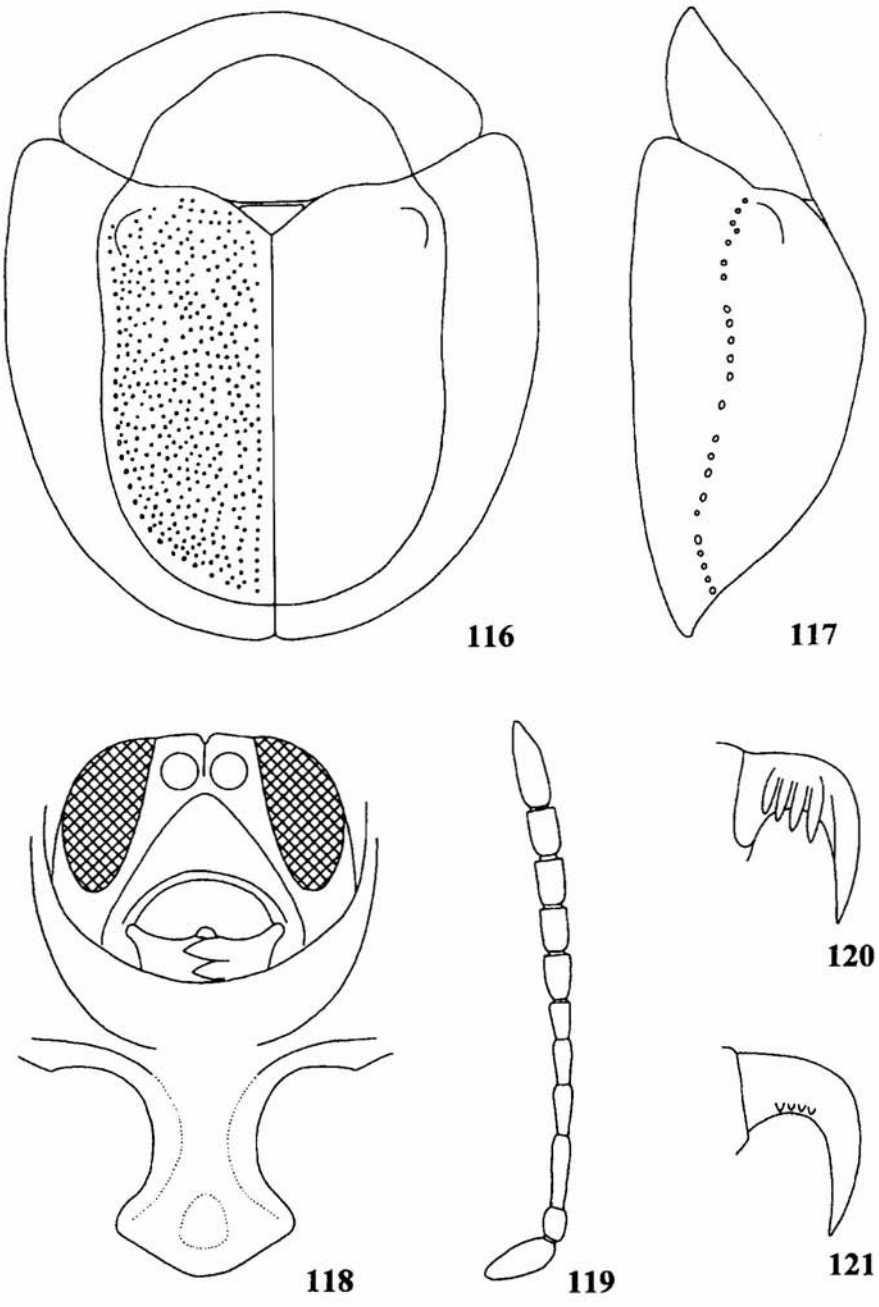
109. *Aspidimorpha confinis*, habitus (by J. KANIA)







110-115. *Aspidimorpha confinis*, typical form: 110 - body in dorsal view, 111 - body in profile, 112 – head and prosternum, 113 – antenna, 114 – inner side of claw, 115 – outer side of claw



116-121. *Aspidimorpha confinis*, form *concinna*: 116 - body in dorsal view, 117 - body in profile, 118 – head and prosternum, 119 – antenna, 120 – inner side of claw, 121 – outer side of claw

1904: 6, 11 (fig., ootheca, larva, pupa); SHAW, 1955: 233; 1961: 11; 1963: 458; 1968 a: 369; 1968 b: 780; 1972: 60; BOROWIEC, 1985 a: 225; 1985 b: 439; 1986: 795.

Aspidomorpha (Aspidomorpha) apicalis ssp. *confinis*: SPAETH, 1914 b: 73.

Cassida subeuropaea THOMSON, 1858: 231 (ST in MM); WEISE, 1896: 19 (as syn. of *confinis*).

Aspidomorpha concinna WEISE, 1899: 258 (LT and PLT in ZMHU), 1910: 452; SPAETH, 1909: 278; 1924: 292; BOROWIEC, 1987 b: 413, **n. syn.**

Aspidomorpha confinis concinna: SPAETH, 1912 b: 505; 1922 b: 999; SHAW, 1956 a: 260; 1960: 369; 1963: 456.

Aspidomorpha confinis ssp. *concinnad* [sic]: SPAETH, 1929: 160.

Aspidomorpha (Aspidomorpha) apicalis ssp. *concinna*: SPAETH, 1914 b: 73.

Aspidomorpha apicalis: ZAJCEV, 1989: 298 (larva, misidentification).

DESCRIPTION

Le: male and female: 6.1-7.8 mm, Wi: male and female: 4.8-6.5 mm, Lp: male and female: 1.9-2.6 mm, Wp: male and female: 3.9-4.9 mm, Ex: male and female: 1.1-1.6 mm, Wd: male and female: 3.2-4.2 mm; Le/Wi ratio: male and female: 1.12-1.27, Wi/Wp: male and female: 1.21-1.38, Wp/Lp: male and female: 1.86-2.09. Body subpentagonal (figs 109-110, 116).

Widespread and variable species with two distinct geographic forms. Pronotum and elytra uniformly green to yellow, dried specimens have often yellow pronotum and mostly or completely green elytra. Ventrites uniformly yellow. Antennae yellow, in populations from West, Central and South Africa usually only last segments black, in populations from East Africa usually two last segments black and often apex of segment 9 infuscate, but in these populations sometimes only last segment infuscate to black.

Pronotum broad, ellyptical, with maximum width in the middle, sides rounded, in populations from the southern part of distribution range pronotum usually wider with sides narrowly rounded. Disc slightly convex, microreticulate, in populations from outside East Africa dull, in East African populations glabrous. Explanate margin broad, hardly bordered from disc, flat, its surface more or less irregular, dull, or in East African populations glabrous.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra smooth, distinctly wider than pronotum, elytral margins simple, humeri subangulate. Disc more or less convex, in populations from West Africa with very low angulation in profile, in populations from Central and South Africa slightly more angulate in profile (fig. 111), in populations from East Africa distinctly angulate in profile (= *concinna*, the most angulate populations are distributed in the mountains of Rwanda and S Uganda), with maximum convexity in postscutellar point (fig. 117). Principal and posterolateral impressions always marked, in western populations very shallow, in central and southern populations slightly deeper, in eastern populations distinct. Puncturation of disc moderately coarse, completely irregular, only submarginal and marginal rows regular, punctures on slope only slightly smaller than in anterior half of disc. In populations from East Africa punctures along suture have tendency to form two or three more or less regular rows. Punctures dense, in populations from outside East Africa distance between punctures c. as wide as puncture diameter or slightly smaller, in

populations from East Africa distance between punctures 1.2-1.5 times larger than puncture diameter. Sutural area margined by more or less regular and slightly impressed row of punctures. Punctures in marginal row coarse ad deep, c. thrice larger than punctures in central part of elytron. Surface between punctures with distinct microreticulation, in populations outside East Africa often slightly irregular, always dull or only slightly glabrous, often appears slightly rugose, in populations from East Africa the surface is regular, glabrous. Explanate margin broad, moderately declivous, completely irregularly, shallowly punctate, punctures as large as those on disc, surface between punctures strongly irregular, appears subrugose to rugose, especially in populations from East Africa puncturation of explanate margin is deep and rugose. Elytral epipleura bare in both sexes.

Head broad, clypeus 1.9-2.0 times wider than long (figs 112, 118), glabrous, moderately elevated before antennal insertions, without median impression. Labrum emarginate to 1/5 length. Antennae moderately elongate (figs 113, 119), extending to the middle of metasternum, length ratio of antennal segments: 100:54:104:66:63: 58:66:58:70:66:120.

Claws pectinate on inner side only, outer margin micropectinate (figs 115, 121), pecten large, with four teeth, extending 2/5-1/2 length of claw (figs 114, 120).

Sexual dimorphism indistinct. Male slightly stouter with slightly longer last antennal segment.

HOST PLANT

Convolvulaceae: *Ipomoea* sp. (ZAJCEV 1989); *Ipomoea batatas*, *I. cairica*, *I. ficifolia*, *I. obscura*, *I. wightii*, *Merremia tuberosa* (HERON & BOROWIEC 1997).

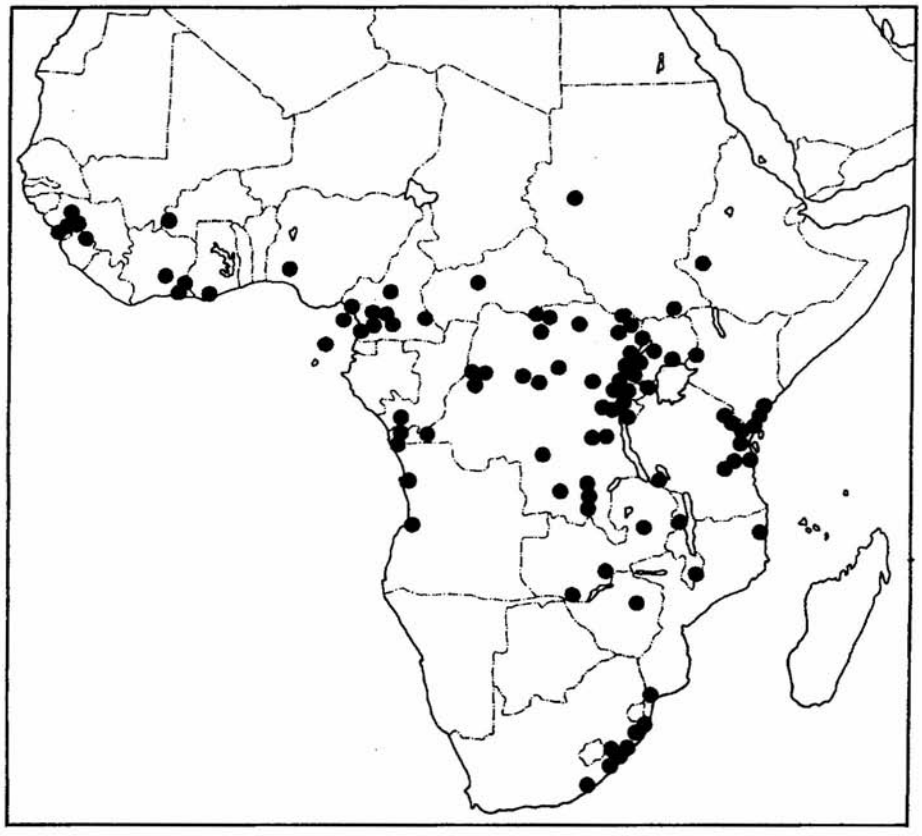
BIONOMY AND IMMATURE STAGES (after H. HERON, pers. comm.)

Ootheca: on the underside of host plant leaves and very inconspicuous. They are randomly oriented but close to veins. Colour yellowish-green to leaf-green and each contains a single ovum. Size varies from 2x0.5x0.5 to 2.5x0.75x0.5. Membrane is laid down on the hirsute leaf surface. The covering membrane has two wrinkles at right angles to the prominent longitudinal ridges. One end of the ootheca may extend some way beyond the ovum. The membrane width varies (1.3 mm seems average) and tapers postero-laterally, terminating bluntly and resembling the furca of *Apatura* butterfly larvae. The description of ootheca in MUIR and SHARP (1904) is an error, the one they describe resembles, superficially, that of *A. icterica*.

5th instar larva: measurements 5x2.5 to 6x4.5 mm (5.5x4 to 6.7x7.5 including lateral spines). They are solitary and generally found on the upper leaf surface. Colour leaf-green, sometimes inclining to yellow-green, with lateral spines essentially colourless infused with pale brown. Relative spinal lengths: 15>16>14>9 3 4 6 8 10>1 2 5 7>11>12 13. Spine 15 is 2.5 mm and is conspicuously long. It persists and is conspicuous amongst the exuviae in the supra-anal

process. Spines host prominent colourless setae, mostly arranged alternately (some opposite). Only cast exuviae are retained in the supra-anal process. Larva is flattened and oval, tapering posteriorly. Pronotum and body glabrous with pronotal shields somewhat roughened. Faeces are scattered as irregular lumps not filaments.

Pupa: pupates on upper leaf surface. Size from 7x4.6 to 7.1x5 mm. Leaf-green, glabrous. The anterior margin of explanate margin fringed by 60 pale greenish to colourless spinules. Spinules 1, 5 and 6 are longer and more robust than the remainder. The pronotal disc is leaf-green, of a frosted vitreous lustre, and gently sloping anteriorly. There is no nick in the anterior margin on the median line. Spiracles are white and raised, about as wide as high. Segments 1 to 5 host flattened leaf-like lateral scales terminating in a spinule and fringed by six pairs of spinules. The leaf-like scales are leaf-green, becoming colourless along the edges. The spinules are colourless. The posterior spinules are obscured by the 5th instar exuvium. Pupal period 6-7 days.



122. Distribution of *Aspidimorpha confinis*

Larvae of *A. confinis* and *A. areata* are frequently noted together on the host plant they share. They are readily distinguished by observing lateral spine 15 which, in *A. confinis*, is 2x the length of spine 16. Also, *A. confinis* has no faecal material in the supra-anal process.

Predators and parasitoids: a social wasp *Belonogaster* sp. was noted taking a 5th instar larva.

Larva was also described by ZAJCEV (1989).

DISTRIBUTION

Almost whole Africa south of Sahara (fig. 122).

REMARKS

A. confinis is the most common and widespread species of the subgenus *Aspidocassis*. It differs from both congeners from Madagascar in larger body and longer pecten of tarsal claws. Populations from southern and eastern Africa are more convex and more angulate in profile than populations from western Africa, thus specimens from western part of the distribution area are similar to *A. hiekei*, the westernmost distributed species of the subgenus; but specimens of *A. confinis* are never as regularly convex and parallelsided as specimens of *A. hiekei*. Both species are sympathric but *A. hiekei* is known only from several specimens. The form from eastern Africa was described as *A. concinna* and was treated as a subspecies by subsequent authors. Between this form and typical specimens from Central Africa all intermediate forms have been observed and I treat the name *concinna* as a synonym of nominotypical form. See also remarks under *A. apicalis*.

MATERIAL EXAMINED

ANGOLA: Benguela, 3 (IRSN); Luanda, 1965, 5, GIRAUDET (MRAC).

BURUNDI: Bururi, 1, P. GIRAUDIN (MRAC); Cibitoke, II 1989, 1, C.J. M. BERGER (RB).

CAMEROON: Batouri Distr., 1, F.G. MERFIELD (BMNH); Bipindi, X-XII 1896, 1, III 1897, 1, ZENKER (ZMHU); Arr. Djoungolo, Villa Carde n. Nyong, 27 VIII 1963, 1 (ZSM); Djoungolo, Zoatoupsi-r., Nkelkongo, 8 VIII 1963, 1, L. SEGERS (ZSM); Joko, 7 (ZMHU), VI 1911, 7 (ZMHU); Kribi, 1, CARRET (MRAC); Malende- Banga, 125 m, 5-20 XII 1957, 1, H. KNORR (SMNS); Moliwe n. Victoria 7 III 19098, 1, MALTZAN (ZMHU); Nkolbisson, Yaounde-Bi, 11 II 1963, 2, L. SEGERS (ZSM); Pipinde, 7, ZENKER (ZMHU); SW Prov., Bakingili, 10 m, 11-20 VI 1984, 1, J. E. RAWLINS (CMNH); Victoria, 2 (ZMHU).

EQUATORIAL GUINEA: Fernando Poo, 28 IV-10 VIII 1900, 2, L. CONRADT (ZMHU).

ETHIOPIA: Ilubabor Prov., 15 km NW Chora, 1600 m, VI 1973, 2, D. DE ROUGEMONT (MRAC).

GABON: Gabon, 2 (syntypes of *Cassida subeuropea*, MM).

GHANA: Basua, 26 VIII 1969, 1, S. ENDRÖDY-YOUNGA (HNHM); Takoradi, 22, BESNARD (MRAC).

GUNIEA: Conakry, 2 VIII 1990, 1, L. LEBLANC (CNCI); Coyah, IV 1967, 1, K. FERENCZ (HNHM); Kalledu, V-VI 1970, 1, K. FERENCZ (HNHM); Kindia, 12 IV 1954, 1, A. VILLIERS (IFAN); Labé, IV 1964, 2, J. DEDYCKER (MRAC).

IVORY COAST: Comoé Nat. Park, VI 1994, 1, on *Ipomoea* sp., E. OBERMAIER (EO); Dimbokro, 5 (IRSN); Thai-Park, VI 1995, 1, on *Ipomoea batatas*, E. OBERMAIER (EO).

KENYA: Küste, 11 I 1991, 1, J. MAUSER (JM); Malindi, Gedi Forest, IV 1973, 1, V 1973, 2, H. GØNGET (ZMC); Mt Elgon, 2010 m, 22 I 1979, 3, 1950 m, 23 I 1979, 1, 2050 m, 31 I 1979, 1, T. PALM (LU); Ngulia Lodge, 10 III 1970, 1, T. PALM (LU); Shimba Hills, 27 V 1973, 1, 3 VI 1973, 1, H. GØNGET (ZMC).

MALAWI: Chinteche, 15 II 1978, 1, R. JOCQUÉ (MRAC); Mlanje, 1 XII 1913, 1, S.A. NEAVE (BMNH).

MOZAMBIQUE: Delagoa, XII 1913, 1 (MHNG).

NIGERIA: Ibadan, 16 IX 1978, 1, G. G. SCHULTEN (ITZ).

PRINCIPE IS.: Ile de Prince, 1, ERMAN (lectotype of *Cassida confinis*, ZMHU).

REPUBLIC OF CENTRAL AFRICA: Fort Crampel, 8 (IRSN).

RWANDA: Cyangugu Prov., Nyakabuye, 1-15 V 1983, 1, 23-25 I 1984, 1, H. MÜHLE (MD).

SENEGAL: Palmarin, XI 1960, 2, CHASSOT (MRAC).

SIERRA LEONE: Falaba, 1 VI 1912, 1, J. SIMPSON (BMNH).

SOMALIA: Ola Uager, 11-13 VIII 1970, 1, 15-18 VIII 1970, 1, S.B.S. (MZUF).

SOUTH AFRICA: Cape Prov., Trappes Vall., XI 1924, 1, H. CRONWRIGHT (TM); Gonubie, E London, 19 I 1976, 1, R.E. PARROT (CNCI); Natal, 2 (IRSN); Natal, Durban, 4, P. REINECK (ZMHU), 4 II 1900, 1 (TM), X 1904, 1, 15 X 1906, 1, 20 X 1906, 2, 8 XI 1906, 1, 8 X 1908, 1, G.F. LEIGH (TM); Natal, Indaleni, 2, W. HUNT (MRAC); Natal, Lake Sibaya, 50 m, 10 XI 1984, 1, C.L. BELLAMY and R.G. OBERPIELER (ER); Natal, Sodwana Bay, 8-10 XI 1984, 6, H. and A. HOWDEN (CMN), 1, C.L. BELLAMY (ER); Natal, Southbroom, 9 IV 1956, 1 (MRAC); Natal, Umhlali, X 1953, 1 (TM); Natal, Umkomaas, 8 II 1952, 1, A.L. CAPENER (ZSM); Natal, Umtenweni Riv., 10 II 1962, 1, A.L. CAPENER (ZSM), 15 IV 1973, 1, C.H. DRAPER (TM); Tongaat, 1909, 3, H.C. BURNUP (TM); Zululand, Lake Sibaya, 10 XI 1984, 6, BELLAMY and SCHOLTZ (TM); Zululand, Mapelane, 15 VI 1976, 1, P.E. REAVEL (TM); Zululand, Mapohan, 15 VI 1976, 1, P.E. REAVEL (TM); Zululand, Sodwana Bay, 8-10 XI 1984, 1, BELLAMY and HOWDEN (TM); Zululand, Ubombo Distr., Sodwana Bay, 8 II 1959, 1, R. z. STRASSEN (SMF).

SUDAN: Darfur, El Fasher, 16 IV 1920, 3, H. LYNES (BMNH).

TANZANIA: Arusha-Ju, XII 1905, 1, KATONA (HNHM); Dar-es-Salaam, 2 (lectotype and paralectotype of *A. concinna*, ZMHU); Mabira, 2 (IRSN); Mziha, 70 km S Handeni, 400 m, 27 IV 1957, 2 (MRAC); Ukami, 1 (FMNH); Uluguru Mts., Kiroka, 725 m, 27-31 V 1971, 1, Miss. Uluguru (MRAC); Usambara, Nguelo, 1 (IRSN); Usangu Distr., 29 XI-15 XII 1910, 3500-4500 ft., 1, S.A. NEAVE (BMNH).

UGANDA: SE Ankole, 4400-4800 m, 4-8 X 1911, 1, S.A. NEAVE (BMNH); Budongo Forest, 27-28 VIII 1971, 1, H. GØNGET (ZMC); Buto For., 15 mls W of

Kampala, 1200 m, 1 XII 1957, 1, E.S. Ross and R.E. LEECH (CAS); Fort Portal, 15 km E Sebitoli, 1400 m, 23 XI-5 XII 1994, 5, M. SNIZEK (MS, LB); Kampala, 17 IV 1913, 1, 14 VI 1917, 1, 13-27 X 1917, 2, 14 XII 1918, 1, 12 I 1919, 1, C.C. GOWDEY (BMNH); Kibale Forest, 6-16 I 1973, 1, 18 II 1973, 2, H. GØNGET (ZMC), 16 XII 1984, 3, 19 I 1985, 1, 14 II 1985, 6, 23 III 1985, 1, 14 V 1985, 1, 13 IX 1986, 2, M. NUMMELIN (ZMUH); Masindi Distr., Budongo Forest n. Sonso, 1°45'N, 31°35'E, 1-10 VII 1995, 1, 11-20 VII 1995, 1, 21-30 VII 1995, 1, T. WAGNER (TW); Mpanga Forest, Toro, 4800 ft., 13-23 XI 1911, 1, S.A. NEAVE (BMNH); between Seziwa and Kampala, 3500-3750 ft., 27-31 VIII 1911, 2, S.A. NEAVE (BMNH).

ZAIRE: Albert Nat. Park, SL Edward, Katakunda, 5 III 1936, 1, L. LIPPENS (MRAC); Albert Nat. Park, Massif Ruwenzori, riv. Kakalari, affl. Bombi, 1725 m, 10 VI 1954, 1, 12 VI 1954, 1, P. VANSCHUYTBROECK and H. SYNAVE (MRAC); Albert Nat. Park, Massif Ruwenzori, Kalonge, riv. Babalwakitaka, affl. dr. Butahu, 1800 m, 11 VIII 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Massif Ruwenzori, Kalonge, riv. Nyamwamba, affl. dr. Butahu, 2150 m, 18 VI 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Massif Ruwenzori, riv. Katunda, 1600 m, 8 I 1954, 1, H. SYNAVE (MRAC); Albert Nat. Park, Massif Ruwenzori, Kiurama, 2100 m, 1, P. VANSCHUYTBROECK and V. HENDRICKX (MRAC); Albert Nat. Park, Massif Ruwenzori, Kyandolire, Camp des Gardes, 1700 m, 22 X 1952, 1, P. VANSCHUYTBROECK and J. KEKENBOSCH (MRAC); Albert Nat. Park, Massif Ruwenzori, Moyenne Lume, Kyalema, 1940 m, 13 IV 1953, 1, P. VANSCHUYTBROECK and J. KEKENBOSCH (MRAC); Albert Nat. Park, Mont Hoyo, grotte Saga-Saga, 1160 m, 11 VII-8 VIII 1955, 2, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mont Hoyo, grotte Yolohafiri, 1030 m, 25-28 VII 1955, 2, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mutsora, 1939, 45, HACKARS (MRAC); Albert Nat. Park, Kivu, Rutshuru, 15-25 IX 1933, 1, 8 VI 1934, 1, G.F. DE WITTE (IRSN); Albert Nat. Park, Plaine Semliki, 900-1100 m, IV-X 1937, 1, HACKARS (MRAC); Albert Nat. Park, Ruwenzori, Mutawanga, 1000-1300 m, XI 1936-II 1937, 7, II-III 1937, 2, HACKARS (MRAC); Albert Nat. Park, Secteur Nord, Bombi, affl. Butahu, 1280 m, 27 III 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Lesse, affl. g. Semliki, 695 m, 9 VII 1957, 2, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Lume (moyenne), 1420 m, 10 IX 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. May ya Moto, affl. g. Talya, 1180 m, 9 V 1957, 4, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Molidi, piste Watalinga, 1210 m, 18 IX 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Mukandwe, affl. dr. Talya, 1140 m, 20 V 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Mulingo, 1350 m, Secteur Kikura, Rég. Baniangala, 22 VII 1954, 1, P. VANSCHUYTBROECK and H. SYNAVE (MRAC); Albert Nat. Park, Secteur Nord, Vill. Nzenga pr. Mutawanga, 1200 m, 27 VI 1957, 1, 14 VIII 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. park, Secteur Nord, Sao, marais confl. Rugetsi-Semliki, 990 m, 16 X 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Uele, Buta, 11-13 V 1935, 4,

G.F. DE WITTE (IRSN); Albert Nat. Park, Uele, Monga, 18 IV-8 V 1935, 1, G.F. DE WITTE (IRSN); Bambesa, 20 XII 1939, 1, J. VRIJDAGH (IRSN); Banana-Boma, 1891, 8, M. TSCHOFFEN (IRSN); Bas Congo, Reg. Thysville, 1959-1963, 1, R. MICHAUX (MRAC); Biruwe n. Matenda, 16 IX 1929, 1, 21 IX 1929, 1, A. COLLART (IRSN); Boma, 1891, 10, M. TSCHOFFEN (IRSN); Buhunde-Matenda, 15 IX 1929, 2, A. COLLART (IRSN); Doedoe, 20 VI 1924, 1, Laan (ITZ); Equateur, Bokuma, 1953, 1, P. LOOTENS (MRAC); Gange, 16 III 1929, 1, A. COLLART (IRSN); Haut Uele, Moto, 1923, 1, L. BURGEON (MRAC); Ikengi, 18 IX 1912, 2, R. MAYNÉ (MRAC); Jadotville, Numbi, V 1957, 1, Th. DE CATERS (MRAC); Kasongo, VIII-IX 1959, 1, L.G. BENOIT (MRAC); Kasongo, riv. Tambwe, 25 VIII 1959, 1, L.G. BENOIT (MRAC); Katanga, Kambove, 4000-4500 ft., III 1907, 1, S.A. NEAVE (BMNH); Katanga, Kinda, 1 (HNHM); Katanga, Nyonga, V 1925, 2, G. F. DE WITTE (MRAC); Kibali-Ituri, Kilomines, V 1957, 3, G. SMOOR (MRAC); Kibangula, II 1955, 1, L. HENRY (IRSN); Kisantu, 1, P. VANDERYST (IRSN); Kivu, Irangi, 1-2 II 1986, H. MÜHLE (MD); Kivu, Lwiro, 20 XII 1966, 1, 10 I 1967, 4, 25 I 1967, 1, Dr. JILLY (SMNS); Kivu, Lukando, Bunyakiri, 1959-60, J. HECQ (MRAC); Kivu, Masisi, 1, A. COLLART (IRSN); Kivu, Vall. de la Ruzizi, Kanambo, III 1959, 3, L.G. BENOIT (MRAC); N Lac Kivu, Rwankwi, XI 1947, 1, XII 1947, 1, J. V. LEROY (MRAC); Lubutu-Masua, 10 IX 1929, 1, 11 IX 1929, 1, 12 IX 1929, 1, A. COLLART (IRSN); Lubutu-Obongena, 7 IX 1929, 1, A. COLLART (IRSN); Mahagi, Abok, 6 III 1929, 1, A. COLLART (IRSN); Mambasa, I 1972, 1, J. TAVARNIERS (MRAC); Maniema, Kasongo, VIII-IX 1959, 1, L.G. BENOIT (MRAC); Mandimba-Masua, 26 IX 1929, 1, A. COLLART (IRSN); Masisi-Uluku, 14 IX 1929, 1, A. COLLART (IRSN); Masna n. Obongena, 8 IX 1929, 1, A. COLLART (IRSN); Mayumbe, Lemba, 5 V 1970, 1, M. ELSEN (MRAC); Mongapi, 8 IV 1930, 3, A. COLLART (IRSN); Obongena-Lubutu, 7 IX 1929, 3, A. COLLART (IRSN); Stanleyville, 5 II 1928, 1, 18 II 1928, 2, 21 II 1928, 1, 28 II 1928, 1, 3 III 1928, 1, 11 VIII 1928, 2, 13 VIII 1928, 1, 31 V 1929, 1, VI 1929, 1, VII 1929, 1, 23 XI 1929, 1, A. COLLART (IRSN); Stanleyville, Ongoka, riv. Lowa, IV-IX 1952, 1, J. PANTOS (MRAC); Terr. de Dibaya, Kamponde, 1945, 1, F. ALLAER (MRAC); Tshuapa, Bamanya, II 1964, 1, XI 1964, 1, P. HULSTAERT (MRAC); Tshuapa, Bokuma, II 1952, 1, IV 1954, 1, P. LOOTENS (MRAC); Tshuapa, Etata, VII-VIII 1969, 1, IX-X 1969, 1, J. HAUWAERTS (MRAC); Tshuapa, Ikela, 1956, 3, IX 1956, 1, X 1956, 1, XI 1956, 1, P. LOOTENS (MRAC); B Uele, Bongide, 20 VIII 1957, 1 (FMNH); H Uele, Bunie, 29 X 1956, 1 (FMNH); Uele, Monga, riv. Bili, 450 m, 18 IV-8 V 1935, 1, G.F. DE WITTE (MRAC); Uluku-Buhunde, 15 IX 1929, 1, A. COLLART (IRSN); Upemba nat. Park, Kaziba, 1140 m, affl. Lufira, 8 II 1948, 1, Miss. DE WITTE (MRAC); Zambi, 1, Ch. HAAS (IRSN).

ZAMBIA: Chilanga, 24 III 1913, 1 on Sisal (BMNH); Mweru-Wantipa, I 1945, 2, H.J. BRÉDO (IRSN).

ZIMBABWE: Salisbury, 1 XII 1944, 1, E.C. FINKEY (TM).

Aspidimorpha (Aspidocassis) hiekei n. sp.

ETYMOLOGY

Dedicated to Dr. F. HIEKE, the retired curator of the *Coleoptera* collection in the Zologisches Museum, Humboldt Universität, Berlin, Germany.

DESCRIPTION

Le: male and female: 6.9-7.8 mm, Wi: male and female: 5.5-5.7 mm, Lp: male and female: 2.4-2.6 mm, Wp: male and female: 4.4-4.7 mm, Ex: male and female: 1.1-1.2 mm, Wd: male and female: 3.7-4.2 mm; Le/Wi ratio: male and female: 1.25-1.37, Wi/Wp: male and female: 1.21-1.25, Wp/Lp: male and female: 1.80-1.83. Body oval, almost parallelsided (fig.123).

Pronotum and elytra uniformly green to yellow, dried specimens have often yellow pronotum and mostly or completely green elytra. Ventrites uniformly yellow. Antennae yellow, usually with two last segments black, sometimes only last segment is black, occasionally apex of segment 9 infuscate.

Pronotum broad, ellyptical, with maximum width in the middle, sides rounded. Disc slightly convex, microreticulate, dull. Explanate margin broad, hardly bordered from disc, flat, its surface slightly irregular, dull.

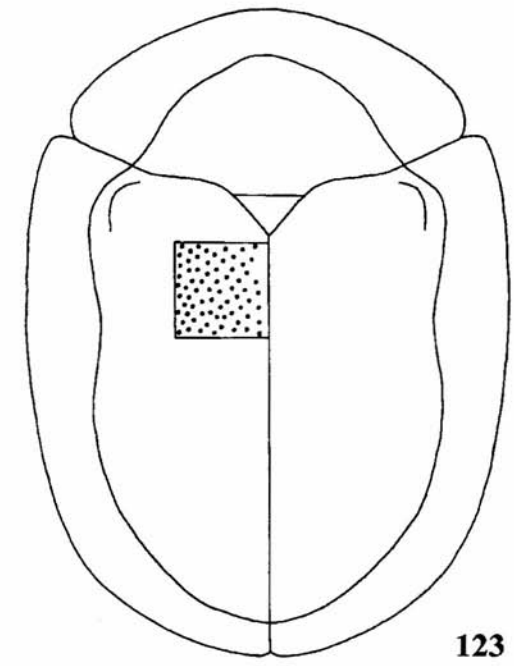
Scutellum triangular, impunctate, without transverse sulcus. Base of elytra smooth, distinctly wider than pronotum, elytral margins simple, humeri subangulate. Disc regularly convex, with maximum convexity in postscutellar point (fig. 124). Puncturation of disc moderately coarse, completely irregular, only submarginal and marginal rows regular, on slope only slightly smaller than in anterior half of disc. Punctures dense, distance between punctures c. as wide as puncture diameter. Sutural area margined by more or less regular and slightly impressed row of punctures. Punctures in marginal row coarse and deep, c. thrice larger than in central part of elytron. Surface between punctures irregular, with distinct microreticulation, appears slightly rugose. Explanate margin broad, moderately declivous, completely irregularly punctate, punctures as large as those on disc, surface between punctures slightly irregular, appearing subrugose. Elytral epipleura bare in both sexes.

Head broad, clypeus 1.8 times wider than long (fig. 125), glabrous, moderately elevated before antennal insertions, without median impression. Labrum emarginate to 1/5 length. Antennae moderately elongate (fig. 126), extending to the middle of metasternum, length ratio of antennal segments: 100:45:92:60:56:52: 64:60:64:65:96.

Prosternal collar moderate, prosternal process strongly expanded apically, in the middle with deep impression.

Claws pectinate on inner side only, outer margin micropectinate (fig. 128), pecten moderate, with four teeth, on pro- and midleg extending 1/3-2/5, on hind leg 1/3-1/2 length of claw (fig. 127).

Sexual dimorphism indistinct. Male slightly stouter with slightly longer last antennal segment.



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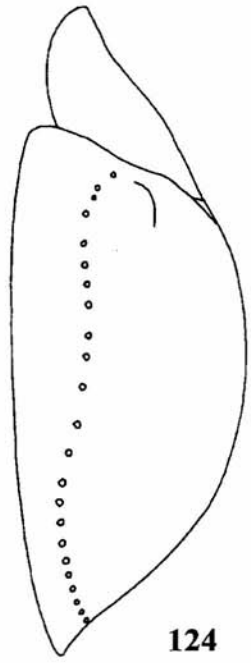
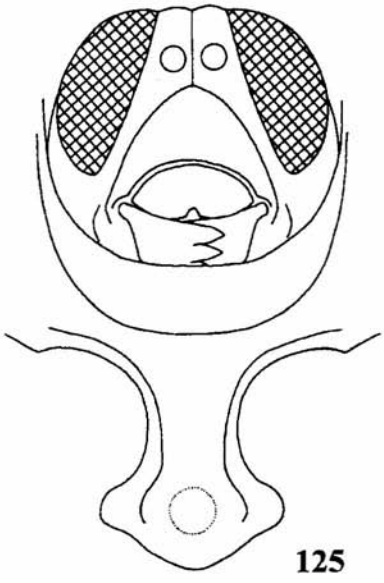


124



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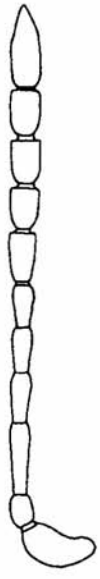

126

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128

123-128. *Aspidimorpha hiekei*: 123 - body in dorsal view, 124 - body in profile, 125 – head and prosternum, 126 – antenna, 127 – inner side of claw, 128 – outer side of claw

DISTRIBUTION

Senegal and Togo (fig. 108).

REMARKS

A. hiekei is well distinguished by its regularly convex elytral disc, without distinct impressions and almost parallelsided elytra. Specimens of *A. confinis* from sympathric populations from western Africa are always slightly angulate in profile with well marked impressions, they are also stouter and only the slimmest females of *A. confinis* have length/width ratio like the stoutest males of *A. hiekei*. Pecten of tarsal claws in *A. hiekei* is slightly shorter than in *A. confinis* but slightly longer than in *A. apicalis* from Madagascar.

MATERIAL EXAMINED

SENEGAL: paratype: Palmarin, XI 1960, 1 (LB).

TOGO: holotype and three paratypes, Togo, Hinterland, Yendi, I.1895, DÖRING S. (holotype and paratype in ZMHU, two paratypes in LB); paratype, Togo, Hinterland, Mangu, DÖRING S. (ZMHU).

Aspidimorpha (Aspidocassis) tanolaensis n. sp.

ETYMOLOGY

Named after its type locality, Tanola in Madagascar.

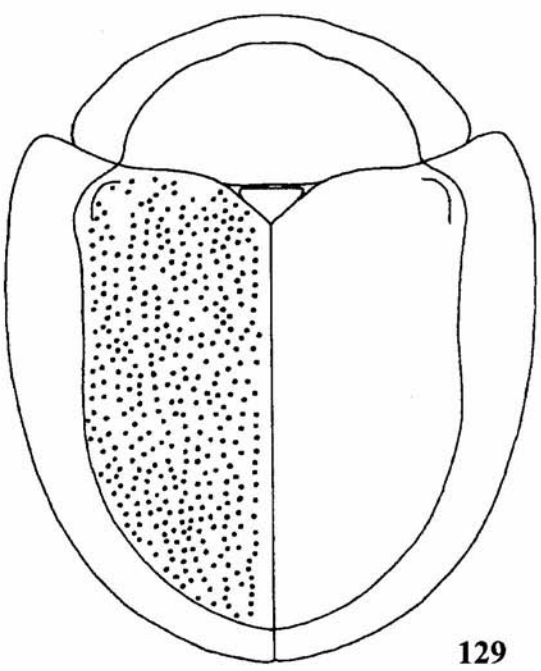
DESCRIPTION

Le: male and female: 4.6-4.9 mm, Wi: male and female: 3.8-4.0 mm, Lp: male and female: 1.7 mm, Wp: male and female: 2.8-3.0 mm, Ex: male and female: 0.9-1.0 mm, Wd: male and female: 1.9-3.2 mm; length/Wi ratio: male and female: 1.21-1.30, Wi/Wp: male and female: 1.33-1.39, Wp/Lp: male and female: 1.64-1.76. Body subpentagonal (fig. 129).

Pronotum and elytra uniformly yellow. Ventrites uniformly yellow. Antennae yellow, usually with four last segments infuscate to black, sometimes only two last segments black and segments 8-9 slightly infuscate, occasionally also apex of segment 7 infuscate.

Pronotum broad, ellyptical, with maximum width in the middle, sides rounded. Disc slightly convex, microreticulate, dull, surface on sides of disc slightly irregular. Explanate margin broad, hardly bordered from disc, flat, its surface slightly irregular, dull.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra smooth, distinctly wider than pronotum, elytral margins simple, humeri subangulate. Disc convex, slightly angulate in profile, with maximum convexity in postscutellar point (fig. 130), without impressions. Puncturation of disc moderately coarse, completely irregular, only submarginal and marginal rows regular, on slope only slightly smaller than in anterior half of disc. Punctures dense, distance between punctures c. as wide as puncture diameter. Sutural area margined



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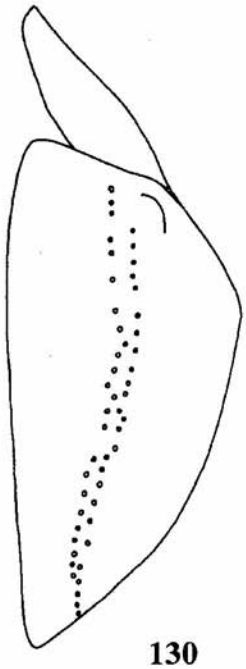

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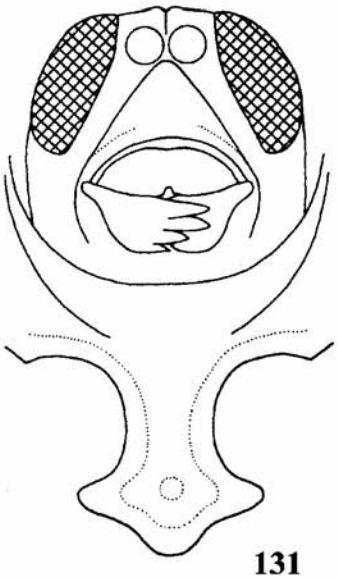

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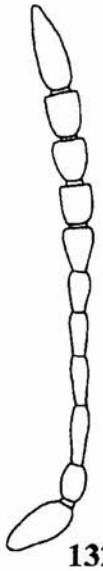

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133

134

129-134. *Aspidimorpha tanolaensis*: 129 - body in dorsal view, 130 - body in profile, 131 – head and prosternum, 132 – antenna, 133 – inner side of claw, 134 – outer side of claw

by more or less regular and slightly impressed row of punctures. Sometimes along disc one or two narrow elevations. Punctures in marginal row coarse and deep, c. twice larger than in central part of elytron. Surface between punctures flat or slightly convex, with distinct microreticulation, does not appear rugose. Explanate margin broad, moderately declivous, completely irregularly punctate, punctures slightly larger than those on disc, especially along marginal row, surface between punctures flat, microreticulate, does not appear rugose. Elytral epipleura bare in both sexes.

Head broad, clypeus 1.9 times wider than long (fig. 131), glabrous, moderately elevated before antennal insertions, without median impression, with distinct clypeal grooves. Labrum emarginate to 1/6 length. Antennae moderately elongate (fig. 132), extending to the middle of metasternum, length ratio of antennal segments: 100:45:80:60:45:55:50:55:50:60:115.

Claws pectinate on inner side only, outer margin micropectinate (fig. 134) pecten extremely short, with three teeth only slightly reaching beyond margin of claw (fig. 133).

Sexual dimorphism indistinct. Male slightly stouter with slightly longer last antennal segment.

DISTRIBUTION

Madagascar (fig. 101).

REMARKS

It is the smallest species of the subgenus *Aspidocassis*. Body shape is similar to *A. apicalis* but the latter species distinctly differs in pecten of tarsal claws extending to 1/4-1/3 length of claw, while in *A. tanolaensis* the pecten is extremely short, only slightly extending behind margin of the claw.

MATERIAL EXAMINED

MADAGASCAR: holotype and two paratypes: Ambohimitombo forest, Tanola, I 1895, 3 (LB); paratype: Forêt de Fito, 1 (MRAC).

Subgenus: *Megaspidomorpha* HINCKS, 1952

Large species, length always above 11 mm. Pronotum and elytra always uniformly yellow, at most epipleura with spots. Pronotum very broad with subangulate sides. Base of elytra not or only slightly wider than base of pronotum. Elytra regularly convex, without postscutellar tubercle or gibbosity. Elytral puncturation completely irregular and dense. Labrum very broad with posterior margin very shallowly emarginate. Claws pectinate on both sides. Africa except Madagascar.

Type species: *Cassida chlorotica* OLIVIER, 1808.

KEY TO THE SPECIES

1. Explanate margin of elytra punctate along marginal row. Body slimmer, Le/Wi ratio in male 1.20-1.26, in female 1.28-1.40.
   ..... 2.
-. Explanate margin of elytra impunctate. Body stouter, Le/Wi ratio in male 1.07-1.14, in female 1.21-1.28.
   ..... *A. chlorotica*
2. Larger, length in male 12.6-15.3 (mean 13.8), in female 15.8-17.2 (mean 16.5). Elytra more convex, femora usually mostly black. Inner pecten of claw moderately large, extending to 1/3-2/5 length of claw (fig. 141).
   ..... *A. angolensis*
-. Smaller, length in male 11.8-13.9 (mean 12.6), in female 13.7-16.1 (mean 14.8). Elytra less convex, femora usually yellow or with dark ring, only occasionally basal third of femora infuscate. Inner pecten of claw very short, extending to 1/6-1/5 length of claw (fig. 160).
   ..... *A. puncticosta*

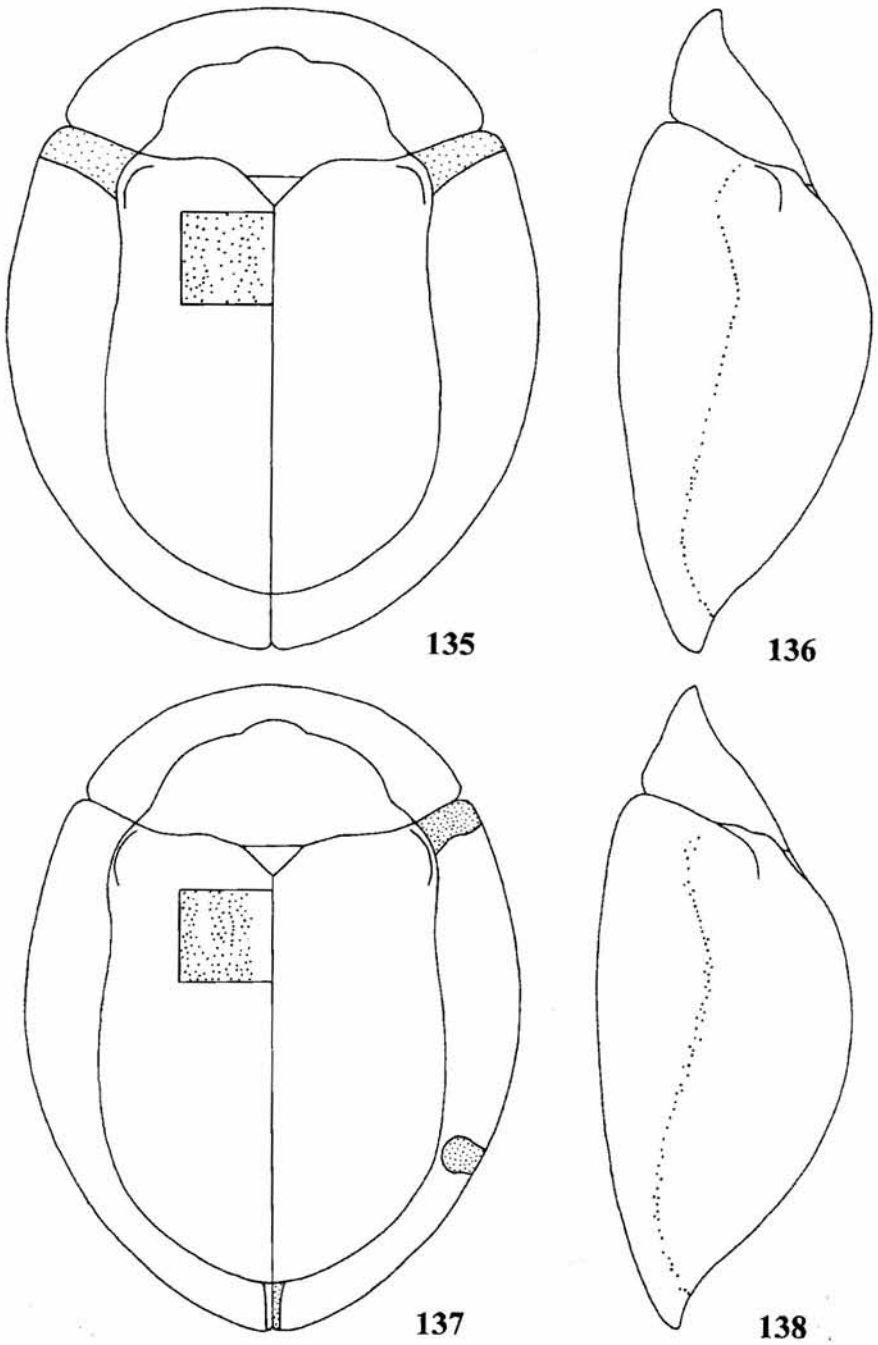
Aspidimorpha (Megaspidomorpha) angolensis WEISE, 1896

Aspidomorpha angolensis WEISE, 1896: 18 (ST in ZMHU); 1908: 203; SPAETH, 1916: 40; 1932 b: 4 (as syn. of *puncticosta*).
Aspidomorpha (Aspidomorpha) angolensis: SPAETH, 1914 b: 72.
Aspidomorpha angolensis ab. *propitia* SPAETH, 1924: 280 (ST in MM, MNHN), 1929: 158.
Aspidomorpha puncticosta: SPAETH, 1935: 172; SHAW, 1961: 21; BOROWIEC, 1985 a: 227 (misidentification).

DESCRIPTION

Le: male: 12.6-15.3 mm, female: 15.8-17.2 mm, Wi: male: 10.3-12.7 mm, female: 11.5-13.4 mm, Lp: male: 3.7-4.5 mm, female: 4.5-4.9 mm, Wp: male: 8.4-9.6 mm, female: 9.2-10.3 mm, Ex: male: 2.3-3.0 mm, female: 2.5-3.0 mm, Wd: male: 6.5-7.9 mm, female: 7.7-8.5 mm. Le/Wi: male: 1.20-1.23, female: 1.28-1.40, Wi/Wp: male: 1.23-1.32, female: 1.24-1.33; Wp/Lp: male 2.02-2.27, female: 2.04-2.10. Body oval (figs 135, 137).

Pronotum and elytra uniformly yellow. Basal margin of elytral epipleura with moderately broad black band, also sutural part of epipleura with narrow, black sutural spot. Sometimes basal band is reduced to narrow black line. In some specimens epipleura have also posterolateral spot of various size (= ab. *propitia*). Ventrites vary from mostly black to mostly yellow, in extreme cases ventrites completely yellow. Clypeus usually yellow with black basal corners, basal part of pronotal epipleuron often brownish to black, thorax brown to black, its lateral plates often partly yellowish or brown, abdomen black with yellowish lateral margins, dark colour is often reduced to brown in the middle of sternites, in extreme cases whole abdomen yellow. Coxae, trochanters and femora in dark specimens completely black, often base and apex of femora yellowish, in extreme

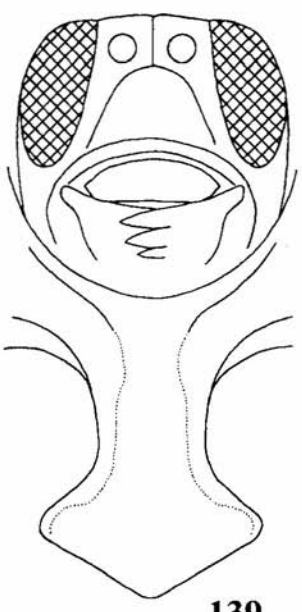


135-138. *Aspidimorpha angolensis*: 135-136 – male, 137-138 – female; 135, 137 – body in dorsal view, 136, 138 – body in lateral view

case legs wholly yellow. Tibiae and tarsi always yellow. Usually three to four last antennal segments black, base of segment 8 often yellowish, apex of last segment sometimes yellowish, occasionally whole segment 8 yellow, in extreme case segment 7 is darkened on upper side.

Pronotum very broad, narrowly ellyptical, with maximum width in 3/5 length, sides subangulate. Disc moderately convex, smooth, shiny, with very small sparse pricks and microreticulaton, in anterior part slightly impressed. Explanate margin moderately bordered from disc, flat, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra serrulate, not or slightly wider than base of pronotum, elytral margins simple, humeri broadly rounded. Disc strongly but regularly convex, slightly less convex than in *A. chlorotica* but more so than in *A. puncticosta*, with maximum convexity in male in postscutellar point (fig. 136), in female in the middle (fig. 138), without impressions. Puncturation of disc moderately coarse, distinctly coarser than in *A. chlorotica*, completely irregular, on slope not or only slightly smaller than in anterior half of disc. Punctures dense, disposed more or less regularly, distance between punctures 0.5-1.5 times larger than puncture diameter. Sutural area impunctate, along disc there are two unpunctured lines or low elevations, sometimes they are hardly visible or completely absent. Punctures in marginal row shallow, only slightly larger than in central part of elytron. Surface between



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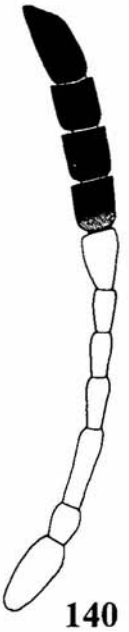

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142

139-142. *Aspidimorpha angolensis*: 139 – head and prosternum, 140 – antenna, 141 – inner side of claw, 142 – outer side of claw

punctures smooth, shiny, with very small microreticulation, in densely punctured parts of elytron appears slightly irregular. Explanate margin broad, moderately declivous, along marginal row irregularly punctate, punctures as large as or slightly larger but sparser than those of disc, surface between punctures smooth and shiny. Elytral epipleura in male bare, in female in apical part with sparse, very short hairs, in dried specimens they are often broken and epipleuron appears bare.

Head broad, clypeus 1.8-1.9 times wider than long (fig. 139), dull, moderately elevated before antennal insertions, without median impression. Labrum very broad, its margin only slightly emarginate. Antennae moderately elongate (fig. 140), extending to mid coxae, length ratio of antennal segments: 100:40:92: 60:52:52:63:58:60:65:110.

Claws pectinate on both sides, inner pecten with four teeth extending to 1/3-2/5 length of claw, three outer teeth equal in length, inner one slightly shorter (fig. 141). Outer pecten usually with two (occasionally on or three) teeth, outer c. two times shorter than teeth of inner pecten, inner tooth twice shorter than the outer (fig. 142), in some specimens outer pecten is very short, with teeth only slightly reaching beyond margin of claw.

Sexual dimorphism less distinct than in *A. chlorotica*. Female distinctly larger, with body slimmer than in male, elytral apex slightly elongated and elytral epipleura sparsely pubescent.

DISTRIBUTION

Eastern oart of Central Africa, East and northern part of South Africa (fig. 143).

REMARKS

SPAETH (1932 b) treated *A. angolensis* as a synonym of *A. puncticosta* and *A. argillacea* as a distinct species. Based on types of these three names I concluded that *A. angolensis* is a good species, but *A. argillacea* is a synonym of *A. puncticosta*. *A. angolensis* differs from *A. puncticosta* in larger size, more convex elytra and usually black basal half of femora (in northern populations of *puncticosta* femora are usually uniformly yellow, in southern populations with dark ring, occasionally with basal half brown to black), but small specimens of both species may be difficult to distinguish. Except morphological differences both species are also separated ecologically, *A. puncticosta* is an exclusively littoral species (with isolated locality on saline shores of lakes close to Malawi lake) while *A. angolensis* is widespread in southern part of Africa but usually not in littoral habitats (see figs 143 and 162)). The third congener *A. chlorotica* distinctly differs in stouter body and explanate margin of elytra without additional punctures (in *A. angolensis* and *A. puncticosta* there is an irregular row of additional punctures along marginal row).

MATERIAL EXAMINED

ANGOLA: Benguela, 2, Dr. WELLMAN (DEI).

BURUNDI: Bujumbura, Quartier Zeimet, 2 IV 1977, 6, F.C. ROEST (NNML).

KENYA: Masongaleni, 300 ft., 29 III-1 IV 1911, 1, S.A. NEAVE (BMNH); near Mombasa, 6 II 1981, 2, L. SALTINI (CSNV); 65 km S Mombasa, 15 II 1989, 2, C. ZANELLA (MCSNV); Shimba Hills, 27 V 1973, 1, H. GØNGET (ZMC); Turkwell, IV 1952, 1 (NMM);

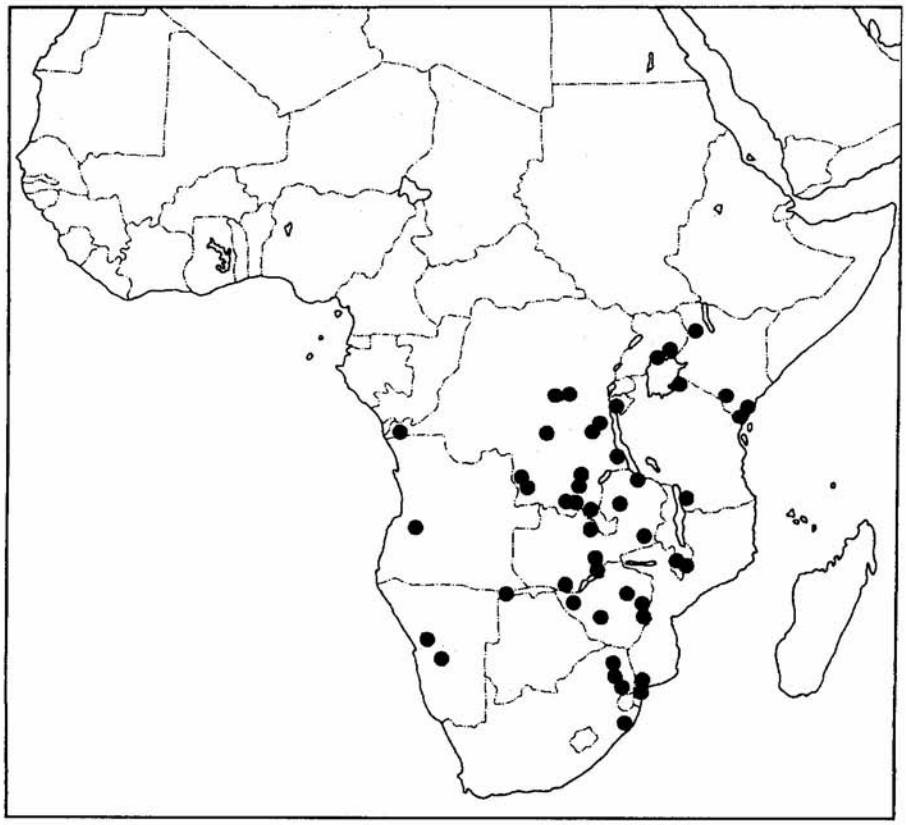
MALAWI: Nyassaland, Mlanje, 1 XII 1913, 2, S.A. NEAVE (BMNH); S Province, Zomba-Blantyre, 3 XI-18 XII 1984, 1, B. PETTERSSON (LU).

MOZAMBIQUE: Magude, X 1918, 1, C.J. SWIERSTRA (TM); Manhica, IX 1955, 1, D. WILL SMITH (DNSM).

NAMIBIA: Bethel, I 1982, 1, A. LANDMON (BM); Damaraland, Abachaus, 2 (TM); Sambiu, Okavango, 28 II-2 III 1991, 1, H. ROER (MKB).

SOUTH AFRICA: Barberton, I 1923, 1, A.A. WILLIAMS (TM); Cape, Trappes Vall., I 1925, 2, H. CRONWRIGHT (TM); Lydenburg, 1896, 1, P.A. KRANTZ (TM); Natal, Mposa, 20 XII 1949, 1, T.R. LEKH (TM); N Transvaal, Zoutpansberg, Farm Amsterdam, 15 V 1972, 2, G. NEWLANDS (TM).

TANZANIA: Njassasee, 1 (FMNH); Shirati, III 1909, 1, KATONA (HNHM).



143. Distribution of *Aspidimorpha angolensis*

UGANDA: Kadunguru, Eastern prov., 1-10 I 1914, 5, C.C. GOWDEY (BMNH); Port Bell, 14 II 1971, 1, H. GØNGET (ZMC).

ZAIRE: Bobende, 14 I 1928, 2, A. COLLART (IRSN); Edith Bay, 16 II 1947, 4, Miss. Tanganika (IRSN); Elisabethville, 16 II 1958, 2, Ch. SEYDEL (MRAC); Haut Kataanika, Cap Storms, 10 (IRSN); Lopoephi, XI 1936, 1, F.G. OVERLAET (IRSN); Lulua, Sandoa, X-XII 1932, 1, F.G. OVERLAET (MRAC); Maniema, Kasongo, VIII-IX 1959, 1, G. BENOIT (MRAC); Matadi, 1, M. TSCHOFFEN (IRSN); Rumonge, 23 I 1947, 2, Miss. Tanganika (IRSN); Sankuru, M'Pemba Zeo, Gandajika, 22 XI 1959, 2, R. MARÉCHAL (MRAC); Stanleyfalls, 1, R.P. KOHL (NNML); Stanleyville, Yangambi, X-XII 1959, 1, J. DUBOIS (MRAC).

ZAMBIA: n. Lake Bangewulu, N'Sumba Is., 25 XI 1946, 1 (BMNH); Chilanga, II 1971, 1, F. H. ANSELL (NMM); Livingstone, Victoria Falls, 26-31 XII 1993, 1, M. SNIZEK (MS); Lusaka, VIII 1958, 3, BOTHA (TM); mouth of Lusangazi R., 1-3 IX 1910, 2, S.A. NEAVE (BMNH); Zambia, 4 (FMNH).

ZIMBABWE: Bulawayo, III 1976, 1, CROSSLEY (NMM); Greenside Umtali, 23 XI 1965, 1 (NMM); Melsetter Rd., Umvumvumu R., II 1963, 1, 21 XI 1965, 2 (NMM); Salisbury, 27 VIII 1926, 1 (TM); Sawmills, 31 I 1918, 1, 31 XII 1921, 3, N. JONES (2 CMNH, 2 NMM); Umtali, Vumba Mts., IV 1955, 2 (NMM); Wankie, 12 I 1974, 1, H. BOMANS (MRAC), 2 II 1974, 2, V. J. LEONARD (NMM).

VARIA: Mbabane, 7 VIII 1968, 1, R.C. BIGGS (TM)

Aspidimorpha (Megaspidomorpha) chlorotica (OLIVIER, 1808)

Cassida chlorotica OLIVIER, 1808: 931 (Type unknown).
Aspidomorpha chlorotica: BOHEMAN, 1854: 244, 1856: 104, 1862: 254; HAROLD, 1879: 215; KOLBE, 1898: 344; SPAETH, 1916: 40; 1925: 2; 1929: 158; 1932 b: 4; 1943: 48; JOLIVET, 1957: 50.
Aspidomorpha (Aspidomorpha) chlorotica: SPAETH, 1914 b: 73.
Aspidomorpha (Megaspidomorpha) chlorotica: SPAETH, 1943: 48; SHAW, 1955: 235; 1956 b: 594.
Aspidomorpha spectabilis BOHEMAN, 1854: 245 (LT in NRS), 1856: 104, 1862: 255; HAROLD, 1879: 215 (as syn.); GORHAM in GORHAM and GAHAN, 1892: 93.

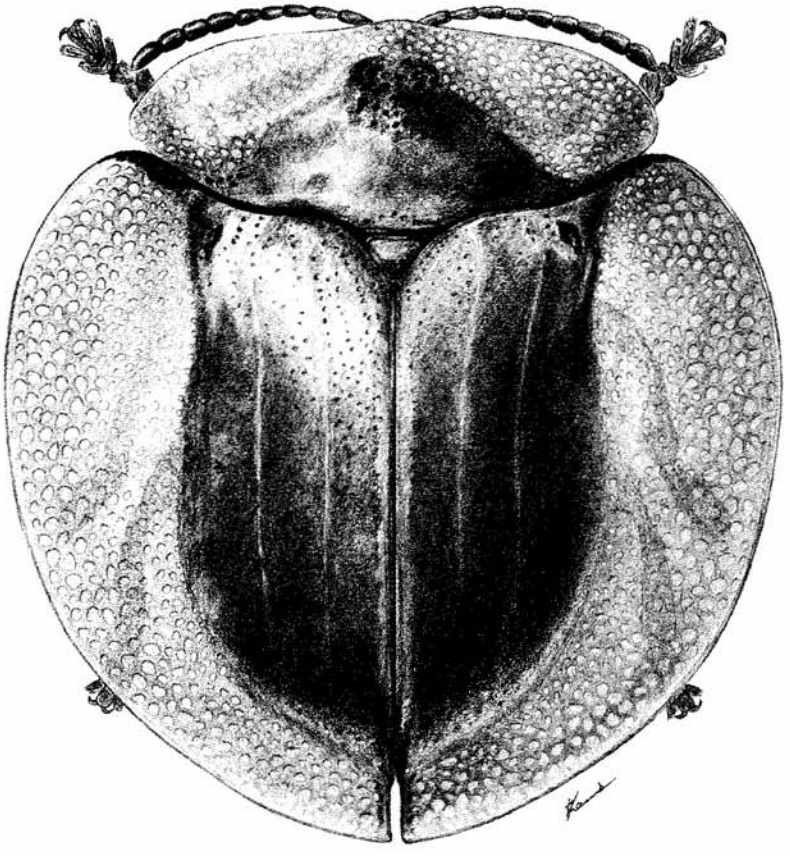
DESCRIPTION

Le: male: 13.3-16.8 mm, female: 16.5-18.8 mm, Wi: male: 11.5-14.8 mm, female: 13.5-15.4 mm, Lp: male: 3.7-4.5 mm, female: 4.2-4.8 mm, Wp: male: 8.6-10.7 mm, female: 9.3-10.8 mm, Ex: male: 3.2-4.1 mm, female: 3.3-4.2 mm, Wd: male: 6.5-7.8 mm, female: 7.9-8.5 mm. Le/Wi: male: 1.07-1.14, female: 1.21-1.28, Wi/Wp: male: 1.38-1.50, female: 1.36-1.48; Wp/Lp: male 2.15-2.38, female: 2.19-2.38. Body short-oval to almost circular (figs 144-145, 147).

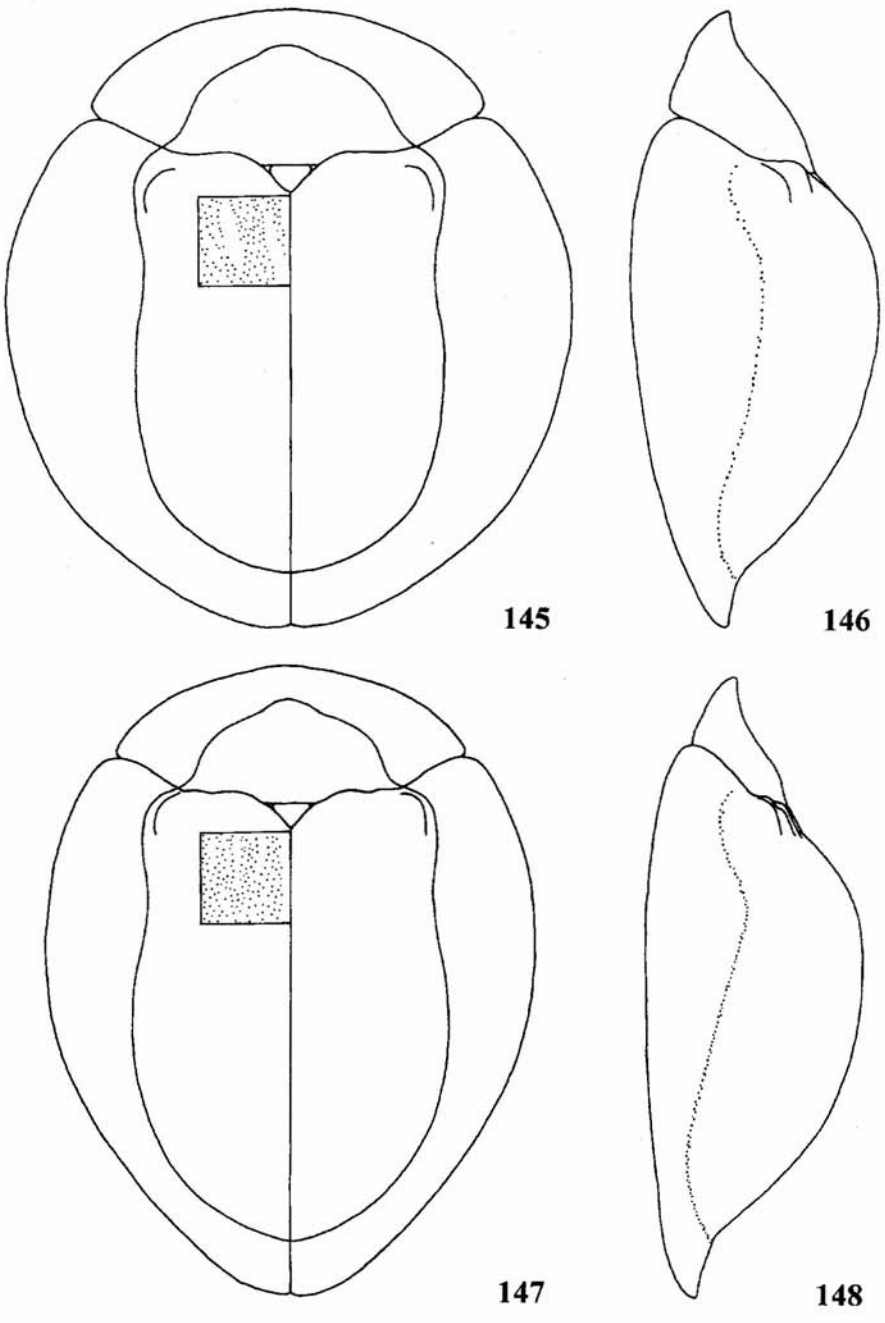
Pronotum and elytra uniformly yellow. Basal margin of elytral epipleura with very narrow black band, also sutural part of epipleura with narrow, black sutural spot. Often basal band is completely reduced and sutural spot occupies only suture margin. Ventrites mostly black, clypeus usually yellow with black basal corners, lateral plates of thorax often partly yellowish or brown, lateral margins of abdomen yellowish, last sternite mostly or completely yellow. Coxae usually black, mid and hind trochanters usually yellowish to brown, femora mostly black,

only base and apex yellowish to black, tibiae mostly yellow, often with brown to black external margin, tarsi yellow. In extreme cases coxae, trochanters and femora completely black. In the palest specimens black on femora occupies only the middle of femur and basal and apical third are yellow. Usually five last antennal segments black, base of segment 7 often yellowish, apex of last segment sometimes yellowish, occasionally whole segment 7 yellow.

Pronotum very broad, narrowly ellyptical, with maximum width in 3/5 length, sides subangulate. Disc moderately convex, smooth, shiny, with very small microreticulaton, in anterior part slightly impressed. Explanate margin moderately bordered from disc, flat, smooth, shiny.



144. *Aspidimorpha chlorotica*, habitus (by J. KANIA)

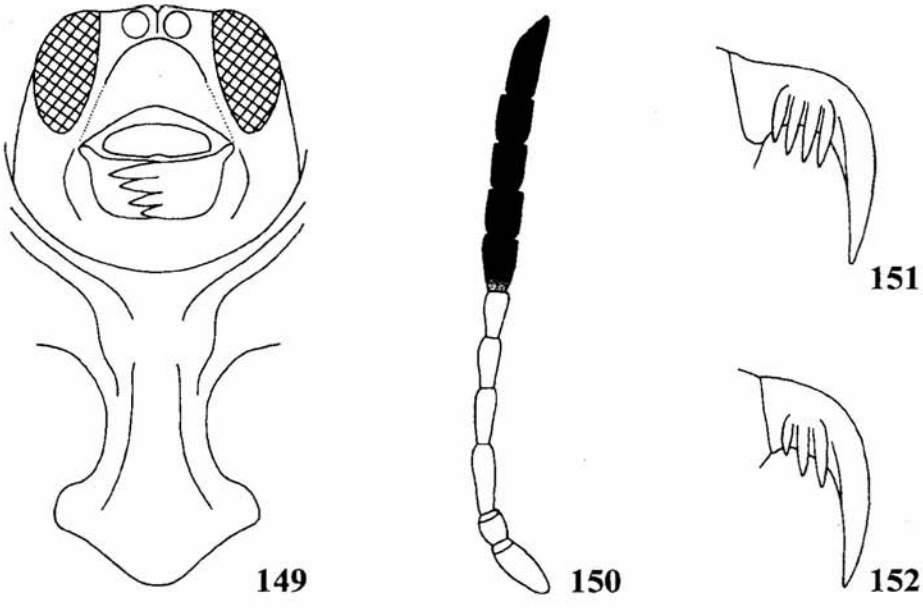


145-148. *Aspidimorpha chlorotica*: 145-146 – male, 147-148 – female; 145, 147 – body in dorsal view, 146, 148 – body in lateral view

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra serrulate, not or slightly wider than base of pronotum, elytral margins simple, humeri broadly rounded. Disc strongly but regularly convex, with maximum convexity in male in postscutellar point (fig. 146), in female in the middle (fig. 148), without impressions. Puncturation of disc fine, completely irregular, on slope only slightly smaller than in anterior half of disc. Punctures moderately dense, disposed more or less regularly, distance between punctures two to four times larger than puncture diameter. Sutural area impunctate, along disc there are two impunctate lines or low elevations, sometimes they are hardly visible, sometimes they are well developed and form blunt costae. Punctures in marginal row shallow, only slightly larger than in central part of elytron. Surface between punctures smooth, shiny, with very small microreticulation. Explanate margin broad, moderately declivous, impunctate, its surface smooth and shiny. Elytral epipleura in male bare, in female in apical part with sparse, very short hairs, in dried specimens they are often broken and epipleuron appears bare.

Head broad, clypeus 1.8-1.9 times wider than long (fig. 149), dull, moderately elevated before antennal insertions, without or with shallow median impression. Labrum very broad, its margin only slightly emarginate. Antennae moderately elongate (fig. 150), extending to mid coxae, length ratio of antennal segments: 100:45:100:80:75:67:80:67:67:68:112.

Claws pectinate on both sides, inner pecten with four teeth extending to 2/5 length of claw, three outer teeth equal in length, inner one slightly shorter



149-152. *Aspidimorpha chlorotica*: 149 – head and prosternum, 150 – antenna, 151 – inner side of claw, 152 – outer side of claw

(fig. 167). Outer pecten also with four teeth (occasionally three), three outer c. 1.5 times shorter than teeth of inner pecten, inner tooth twice shorter than the outer (fig. 161). In large specimens outer pecten has also very small additional fifth tooth.

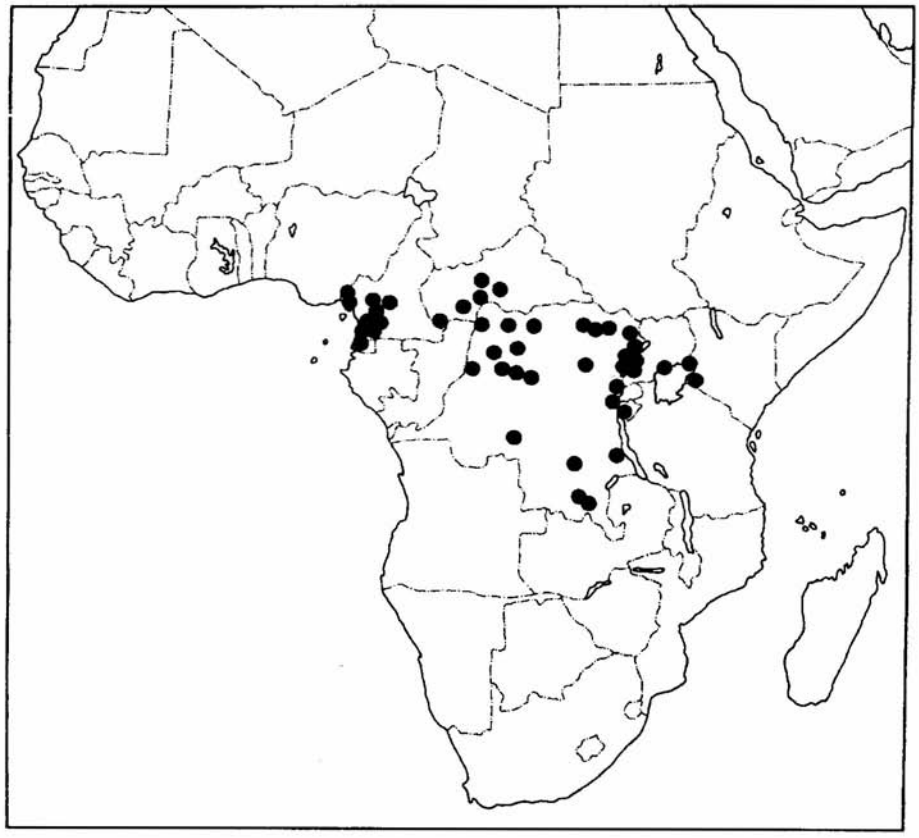
Sexual dimorphism distinct. Female distinctly larger, with body slimmer than in male, elytral apex subacuminate and elytral epipleura scarcely pubescent.

DISTRIBUTION

Central Africa north to Cameroon, east to W Kenya and Uganda, south to S Zaire (fig. 169).

REMARKS

It distinctly differs from both its congeners in impunctate explanate margin of elytra. It also differs from *A. puncticosta* in mostly black femora and stouter and more convex body, from *A. angolensis* it differs in stouter body, finer elytral



153. Distribution of *Aspidimorpha chlorotica*

puncturation, narrower basal spot of elytral epipleuron and usually five last antennal segments black (in *A. angolensis* usually four (or three) segments are black).

MATERIAL EXAMINED

BURUNDI: Bururi, 2000 m, 21 I 1986, 1, H. MÜHLE (MD).

CAMEROON: Bamum, XII 1911, 6, OLDENBURG (NMW), V 1912, 5 (HNHM); Batanga, II 1911, 1, VI 1911, 2, A.I. GOOD (CMNH), III 1914, 7, IV 1914, 7, V 1914, 1, F.H. HOPE (CMNH); Cameroon, 12 (FMNH), 10 VII 1950, 1, F. de Vreeze (ITZ); Dchang, 1, v. ROTHKIRCH (IRSN); Efulen, 13 IV 1909, 1, 4 V 1910, 1, 3 IX 1911, 1, 1 I 1918, 3, 6 I 1918, 1, 10 I 1918, 1, 4 III 1919, 1, III 1920, 1, VIII 1920, 1, XI 1921, 3, 3 VI 1922, 2, H.L. WEBER (CMNH), II 1911, 1, XI 1912, 1, J.A. REIS (CMNH); Esudan-Mamfe, 1, Dr. GUILLEMAIN (ZMHU); Foulassi, Sangmelima, 5 II 1955, 1, J. PERRET (MHNG); Jaunde St., 89, ZENKER (ZMHU), 4 IV 1923, 1 (CMNH), 4 IV 1923, 1, 1 V 1923, 1 (CMNH); Joko, 1 (ZMHU); Kribi, 2, R.P. CARRET (MRAC); Lolodorf, XI 1898, 1, L. CONRADT (ZMHU), II 1914, 2, III 1914, 1, IV 1914, 2, 20 V 1914, 1, VI 1914, 1, 4 VI 1914, 1, 19 XI 1914, 1, V 1923, 9, IV 1925, 1, 18 IV 1925, 1, V 1925, 2, VI 1925, 1, IX 1926, 1, X 1926, 1, A.I. GOOD (CMNH), V 1914, 2, 15 V 1918, 1, 16 I 1919, 1, J.A. REIS (CMNH); Metet, 8 VI 1918, 2, A.I. GOOD (CMNH), XI 1921, 1, Mrs. LIPPERT (CMNH); Mont Balmayo, VI 1965, 3, BARGA (MRAC); Muëli, 600 m, 24 II 1968, 1, H. KNORR (ZSM); Mukonje Farm, 1, R. RHODE (IRSN); Okala, IV-V 1965, 2, J. POUGET (MRAC).

GUINEA [probably Equatorial Guinea]: Guinea, 1, "Germ." (lectotype of *Aspidomorpha spectabilis*, present designation, NRS), 2 (HNHM); Guineé, 7 (IRSN).

KENYA: Monianku, Kisii, 17 II 1978, 1, J.W. WASKEVICH (PMNH); Yala R., Kakumg Forest, 21-28 V 1911, 1, S.A.NEAVE (LB).

REPUBLIC OF CENTRAL AFRICA: Bambari, 1968, 1, G. PIERRARD (MRAC); Boda, 1, H. DU BUYSSON (IRSN); Fort Crampel, 12 (IRSN); Fort Sibut, 1 (IRSN); Fort Sibut, Oubanghi-Chari, 1968, 8 (MRAC); Hte. Sangha Carnot, 1, coll. LE MOULT (IRSN).

UGANDA: Entebbe, 26-29 VI 1912, 1, C.C. GOWDEY (BMNH); S L. George, 3200-3400 ft., 17-19 X 1911, 2, S.A. NEAVE (BMNH); Fort Portal, 15 km E Sebitoli, 23 XI-5 XII 1994, 5, M. SNIZEK (MS, LB); Mabira Forest, Chagwe, 3500-3800 ft.,16-25 VII 1911, 1, S.A. NEAVE (BMNH).

ZAIRE: Albert Nat. Park, Massif Ruwenzori, Kalonge, riv. Katauleko, aff. Butahu, 2180 m, 26 VIII 1952, 1, P. VANSCHUYTBROECK and J. KEKENBOSCH (MRAC); Albert Nat. Park, Massif Ruwenzori, Kalonge, Gîte Ruwenzori, 2080 m, 20 I-4 II 1955, 1, P. JOLIVET and R. FONTEYNE (MRAC); Albert Nat. Park, Massif Ruwenzori, Litongo, 1575 m, 20 VII 1954, 1, P. VANSCHUYTBROECK and H. SYNAVE (MRAC); Albert Nat. Park, Mutawanga, 1000-1300 m, II-III 1937, 1, HACKARS (MRAC); Albert Nat. Park, Plaine Semliki, 960-110 m, IV-X 1937, 1, HACKARS (MRAC); Albert Nat. Park, Rég. Oycha, 1100 m, IV-V 1950, 1, J. DE

WILDE (MRAC); Albert Nat. Park, Secteur Nord, Mutsora env., 1939, 4, HACKARS (MRAC), 1200 m, 9 VI 1951, 1, R. CHRISTIAENS (MRAC); Albert Nat. Park, Tshambi, III 1934, 1, G.F. DE WITTE (IRSN); Bambili-Niangara, 15-20 XI 1925, 1, Prince LEOPOLD (IRSN); Bomokandi, 26 XI-6 XII 1925, 1, Prince LEOPOLD (IRSN); Botuna-Bokungu, 32, M. BOEL (IRSN); Bukungu, 1949, 9, M. BOEL (MRAC); Elisabethville, fin. 1961-IV 1962, 1, M. LIPS (MRAC); Equateur, Bokuma, VII 1952, 2, R.P. LOOTENS (MRAC) ; Equateur, Masanga, Terr. Bokungu, Tshuapa, 7, MASSART (IRSN); Haut-Ikelemba, 1 (IRSN); Haute Maringa, 12, L. MAIRESSE (IRSN); Ibembo, 1, DE SMET (IRSN); Irangi, IX 1992, 1, H. HINKEL (TW); Jadotville, Mwera, XII 1956-V 1957, 2, Th. DE CATERS (MRAC); Jadotville, Numbi, V 1957, 1, Th. DE CATERS (MRAC); Kasai, Luebo, X 1959, 1, F. FRANÇOIS (MRAC); Kibali, Ituri, Nioka, 29 IX 1954, 12, J. HECQ (MRAC); Kilo, 1, E. JANMOULLE (IRSN); Kivu, Beni Terr., Bau, 1200 m, 13 V 1953, 3, M.J. CELIS (MRAC); Kivu, Costermansville, 2, coll. ROELOFS (IRSN); Kivu, Goma, 31 XII 1952, 4, J. VERBEKE (IRSN); Kivu, Mont Kahuzi, km. 82, IX 1951-II 1952, 1, H. BOMANS (MRAC); Kivu, Mwesa, VIII 1957, 1, J. HECQ (MRAC); Kivu, Tshihulue, Kabare, 1800-2000 m, XI 1953, 1, A.E. BERTRAND (MRAC); Libenge, 28 II 1948, 1, R. CREMER and M. NEUMAN (IRSN); Likimi-Gumba, 13 XI 1927, 8 (IRSN); Moera Forest, 1910, 1, GRAUER (NMW); Stanleyfalls, 2, MALFEYT (IRSN), 1, R.P. KOHL (NNML); Stanleyville, 28 VIII 1928, 1, 31 V 1929, 1, VI 1929, 1, A. COLLART (IRSN); Titule, 20 X 1949, 1, J. VERBEKE (IRSN); Tshuapa, Bokote, I 1953, 1, R.P. HULSTAERT (MRAC); Tshuapa, Etata, V 1970, 1, J. HAUWAERTS (MRAC); Tshuapa, Ikela, 1955, 5, 1956, 34, IX 1956, 7, R.P. LOOTENS (MRAC), III-VI 1956, 1, R. DEGUIDE (MRAC); H Uele, Bjabbir, 1 (IRSN); Ukaika Forest, XII 1910, 1, GRAUER (NMW); Umangi, X-XI 1896, 4, E. WILVERTH (IRSN).

Aspidimorpha (*Megaspidomorpha*) *puncticosta* BOHEMAN, 1854

Aspidomorpha puncticosta BOHEMAN, 1854: 246 (LT and PLT in NRS), 1856: 104, 1862: 255; SPAETH, 1902: 449; 1912 b: 507; 1932 b: 4; MUIR and SHARP, 1904: 2, 9 (ootheca, larva); JOLIVET, 1957: 50.

Aspidomorpha (*Aspidomorpha*) *puncticosta*: SPAETH, 1914 b: 77.

Aspidomorpha (*Megaspidomorpha*) *puncticosta*: SPAETH, 1943: 48; SHAW, 1956 a: 262.

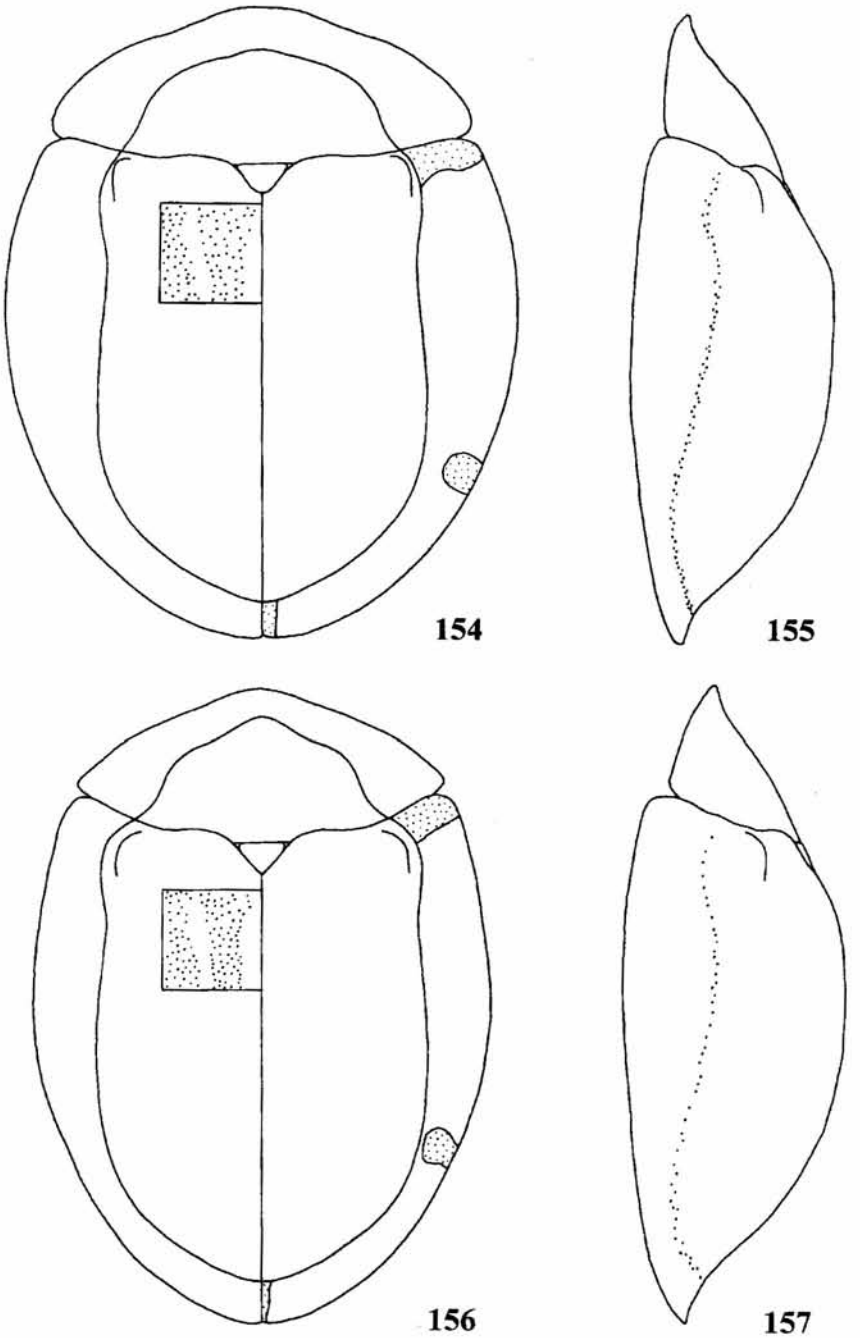
Aspidomorpha argillacea WEISE, 1896: 18 (ST in ZMHU); KOLBE, 1898: 344; SPAETH, 1932 b: 4; BOROWIEC, 1985 a: 227; 1985 b: 440; 1986: 791, **n. syn.**

Aspidomorpha (*Aspidomorpha*) *argillacea*: SPAETH, 1914 b: 73.

Aspidomorpha (*Megaspidomorpha*) *argillacea*: SPAETH, 1943: 48.

DESCRIPTION

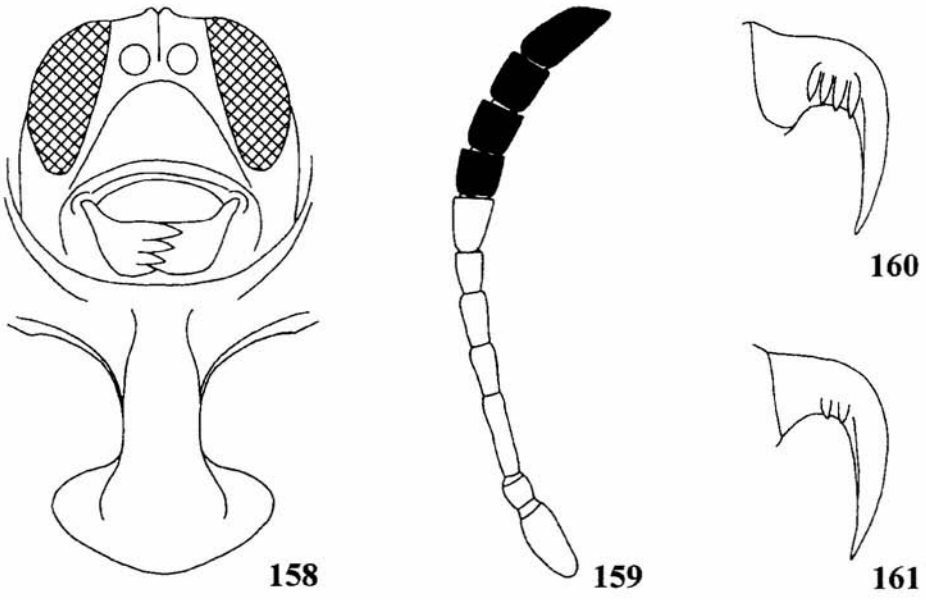
Le: male: 11.8-13.9 mm, female: 13.7-16.1 mm, Wi: male: 9.6-11.5 mm, female: 10.0-11.8 mm, Lp: male: 3.5-3.9 mm, female: 3.7-4.5 mm, Wp: male: 7.7-8.8 mm, female: 7.7-9.2 mm, Ex: male: 2.1-2.5 mm, female: 2.0-2.3 mm, Wd: male: 6.2-7.2 mm, female: 6.7-8.0 mm. Le/Wi: male: 1.21-1.26, female: 1.35-1.37, Wi/Wp: male: 1.24-1.31, female: 1.28-1.30; Wp/Lp: male 2.08-2.26, female: 2.03-2.12. Body oval (figs 154, 156).



154-157. *Aspidimorpha puncticosta*: 154-155 – male, 156-157 – female; 154, 156 - body in dorsal view, 155, 157 - body in profile

Pronotum and elytra uniformly yellow. Basal margin of elytral epipleura with moderately broad black band, also sutural part of epipleura with narrow, black sutural spot which is often reduced to black line along sutural margin. Sometimes basal band is reduced to narrow black line. Epipleura often have also posterolateral spot, which usually does not reach ventral margin of epipleuron. Ventrites paler coloured than in both congeners, vary from mostly yellow to mostly black. Clypeus usually yellow, often with black basal corners, basal part of pronotal epipleuron sometimes brownish to black, thorax brown to black, its lateral plates usually partly yellowish or brown. Abdomen brown with yellowish lateral margins, often whole abdomen yellow, sometimes abdomen mostly black with yellow margins and yellow to brown spots in the middle of each sternite. Coxae and trochanters in dark specimens completely black, in pale specimens yellow, femora usually mostly to completely yellow, often with brown ring in the middle, only in specimens with ventrites mostly black femora are also black with yellowish base but thus coloured specimens are rare (10% of all examined). Tibiae and tarsi always yellow. Usually four last antennal segments black, often segment 7 also darkened apically, apex of last segment sometimes yellowish, occasionally whole segment 8 yellow.

Pronotum very broad, narrowly ellyptical, with maximum width in 3/5 length, sides subangulate. Disc moderately convex, smooth, shiny, with extremely small sparse pricks and microreticulaton, in anterior part slightly impressed. Explanate margin moderately bordered from disc, flat, smooth, shiny.



158-161. *Aspidimorpha puncticosta*: 158 – head and prosternum, 159 – antenna, 160 – inner side of claw, 161 – outer side of claw

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra serrulate, not or slightly wider than base of pronotum, elytral margins simple, humeri broadlyrounded but less so than in both congeners. Disc moderately, regularly convex, distinctly less convex than in *A. chlorotica* and *A. puncticosta*, with maximum convexity in male in postscutellar point (fig. 155), in female in the middle (fig. 157), without impressions. Puncturation of disc moderately coarse, distinctly coarser than in *A. chlorotica*, as large as in *A. angolensis*, completely irregular, on slope not or only slightly smaller than in anterior half of disc. Punctures dense, more so than in *A. angolensis*, disposed more or less regularly, distance between punctures 0.3-1.2 times larger than puncture diameter. Sutural area impunctate, along disc there are two impunctate lines or low elevations, sometimes they are hardly visible or completely absent. Punctures in marginal row shallow, only slightly larger than in central part of elytron. Surface between punctures smooth, shiny, with very small microreticulation, in densely punctate parts of elytron surface appears slightly irregular. Explanate margin broad, moderately declivous, along marginal row irregularly punctate, punctures as large as or slightly smaller and sparser than those of disc, surface between punctures smooth and shiny. Elytral epipleura in male bare, in female in apical part with sparse, very short hair, in dried specimens they are often broken and epipleuron appears bare.

Head broad, clypeus 1.8-1.9 times wider than long (fig. 158), dull, moderately elevated before antennal insertions, without median impression. Labrum very broad, its margin only slightly emarginate. Antennae moderately elongate (fig. 159), extending to mid coxae, length ratio of antennal segments: 100:40:105: 74:63:52:65:55:63:65:110.

Claws pectinate on both sides, inner pecten short, with four teeth extending to 1/6-1/5 length of claw, three outer teeth equal in length, inner one slightly shorter (fig. 160). Outer pecten very short, with two teeth, outer c. two times shorter than teeth of inner pecten (fig. 161), inner tooth twice shorter than the outer, in some specimens outer pecten is extremely short, hardly visible, does not reaching beyond margin of claw.

Sexual dimorphism less distinct than in *A. chlorotica*, like in *A. angolensis*. Female larger, with body slimmer than in male, elytral apex slightly elongated and elytral epipleura sparsely pubescent.

HOST PLANTS

Convolvulaceae: *Ipomoea arborescens*, *I. ficifolia*, *I. pescaprae*, *Merremia tuberosa*, *Ipomoea fistulosa* (adults only) (HERON & BOROWIEC 1997).

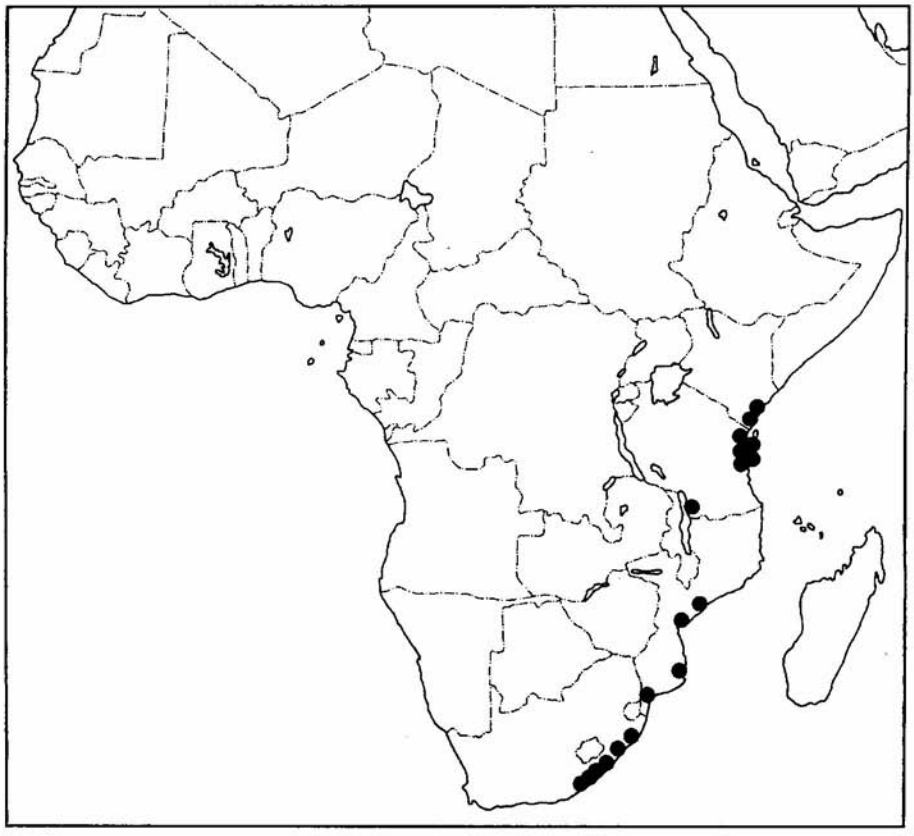
BIONOMY AND IMMATURE STAGES (after H. HERON, pers. comm.)

Ootheca: on the underside of leaf. An elaborate ootheca, straw-coloured, and measuring ca. 16x7 mm. It is curved and cylindrical in appearance (rectangular in section, with large papery scales at the base, measuring about 8-10 mm and curved). May contain up to 100 ova.

5th instar larva: strongly gregarious with cycloalexic clustering. Only old exuviae retained in supra-anal process. Colour whitish. The thorax has three blackish bands running transversally and abdomen has three longitudinal bands. Pattern of mature larva variable, generally appearing dark blackish-brown with a large brownish-white patch about the central dorsal area of the abdomen. The lower portions of the lateral spines are brownish-orange, the apical portions being yellowish-white. Can reach 14.7 mm but size of larvae vary.

Pupa: on underside of leaf, almost always in groups all oriented in the same direction. Four spinules are present along the anterior margin of the pronotal shield. Pupa is orange-brown, thickly speckled with brown and black. Leaf-like lateral scales brown. The whole pupa gives the impression of having been coated with a vitreous brown varnish. Four large blackish-brown spots are present on the pronotal epipleura. Spiracles white. Pupal period 8-10 days. Size varies depending upon gender , ca. 11x8 mm. Cast exuviae retained in the supra-anal process.

Predators and parasitoids: young imago taken by *Sphodromantis* sp. (*Mantidae*). Oothecae attacked by two unidentified species of parasitoid wasps.



162. Distribution of *Aspidimorpha puncticosta*

DISTRIBUTION

Littoral part of southern and eastern Africa, also saline coasts of leakes in western Tanzania (fig. 162).

REMARKS

It is the smallest species of the subgenus *Megaspidomorpha*. It differs from both congeners in slimmer and less convex body and usually paler ventrites with femora uniformly yellow or with dark rings but only occasionally with basal half completely infuscate. From *A. chlorotica* it differs also in the presence of additional punctures on explanate margin of elytra. This species is also unique in its bionomic preferences to littoral habitats (see fig. 162). See also remarks under *A. angolensis*.

MATERIAL EXAMINED

KENYA: Küste, 11 I 1991, 14, J. MAUSER (JM); Malindi, 30 X 1971, 1, 6 XI 1971, 1, 7 XI 1971, 3, M.A. ERTEL (SMNS), 2-14 VII 1991, 2, E. TALENTI (ZMUF); Mombasa, 8 X 1949, 1, R.A. MAAS GEESTERANUS (NNML); Naro Moru, 12 VIII 1979, 4 (NNML); Twiga, 30 VII 1979, 3 (NNML); Watamu n. Malindi, VIII 1993, 2, S. CANNICCI (ZMUF).

MOZAMBIQUE: Beïra, 7, A. BODONG (1 DEI, 4 IRSN, 2 MCZC); Chinde, XI 1912, 1, K. H. BARNARD (CTM); Delagoa Bay, 1, PERINGUEY (NRS); Maputo, 5 IV 1980, 4 (ITZ), 7-12 IV 1982, 1, G. G. SCHULTEN (ITZ); Maputo, Maputu, Mahone, 26 IX 1980, 2, G. G. SCHULTEN (ITZ); Massinga, 2 (TM).

SOUTH AFRICA: Cape, East London, II 1932, 2, G. KOBROW (TM), 4-8 XII 1956, 11, R.M. MARTIN (TM); Cape, East London, Nehoon, 19 I 1976, 5, R.E. PARROT (ER); Cape Colony, Kei Mouth, III 1949, 1, W.G. KOBROW (TM); Cape Prov., Trappes Vall., I 1925, 1, CRONWRIGHT (TM); Dukduku Forest, 20-21 XI 1956, 1, v. SON and MARTIN (TM); Mount Selinda, 17-31 I 1959, 12, G. v. SON (TM); Natal, Port St. Johns, XI 1956, 72, R.M. MARTIN (TM); Port Shepstone, I 1955, 1, G. KLIEM (TM); Pt. Nat., 3, "I. VAHLB." (lectotype and two paralectotypes of *A. puncticosta*, present designation, NRS); St. Lucia, 30 ft., 9 II 1969, 10, R. T. SIMON-THOMAS (ITZ); Sta Lucia Lake, 18-25 II 1960, 2, HÉJJA (HNHM); Tongaat, 1909, 8, H.C. BURNUP (TM); Transkei, Perlic's Bay, 25 II 1984, 8, B. CUTTON (TM); Transvaal, Happy Rest Nat, Res., on *Solanaceae*, 1-5 IV 1976, 1, PROZ.-SCHULZE (TM); Zululand, Mape Loan, N.D. Forest, 14 V 1977, 1, P.E. REAVEL (TM).

TANZANIA: Bagamoyo, 30 VII 1973, 2 (RB); Dar-es-Salaam, 3 (ZMHU), 1 (IRSN), 1 (MCZC), 3 (MM), 1896, 2, H. MEYER (1 DEI, 1 MM), 24 IV 1904, 1, HOLTZ (IRSN), 2 VII 1980, 2, M. STOLTZE and N. SCHARFF (ZMC), 8 XII 1993, 3, M. SNIZEK (MS); Njassasee, 2 (FMNH); Pugu, 4 (FMNH); Tanga, VIII 1902, 2, METHNER (ZMHU); Tanga, Toteninsel, 4, Ch. SCHRÖDER (ZMHU); Usambara, 1 (DEI); Usambara, Nguelo, 25 (IRSN); Usaramo, 1 (FMNH); Usogua, 1 (FMNH); Zanzibar, 2 (CMNH); Zanzibar, Zanzibar Town, 16 VI 1979, 1, M. STOLTZE (ZMC).

UGANDA: Kisiebo, 8 V 1964, 1, K. PAYSAN (SMNS).

Subgenus: *Semiaspidimorpha* Borowiec, new subgenus

Small species, length always below 8 mm. Body almost circular, base of elytra strongly wider than base of pronotum. Elytral disc depressed or regularly convex, always without postscutellar gibbosity or tubercle. Pronotum ellyptical, sides rounded. Puncturation of elytra regular, punctures fine to moderate on whole row length. Clypeus with indistinct clypeal grooves. Labrum broad, with distinct median emargination (except *A. pseudochlorina*, which has two small tubercles in the middle of posterior margin of labrum). Claws with obsolete outer pecten. Species from Africa except Madagascar.

Type species: *Aspidomorpha chlorina* Boheman, 1854. Gender: feminine.

KEY TO THE SPECIES

1. Elytra uniformly yellow or green.
..... 2.
-. Elytra with pattern.
..... 6.
2. Elytral disc evenly convex, without impressions.
..... 3.
-. Elytral disc uneven, with impressions.
..... 5.
3. Elytral disc almost regularly hemispherical (figs 164, 212). Surface of explanate margin of elytra smooth. Clypeus very broad, more than twice wider than long. Pecten of tarsal claws longer, extending at least to 1/3 length of claw (fig. 167).
..... 4.
-. Elytral disc not regularly hemispherical, with top of convexity in postscutellar point (fig. 192). Surface of explanate margin close to marginal row slightly irregular. Clypeus narrower, less than 1.8 times wider than long. Pecten of tarsal claws shorter, extending at most to 1/4 length of claw (fig. 195).
..... *kasaiensis*
4. Labrum in the middle with emargination to 1/5-1/4 length, without tubercles (fig. 165).
..... *chlorina*
-. Labrum in the middle with two small tubercles (fig. 206).
..... *pseudochlorina*
5. Impressions of elytral disc deeper, puncturation coarser, surface of explanate margin of elytra appears rugose.
..... *viridula*
-. Impressions of elytral disc less marked, puncturation finer, surface of explanate margin irregular but not appearing rugose.
..... *fatua*
6. Explanate margin of elytra immaculate.
..... 7.

-. Explanate margin of elytra with spots (fig. 177).
..... *irrorata*

7. Pronotum immaculate.
..... 8.

-. Pronotum with black pattern (fig. 197).
..... *kolbei*

8. Elytral disc mostly brownish-black with several yellow relief spots (fig. 211). Explanate margin moderate, declivous, especially in posterior third, humeri rounded. Angola.
..... *salazarensis*

-. Elytral disc mostly yellow with irregular brownish to black band along sides (figs 184-188). Explanate margin broad, subhorizontal, humeri subangulate. East Africa west to Malawi and E Zimbabwe.
..... *irrorata* (rare form with reduced spots of explanate margin)

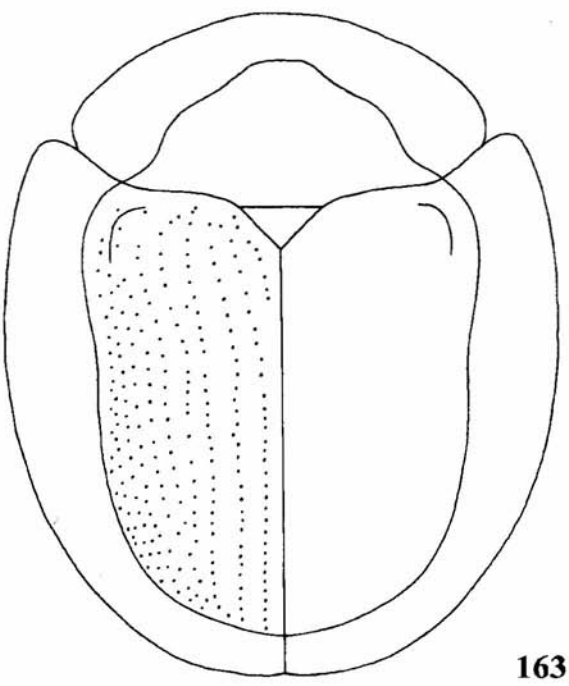
Aspidimorpha (Semiaspidimorpha) chlorina Boheman, 1854

Aspidomorpha chlorina Boheman, 1854: 259 (ST in NRS), 1856: 106, 1862: 258; Weise, 1896: 22; Spaeth, 1903: 172; 1912 a: 127, 129; 1916: 41, 1932 b: 5; Shaw, 1955: 233; 1956 b: 592; 1963: 458; 1968 a: 369; 1968 b: 780; 1972: 60; Borowiec, 1985 a: 226; 1985 b: 440; 1986: 792.
Aspidomorpha (Aspidomorpha) chlorina: Spaeth, 1914 b: 74.
Aspidomorpha (Spaethia) *chlorina*: Spaeth, 1924: 294; 1925: 3.
Aspidomorpha viridisdorsata Boheman, 1854: 258 (HT in NRS), 1856: 106, 1862: 258; Weise, 1896: 22 (as syn. of *chlorina*).
Coptocycla pallidula Boheman, 1855: 463 (LT in NRS, PLT in BMNH, MM), 1856: 197; 1862: 474; Spaeth, 1914 b: 74 (as syn. of *chlorina*).
Ctenochira pallidula: Wagener, 1877: 75.
Coptocycla (Ctenochira) pallidula: Spaeth, 1898: 542.
?Iphinoë pallidula: Spaeth, 1898: 542.
Cassida paropsidea Thomson, 1858: 230 (HT in MM); Boheman, 1862: 361; Spaeth, 1914 b: 74 (as syn. of *chlorina*).
Coptocycla lixiva Boheman, 1862: 474 (ST in BMNH); Spaeth, 1914 b: 74 (as syn. of *chlorina*).
Ctenochira lixiva: Wagener, 1877: 75.
Coptocycla (Ctenochira) lixiva: Spaeth, 1898: 542.
?Iphinoë lixiva: Spaeth, 1898: 542.
Cassida fuscopunctata Gorham in Gorham and Gahan, 1892: 95 (ST in BMNH, MM); Spaeth, 1905: 111 (as syn. of *chlorina*).
Aspidomorpha sp. near *chlorina*: Borowiec, 1985 a: 226.

Description

Le: male and female: 5.4-7.2 mm, Wi: male and female: 4.4-6.2 mm, Lp: male and female: 1.9-2.6 mm, Wp: male and female: 3.4-4.4 mm, Ex: male and female: 1.0-1.4 mm, Wd: male and female: 3.1-4.1 mm; Le/Wi ratio: male and female: 1.12-1.25, Wi/Wp: male and female: 1.27-1.44, Wp/Lp: male and female: 1.65-1.91. Body subrounded (fig. 163).

Pronotum and elytra uniformly green to yellow. Ventrites uniformly yellow. Antennae yellow, usually only last antennal segment partly black, often segment



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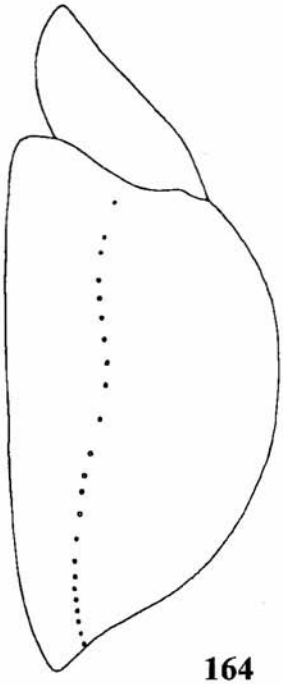

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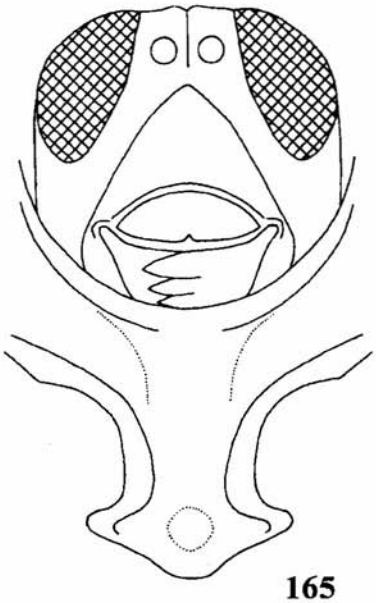

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163-168. *Aspidimorpha chlorina*: 163 - body in dorsal view, 164 - body in profile, 165 – head and prosternum, 166 – antenna, 167 – inner side of claw, 168 – outer side of claw

10 infuscate to black, occasionally apex of segment 9 infuscate or antennae uniformly yellow.

Pronotum broad, ellyptical, with maximum width in the middle, sides broadly rounded. Disc slightly convex, microreticulate, smooth and glabrous. Explanate margin broad, moderately bordered from disc, flat, its surface smooth and glabrous.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra smooth, distinctly wider than pronotum, elytral margins simple, humeri moderately protruding anterad, subacute. Disc strongly, regularly convex, with top of the convexity in postscutellar point, with no impressions. Puncturation of disc moderate, completely regular, on slope c. twice smaller than in anterior half of disc. Punctures dense, distance between punctures 0.5-1.5 times larger than puncture diameter, rows not impressed. Punctures in marginal row large and deep, c. thrice larger than in central part of elytron. Intervals flat, in sutural half of disc c. thrice, in lateral half of disc c. twice wider than rows, their surface smooth and glabrous. Explanate margin broad, moderately declivous, smooth and glabrous. Elytral epipleura bare in both sexes.

Head very broad, clypeus 2.2-2.3 times wider than long, glabrous, not elevated before antennal insertions, without median impression, with shallow clypeal sulci. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate, extending to 1/3 length of metasternum, length ratio of antennal segments: 100:50:105:78:72:61:66:72:78:78:144.

Claws pectinate on inner side only, outer side micropectinate, pecten long, with three teeth, first extending to 2/5-1/2 length of claw, two remainder gradually smaller.

Sexual dimorphism indistinct. Male slightly stouter with slightly longer last antennal segment.

DISTRIBUTION

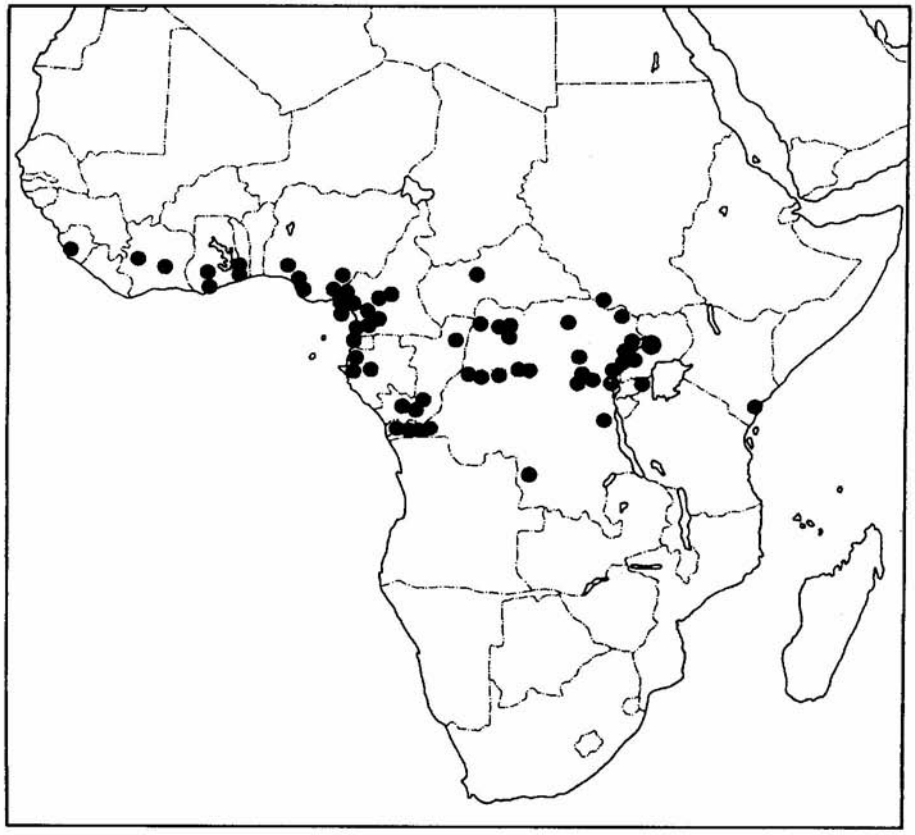
West and Central Africa east to Uganda (fig. 169).

REMARKS

With *A. pseudochlorina* and *A. kasaiensis* it forms a group of species uniformly yellow to green with elytral disc without impressions. *A. kasaiensis* differs in elytral disc not regularly hemispherical with top of convexity in postscutellar point (regularly hemispaherical in both related species) and pecten of tarsal claws shorter extending at most to 1/4 length of claw (1/3 length of claw in both related species). *A. pseudochlorina* is extremely similar but distinctly differs in structure of labrum which is not emarginate medially but has two small tubercles in the middle of posterior margin (in *chlorina* labrum is emarginate medially). *A. chlorina* is usually slightly more convex than *A. pseudochlorina* with the third antennal segment c. two times longer than the second (c. 1.7 times in *A. pseudochlorina*) but both these characters have a wide range of variation.

MATERIAL EXAMINED

CAMEROON: Barombi Stat., 1, ZEUNER (ZMHU); Batanga, 2 (MRAC), 30 I 1911, 1, V 1911, 3, VI 1911, 1, IV 1912, 1, A.I. GOOD (CMNH), II 1914, 2, III 1914, 1, IV 1914, 3, V 1914, 7, F.H. HOPE (CMNH); Bibundi, 16-26 II 1905, 5, G. TEßMANN (ZMHU); Bipindi, 10 (ZMHU), X-XII 1896, 3, G. ZENKER (ZMHU); Arr. Djoungolo, Villa Carde n. Nyong, 27 VIII 1963, 1 (ZSM); Duala, 2, LENCSZ (MRAC), 4, J. CANTALOUBE (MRAC), IX 1912, v. ROTHKIRCH (ZMHU); Efulen, 16 III 1910, 1, I 1911, 6, 4 I 1918, 1, 13 I 1918, 1, J.A. REIS (CMNH); Jaunde Stat., 3, v. Carnap, 2, ZENKER (ZMHU), X 1923, 3 (IRSN); Joh.-Albrechtshöche, 1 VII-31 VIII 1898, 1, 1 IX-31 X 1898, 1, 1 XI 1897-24 III 1998, 2, 25 III-10 IV 1898, 1, 11 IV-27 V 1898, 3, 28 V-12 VI 1898, 4, L. CONRADT (ZMHU); Joko, 5 (ZMHU), 2 (HNHM); Kamerunberg, 5 km S Muëli, 30 I 1958, 5, 21 II 1958, 4, H. KNORR (ZSM); Kribi, 3, Carret (MRAC), 1890, 2, MORGEN (ZMHU); Lolodorf, 1, HEINE (ZMHU), 1, G. SCHWAB (MCZC), XII 1894-II 1895, 1, 8 II-25 III 1895, 2, L. CONRADT (ZMHU), 22 XII 1914, 1, 15 III 1919, 2, J.A. REIS (CMNH);



169. Distribution of *Aspidimorpha chlorina*

Malende, Mt. Kamerun, XII 1957, 1, W. HARTWIG (MKB); Malende-Banga, 125 m, 20 XII 1957, 1, H. KNORR (SMNS); Matute, Tiko Plantation, 24 IV-6 V 1949, 1, B. MALKIN (CAS); Metet, 1, G. SCHWAB (MCZC); Arr. Mfou, Nkolnsala r., Nsala, 27 VIII 1963, 1 (ZSM); Moliwe b. Victoria, 18-30 II 1907, 3, 17 I-7 III 1908, 3, F. v. MALTZAN (ZMHU); Mont Balmayo, 5, J. CANTALOUBE (MRAC), VI 1969, 3, BARGA (MRAC); Mueli, Mt. Kamerun, 600 m, II 1958, 5, W. HARTWIG (MKB); Mundame, 4 (IRSN); Nkolbisson, Dept. Nyong-Sanaga, X 1963, 1, L.G. SEGERS (MRAC); Nkolbisson, Yaounde-Bi, 18 III 1963, 4, L. SEGERS (ZSM); Nyassosso, 25 II-27 II 1898, 1, L. CONRADT (ZMHU); Neu Kamerun, Sardi b. Dengdeng, 6-8 IV 1914, MILDBRAED (ZMHU); Pipinde, 12, ZENKER (ZMHU); Sasse-Sappo, 22-26 II 1952, 1, S. TITA (CAS); Victoria, 1 (ZMHU).

EQUATORIAL GUINEA: Benitogbt., 16-31 VIII 1906, 2, G. TEßMANN (ZMHU); Fernando Poo, IV 1900, 2, V 1900, 1, 12 VIII 1900, 2, L. CONRADT (ZMHU); Fernado Poo, S. Isabel 17 II 1900, 1, 17 III 1900, 3, 25 III 1900, 1, 21 V 1900, 2, 22 V 1900, 2, 1 VI 1900, 1, 17 VI 1900, 1, 1 VII 1900, 1, L. CONRADT (ZMHU); Fernado Poo, 1, L. CONRADT (ZMHU); Nkolentangan, XI 1907-V 1908, 4, G. TEßMANN (ZMHU); Victoria, 1 (ZMHU).

GABON: Bas-Ogoué, 5 (IRSN); Gabon, 2 (MCZC); Gabon, 1 (NRS); Gabun, 2, STAUDING. (ZMHU); Libreville, 1948, coll. FLAUTIAUX (IFAN); Ogowe, 1, M. SCHMIDT (ZMHU); Mitt. Ogowe, 1, M. SCHMIDT (ZMHU).

GHANA: Ashanti, 1 (ZMHU); Takoradi, 1, BESNARD (MRAC).

GUINEA: Guinea, 1 (ZMHU).

IVORY COAST: Bouake, II 1963, 1, G. SCHMITZ (MRAC); Man, 30 VIII 1962, 1, J. DECELLE (MRAC).

KENYA: Malindi, Gedi Forest, IV 1973, 2, H. GŘNGET (ZMC).

NIGERIA: Ogoja County, 18 III 1962, 1, 31 III 1962, 1, 6 I 1963, 1, R. MEYER (ZSM); Warri, VII 1897, 2, Dr. ROTH (MCZC).

REPUBLICA OF CENTRAL AFRICA: Fort Crampel, 1 (IRSN).

REPUBLIC OF CONGO: Beni ŕ Lesse, VII 1911, 1, Dr. MURTULA (MRAC); Kindamba, Méya, Bangou forest, 9 XI 1963, 1, S. ENDRÖDY-YOUNGA (HNHM); Lefinie Res., Mbéokala forest, 10 I 1964, 2, 13 I 1964, 1, BALOGH and ZICSI (HNHM); Sibiti IRHO, 25 XI 1963, 1, S. ENDRÖDY-YOUNGA (HNHM).

SIERRA LEONE: Mayamba, 1, coll. LE MOULT (IRSN).

TANZANIA: Mabira (IRSN).

TOGO: Missahoué, 650 m, VI 1963, 1, Y. SCHACH (MRAC); Mt. Agou, 26 VI 1988, 1, F.-T. KRELL (SMNS); Yob, V 1963, 1, Y. SCHACH (MRAC).

UGANDA: Fort Portal, 15 km E Sebitoli, 1400 m, 23 XI-5 XII 1994, 3, M. SNIZEK (MS, LB); Kibale Forest, 14 II 1985, 1, M. NUMMELIN (ZMHU); Masindi Distr., Budongo Forest n. Sonso, 1°45'N, 31°35'E, 19-30 VI 1995, 1, T. WAGNER (TW).

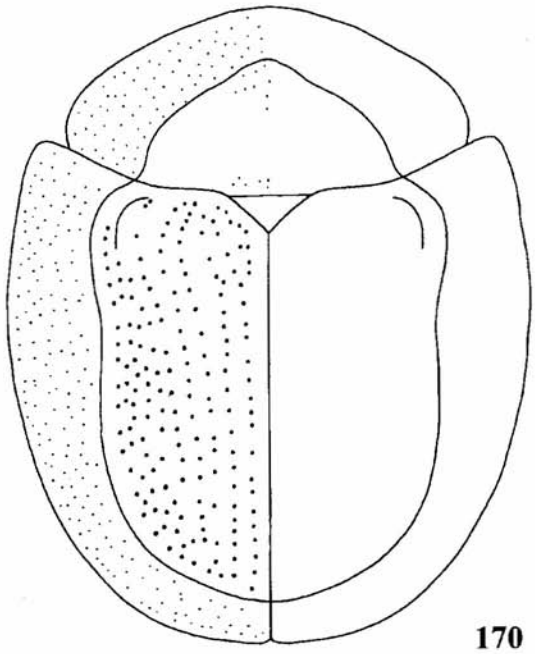
ZAIRE: Albert Nat. Park, Massif Ruwenzori, riv. Kakalari, affl. Bombi, 1740 m, 23 X 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mont Hoyo, grotte Kabambi, 1260 m, 1 VIII 1955, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mont Hoyo, grotte Saga-Saga, 1160 m, 11-14 VII 1955, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Bumali n. Mutawanga, 1240 m,

23 II 1957, 1, P. VANSCHUYTBROECK (MRAC); Bambesa, VI 1937, 1, J.M. VRIJDAGH (IRSN); Bas Congo, Mayidi, 1942, 1, VAN EYEN (MRAC); Batasiala, 19 V 1926, 1, A. COLLART (IRSN); Biruwe-Buhunde, 17 IX 1929, 1, 18 IX 1929, 1, A. COLLART (IRSN); Bokonge, 11 X 1927, 1, A. COLLART (IRSN); Buhunde, Biruwe n. Okonde, 18 IX 1929, 1, A. COLLART (IRSN); Buhunde-Matenda, 15 IX 1929, 6, A. COLLART (IRSN); Buhunde-Okondo, 18 IX 1929, 1, A. COLLART (IRSN); Buhunde-Sawasawa, 15 IX 1929, 1, A. COLLART (IRSN); Chiloango, 1, M. TSCHOFFEN (IRSN); Congo da Lemba, 23 II 1913, 1, R. MAYNÉ (MRAC); Equateur, Bokuma, VII 1952, 1, R.P. LOOTENS (MRAC); Equateur, Masanga, Terr. Bokungu, Tschuapa, 1, MASSART (IRSN); Irangi, IX 1992, 8, H. HINKEL (TW, LB); Kivu, Irangi, 4 I 1967, 6, 26 I 1967, 4, 27 I 1967, 1, 28 I 1967, 1, Dr. JILLY (SMNS), 1-2 II 1986, 4, H. MÜHLE (MD), 15 II 1986, 2, H. MÜHLE (HK), 900 m, X 1993, 1, T. WAGNER (TW); Kivu, Lwiro, 19 I 1967, 1, Dr. JILLY (SMNS); Kivu, Terr. Lubero, Mulo, 1960 m, VI-VII 1953, 1, J. CÉLIS (MRAC); Kwango-Ngowa, 3 II 1938, 1, J. MERTENS (IRSN); Libenge-Mawuya, 28 XI 1947, 1, R. CREMER and M. NEUMAN (IRSN); Likimi, Gwanga, 18 VIII 1927, 1, A. COLLART (IRSN); Likimi, Gumba, 13 XI 1927, 1, A. COLLART (IRSN); Likimi, Mumbia, 29 X 1927, 2, A. COLLART (IRSN); Lisala, 29 VIII 1947, 7, R. CREMER and M. NEUMAN (IRSN); Lubutu-Kirundu, 2 IX 1929, 1, A. COLLART (IRSN); Lubutu-Masua, 10 IX 1929, 2, A. COLLART (IRSN); Lubutu-Obongena, 7 IX 1929, 61, A. COLLART (IRSN); Luhange, VI 1936, 1, A. GONZE (IRSN); Lulua, Kapanga, II 1933, 1, F. G. OVERLAET (MRAC); Mandimba-Masua, 26 IX 1929, 1, A. COLLART (IRSN); Mandimba-Uluku, 14 IX 1929, 1, A. COLLART (IRSN); Masisi-Uluku, 14 IX 1929, 5, A. COLLART (IRSN); Masua-Lubutu, 9 IX 1929, 4, A. COLLART (IRSN); Mongbwalu, Kilo, 1939, 1, M. SCHEITZ (MRAC); Obongena-Lubutu, 7 IX 1929, 1, A. COLLART (IRSN); Ponthierville, 29 VIII 1929, 1, A. COLLART (IRSN); Samlia Fall, Riv. N'Gamie, 1890, 1, A. MOCQUERYS (IRSN); Stanleyville, VI 1929, 2, 9 XII 1929, 1, A. COLLART (IRSN): Thysville Reg., Bas-Congo, 1959, 63, 1, R. MICHAUX (MRAC); Tshuapa, Bamanya, VIII 1964, 1, P. HULSTAERT (MRAC); Tshuapa, Etata, VII-VIII 1969, 14, IX-X 1969, 8, V 1970, 4, J. HAUWAERTS (MRAC); Tshuapa, Ikela, 1955, 15, 1956, 14, VIII 1956, 2, X 1956, 4, XI 1956, 9, R.P. LOOTENS (MRAC), III-VI 1956, 1, R. DEGUIDO (MRAC).

VARIA: Ben. Calabar, 1, coll. DONCKIER (paralectotype of *Coptocycla pallidula*, present designation, MM); Old Calabar, 1 (paralectotype of *Coptocycla pallidula*, present designation, BMNH), 2, MURRAY (probably syntypes of *Coptocycla lixiva*, NRS); Celebes, 1, "Baly" (lectotype of *Coptocycla pallidula*, present designation, NRS); no locality, 1 (syntype of *Cassida fuscopunctata*, MM); no locality, 1 "Type" (holotype of *Aspidomorpha virididdorsata*, NRS).

Aspidimorpha (*Semiaspidimorpha*) *fatua* SPAETH, 1917

Aspidomorpha (*Spaethia*) *fatua* SPAETH, 1917: 429 (HT in MM); 1924: 294.
Aspidomorpha fatua: SPAETH, 1932 b: 5; SHAW, 1963: 458.



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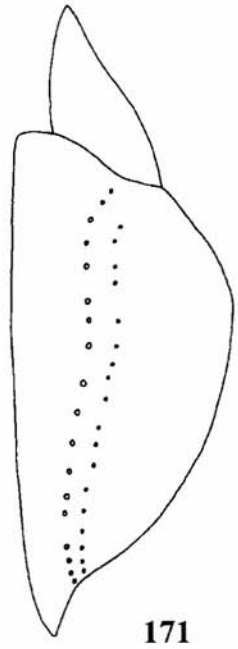

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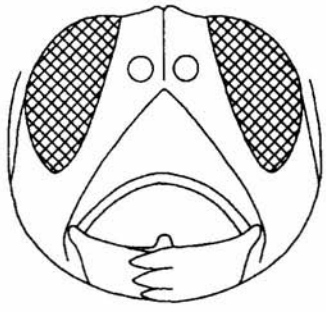

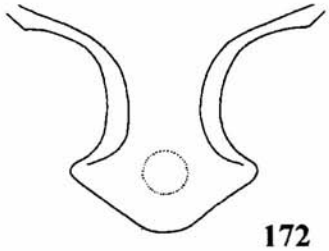

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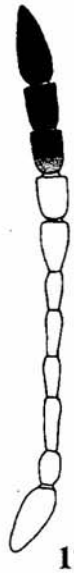

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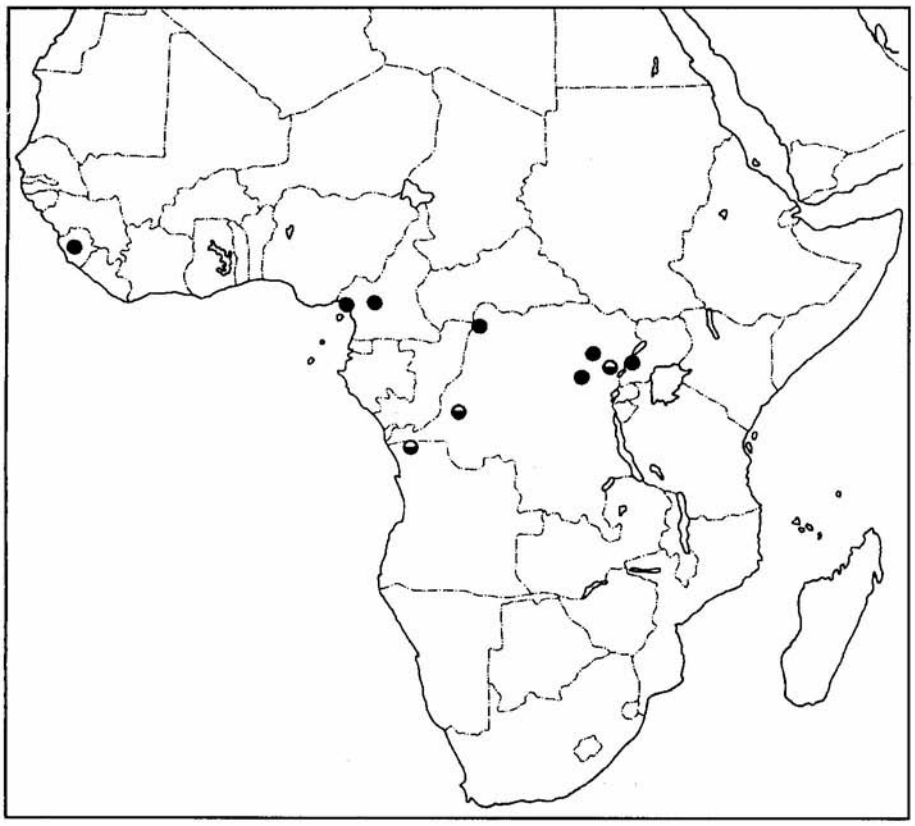
170-175. *Aspidimorpha fatua*: 170 - body in dorsal view, 171 - body in profile, 172 – head and prosternum, 173 – antenna, 174 – inner side of claw, 175 – outer side of claw

DESCRIPTION

Le: male and female: 6.1-7.2 mm, Wi: male and female: 4.8-5.5 mm, Lp: male and female: 2.2-2.4 mm, Wp: male and female: 3.9-4.5 mm, Ex: male and female: 1.0-1.2 mm, Wd: male and female: 3.3-3.8 mm; Le/Wi ratio: male and female: 1.19-1.29, Wi/Wp: male and female: 1.22-1.33, Wp/Lp: male and female: 1.67-1.88. Body oval (fig. 170).

Pronotum and elytra uniformly green to yellow. Ventrites uniformly yellow. Antennae yellow, usually three last antennal segments infuscate to black, often also apex of segment 8 infuscate to black, specimen from Sierra Leone has only last segment partly black and segment 10 only slightly infuscate at apex.

Pronotum broad, ellyptical, with maximum width in the middle, sides broadly rounded. Disc slightly convex, microreticulate, smooth and glabrous. Explanate margin broad, moderately bordered from disc, flat, its surface smooth and glabrous.



176. Distribution of *Aspidimorpha fatua* (black circles) and *A.kasaiensis* (white above black circles)

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra smooth, distinctly wider than pronotum, elytral margins simple, humeri moderately protruding anterad, subacute. Disc moderately convex, with top of the convexity in postscutellar point (fig. 171), with distinct postscutellar, principal and posterolateral impressions but they are not as deep as in related *A. viridula*. Puncturation of disc moderate (punctures have transparent areole and appear larger than in reality) but sparse, regular, only submarginal interval with few irregular punctures, on slope puncturation c. twice smaller than in anterior half of disc. Punctures moderately dense, distance between punctures twice to thrice larger than puncture diameter, rows not broken by impunctate spaces like in *A. viridula*, rows not or very slightly impressed. Punctures in marginal row large and deep, c. thrice larger than in central part of elytron. Intervals flat elevated, especially on slope, in sutural half of disc 2.0-2.5, in lateral half of disc 1.2-1.5 times wider than rows, their surface smooth and glabrous. Explanate margin broad, moderately declivous, its surface slightly irregular but not appearing rugose like in related *A. viridula*. Elytral epipleura bare in both sexes.

Head very broad, clypeus 2.2-2.3 times wider than long (fig. 172), glabrous, slightly elevated before antennal insertions, without median impression, with shallow clypeal sulci. Labrum very shallowly emarginate, area around emargination distinctly swollen. Antennae moderately elongate (fig. 173), extending to mid coxa, length ratio of antennal segments: 100:50:77:68:72:54:72:68: 66:68:122.

Claws pectinate on inner side only, outer side micropectinate (fig. 175), pecten moderate, with three teeth, first extending 1/3 length of claw, two remainder gradually smaller, third tooth sometimes obsolete (fig. 174).

Sexual dimorphism indistinct. Male slightly stouter with slightly longer last antennal segment.

DISTRIBUTION

Known from a few specimens collected from Sierra Leone to W Uganda (fig. 176).

REMARKS

A. fatua and *A. viridula* form a group of species uniformly yellow to green with elytral disc with distinct impressions, more evident in *A. viridula* less evident in *A. fatua*. Other species of the *chlorina* group, with body uniformly yellow to green, differ distinctly in elytral disc more convex, without impressions. *A. viridula* is very similar but differs in slightly more marked impressions, slightly coarser puncturation and surface of explanate margin of elytra slightly irregular, especially along marginal row (*A. fatua* has surface of explanate margin of elytra almost regular). Maybe both represent only one widespread and variable species.

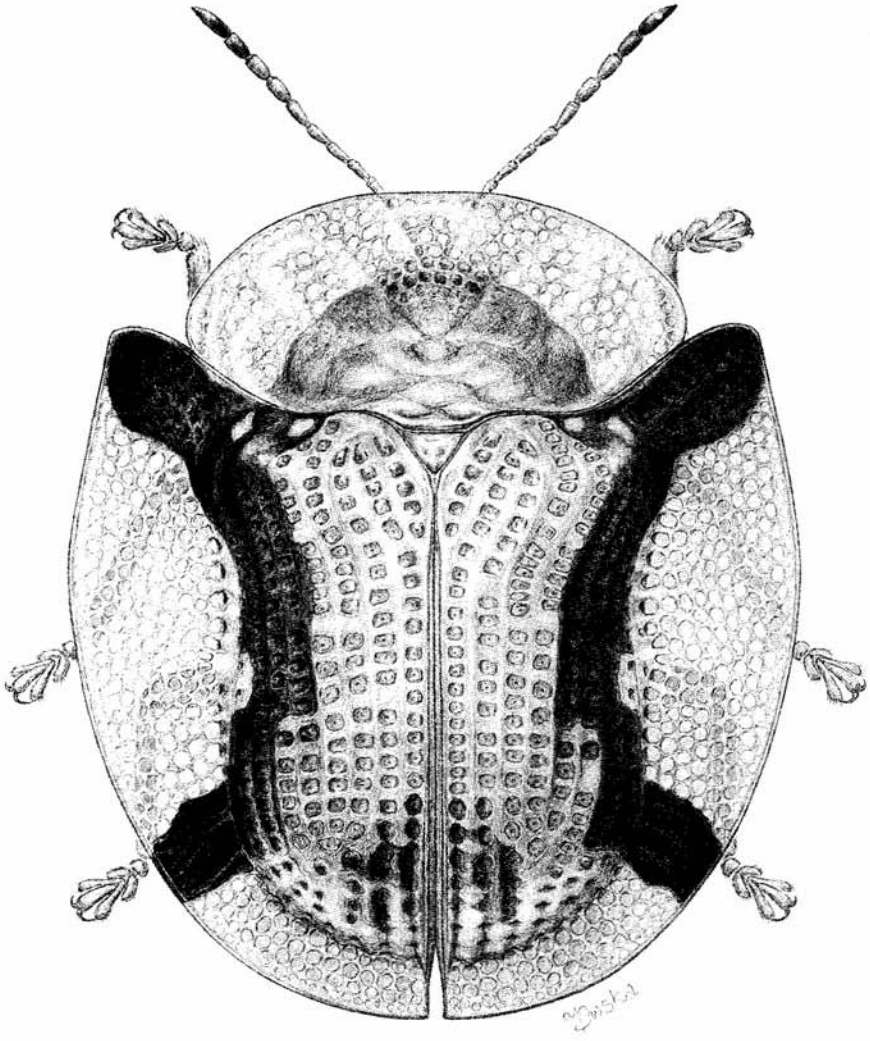
MATERIAL EXAMINED

CAMEROON: Joko, 1 (holotype, MM), 1 (LB), II 1911, 1 (LB); Kamerun, 27 II 1908, 1 (LB).

SIERRA LEONE: Makeni, 28 XI 1991, 1 (LB).

UGANDA: Bwamba, 7 VIII 1946, 1 (LB); Bwamba Forest, Semliki Riv., 3-7 XI 1911, 1 (LB).

ZAIRE: Ituri, Nia-Nia, XI 1959, 1 (LB); Libenge, 1(LB); Lubutu, 1 (LB).



177. *Aspidimorpha irrorata*, habitus (by J. ŚWIĘTOJAŃSKA)

Aspidimorpha (Semiaspidimorpha) irrorata WEISE, 1898

Aspidomorpha irrorata WEISE, 1898: 220 (ST in ZMHU); SPAETH, 1932 b: 5.
Aspidomorpha (Aspidomorpha) irrorata: SPAETH, 1914 b: 75.
Aspidomorpha lateralis WEISE, 1899: 260 (ST in ZMHU); SPAETH, 1909: 279; 1912 b: 506; 1924: 290; 1932 b: 5; Shaw, 1960: 369; 1963: 456; BOROWIEC, 1985 a: 226; 1986: 792, **n. syn.**
Aspidomorpha (Aspidomorpha) lateralis: SPAETH, 1914 b: 76.
Aspidomorpha lateralis ab. *discors* SPAETH, 1912 b: 506 (ST in MM, HNHM).
Aspidomorpha (Aspidomorpha) lateralis ab. *discors*: SPAETH, 1914 b: 76.

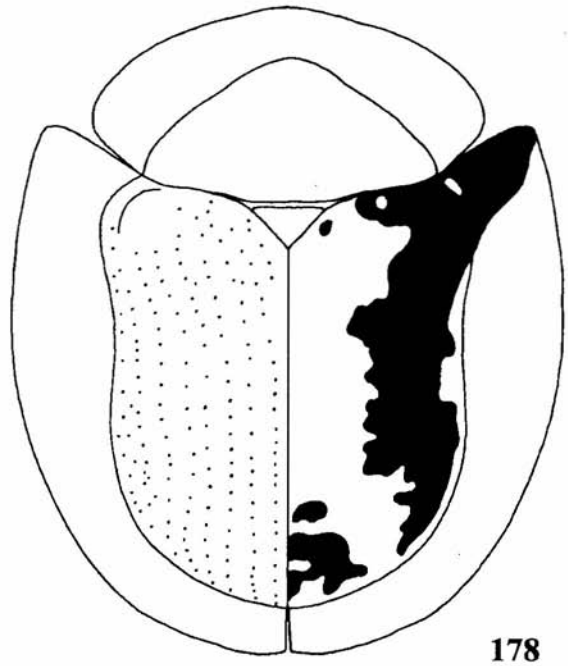
DESCRIPTION

Le: male and female: 5.7-6.9 mm, Wi: male and female: 4.8-6.0 mm, Lp: male and female: 2.0-2.2 mm, Wp: male and female: 3.5-4.1 mm, Ex: male and female: 1.1-1.5 mm, Wd: male and female: 2.9-3.7 mm; length/Wi ratio: male and female: 1.11-1.25, Wi/Wp: male and female: 1.37-1.50, Wp/Lp: male and female: 1.71-2.00. Body almost circular (fig. 177)

Pronotum uniformly yellow. Elytral disc mostly yellow, along each side and in apex irregular black band but marginal interval, except humeral part, yellow, explanate margin with humeral and posterolateral black spots. External margin of the band usually regular, especially in specimens from southern part of the range, internal margin of the band usually irregular, often with additional small black spots, in extreme case almost whole disc with irregular black spots partly coalescent with lateral band (=*irrorata*). In specimens from southern part of the range internal margin of the lateral band usually regular but pale parts of disc along band reddish. In the palest specimens pattern reddish to brown, in extreme cases dark pattern of disc is reduced to narrow, incomplete, reddish lateral band. Posterolateral spot of explanate margin often reduced (=*discors*), in specimens from Zimbabwe explanate margin with narrow reddish to black sutural spot. Ventrites uniformly yellow (figs 184-189). Antennae yellow, last two antennal segments mostly black, sometimes apex of segment 9 infuscate.

Pronotum moderately broad, ellyptical, with maximum width in the middle, sides rounded but less broadly than in related *A. kolbei*. Disc moderately convex, microreticulate, smooth and glabrous. Explanate margin broad, moderately bordered from disc, flat, its surface smooth and glabrous.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra smooth, distinctly wider than pronotum, elytral margins simple, humeri moderately protruding anterad, angulate but not as acute as in *A. kolbei*. Disc moderately convex, at top slightly depressed (fig. 179), with no impressions but principal area with group of larger punctures. Puncturation of disc moderate, completely regular, on slope punctures only slightly smaller than in anterior half of disc, in lateral rows not or only slightly larger than in sutural rows. Punctures dense, distance between punctures 0.5-1.5 times larger than puncture diameter, rows slightly impressed, especially in posterior half of disc. Punctures in marginal row large and deep, c. thrice larger than in central part of elytron. Intervals in anterior half flat, in posterior slightly elevated, especially sutural intervals, in sutural half of disc c. twice wider, in lateral half of disc as wide as rows, their



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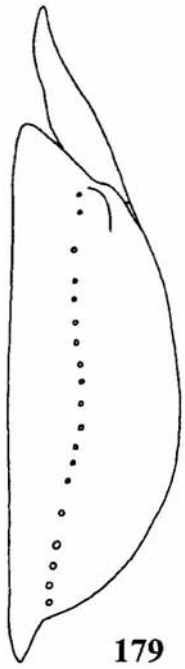

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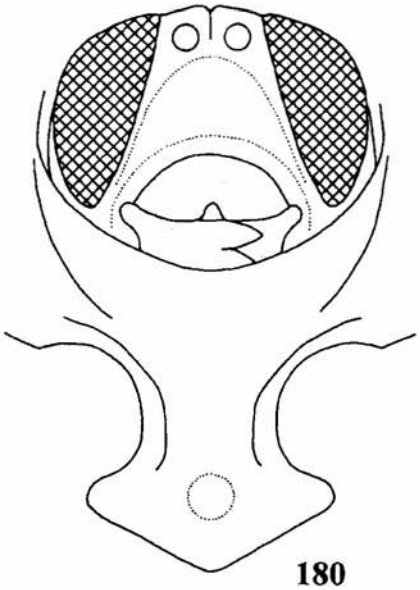

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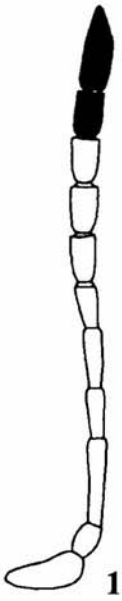

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182

183

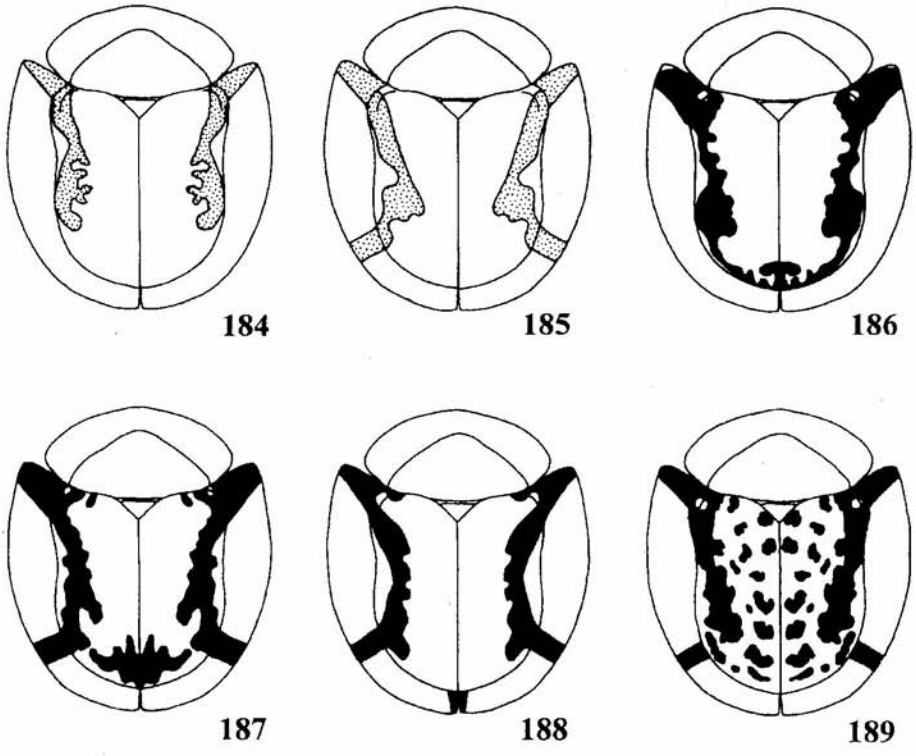
178-183. *Aspidimorpha irrorats*: 178 - body in dorsal view, 179 - body in profile, 180 – head and prosternum, 181 – antenna, 182 – inner side of claw, 183 – outer side of claw

surface smooth and glabrous. Explanate margin broad, moderately declivous, surface appears slightly irregular, its yellow parts shallowly, sparsely punctate, dark spots with groups of large punctures. Elytral epipleura bare in both sexes.

Head broad, clypeus moderately broad, 1.7-1.9 times wider than long (fig. 180), glabrous, only slightly elevated before antennal insertions, without median impression, with shallow clypeal sulci converging in arch. Labrum deeply emarginate to 1/3 length. Antennae moderately elongate (fig. 181), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:40:120:66:80:66: 73:73:80:80:140.

Claws pectinate on inner side only, outer side micropectinate (fig. 183), pecten short, with three teeth, first two extending to 1/3-1/2 length of claw, internal slightly smaller (fig. 182). In large specimens there is also additional small fourth teeth.

Sexual dimorphism indistinct. Male slightly stouter with slightly longer last antennal segment.



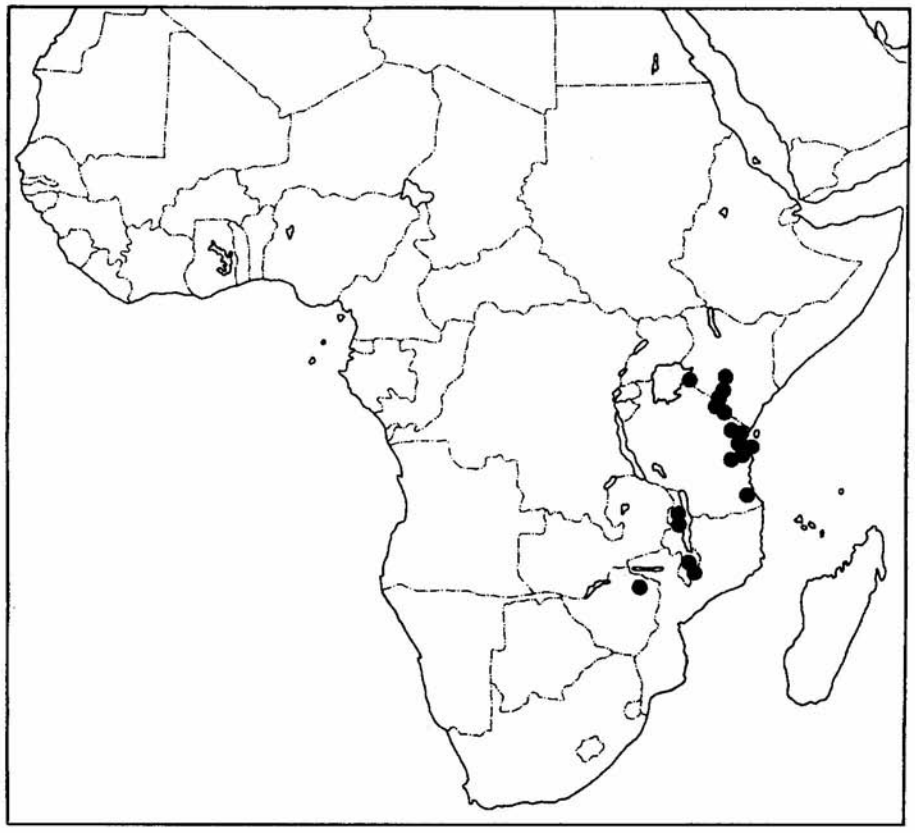
184-189. *Aspidimorpha irrorata*, variation of dorsal maculation (189 - form *irrorata*)

DISTRIBUTION

Eastern Africa, especially Kenya and Tanzania (fig. 190).

REMARKS

It is the only member of the subgenus with usually maculate explanate margin of elytra; but it forms a rare aberration with completely reduced spots of the explanate margin but with maculate elytral disc. Only two other species, *A. kolbei* and *A. salazarensis*, have also maculate elytral disc. *A. kolbei* distinctly differs in maculate pronotum (in *irrorata* uniformly yellow), *A. salazarensis* differs in more convex body, explanate margin narrower and more declivous, and elytral disc mostly dark coloured with yellow relief (in *irrorata* dark pattern forms irregular band along sides of disc). *A. irrorata* and *A. lateralis* were described as independent species but both represent only colour variations of the same species, and *A. lateralis* WEISE, 1899 is a new junior synonym of *A. irrorata* WEISE, 1898.



190. Distribution of *Aspidimorpha irrorata*

MATERIAL EXAMINED

KENYA: Forêt de Nairobi, XI-XII 1911, 1, ALLUAUD & JEANNEL (MNHN); Kilimandjaro, Kilema, I 1904, 1, Ch. ALLUAUD (MNHN); Lathi Bassin, Kikuju, Kamiti Riv., 1909, 1, Ch. ALLUAUD (MNHN); M'bogosi, 18 IV 1932, 1, L. BURGEON (MRAC); Nairobi, 1660 m, 9 VI 1992, 1, A. SEYRIG (MNHN), Nairobi, 2, H.L. ANDREWES (BMNH), V 1936, 1, A.F. GEDYE (BMNH), 8 II 1979, 4, T. PALM (LU); Nairobi, Wa-Kikuju et Masai, VIII 1904, 1, Ch. ALLUAUD (MNHN); Nyeri, X 1948, 1, VAN SOMEREN (BMNH); Tsavo, Taita Hills, Wundanyi, 19-21 XI 1996, 1, 6-10 IV 1997, 3, M. SNIZEK (LB, MS).

MALAWI: Chintheche, 15 XII 1977, 2, R. JOCQUÉ (MRAC); Cholo, 3, R.C. WOOD (BMNH); Mlanje, 1 XII 1913, 1, S.A. NEAVE (BMNH); 10 km SSW Nkhata Bay, 11-12 XII 1986, 1, E. HOLM and E. MARAIS (WM); Pt. Johnston, I-II 1896, 1, P. RENDALL (MCZC); Zomba, Upp. Shire R., 3000 ft., X-XII 1895, 13, P. RENDALL (MCZC); Zomba Plateau, 1600 m, 16-17 I 1986, 10, C.L. BELLAMY (7 ER, 3 TM), 1500 m, 16 III 1991, 1, C. BAYER (MS).

TANZANIA: Amani, 30 XI-5 XII 1906, 2, 1-15 IV 1907, 1, VOSSELER (ZMHU), 1951, 2, N.H. KRAUSS (BMNH), 20 XI 1935, 1 (BMNH), 1 II 1904, 2, KARASEK (ZMHU), 850 m, 9 XI 1957, 3, E.S. ROSS and R.E. LEECH (CAS); ; Arusha-Ju, XI 1905, 9, KATONA (HNHM); Bagamoyo, 2, SCHAEDLE (syntypes of *A. lateralis* ab. *discors*, MM); D. O. Afr., 1 (syntype of *A. lateralis* ab. *discors*, MM); Kilimandjaro, 1 (MRAC); Kilimandjaro, Kibonoto, 1300-1900 m, 4, SJÖSTEDT (LU); Lindi, 3 (ZMHU); Marti to Arusha, 1, KATONA (HNHM); M'Kulumusi, 19 XI 1910, 1, Ch. SCHRÖDER (ZMHU); Moschi, 26 VI 1895, 1, WIDENMANN (Sttutgart); Mto-ja-Kifaru, 2, KATONA (HNHM); Mziha, 70 km S Handeni, 400 m, 27 IV 1957, 1 (MRAC); Nguelo, 1 (ZMHU), 16 (IRSN); Sigi n. Amani, XII 1905, 1, Ch. SCHRÖDER (ZMHU); Sisima, 27 IX 1904, 1, KARASEK (ZMHU); Tanga, 10 (IRSN), 3 VII 1904, 1, KARASEK (ZMHU); Ukami, 3 (FMNH); Uluguru Mts., 1500-1800 m, 7 (ZSM); Uluguru Mts., Lupanga West, 1400 m, 1 VII 1981, 1, M. STOLTZE and N. SCHARFF (ZMC); W Usambara, 1 (syntype of *A. lateralis* ab. *discors*, MM); Usambara, Amani, 1000 m, 23 I 1977, 1, 26 I 1977, 2, 1 II 1977, 2, O. LOMHOLDT and O. MARTIN (ZMC), 5 VIII 1979, 2, 10 VII 1980, 1, M. STOLTZE and N. SCHARFF (ZMC); Usambara, Nguelo, 1 (syntype of *A. lateralis* ab. *discors*, MM), 5 (IRSN), 1 (FMNH); Usambara, Ngwelo, 1, coll. CLAVAREAU (MRAC); Usambara, Sakarani, 1500 m, 30 X 1952, 2, 3 XI 1952, 1, 5 XI 1952, 1, LINDEMANN and PAVLITZKI (ZSM); Uzungwa Mts., Chita Forest Res., 1500 m, 10 XI 1984, 2, M. STOLTZE and G. PETERSEN (ZMC); Zanzibar Is., Kizimbani, 16 III 1980, 1, G. G. SCHULTEN (ITZ).

ZIMBABWE: Yumba, 10-15 XII 1937, 1, G. v. SON (TM).

Aspidimorpha (*Semiaspidimorpha*) *kasaiensis* SPAETH, 1932

Aspidomorpha (*Spaethia*) *kasaiensis* SPAETH, 1932 b: 21 (HT in MRAC).
Weiseocassis sublaevis SPAETH, 1934: 387 (HT in MRAC), **n. syn.**

DESCRIPTION

Le: sex undetermined: 6.9 mm, Wi: sex undetermined: 4.9-5.2 mm, Lp: sex undetermined: 2.3-2.4 mm, Wp: sex undetermined: 3.8-4.0 mm, Ex: sex undetermined: 1.0 mm, Wd: male and female: 3.9 mm; Le/Wi ratio: sex undetermined: 1.32-1.40, Wi/Wp: sex undetermined: 1.29-1.30, Wp/Lp: sex undetermined: 1.58-1.74. Body oval (fig. 191).

Pronotum and elytra uniformly green to yellow. Ventrites uniformly yellow. Antennae yellow, last one or two antennal segments partly infuscate to black.

Pronotum broad, ellyptical, with maximum width in the middle, sides broadly rounded. Disc slightly convex, microreticulate, smooth and glabrous. Explanate margin broad, moderately bordered from disc, flat, its surface smooth and glabrous.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra smooth, distinctly wider than pronotum, elytral margins simple, humeri moderately protruding anterad, subacute. Disc strongly convex, but not as regularly as in related *A. chlorina* and *A. pseudochlorina*, with slightly marked postscutellar angulation (fig. 192), with no impressions. Puncturation of disc moderate, mostly regular, only submarginal row in posterior half with additional irregular punctures, on slope punctures c. twice smaller than in anterior half of disc. Punctures dense, distance between punctures 0.5-1.5 times larger than puncture diameter, rows slightly impressed especially in posterior half of disc. Punctures in marginal row large and deep, c. thrice larger than in central part of elytron. Intervals in anterior half flat, in posterior slightly elevated, in sutural half of disc c. twice wider, in lateral half of disc as wide as rows, their surface smooth and glabrous. Explanate margin broad, moderately declivous, not as smooth as in related *A. chlorina* and *A. pseudochlorina*, especially along marginal row surface slightly irregular, but not as rugose as in *A. viridula*, glabrous. Elytral epipleura bare in both sexes.

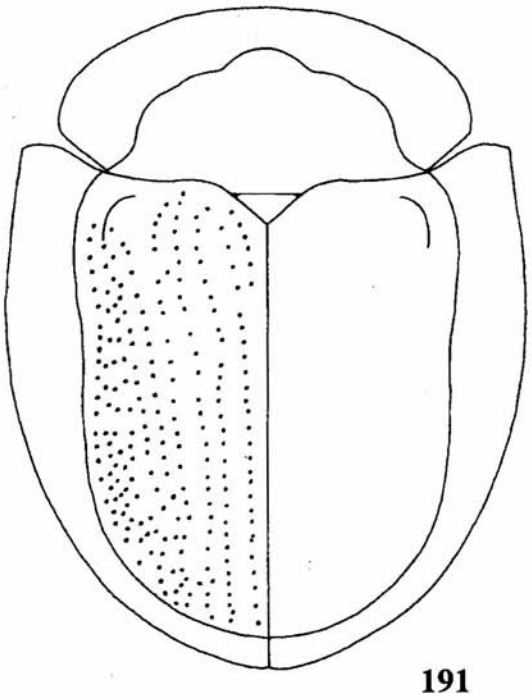
Head broad, clypeus narrower than in related species, 1.7-1.8 times wider than long (fig. 193), glabrous, moderately elevated before antennal insertions, without median impression, with shallow clypeal sulci. Labrum very shallowly emarginate to 1/7-1/6 length. Antennae moderately elongate (fig. 194), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:55:100:95:85:65:70:60:70:65:125.

Claws pectinate on inner side only, outer side micropectinate (fig. 196), pecten short, with three teeth, first extending 1/4 length of claw, two remainder gradually smaller (fig. 195).

Sexual dimorphism indistinct. Male slightly stouter with slightly longer last antennal segment.

DISTRIBUTION

Angola and Zaire (fig. 176).



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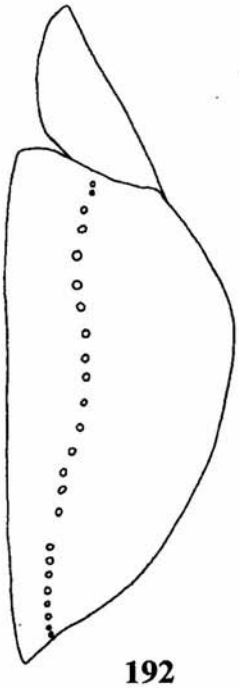

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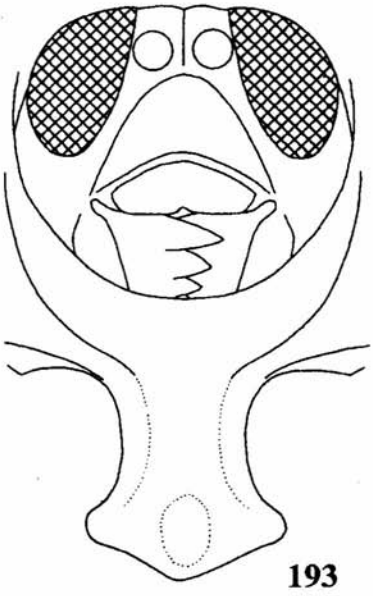

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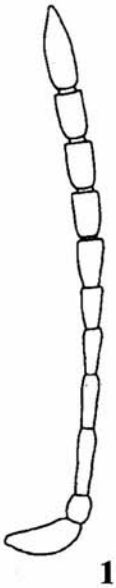

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191-196. *Aspidimorpha kasaiensis*: 191 - body in dorsal view, 192 - body in profile, 193 – head and prosternum, 194 – antenna, 195 – inner side of claw, 196 – outer side of claw

REMARKS

A. kasaiensis belongs to the species group with elytra uniformly yellow to green and elytral disc without impressions. This group includes also *A. chlorina* and *A. pseudochlorina*. Both related species are slightly more convex with elytral disc regularly hemisphaerical, while in *A. kasaiensis* it is slightly unevenly convex with top of convexity in postscutellar point. Pecten of tarsal claw in *A. kasaiensis* is distinctly shorter than in both related species, extending at most to 1/4 length of claw (1/3 in *chlorina* and *pseudochlorina*). An incompletely sclerotized specimen with slightly irregular surface of elytral disc was described as *Weiseocassis sublaevis*.

MATERIAL EXAMINED

ANGOLA: Kongo, Salvador, 1 (LB).

ZAIRE: Bas-Kasai, IX 1920, 1, P. VANDERIJST (holotype of *A. kasaiensis*, MRAC); Lubero, Kibali-Ituri, 21/24 VIII 1932, 1, L. BURGEON (holotype of *Weiseocassis sublaevis*, MRAC).

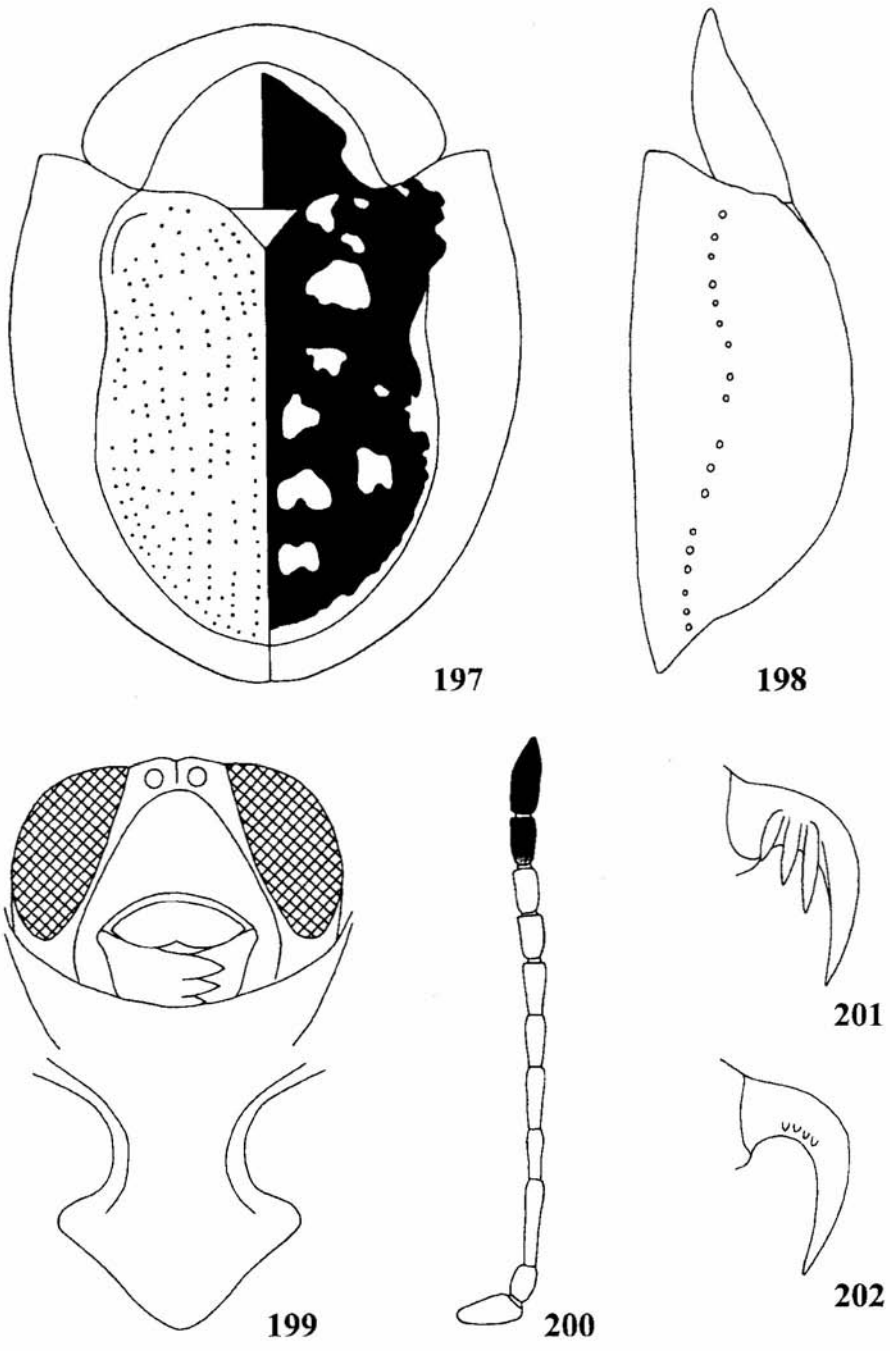
Aspidimorpha (Semiaspidimorpha) kolbei WEISE, 1899

Aspidomorpha Kolbei WEISE, 1899: 259 (ST in ZMHU); 1901: 309; SPAETH, 1932 b: 5.
Aspidomorpha (Aspidomorpha) Kolbei: SPAETH, 1914 b: 75.
Aspidomorpha Kolbei var. *pelligera* WEISE, 1901: 309 (ST in ZMHU).
Aspidomorpha (Aspidomorpha) Kolbei ab. *pelligera*: SPAETH, 1914 b: 75.

DESCRIPTION

Le: male and female: 5.6-6.4 mm, Wi: male and female: 4.5-5.3 mm, Lp: male and female: 1.8-2.0 mm, Wp: male and female: 3.2-3.6 mm, Ex: male and female: 1.1-1.4 mm, Wd: male and female: 2.8-3.3 mm; Le/Wi ratio: male and female: 1.14-1.22, Wi/Wp: male and female: 1.41-1.48, Wp/Lp: male and female: 1.75-1.83. Body almost circular (fig. 197).

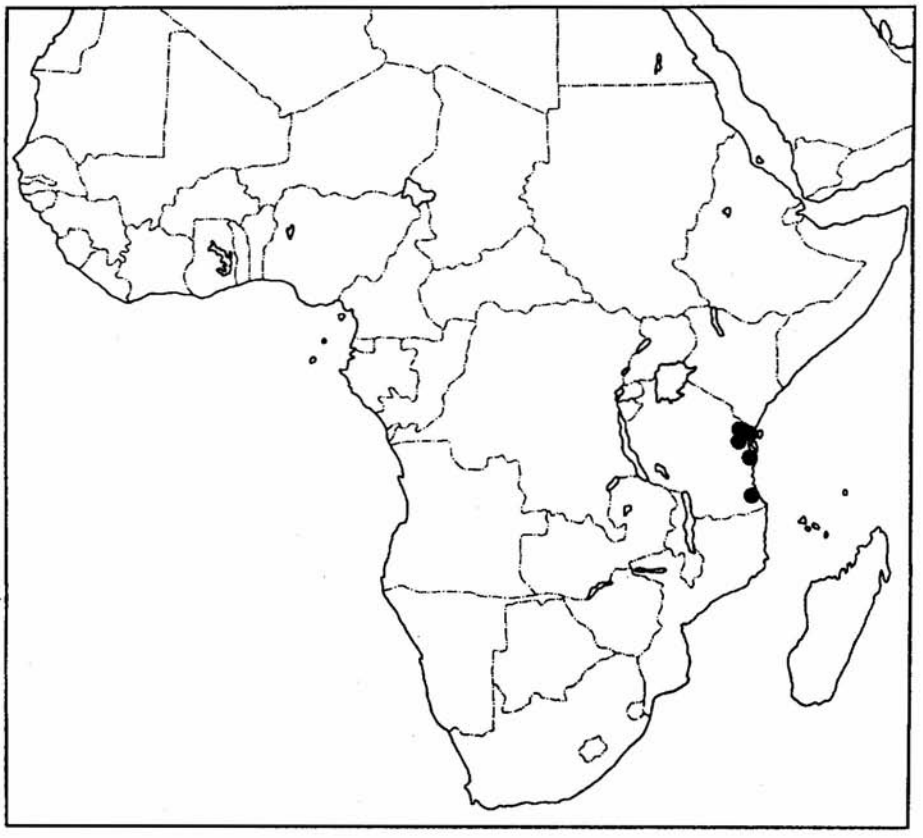
Pronotum yellow, disc with large trilobate black spot, usually with small yellow spot in the middle and sometimes small spot in front of scutellum, in pale specimens black is reduced to two broad longitudinal bands. Scutellum yellow. Elytral disc black, except apex and middle of marginal interval, each elytron with 10 yellow more or less round spots: one at base of scutellum, one, the largest, behind scutellar spot, four (two moderately large and two small) near the middle of suture, three in transverse row in 2/3 length of disc and one at apex close to suture (fig. 197). The smallest spots sometimes reduced, spots in the middle sometimes coalescent, in extreme cases each elytron with 7 spots. Spots usually slightly more elevated than surrounding area and, especially in large specimens, forming a distinct relief. Margin of black on lateral fold and apex of disc deeply emarginate. Explanate margin, including suture, uniformly yellow. Ventrites uniformly yellow. Antennae yellow, last two antennal segments mostly infuscate to black, occasionally segment 10 mostly yellow with slightly infuscate apex.



197-202. *Aspidimorpha kolbei*: 197 - body in dorsal view, 198 - body in profile, 199 – head and prosternum, 200 – antenna, 201 – inner side of claw, 202 – outer side of claw

Pronotum moderately broad, ellyptical, with maximum width in the middle, sides broadly rounded. Disc slightly convex, microreticulate, smooth and glabrous. Explanate margin broad, moderately bordered from disc, flat, its surface smooth and glabrous.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra smooth, distinctly wider than pronotum, elytral margins simple, humeri moderately protruding anterad, subacute. Disc moderately convex, at top slightly depressed (fig. 198), with no distinct impressions. Puncturation of disc moderate, mostly regular, but rows interrupted by yellow relief, on slope punctures twice to thrice smaller than in anterior half of disc, in lateral parts of disc distinctly larger than in sutural rows. Punctures moderately dense, distance between punctures 1.0-2.5 times larger than puncture diameter, rows slightly impressed especially in sutural and lateral parts of disc. Punctures in marginal row large and deep, c. thrice larger than in central part of elytron. Intervals flat, only sutural intervals on slope slightly elevated, in sutural half of disc c. twice wider, in lateral half of disc



203. Distribution of *Aspidimorpha kolbei*

as wide as rows, their surface smooth and glabrous. Explanate margin very broad, moderately declivous, smooth and glabrous. Elytral epipleura bare in both sexes.

Head broad, clypeus narrower than in related species, 1.6-1.7 times wider than long (fig. 199), glabrous, moderately elevated before antennal insertions, without median impression, with shallow clypeal sulci. Labrum shallowly emarginate to 1/5 length. Antennae moderately elongate (fig. 200), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:50:140:78:92: 76:78:64:66:71:114.

Claws pectinate on inner side only, outer side micropectinate (fig. 202), pecten long, with three teeth, first two extending 1/3-1/2 length of claw, inner teeth c. twice smaller (fig. 201).

Sexual dimorphism indistinct. Male slightly stouter with slightly longer last antennal segment.

DISTRIBUTION

Tanzania (fig. 203).

REMARKS

Dorsal pattern of this species is unique, it is the only member of the subgenus with maculate pronotum. Mostly dark elytral disc with yellow relief is present also in *A. salazarensis* but the species differs in uniformly yellow pronotum, more convex body and more declivous explanate margin with rounded humeri (in *kolbei* humeri subangulate). *A. irrorata* differs in explanate margin of elytra with at least humeral spots.

MATERIAL EXAMINED

TANZANIA: Dar-es-Salaam, 1 (ZMC); D. O. Afr., 3 (MM); Lindi, 4 (MM, LB); Usambara, Amani, 1000 m, 10 VII 1980, 1 (LB); Usambara, Nguelo, 4, coll. CLAVAREAU (MRAC), 4 (1 FMNH, 1 IRSN, 2 ZMHU); Tanga, 1 (LB).

Aspidimorpha (*Semiaspidimorpha*) *pseudochlorina* BOROWIEC, 1986

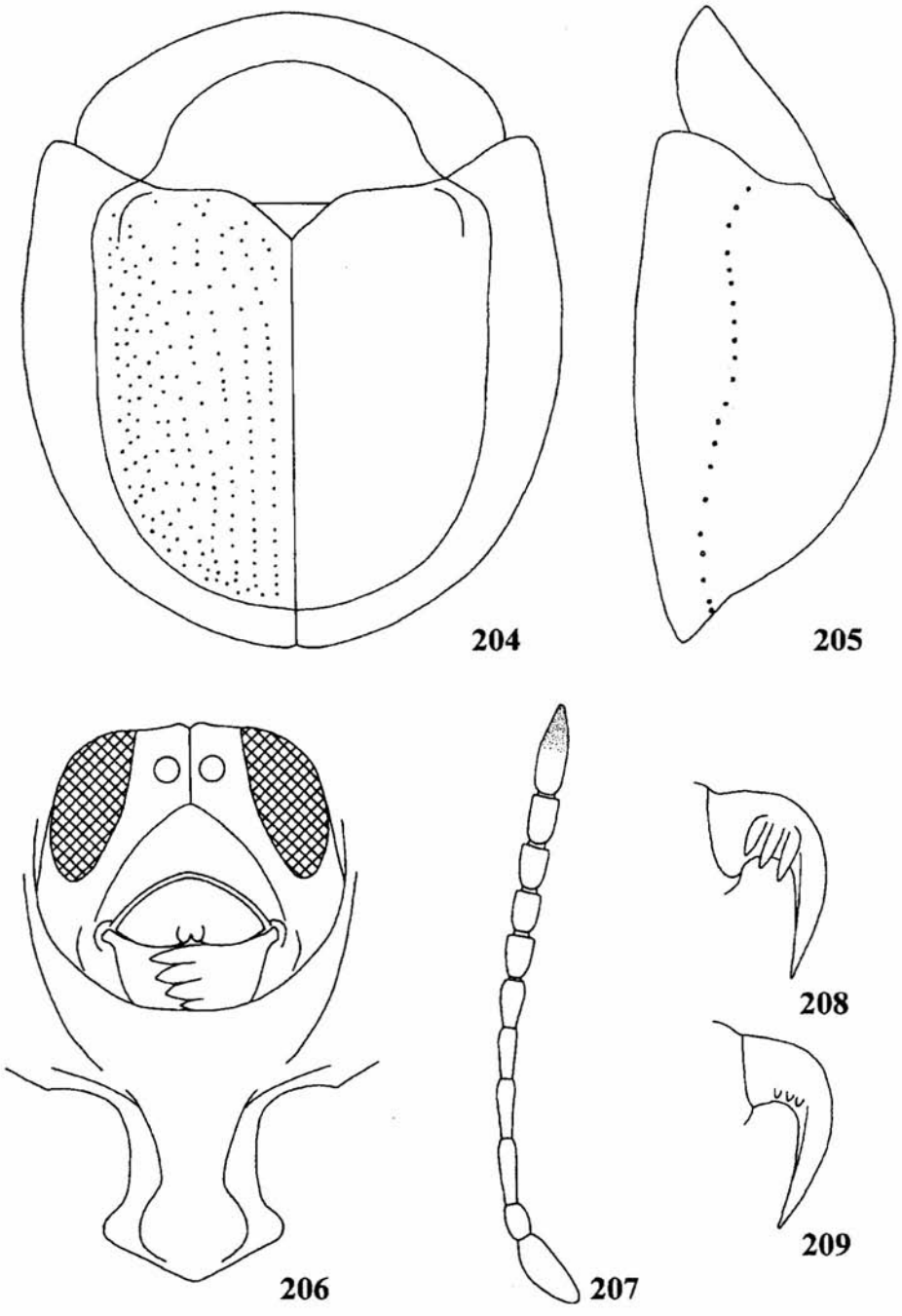
Aspidomorpha pseudochlorina BOROWIEC, 1986: 793 (HT in HU, PT in HU, MRAC, LB, MCZC, IZPAS).

Aspidomorpha sp. near *chlorina*: BOROWIEC, 1985 a: 226.

DESCRIPTION

Le: male and female: 5.4-6.7 mm, Wi: male and female: 4.5-5.3 mm, Lp: male and female: 2.0-2.4 mm, Wp: male and female: 3.4-4.2 mm, Ex: male and female: 1.0-1.2 mm, Wp: male and female: 3.1-3.8 mm; Le/Wi ratio: male and female: 1.15-1.27, Wi/Wp: male and female: 1.24-1.38, Wp/Lp: male and female: 1.63-1.80. Body almost circular (fig. 204).

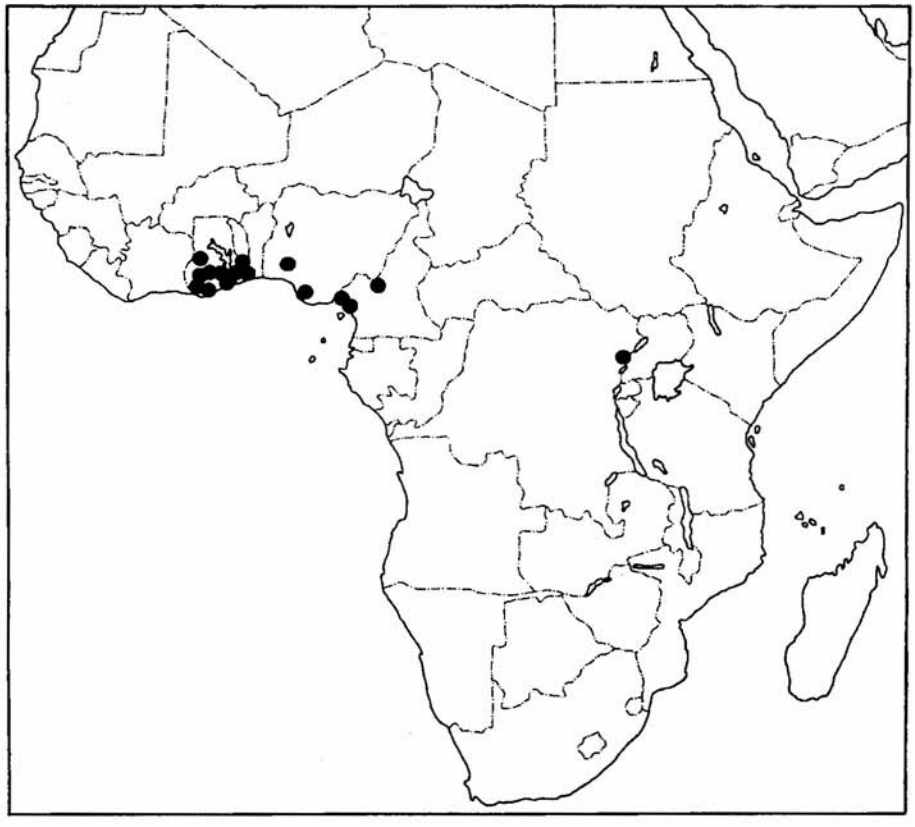
Pronotum and elytra uniformly green to yellow. Ventrites uniformly yellow. Antennae usually uniformly yellow, or only last antennal segment partly infuscate to black, occasionally segment 10 partly infuscate to black.



204-209. *Aspidimorpha pseudochlorina*: 204 - body in dorsal view, 205 - body in profile, 206 – head and prosternum, 207 – antenna, 208 – inner side of claw, 209 – outer side of claw

Pronotum broad, ellyptical, with maximum width in the middle, sides broadly rounded. Disc slightly convex, microreticulate, smooth and glabrous. Explanate margin broad, moderately bordered from disc, flat, its surface smooth and glabrous.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra smooth, distinctly wider than pronotum, elytral margins simple, humeri moderately protruding anterad, subacute. Disc strongly, regularly convex, but slightly less convex than in related *A. chlorina*, with top of the convexity in postscutellar point (fig. 205), with no impressions, but in principal area punctures usually slightly larger than in adjacent rows. Puncturation of disc moderate, completely regular, on slope c. twice smaller than in anterior half of disc. Punctures dense, distance between punctures 0.5-1.5 times larger than puncture diameter, rows not impressed. Punctures in marginal row large and deep, c. thrice larger than in central part of elytron. Intervals flat, in sutural half of disc c. thrice, in lateral half of disc c. twice wider than rows, their surface smooth and glabrous. Explanate



210. Distribution of *Aspidimorpha pseudochlorina*

margin broad, moderately declivous, smooth and glabrous. Elytral epipleura bare in both sexes.

Head very broad, clypeus 2.4-2.5 times wider than long, glabrous (fig. 206), slightly elevated before antennal insertions, without median impression, with shallow clypeal sulci. Labrum not emarginate but hind margin in the middle with two tubercles. Antennae moderately elongate (fig. 207), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:50:85:65:55:55:60:55:55:60:140.

Claws pectinate on inner side only, outer side micropectinate (fig. 209), pecten moderate, with three teeth, first extending 1/3-2/5 length of claw, two remainder gradually smaller (fig. 208).

Sexual dimorphism indistinct. Male slightly stouter with slightly longer last antennal segment.

DISTRIBUTION

West and Central Africa, east to E Zaire, more common in western part of the range (fig. 210).

REMARKS

This species has unique structure of labrum with posterior margin in the middle with two small tubercles. At first glance it is extremely similar to *A. chlorina* but the latter species has typical labrum with medial emargination. *A. pseudochlorina* is usally slightly less convex than *A. chlorina* with third antennal segment shorter, c. 1.7 times longer than segment 2 (c. twice longer in *A. chlorina*) but these characters have a wide range of variability. *A. pseudochlorina* is distributed mostly in central part of western Africa (the locality from Ruwenzori Mts. needs confirmation) while *A. chlorina* is widespread in equatorial part of Africa (see figs 169 and 210). *A. kasaiensis* is also very similar to *A. pseudochlorina* but differs in labrum with medial emargination, elytral disc less and slightly unevenly convex and shorter pecten of tarsal claws. Two other uniformly yellow to green species, *A. fatua* and *A. viridula*, differ in elytral disc with distinct impressions.

MATERIAL EXAMINED

CAMEROON: Kamerun, 1 (MM); Malenge-Banga, 125 m, 5-20 XII 1957, 1, H. KNORR (SMNS); Moliwe n. Victoria, 18-30 XII 1907, 1, F. v. MALTZAN (ZMHU); Mt. Cameroon, 1200 m, 30 XII 1957, 1, H. KNORR (SMNS); Mueli, 560 m, 1 II 1958, 2, H. KNORR (SMNS); Muyuka, Victoria Div., 24-29 VI 1949, 3, B. MALKIN (CAS); Sasse-Sappo, 22-26 II 1952, 1, S. TITA (CAS).

GHANA: Ashanti, 1, SIMON (ZMHU); Ashanti Reg., Bobiri Forest Res., 13 XI 1965, 1, S. ENDRÖDY-YOUNGA (HNHM); Ashanti Reg., Bodomase, 12 VII 1967, 2, S. ENDRÖDY-YOUNGA (HNHM); Ashanti Reg., Juaben, 19 II 1967, 1, S. ENDRÖDY-YOUNGA (HNHM); Ashanti Reg., Nyinahiu range, 7 IV 1969, 1, S. ENDRÖDY-YOUNGA (HNHM); Northern Reg., Banda-Nkwanta, 5 VI 1965, 3, S. ENDRÖDY-YOUNGA (HNHM); Volta Reg., Amedzofe, 10-11 IX 1970, 1,

S. ENDRÖDI (HNHM); Western Reg., Prestea, 1 II 1966, 1, 23 IV 1969, 1, S. ENDRÖDY-YOUNGA (HNHM).

NIGERIA: Ibadan, 4 II 1962, 1, 2 XI 1962, 1, 12 XI 1962, 1, 22 I 1963, 1, D.C. ELDT (ER).

TOGO: Lome, 1900, 1, SCHNEIDER (SMNS); Misahöhe, 15-21 VI 1894, 1, 22 VI-6 VII 1894, 1, F. BAUMANN (ZMHU).

ZAIRE: Congo, 1 (ZMHU); Ruwenzori Fuß, Nördl. v. Alb. Edw. See, Westseite, II 1908, HERZOG Exp., 2 (ZMHU).

Aspidimorpha (Semiaspidimorpha) salazarensis n. sp.

ETYMOLOGY

Named after its type locality, Salazar in Angola.

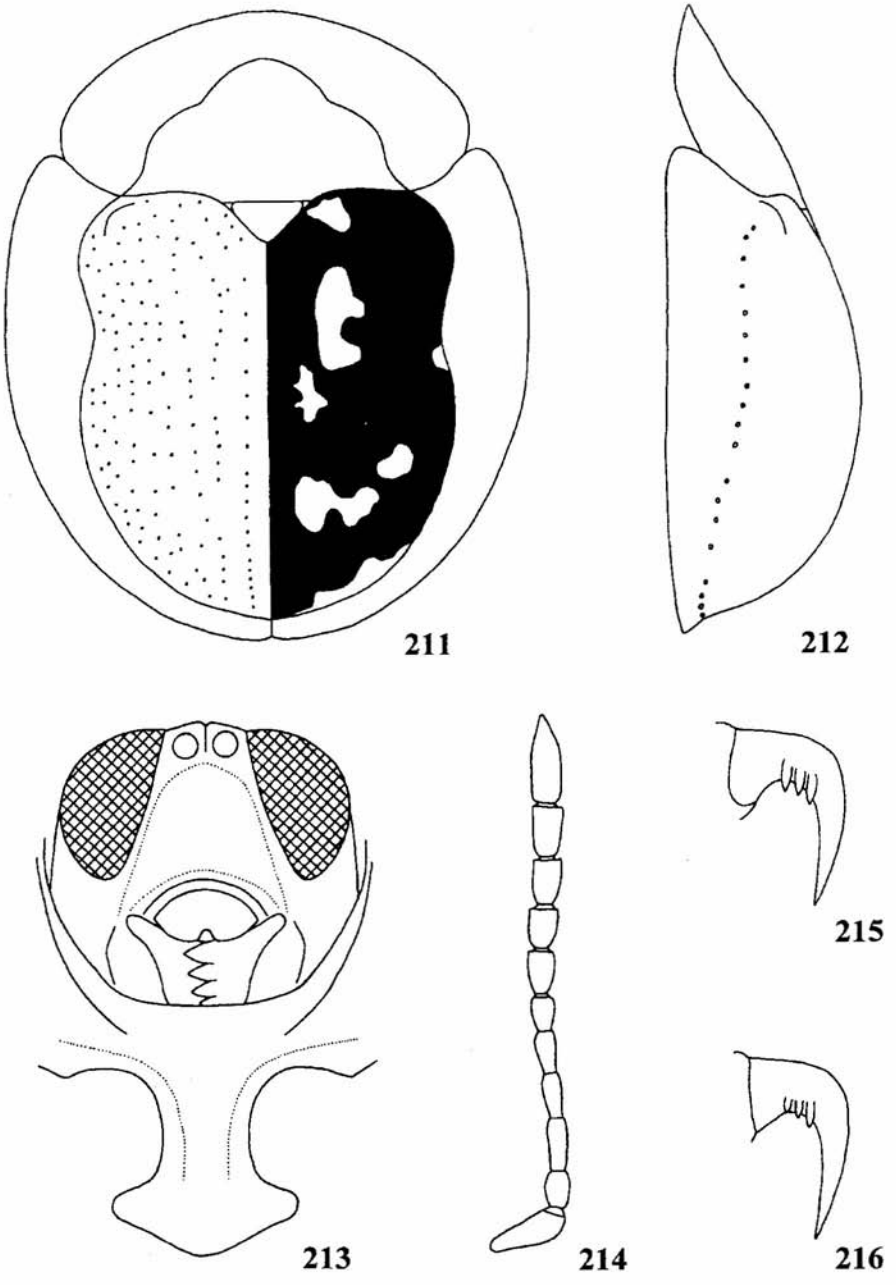
DESCRIPTION

Le: sex undetermined: 4.6 mm, Wi: sex undetermined: 3.8 mm, Lp: sex undetermined: 1.8 mm, Wp: sex undetermined: 2.9 mm, Ex: sex undetermined: 1.0 mm, Wd: male and female: 2.6 mm; Le/Wi ratio: sex undetermined: 1.21, Wi/Wp: sex undetermined: 1.31, Wp/Lp: sex undetermined: 1.61. Body short-oval (fig. 211).

Pronotum uniformly yellow. Scutellum yellow. Elytral disc mostly brownish-black, each elytron with six yellow spots: triangular at base close to scutellum, large, elongate in anterior third of disc close to suture, irregular slightly behind the large spot, and three arranged in transverse, arched band in posterior third, two ventral spots can be coalescent (fig. 211). Explanate margin uniformly yellow. Ventrites mostly yellow, only abdomen infuscate in the middle. Legs and antennae uniformly yellow.

Pronotum ellyptical, with maximum width in the middle, sides broadly rounded, anterior margin gently convex. Disc moderately convex, smooth and glabrous, with extremely fine microreticulation. Explanate margin indistinctly bordered from disc, flat, smooth and glabrous.

Scutellum triangular, shallowly impressed in the middle, with three small punctures. Base of elytra smooth, moderately wider than base of pronotum, elytral margins simple. Anterior margin distinctly arcuate, humeri strongly protruding anterad, humeral angles rounded. Disc regularly convex (fig. 212), with no tubercles, with distinct principal impression. Puncturation of disc regular, moderate, rows partly interrupted by yellow elytral relief, punctures in sutural half of disc as large as in lateral part, on slope only slightly smaller than in anterior part of disc. Scutellar row with three to four punctures. Row 1 impressed in posterior half, rows 2 and 3 impressed only on slope, remainder not impressed, punctures in rows moderately dense to sparse, distance between punctures as wide as to twice wider than puncture diameter, only in sutural row punctures denser but vanishing in the impression. Punctures in marginal row c. three to four times larger than in central rows. Intervals flat, only on slope intervals 2 and 3 slightly convex, in sutural half of disc c. three to four times wider than rows, in



211-216. *Aspidimorpha salazarensis*: 211 - body in dorsal view, 212 - body in profile, 213 – head and prosternum, 214 – antenna, 215 – inner side of claw, 216 – outer side of claw

lateral part of disc twice wider than rows, their surface smooth and glabrous, with very small microreticulation. Explanate margin broad, strongly declivous, distinctly, shallowly, sparsely punctate, but surface does not appear irregular. Margin of elytra simple, does not form a gutter. Apex of elytral epipleura bare.

Head moderately broad, clypeus c. 1.5-1.6 times wider than long (fig. 213), flat, shallowly impressed in the middle, with fine clypeal lines converging in arch, its surface smooth and glabrous. Labrum moderately broad, emarginate to 1/4 length. Antennae moderately elongate (fig. 214), extending to mid coxa, length ratio of antennal segments: 100:47:65:56:53:42:53:50:59:62:112.

Claws pectinate on both sides, outer side with three, very small teeth, extending slightly behind the ventral margin of tooth (fig. 216), inner margin with three short teeth, similar in size to teeth of the outer pecten (fig. 215).

DISTRIBUTION

Angola.

REMARKS

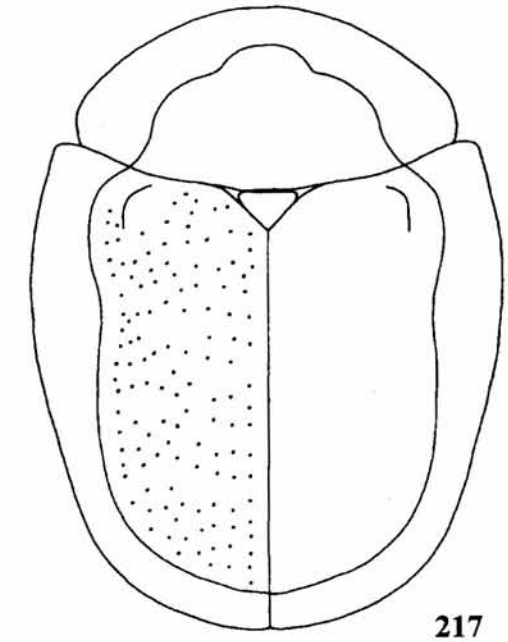
This species is unique in its distinctly declivous explanate margin of elytra and quite long outer pecten of claws. Like *A. irrorata* and *A. kolbei* it has maculate elytral disc. It differs from typical form of *A. irrorata* in immaculate explanate margin of elytra (in *irrorata* at least with humeral spot) and from *A. kolbei* in immaculate pronotum. A rare form of *A. irrorata* with reduced spots of the explanate margin of elytra is most similar, but *A. salazarensis* differs in more convex body, narrower and more declivous explanate margin, rounded humeri (subangulate in *irrorata*) and elytral disc mostly dark with yellow relief (in *irrorata* mostly yellow with irregular band along sides). The outer pecten of claws in *A. salazarensis* is distinctly longer than in other species of the subgenus *Semiaspidimorpha*, only slightly shorter than inner pecten. Thus, it can be classified within the nominotypical subgenus, but other characters (i.e. small size, general body shape, structure of antenna, elytral convexity, elytral puncturation and shape of pronotum) are more similar to those of other species of the subgenus *Semiaspidimorpha* than to members of *Aspidimorpha* s. str.

MATERIAL EXAMINED

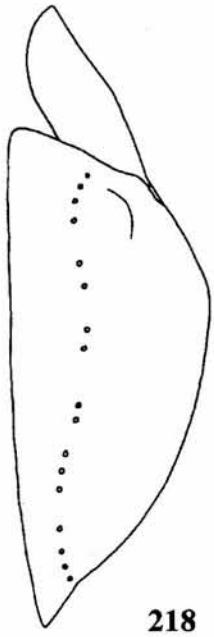
ANGOLA: holotype: Salazar, I.I.A.A., 9-15 III 1972, forest leaf litter, 1 (LB).

Aspidimorpha (*Semiaspidimorpha*) *viridula* WEISE, 1903

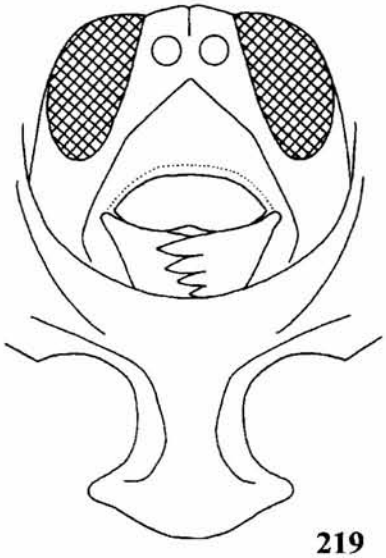
Aspidomorpha viridula WEISE, 1903: 221 (HT in ZMHU); SHAW, 1972: 67.
Aspidomorpha (*Aspidomorpha*) *viridula*: SPAETH, 1914 b: 78.
Aspidomorpha (*Spaethia*) *viridula*: SPAETH, 1924: 294.
Aspidomorpha diluta SPAETH, 1932 b: 18 (HT in MRAC); SHAW, 1972: 67 (as syn.).



217



218



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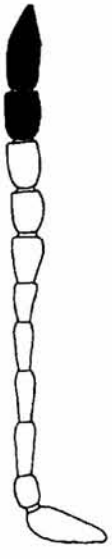


220

221

222

217-222. *Aspidimorpha viridula*: 217 - body in dorsal view, 218 - body in profile, 219 – head and prosternum, 220 – antenna, 221 – inner side of claw, 222 – outer side of claw

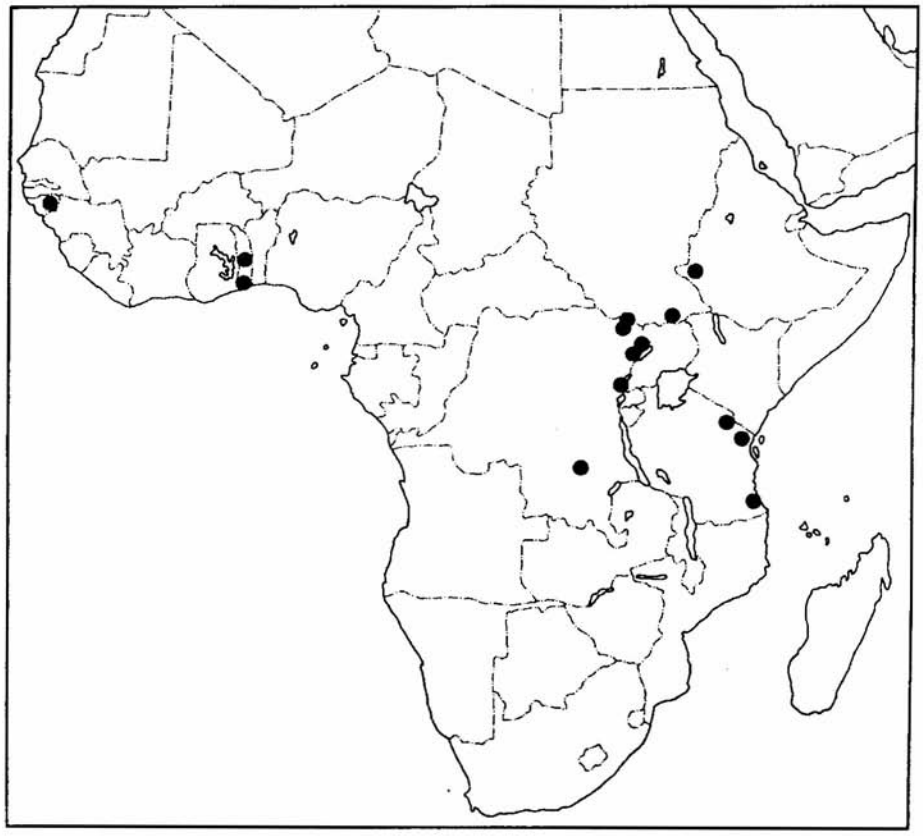
DESCRIPTION

Le: male and female: 6.1-6.9 mm, Wi: male and female: 4.7-5.2 mm, Lp: male and female: 2.1-2.3 mm, Wp: male and female: 3.7-4.1 mm, Ex: male and female: 1.0-1.2 mm, Wd: male and female: 3.4-3.6 mm; Le/Wi ratio: male and female: 1.20-1.30, Wi/Wp: male and female: 1.27-1.31, Wp/Lp: male and female: 1.76-1.86. Body short-oval (fig. 217).

Pronotum and elytra uniformly green to yellow. Ventrites uniformly yellow. Antennae yellow, usually two last antennal segments infuscate to black, often also apex of segment 9 infuscate to black, sometimes segment 9 partly to completely infuscate to black.

Pronotum broad, ellyptical, with maximum width in the middle, sides broadly rounded. Disc slightly convex, microreticulate, smooth and glabrous. Explanate margin broad, moderately bordered from disc, flat, its surface smooth and glabrous.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra smooth, distinctly wider than pronotum, elytral margins simple, humeri moderately protruding anterad, subacute. Disc moderately convex, with top of the



223. Distribution of *Aspidimorpha viridula*

convexity in postscutellar point (fig. 218), with distinct postscutellar, principal and posterolateral impressions. Puncturation of disc moderate (punctures have transparent areole and appear larger than in reality) but sparse, regular but distance between punctures is so large that puncturation appears, at first glance, slightly irregular, on slope puncturation c. twice finer than in anterior half of disc. Punctures sparse, distance between punctures thrice larger than puncture diameter, partly rows broken by long impunctate distance five to six times larger than puncture diameter, rows slightly impressed. Punctures in marginal row large and deep, c. thrice larger than in central part of elytron. Intervals slightly elevated, especially on slope, in sutural half of disc c. twice, in lateral half of disc as wide as rows, their surface smooth and glabrous but considering sparse puncturation and elevated intervals surface of disc appears slightly irregular. Explanate margin broad, moderately declivous, its surface shallowly punctate and with irregular folds and wrinkles, appears rugose. Elytral epipleura bare in both sexes.

Head very broad, clypeus 2.2-2.3 times wider than long (fig. 219), glabrous, slightly elevated before antennal insertions, without median impression, with shallow clypeal sulci. Labrum very shallowly emarginate, area around emargination distinctly swollen. Antennae moderately elongate (fig. 220), extending mid coxa, length ratio of antennal segments: 100:50:90:75:60:61:70:55:58:65:115.

Claws pectinate on inner side only, outer side micropectinate (fig. 222), pecten moderate, with three teeth, first extending to 1/4-1/3 length of claw, two remainder gradually smaller, third tooth sometimes almost visible or obsolete (fig. 221).

Sexual dimorphism indistinct. Male slightly stouter with slightly longer last antennal segment.

DISTRIBUTION

Known from several specimens collected from Guinea Bissau to Ethiopia south to Tanzania and S Zaire (fig. 223).

REMARKS

Among uniformly yellow to green species *A. viridula* has the most marked impressions of elytral disc and the most irregular surface of explanate margin of elytra, especially specimens from north-eastern part of the distribution range are strongly sculptured. In specimens from western part of the range elytral sculpture is not as distinct as in eastern populations and they are similar to specimens of *A. fatua* whose elytra are only slightly less sculptured. Maybe *A. fatua* and *A. viridula* represent the same variable species. Based on distribution maps (see figs. 176 and 223) *A. fatua* prefers forests while *A. viridula* occurs rather in savanna habitats. The status of both species needs verification based on more material from various parts of central and west Africa or biological studies in field.

MATERIAL EXAMINED

ETHIOPIA: Ilubabor Prov., 15 km NW of Ihora, 1600 m, VI 1973, 3, G. DE ROUGEMONT (MRAC, LB).

GUINEA BISSAU: Bafatà, II 1954, 1, BENASSI (OSU).

SUDAN: Equatoria, Lotti Forest, III 1963, 1 (LB).

TANZANIA: Amani, Kilimandj., 1 (holotype of *A. viridula*, ZMHU); Tendaguru, Lindi, XII 1909-I 1910, 1, JANENSCH (ZMHU).

TOGO: Bismarckburg, 1 VI-15 VII 1891, 2, R. BÜTTNER (ZMHU), 20-27 X 1893, 1, L. CONRADT (ZMHU); Bismarckburg, 1, L. CONRADT (ZMHU); Sokodé Basari, 1, F. SCHRÖDER (ZMHU).

ZAIRE: Albert Nat. Park, Lac Edward, Rwindi, 1 (LB); Garamba Nat. Park, 24 IX 1951, 1, 28 XI 1951, 1, 17 I 1952, 1, H. DE SAEGER (MRAC); Garamba Nat. Park, Bagunda, 17 I 1951, 1, J. VERSCHUREN (MRAC); Kapiri, IX 1912, 2, Miss. Agric. (MRAC); Katanga, Kasinga, X 1925, 1, Ch. SEYDEL (holotype of *A. diluta*, MRAC); Lac Albert, Mahagi, VII 1937, 1, J. GHESQUIÈRE (MRAC); Nioka, VII 1937, 1, J. GHESQUIÈRE (MRAC); Sesenge-Tomati, 1 (LB).

Subgenus: *Spaethia* BERG, 1899

Small to moderate species, length always below 11 mm. Pronotum and elytra always uniformly yellow to green. Body oval to almost circular, base of elytra not or only slightly wider than base of pronotum. Elytral disc more or less convex, often gibbous. Pronotum ellyptical, sides narrowly angulate. Puncturation of elytra usually regular, sometimes irregular, punctures disposed on whole surface of disc. Clypeus with indistinct to moderate clypeal grooves. Labrum broad, with distinct median emargination. Claws with obsolete outer pecten. Species mostly from Africa, only one species in Madagascar.

Type species: *Iphinoe ganglbaueri* SPAETH, 1898.

KEY TO THE SPECIES

1. Surface of explanate margin of elytra distinctly irregular. Elytral puncturation strong, partly or completely irregular, surface of disc appears irregular to rugose.
   ..... 2.
-. Surface of explanate margin regular or only slightly irregular. Elytral puncturation fine to moderate, usually regular, occasionally partly to completely irregular but surface of disc never appearing irregular to rugose.
   ..... 3.
2. Only sides of disc irregularly punctate, especially in posterior half. Surface of disc and explanate margin of elytra less irregular, not appears rugose. More northern species: S Zaire, Tanzania and Zambia.
   ..... *socrus*

-. Almost whole elytral disc irregularly punctate, only two sutural rows regular. Surface of disc and explanate margin of elytra more irregular, appears rugose. More southern species: Zimbabwe and South Africa.
..... *gausapina*

3. Elytral puncturation mostly regular. Body usually unevenly convex with top of convexity in postscutellar point or gibbous. Species from Africa.
..... 4.

-. Elytral puncturation completely irregular. Body regularly hemisphaerical. Species from Madagascar.
..... *cepaecolor*

4. Explanate margin of elytra completely impunctate.
..... 5.

-. Explanate margin of elytra at least in humeral part with additional punctures.
..... 7.

5. Elytral disc moderately convex, only slightly more elevated in postscutellar point.
..... 6.

-. Elytral disc strongly convex, angulate in profile.
..... *exacta*

6. Elytral disc less convex, submarginal interval without additional punctures. Last antennal segment yellow or only slightly infuscate apically. Tanzania and Zambia.
..... *citrina*

-. Elytral disc more convex, submarginal interval in posterior half with additional punctures. Last antennal segment black. Kenya.
..... *heroni*

7. Larger, body length 9.5-10.6 mm.
..... 8.

-. Smaller, body length 6.9-9.3 mm. Three species very similar and difficult to identify.
..... 9.

8. Stouter, Le/Wi ratio 1.19-1.31. Body more regularly convex, not or only slightly gibbous but not angulate in postscutellar point.
..... *ganglbaueri*

-. Slimmer, Le/Wi ratio 1.38-1.40. Body strongly convex, angulate in profile.
..... *scalena*

9. Slimmer: Le/Wi ratio usually above 1.27, and smaller: length 6.9-8.9 mm [mean 7.72], more gibbous in profile.
..... 10.

-. Stouter: Le/Wi ratio usually below 1.27, and larger: length 7.8-9.3 mm [mean 8.55], less gibbous in profile.
..... *pellucida*

10. Additional punctures of explanate margin of elytra coarser, puncturation of disc larger but sparser, disc extremely gibbous.
..... *alluaudi*
-. Additional punctures of explanate margin of elytra finer, puncturation of disc smaller and denser, disc less gibbous.
..... *siticulosa*

Aspidimorpha (Spaethia) alluaudi SPAETH, 1924

Aspidomorpha (Spaethia) alluaudi SPAETH, 1924: 292, 296 (HT in MNHN); 1932 b: 5.

DESCRIPTION

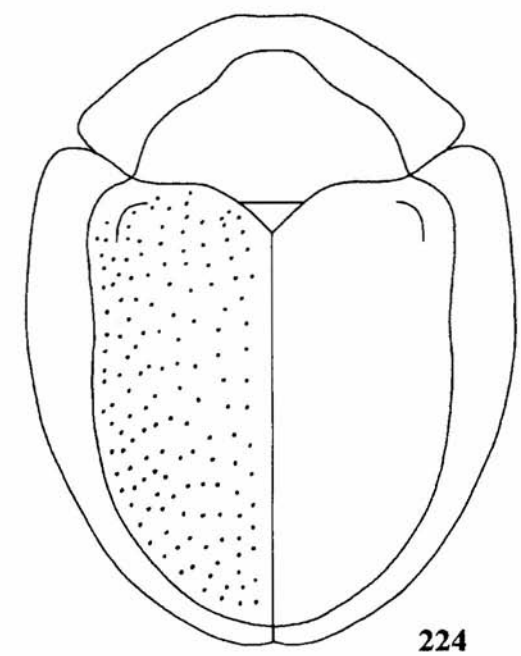
Le: male and female: 6.9-8.1 mm, Wi: male and female: 5.3-6.2 mm, Lp: male and female: 2.4-2.8 mm, Wp: male and female: 4.2-5.0 mm, Ex: male and female: 1.1-1.4 mm, Wd: male and female: 4.1-4.6 mm; Le/Wi ratio: male and female: 1.28-1.32, Wi/Wp: male and female: 1.24-1.28, Wp/Lp: male and female: 1.73-1.79. Body oval (fig. 224).

Pronotum and elytra uniformly yellow or green. Ventrites uniformly yellow. Antennae uniformly yellow, or last segment partly infuscate to black.

Pronotum very broad, narrowly ellyptical, with maximum width in 2/3 length, sides angulate. Disc only slightly convex, microreticulate with sparse, fine pricks, glabrous. Explanate margin indistinctly bordered from disc, flat, microreticulate, glabrous.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra indistinctly serrulate, slightly wider than pronotum, elytral margins simple, humeri subrounded. Disc strongly gibbous in profile (fig. 225), more gibbous than in related *A. pellucida* and *A. siticulosa*, with no postscutellar tubercle, slightly concave behind the top of convexity, without postscutellar, principal and posterolateral impressions. Puncturation of disc moderate, coarser and sparser than in related *A. pellucida* and *A. siticulosa*, mostly regular, without or with only few additional, irregular punctures on interval 3. Row not impressed, on slope puncturation c. twice smaller than in anterior half of disc. Punctures moderately dense, distance between punctures three to four times larger than puncture diameter. Intervals regular, flat, marginal interval complete, with no rugosities. Punctures in marginal row large and dense, c. thrice larger than in submarginal part of disc. Surface between punctures microreticulate but shiny. Explanate margin very broad, strongly declivous, smooth and shiny, along marginal row with series of large and deep punctures, more numerous and larger than in related *A. pellucida* and *A. siticulosa*. Elytral epipleura bare in both sexes (in immature specimens external margin of apical part of epipleuron is sparsely pubescent, but in dried specimens the hairs are broken and invisible).

Head broad, gena distinct, clypeus 1.8-1.9 times wider than long (fig. 226), dull, flat before antennal insertions, without median impression, with shallow but distinct clypeal lines. Labrum emarginate to 1/7 length. Antennae moderately



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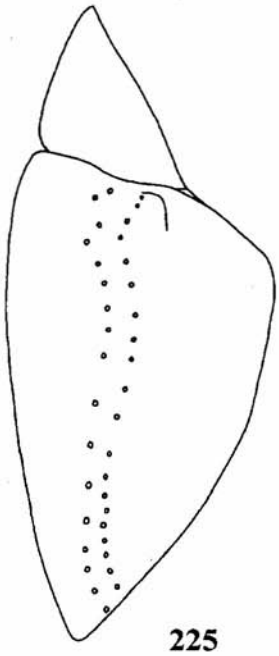

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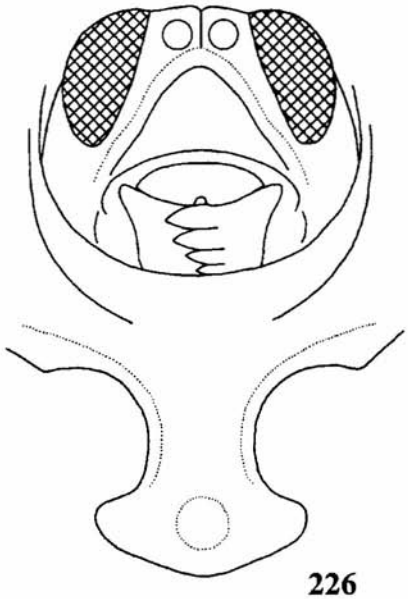

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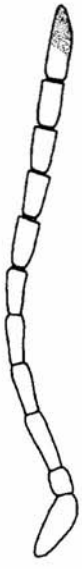

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224-229. *Aspidimorpha alluaudi*: 224 - body in dorsal view, 225 - body in profile, 226 – head and prosternum, 227 – antenna, 228 – inner side of claw, 229 – outer side of claw

elongate (fig. 227), extending to half length of metasternum, length ratio of antennal segments: 100:44:100:76:76:72:76:72:76:76:120(male)110(female).

Claws pectinate only on inner side, outer margin minutely serrate (fig. 229). Inner pecten moderate, longer than in related species, with three (occasionally four) teeth, first extending to 1/4-1/3 length of claw, remainder gradually smaller (fig. 228).

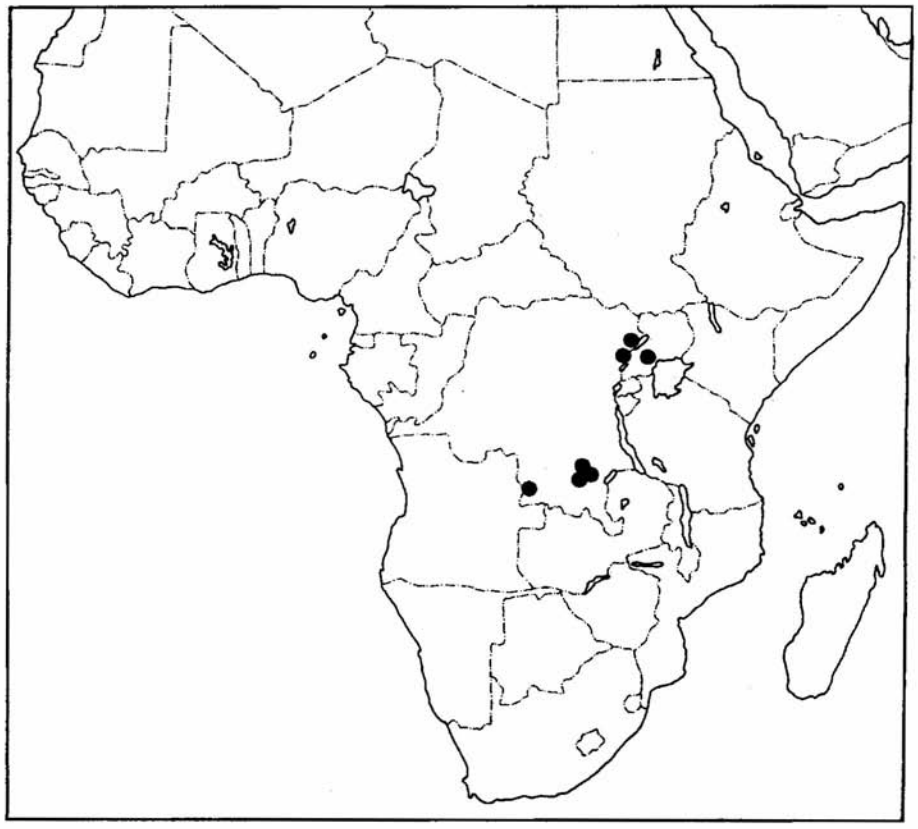
Sexual dimorphism indistinct. Male slightly stouter, with last antennal segment slightly longer than in female.

DISTRIBUTION

E Zaire (fig. 230).

REMARKS

With *A. pellucida* and *A. siticulosa* it forms a group of moderately large species with gibbous elytral disc and explanate margin of elytra with additional



230. Distribution of *Aspidimorpha alluaudi*

punctures. They are very similar and possible to identify only by comparison with a series of properly identified specimens. *A. alluaudi* is the smallest species of the group but the most gibbous, distinctly angulate in profile. Additional puncturation of explanate margin of elytra is distinctly coarser and deeper than in both related species, also puncturation of disc is coarser but sparser than in both relatives. *A. pellucida* is distinctly stouter and less gibbous than *A. alluaudi*, but slim and strongly gibbous specimens of *A. siticulosa* are very similar to *A. alluaudi* and differ only in slightly finer elytral puncturation and less impressed postscutellar impressions. *A. alluadi* and *A. siticulosa* are distributed only from eastern and southeastern Zaire and border regions of Uganda and Tanzania, while *A. pellucida* is wide distributed in central Africa. Maybe *A. alluaudi* and *A. siticulosa* represent only one variable species but this hypothesis needs verification in the field.

MATERIAL EXAMINED

ZAIRE: Albert Nat. Park, Mutsora, 1939, 1, HACKARS (MM); Dilolo, IX-X 1933, 1, H. DE SAEGER (MM); Katanga, Kikondja, 1 (LB); Katanga, Nyonga, V 1925, 2, G.F. DE WITTE (MRAC); E Lac Albert, Butiaba, 20 IX 1937, 1, H.J. BRÉDO (MRAC); Upemba Nat. Park, Mabwe, lac Upemba, 585 m, 1-12 VIII 1947, 2, 1-8 IX 1947, 1, 28 XI-2 XII 1948, 1, G.F. DE WITTE (MRAC).

Aspidimorpha (Spaethia) cepaecolor (FAIRMAIRE, 1898)

Cassida cepaecolor FAIRMAIRE, 1898: 498 (ST in MNHN, NMW, MM).
Spaethia cepaecolor: SPAETH, 1902 b: 454.
Aspidomorpha (Spaethia) cepaecolor: SPAETH, 1914 b: 79; 1915 b: 154, 1924: 295; 1932 b: 5.
Aspidomorpha cepaecolor: HINCKS, 1962: 249.

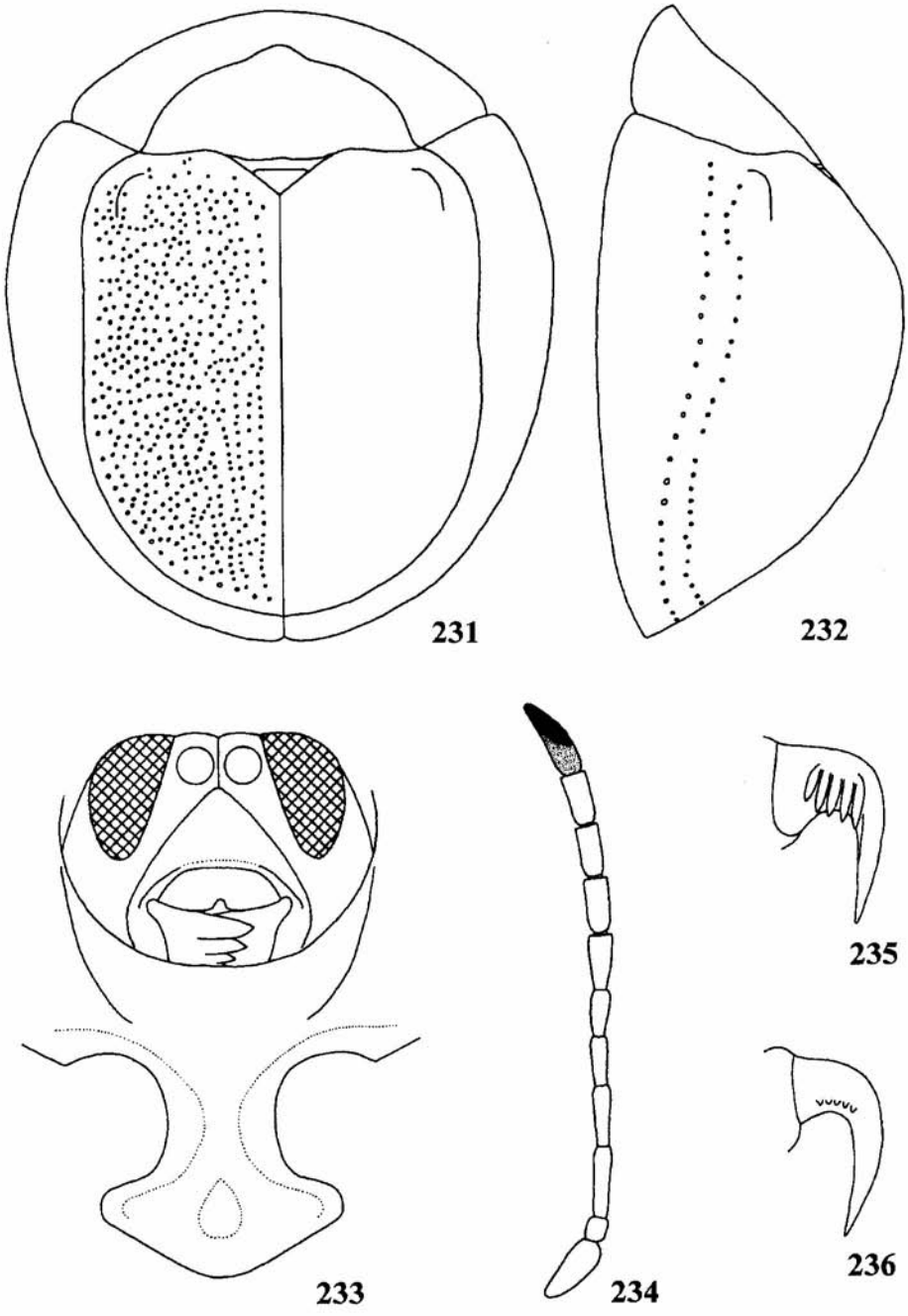
DESCRIPTION

Le: male and female: 9.5 mm, Wi: male and female: 8.6 mm, Lp: male and female: 3.2 mm, Wp: male and female: 6.1 mm, Ex: male and female: 1.8 mm, Wd: male and female: 6.0 mm; Le/Wi ratio: male and female: 1.10, Wi/Wp: male and female: 1.41, Wp/Lp: male and female: 1.91. Body almost hemisphaerical (figs 231-232).

Pronotum and elytra uniformly yellow or green. Ventrites uniformly yellow. Antennae yellow, usually last segment infuscate to black, except ventral side of apex.

Pronotum very broad, narrowly ellyptical, with maximum width in the middle, sides angulate. Disc only slightly convex, microreticulate with sparse, fine pricks, glabrous. Explanate margin indistinctly bordered from disc, flat, microreticulate, glabrous.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra smooth, as wide as pronotum, elytral margins simple, humeri rounded. Disc regularly convex in profile with no postscutellar tubercle (fig. 232), without



231-236. *Aspidimorpha cepaecolor*: 231 - body in dorsal view, 232 - body in profile, 233 – head and prosternum, 234 – antenna, 235 – inner side of claw, 236 – outer side of claw

postscutellar, principal and posterolateral impressions. Puncturation of disc moderate, completely irregular, punctures on slope only slightly smaller than in anterior half of disc. Punctures moderately dense, distance between punctures 0.8-2.5 times larger than puncture diameter. Space between punctures flat, marginal interval complete, with no rugosities. Punctures in marginal row large and dense, c. twice larger than punctures in submarginal part of disc. Surface between punctures microreticulate but shiny. Explanate margin very broad, strongly declivous, mostly impunctate, smooth and shiny, in humeral part and along marginal row with shallow, large punctures. Elytral epipleura bare in both sexes (in immature specimens external margin of apical part of epipleuron is sparsely pubescent, but in dried specimens the hairs are broken and invisible).

Head very broad, gena distinct, clypeus 2.3-2.4 times wider than long (fig. 233), glabrous, slightly convex before antennal insertions, without median impression, with deep clypeal lines. Labrum emarginate to 1/7 length. Antennae moderately elongate (fig 234), extending to half length of metasternum, length ratio of antennal segments: 100:40:104:88:86:68:80:68:78:80:116.

Claws pectinate only on inner side, outer margin minutely serrate (fig. 236). Inner pecten moderate, with four teeth, extending to 1/4-1/3 length of claw (fig. 235).

Sexual dimorphism indistinct. Male slightly stouter, with last antennal segment slightly longer than in female.

DISTRIBUTION

Madagascar.

REMARKS

This species is unique within the subgenus, it is the only member with body almost hemisphaerical and completely irregular elytral puncturation.

MATERIAL EXAMINED

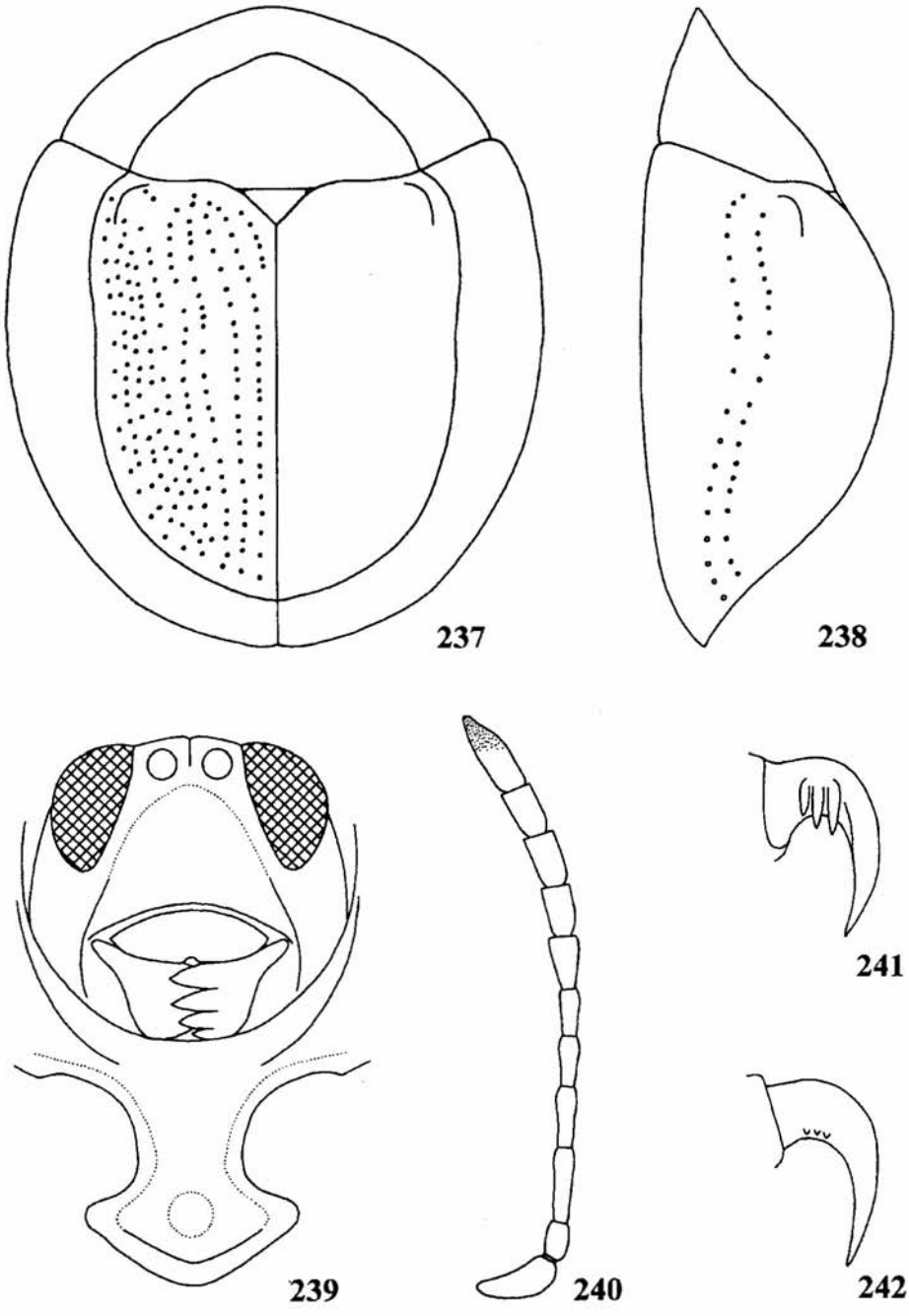
MADAGASCAR: Madagascar, PERRIER, 3 (syntypes, MNHN); Madagascar, 2 (LB); Suberbieville, 3 (syntypes, 1 MNHN, 2 MM).

Aspidimorpha (Spaethia) citrina SPAETH, 1934

Aspidomorpha (Spaethia) citrina SPAETH, 1934: 386 (ST in MM).
Aspidomorpha citrina: BOROWIEC, 1985 a: 225.

DESCRIPTION

Le: male and female: 6.3-7.3 mm, Wi: male and female: 5.3-5.9 mm, Lp: male and female: 2.0-2.4 mm, Wp: male and female: 4.2-4.8 mm, Ex: male and female: 1.2-1.3 mm, Wd: male and female: 3.7-4.3 mm; Le/Wi ratio: male and female: 1.17-1.28, Wi/Wp: male and female: 1.19-1.28, Wp/Lp: male and female: 2.00-2.20. Body almost circular (fig. 237).

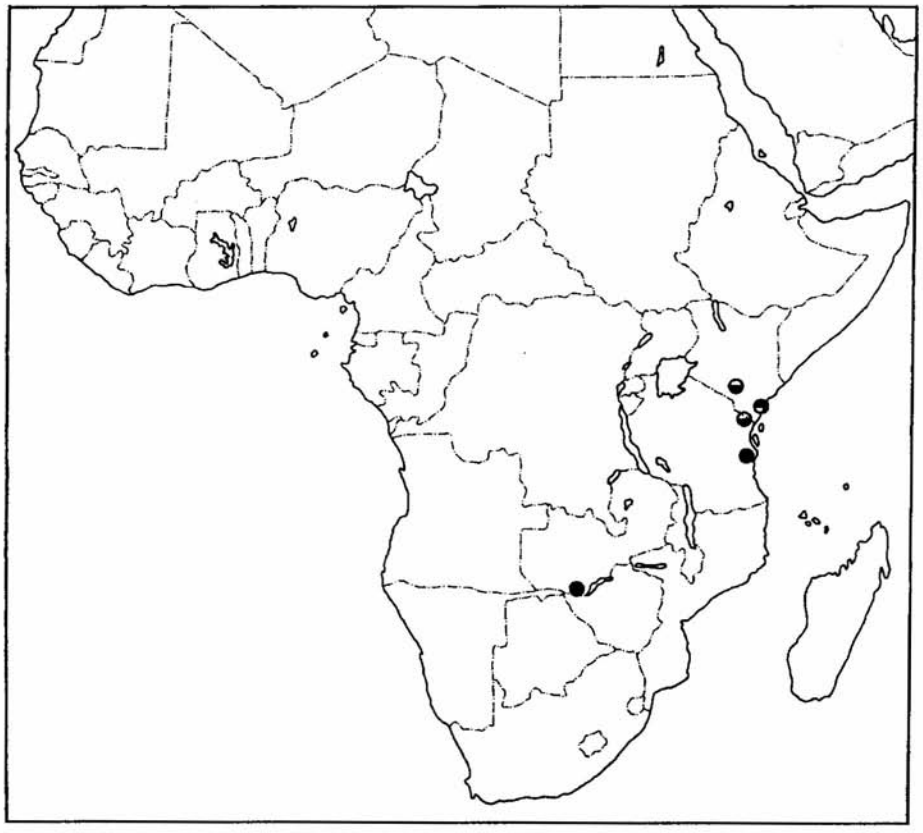


237-242. *Aspidimorpha citrina*: 237 - body in dorsal view, 238 - body in profile, 239 – head and prosternum, 240 – antenna, 241 – inner side of claw, 242 – outer side of claw

Pronotum and elytra uniformly yellow or green. Ventrites uniformly yellow. Antennae yellow, at most only apex of last segment slightly infuscate.

Pronotum very broad, narrowly ellyptical, with maximum width in 3/5 length, sides angulate. Disc only slightly convex, with sparse fine pricks, slightly dull. Explanate margin indistinctly bordered from disc, flat, microreticulate, glabrous.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra indistinctly serrulate, as wide as pronotum, elytral margins simple, humeri subangulate. Disc almost regularly convex (fig. 238), with no postscutellar tubercle, without postscutellar, principal and posterolateral impressions. Puncturation of disc coarse, completely regular, on slope not or only slightly finer than in anterior half of disc. Rows not impressed. Scutellar row with 6-9 punctures. Punctures moderately dense, distance between punctures 0.9-1.5 times larger than puncture diameter. Intervals regular, in sutural half of disc twice to thrice wider than rows, in marginal half only slightly wider than rows, marginal interval complete c. thrice wider than submarginal interval, with no rugosities.



243. Distribution of *Aspidimorpha citrina* (black circles), *A. exacta* (white above black circles) and *A. heroni* (black above white circle)

Punctures in marginal row large and dense, c. thrice larger than in submarginal part of disc. Surface between punctures microreticulate but shiny. Explanate margin very broad, strongly declivous, impunctate but surface slightly irregular. Elytral epipleura bare in both sexes.

Head broad, gena distinct, clypeus 1.6-1.7 times wider than long (fig. 239), glabrous, flat before antennal insertions, without median impression, with shallow but distinct clypeal lines. Labrum minutely emarginate to 1/10 length. Antennae moderately elongate (fig. 240), extending to mid coxa, length ratio of antennal segments: 100:58:111:72:66:55:66:72:77:72:94(male)90(female).

Claws pectinate only on inner side, outer margin minutely serrate (fig. 242). Inner pecten very short, with only two teeth, first extending to 1/8-1/6 length of claw (fig. 241).

Sexual dimorphism indistinct. Male slightly stouter, with last antennal segment slightly longer than in female.

DISTRIBUTION

Tanzania and Zambia (fig. 243).

REMARKS

A. citrina, *A. heroni* and *A. exacta* form a group of moderately large species with completely impunctate explanate margin of elytra. *A. exacta* distinctly differs in gibbous elytral disc, angulate in profile. *A. heroni* is the most similar to *A. citrina* but differs in more convex elytral disc and black last antennal segment (in *citrina* at most slightly infuscate apically). Explanate margin of elytra is less declivous in *A. citrina* than in *A. heroni*, with surface slightly irregular, especially along marginal row (completely regular in *heroni*). *A. citrina* is more southern species, known from Tanzania and Zambia, while both known specimens of *A. heroni* were collected in Kenya.

MATERIAL EXAMINED

TANZANIA: Pugu, 15 XII 1903, 1, HOLTZ (syntype, MM).

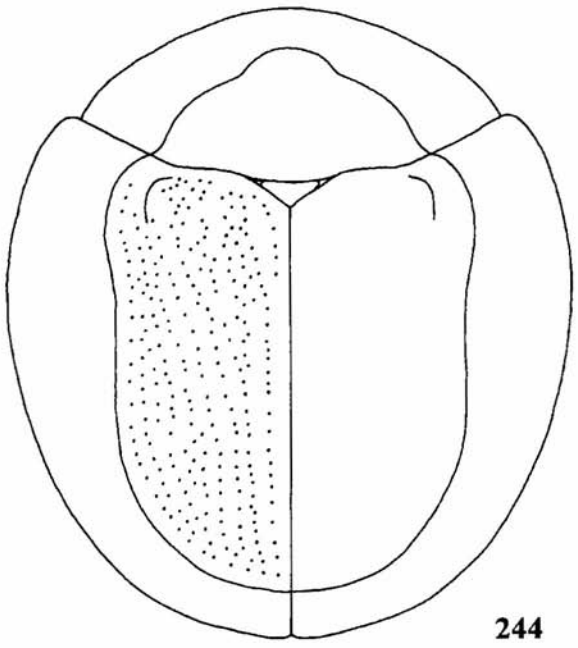
Aspidimorpha (*Spaethia*) *exacta* SPAETH, 1932

Aspidomorpha (*Spaethia*) *exacta* SPAETH, 1932 b: 20 (ST in MM, NMW).

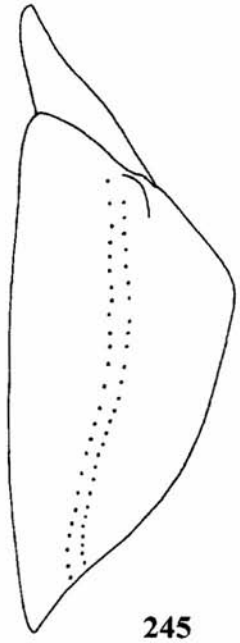
DESCRIPTION

Le: male and female: 8.1 mm, Wi: male and female: 7.2 mm, Lp: male and female: 3.0 mm, Wp: male and female: 5.3 mm, Ex: male and female: 2.0 mm, Wd: male and female: 4.4 mm; Le/Wi ratio: male and female: 1.13, Wi/Wp: male and female: 1.36, Wp/Lp: male and female: 1.77. Body almost circular (fig. 244).

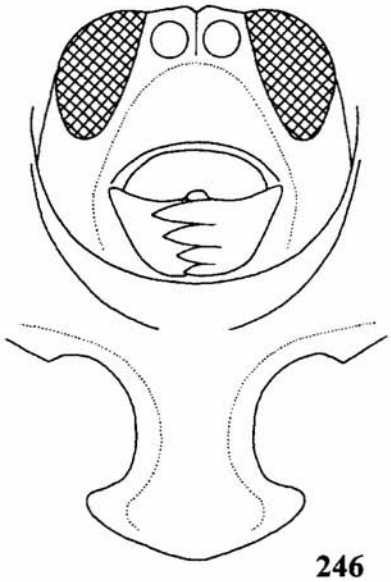
Pronotum and elytra uniformly yellow or green. Ventrites uniformly yellow. Antennae yellow, usually last three segments infuscate to black, except ventral side of apex of the last segment, sometimes also basal half of segment 9 yellow.



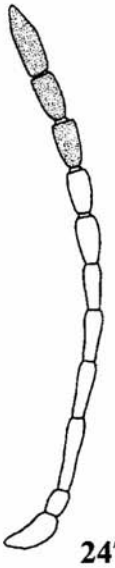
244



245



246



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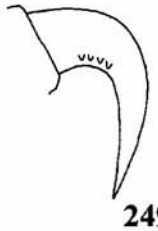


249

244-249. *Aspidimorpha exacta*: 244 - body in dorsal view, 245 - body in profile, 246 – head and prosternum, 247 – antenna, 248 – inner side of claw, 249 – outer side of claw

Pronotum very broad, narrowly ellyptical, with maximum width slightly behind the middle, sides angulate. Disc only slightly convex, microreticulate with sparse, fine pricks, glabrous. Explanate margin indistinctly bordered from disc, flat, microreticulate, glabrous.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra smooth, more distinctly wider than pronotum in any other species of the subgenus, elytral margins simple, humeri subrounded. Disc strongly gibbous in profile (fig. 245), angulate, with no postscutellar tubercle, slightly concave behind the top of convexity, without postscutellar and posterolateral impressions, principal impression hardly marked. Puncturation of disc moderate, mostly irregular, but with tendency to form regular rows, especially in sutural half of disc and anterior part of sides. Row not impressed, on slope puncturation c. twice finer than in anterior half of disc. Punctures moderately dense, distance between punctures 1.0-2.2 times larger than puncture diameter. Intervals flat, marginal interval complete, with no rugosities. Punctures in marginal row large and dense, c. twice larger than in submarginal part of disc. Surface between punctures microreticulate but shiny. Explanate margin very broad, strongly declivous, smooth and shiny, with no large punctures. Elytral epipleura bare in both sexes (in immature specimens external margin of apical part of epipleuron is sparsely pubescent, but in dried specimens the hairs are broken and invisible).

Head very broad, gena distinct, clypeus 1.9-2.0 times wider than long (fig. 246), dull, flat before antennal insertions, without median impression, with shallow but distinct clypeal lines. Labrum emarginate to 1/7 length. Antennae moderately elongate (fig. 247), extending to half length of metasternum, length ratio of antennal segments: 100:40:128:96:84:76:80:76:88:84:140 (male).

Claws pectinate only on inner side, outer margin smooth (fig. 249). Inner pecten moderate, with three teeth, extending to 1/4-1/3 length of claw (fig. 248).

Sexual dimorphism indistinct. Male slightly stouter, with last antennal segment slightly longer than in female.

DISTRIBUTION

Kenya and Tanzania (fig. 243).

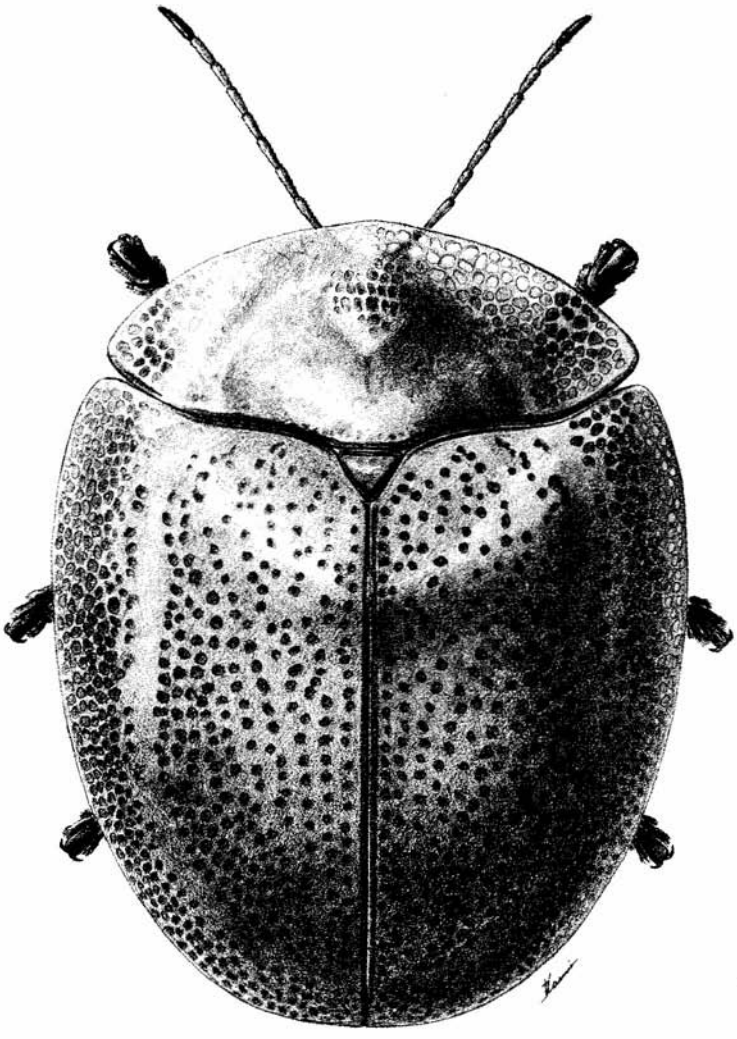
REMARKS

It belongs to a group of moderately large species without additional punctures on explanate margin of elytra. This group includes also *A. citrina* and *A. heroni*. *A. exacta* distinctly differs from both relatives in strongly gibbous elytral disc, angulate in profile (almost regularly convex in *citrina* and *heroni*). It differs also from both related species and any representatives of the subgenus in base of elytra wider than base of pronotum, with distinct cleft between pronotal corner and humeral angle. *A. siticulosa* and *A. alluaudi* at first glance are similar to *A. exacta*, especially in their gibbous elytral disc, but distinctly differ in explanate margin of elytra with additional punctures and base of elytra not or only slightly wider than base of pronotum.

MATERIAL EXAMINED
KENYA: Farm Kurundu, 1910, GOTSCH (syntype, MM).
TANZANIA: Amani, 1-20 II 1906, 1 (LB).

Aspidimorpha (Spaethia) ganglbaueri SPAETH, 1898

Iphinoë Ganglbaueri SPAETH, 1898: 541 (HT in NMW); 1899: tab. V, fig. 3b.



250. *Aspidimorpha ganglbaueri*, habitus (by J. KANIA)

Spaethia ganglbaueri: SPAETH, 1902: 453.
Aspidomorpha (Spaethia) Ganglbaueri: SPAETH, 1914 b: 79; 1919: 184, 1924: 295; 1932 b: 5.
Aspidomorpha ganglbaueri: BOROWIEC, 1985 a: 225.
Aspidomorpha degenerata WEISE, 1901: 310 (ST in ZMHU); SPAETH, 1902: 454 (as syn.).

DESCRIPTION

Le: male and female: 9.5-10.6 mm, Wi: male and female: 7.4-8.4 mm, Lp: male and female: 3.0-3.6 mm, Wp: male and female: 6.1-6.9 mm, Ex: male and female: 1.7-2.0 mm, Wd: male and female: 5.9-6.2 mm; Le/Wi ratio: male and female: 1.19-1.31, Wi/Wp: male and female: 1.15-1.23, Wp/Lp: male and female: 1.82-2.03. Body short-oval (fig. 251).

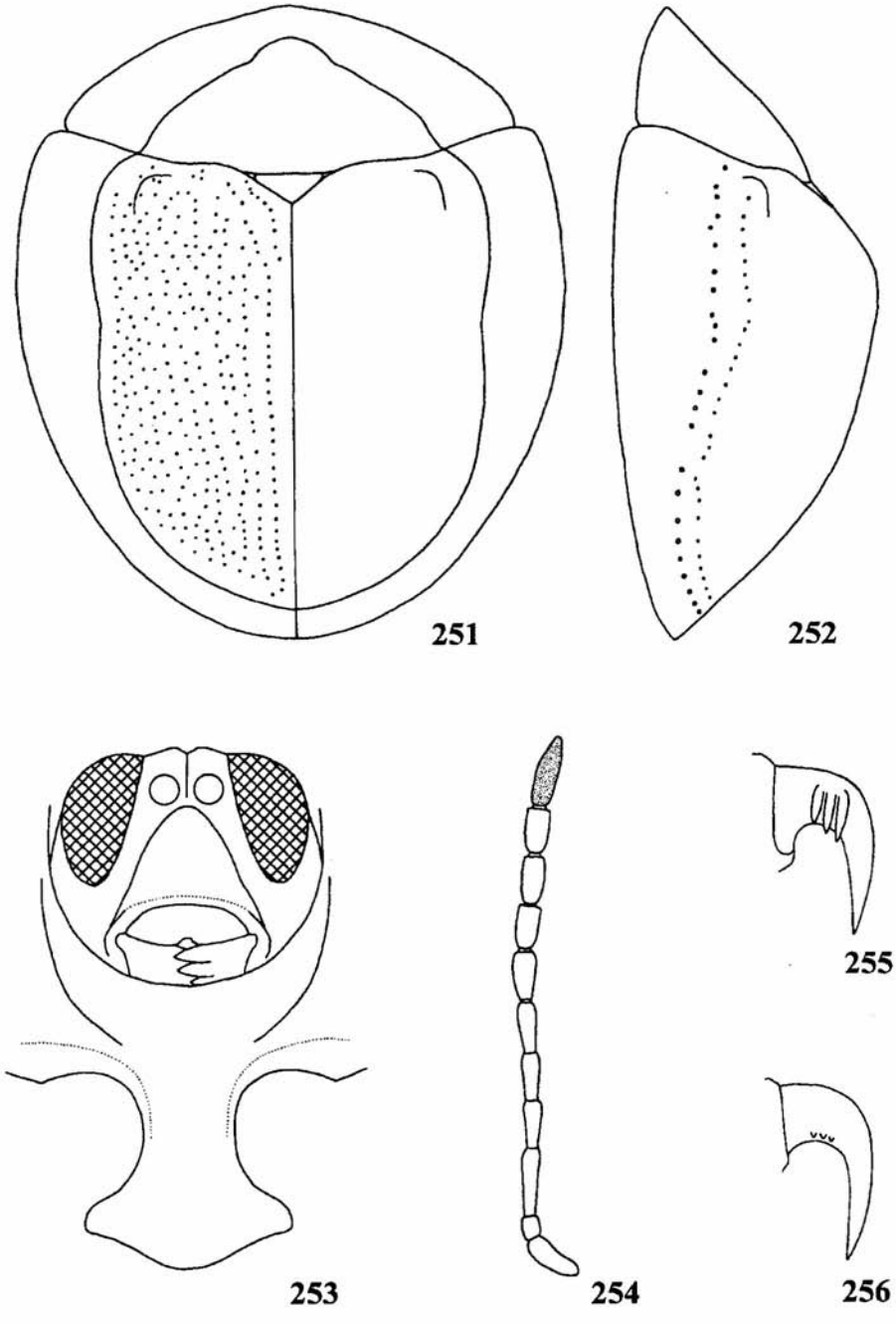
Pronotum and elytra uniformly yellow or green. Ventrites uniformly yellow. Antennae yellow, usually last segment infuscate to black, except ventral side of apex, often whole antennae yellow.

Pronotum very broad, narrowly ellyptical, with maximum width in the middle, sides angulate. Disc only slightly convex, microreticulate with very fine, sparse pricks, glabrous. Explanate margin indistinctly bordered from disc, flat, microreticulate, glabrous.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra smooth, as wide as pronotum, elytral margins simple, humeri subrounded. Disc strongly convex (fig. 252), but not as gibbous in profile as in related *A. pellucida*, *A. siticulosa* and *A. alluaudi*, but more convex than in *A. heroni*, with no postscutellar tubercle, straight behind the top of convexity, without postscutellar, principal and posterolateral impressions. Puncturation of disc fine, partly regular, but numerous additional punctures disturb the regularity, especially on interval 3 and posterolateral part of disc. Row not impressed, on slope puncturation c. twice smaller than in anterior half of disc. Punctures moderately dense, distance between punctures three to four times larger than puncture diameter. Intervals regular, flat, in sutural part of disc five to six, in lateral part of disc two to three times wider than rows, marginal interval complete, with no rugosities. Punctures in marginal row large and dense, c. thrice larger than in submarginal part of disc. Surface between punctures microreticulate but shiny. Explanate margin very broad, strongly declivous, mostly impunctate, smooth and shiny, only in humeral part with several shallow, large punctures, especially along marginal row. Elytral epipleura bare in both sexes (in immature specimens external margin of apical part of epipleuron is sparsely pubescent, but in dried specimens the hairs are broken and invisible).

Head broad, gena distinct, clypeus 1.7-1.8 times wider than long (fig. 253), dull, flat before antennal insertions, without median impression, with shallow but distinct clypeal lines. Labrum emarginate to 1/7 length. Antennae elongate (fig. 254), extending to hind margin of metasternum, length ratio of antennal segments: 100:48:132:108:104:100:100:100:100:100:160(male)140(female).

Claws pectinate only on inner side, outer margin minutely serrate (fig. 256). Inner pecten short, with four teeth, extending to 1/6-1/5 length of claw (fig. 255).



251-256. *Aspidimorpha ganglbaueri*: 251 - body in dorsal view, 252 - body in profile, 253 – head and prosternum, 254 – antenna, 255 – inner side of claw, 256 – outer side of claw

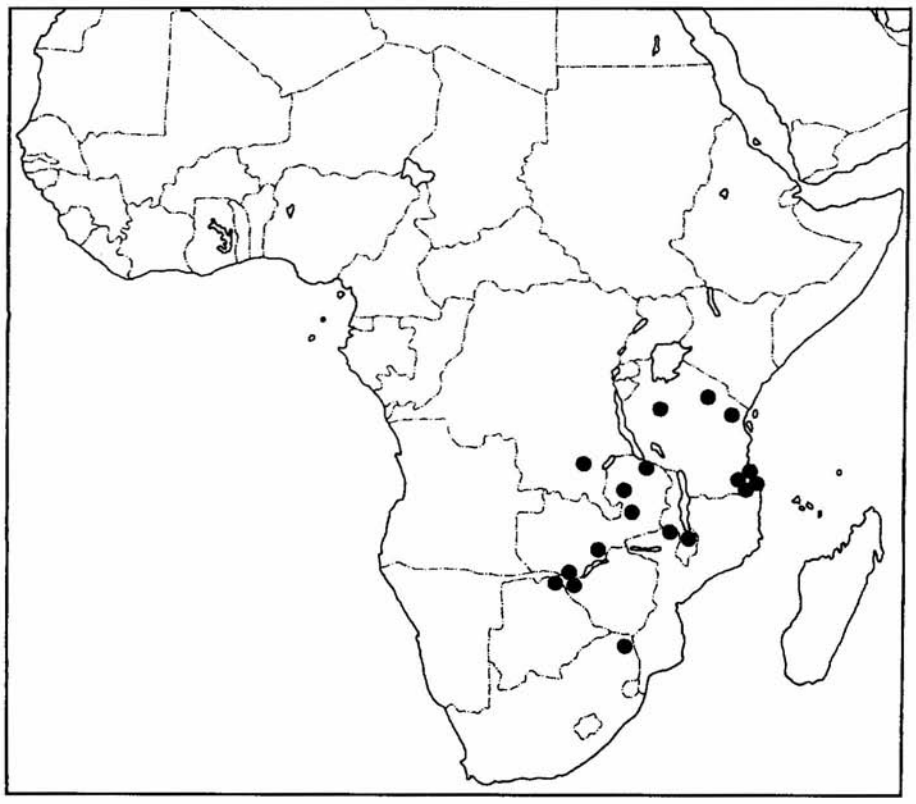
Sexual dimorphism indistinct. Male slightly stouter, with last antennal segment slightly longer than in female.

DISTRIBUTION

Southern Africa north to S Zaire and N Tanzania (fig. 257).

REMARKS

It belongs to the group of species with additional punctures on explanate margin of elytra. It is the largest species of the subgenus, only *A. scalena* has similar size but distinctly differs in strongly gibbous elytral disc, angulate in profile (in *ganglbaueri* disc is almost regularly convex) and slimmer body (Le/Wi ratio in *scalena* 1.38-1.40, in *ganglbaueri* 1.19-1.31). Large specimens of *A. pellucida* (the largest reach 9.3 mm length) are similar to the smallest specimens of *A. ganglbaueri* (9.5 mm) but have elytral disc slightly more convex than in *A. ganglbaueri* with more impressed postscutellar impressions. The last two



257. Distribution of *Aspidimorpha ganglbaueri*

species with punctate explanate margin of elytra, *A. siticulosa* and *A. alluaudi*, distinctly differ in gibbous elytral disc.

MATERIAL EXAMINED

BOTSWANA: Kasane, 1 I 1994, 1, M. SNIZEK (MS).

MALAWI: Nkopola, Forest Res., 20-21 I 1985, 5, C.L. BELLAMY (3 TM, 2 ER).

SOUTH AFRICA: Transvaal, Punda Maria, 900 ft., Kruger P., 22 II 1969, 6, R. T. SIMON THOMAS (ITZ).

TANZANIA: Deutsch. Ost Afr., 2 (ZMHU); Lindi, I 1903, 1 (ZMHU); Lindi, Ndanda, 300 m, 6-7 XII 1958, 2, LINDEMANN and PAVLITZKI (ZSM); Lukuledi, 1905, 5 (ZMHU); Lukuledi, 1, ERTL (ZMHU); Makondi Hochl., 8-11 XII 1910, 1, H. GROTE; Manjarasee, Westufer, ende XI 1893, 1, O. NEUMANN (ZMHU); Mikindani, 1, SCHNEIDER (ZMHU); Tabora, 1, TREFURTH (ZMHU); Ukiriguru, 17 IX 1958, 1, 3 X 1960, 1, I.A. ROBERTSON (BMNH); Usambara, Lutindi, 1 (ZSM).

ZAIRE: Katanga, Luembe, VIII-IX 1956, 1, Th. DE CATERS (MRAC).

ZAMBIA: Kafue Vall., Mazabuka, III 1930, 1, L. CIPRIANI (MZUF); Lake Bangweulu, Chiluwi Is., 26 XI 1946, 1 (BMNH); Livingstone, Victoria Falls, 26-31 XII 1993, 3, M. SNIZEK (MS); Serenje Distr., 4500 ft., 17 XII 1907, 1 (BMNH).

ZIMBABWE: Wankie, 24 I 1926, 1, R. STEVENSON (NMM); Wankie Nat. Park, Main Camp n. Pan 5, 10 XI 1961, 1, J.S. WEIR (BMNH); 5 mls NE Wankie, Deka River, 1-2 II 1968, 1, E. DINKEY (NMM).

VARIA: Zambesi, 1878, 10, BRADSHAW (ITZ).

Aspidimorpha (Spaethia) gausapina SPAETH, 1924

Aspidomorpha (Spaethia) gausapina SPAETH, 1924: 294 (ST in BMNH); 1932 b: 5.

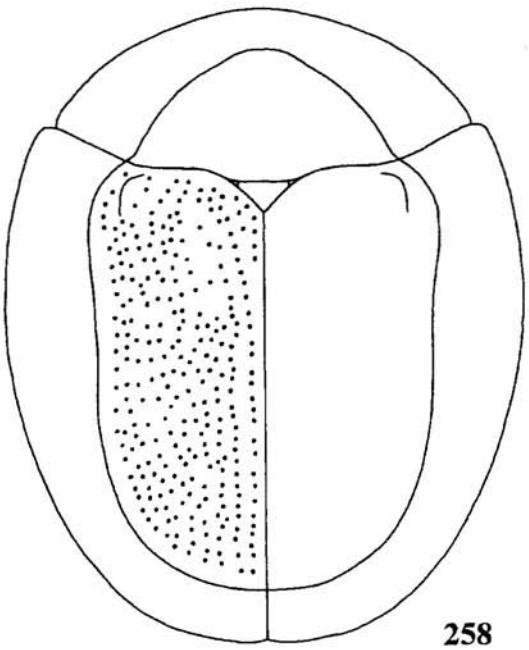
DESCRIPTION

Le: male and female: 8.1-8.9 mm, Wi: male and female: 6.6-6.8 mm, Lp: male and female: 2.7-3.0 mm, Wp: male and female: 5.3-5.6 mm, Ex: male and female: 1.4-1.6 mm, Wd: male and female: 4.5-4.9 mm; Le/Wi ratio: male and female: 1.23-1.29, Wi/Wp: male and female: 1.21-1.25, Wp/Lp: male and female: 1.83-1.96. Body oval (fig. 258)

Pronotum and elytra uniformly yellow or green. Ventrites uniformly yellow. Antennae yellow , only last segment infuscate to black, except yellow ventral side of apex.

Pronotum very broad, narrowly ellyptical, with maximum width in 2/3 length, sides angulate. Disc only slightly convex, impunctate, slightly dull. Explanate margin indistinctly bordered from disc, flat, microreticulate, slightly dull.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra indistinctly serrulate, only slightly wider than pronotum, elytral margins simple, humeri subrounded. Disc slightly gibbous in profile, but with no postscutellar tubercle, straight behind the top of convexity (fig. 259), without postscutellar, principal and posterolateral impressions. Puncturation of disc coarse, mostly



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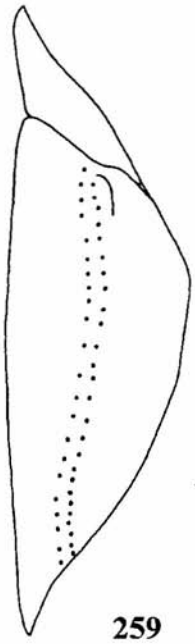

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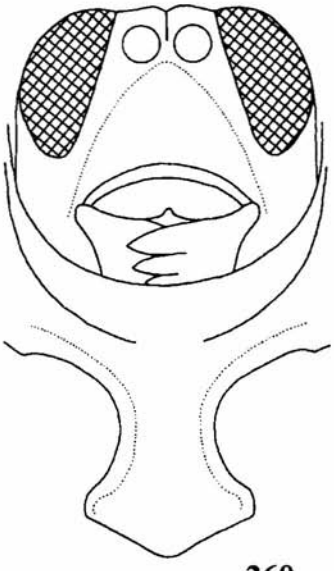

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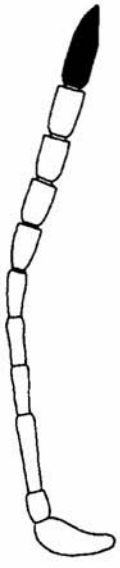

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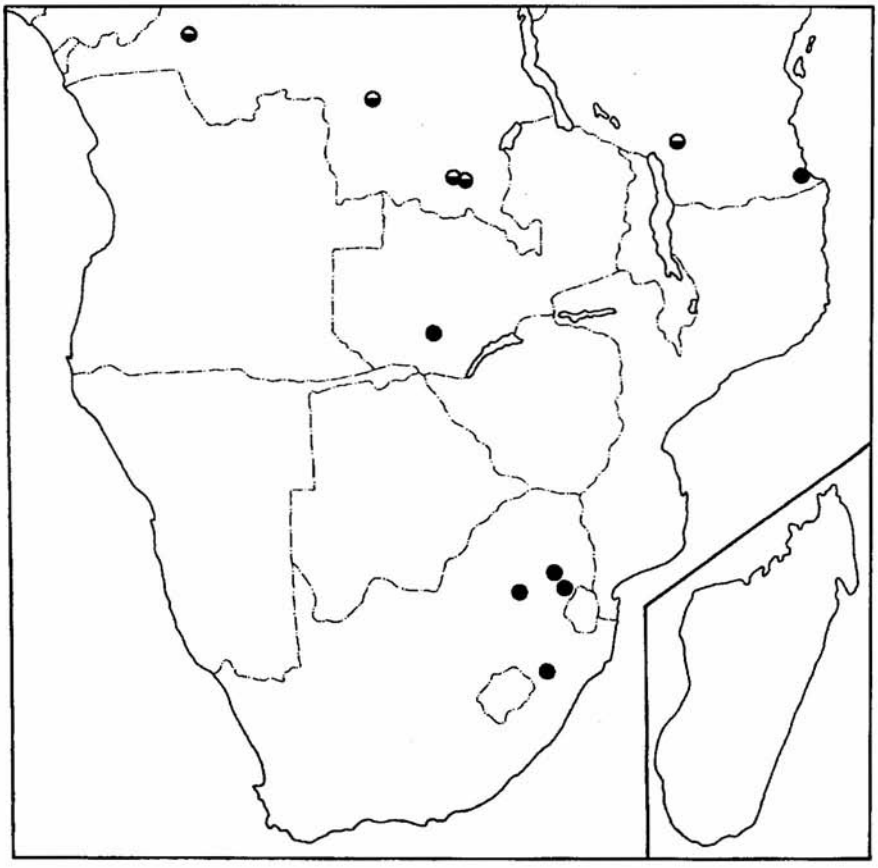
258-263. *Aspidimorpha gausapina*: 258 - body in dorsal view, 259 - body in profile, 260 – head and prosternum, 261 – antenna, 262 – inner side of claw, 263 – outer side of claw

irregular, only two sutural and two marginal rows regular, on slope puncturation not or only slightly finer than in anterior half of disc. Punctures dense, distance between punctures 0.3-0.7 times larger than puncture diameter. Intervals irregular, surface of disc appears irregular to rugose, only marginal interval complete, with no rugosities. Punctures in marginal row large and dense, c. thrice larger than in submarginal part of disc. Surface between punctures microreticulate but shiny. Explanate margin very broad, strongly declivous, its surface with shallow, large and dense irregular punctures, appears irregular to rugose. Elytral epipleura bare in both sexes.

Head broad, gena distinct, clypeus 1.7 times wider than long (fig. 260), dull, flat before antennal insertions, without median impression, with shallow but distinct clypeal lines. Labrum emarginate to 1/6 length. Antennae moderately elongate (fig. 261), extending to mid coxa, length ratio of antennal segments: 100:36:93:64:60:53:57:50:57:54:95(male)89 (female).



264. Distribution of *Aspidimorpha gausapina* (black circles) and *A. socrus* (white above black circles)

Claws pectinate only on inner side, outer margin minutely serrate (fig. 263). Inner pecten short, with three teeth, first extending to 1/4 length of claw, remainder gradually smaller (fig. 262).

Sexual dimorphism indistinct. Male slightly stouter, with last antennal segment slightly longer than in female.

DISTRIBUTION

South Africa (Natal, Transvaal) and Zambia (fig. 264).

REMARKS

A. gausapina and *A. socrus* are the only species of the subgenus with very strong elytral puncturation and distinctly irregular surface of explanate margin of elytra. They are also less convex than other species of *Spaethia*. *A. gausapina* differs from *A. socrus* in elytral puncturation mostly irregular with only two sutural and two marginal rows regular (in *A. socrus* also central rows have tendency to regularity) and surface of disc and explanate margin of elytra strongly irregular, appearing rugose (in *socrus* irregular but not appearing rugose). *A. gausapina* has a more southern distribution (Zambia and South Africa) than *A. socrus* (Tanzania, Zaire and Zambia).

MATERIAL EXAMINED

SOUTH AFRICA: Natal, 1 (LB); Natal, Estcourt, 1 (LB); Transvaal, Barberton, 1 (LB); Transvaal, Brydepoort, 20 XI 1981, 1, J. KLAPPERICH (LB); Transvaal, Lydenburg, 1, F. WILMS (ZMHU); Transvaal, Pretoria, 28 VI 1915, 1 (syntype, BMNH).

ZAMBIA: Mwenga, 28 V 1913, 1, H. C. DOLLMAN (BMNH).

Aspidimorpha (*Spaethia*) *heroni* n. sp.

ETYMOLOGY

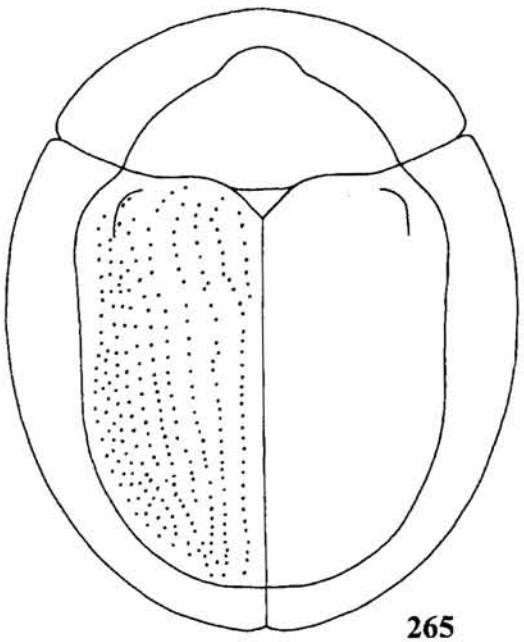
Dedicated to H. HERON, who provided me with much important information on the biology of South African cassids.

DESCRIPTION

Le: male and female: 7.2-8.0 mm, Wi: male and female: 6.0-6.5 mm, Lp: male and female: 2.6-2.8 mm, Wp: male and female: 4.9-5.2 mm, Ex: male and female: 1.5 mm, Wd: male and female: 4.4-4.8 mm; Le/Wi ratio: male and female: 1.20-1.23, Wi/Wp: male and female: 1.22-1.25, Wp/Lp: male and female: 1.86-1.88. Body almost hemispherical (fig. 265).

Pronotum and elytra uniformly yellow or green. Ventrites uniformly yellow. Antennae yellow, last segment black, except ventral side of apex.

Pronotum very broad, narrowly ellyptical, with maximum width slightly behind the middle, sides angulate. Disc only slightly convex, microreticulate, glabrous. Explanate margin indistinctly bordered from disc, flat, microreticulate, glabrous.



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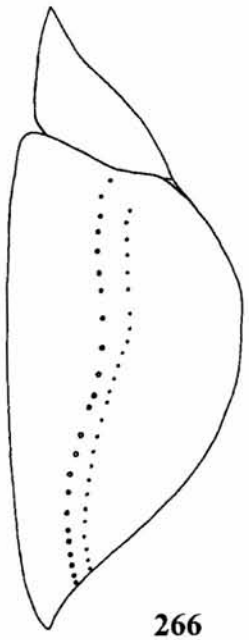

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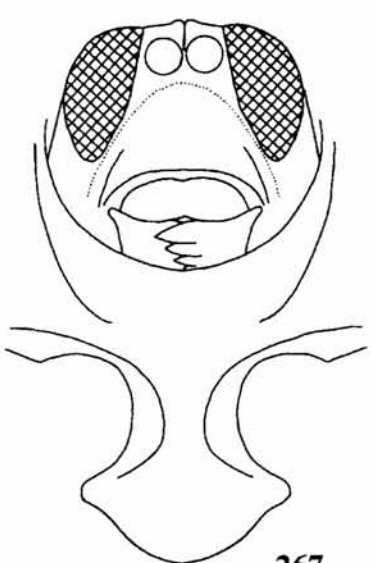

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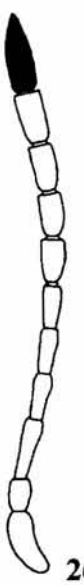

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270

265-270. *Aspidimorpha heroni*: 265 - body in dorsal view, 266 - body in profile, 267 – head and prosternum, 268 – antenna, 269 – inner side of claw, 270 – outer side of claw

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra indistinctly smooth, almost as wide as pronotum, elytral margins simple, humeri subrounded. Disc strongly convex but not appearing gibbous in profile, with no postscutellar tubercle, straight behind the top of convexity (fig. 266), without postscutellar, principal and posterolateral impressions. Puncturation of disc fine, completely regular, interval 3 with only single additional puncture. Row not impressed, on slope puncturation c. twice finer than in anterior half of disc. Punctures moderately dense, distance between punctures twice to thrice larger than puncture diameter. Intervals regular, flat, in sutural part four to five, in lateral part two to three times wider than rows, marginal interval complete, with no rugosities. Punctures in marginal row large and dense, c. thrice larger than in submarginal part of disc. Surface between punctures microreticulate but shiny. Explanate margin very broad, strongly declivous, smooth and glabrous, with no large punctures in humeral part. Elytral epipleura bare in both sexes (in immature specimens external margin of apical part of epipleuron is sparsely pubescent, but in dried specimens the hairs are broken and invisible).

Head broad, gena distinct, clypeus 1.6-1.7 times wider than long (fig. 267), glabrous, flat before antennal insertions, without median impression, with shallow but distinct clypeal lines. Labrum emarginate to 1/7 length. Antennae moderately elongate (fig. 268), extending to half length of metasternum, length ratio of antennal segments: 100:54:100:72:68:64:68:72:72:82:136(male).

Claws pectinate only on inner side, outer margin smooth (fig. 270). Inner pecten extremely short, with only two teeth, slightly protruding behind margin of claw (fig. 269).

Sexual dimorphism indistinct. Male slightly stouter, with last antennal segment slightly longer than in female.

DISTRIBUTION

Kenya (fig. 243).

REMARKS

It belongs to a group of moderately large species with impunctate explanate margin of elytra. This group includes also *A. exacta* and *A. citrina*. *A. heroni* is the most regularly convex species of the group with almost hemisphaerical elytral disc. *A. exacta* distinctly differs in gibbous elytral disc, angulate in profile. *A. citrina* differs in less convex elytral disc, more explanate margin of elytra with its surface slightly irregular (in *heroni* surface of explanate margin of elytra is completely regular, smooth and glabrous).

MATERIAL EXAMINED

KENYA: holotype and paratype: Watamu, 30 km S Malindi, 20 VIII 1982, 2, native collector (LB).

Aspidimorpha (Spaethia) pellucida WEISE, 1899

Aspidomorpha pellucida WEISE, 1899: 257 (LT in ZMHU, PLT in DEI).
Aspidomorpha (Spaethia) pellucida: SPAETH, 1914 b: 79, 1924: 295; 1932 b: 5.
Spaethia pellucida: SPAETH, 1912 a: 129.
Aspidomorpha (Spaethia) Schoutedeni SPAETH, 1912 a: 127 (LT in MRAC, PLT in MM); 1914 b: 79, 1924: 292, 296; 1925: 4; 1932 b: 5, **n. syn.**

DESCRIPTION

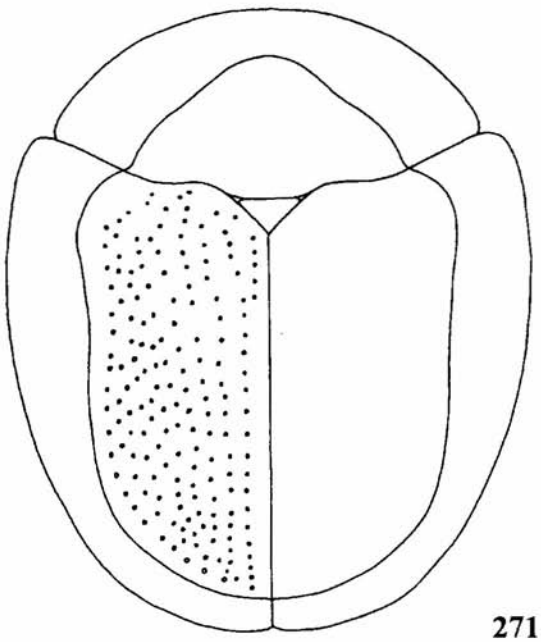
Le: male and female: 7.8-9.3 mm, Wi: male and female: 6.4-7.5 mm, Lp: male and female: 2.8-3.1 mm, Wp: male and female: 5.2-5.8 mm, Ex: male and female: 1.4-1.8 mm, Wd: male and female: 4.5-5.4 mm; Le/Wi ratio: male and female: 1.20-1.30, Wi/Wp: male and female: 1.21-1.29, Wp/Lp: male and female: 1.74-1.93. Body short-oval to almost circular (fig. 271).

Pronotum and elytra uniformly yellow or green. Ventrites uniformly yellow. Antennae yellow, usually last segment infuscate to black, except ventral side of apex, sometimes also apical half of segment 10 infuscate to black, occasionally antennae uniformly yellow.

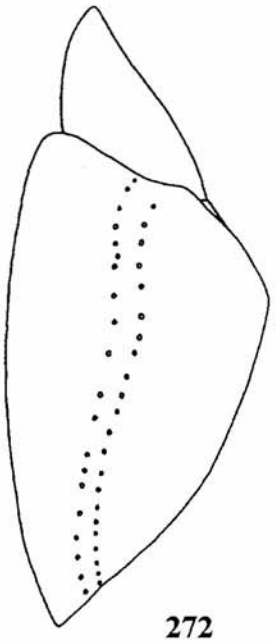
Pronotum very broad, narrowly ellyptical, with maximum width in 3/5 length, sides angulate. Disc only slightly convex, microreticulate with sparse, fine pricks, slightly dull to glabrous. Explanate margin indistinctly bordered from disc, flat, microreticulate, slightly dull.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra indistinctly serrulate, slightly wider than pronotum, elytral margins simple, humeri subrounded. Disc gibbous in profile (fig. 272), but not as strongly as in related *A. siticulosa* and *A. alluaudi* (specimens from Kenya and Tanzania are slightly less gibbous than those from Zaire and Zambia), with no postscutellar tubercle, straight behind the top of convexity, without postscutellar, principal and posterolateral impressions. Puncturation of disc moderate, mostly regular, with only few additional, irregular punctures on interval 3. Rows not impressed, on slope puncturation c. twice finer than in anterior half of disc. Punctures moderately dense, distance between punctures twice to thrice larger than puncture diameter. Intervals regular, flat, marginal interval complete, with no rugosities. Punctures in marginal row large and dense, c. thrice larger than in submarginal part of disc. Surface between punctures microreticulate but shiny. Explanate margin very broad, strongly declivous, mostly impunctate, smooth and shiny, only in humeral part with several shallow, large punctures, especially along marginal row. Elytral epipleura bare in both sexes (in immature specimens external margin of apical part of epipleuron is sparsely pubescent, but in dried specimens the hairs are broken and invisible).

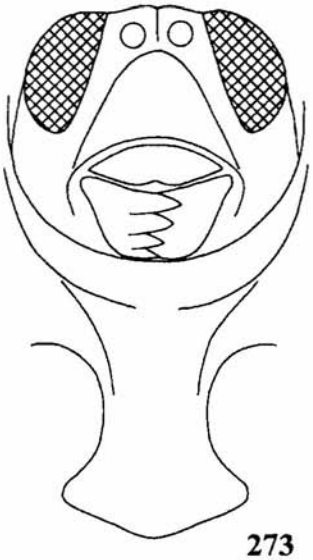
Head broad, gena distinct, clypeus 1.8-1.9 times wider than long (fig. 273), dull, flat before antennal insertions, without median impression, with shallow but distinct clypeal lines. Labrum emarginate to 1/7 length. Antennae moderately elongate (fig. 274), extending to half length of metasternum, length ratio of antennal segments: 100:44:107:88:86:74:78:74:74:78:111(male)100(female).



271



272



273

274

275

276

271-276. *Aspidimorpha pellucida*: 271 - body in dorsal view, 272 - body in profile, 273 – head and prosternum, 274 – antenna, 275 – inner side of claw, 276 – outer side of claw

Claws pectinate only on inner side, outer margin minutely serrate (fig. 276). Inner pecten short, with three teeth, first extending to 1/5-1/4 length of claw, remainder gradually smaller (fig. 275).

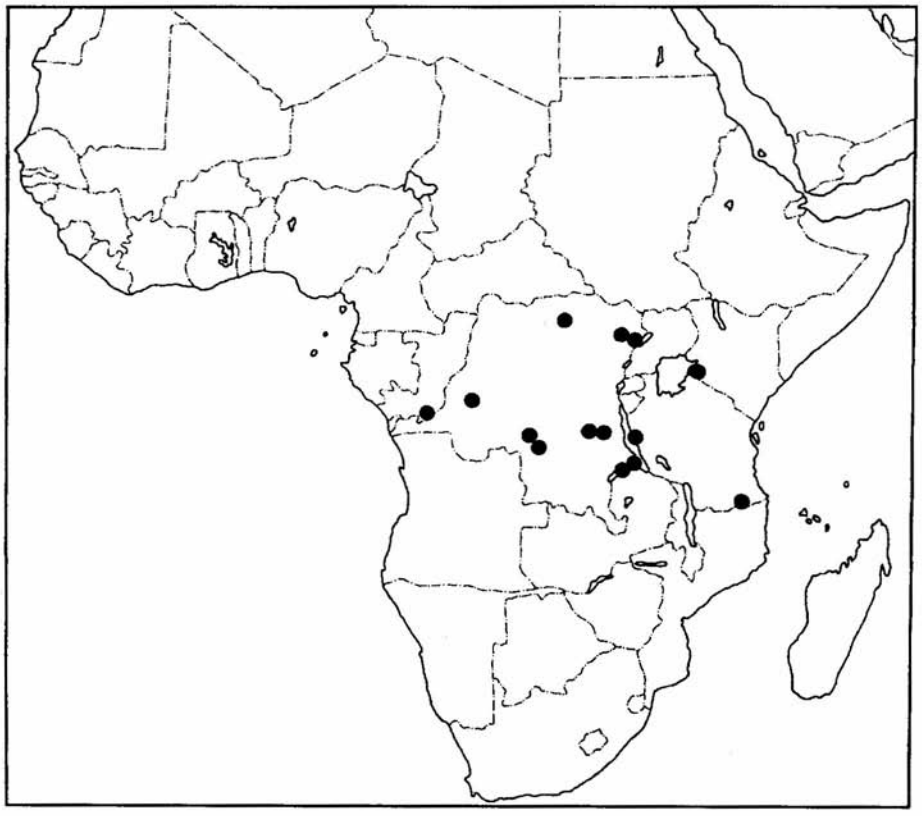
Sexual dimorphism indistinct. Male slightly stouter, with last antennal segment slightly longer than in female.

DISTRIBUTION

Central and western part of eastern Africa, south to N Zambia (fig. 277).

REMARKS

A. pellucida, *A. siticulosa* and *A. alluaudi* form a group of moderately large species with additional punctures on explanate margin of elytra. They are very similar and difficult to identify. *A. pellucida* is the least convex species of the group, especially specimens from north-eastern part of the distribution range are



277. Distribution of *Aspidimorpha pellucida*

less gibbous. It is also stouter than both relatives (Le/Wi ratio usually below 1.28, in *alluaudi* and *siticulosa* usually above 1.28). *A. alluaudi* is well separated in its strongly gibbous elytral disc and coarser puncturation of explanate margin of elytra, but stout and less gibbous specimens of *A. siticulosa* are extremely similar to slim specimens of *A. pellucida* and differ only in slightly more impressed postscutellar impressions. *A. pellucida* is rather widespread in central Africa while *A. siticulosa* is limited to the mountain and submountain regions of eastern Zaire and border regions of Uganda and Tanzania. *A. pellucida* and *A. schoutedeni* were described as distinct species but they represent extreme geographic forms of the same species. The form from Republic of Congo has distinctly more gibbous elytral disc than the form from Tanzania described as *A. pellucida*. Populations from Zaire represent all intermediate forms between gibbous western *schoutedeni* and almost regularly convex eastern *pellucida*, thus I treat *A. schutedeni* as a junior synonym of *A. pellucida*.

MATERIAL EXAMINED

KENYA: Monianku, Kisii, 12 III 1978, 1, J.W. WASKEVICH (PMNH).

REPUBLIC OF CONGO: Brazzaville, 3 (paralectotypes of *schoutedeni*, present designation, MM).

TANZANIA: Sengwa, 14 III 1915, 1 (LB); Tanganika-see, 1, P. REICHARD (ZMHU).

ZAIRE: Bambesa, 2 (1 MM, 1 LB), 10 IX 1933, 2, J.V. LEROY (MRAC), 9 IV 1937, 1, II-III 1938, 1, X 1938, 1, J. VRYDAGH (MRAC); Kasongo, Lualaba, 1 (LB); Kibali-Ituri, Lodjo, VIII 1939, 1, LEPERSONNE (MRAC); Lulua, Kabomba, XI 1937, 1, VANDERSTICHELE (MRAC), XII 1937, 2, (MRAC); Lulua, Riv. Lundji, 22 IX 1933, 1, F.G. OVERLAET (MRAC); Manyema, 1, DUPUIS (lectotype of *schoutedeni*, present designation, MRAC); Moliro, III-V 1895, 2, J. DUVIVIER (IRSN); Mongbwalu, 20 V 1939, 1, A. LEPERSONNE (MRAC); Mongbwalu, Kilo, 1938, 1, SCHEITZ (MRAC); Potopot n. Dima, 4 IX 1930, 1, G.F. DE WITTE (MRAC); Tanganjika-S., 1, P. REICHARD (ZMHU); Zaire, 2 (IRSN).

ZAMBIA: Musosa, 1 (LB), 980 m, XI 1953, 2, H. BOMANS (MRAC).

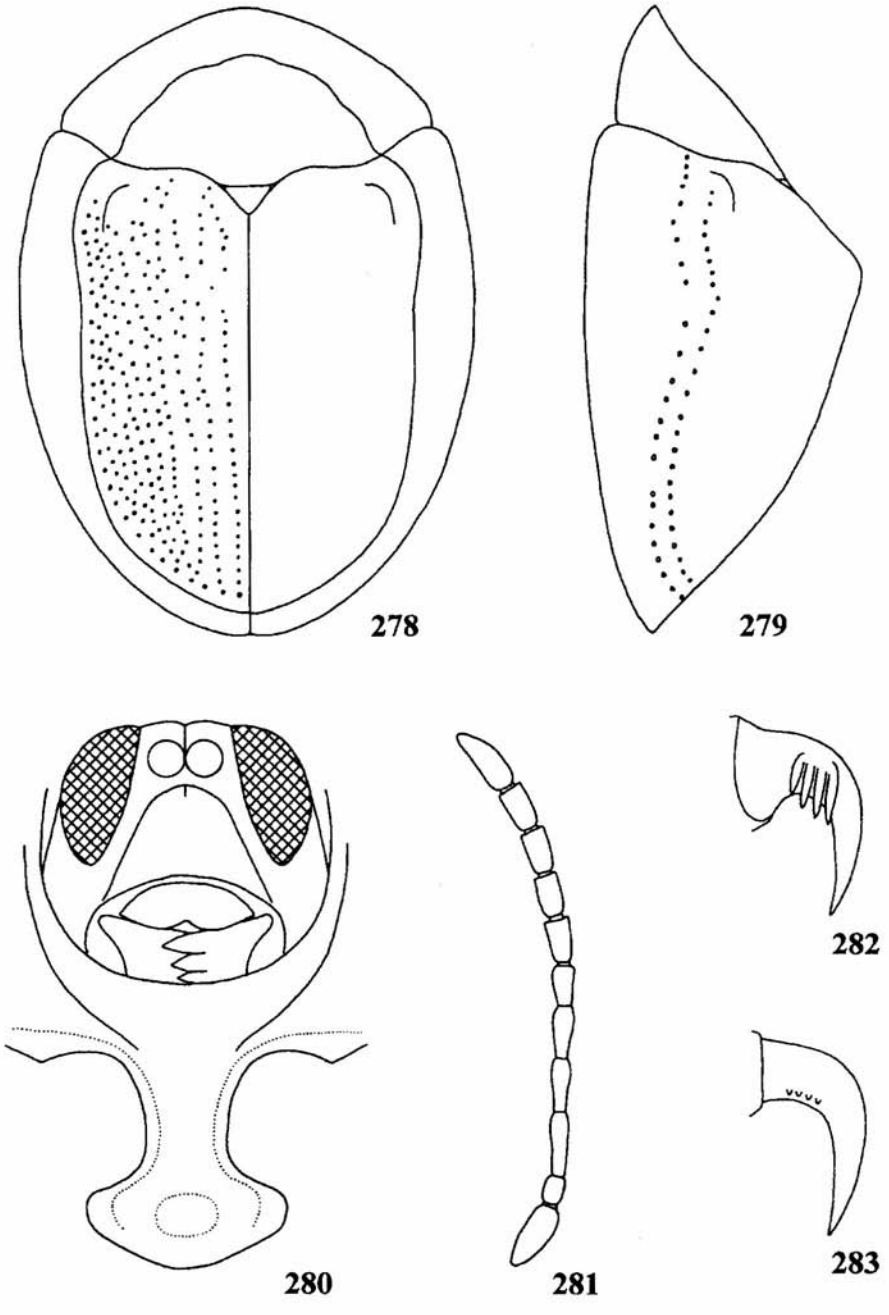
VARIA: Afr. or., 3, BENINGSEN (lectotype of *A. pellucida*, ZMHU, 2 paralectotypes of *A. pellucida*, DEI).

Aspidimorpha (Spaethia) scalena SPAETH, 1917

Aspidomorpha (Spaethia) scalena SPAETH, 1917: 428 (LT in MRAC, PLT in MRAC, MM); 1924: 296; 1932 b: 5.
Aspidomorpha scalena: SHAW, 1961: 18.

DESCRIPTION

Le: male and female: 9.9-10.5 mm, Wi: male and female: 7.1-7.5 mm, Lp: male and female: 3.3-3.4 mm, Wp: male and female: 5.8-6.1 mm, Ex: male and female: 1.4-1.7 mm, Wd: male and female: 5.4-5.8 mm; Le/Wi ratio: male and



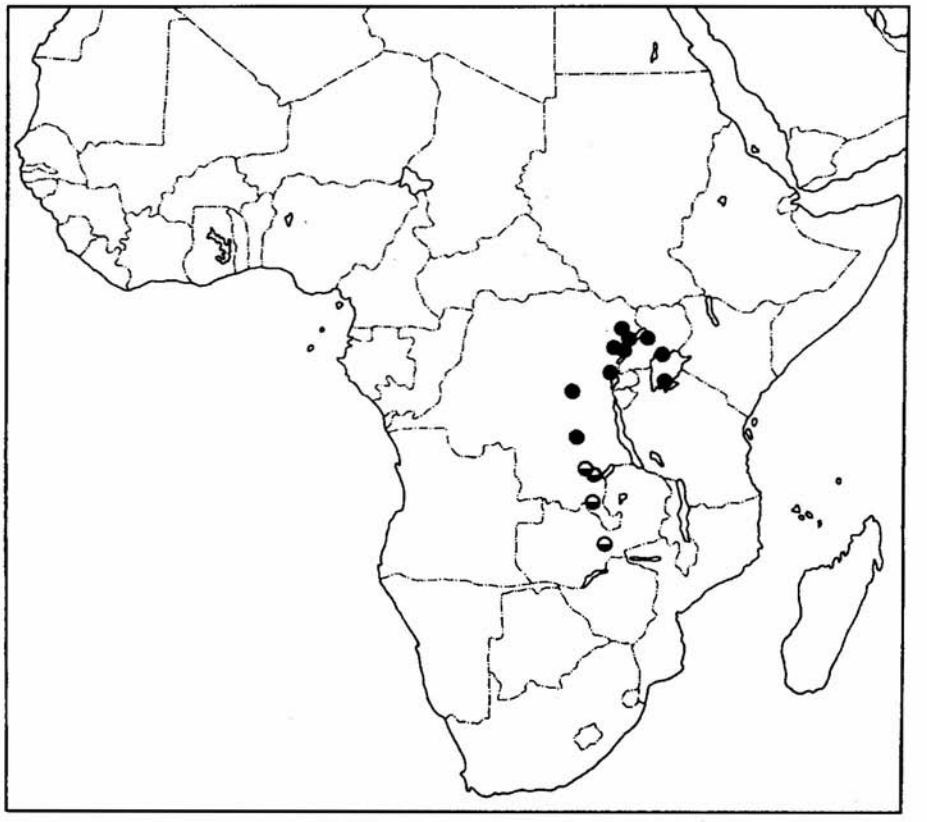
278-282. *Aspidimorpha scalena*: 278 - body in dorsal view, 279 - body in profile, 280 – head and prosternum, 281 – antenna, 282 – inner side of claw, 283 – outer side of claw

female: 1.38-1.40, Wi/Wp: male and female: 1.18-1.24, Wp/Lp: male and female: 1.71-1.85. Body oval (fig. 278).

Pronotum and elytra uniformly yellow or green. Ventrites uniformly yellow. Antennae uniformly yellow, or last segment partly infuscate.

Pronotum very broad, narrowly ellyptical, with maximum width behind the middle, sides angulate. Disc only slightly convex, microreticulate with sparse, fine pricks, slightly glabrous. Explanate margin indistinctly bordered from disc, flat, microreticulate, glabrous.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra smooth or indistinctly serrulate, slightly wider than pronotum, elytral margins simple, humeri subrounded. Disc strongly gibbous in profile, angulate, with no postscutellar tubercle, slightly concave behind the top of convexity (fig. 279), without postscutellar, principal and posterolateral impressions. Puncturation of disc moderate, with tendency to form regular rows, additional, irregular punctures on interval 3 and in posterolateral part of disc disturb the regularity. Rows



284. Distribution of *Aspidimorpha scalena* (white above black circles) and *A. siticulosa* (black circles)

not impressed, on slope puncturation slightly smaller than in anterior half of disc. Punctures moderately dense, distance between punctures 1.2-2.5 times larger than puncture diameter. Intervals, flat, marginal interval complete, with no rugosities. Punctures in marginal row large and dense, c. twice larger than in submarginal part of disc. Surface between punctures microreticulate but shiny. Explanate margin very broad, strongly declivous, mostly impunctate, smooth and shiny, but along marginal row with two or three irregular rows of shallow, large punctures. Elytral epipleura bare in both sexes (in immature specimens external margin of apical part of epipleuron is sparsely pubescent, but in dried specimens the hairs are broken and invisible).

Head broad, gena distinct, clypeus 1.8-1.9 times wider than long (fig. 280), glabrous, flat before antennal insertions, without median impression, with shallow but distinct clypeal lines. Labrum emarginate to 1/7 length. Antennae moderately elongate (fig. 281), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:40:100:73:70:63:70:66:70:70:106.

Claws pectinate only on inner side, outer margin minutely serrate (fig. 282). Inner pecten moderate, with four teeth, extending to 1/3 length of claw (fig. 281).

Sexual dimorphism indistinct. Male slightly stouter, with last antennal segment slightly longer than in female.

DISTRIBUTION

S Zaire and Zambia (fig. 284).

REMARKS

A. scalena and *A. ganglbaueri* are the only African species of the subgenus with length above 9.4 mm (only Madagascan *A. cepaecolor* has similar size). Both have additional punctures on explanate margin of elytra. *A. scalena* has extremely gibbous elytral disc, angulate in profile, while *A. ganglbaueri* it is regularly convex, without angulation.

MATERIAL EXAMINED

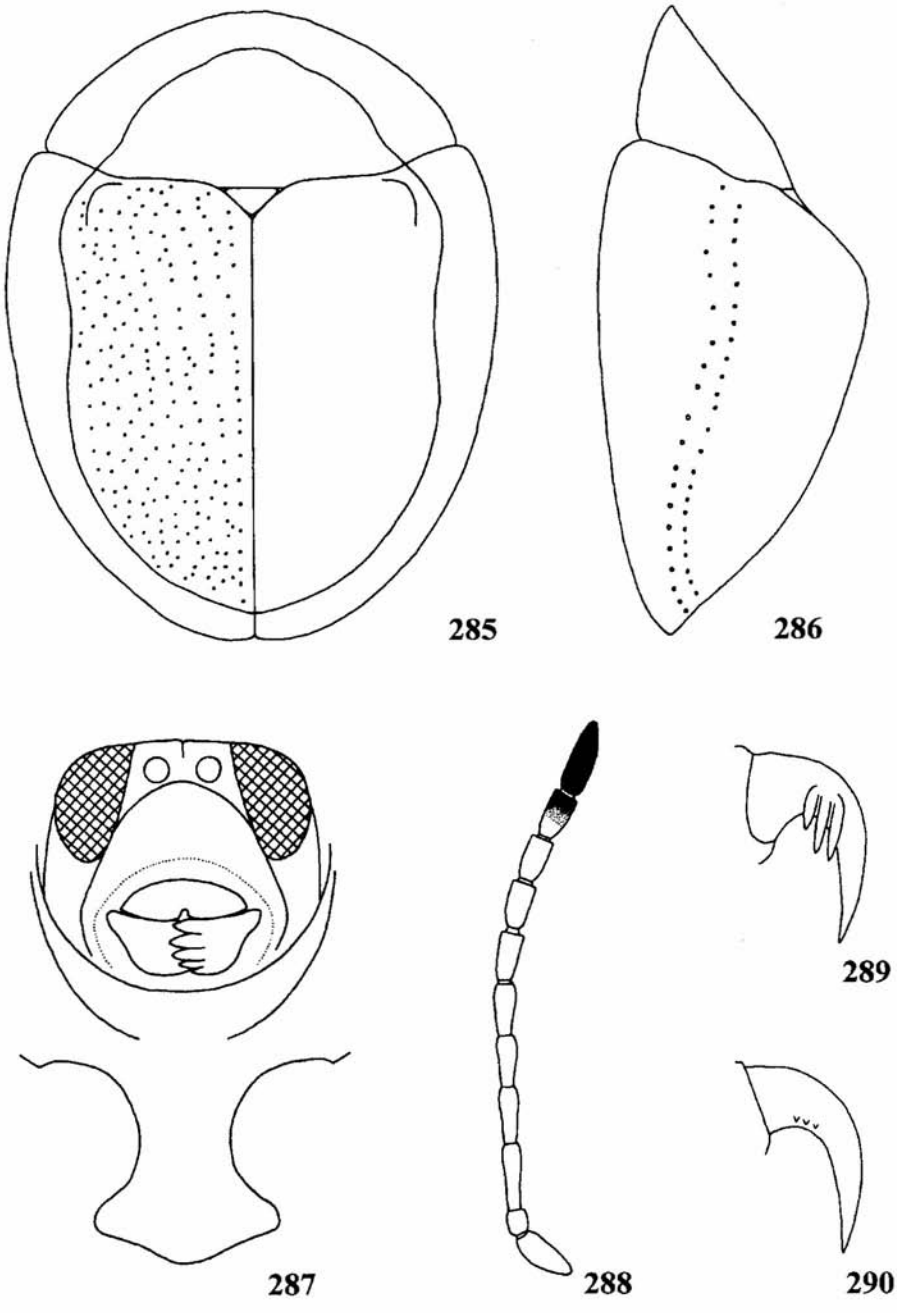
ZAIRE: Elisabethville, X 1911, 2, Miss. agric. (paralectotypes, present designation, 1 MRAC, 1 MM); Kapiri, IX 1912, 2, Miss. Agric. (lectotype, present designation, MRAC, paralectotype, present designation, MM); Mufungwa, Sampwe, 1-16 XII 1911, 1, Dr. BEQUAERT (MRAC).

ZAMBIA: Broken Hill, XI 1929, 1 (LB); N Rhodesia, 2 (LB).

Aspidimorpha (*Spaethia*) *siticulosa* SPAETH, 1917

Aspidomorpha (*Spaethia*) *siticulosa* SPAETH, 1917: 428 (LT in MRAC, PLT in MRAC, MM); 1924: 296; 1932 b: 5.

Aspidomorpha siticulosa: SHAW, 1961: 18; BOROWIEC, 1986: 796.



285-290. *Aspidimorpha siticulosa*: 285 - body in dorsal view, 286 - body in profile, 287 – head and prosternum, 288 – antenna, 289 – inner side of claw, 290 – outer side of claw

DESCRIPTION

Le: male and female: 7.0-8.9 mm, Wi: male and female: 5.4-6.5 mm, Lp: male and female: 2.4-2.7 mm, Wp: male and female: 4.5-5.1 mm, Ex: male and female: 1.2-1.5 mm, Wd: male and female: 4.1-5.2 mm; Le/Wi ratio: male and female: 1.20-1.39, Wi/Wp: male and female: 1.20-1.31, Wp/Lp: male and female: 1.81-2.04. Body oval (fig. 285).

Pronotum and elytra uniformly yellow or green. Ventrites uniformly yellow. Antennae yellow, usually last segment infuscate to black, except ventral side of apex, sometimes also apical half of segment 10 infuscate to black, occasionally antennae uniformly yellow.

Pronotum very broad, narrowly ellyptical, with maximum width in 2/3 length, sides angulate. Disc only slightly convex, microreticulate with sparse, fine pricks, glabrous. Explanate margin indistinctly bordered from disc, flat, microreticulate, glabrous.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra indistinctly serrulate, slightly wider than pronotum, elytral margins simple, humeri subrounded. Disc gibbous in profile (fig. 286), more gibbous than in *A. pellucida* but less so than in *A. alluaudi*, with no postscutellar tubercle, slightly concave behind the top of convexity, without postscutellar, principal and posterolateral impressions. Puncturation of disc fine (punctures have dark coloured areole and appear larger than in reality), almost regular, with only few additional, irregular punctures on interval 3. Rows not impressed, on slope puncturation c. twice smaller than in anterior half of disc. Punctures moderately dense, distance between punctures twice to thrice larger than puncture diameter. Intervals regular, flat, marginal interval complete, with no rugosities. Punctures in marginal row large and dense, c. thrice larger than in submarginal part of disc. Surface between punctures microreticulate but shiny. Explanate margin very broad, strongly declivous, mostly impunctate, smooth and shiny, only in humeral part with several shallow, large punctures, especially along marginal row. Elytral epipleura bare in both sexes (in immature specimens external margin of apical part of epipleuron is sparsely pubescent, but in dried specimens the hairs are broken and invisible).

Head broad, gena distinct, clypeus c. twice wider than long (fig. 287), dull, flat before antennal insertions, without median impression, with shallow but distinct clypeal lines. Labrum emarginate to 1/6 length. Antennae moderately elongate (fig. 288), extending to half length of metasternum, length ratio of antennal segments: 100:48:86:71:70:64:68:71:68:75:110 (male)105 (female).

Claws pectinate only on inner side, outer margin minutely serrate (fig. 290). Inner pecten short, with three teeth, first extending to 1/5-1/4 length of claw, remainder gradually smaller (fig. 289).

Sexual dimorphism indistinct. Male slightly stouter, with last antennal segment slightly longer than in female.

DISTRIBUTION

E Zaire, Uganda and W Tanzania (fig. 284).

REMARKS

It is an intermediate species between *A. pellucida* and *A. alluaudi*. It is slightly more gibbous than A. *pellucida* but slightly less so than *A. alluaudi*. Puncturation of explanate margin in *A. siticulosa* is similar to that in *A. pellucida* and slightly finer than in *A. alluaudi*. *A. siticulosa* is generally slimmer than *A. pellucida*, similar to *A. alluaudi*. All these characters are variable and correct identification is possible by comparison with a series of properly identified specimens. See also remarks under *A. alluaudi* and *A. pellucida*.

MATERIAL EXAMINED

TANZANIA: Ukerewe Is., Victoria See, 1, CONRADS (DEI).

UGANDA: Entebbe, I 1973, 1, H. FALKE (CNCI); Masindi Distr., Budongo Forest n. Sonso, 1°45'N, 31°35'E, 19-30 VI 1995, 4, 1-10 VII 1995, 3, 21-30 VII 1995, 1, T. WAGNER (TW).

ZAIRE: Albert Nat. Park, Kimboho, 925 m, 28 XI 1935, 1, H. DAMAS (MRAC); Albert Nat. Park, Mutsora, 1939, 3, HACKARS (MRAC); Beni, 1, BORGERHOFF (MM); Kasengi, Lac Albert, 13 XII 1953, 1, J. VERBEKE (IRSN); Kassenga, II 1912, 6, BEQUAERT (lectotype, present designation, MRAC, paralectotypes, present designation, 2 MRAC, 2 MM, 1 IRSN); N. Lac Kivu, Rwankwi, IV 1946, 3, XI 1947, 2, XII 1947, I 1948, 3, III 1948, 1, VI 1951, 2, VIII 1951, 12, IX 1951, 5, XI 1951, 7, XII 1951, 11, J.V. LEROY (MRAC); Lokandu, Ile Biawa, VII 1939, 1, Lt. VISSERS (MRAC); Mongbwalu, Kilo, 1919, 1, SCHEITZ (MM).

Aspidimorpha (Spaethia) socrus SPAETH, 1917

Aspidomorpha (Spaethia) socrus SPAETH, 1917: 429 (LT and PLT in MRAC); 1924: 294; 1932 b: 5.

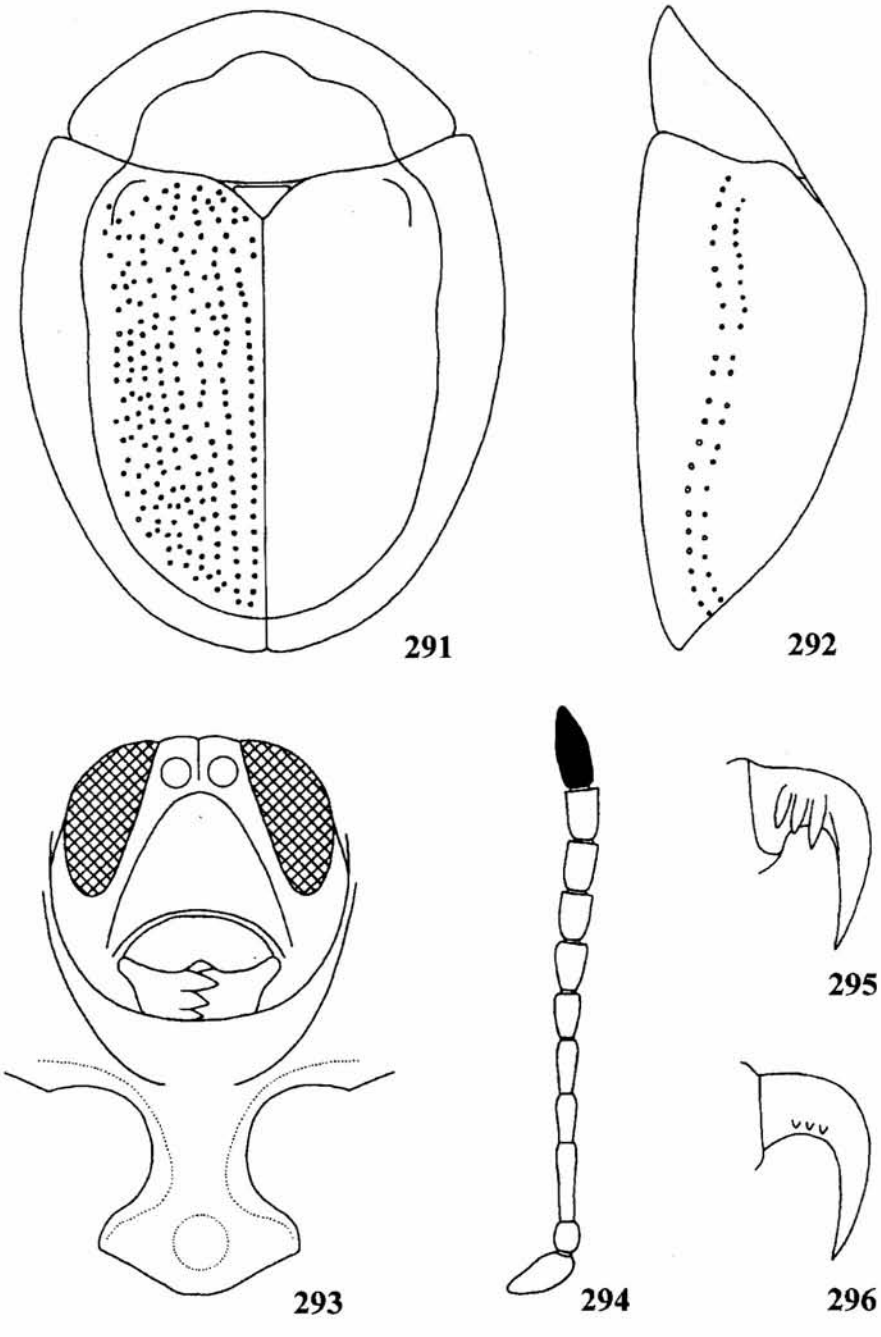
DESCRIPTION

Le: male and female: 7.8-9.0 mm, Wi: male and female: 5.7-6.6 mm, Lp: male and female: 2.7-3.0 mm, Wp: male and female: 4.7-5.4 mm, Ex: male and female: 1.2-1.4 mm, Wd: male and female: 4.4-4.9 mm; Le/Wi ratio: male and female: 1.33-1.41, Wi/Wp: male and female: 1.18-1.27, Wp/Lp: male and female: 1.68-1.89. Body oval (fig. 291).

Pronotum and elytra uniformly yellow or green. Ventrites uniformly yellow. Antennae yellow, only last segment infuscate to black, except ventral side of apex.

Pronotum very broad, narrowly ellyptical, with maximum width in 7/11 length, sides angulate. Disc only slightly convex, impunctate, slightly dull. Explanate margin indistinctly bordered from disc, flat, microreticulate slightly dull.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra indistinctly serrulate, not or only slightly wider than pronotum, elytral margins simple, humeri subrounded. Disc slightly gibbous in profile, but with no posts-



291-296. *Aspidimorpha socrus*: 291 - body in dorsal view, 292 - body in profile, 293 – head and prosternum, 294 – antenna, 295 – inner side of claw, 296 – outer side of claw

cutellar tubercle, straight behind the top of convexity (fig. 292), without postscutellar, principal and posterolateral impressions. Puncturation of disc coarse, mostly regular, but additional punctures on intervals 4, 6 and 10 disturb the regularity, especially some specimens from Zaire have so many additional punctures that puncturation appears mostly irregular, like in *A. gausapina*. Punctures dense, distance between punctures 0.3-0.7 times larger than puncture diameter. Intervals partly regular, as wide as slightly depressed rows, surface of disc appears more regular than in related *A. gausapina*, marginal interval complete, with no rugosities, as wide as two rows together. Punctures in marginal row large and dense, c. thrice larger than in submarginal part of disc. Surface between punctures microreticulate but shiny. Explanate margin very broad, strongly declivous, its surface with shallow, large and dense irregular punctures, appears irregular. Elytral epipleura bare in both sexes.

Head broad, gena distinct, clypeus 1.6 times wider than long (fig. 293), dull, flat before antennal insertions, without median impression, with shallow but distinct clypeal lines. Labrum emarginate to 1/6 length. Antennae moderately elongate (fig. 294), extending to mid coxa, length ratio of antennal segments: 100:40:112:60:68:60:64:60:64:60:105(male)100(female).

Claws pectinate only on inner side, outer margin minutely serrate (fig. 296). Inner pecten short, with three teeth, first extending to 1/4 length of claw, remainder gradually smaller (fig. 295).

Sexual dimorphism indistinct. Male slightly stouter, with last antennal segment slightly longer than in female.

DISTRIBUTION

S Zaire, N Zambia and Tanzania (fig. 264).

REMARKS

Next to *A. gausapina* it is the only species with distinctly irregular surface of explanate margin of elytra. Puncturation of disc in *A. socrus* is more regular than in *A. gausapina* and in the middle of each disc punctures have tendency to regularity (especially specimens from Tanzania and Zambia are regularly punctured), only in some specimens from Zaire additional punctures on intervals disturb the regularity but in this case surface of elytra is never as irregular as in *A. gausapina* and never appears rugose (in *A. gausapina* always appears rugose). Surface of explanate margin in *A. socrus* is less irregular than in *A. gausapina*. Both species are separated geographically (see fig 264).

MATERIAL EXAMINED

TANZANIA: Lindi, 1 VII-15 VIII 1907, 1 (ZMHU); Uheheland, Kidugala, 1 (MM).

ZAIRE: Jadotville, IX-X 1945, 2, P. GRAVEZ (MRAC); Kapiri, IX 1912, 2, Miss. Agric (lectotype, MRAC, 1 MM); Katanga, Kansenia, 15.IX-15 X 1930, 1, G.F. DE WITTE (MRAC); Katanga, Kiala n. N'Guba, 29 VIII 1929, 1 (LB); Lomani, Kaniama, 1931, 1, R. MASSART (MRAC); Ngowa, 1 (LB).

ZAMBIA: Musosa, IX 1939, 1, H.J. Brédo (IRSN); N. R. Rhodesia, 2 (LB), 1912, 1, LLOYD (MM).

Subgenus: *Spaethiomorpha* new subgenus

Medium-sized species, length always below 10 mm. Dorsal colouration uniformly yellow to green. Body almost circular, base of elytra much wider than base of pronotum. Elytral disc with large postscutellar angulation but without postscutellar tubercle. Pronotum ellyptical, sides narrowly angulate. Puncturation of elytra completely irregular, surface appears irregular to rugose. Clypeus with indistinct clypeal grooves. Labrum broad, with distinct median emargination. Claws with obsolete outer pecten. Sexual dimorphism distinct, males with pygidium prolongated into triangular process, often bent down and directed anterad. Only one species in eastern Africa.

The new subgenus is dedicated to F. SPAETH, who published many important papers on Afrotropical *Aspidimorpha*.

Type species: *Aspidomorpha haefligeri* SPAETH, 1906. Gender: feminine.

Aspidimorpha (*Spaethiomorpha*) *haefligeri* SPAETH, 1906

Aspidomorpha Häfligeri SPAETH, 1906: 402 (ST in MM, ZSM), 1932 b: 5.
Aspidomorpha (*Aspidomorpha*) *Häfligeri*: SPAETH, 1914 b: 75.

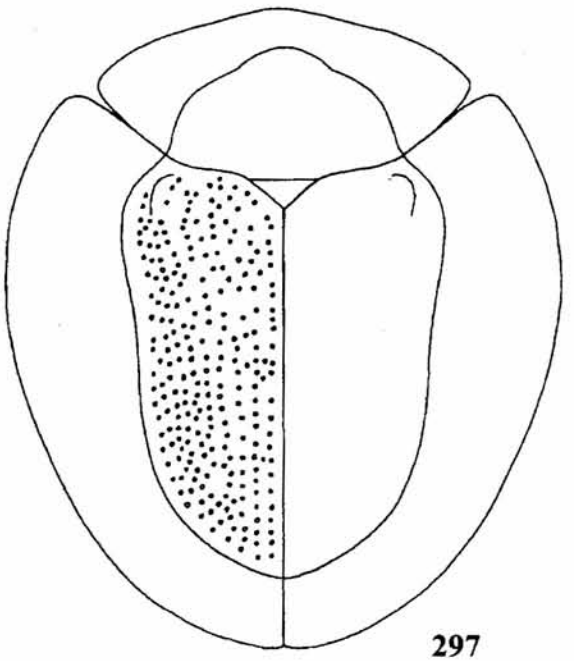
DESCRIPTION

Le: male and female: 8.5-9.8 mm, Wi: male and female: 7.6-8.4 mm, Lp: male and female: 2.6-3.0 mm, Wp: male and female: 5.2-6.0 mm, Ex: male and female: 2.1-2.2 mm, Wd: male and female: 4.0-5.3 mm; Le/Wi ratio: male and female: 1.12-1.17, Wi/Wp: male and female: 1.40-1.48, Wp/Lp: male and female: 2.00. Body almost circular (fig. 297).

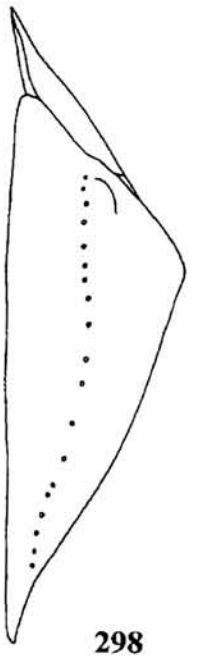
Pronotum and elytra uniformly yellow or green. Ventrites uniformly yellow. Antennae yellow with two or three last segments black, ventral part of apex of last segment yellow.

Pronotum very broad, narrowly ellyptical, with maximum width in the middle, sides subangulate. Disc only slightly convex, finely and sparsely punctate, slightly dull. Explanate margin indistinctly bordered from disc, flat, microreticulate but shiny.

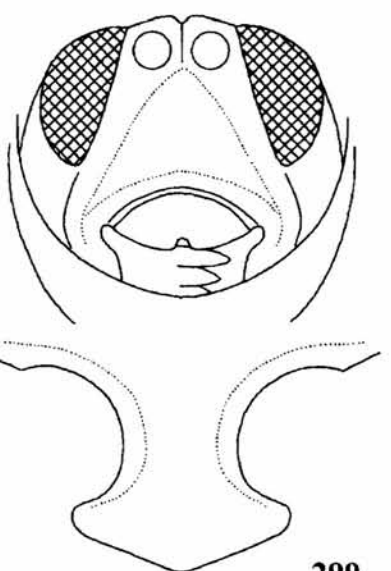
Scutellum triangular, impunctate, without transverse sulcus. Base of elytra serrulate, distinctly wider than pronotum, elytral margins simple, humeri subrounded. Disc strongly angulate in profile, slightly concave behind the top of convexity (fig. 298), with shallow postscutellar impressions but without principal and posterolateral impressions. Puncturation of disc coarse, completely irregular, on slope not or only slightly smaller than in anterior half of disc. Punctures dense,



297



298



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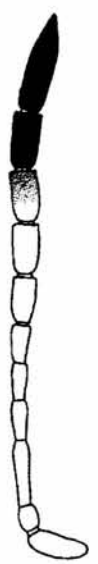


300

301

302

297-302. *Aspidimorpha haefligeri*: 297 - body in dorsal view, 298 - body in profile, 299 – head and prosternum, 300 – antenna, 301 – inner side of claw, 302 – outer side of claw

distance between punctures 0.3-0.7 times larger than puncture diameter. Intervals irregular, surface of disc appears irregular to rugose, in some specimens only marginal interval complete, with no rugosities. Punctures in marginal row large and dense, c. twice larger than in submarginal part of disc. Surface between punctures microreticulate but shiny. Explanate margin very broad, moderately declivous, its surface with shallow, large and dense irregular punctures, appears irregular to rugose. Elytral epipleura bare in both sexes.

Head broad, clypeus 1.6 times wider than long (fig. 299), dull, flat before antennal insertions, without median impression, with distinct clypeal lines. Labrum emarginate to 1/5 length. Antennae elongate (fig. 300), extending to hind coxa, length ratio of antennal segments: 100:40:93:67:70:50:70:67:76:83:140 (male)133(female).

Claws pectinate only on inner side, outer margin minutely serrate (fig. 302). Inner pecten long, with three teeth, first extending to half length of claw, second slightly shorter, third three to five times shorter than first, in some specimens obsolete (fig. 301).

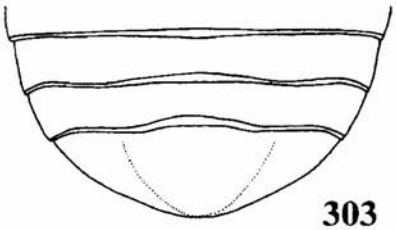
Sexual dimorphism distinct. Pygidium in male prolongated into long triangular process which is in living specimens often bent down and its apex directed anterad (figs 303-304).

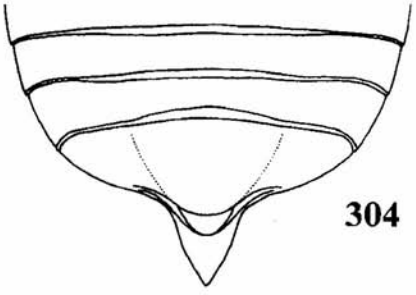
DISTRIBUTION

Kenya, Tanzania, Ruanda, Malawi and Zimbabwe (fig. 305).

REMARKS

It is a unique species within the genus *Aspidimorpha*. At first glance it is similar to the members of the subgenus *Spaethia* but differs in tuberculate elytral disc, rugose surface of elytral disc and explanate margin, and base of elytra distinctly wider than base of pronotum. The sexual dimorphism with male pygidium prolonged into long triangular process is unique.





303-304. *Aspidimorpha haefligeri*, apex of abdomen: 303 - female, 304 - male

MATERIAL EXAMINED

KENYA: Hoeys Bridge, Cheranganii Hills, 6200 ft., V 1824, 1, C. PITMAN (MM).

MALAWI: Nyassaland, Cholo, 1, R.C. WOOD (BMNH).

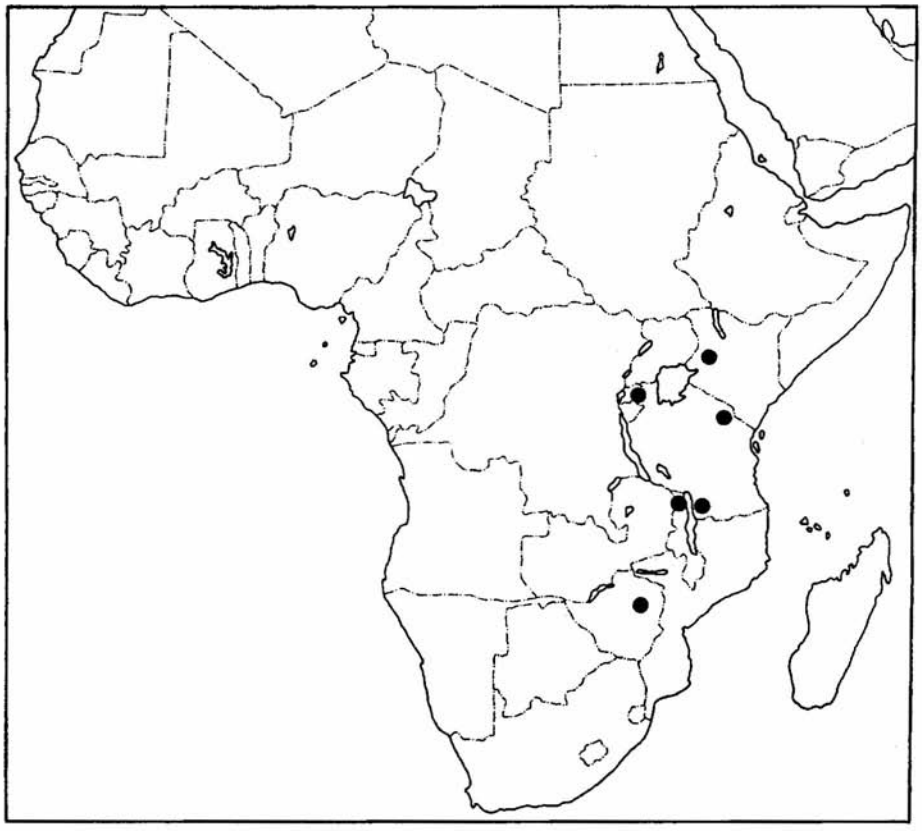
RUANDA: Kibungu, X-XII 1937, 1, R. VERHULST (MRAC).

TANZANIA: Arusha, 1 (LB); Kigonsera, 1904, 3, ERTL (syntypes, 1 ZSM, 2MM), 1905, 3 (syntypes, ZSM).

ZIMBABWE: Mashonaland, Mt. Chirinda, 1 (LB).

Subgenus: *Weiseocassis* SPAETH, 1932

Small species, length always below 8.5 mm. Elytra uniformly yellow to green or with brown pattern. Body oval, base of elytra much wider than base of



305. Distribution of *Aspidimorpha haefligeri*

pronotum. Elytral disc regularly convex, always without postscutellar gibbosity or tubercle. Pronotum ellyptical, sides broadly rounded. Puncturation of elytra regular, punctures large on whole row length. Clypeus with indistinct clypeal grooves. Labrum broad, with distinct median emargination. Claws pectinate on both sides. Species from Africa except Madagascar.

Type species: *Aspidomorpha striata* WEISE, 1896 (= *Aspidomorpha prasina* WEISE, 1899).

KEY TO THE SPECIES

1. Elytral disc with convex elytral relief thus rows of punctures partly broken. ..... *sculpturata*
-. Elytral disc without relief, rows of punctures completely regular. ..... *striata*

Aspidimorpha (Weiseocassis) sculpturata n. sp.

ETYMOLOGY

Named after elytral relief.

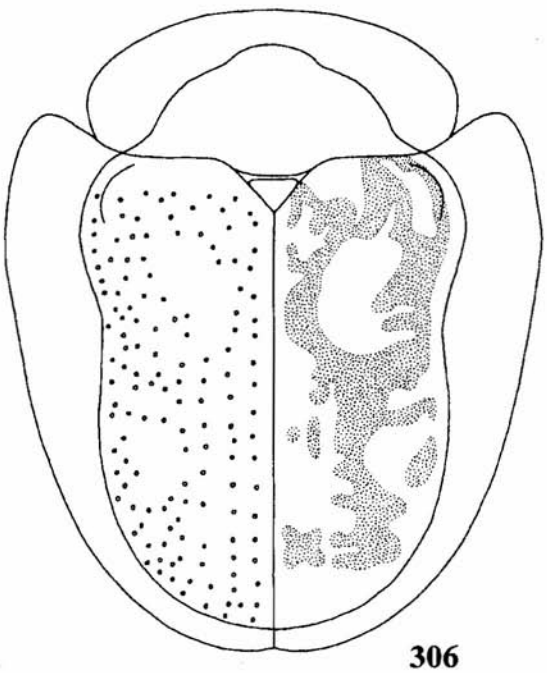
DESCRIPTION

Le: male: 7.6 mm, female: 0.0 mm, Wi: male: 6.1 mm, female: 0.0 mm, Lp: male: 2.4 mm, female: 0.0 mm, Wp: male: 4.4 mm, female: 0.0 mm, Ex: male and female: 1.3 mm, Wd: male: 4.1 mm, female: 0.0 mm. Le/Wi: male: 1.25, female: 0.0, Wi/Wp: male: 1.39, female: 0.0; Wp/Lp: male 1.83, female: 0.0. Body subpentagonal (fig. 306).

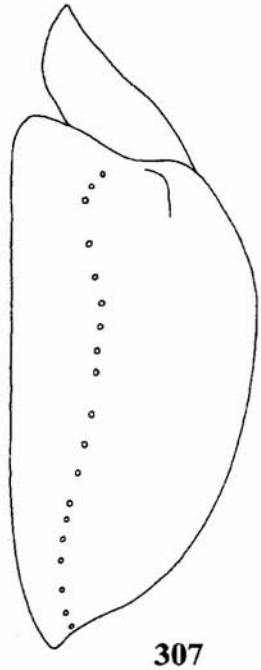
Pronotum uniformly yellow. Elytra mostly yellow, disc with brown pattern as in fig. 306. Ventrites uniformly yellow. Antennae yellow, only last segment infuscate.

Pronotum moderately broad, ellyptical, with maximum width slightly in front of the middle, sides broadly rounded. Disc slightly convex, microreticulate, smooth and glabrous. Explanate margin broad, moderately bordered from disc, flat, its surface smooth and glabrous.

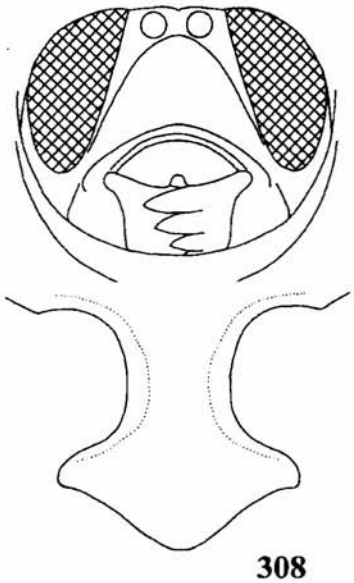
Scutellum triangular, impunctate, without transverse sulcus. Base of elytra slightly serrulate, distinctly wider than pronotum, elytral margins simple, humeri strongly protruding anterad, subacute. Disc strongly convex (fig. 307), but only slightly elavated in postscutellar point, with well defined postscutellar and principal impressions. Puncturation of disc coarse, regular, but rows are broken by elevated elytral relief, especially around inner margin of principal impression and in posterolateral part of disc. Punctures in marginal row large and deep, c. thrice larger than in central part of elytron. Surface between punctures smooth and glabrous. Intervals in sutural half of disc c. twice wider than rows, in lateral part of disc c. as wide as rows. Explanate margin broad, moderately declivous, completely irregularly punctate, punctures as large as those on disc, very dense,



306



307



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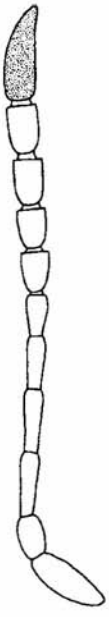

309

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311

306-311. *Aspidimorpha sculpturata*: 306 - body in dorsal view, 307 - body in profile, 308 – head and prosternum, 309 – antenna, 310 – inner side of claw, 311 – outer side of claw

punctures almost touching each other and surface appears slightly irregular. Elytral epipleura bare in both sexes.

Head broad, clypeus 1.6 times wider than long (fig. 308), glabrous, not elevated before antennal insertions, without median impression, with shallow clypeal sulci. Labrum emarginate to 1/3 length. Antennae moderately elongate (fig. 309), extending to mid coxa, length ratio of antennal segments: 100:65:90:90: 75:55:65:55:70: 80:135.

Claws pectinate on both sides, inner pecten long, with three teeth, first two extending to c. 2/5-1/2 length of claw, third distinctly shorter (fig. 310), outer pecten with two teeth c. twice shorter than in inner pecten (fig. 311).

Sexual dimorphism indistinct. Male slightly stouter with slightly longer last antennal segment.

DISTRIBUTION

Tanzania (fig. 321).

REMARKS

It differs from its only congener in the presence of elytral relief of convex, impunctate fields, which disturb regularity of elytral rows.

MATERIAL EXAMINED

TANZANIA: holotype and paratype: Uzungwa Mts., Chita Forest Reserve, 1500 m, 10 IX 1984, 1, M. STOLTZE and G. PETERSEN (holotype ZMC, paratype LB).

Aspidimorpha (Weiseocassis) striata WEISE, 1896

Aspidomorpha striata WEISE, 1896: 23 (HT in ZMHU).
Aspidomorpha (Aspidomorpha) striata: SPAETH, 1914 b: 78.
Aspidomorpha (Weiseocassis) striata: SPAETH, 1932 b: 3.
Aspidomorpha prasina WEISE, 1899: 258 (LT, PLT in ZMHU); SPAETH, 1909: 279; 1910: 279; 1912 a: 127; 1912 b: 506; : 41; 1916: 41, 1924: 292; 1925: 3; BOROWIEC, 1986: 796; 1987: 414, **n. syn.**
Aspidomorpha (Aspidomorpha) prasina: SPAETH, 1914 b: 77.
Aspidomorpha (Weiseocassis) prasina: SPAETH, 1932 b: 3.
Aspidomorpha (Weisocassis) [sic] *prasina*: SHAW, 1960: 369; 1963: 456.

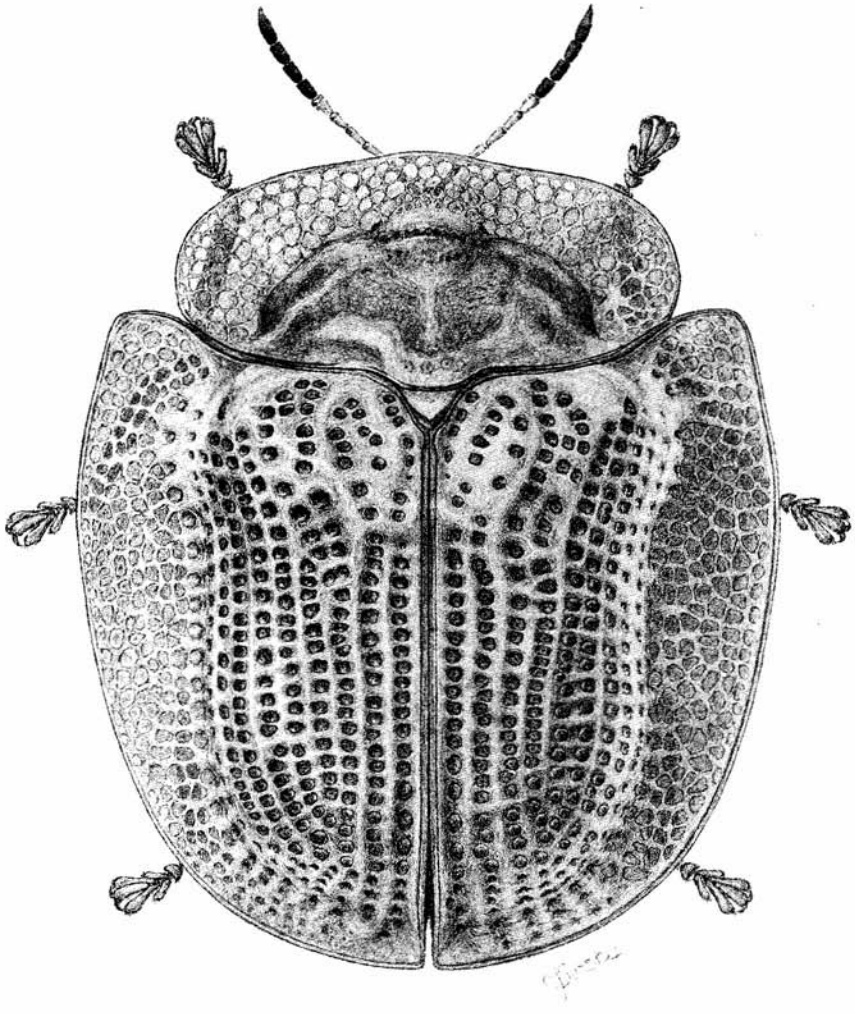
DESCRIPTION

Le: male: 5.7-7.9 mm, female: 6.2-7.3 mm, Wi: male: 4.6-6.2 mm, female: 4.6-5.5 mm, Lp: male: 1.9-2.4 mm, female: 2.0-2.5 mm, Wp: male: 3.5-4.6 mm, female: 3.6-4.4 mm, Ex: male: 1.1-1.4 mm, female: 1.1-1.2; Wd: male: 3.1-4.3 mm, female: 3.2-4.0 mm. Le/Wi: male: 1.23-1.30, female: 1.31-1.38, Wi/Wp: male: 1.30-1.36, female: 1.24-1.32; Wp/Lp: male 1.76-1.92, female: 1.71-1.83. Body subpentagonal (figs 313, 315).

Pronotum and elytra uniformly green to yellow. Ventrites uniformly yellow. Antennae yellow, specimens from Cameroon and Zaire usually have four last

segments infuscate to black, segments 8 and 9 usually paler than two last segments, specimens from Kenya and Tanzania usually have only two last segments infuscate to black, often only last segment darkened, occasionally whole antennae testaceous.

Pronotum moderately broad, ellyptical, with maximum width in the middle, sides broadly rounded. Disc slightly convex, microreticulate, smooth and gla-



312. *Aspidimorpha striata*, habitus (by J. Świętojańska)

brous. Explanate margin broad, moderately bordered from disc, flat, its surface smooth and glabrous.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra slightly serrulate, distinctly wider than pronotum, elytral margins simple, humeri strongly protruding anterad, subacute to acute (figs 313, 315). Disc strongly convex, but only slightly angulate in profile (figs 314, 316), in populations from Kenya and Tanzania usually with no distinct principal and postscutellar impressions, in populations from Zaire and Cameroon the impressions are distinctly marked, in all populations punctures in principal area are distinctly larger than in adjacent rows, also in specimens without distinct impression. Puncturation of disc coarse, completely regular, on slope only slightly finer than in anterior half of disc. Punctures dense, distance between punctures 0.5-1.1 times larger than puncture diameter, rows in sutural part and on slope slightly impressed. Punctures in marginal row large and deep, c. thrice larger than in central part of elytron. Surface between punctures smooth and glabrous. Intervals in sutural half of disc c. as wide as rows, in lateral part of disc twice narrower. Explanate margin broad, moderately declivous, completely irregularly punctate, punctures as large as those on disc, very dense, punctures almost touching each other and surface appears slightly irregular. Elytral epipleura bare in both sexes.

Head broad, clypeus 1.6 times wider than long (fig. 317), glabrous, not elevated before antennal insertions, without median impression, with shallow clypeal sulci. Labrum emarginate to 1/3 length. Antennae moderately elongate (fig. 318), extending to mid coxa, length ratio of antennal segments: 100:60:75:80:70:50:60:55:58:60:110.

Claws pectinate on both sides, inner pecten long, with four teeth, first three extending c. 1/2 length of claw, fourth distinctly shorter (fig. 319), outer pecten with two teeth c. twice shorter than in inner pecten (fig. 320).

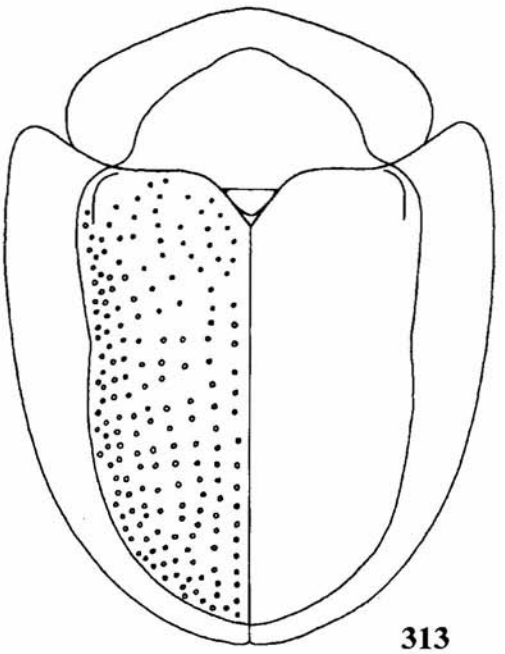
Sexual dimorphism indistinct. Male slightly stouter with slightly longer last antennal segment.

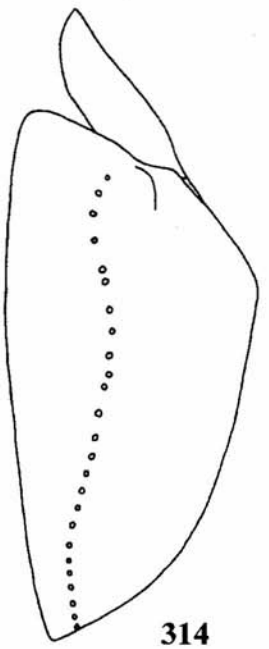
DISTRIBUTION

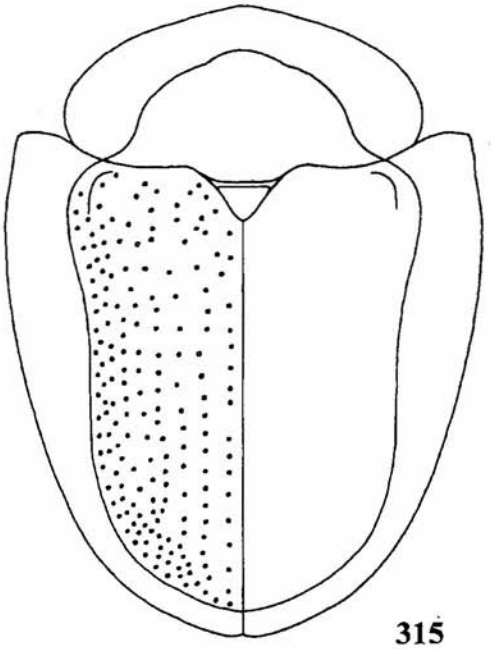
Central and East Africa, especially common in Tanzania (fig. 321).

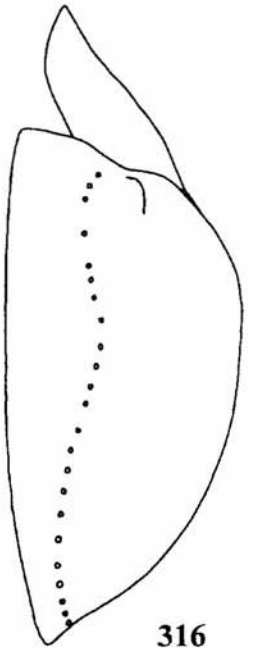
REMARKS

It distinctly differs from *A. sculpturata* in elytral disc without relief and completely regular rows of punctures. The populations from Cameroon and Zaire were described as *A. striata*, and specimens from eastern Africa were referred to as *prasina*. The eastern and western populations differs slightly in antennae colouration (usually last four segments darkened in western populations and only two in eastern ones) and elytral sculpture (western populations have usually more strongly marked impressions) but specimens from border regions of Zaire and Tanzania are intermediate and I have synonymized both names.









313-316. *Aspidimorpha striata*: 313, 315 - body in dorsal view, 314, 316 - body in profile: 313-314 - form from eastern Africa, 315-316 - form from central Africa

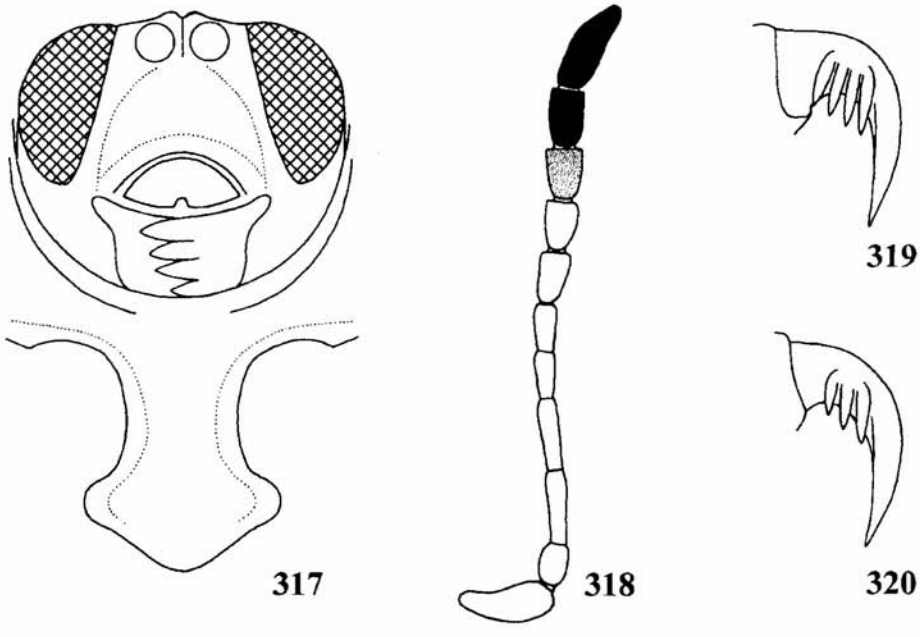
MATERIAL EXAMINED

CAMEROON: Jaunde, X 1923, 1 (IRSN), IV-V 1897, 2, v. CARNAP (ZMHU), V 1897, 1, v. CARNAP (ZMHU); Lolodorf, 1, HEINE (holotype of *Aspidomorpha striata* WEISE, ZMHU); Neu Kamerun, Dengdeng Godje, 11-26 III 1914, 5, MILDBREAD (ZMHU);

EQUATORIAL GUINEA: Fernando Poo, Musola, 500-800 m, I 1902, 1, L. FEA (MM).

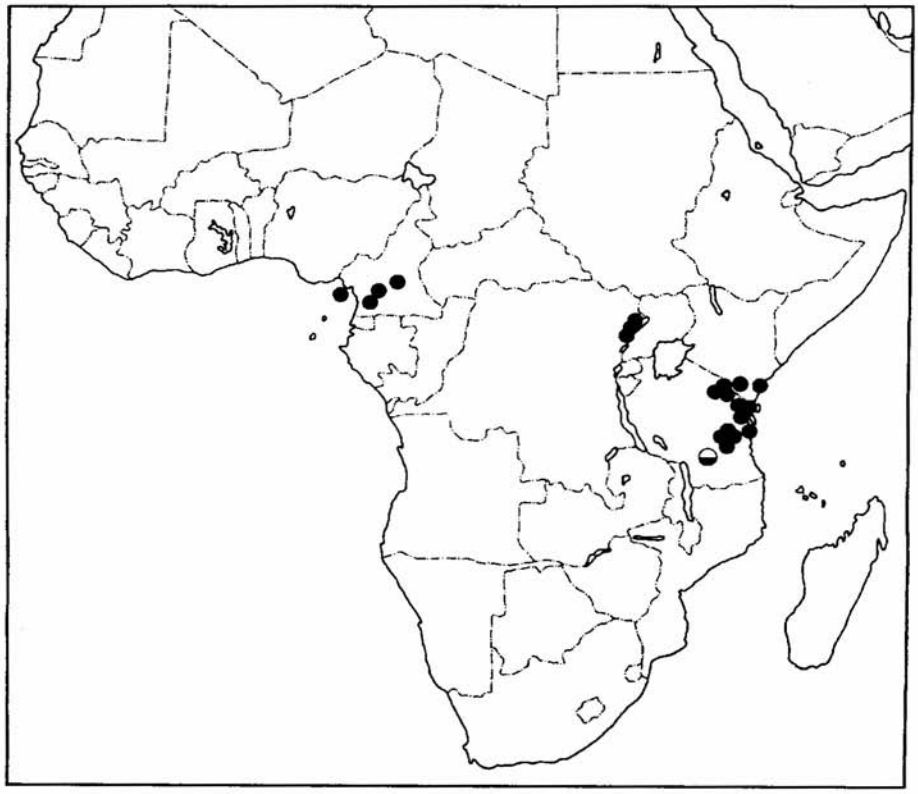
KENYA: Arabuko Sokoke Forest Reserve, 20 km S Malindi, 10 XI-6 XII1989, 5, L. BARTOLOZZI, L. PARDI and A. UGOLINI (MZUF), 27 IX-14 X 1992, 6, L. BARTOLOZZI (ZMUF); Tsavo, Taita Hills, Wundanyi, 6-10 IV 1997, 1, M. SNIZEK (MS).

TANZANIA: Amani, 1-14 II 1906, 4, VOSSELER (ZMHU); Arusha-Chini, 1904, 7, KATONA (HNHM); Arusha-Ju, XI 1905, 4, XII 1905, 4, KATONA (HNHM); Boma Gombe, 1903, 1, KATONA (HNHM); Bomole, X-XII 1905, 1100 m, 1 (ZMHU); Dar-es-Salaam, 1 (paralectotype of *A. prasina*, ZMHU); Kilimandjaro, 1700 m, 1, 3500 m, 1 (ZMHU); Kilimandjaro, Kibonoto, 1300 m, 1905-1906, 3, SJÖSTEDT (ZMHU); Kilimandjaro, Litema, 1 (LU); Kwai, 1, PAUL (lectotype of *A. prasina*, ZMHU); Litema Mt., 3, BÖTTCHER (ZMHU); Magamba-Bge n. Masinde, 5 I 1906, 2 (ZMHU); Maji ya yae, 19-20 I 1906, 1, Ch. SCHRÖDER (ZMHU);



317-320. *Aspidimorpha striata*: 317 – head and prosternum, 318 – antenna, 319 – inner side of claw, 320 – outer side of claw

Mombo, 1, PAUL (paralectotype of *A. prasina*, ZMHU), III 1899, 1, VII 1899, 3 (paralectotypes of *A. prasina*, ZMHU); Morogoro reg., Kimboza For. Res., Kibungo, at Mimion, swept, 30 III 1989, 1, S. MAHUNKA and A. ZICSI (HNHM); Pangani, 19 III 1904, 1 (ZMHU); Pangani, Mombo-Masinde, I 1906, 1, SCHRÖDER (ZMHU); Sigital, X-XII 1905, 750 m, 2 (ZMHU); N Uluguru, 4400-4900 m, II 1914, 1, METHNER (ZMHU); Uluguru Mts., Bunduki, Mgeta, 1300 m, 30 IV-11 V 1957, 1, N. LELEUP (ER), 30 IV-2 V 1957, 3, exp. IRSAC (MM); Uluguru Mts., Kimboza Forest, 18 VII 1981, 1, M. STOLTZE and N. SCHARFF (ZMC); Uluguru Mts., Kiroka, 27-31 V 1971, 1, Miss. Mts. Uluguru (MRAC); Uluguru Mts., Lupanga west, 1400 m, 1 VII 1981, 1, M. STOLTZE and N. SCHARFF (ZMC); Uluguru Mts., Morning Side, Toelo for., 1450 m, 21-29 VI 1971, 1, Miss. Mts. Uluguru (MRAC); Usambara, Amani, 23-30 I 1977, 7, O. LOMHOLDT and O. MARTIN (ZMC), 10 VII 1980, 1, M. STOLTZE and N. SCHARFF (ZMC); Usambara, Derema, 850 m, 30 VIII-15 IX 1891, 6, CONRADT (ZMHU); Usambara, Kwai, 7, P. WEISE (ZMHU); Usambara, Nguelo, 16 (ZMHU), 2 (IRSN), 1 (MCZC); Usambara, Sakarre, 24 IX 1901, 2, HOLTZ (ZMHU).



321. Distribution of *Aspidimorpha sculpturata* (white above black circle) and *A. striata* (black circles)

ZAIRE: Albert Nat. Park, Massif Ruwenzori, riv. Butahu, affl. Semliki, 2185 m, 17 V 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mont Hoyo, Camp Ruscart, 1200 m, 13-24 VII 1955, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mutsora, 1939, 1, HACKARS (MRAC); Albert Nat. Park, Secteur Nord, riv. Byangolo, affl. g. Djilube, 1320 m, 19 IX 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Molidi, affl. dr. Byangolo, 1140 m, 29 I 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Molidi, piste Watalinga, 1210 m, 18 IX 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Musinini, affl. Byangolo, 1225 m, 14 IV 1958, 1, P. VANSCHUYTBROECK (MRAC); Mawambi a. Ituri, W. v. Albert-See, IV 1908, 1, HERZOG Exp. (ZMHU).

Aspidimorpha s. str.

The most heterogenous subgenus. Usually medium-sized to large species, length usually above 8 mm. Dorsal colouration variable, from uniformly yellow to variegate. Body varies from elongate oval to circular, base of elytra usually much wider than base of pronotum. Elytral disc varies from depressed to strongly convex, often with postscutellar gibbosity or tubercle. Pronotum ellyptical, sides usually rounded. Puncturation of elytra usually regular, punctures fine to moderate, on slope usually smaller than in anterior part of disc, sometimes puncturation coarse, occasionally irregular, in extreme cases surface of elytra appears rugose. Clypeus with indistinct clypeal grooves. Labrum broad, with distinct median emargination. Claws pectinate on both sides, external pecten occasionally very short. Species from Afrotropical, Oriental and Australopapuan Regions, two species in eastern Palaearctic Region.

Type species: *Cassida miliaris* FABRICIUS, 1775 (from Oriental and Australopapuan Regions).

I have divided Afrotropical members of the nominotypical subgenus in several, probably natural, species groups:

1) ***palleago* group**: medium-sized to large species, oval to short-oval, base of elytra not or only slightly wider than base of pronotum, dorsum always without brown to black pattern (only some intervals with reddish bands), explanate margin always without spots, elytral disc regularly convex, puncturation of disc fine but very dense forms completely regular rows, slightly impressed and distinct on whole length. The group comprises: *A. mrogorensis*, *A. palleago*, *A. pallescens*, *A. proszynskii*, *A. silfverbergi* and *A. strigosa*.

2) ***cincta* group**: medium-sized to large, occasionally small species, oval, often almost parallelsided, base of elytra only slightly wider than base of pronotum, dorsum usually with pattern, explanate margin usually with spots. Elytral disc depressed to regularly but moderately convex, puncturation regular, moderately dense, rows usually not impressed. The group comprises: *A. astraea*, *A. cincta*, *A. ertli*, *A. gruevi*, *A. katangana*, *A. nigropunctata*, *A. quinquefasciata*, *A. sternalis* and *A. wahlbergi*.

3) ***obovata* group**: medium-sized species, body oval to short-oval, base of elytra not or only slightly wider than base of pronotum, dorsum usually without pattern or with reddish to brown irregular spots especially on sides of disc, explanate margin at most with sutural spot. Disc regularly convex or only slightly more convex in postscutellar point but never tuberculate or gibbose, puncturation regular, sparse to moderately dense, punctures disposed in rows irregularly, rows not impressed. Explanate margin strongly declivous. The group comprises: *A. fusca*, *A. indistincta* and *A. obovata*.

4) ***officiosa* group**: medium-sized species, body almost circular, base of elytra only slightly wider than base of pronotum, dorsum, including explanate margin, uniformly yellow to green, without pattern, ventrites, including head, mostly black. Disc distinctly but regularly convex, puncturation dense, regular, punctures disposed in rows regularly, rows not impressed, explanate margin regularly declivous. Only one species: *A. officiosa*.

5) ***expansa* group**: medium-sized to large species, body short-oval, base of elytra only slightly wider than base of pronotum, dorsum usually without pattern or it forms only small spots that occupy at most 5% disc surface, explanate margin usually without spots, occasionally with complete set of spots, ventrites mostly yellow. Disc moderately and regularly convex or only slightly more convex in postscutellar point, punctures sparse, rows regular, not or slightly impressed. Explanate margin moderately declivous, extreme margin slightly less declivous but without tendency to form a gutter. The group comprises: *A. adumbrata*, *A. expansa* and *A. filiola*.

6) ***tortuosa* group**: small species, body almost circular, base of elytra distinctly wider than base of pronotum, disc maculate, explanate margin immaculate or with only humeral spots. Disc almost regularly convex, puncturation fine, sparse to moderately dense, rows regular, not impressed. Explanate margin moderately declivous to subhorizontal. Only one species: *A. tortuosa*.

7) ***reflexa* group**: medium-sized species, body oval, base of elytra not or only slightly wider than base of pronotum, disc without distinct pattern but explanate margin with complete set of spots. Disc slightly unevenly convex, with top of convexity in postscutellar point, puncturation coarse and dense, rows partly irregular, surface of disc appears irregular to slightly rugose. Explanate margin moderately convex to subhorizontal, extreme margin has tendency to form a gutter. Only one species: *A. reflexa*.

8) ***isparetta* group**: medium-sized to large species, body short-oval to almost circular, base of elytra varies from slightly to strongly wider than base of pronotum, dorsum usually with pattern, including spots on explanate margin, but sometimes disc immaculate. Disc in profile unevenly convex, more or less swollen in postscutellar point but not angulate, tuberculate or gibbous. Puncturation of disc moderately dense, punctures often disposed in rows irregularly, rows regular usually not impressed. Explanate margin moderately declivous to subhorizontal but without tendency to form a gutter. This group comprises: *A. honesta*, *A. icterica*, *A. isparetta*, *A. sjoestedti* and *A. tecta*.

9) ***dissentanea* group**: medium-sized to large species, body short-oval to almost circular, base of elytra more or less wider than base of pronotum, dorsum usually with variable pattern, including spots of explanate margin. Disc more convex than in the preceding group, more or less angulate in profile but without conical tubercle. Puncturation of disc moderately dense, punctures often disposed in rows irregularly, rows regular, usually not impressed. Explanate margin declivous to subhorizontal but usually without tendency to form a gutter. Very similar to the preceding group but with elytral disc more angulate convex, though this character in many species varies and some populations are difficult to distinguish from the species of *isparetta* group. This group comprises: *A. curtidens*, *A. densepicta*, *A. dissentanea*, *A. equatoriensis*, *A. infuscata*, *A. madagascarica* and *A. mombonensis*, first two exclusively from Madagascar, the remainder from Africa except *A. madagascarica* which occurs in both Africa and Madagascar.

10) ***tanganikana* group**: medium-sized species, body almost circular, base of elytra moderately wider than base of pronotum, disc without pattern only punctures dark marked, explanate margin without spots or with only diagonal humeral spot, occasionally with both humeral and posterolateral spots. Disc unevenly convex slightly to strongly angulate in profile, punctures sparse, rows not impressed. Explanate margin moderately declivous without tendency to form a gutter. Mountain and submountain species. This group comprises: *A. hyalina*, *A. mirabilis*, *A. montanella* and *A. tanganikana*.

11) ***quadriramosa* group**: quite large species, body short-oval to almost circular, base of elytra distinctly wider than base of pronotum, disc usually without pattern but punctures dark marked, explanate margin usually with both humeral and posterolateral spots but sometimes with only humeral spots or immaculate. Disc always with postscutellar tubercle, usually large conical but sometimes low and obtuse (sometimes within the same species there are populations with conical and obtuse tubercle). Punctures moderate, moderately dense to dense, rows usually not impressed, sometimes impressed. Explanate margin broad, moderately declivous to subhorizontal, sometimes with tendency to form a gutter. Very heterogenous group, species with large, conical postscutellar tubercle are well defined, species with obtuse postscutellar tubercle are similar to those of *isparetta* group and differ mostly in constant elytral colouration and more glabrous surface of disc. This group comprises: *A. andrei*, *A. collarti*, *A. fausta*, *A. incerta*, *A. levissima*, *A. lynesi*, *A. natalensis*, *A. oblectans*, *A. procax*, *A.quadriramosa*, *A. sankuruensis*, *A. setosa*, *A. sulfuripennis*, *A. tuberosa* and *A. uluguruensis*.

12) ***diaphana* group**: quite large species, body almost circular, dorsum uniformly yellow, base of elytra strongly wider than base of pronotum. Disc with postscutellar tubercle which varies from very low, obtuse to moderate, subangulate. Puncturation fine, regular, rows regular, not impressed. Explanate margin very broad, moderately declivous to subhorizontal. This group is intermediate between *isparetta*, *dissentanea* and *quadriramosa* groups. Only one species: *A. diaphana*.

13) ***mutata* group**: small species, body subcircular, base of elytra distinctly wider than base of pronotum, dorsum often with pattern. Explanate margin usually with only humeral spots, sometimes immaculate, occasionally with both humeral and posterolateral spots or only with posterolateral spots. Elytral disc always with postscutellar tubercle, which varies from small and obtuse to large, conical. Puncturation of disc very fine to fine, rows regular, usually not impressed. Explanate margin broad, subhorizontal. Internal pecten of tarsal claws usually with 3 (occasionally 4) teeth, first the largest, remainder gradually smaller, often pecten very short. This group comprises: *A. adjecta*, *A. atrodorsata*, *A. dilecta*, ***A. fampanamboensis***, ***A. laevigata***, ***A. muehlei***, *A. mutata*, ***A. obtusangula***, ***A. obuduensis***, *A. orbifera*, ***A. semiramosa***, ***A. splendidula***, ***A. submutata***, ***A. togoensis***, *A. uelensis* and ***A. vernicata***. The species in bold have postscutellar tubercle sharp, conical, in the remainder it is obtuse.

14) ***ingens* group**: very large species, body subcircular, base of elytra much wider than base of pronotum, elytral disc maculate, explanate margin only with pale humeral spots. Elytral disc with extremely large, conical postscutellar tubercle. Puncturation of disc extremely fine to fine, rows regular. Explanate margin very broad, subhorizontal, with tendency to form a gutter. Only one species: *A. ingens*.

15) ***pontifex* group**: large to very large species, body almost circular, base of elytra slightly wider than base of pronotum, dorsum without distinct pattern, occasionally with reddish-brown pattern, punctures usually dark marked. Disc with very large, conical postscutellar tubercle. Puncturation moderate to large, rows often slightly irregular and surface appears irregular to rugose. Pecten of tarsi very short, never extending to more than 1/5 length of claw. Exclusively Madagascan species. This group comprises: *A. extumida*, *A. illustris*, *A. pontifex*, *A. rubroornata* and *A. undulatipennis*.

16) ***intricata* group**: medium-sized to large species, body short-oval to almost circular, base of elytra slightly wider than base of pronotum, disc without distinct pattern, punctures dark marked, explanate margin with both humeral and posterolateral spots. Disc with very large, conical postscutellar tubercle. Puncturation coarse, partly irregular, surface of disc appears irregular. Explanate margin very broad with tendency to form a gutter. This group comprises: *A. corrugata*, *A. delitescens* and *A. intricata*.

18) ***biguttata* group**: large species, body almost circular, dorsum varies from uniformly yellow to strongly variegate, explanate margin often black with yellow "window", base of elytra distinctly wider than base of pronotum. Disc unevenly convex, with more or less marked postscutellar angulation which in extreme cases forms a conical tubercle. Puncturation of disc moderate, dense, rows often slightly to moderately impressed. Explanate margin very broad, sometimes with tendency to form a gutter. This group is close to *quadriramosa* group and differs mostly in strongly variable pattern. The group comprises: *A. biguttata*, *A. fenestrata*, *A. sassii* and *A. togata*.

19) ***bimaculata* group**: large species, body short-oval to almost circular, dorsum with black pattern, explanate margin always black with yellow "win-

dow", base of elytra distinctly wider than base of pronotum. Disc almost evenly convex, only slightly more convex in postscutellar point. Puncturation fine and dense, rows not impressed, mostly regular but have tendency to irregularity. The group comprises: *A. bertiae*, *A. bimaculata* and *A. sessarum*.

20) ***potens* group**: large species, body elongate-oval, without pattern, base of elytra only slightly wider than base of pronotum. Disc with very large, conical postscutellar tubercle, explanate margin distinctly declivous. Puncturation of disc coarse, mostly irregular, surface of disc appears irregular to rugose. Explanate margin of elytra with spots only in posterolateral part. The combination of elongate-oval body with large postscutellar tubercle is unique in the genus *Aspidimorpha*. The group comprises: *A. firma*, *A. flaviceps* and *A. potens*.

Because the borders between some of the groups are not well defined, no key to the groups has been constructed. Many species are so variable, that in the key have to appear repeatedly. I have decided to key species from Madagascar separately, only two species occur in both Africa and Madagascar. In many cases geographic distribution has been used as differential character, specimens without detailed label data can be difficult to identify correctly. After determination should be instruct with remarks under the description of the species where several additional differential characters have been mentioned. Some species are extremely difficult to determine based on single specimens or members of only one sex. In these cases correct identification is possible only by comparison with a series of properly identified specimens.

KEY TO THE SPECIES

1. Species from Madagascar and adjacent islands.
   ..... 2.
-. Species from Africa except Madagascar.
   ..... 14.
2. Elytral disc unevenly convex, angulate to tuberculate in profile (figs 413, 436, 913, 982, 1173).
   ..... 4.
-. Elytral disc evenly convex, without postscutellar angulation or tubercle (figs 355, 959).
   ..... 3.
3. Explanate margin of elytra mostly black with large yellow window and sometimes yellow spot in apical half (figs 376-378).
   ..... *bertiae*
-. Explanate margin of elytra yellow with humeral and posterolateral, reddish to black spots (figs 964-969). Generally west African species, probably introduced in Madagascar and Reunion.
   ..... *quinquefasciata*

4. Elytral disc with postscutellar gibbosity but without conical postscutellar tubercle (figs 413, 436, 738, 740).
..... 5.
-. Elytral disc with distinct conical postscutellar tubercle (figs 407, 630, 913, 982, 1167, 1173).
..... 7.
5. Pecten of tarsal claws longer, on inner side extending to 2/5-3/5, on outer side to 1/3 length of claw (figs 439-440, 743-744). Puncturation of elytral disc denser, arranged mostly in rows. Explanate margin of elytra less declivous, with tendency to form a shallow gutter. Apex of elytral epipleura bare in both sexes.
..... 6.
-. Pecten of tarsal claws shorter, on inner side extending to 1/3, on outer side to 1/6-1/5 length of claw (figs 416-417). Puncturation of elytral disc sparse, rows less marked. Explanate margin of elytra more declivous, without tendency to form a gutter. Apex of elytral epipleura bare in male, pubescent in female.
..... *curtidens*
6. Postscutellar angulation more prominent, body in profile gibbous (fig. 436). Inner pecten of claws shorter, extending to 2/5 length of claw (fig. 439). Surface of elytral disc more irregular, with several folds.
..... *densepicta*
-. Postscutellar angulation less prominent. Body in profile rather angulate than gibbous (figs 738, 740). Inner pecten of claws very long, extending to 1/2-3/5 length of claw (fig. 743). Surface of elytra more regular, without distinct folds.
..... *madagascarica*
7. Explanate margin of elytra at least with humeral spots. Body less regularly circular, base of elytra usually wider than base of pronotum.
..... 8.
-. Explanate margin of elytra without spots. Base of elytra as wide as base of pronotum, body outline regularly circular (fig. 629).
..... *illustris*
8. Small species, length below 10.7 mm.
..... 9.
-. Larger species, length above 11 mm.
..... 12.
9. Surface of elytra regular, does not appear rugose.
..... 10.
-. Surface of elytra irregular, appears rugose.
..... *corrugata*
10. Smaller, length below 9 mm.
..... 11.
-. Larger, length above 9.5 mm.
..... *extumida*
11. Slimmer, Le/Wi ratio 1.13-1.18. Elytral pattern paler, yellowish to reddish-brown. Posterolateral spot often obsolete.
..... *vernicata*

-. Stouter, LE/Wi ratio 1.04. Elytral pattern darker brown, posterolateral spot always present.
..... *fampanamboensis*

12. Surface of elytra without purple elongate spots, more irregular, appears subrugose to rugose.
..... 13.

-. Surface of elytra with purple elongate spots, more regular, does not appear subrugose or rugose.
..... *rubroornata*

13. Base of elytra as wide as base of pronotum, body outline regularly circular (fig. 912). Surface of elytral disc more distinctly rugose. Body length usually above 13.8 mm.
..... *pontifex*

-. Base of elytra slightly wider than base of pronotum, body outline not as regularly circular as in preceding species (fig. 1166). Surface of elytral disc rather subrugose. Body length usually below 13.8 mm.
..... *undulatipennis*

14. Elytral disc depressed (figs 343, 1164), regularly convex (figs 885, 1055), or only slightly gibbous in postscutellar point (figs 598, 683, 685, 1026) but never angulate or tuberculate (species with variable elytral convexity have been placed in both parts of the key).
..... 15.

-. Elytral disc with well defined postscutellar elevation, gibbous (975) or with postscutellar angulation (figs 457, 459, 756, 1077, 1079) or tubercle (figs 731, 800, 850, 892, 1032, 1142).
..... 55.

15. Explanate margin of elytra completely black or mostly black with large yellow "window" (figs 373-375, 379, 707-708).
..... 16.

-. Explanate margin of elytra uniformly yellow, or with spots but never mostly black with yellow "window".
..... 18.

16. Large species, length usually above 11.5 mm. Explanate margin of elytra always with yellow "window". Elytral disc mostly yellow with black suture and marginal interval, or black with yellow cordiform spot in anterior half and two yellow, round spots in posterior half of disc (figs 373-375, 379).
..... 17.

-. Smaller, length below 11.5 mm. Explanate margin of elytra uniformly black or with yellow "window". Elytral disc from reddish-brown to black without yellow spots (figs 707-708).
..... *isparetta* (*galamensis* form)

17. Sutural interval at least in postscutellar point yellow. Elytral disc in populations from Western Africa mostly yellow with black marginal intervals and black posterior half of sutural interval (fig. 373), in populations from Central Africa

elytral disc mostly black with cordiform spot in anterior half and two round spots in posterior half. Yellow "window" of explanate margin shorter, only slightly extending behind half length of the explanate margin (figs 374-375).
..... *bimaculata*

-. Sutural interval black on whole length. Elytral disc always mostly yellow with black suture and marginal intervals. Yellow "window" of explanate margin longer, extending distinctly behind half length of the explanate margin (fig. 379). Species exclusively from Central Africa, especially its eastern part.
..... *sessarum*

18. Explanate margin of elytra always uniformly yellow, disc uniformly yellow, or punctures marked with red or some intervals reddish but never with brown or black spots. Puncturation of disc moderate, very dense, arranged in very regular and slightly impressed rows, intervals always wider than rows. Body short-oval to oval, never subcircular or circular, base of elytra not or only slightly wider than base of pronotum. Apex of elytral epipleura bare in male, pubescent in female.
..... 19.

-. Explanate margin of elytra usually with spots, occasionally yellow, disc often with brown to black spots, or mostly reddish to brown, occasionally uniformly yellow. Puncturation of disc usually sparser and often less regular, rows usually not impressed, if puncturation dense and impressed then very large and intervals narrow, as wide as to narrower than rows. Body from elongate-oval to circular, base of elytra often distinctly wider than base of pronotum. Apex of elytral epipleura variable, bare in both sexes, or pubescent in both sexes, or bare in male and pubescent in female.
..... 24.

19. Elytral intervals 1, 5, 7 wholly and 6, 8 partly reddish. Species exclusively from western Africa.
..... 20.

-. Elytral intervals wholly yellow, sometimes punctures marked with red. Species from central and southern Africa.
..... 21.

20. Stouter, Le/Wi ratio 1.35-1.36, sides of elytra more rounded (fig. 1019). Meso- and metafemora in basal 1/3-1/2 brown to black. West of Ghana.
..... *silfverbergi*

-. Slimmer, Le/Wi ratio 1.40-1.46, sides of elytra less rounded (fig. 932). Meso- and metafemora yellow, or only in basal 1/4 length infuscate to blackish or with brownish ring. Ghana and Togo.
..... *proszynskii*

21. Body slimmer, Le/Wi ratio in male usually above 1.35 (in less then elytral punctures marked with red), in female above 1.45 (figs 787, 1054). Explanate margin of elytra declivous, without tendency to form a gutter. Central and eastern African species.
..... 22.

-. Body stouter, Le/Wi ration in male less than 1.35, in female less than 1.43 (figs 897, 904). Explanate margin of elytra moderately declivous to subhorizontal, with tendency to form a shallow gutter. Southern part of Central and South Africa.
..... 23.

22. Elytral rows marked with red. Femora in basal 1/3-1/2 length brown to black. Usually three to four last antennal segments infuscate to black. Lateral margin of explanate margin of elytra never marginate. Central Africa.
..... *strigosa*

-. Elytral rows without red, occasionally punctures with reddish centre. Femora uniformly yellow or only slightly infuscate basally. Only two last antennal segments infuscate to black. Lateral margin of explanate margin of elytra finely marginate. East Africa.
..... *mrogorensis*

23. First antennal segment partly infuscate. Body slimmer, Le/Wi ratio usually above 1.35, explanate margin of elytra less gutter-like (fig. 904). Southern part of Central Africa and northern part of South Africa.
..... *pallescens*

-. First antennal segment uniformly yellow. Body stouter, Le/Wi ratio usually below 1.35, explanate margin more gutter-like (fig. 897). South Africa.
..... *palleago*

24. Pronotum immaculate. Elytral disc varies from immaculate to mostly black. Usually only one to two last antennal segments infuscate to black.
..... 25.

-. Pronotum with three small black spots. Elytral disc with numerous black spots. Four to five last antennal segments partly to completely black.
..... *nigropunctata* (typical form)

25. Explanate margin of elytra immaculate, at most with sutural spot.
..... 26.

-. Explanate margin of elytra with humeral, or both humeral and posterolateral spots.
..... 38.

26. Base of elytra not or only slightly wider than base of pronotum (figs 584, 642, 855, 884).
..... 28.

-. Base of elytra distinctly wider than base of pronotum (figs 682, 684, 1119).
..... 27.

27. Elytral disc usually with black pattern, suture marked with black spots, occasionally the pattern is reduced to spot at humerus and in posterior half of marginal intervals. Elytral disc more regularly convex (fig. 1120). Ventrites always uniformly yellow. Apex of elytral epipleura pubescent in both sexes.
..... *tortuosa* (pale form)

-. Elytral disc immaculate, or with brownish to black pattern, suture usually not marked with spots. Elytral disc slightly unevenly convex, with slightly el-

evated postscutellar area (figs 683, 685). Ventrites usually partly black. Apex of elytral epipleura bare in male, pubescent in female.
..... *isparetta* (*afzelii* form)

28. Explanate margin of elytra at least on underside with reddish to brown sutural spot. Elytral punctures usually marked with red or brown. Apex of elytral epipleura bare in male, pubescent in female.
..... 29.

-. Explanate margin of elytra without sutural spot. Elytral punctures usually without dark markings. Apex of elytral epipleura in both sexes bare or pubescent.
..... 31.

29. Smaller, length usually below 10.3 mm, width below 7.9 mm. Slimmer, Le/Wi ratio in male 1.19-1.46, in female 1.26-1.46. Elytral disc regularly convex (figs 643, 856). Central and West Africa except S Zaire and Zambia.
..... 30.

-. Larger, length usually above 10.5 mm, width above 8.6 mm. Stouter, Le/Wi ratio in male 1.12-1.16, in female 1.19-1.26. Elytral disc unevenly convex, with slightly more elevated postscutellar area (fig. 585). SE Zaire and Zambia.
..... *fusca*

30. Slimmer, especially females, Le/Wi ratio in male 1.19-1.33, in female 1.36-1.46 (fig. 855). Apex of elytra subacuminate. Surface of explanate margin of elytra smooth. Puncturation of elytra less impressed, punctures marked with brown, but the brown never coalescent, does not form irregular spots. Explanate margin more declivous, humeral spot visible only on underside.
..... *obovata*

-. Stouter, Le/Wi ratio in male 1.20-1.24, in female 1.26-1.32 (fig. 642). Apex of elytra rounded. Surface of explanate margin of elytra slightly irregular. Puncturation of disc more impressed, brown markings of punctures often partly coalescent and form irregular reddish to brown spots, especially on sides of disc. Explanate margin of elytra less declivous, humeral spot often visible on both under- and upperside of the margin.
..... *indistincta*

31. Body short-oval to oval, Le/Wi ratio in male 1.12-1.36, in female 1.21-43 (usually above 1.25). Ventrites usually mostly or completely yellow, at least abdomen partly yellow, occasionally abdomen mostly black, head never mostly black. Epipleura bare in both sexes. Southern part of Central, East and northern part of southern Africa.
..... 32.

-. Body almost circular, Le/Wi ratio in male 1.04-1.11, in female 1.14-1.25 (fig. 884). Ventrites, including head, black except yellow sides of abdomen. Epipleura in female pubescent on whole length, in male only in apex. Central and western Africa.
..... *officiosa*

32. Stouter, Le/Wi ratio in male 1.12-1.23, in female 1.21-1.34, sides rounded (figs 328, 530, 563, 565, 1085, 1087).
..... 33.
-. Slimmer, Le/Wi ratio in male 1.27-1.36, in female 1.36-1.43, sides less rounded, almost parallel (figs. 342, 710, 1037).
..... 36.
33. Puncturation of disc fine to moderate, intervals in sutural half of disc always wider than rows.
..... 34.
-. Puncturation of disc very coarse, intervals in sutural half of disc as wide as to narrower than rows. Zimbabwe only.
..... *filiola*
34. Larger, length 10.3-12.8 mm. Species outside South Africa (Ethiopia, Kenya, Uganda, Tanzania, Zimbabwe).
..... 35.
-. Smaller, length 7.6-10.2. Species exclusively from South Africa.
..... *tecta* (*silacea* form)
35. Elytral disc depressed, its puncturation very fine, not impressed, surface of disc appears smooth and glabrous. Base of elytral disc usually with small, black spots (fig. 509).
..... *expansa* (the palest form)
-. Elytral disc regularly convex or with slightly marked postscutellar elevation, its puncturation from fine to large, rows slightly to distinctly impressed, surface of disc appears slightly to strongly irregular. Elytral disc always uniformly yellow.
..... *adumbrata*
36. Clypeus yellow, ventrites mostly yellow, occasionally infuscate, abdomen at most in the middle of basal sternites infuscate.
..... 37.
-. Basal corners of clypeus black, ventrites mostly black.
..... *sternalis* (rare pale form)
37. Stouter, Le/Wi ratio in female (male unknown) 1.31-1.33, sides of elytra slightly more rounded (fig. 342). Puncturation of disc fine, not impressed. Angola, Namibia and Botswana.
..... *astraea*
-. Slimmer, Le/Wi ratio in male 1.28-1.36, in female 1.36-1.43, sides of elytra almost parallel (fig. 710). Puncturation of disc stronger, slightly impressed. S Zaire, Uganda, Tanzania, Zambia and Zimbabwe.
..... *katangana* (rare immaculate form)
38. Medium-sized to large species, length always above 7.5 mm. Disc varies from depressed to regularly convex, sometimes slightly gibbous in postscutellar area.
..... 39.
-. Very small species, length 6.8-7.3 mm. Disc almost flat (fig. 1164). Southern Africa north to S Zaire and Tanzania.
..... *wahlbergi*

39. Base of elytra distinctly wider than base of pronotum.
..... 40.
-. Base of elytra not or only slightly wider than base of pronotum.
..... 46.
40. Explanate margin of elytra only with humeral spot.
..... 41.
-. Explanate margin of elytra with both humeral and posterolateral spots.
..... 42.
41. Elytral disc regularly convex (fig. 1120), with less variable black pattern (figs 1128-1130). Smaller, length 6-3-8.7 mm. Ventrites always uniformly yellow. Apex of elytral epipleura pubescent in both sexes.
..... *tortuosa* (*ramigestans* form)
-. Elytral disc with slightly elevated postscutellar area (figs 683, 685), pattern variable. Larger, length 7.5-11.3 mm. Ventrites often partly infuscate to black. Apex of elytral epipleura bare in male, pubescent in female.
..... *isparetta* (*stolata* form)
42. Spots of explanate margin black.
..... 44.
-. Spots of explanate margin reddish to brown .
..... 43.
43. Apex of elytral epipleura bare in both sexes. Elytral disc slightly more convex, apex of elytra more regularly rounded. Males are extremely similar to the males of the next species and possible to identify only by comparison with a series of properly identified specimens. Zaire only.
..... *quadriramosa* (*subdeplanata* form)
-. Apex of elytral epipleura bare in male, pubescent in female. Elytral disc less convex, apex of elytra less regularly rounded, especially in female. Wide spread in tropical Africa.
..... *isparetta* (*schoenherri* form)
44. Explanate margin of elytra with sutural spot. Apex of elytral epipleura in female pubescent or not.
..... 45.
-. Explanate margin of elytra without sutural spot. Apex of elytral epipleura bare in both sexes. Elytral pattern constant. Sides of disc along black marginal band reddish-brown. Large species. length above 11.2 mm. SW Cameroon only.
..... *sjoestedti*
45. Elytral pattern constant, black band along sides of disc never extends to the middle of disc, suture only narrowly marked with black but sutural spot broad (figs 619-620). Apical half of humeral spot always widened posterad. Apex of elytral epipleura bare in both sexes. Larger, length 9.4-12.4 mm. Forest regions of Republic of Central Africa and Zaire.
..... *honesta*

-. Elytral pattern variable, black band along sides of disc often extends to the middle of disc, suture often not marked with black, or narrowly black, or with several black spots but sutural spot usually narrow. Apical half of humeral spot often not widened posterad. Apex of elytral epipleura bare in male, pubescent in female. Smaller, length 7.5-11.3 mm. Wide spread in tropical Africa.
..... *isparetta* (*schoenherri* form).

46. Only last one or two antennal segments infuscate to black. Elytral pattern variable but never in form of numerous small black spots disposed regularly on whole elytral disc.
..... 47.

-. Four to five last antennal segments black. Elytral pattern in form of numerous small black spots disposed regularly on whole elytral disc (figs. 839-844).
..... *nigropunctata* (rare form with obsolete pronotal spots)

47. Body depressed to moderately convex. Species outside South Africa.
..... 48.

-. Body distinctly convex with slightly more elevated postscutellar area (figs 1086, 1088). Species exclusively from South Africa.
..... *tecta* (typical form)

48. Puncturation of disc moderate or fine but well visible on slope. Body usually slimmer with less rounded sides, Le/Wi ratio in male usually above 1.23, in female above 1.30 (except *A. quinquefasciata*). Elytral pattern variable but usually well defined. Surface of elytra without mirror brilliance. Species mostly from central and western Africa (except *A. ertli* and *A. sternalis*).
..... 49.

-. Puncturation of disc extremely fine, on slope almost invisible. Body stout, sides rounded, Le/Wi ratio in male 1.20, in female 1.24-1.29. Elytral pattern usually reduced to four small black spots at base of disc, occasionally posthumeral area with spots but disc always mostly immaculate. Surface of disc with mirror brilliance. Tanzania, Uganda, Zimbabwe.
..... *expansa* (rare form with maculate explanate margin of elytra)

49. Smaller, length usually below 11 mm. Ventrites usually partly black. Here belong five species, extremely similar and possible to identify only by comparison with a series of properly identified specimens. Key below is useful only for identification of typical forms.
..... 50.

-. Large, length usually above 11 mm. Ventrites uniformly yellow, at most metasternum in the middle infuscate. Elytral pattern constant, reddish to brown. Tanzania, Zambia and Mozambique.
..... *ertli*

50. Stouter, less parallesided, Le/Wi ratio in male usually below 1.30, in female below 1.36.
..... 51.

-. Slimmer, body more or less parallelsided, Le/Wi ratio in male usually above 1.30, in female above 1.36.
..... 53.

51. Species from regions west of African rift. Elytral disc less regularly convex, especially in posterior half . Usually larger, length 8.0-11.2 mm.
..... 52.

-. Species from Saudi Arabia, Yemen and adjacent regions of Ethiopia. Elytral disc more regularly convex, especially in posterior half (fig. 591). Usually smaller, length 7.5-9.4 mm.
..... *gruevi*

52. Elytral disc mostly yellow, only with a few small black spots at base and along suture. Puncturation of disc finer, surface of disc more glabrous. Angola, Namibia and Botswana.
..... *astraea* (rare form with maculate explanate margin of elytra)

-. Elytral disc with very variable pattern. Puncturation of disc cparser, surface less glabrous. Central and West Africa.
..... *quinquefasciata*

53. Species from East, and southern part of Central and northern part of South Africa. Elytral pattern variable. Usually larger, length always above 8.6 mm.
..... 54.

-. Species from West and northern part of Central Africa. Elytral pattern rather constant reddish to reddish brown. Usually smaller, length 7.8-9.8 mm.
..... *cincta*

54. Basal corners of clypeus black. Abdomen usually mostly black. Slightly larger, length 9.4-11.9 mm.
..... *sternalis*

-. Basal corners of clypeus yellow or only slightly infuscate. Abdomen usually mostly yellow. Slightly smaller, length 8.6-10.9 mm.
..... *katangana*

55. Elytral disc with postscutellar gibbosity, or angulate in profile but never with conical postscutellar tubercle, profile behind the top of convexity straight to slightly convex.
..... 56.

-. Elytral disc with more or less defined postscutellar tubercle, sometimes it is very low and obtuse but elytral profile behind the tubercle concave.
..... 89.

56. Puncturation of disc from extremely fine to coarse, surface of disc varies from smooth to slightly irregular but never appears rugose, if surface distinctly irregular, then elytra angulate in profile and base of elytra usually distinctly wider than base of pronotum. Usually stouter, short-oval to circular species.
..... 57.

-. Puncturation of disc coarse, whole surface of disc strongly irregular, often appears rugose. Body oval, base of elytra not or only slightly wider than base of pronotum, postscutellar gibbosity low and obtuse (fig. 975). Elytral pattern very constant, reddish to brown. Botswana, Namibia, Zimbabwe and South Africa.
..... *reflexa*

57. Postscutellar gibbosity low and obtuse .
..... 16.
-. Postscutellar gibbosity distinct, or elytra angulate in profile.
..... 58.
58. Explanate margin of elytra immaculate.
..... 59.
-. Explanate margin of elytra with both humeral and posterolateral spots, or only with humeral spot, sometimes shortened, diagonal and visible only on underside of the margin, or mostly black.
..... 67.
59. Pronotal and elytral disc never uniformly black, pronotal disc never yellow but elytra chocolate brown with black margins .
..... 60.
-. Pronotal and elytral disc black, or pronotum yellow but elytra chocolate brown with black margins.
..... *togata* (form with obtuse tubercle and immaculate expl. margin of elytra)
60. Punctures of elytral disc marked with red or brown. Usually smaller and slimmer species, length of male 7.2-9.5 mm, female 8.0-10.4 mm.
..... 61.
-. Punctures of elytral disc not marked with red or brown. Usually larger and stouter species, length of male 8.7-12.4 mm, female 10.2-12.4 mm.
..... 64.
61. Species of mountain and highland regions of African rift. Pronotum and elytra in dried specimens often with green tint. Ventrites mostly black, abdomen usually black with yellow margins. Puncturation of disc finer and sparser, not impressed, usually with dark brown to black areola, surface between puncturation smooth, regular.
..... 62.
-. Widespread species in Africa south of Sahara. Pronotum and elytra in dried specimens usually yellow without green tint. Ventrites usually mostly yellow, especially abdomen yellow or with brown to black spots in the middle, but only occasionally mostly black with yellow margins. Puncturation of disc slightly coarser and denser, impressed, surface between punctures usually appears slightly irregular, especially on sides of disc. Males of both species of this subgroup are extremely similar and very difficult to identify without comparative materials.
..... 63.
62. Slimmer, Le/Wi ratio in male 1.08-1.16, in female 1.14-1.20. Base of elytra only slightly wider than base of pronotum (figs 1076, 1078), postscutellar angulation slightly lower (figs 1077, 1079). Apex of elytral epipleura bare in both sexes. Widespread in all mountain and highland regions of African rift.
..... *tanganikana* (form with immaculate explanate margin of elytra)

-. Stouter, Le/Wi ratio in male 1.04-1.09, in female 1.02-1.07. Base of elytra more distinctly wider than base of pronotum, sides broadly rounded (figs 769, 771), postscutellar elevation higher (figs 770, 772). Apex of elytral epipleura bare in male, sparsely pubescent in female. Only Ruwenzori region of E Zaire and W Uganda.
..... *montanella* (form with immaculate explanate margin of elytra)

63. Apex of elytral epipleura bare in both sexes. Elytral angulation usually more prominent, surface of elytra usually appears more irregular. Mostly central and west African species, very rare in eastern Africa.
..... *dissentanea* (very rare form with immaculate expl. margin of elytra)

-. Apex of elytral epipleura bare in male, pubescent in female. Elytral angulation usually more obtuse, surface of elytra appears less irregular. Exclusively from eastern and eastern part of southern Africa.
..... *icetrica* (*flavens* form, with immaculate explanate margin of elytra)

64. Base of elytra only slightly wider than base of pronotum. Larger, length of male 10.5-12.4 mm, female 10.5-13.8 mm. Eastern Africa.
..... 65.

-. Base of elytra distinctly wider than base of pronotum (fig. 441). Smaller, length of male 8.7-9.7 mm, female 10.2-11.3 mm. Central and western Africa.
..... *diaphana* (form with obtuse postscutellar angulation)

65. Ventrites partly black. Elytral angulation lower, puncturation of disc sparser and larger, especially on sides.
..... 66.

-. Ventrites uniformly yellow. Elytral angulation higher, almost conical, puncturation of disc finer and dense. Large species, length in both sexes usually above 12 mm. Explanate margin of elytra with slightly marginate sides.
..... *sassii*

66. Body almost circular, without distinct cleft between pronotum and elytra (fig. 762). Explanate margin of elytra very broad, subhorizontal, with tendency to form a shallow gutter. Ground colour of elytra paler yellow.
..... *mombonensis*

-. Body less circular, especially in female, with more distinct cleft between pronotum and elytra. Explanate margin of elytra more declivous, without tendency to form a gutter. Ground colour of elytra rusty yellow.
..... *biguttata* (*candens* form)

67. Explanate margin of elytra yellow with humeral or both humeral and posterolateral spots.
..... 69.

-. Explanate margin of elytra mostly black with yellow "window", sometimes also with yellow spots in apical part.
..... 68.

68. Smaller, length in both sexes below 9.8 mm. Apex of elytral epipleura bare in both sexes.
..... *dissentanea* (rare dark form = *dispilota* auct.)

-. Larger, length in both sexes above 10.4 mm. Apex of elytral epipleura bare in male, pubescent in female.
..... *biguttata* (typical form)

69. Explanate margin of elytra with only humeral spot.
..... 70.

-. Explanate margin of elytra with both humeral and sutural spots.
..... 76.

70. Explanate margin of elytra without black sutural spot.
..... 71.

-. Explanate margin of elytra at least on underside with black sutural spot.
..... *biguttata* (*sulfurea* form)

71. Puncturation of elytra fine to moderate, rows not or slightly impressed, intervals at least in sutural half of disc more than thrice wider than rows, surface not or only slightly irregular.
..... 72.

-. Puncturation of elytra moderate to coarse, rows deeply impressed, intervals in sutural half of disc as wide as to thrice wider than rows, surface of disc appears distinctly irregular.
..... *collarti* (form with obtuse tubercle and with only humeral spot)

72. Species of mountain and highland regions of African rift. Pronotum and elytra in dried specimens often with green tint. Ventrites mostly black, abdomen usually black with yellow margins. Puncturation of disc finer and sparser, not impressed, usually with dark brown to black areola, surface between punctures smooth, regular.
..... 73.

-. Wide spread species in Africa south of Sahara or highlands of Tanzania. Pronotum and elytra in dried specimens usually yellow without green tint. Ventrites usually mostly yellow, especially abdomen yellow or with brown to black spots in the middle, but only occasionally mostly black with yellow margins. Puncturation of disc slightly coarser and denser, impressed, surface between punctures usually appears slightly irregular, especially on sides of disc.
..... 74.

73. Slimmer, Le/Wi ratio in male 1.08-1.16, in female 1.14-1.20. Base of elytra only slightly wider than base of pronotum (figs 1076, 1078), postscutellar angulation slightly lower (figs 1077, 1079). Apex of elytral epipleura bare in both sexes. More widespread in all mountain and highland regions of African rift.
..... *tanganikana* (form with only humeral spot)

-. Stouter, Le/Wi ratio in male 1.04-1.09, in female 1.02-1.07. Base of elytra more distinctly wider than base of pronotum, sides broadly rounded (figs 769, 771), postscutellar elevation higher (figs 770, 772). Apex of elytral epipleura bare in male, sparsely pubescent in female. Only Ruwenzori region of E Zaire and W Uganda.
..... *montanella* (form with only humeral spot)

74. Apex of elytral epipleura bare in male, pubescent in female. Exclusively from eastern and eastern part of southern Africa.
..... 75.
-. Apex of elytral epipleura bare in both sexes. Mostly central and west African species, very rare in eastern Africa.
..... *dissentanea* (rare form with immaculate explanate margin of elytra)
75. Larger, length of male 9.0-9.6 mm, female 10.2-11.3 mm. Elytral elevation more prominent, angulate to almost conical. Only mountains of Tanzania.
..... *uluguruensis* (rare form with low tubercle and with only humeral spot)
-. Smaller, length of male 7.2-9.7 mm, female 8.0-9.1 mm. Elytral elevation lower, obtuse. Widespread in eastern and eastern part of southern Africa.
..... *icterica* (strongly angulate form with only humeral spot)
76. Pronotal disc immaculate.
..... 77.
-. Pronotal disc with black.
..... *togata* (form with obtuse postscutellar tubercle)
77. Elytral disc rusty yellow to reddish brown with black band along sides.
..... 78.
-. Elytral disc never rusty yellow to reddish brown combined with black band along sides.
..... 79.
78. Base of elytra distinctly wider than base of pronotum (fig. 1095). Puncturation of disc coarser, rows impressed. Spots of explanate margin of elytra very broad. Apex of elytral epipleura bare in both sexes.
..... *togata* (form with obtuse postscutellar tubercle)
-. Base of elytra slightly wider than base of pronotum (fig. 360). Puncturation of disc fine, rows at least in sutural half of disc not impressed. Spots of explanate margin of elytra narrow. Apex of elytral epipleura bare in male, pubescent in female.
..... *biguttata* (*katonae* form)
79. Puncturation of disc fine to moderate, rows not or only slightly impressed, surface of disc regular or only on sides slightly irregular.
..... 80.
-. Puncturation of disc moderate to coarse, rows deeply impressed, surface of disc appears distinctly irregular. Gabon and Zaire.
..... *collarti*
80. Base of elytra distinctly wider than base of pronotum (figs 635, 939).
..... 81.
-. Base of elytra indistinctly to moderately wider than base of pronotum.
..... 82.
81. Intervals flat, surface completely regular with mirror brilliance. Pecten of tarsal claws shorter, extending to half length of claw. Ventrites usually uniformly yellow.
..... *incerta*

-. Intervals on sides of disc appears slightly irregular, their surface slightly dull. Pecten of tarsal claws very long, extending to 2/3 length of claw. Ventrites usually partly black.
..... *quadriramosa* (form with obtuse postscutellar tubercle)

82. Species of mountain and highland regions of African rift. Pronotum and elytra in dried specimens often with green tint. Ventrites mostly black, abdomen usually black with yellow margins. Puncturation of disc finer and sparser, not impressed, usually with dark brown to black areola, surface between punctures smooth, regular.
..... 83.

-. Widespread species. Pronotum and elytra in dried specimens usually yellow without green tint, often with dark pattern. Ventrites vary from uniformly yellow to partly black. Puncturation of disc slightly coarser and denser, impressed, surface between punctures usually appears slightly irregular, especially on sides of disc. Here belong six species, very variable and possible to identify only by comparison with a series of properly identified specimens.
..... 84.

83. Slimmer, Le/Wi ratio in male 1.08-1.16, in female 1.14-1.20. Base of elytra only slightly wider than base of pronotum (1076, 1078), postscutellar angulation slightly lower (1077, 1079). Apex of elytral epipleura bare in both sexes. More widespread in all mountain and highland regions of African rift.
..... *tanganikana* (form with both humeral and posterolateral spots)

-. Stouter, Le/Wi ratio in male 1.04-1.09, in female 1.02-1.07. Base of elytra more distinctly wider than base of pronotum, sides broadly rounded (figs 769, 771), postscutellar elevation higher (figs 770, 772). Apex of elytral epipleura bare in male, sparsely pubescent in female. Only Ruwenzori region of E Zaire and W Uganda.
..... *montanella* (form with both humeral and posterolateral spots)

84. Apex of elytral epipleura bare in male, pubescent in female.
..... 85.

-. Apex of elytra bare in both sexes.
..... 86.

85. Larger, length of male 9.0-9.6 mm, female 10.2-11.3 mm. Elytral elevation more prominent, angulate to almost conical. Only mountains of Tanzania.
..... *uluguruensis* (form with low postscutellar tubercle)

-. Smaller, length of male 7.2-9.7 mm, female 8.0-9.1 mm. Elytral elevation lower, obtuse. Wide spread in eastern and southern Africa (the form with both humeral and posterolateral forms is common in southern Africa but very rare in its eastern part).
..... *icterica* (rare angulate form with both humeral and sutural spots)

86. Generally smaller, length in male 6.8-8.5 (max. 9.7), in female 8.6-9.5(max. 10.0) mm, with centre of distribution in central, western and northern parts of eastern Africa. Explanate margin of elytra narrower never with tendency to form a shallow gutter. Here belong two vicariant species.
..... 87.

-. Generally larger, length in male 9.0 (min. 8.2)-10.9 mm, female 9.5(min. 9.0)-11.0 mm, with centre of distribution in eastern, southern part of central, and southern Africa. Explanate margin of elytra wider, sometimes with tendency to form a shallow gutter.
..... 88.

87. Males narrower, Le/Wi ratio 1.18-1.32. Slightly smaller, elytral angulation less prominent, surface of elytra usually almost regular. Elytral pattern more constant, usually reddish brown, occasionally dark brown to blackish. More northern and eastern distribution (fig. 512)).
..... *equatoriensis*

-. Males stouter, Le/Wi ratio 1.08-1.16. Generally larger, with elytral disc more angulate, and its surface more irregular, especially on sides. Elytral pattern very variable. More western and southern distribution (fig. 494).
..... *dissentanea* (typical form)

88. Stouter, Le/Wi ratio in male 1.08-1.15, in female 1.15-1.20. Explanate margin of elytra declivous, never with tendency to form a shallow gutter. Elytral pattern constant, reddish-brown. Mountain regions of Kenya, Tanzania, Uganda and border region of NE Zaire.
..... *infuscata*

-. Slimmer, Le/Wi ratio in male 1.16-1.25, in female 1.22-1.30. Explanate margin of elytra less declivous, often with tendency to form a narrow gutter. Elytral pattern very variable. Widespread in almost whole Afrotropical Region, with centre of distribution in southern and eastern Africa, especially in lowlands.
..... *madagascarica*

89. Body elongate, Le/Wi ratio in male 1.35-1.39, in female 1.41-1.50 (figs 571, 918). Elytral tubercle always large, conical (figs 572, 919). Explanate margin of elytra narrow, without tendency to form a shallow gutter. Usually last four antennal segments mostly or completely black.
..... 90.

-. Body from oval to circular, Le/Wi ratio in both sexes always below 1.30, if more (in female at most 1.36), then elytral surface strongly rugose. Usually less than four last antennal segments infuscate to black.
..... 91.

90. Postscutellar tubercle smaller with obtuse top (fig. 572). Lateral margin of explanate margin of elytra distinctly marginate on whole length. Body almost parallelsided (fig. 571).
..... *firma*

-. Postscutellar tubercle higher with sharp top (fig. 919). Lateral margin of explanate margin of elytra narrowly marginate only in anterior half. Body sides more rounded (fig. 918).
..... *potens*

91. Puncturation of elytral disc partly to mostly irregular, dense, surface appears strongly rugose.
..... 92.

-. Puncturation of elytral disc varies from extremely fine to coarse, but usually regular, surface of disc varies from completely smooth to irregular but never appears rugose.
..... 94.

92. Explanate margin of elytra with both humeral and posterolateral spots. Body stout, Le/Wi ratio in both sexes below 1.32 (figs 428, 675). One to two last antennal segments infuscate to black.
..... 93.

-. Explanate margin of elytra with only posterolateral spot. Body narrow, Le/Wi ratio 1.36 (fig. 578). Three to four last antennal segments infuscate to black.
..... *flaviceps*

93. Elytral puncturation mostly irregular, surface appears more rugose. Usually last two antennal segments infuscate to black. Pecten of tarsal claws shorter, extending to 1/3-2/5 length of claw (fig. 679).
..... *intricata*

-. Elytral puncturation mostly regular, but strongly impressed, coalescent in groups, surface appears less rugose. Usually only last antennal segment infuscate to black. Pecten of tarsal claws longer, extending almost to half length of claw (fig. 432).
..... *delitescens*

94. Explanate margin of elytra immaculate.
..... 95.

-. Explanate margin of elytra at least with humeral or posterolateral spot.
..... 103.

95. Elytral disc never uniformly black.
..... 96.

-. Elytral disc uniformly black. Postscutellar tubercle low and obtuse (fig. 349). Pecten of tarsal claws very short, extending to 1/6 length of claw (fig. 352). Only last antennal segment black.
..... *atrodorsata*

96. Elytral disc without black ring. Postscutellar tubercle moderate to high, angulate.
..... 97.

-. Elytral disc with irregular black ring (fig. 891). Postscutellar tubercle very low and obtuse (fig. 892). Pecten of tarsal claws very short, extending to 1/6 length of claw (fig. 895). Only last antennal segment black, or antennae uniformly yellow.
..... *orbifera*

97. Large species, length above 10.5 mm .
..... 101.

-. Smaller species, length below 10.5 mm.
..... 98.

98. Elytral profile behind postscutellar tubercle distinctly concave, the tubercle more conical (figs 450, 1096), surface of disc in posterior half of elytra slightly depressed. Puncturation of elytra slightly denser, especially behind

humeral callus punctures distinctly larger and denser than in sides of disc. Punctures without dark areola, or it is very small, only in anterior half of disc, reddish. Elytra along suture sometimes with small brownish spots. Pecten of tarsal claws shorter, extending to 1/4-1/3 length of claw, the first tooth the longest remainder gradually smaller.
..... 99.

-. Elytral profile behind postscutellar tubercle only slightly concave, the tubercle less conical, rather the whole disc conical, surface of disc in posterior half of elytra slightly convex (figs 605, 756). Puncturation of disc very sparse, behind humeral callus not or only slightly larger and denser than in sides of disc. Punctures on whole disc surface with brown to black areola. Elytra never maculate. Pecten of tarsal claws longer, extending to 2/5-3/4 length of claw, teeth almost equal in length.
..... 100.

99. Larger, length 8.2-9.9 mm. Last segment of antennae usually black. South Africa north to S Zaire.
..... *dilecta*

-. Smaller, length 7.3-8.0 mm. Antennae usually uniformly yellow or only apex of last segment infuscate. Western and central, only in S Zaire sympatric with precedent species.
..... *togoensis*

100. Ventrites uniformly yellow. Only last antennal segment black. Elytral tubercle slightly lower (fig. 605).
..... *hyalina*

-. Ventrites partly black. Two last antennal segments black. Elytral tubercle slightly higher (fig. 756).
..... *mirabilis*

101. Pecten of tarsal claws long, extending to 1/2-3/5 length of claw.
..... 102.

-. Pecten of tarsal claws very short, extending to 1/7-1/6 length of claw (fig. 728). Elytral surface smooth with mirror brilliance. Last three antennal segments black, segment 9 sometimes with yellowish base.
..... *levissima*

102. Base of elytra only slightly wider than base of pronotum, body almost circular (fig. 993). Puncturation of disc fine, surface completely regular. Kenya.
..... *sassii*

-. Base of elytra distinctly wider than base of pronotum (fig. 1135), apex of elytra subacuminate (only females are known, males probably have elytral apex more evenly rounded). Puncturation of disc coarse, rows impressed, surface of disc appears irregular. Zaire.
..... *tuberosa*

103. Explanate margin of elytra with humeral, or both humeral and posterolateral spots, they are sometimes partly reduced and not extending to margin of elytra, or explanate margin mostly black with yellow "window".
..... 104.

-. Explanate margin of elytra only with posterolateral spot. Small species, length 7.8-8.8 mm. Postscutellar tubercle large, conical.
..... *semiramosa*

104. Explanate margin of elytra only with humeral spot, it is sometimes partly reduced, diagonal.
..... 105.

-. Explanate margin of elytra with both humeral and posterolateral spots or mostly black with yellow "window".
..... 120.

105. Pronotal and elytral disc black.
..... 106.

-. Pronotal and elytral disc never black.
..... 108.

106. Humeral spot not extending posterad, occupies only basal part of explanate margin, sometimes reduced to short diagonal spot not extending to lateral margin of elytra.
..... 107.

-. Humeral spots extending posterad, occupy half length of explanate margin and enclose a yellow "window" (fig. 878). Two last antennal segments black. Pecten of tarsal claws short, extending to 1/5 length of claw. Nigeria only.
..... *obuduensis*

107. Humeral spot broad, extending to lateral margin of elytra (fig. 793). Last three antennal segments black. Pecten of tarsal claws short, extending to 1/4 length of claw (fig. 797). Surface of elytra almost regular.
..... *muehlei*

-. Humeral spot diagonal, usually not extending to lateral margin of elytra. Last one or two antennal segments infuscate to black. Pecten of tarsal claws long, extending to 1/2-3/5 length of claw (fig. 1099). Surface of elytra irregular.
..... *togata* (rare mountain form with only humeral spot)

108. Postscutellar tubercle low and obtuse (figs 323, 800, 806, 808, 1142).
..... 109.

-. Postscutellar tubercle higher, sharp (figs 336, 669, 718, 864, 1062).
..... 111.

109. Pecten of tarsal claws longer, extending to 1/3-2/5 length of claw (fig. 803).
..... 110.

-. Pecten of tarsal claws very short, extending to 1/6 length of claw (fig. 1142).
..... *uelensis*

110. Elytra with brownish-black ring on disc and reddish humeral spot (fig. 322). Only last antennal segment black.
..... *adjecta*

-. Elytra never with brownish-black ring, humeral spot and elytral pattern, if present, the same colour. Usually two last antennal segments black.
..... *mutata*

111. Large species, length above 10.8 mm.
..... 112.
-. Smaller, length below 10.6 mm.
..... 113.
112. Larger, length 13.4-16.9 mm. Elytral disc usually with black spots, occasionally mostly black (figs. 659-662). Puncturation of disc very fine, on slope hardly marked, not impressed. Pecten of tarsal claws very short, extending to 1/5-1/4 length of claw (fig. 672). Apex of elytral epipleura bare in both sexes.
..... *ingens*
-. Smaller, length 10.9-12.3 mm. Elytral disc immaculate. Puncturation of disc moderate, especially on sides, slightly impressed. Pecten of tarsal claws moderate, extending to 1/3-2/5 length of claw (fig. 853). Apex of elytral epipleura bare in male, pubescent in female.
..... *oblectans*
113. Humeral spot black or dark brown, the dark colour extends to humerus and forms a band behind humerus up to lateral fold of marginal interval.
..... 114.
-. Humeral spot brown or black, but dark colour never extends to humerus and never forms a band behind humerus, sometimes humeral spot brown but humerus and adjacent area black.
..... 117.
114. Smaller, length of female usually below 10.1 mm. Stouter, Le/Wi ratio of female usually below 1.15. Apex of elytral epipleura bare in both sexes.
..... 115.
-. Larger, length of female (male unknown) usually above 10.1 mm. Slimmer, Le/Wi ratio of female 1.15-1.24. Apex of elytral epipleura pubescent in female.
..... *andrei*
115. Pecten of tarsal claws longer, extending to 1/4-1/3 length of claw (figs 929, 1073). Ground colour of elytral disc never reddish-brown.
..... 116.
-. Pecten of tarsal claws shorter, extending to 1/5 (on fore legs at most to 1/4) length of claw (fig. 721). Ground colour of elytra often reddish-brown. Cameroon only.
..... *laevigata*
116. Black band along margin of disc extends behind lateral fold of marginal interval (fig. 1069). Antennal segment 9 always partly black.
..... *sulfuripennis*
-. Black band along margin of disc never extends behind lateral fold of marginal interval (fig. 925). Antennal segment 9 usually yellow or only apex infuscate.
..... *procax* (rare form with only black humeral spot)
117. Pecten of tarsal claws shorter, extending at most to 2/5 length of claw (figs. 721, 867, 1065).
..... 118.

-. Pecten of tarsal claws very long, always extending behind half length of claw (fig. 474).
..... *dissentanea* (*burgeoni* form)

118. Pecten of tarsal claws very short, extending to 1/5-1/4 length of claw (figs. 721, 867). Ground colour of elytra usually darker, argillaceous to reddish-brown, disc in basal part often with black. Species of limited range of distribution.
..... 119.

-. Pecten of tarsal claws longer, extending to 2/5 length of claw (fig. 1065). Ground colour of elytra usually paler, yellow, disc in basal part only occasionally with black. Widespread in almost whole Africa south of Sahara.
..... *submutata*

119. W Cameroon only. Slightly smaller, with lower postscutellar tubercle. Antennal segment 10 usually wholly black.
..... *laevigata*

-. E Tanzania only. Slightly larger, with higher postscutellar tubercle. Antennal segment 10 usually only apically black or wholly yellow.
..... *obtusangula*

120. Pecten of tarsal claws very short, extending at most to 1/6 length of claw (figs 404, 991).
..... 121.

-. Pecten of tarsal claws moderate to very long, extending at least to 1/4 length of claw (figs 1017, 1035).
..... 122.

121. Apex of elytra subacuminate. Puncturation of elytral disc less impressed, surface of disc more regular with mirror brilliance. Last three antennal segments black.
..... *sankuruensis*

-. Apex of elytra more evenly rounded. Puncturation of disc strongly impressed, surface of disc appears irregular, not as brilliant as in preceding species. Antennal segment 9 at least at base yellow.
..... *collarti* (form with both humeral and posterolateral spots)

122. Larger, length above 8 mm.
..... 123.

-. Smaller, length below 7.8 mm. SE Zaire only.
..... *splendidula*

123. Two to three last antennal segments black.
..... 124.

-. Antennae uniformly yellow or only last segment partly black. Ventrites always uniformly yellow. Apical margin of elytra in female with very long erected setae. Central Africa.
..... *setosa*

124. Ground colour of elytral disc argillaceous to chocolate brown. Spots of explanate margin broad, humeral always widened posterad, often spots

extend to marginal intervals of disc and form a band along margin of disc, in extreme case explanate margin of elytra black with yellow "window".
..... 125.

-. Ground colour of elytral disc yellow to rusty yellow. Spots of explanate margin narrow to moderate, humeral spot usually not widened posterad, only occasionally extends to marginal intervals of elytra, explanate margin of elytra never mostly black.
..... 126.

125. Postscutellar tubercle lower (fig. 1096), puncturation of disc stronger, surface of disc appears slightly irregular. Pattern of elytra very variable (figs 1101-1109). Central Africa, very rare in western Africa (introduced or relict).
..... *togata*

-. Postscutellar tubercle higher (fig. 557), Puncturation of disc finer, surface of disc appears regular. Pattern of elytra constant, disc always chocolate brown with dark brown to black margin, each explanate margin mostly black with one or two yellow spots (figs 380-381). Species from western Africa east to Nigeria.
..... *fenestrata*

126. Base of elytra in both sexes at least moderately wider than base of pronotum. Ventrites variable, usually partly black. Species outside southern Africa.
..... 127.

-. Base of elytra in male moderately, in female only slightly wider than base of pronotum. Ventrites usually uniformly yellow (only in northern populations thorax sometimes partly black). Postscutellar tubercle prominent, conical (fig. 824). Species from southern Africa north to Malawi.
..... *natalensis*

127. Species from central Africa, east to W Uganda with relict localities in western Africa. Apex of elytral epipleura bare in both sexes (except *tuberosa*).
..... 129.

-. Species from mountain and highland regions of Tanzania. Postscutellar tubercle large but usually obtuse. Apex of elytral epipleura in female bare or pubescent
..... 128.

128. Abdomen yellow. Top of postscutellar tubercle obtuse (figs 1159, 1161). Apex of female epipleura pubescent.
..... *uluguruensis*

-. Abdomen partly infuscate to black. Top of postscutellar tubercle sharp (fig. 731). Apex of epipleura bare in both sexes.
..... *lynesi*

129. Pecten of tarsal claws longer, extending at least to 2/5 length of claw (figs 553, 1139).
..... 130.

-. Pecten of tarsal claws shorter, extending at most to 1/3 length of claw (fig. 929). Spots of explanate margin usually black.
..... *procax* (typical form)

130. Two last antennal segments black, apex of segment 9 only occasionally infuscate.
..... 131.
-. Three last antennal segments black, base of segment 9 sometimes yellow.
..... *fausta*
131. Smaller, length below 11 mm. Puncturation of elytra finer, rows less impressed. Apex of elytral epipleura bare in both sexes.
..... 132.
-. Larger, length above 11.5 mm. Puncturation of elytra stronger, rows more impressed. Apex of elytra epipleura pubescent in female.
..... *tuberosa*
132. Larger and stouter, with less evident sexual dimorphism, Le/Wi ratio in male 1.07-1.13, in female 1.11-1.15. Base of elytra more distinctly wider than base of pronotum, especially in female (figs 940, 946). Spots of explanate margin broad, humeral spot usually widened posterad.
..... *quadriramosa* (typical form)
-. Smaller and slimmer, with more evident sexual dimorphism, Le/Wi ratio in male 1.08-1.16, in female 1.18-1.26. Base of elytra less distinctly wider than base of pronotum, especially in female (fig. 470). Spots of explanate margin narrow to moderate, humeral spot not or only slightly widened posterad.
..... *dissenatanea* (*burgeoni* form)

Aspidimorpha (s. str.) *adjecta* SPAETH, 1940

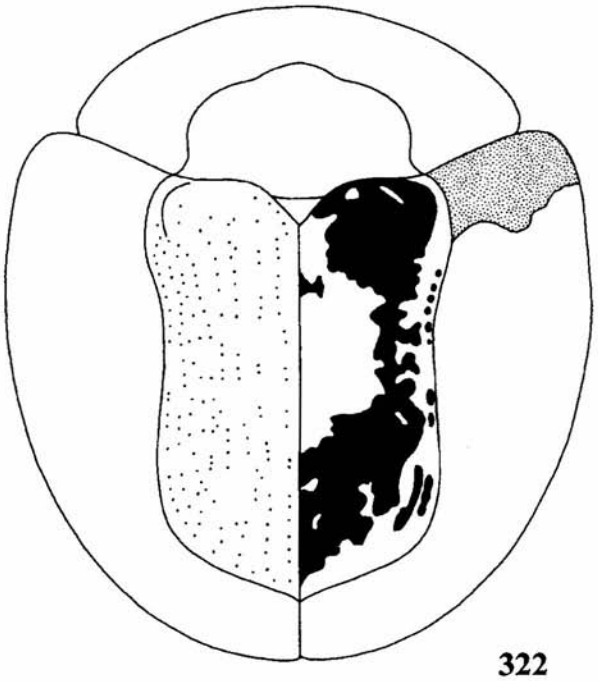
Aspidomorpha adjecta SPAETH, 1940: 263 (HT in MRAC, PT in MM).

DESCRIPTION

Le: male and female: 8.0 mm, Wi: male and female: 6.9-7.2 mm, Lp: male and female: 2.3-2.6 mm, Wp: male and female: 5.0-5.4 mm, Ex: male and female: 1.8-1.9 mm, Wd: male and female: 3.3 mm; Le/Wi ratio: male and female: 1.11-1.16, Wi/Wp: male and female: 1.33-1.38, Wp/Lp: male and female: 2.08-2.17. Body almost circular (fig. 322).

Pronotum uniformly yellow. Elytra yellow with yellowish-brown humeral spot, elytral disc yellowish with dark brown pattern forms irregular ring occupying large part of disc except postscutellar tubercle and its surrounding area, marginal intervals and extreme apex of disc (fig. 322). Sometimes top of postscutellar tubercle with brown spot, punctures in marginal intervals and most of punctures of pale central area with dark centre. Scutellum yellow. Ventrites uniformly yellow. Antennae yellow, only last segment, except ventral side, black; occasionally apex of segment 10 infuscate.

Pronotum broadly ellyptical, with maximum width in 3/5 length, sides narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.



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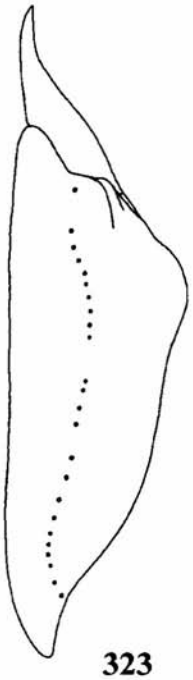

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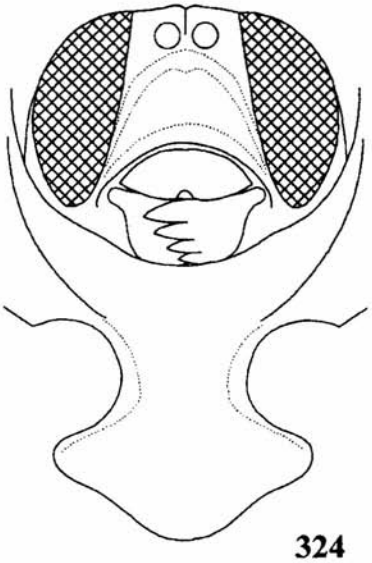

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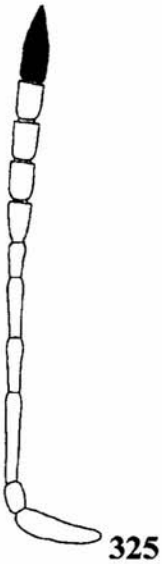

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322-327. *Aspidimorpha adjecta*: 322 - body in dorsal view, 323 - body in profile, 324 – head and prosternum, 325 – antenna, 326 – inner side of claw, 327 – outer side of claw

Scutellum triangular, impunctate, without transverse sulcus, sometimes impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri rounded, elytral margins simple. Disc with moderately large, and obtuse postscutellar tubercle (fig. 322). Principal impression deep. Puncturation of disc fine, regular, on slope distinctly smaller than in anterior half of disc, in sutural half of disc smaller than in lateral part of disc. Scutellar row with 4-7 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-4, distance between punctures or groups of punctures two to four times larger than puncture diameter. Rows not impressed, surface of disc regular. Punctures in marginal row deep, c. four to five times larger than in central rows. Intervals flat, in sutural half five, in lateral half three to four times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, moderately declivous, impunctate, its surface smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.3 times wider than long, glabrous (fig. 324), slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/3 length. Antennae moderately elongate (fig. 325), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:42:111:76:74:47:53:50:51:52:90.

Claws pectinate on both sides, inner pecten long, with three teeth extending to 1/3 length of claw, two external teeth equal in length, internal c. twice shorter (fig. 326). Outer pecten with two long teeth, 1.5 times shorter than in inner pecten (fig. 327).

Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

Cameroon and E Zaire (fig. 334).

REMARKS

It belongs to the *mutata* species group, the subgroup with obtuse postscutellar tubercle. At first glance it differs from all species of the group in presence on elytral disc an irregular dark brown ring. *A. orbifera* has also ring on elytral disc but it is black, regular; the latter species is larger than *A. adjecta*; *A. uelensis* differs in larger size and usually smaller postscutellar tubercle; *A. atrodorsata* differs in mostly black elytral disc. Three last species have extremely short inner pecten of tarsal claws extending only to 1/6 length of claw (1/3 in *adjecta*). *A. mutata* is the most similar, it has postscutellar tubercle as large as in *A. adjecta* and pecten of tarsal claws of similar size, but in *A. mutata* elytral disc is usually unicolour, never with dark ring.

MATERIAL EXAMINED

CAMEROON: Joko, 1 (LB).

ZAIRE: Kivu, Masisi, 1 (LB); Rutshuru, V 1937, 2, GHESQUIÈRE (holotype, MRAC, paratype, MM).

Aspidimorpha (s. str.) *adumbrata* SPAETH, 1917

Aspidomorpha adumbrata SPAETH, 1917: 425 (HT in MM); BOROWIEC, 1985 a: 444.
Aspidomorpha Zavattarii SPAETH, 1941: 315 (HT in MCSNT), **n. syn.**

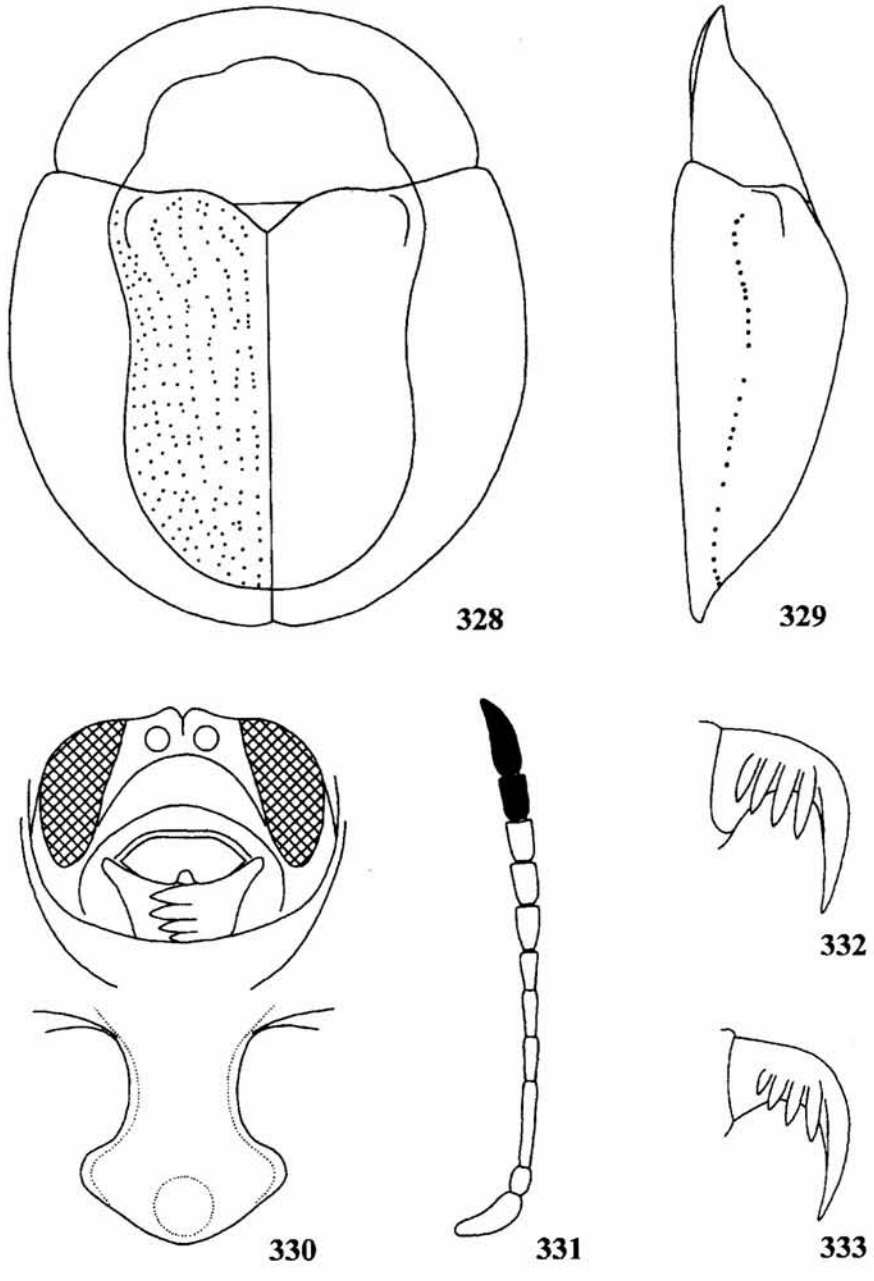
DESCRIPTION

Le: male: 10.2-11.4 mm, female: 10.3-11.5 mm, Wi: male: 8.5-9.4 mm, female: 8.3-9.1 mm, Lp: male: 3.4-3.8 mm, female: 3.3-3.7 mm, Wp: male: 6.8-7.3 mm, female: 6.6-7.4 mm, Ex: male: 1.9-2.1 mm, female: 1.8-1.9 mm, Wd: male: 4.7-5.2 mm, female: 4.6-5.4 mm; length/Wi ratio: male: 1.20-1.22, female: 1.24-1.28, Wi/Wp: male: 1.20-1.31, female: 1.23-1.26, Wp/Lp: male: 1.89-2.09, female: 2.00-2.06. Body short-oval to almost circular (fig. 328).

Pronotum and elytra uniformly yellow, punctures without darker centre or areola. Explanate margin yellow, only on underside sometimes with shortened, diagonal, argillaceous humeral spot, only in one of the examined specimens underside of explanate margin with narrow, argillaceous posterolateral spot. Margins of explanate margin slightly darker yellow than ventral half of explanate margin. Clypeus yellow. Ventrites uniformly yellow, occasionally metasternum with indistinct brown spot in the middle, in extreme cases prosternum mostly brown to black and metasternum with blackish spot in the middle. Legs, including coxae, uniformly yellow. Antennae mostly yellow, two last antennal segments black except yellow ventral side of apex of the last segment, sometimes segment 10 uniformly yellow or only with apex infuscate.

Pronotum semicircular, with maximum width at base, hind angles subangulate, form blunt angle about 90-95°. Disc moderately convex, smooth, shiny, with very small microeticulation. Explanate margin distinctly bordered from disc, almost horizontal, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, not or only slightly wider than base of pronotum, elytral margins simple. Disc almost evenly convex, only slightly gibbous in postscutellar point, the profile behind the top of gibbosity straight to slightly convex (fig. 329). Discal surface with small and shallow principal impression, without lateral impressions, surface of lateral part of disc usually slightly irregular but sometimes completely regular, especially in specimens from Somalia and Uganda. Puncturation of disc mostly regular, punctures fine to moderate, on slope slightly smaller than in anterior half of disc, in sutural half of disc two to three times smaller than in lateral part of disc. Scutellar row with 5-8 punctures. Punctures in rows moderately dense to dense, disposed mostly regularly, partly grouped in 2-4 together, distance between punctures in groups c. as wide as to thrice wider than puncture diameter, between groups three to five times wider than puncture diameter. Rows slightly impressed. Marginal row deep, its punctures slightly larger than in submarginal row. Intervals flat, in sutural half of disc four to five times wider than rows, on sides c. twice to thrice wider than rows, their surface mostly smooth, shiny, with very small microreticulation. Lateral fold of explanate margin low and narrow. Explanate margin moderately broad, moderately de-



328-333. *Aspidimorpha adumbrata*: 328 - body in dorsal view, 329 - body in profile, 330 – head and prosternum, 331 – antenna, 332 – inner side of claw, 333 – outer side of claw

clivous, margins almost horizontal but without tendency to form a shallow gutter, impunctate, smooth and shiny. Elytral epipleura bare in both sexes.

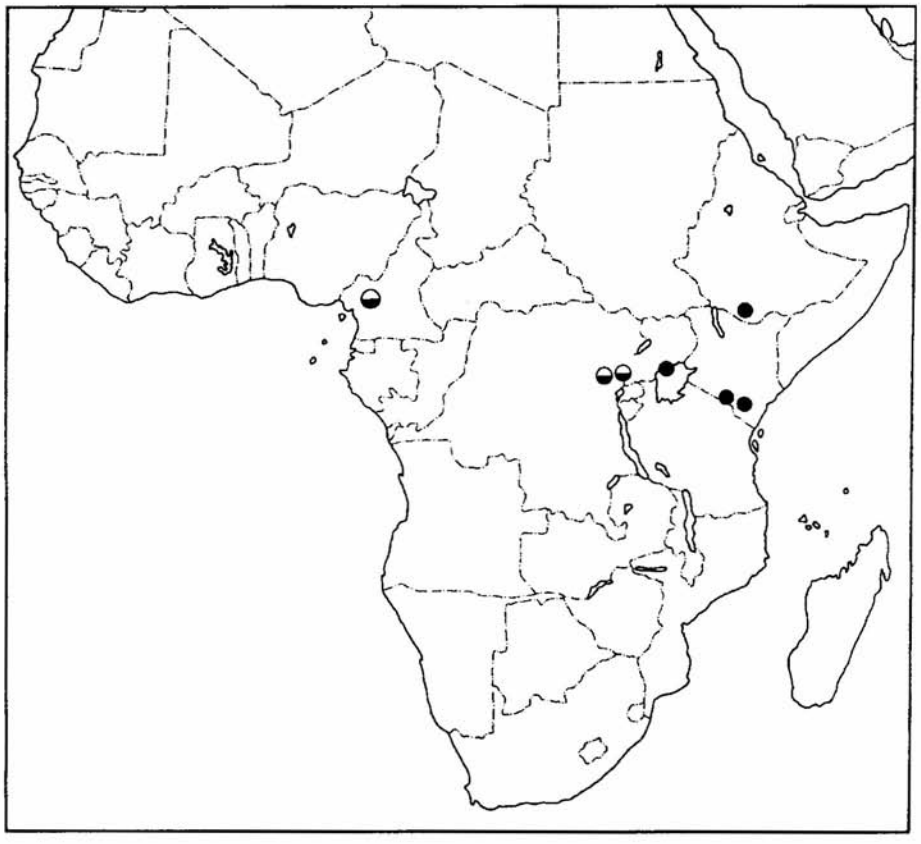
Head very broad, clypeus 1.8-1.9 times wider than long (fig. 330), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/3 length. Antennae moderately elongate (fig. 331), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:47:130:85:73:55:70:60:65:65:125.

Claws pectinate on both sides, inner pecten with four long teeth extending to 2/5-1/2 length of claw (fig. 332). Outer pecten with three teeth, extending to 1/5-1/4 length of claw (fig. 333).

Sexual dimorphism indistinct. Males slightly stouter than females.

HOST PLANT

Convolvulaceae: *Ipomoea hildebrandti* (label data).



334. Distribution of *Aspidimorpha adjecta* (white above black circles) and *A. adumbrata* (black circles)

DISTRIBUTION

Ethiopia, Kenya and Uganda (fig. 334).

REMARKS

It belongs to the *expansa* group. It differs from *A. expansa* in distinctly coarser elytral puncturation with impressed elytral rows. Elytra in *A. adumbrata* are always uniformly yellow, while in *A. expansa* base of elytra has usually a few small, black spots. *A. filiola* is, at first glance, the most similar to *A. adumbrata*, but differs in very strong elytral puncturation with intervals as wide as or narrower than rows (in *A. adumbrata* intervals are always wider than rows), and in mostly black ventrites (in *adumbrata* ventrites are usually uniformly yellow, or only thorax is partly black). Specimen described from Ethiopia under the name *zavattarii* only slightly differs from holotype of *A. adumbrata* from Uganda in more gibbous elytral disc, especially in postscutellar point, but specimens from Kenya are intermediate and, in my opinion, *A. zavattarii* is only extreme, northern form of *A. adumbrata*.

MATERIAL EXAMINED

ETHIOPIA: Tertale, Banno-El Dire, 13 V 1939, 1, Miss. E. ZAVATTARI (holotype of *zavattarii*, MCSNT).

KENYA: Kibwezi, 2 (LB); Ngulia Lodge, III 1970, 6 (LB).

UGANDA: Entebbe, 1 (holotype of *adumbrata*, MM); Mororo, 8 X 1952, 2, from *Ipomoea hildebrandti*, B.VERDCOURT (LB).

Aspidimorpha (s. str.) *andrei* n. sp.

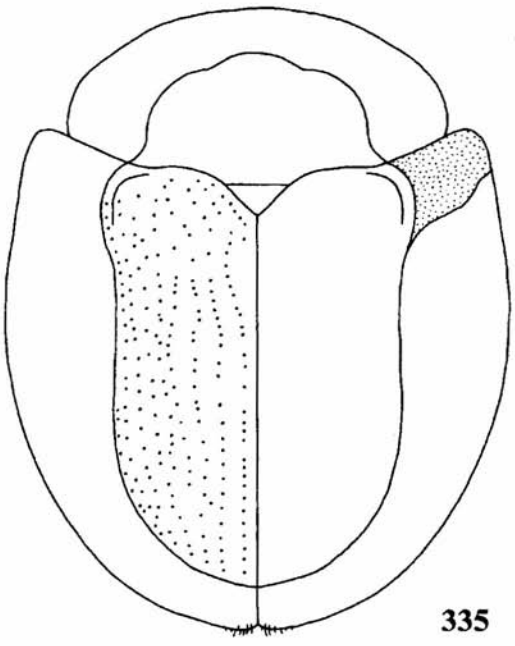
ETYMOLOGY

Dedicated to Dr. M. ANDRÉ, the curator of the *Coleoptera* collection in the Musée Royal d'Afrique Centrale, Tervuren, Belgium.

DESCRIPTION

Le: female: 10.1-10.5 mm, Wi: female: 8.4-8.8 mm, Lp: female: 3.1-3.2 mm, Wp: female: 6.2-6.5 mm, Ex: female: 2.0-2.2 mm, Wd: female: 4.6-4.8 mm; Le/Wi ratio: female: 1.15-1.24, Wi/Wp: female: 1.33-1.40, Wp/Lp: female: 1.94-2.10. Body subcircular (fig. 335).

Pronotum uniformly yellow. Elytral disc yellow to argillaceous, sometimes sides with brownish band indistinctly bordered from other parts of disc. Explanate margin with moderately broad, brown humeral spots, no posterolateral and sutural spots. Apex of humeral spot not widened posterad. Scutellum yellow. Ventrites vary from uniformly yellow to thorax mostly black, abdomen always yellow. Antennae yellow, two last segments, except ventral part of apex of last segment, black; occasionally extreme apex of segment 9 infuscate.



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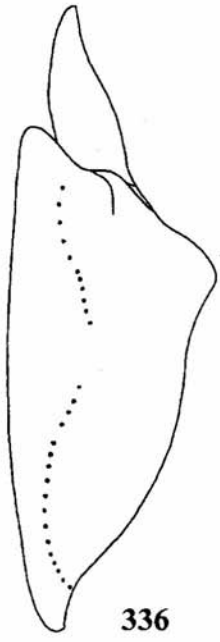

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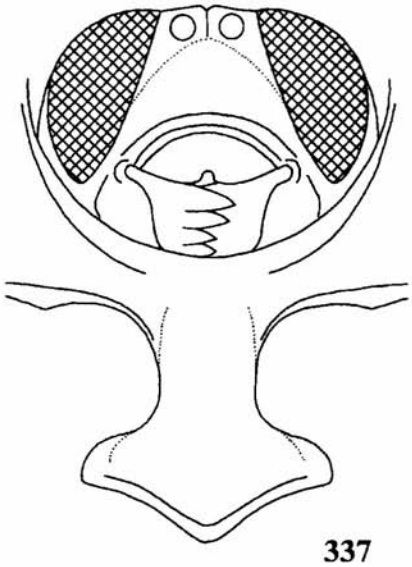

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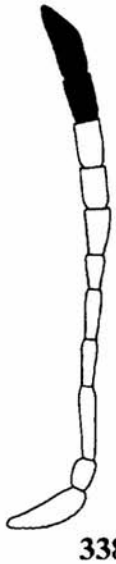

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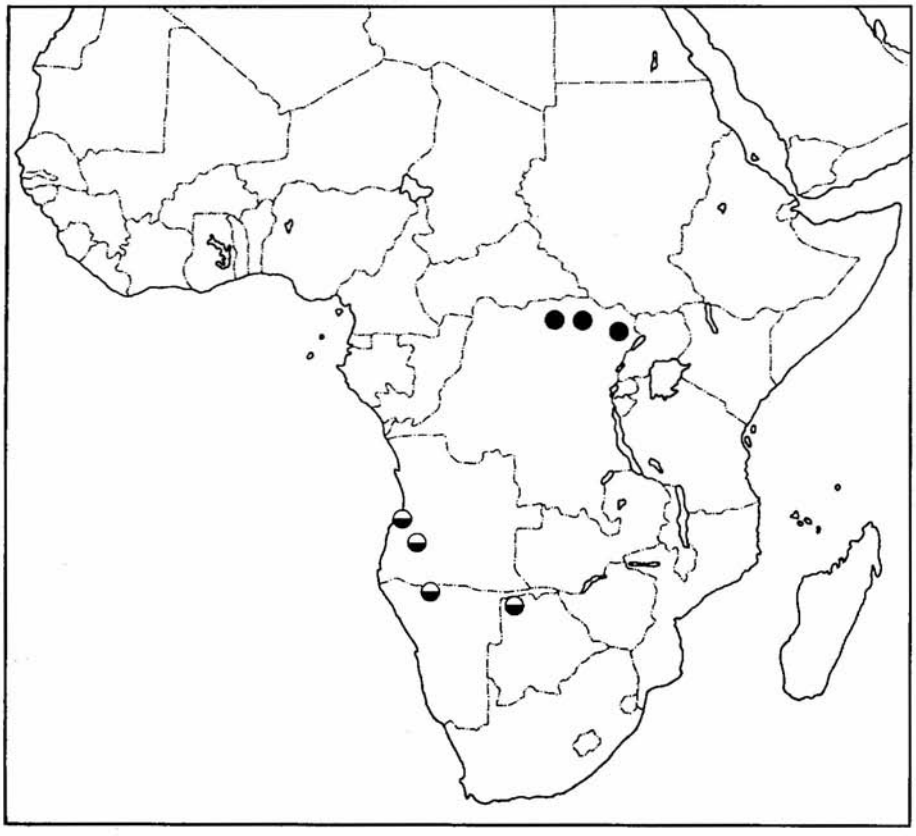
355-340. *Aspidimorpha andrei*: 335 - body in dorsal view, 336 - body in profile, 337 – head and prosternum, 338 – antenna, 339 – inner side of claw, 340 – outer side of claw

Pronotum broadly ellyptical, with maximum width in 3/5 length, sides narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, sometimes impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri rounded, elytral margins simple. Disc with large, conical postscutellar tubercle, profile behind the tubercle distinctly concave (fig. 336). Principal impression small but deep, scutellar impressions shallow, lateral impression hardly marked. Puncturation of disc fine, regular, on slope distinctly finer and sparser than in anterior half of disc, in sutural half of disc c. twice smaller than in lateral part of disc. Scutellar row with 5-7 punctures. Punctures in rows sparse, disposed mostly regularly, distance between punctures on most of disc three to four on slope five to six times larger than puncture diameter. Rows not or only on sides slightly impressed, surface of disc regular. Punctures in marginal row deep, three to four times larger than in central rows. Intervals flat, in sutural half five, in lateral half three to four times wider than rows, their



331. Distribution of *Aspidimorpha andrei* (black circles) and *A. astraea* (white above black circles)

surface smooth, with mirror brilliance. Explanate margin very broad, moderately declivous to subhorizontal, with no tendency to form a gutter, impunctate, its surface smooth and shiny. Apex of elytral epipleura in female with sparse, moderately long hairs, also extreme margin of elytra with several erect setae.

Head broad, clypeus 1.6-1.7 times wider than long (fig. 337), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/3 length. Antennae moderately elongate (fig. 338), extending to half length of metasternum, length ratio of antennal segments: 100:40:92:62:64:46:60:52: 58:56:106.

Claws pectinate on both sides, inner pecten short, with three teeth extending to 1/4-1/3 length of claw, two external teeth equal in length, internal c. twice shorter (fig. 339). Outer pecten with two teeth, c. twice shorter than in inner pecten (fig. 340).

Male unknown.

DISTRIBUTION

Zaire (fig. 331).

REMARKS

It is a member of the *quadriramosa* group. *A. sulfuripennis* and *A. andrei* are the only members of the group with only humeral spot of explanate margin of elytra. In fully sclerotized specimens it is black and extends to humerus and marginal intervals behind humerus, forming a band along margin of disc. In immature specimens of *A. andrei* this spot is brown, but humeral area of disc is always darker than adjacent regions. Male of *A. andrei* is unknown, female of *A. sulfuripennis* distinctly differs in bare apex of elytral epipleura (pubescent in *andrei*), it is also smaller and stouter than *A. andrei*. Same large species of mutata group, especially *A. laevigata* and *A. obtusangula*, are also similar to *A. andrei* but they differ in bare apex of elytral epipleura in female, and different structure of pecten of tarsal claws with first tooth being the largest and following by gradually smaller additional teeth (in *A. andrei* two external teeth are almost equal in length).

MATERIAL EXAMINED

ZAIRE: paratype: Bambesa, 11 V 1938, 1, P. HENRARD (MRAC); holotype: Uele, Dingila [Dindila], "*uellensis* ab. SPAETH det." "*bambesana* m. Paratyp SPAETH det." "cotypus", 1 (MM); paratype: Ituri, "*uellensis* ab. m. SPAETH det." "*bambesana* m. Paratyp SPAETH det." "cotypus", 1 (LB).

Aspidimorpha (s. str.) *astraea* SPAETH, 1917

Aspidomorpha astraea SPAETH, 1917: 423 (LT and PLT in MM); 1935: 172.
Aspidomorpha astraea ab. *stigma* SPAETH, 1917: 424 (HT in MM).
Aspidomorpha astraea ab. *benguelica* SPAETH, 1917: 424 (HT in MM).
Aspidomorpha astraea ab. *kalukembiana* SPAETH, 1935: 172 (ST in MM).

DESCRIPTION

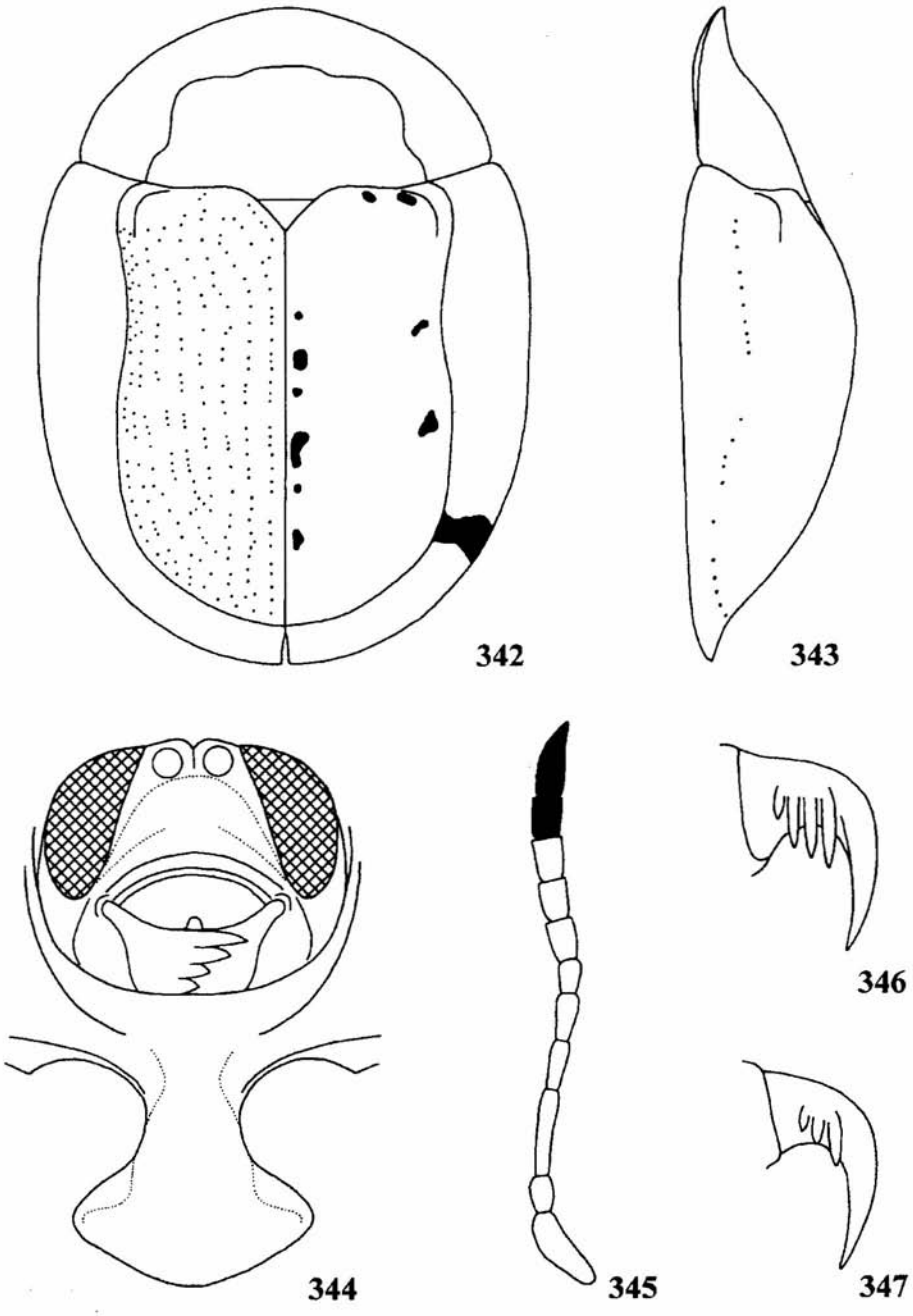
Le: female: 9.8-11.2 mm, Wi: female: 7.5-8.5 mm, Lp: female: 3.1-3.5 mm, Wp: female: 5.8-6.9 mm, Ex: female: 1.5-1.6 mm, Wd: male: female: 4.6-5.3 mm; Le/Wi ratio: female: 1.31-1.33, Wi/Wp: female: 1.21-1.29, Wp/Lp: female: 1.87-2.09. Body oval (fig. 342).

Pronotum uniformly yellow. Elytra mostly yellow (figs 1049-1051). Disc in the palest form uniformly yellow, punctures without darker centre. In maculate forms usually two small, black spots at basal margin of each elytron and one small, round, black spot in the middle of elytron. In the darkest form basal margin of elytron with two small black, spots, sutural interval with several, small, irregular, black spots, spot in the middle of elytron and two to three small spots along sides of disc. Explanate margin usually uniformly yellow, only in the darkest form there is a narrow posterolateral spot; humeral spot short, diagonal and visible only on underside of margin, occasionally posterolateral spot is visible only on underside of margin and humeral spot is reduced to a narrow line along anterior margin of explanate margin. Clypeus yellow, basal corners at most slightly infuscate. Ventrites in the palest form yellow with brown spot in the middle of metasternum, in the darkest form thorax except lateral plates black and abdomen yellow, each sternite with two broad spots in the middle. Legs yellow, including coxae. Antennae mostly yellow, two last antennal segments black except yellow ventral side of apex of last segment black, sometimes segment 10 partly or completely yellow.

Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle about 85-90°. Disc moderately convex, smooth, shiny, with very small microeticulation. Explanate margin distinctly bordered from disc, almost horizontal in anterior part with tendency to form a shallow gutter, smooth, shiny.

Scutellum triangular, without or with transverse sulcus or impression. Base of elytra serrulate, not or only slightly wider than base of pronotum, elytral margins simple. Disc slightly depressed (fig. 343), without or with small and shallow principal impression, without lateral impressions, surface of lateral part of disc regular to slightly irregular. Puncturation of disc mostly regular, punctures very fine to fine, on slope not or only slightly smaller than in anterior half of disc, in sutural half of disc three to four times smaller than in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows moderately dense to dense, disposed mostly regularly, only partly grouped in 2-4 together, distance between punctures in groups c. as wide as to twice wider than puncture diameter, between groups three to five times wider than puncture diameter. Marginal row deep, its punctures c. twice larger than in submarginal row. Intervals flat, in sutural half of disc four to five times wider than rows, on sides only twice wider than rows, their surface mostly smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low but broad. Explanate margin broad, subhorizontal, with tendency to form a shallow gutter, impunctate, smooth and shiny. Elytral epipleura bare in both sexes.

Head very broad, clypeus 1.8-1.9 times wider than long (fig. 344), glabrous, slightly elevated before antennal insertions, without or with shallow median



342-347. *Aspidimorpha astraea*: 342 - body in dorsal view, 343 - body in profile, 344 – head and prosternum, 345 – antenna, 346 – inner side of claw, 347 – outer side of claw

impression. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 345), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:55:115:70:65:45:60:53:60:57:105.

Claws pectinate on both sides, inner pecten with four long teeth extending to half length of claw (fig. 346). Outer pecten with two to three short teeth, extending to 1/5-1/4 length of claw (fig. 347).

Male unknown to me.

DISTRIBUTION

Angola, Namibia and Botswana (fig. 331).

REMARKS

It belongs to the *cincta* group. It is the palest species of the group. Only pale form of *A. katangana* is similar but differs in slimmer body (Le/Wi ratio in female 1.36-1.43, in *astraea* 1.31-1.33, male of *astraea* unknown) and stronger elytral puncturation. Uniformly yellow form of *A. sternalis* differs in abdomen mostly black (in *astraea* abdomen is uniformly yellow or basal sternites with black spots on each side), clypeus with black basal corners (in *astraea* uniformly yellow) and stronger puncturation with slightly impressed rows (in *astraea* punctures are very fine to fine and rows never depressed). Other species of the group distinctly differ in well defined elytral pattern.

MATERIAL EXAMINED

ANGOLA: Angola, 3 (paralectotypes of *A. astraea*, MM), 1 (ZMC), 1, STAUD. Plas. (holotype of *A. astraea* ab. *stigma*, MM), 1, coll. NONFRIED (holotype of *A. astraea* ab. *benguelica*, MM); Benguela, 1, DEYROLLE (lectotype of *A. astraea*, present designation, MM), 1, PLAS. (paralectotype of *A. astraea*, present designation, MM); Gaimbos, 5 (BMNH, LB); Kalukembe, 1932-33, 3 (syntypes of *A. astraea* ab. *kalukembiana*, MM); Typelongo, 3 (2 IRSN, 1MM).

NAMIBIA: Ovambo, 1, PERINGUEY (NRS). Ovambo, 1, PERINGUEY (NRS);

BOTSWANA: Okavango, 4 II 1987, 1, ERIKSON (CTM).

Aspidimorpha (s. str.) *atrodorsata* n. sp.

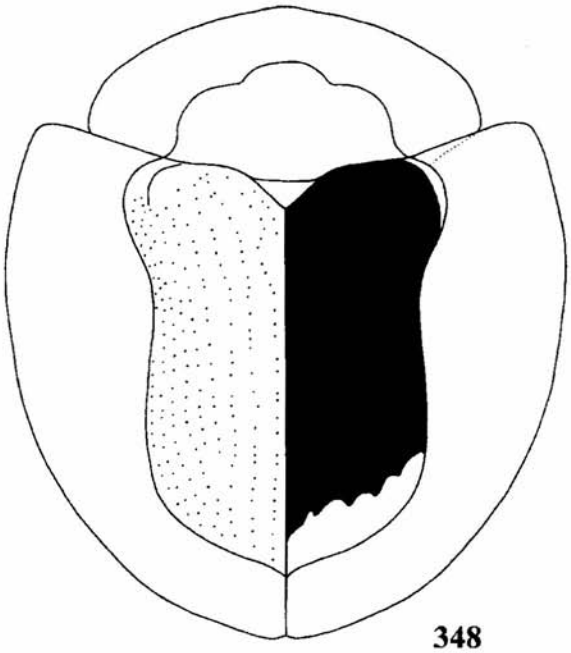
ETYMOLOGY

Named after almost uniformly black elytral disc.

DESCRIPTION

Le: sex undetermined: 8.8 mm, Wi: 7.8 mm, Lp: 2.8 mm, Wp: 5.5 mm, Ex: 2.1 mm, Wd: 3.8 mm; Le/Wi ratio: 1.13, Wi/Wp: 1.42, Wp/Lp: 1.96. Body almost circular (fig. 348).

Pronotum uniformly yellow. Elytral disc except apex brownish-black, explanate margin uniformly yellow. Scutellum yellow. Ventrites uniformly yellow. Antennae yellow, only last segment on dorsal side black.



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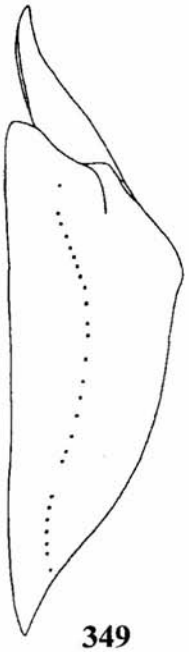

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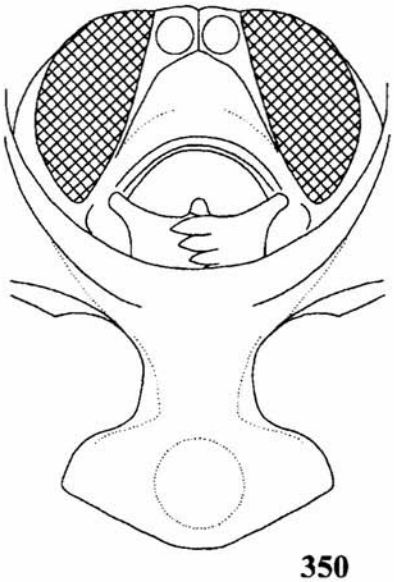

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348-353. *Aspidimorpha atrodorsata*: 348 - body in dorsal view, 349 - body in profile, 350 – head and prosternum, 351 – antenna, 352 – inner side of claw, 353 – outer side of claw

Pronotum broadly ellyptical, with maximum width in 3/5 length, sides rounded. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, sometimes impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri subangulate, elytral margins simple. Disc with low and obtuse postscutellar tubercle (fig. 349). Puncturation of disc extremely fine, regular, on slope hardly visible, in sutural half of disc smaller than in lateral part of disc. Scutellar row with 4-5 punctures. Punctures in rows sparse, disposed regularly, distance between punctures three to five times larger than puncture diameter. Rows not impressed, surface of disc regular. Punctures in marginal row deep, c. three to four times larger than in central rows. Intervals flat, in sutural half five to six, in lateral half 1.5-3.0 times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, subhorizontal impunctate, its surface smooth and shiny. Elytral epipleura bare, apex of elytral margin with several long setae.

Head moderately broad, clypeus c. 1.5 times wider than long (fig. 350), glabrous, slightly elevated before antennal insertions, without median impression. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 351), extending to the middle of metasternum, length ratio of antennal segments: 100:52:120:95:84:52:72:64:68:64:112.

Claws pectinate on both sides, inner pecten very short, with three teeth extending to 1/6 length of claw, two external teeth equal in length, internal twice shorter (fig. 352). Outer pecten with two extremely short teeth, c. twice shorter than in inner pecten (fig. 353).

DISTRIBUTION

Zaire.

REMARKS

It belongs to the *mutata* species group. It is one of the smallest species of the group, with low and obtuse postscutellar tubercle. Other species with obtuse postscutellar tubercles are *A. uelensis*, *A. orbifera*, *A. mutata* and *A. adjecta*. *A. atrodorsata* and *A. obifera* are the only species of this subgroup without spots of explanate margin of elytra but *A. orbifera* is distinctly larger with elytral pattern forming a large ring on elytral disc (in *atrodorsata* disc is mostly brownish black). Low postscutellar tubercle and very short pecten of tarsal claws place this species also close to *A. uelensis* but all forms of the latter species are larger with distinct humeral spot or explanate margin is mostly black with large yellow "window".

MATERIAL EXAMINED

ZAIRE: holotype: Lulua, Sandoa, X 30 (LB).

Aspidimorpha (s. str.) *bertiae* n. sp.

ETYMOLOGY

Dedicated to Dr. N. BERTI, the curator of the *Chrysomelidae* collection in the National Muséum d'Histoire Naturelle, Paris, France.

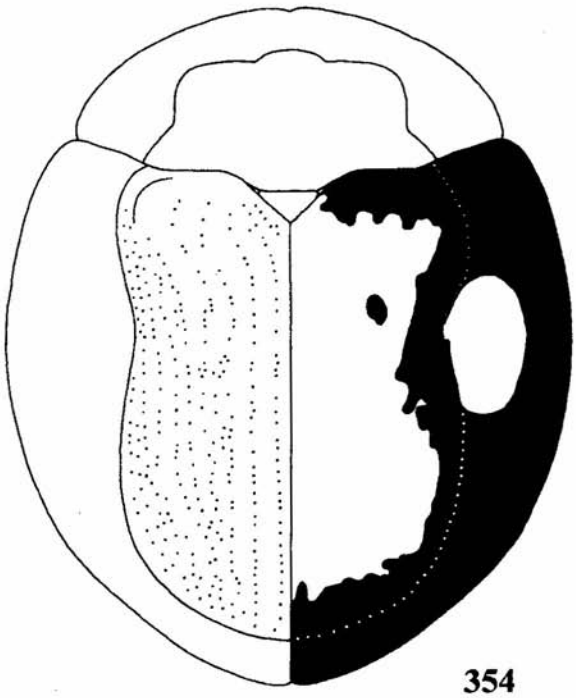
DESCRIPTION

Le: male: 10.7-11.3, female: 11.4-13.3 mm, Wi: male: 9.8-10.0 mm, female: 9.5-11.7 mm, Lp: male: 3.4-3.5 female: 3.3-4.1 mm, Wp: male: 6.9-7.2 mm, female: 7.0-8.4 mm, Ex: male: 2.2-2.5 mm, female: 2.3-2.7 mm, Wd: male: 5.1-5.5 mm, female: 5.6-6.7 mm. Le/Wi: male: 1.09-1.13, female: 1.14-1.20, Wi/Wp: male: 1.39-1.42, female: 1.32-1.39; Wp/Lp: male: 2.03-2.06, female: 2.05-2.17. Body short-oval to almost circular (fig. 354).

Pronotum uniformly yellow to rusty yellow. Elytral disc yellow to rusty yellow with black basal margin and two to three marginal intervals (figs 376-378). Black margin along sides of disc in the middle extends to fifth or sixth marginal row. Suture usually yellow or only apex brown to blackish. Punctures and principal impression often marked with brown to black. Explanate margin mostly black with large, yellow "window" and usually small yellow spot before apex. Clypeus yellow. Ventrites mostly yellow, pro-, meso- and metasternum except sides often partly brown to black. Abdomen always yellow. Legs, including coxae, uniformly yellow. Antennae mostly yellow, two last antennal segments black except yellow ventral side of apex of last segment.

Pronotum narrowly ellyptical to semicircular, with maximum width at base, hind angles subangulate, forming blunt angle about 90-100°. Disc moderately convex, smooth, shiny. Explanate margin distinctly bordered from disc, almost horizontal, smooth, shiny.

Scutellum triangular, without or with transverse sulcus or impression. Base of elytra serrulate, slightly to moderately wider than base of pronotum, elytral margins simple. Disc regularly convex (fig. 355), with indistinct postscutellar impressions, principal impression small to moderate, no lateral impressions, surface of lateral part of disc slightly irregular. Puncturation of disc regular, on fourth interval sometimes additional irregular punctures. Punctures moderate, on slope slightly smaller than in anterior half of disc, in sutural half of disc at most two times smaller than in dark parts of sides of disc. Scutellar row with 4-6 punctures. Punctures in rows moderately dense to dense, disposed mostly regularly, distance between punctures in groups twice to thrice larger than puncture diameter, on slope punctures sparser than in anterior part of disc. Marginal row shallow, its punctures distinctly larger than in submarginal row. Intervals flat, in sutural half of disc five to six times wider than rows, on sides c. thrice wider than rows, their surface mostly smooth, slightly dull to shiny, with small microreticulation. Explanate margin very broad, moderately declivous, without tendency to form a shallow gutter, impunctate, on pale parts smooth and shiny, on black parts often with irregular transverse wrinkles, sometimes completely smooth. Apex of elytral epipleura bare in male, densely pubescent in female.



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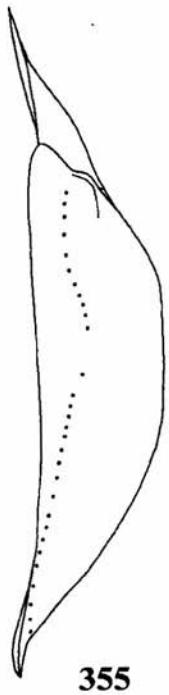

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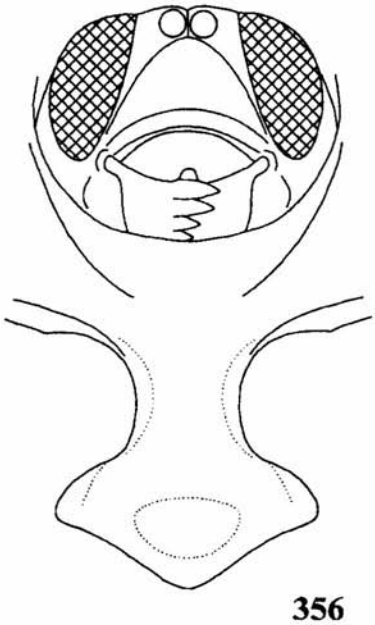

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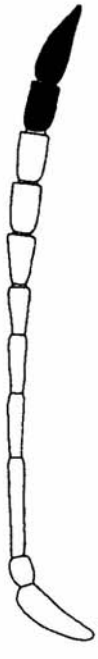

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354-359. *Aspidimorpha bertiae*: 354 - body in dorsal view, 355 - body in profile, 356 – head and prosternum, 357 – antenna, 358 – inner side of claw, 359 – outer side of claw

Head moderately broad, clypeus 1.65-1.75 times wider than long (fig. 356), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/4-1/3 length. Antennae moderately elongate (fig. 357), extending to 1/5 length of metasternum, length ratio of antennal segments: 100:43:106:86:80:57:71:69:63:68:114.

Claws pectinate on both sides, inner pecten with five long teeth extending to 2/5-1/2 length of claw (fig. 358). Outer pecten with three short teeth (the most internal tooth sometimes obsolete), extending only to 1/6-1/5 length of claw (fig. 359).

Sexual dimorphism distinct. Males slightly stouter than females, with bare apex of elytral epipleura (pubescent in female).

DISTRIBUTION

Madagascar.

REMARKS

A. bertiae differs from all other Madagascan members of the nominotypical subgenus in mostly black explanate margin of elytra with only yellow "windows". At first glance it is most similar to the typical form of west and central African *A. bimaculata*. *A. bertiae* is slightly smaller with less distinct sexual dimorphism, especially females have apex of elytra evenly rounded like in the male, while in *A. bimaculata* female apex of elytra is subacuminate. Puncturation of elytra in *A. bertiae* is distinctly coarser and more impressed than in *A. bimaculata* and surface of elytra appears slightly irregular. In *A. bimaculata* explanate margin of elytra has usually single large, yellow "window" on each side, only occasionally also posterior half of explanate margin with yellow spot, while in *A. bertiae* form with apical spots predominates. In *A. bertiae* suture is always mostly yellow, while in *A. bimaculata* its posterior half is always black.

MATERIAL EXAMINED

MADAGASCAR: holotype: Soalala, 1, PERRIER (MNHN), paratypes: env. de Marovoay, 1911, 1 (LB); Soalala, PERRIER, 6 (4 MNHN, 2 LB), Soalala, 2 (LB).

Aspidimorpha (s. str.) *biguttata* (FABRICIUS, 1775)

Cassida 2 guttata FABRICIUS, 1775: 73 (type unknown); 1781: 111; 1787: 64 (*biguttata*); 1792: 299; 1801: 399.

Aspidomorpha biguttata: BOHEMAN, 1854: 267, 1856: 108, 1862: 261; SPAETH, 1922 b: 998; 1924: 283; BOROWIEC, 1985 a: 233.

Aspidomorpha (*Aspidomorpha*) *biguttata*: SPAETH, 1914 b: 73.

Aspidomorpha biguttata var. *Bertolonii* SPAETH, 1905: 115 (= *Aspidomorpha fenestrata* sensu BERTOLONI, 1876), **n. syn.**

Aspidomorpha (*Aspidomorpha*) *biguttata* var. *Bertolonii*: SPAETH, 1914 b: 74.

Aspidomorpha biguttata Bertolonii: SPAETH, 1924: 284.

Aspidomorpha biguttata var. *Katonae* SPAETH, 1912 b: 508 (ST in MM), **n. syn.**

Aspidomorpha (*Aspidomorpha*) *biguttata* var. *Katonae*: SPAETH, 1914 b: 74.

Aspidomorpha biguttata ab. *Katonae*: SPAETH, 1922 b: 998.
Aspidomorpha biguttata katonae: SPAETH, 1924: 284.
Aspidomorpha biguttata var. *sulphurea* SPAETH, 1912 b: 508 (ST in MM), **n. syn.**
Aspidomorpha (Aspidomorpha) biguttata var. *sulfurea* [sic]: SPAETH, 1914 b: 74.
Aspidomorpha biguttata ssp. *candens* ab. *sulfurea*: SPAETH, 1922 b: 998.
Aspidomorpha biguttata sulfurea: SPAETH, 1924: 284.
Aspidomorpha fenestrata: BERTOLONI, 1876: 267 (misidentification); SPAETH, 1914 b: 74 (as syn. of *biguttata*).
Aspidomorpha usambica KOLBE, 1896: 91 (HT in ZMHU), 1898: 343 (incl. fig.); WEISE, 1899: 262 (as syn. of *biguttata*).
Aspidomorpha candens SPAETH, 1906: 399 (ST in ZSM, MM), **n. syn.**
Aspidomorpha (Aspidomorpha) candens: SPAETH, 1914 b: 73.
Aspidomorpha biguttata ssp. *candens*: SPAETH, 1922 b: 998.
Aspidomorpha biguttata candens: SPAETH, 1924: 284.
Aspidomorpha Schubotzi WEISE, 1912: 158 (type in ?); SPAETH, 1914 b: 77, **n. syn.**

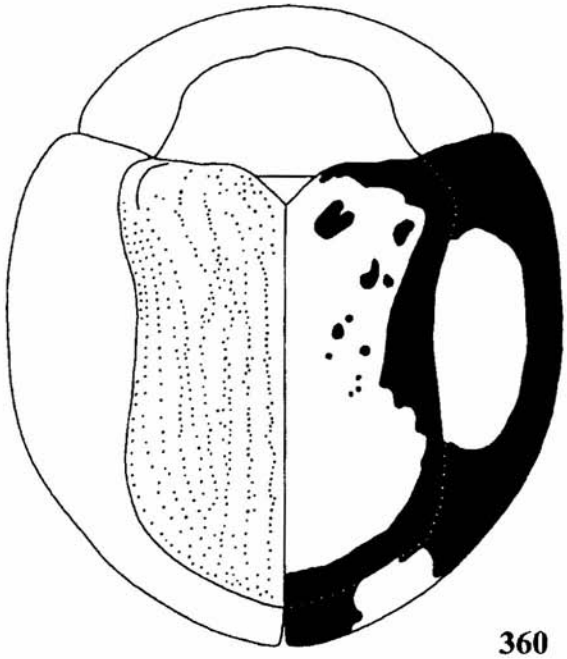
DESCRIPTION

Le: male: 10.6-12.3, female: 10.5-13.6 mm, Wi: male: 9.6-11.2 mm, female: 8.8-11.6 mm, Lp: male: 3.3-4.0 female: 3.3-4.2 mm, Wp: male: 6.9-8.2 mm, female: 6.3-8.9 mm, Ex: male: 2.3-2.9 mm, female: 2.0-3.0 mm, Wd: male: 4.6-5.8 mm, female: 4.8-6.5 mm. Le/Wi: male: 1.03-1.16, female: 1.12-1.21, Wi/Wp: male: 1.28-1.51, female: 1.29-1.40; Wp/Lp: male: 2.05-2.18, female: 1.91-2.10. Body short-oval to almost circular (fig. 360).

Pronotum uniformly yellow. Elytra with very variable pattern (figs 366-374). Elytral disc in typically coloured specimens mostly yellow to chocolate brown with black basal margin except margin along side of the scutellum, and black band along sides extending at most to fifth elytral row. This black pattern is sometimes reduced to humeral area and band extending posteriorly to half length of disc, with inner margin extending to sixth row, sometimes this pattern is brown, in extreme cases whole disc is yellow. Explanate margin in typical common form is mostly black with large, yellow "window" and yellow spot behind the middle, posterior spot sometimes absent (=*bertolonii*). In rare pale form black is reduced to narrow to moderate humeral, posterolateral and sutural spots (=*katonae*), in another rare form posterolateral spot is reduced (=*sulphurea*), in extreme cases whole elytra yellow (=*candens*). Clypeus yellow. Pro-, meso- and metasternum except side brown to black. Abdomen usually mostly black, except yellow side and margins of each sternite, sometimes black is reduced to first two sternites, occasionally abdomen uniformly yellow. Legs, including coxae, uniformly yellow, occasionally mesocoxae partly infuscate. Antennae mostly yellow, two last antennal segments black except yellow ventral side of apex of last segment black.

Pronotum narrowly ellyptical to semicircular, with maximum width at base, hind angles subangulate, form blunt angle about 85-90°. Disc moderately convex, smooth, shiny or slightly dull, with very small microeticulation. Explanate margin distinctly bordered from disc, almost horizontal, smooth, shiny.

Scutellum triangular, without or with transverse sulcus or impression. Base of elytra serrulate, moderately to distinctly wider than base of pronotum, elytral



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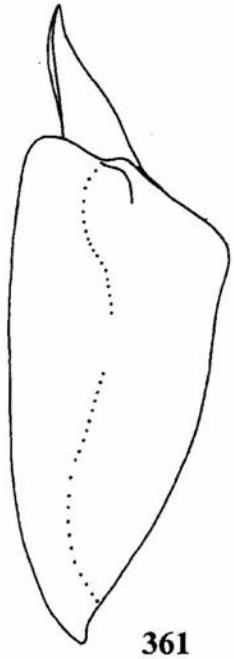

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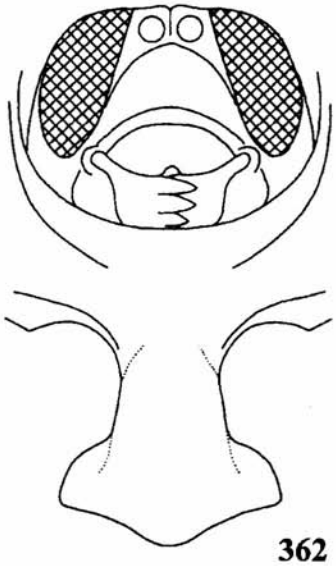

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360-365. *Aspidimorpha biguttata*: 360 - body in dorsal view, 361 - body in profile, 362 – head and prosternum, 363 – antenna, 364 – inner side of claw, 365 – outer side of claw

margins simple or narrowly marginate. Disc unevenly convex with distinct postscutellar angulation (fig. 361), top of angulation more or less obtuse, specimens from northern part of the range usually less angulate than those from southern part of the distribution area, profile behind the tubercle straight or only slightly concave. Principal impression shallow but distinct, postscutellar impressions well marked, no lateral impression, surface of lateral part of disc completely regular. Puncturation of disc mostly regular, but rows have tendency to irregularity, on fourth interval usually few additional punctures. Punctures fine, only on sides in completely pale specimens moderate, on slope slightly smaller than in anterior half of disc, in sutural half of disc two to six times smaller than on sides of disc. Scutellar row with 5-8 punctures. Punctures in rows moderately dense to dense, disposed regularly, distance between punctures as wide as to thrice wider than puncture diameter, on slope punctures sparser distributed than in anterior part of disc. Marginal row shallow, its punctures not or only slightly larger than in submarginal row. Intervals flat, in sutural half of disc five to seven times wider than rows, on sides twice to thrice wider than rows, their surface mostly smooth, slightly dull to shiny, with distinct microreticulation. Explanate margin very broad, moderately declivous to almost horizontal, without tendency to form a shallow gutter, impunctate, on pale parts smooth and shiny, on black parts often with irregular transverse wrinkles, sometimes completely smooth. Apex of elytral epipleura bare in male, densely pubescent in female.

Head moderately broad, clypeus 1.6-1.7 times wider than long (fig. 362), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 363), extending to 1/5 length of metasternum, length ratio of antennal segments: 100:55:145:105:85:63:80:76:75:77:125.

Claws pectinate on both sides, inner pecten with five very long teeth extending to 1/2-3/5 length of claw (fig. 364). Outer pecten with three short teeth (the most internal tooth sometimes obsolete), extending to 1/5-1/4 length of claw (fig. 365).

Sexual dimorphism distinct. Males stouter than females, with apex of elytra evenly rounded (subacuminate in female) and bare apex of elytral epipleura (pubescent in female).

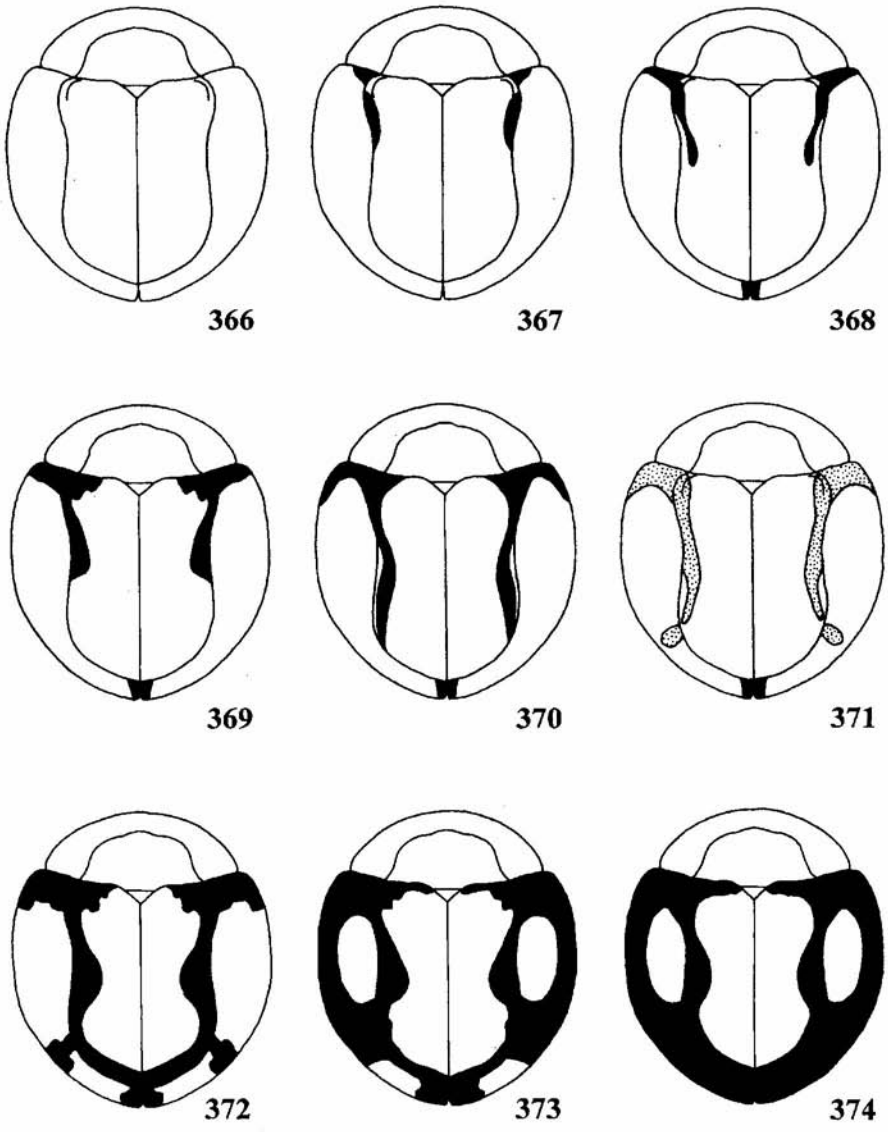
DISTRIBUTION

East Africa north to Ethiopia, south to Mozambique and west to Malawi (fig. 375).

REMARKS

It belongs to the *biguttata* group. Of all species of the group it has the lowest postscutellar tubercle, especially pale forms from northern part of the range are only slightly tuberculate. They are similar to *A. adumbrata* but the latter species is almost regularly convex, with ventrites usually uniformly yellow while in *A. biguttata* ventrites are always partly black. The similarly coloured forms of

A. togata distinctly differ in stronger elytral puncturation and *A. fenestrata* differs in very large, conical postscutellar tubercle. *A. sassii* is similar to immaculate form of *A. biguttata* (ab. *candens*) but *A. biguttata* is usually slightly smaller, less rounded with lower postscutellar tubercle; in *A. sassii* ventrites are uniformly yellow while in *A. biguttata* they are partly black. All subspecific and



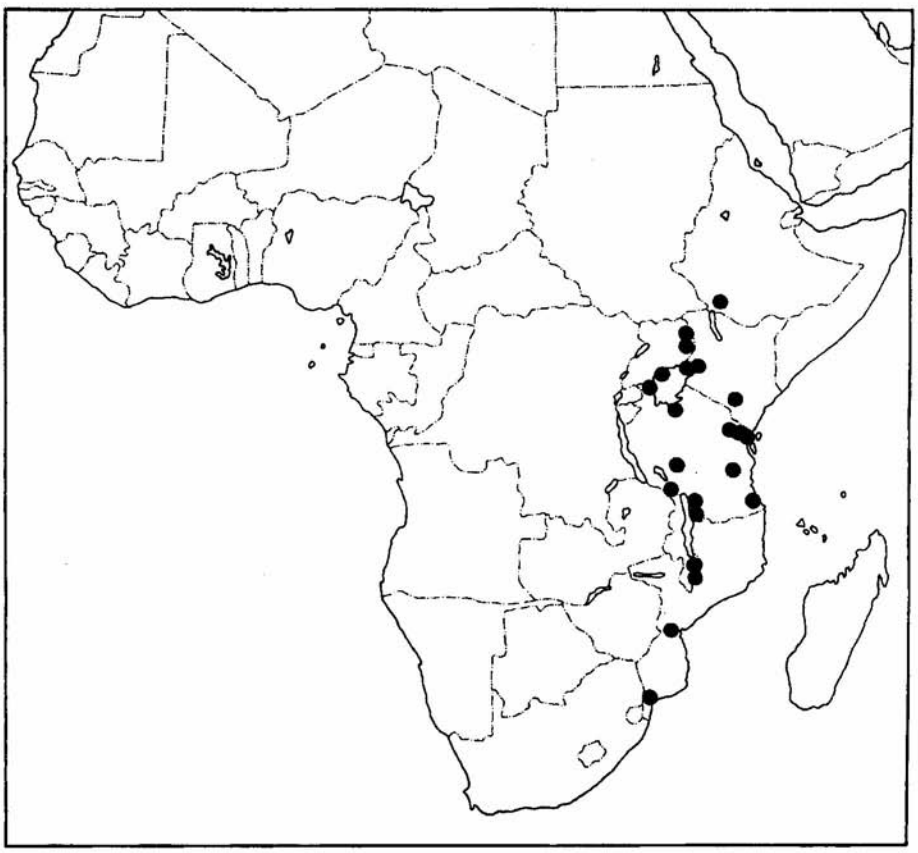
366-374. *Aspidimorpha biguttata*, variation of dorsal maculation

infrasubspecific taxa described by SPAETH are only colour aberrations of this very variable species. I had no possibility to examine the type of *A. schubotzi* but based on the description it is also only a colour aberration of *A. biguttata*. In an unpublished key to the Afrotropical *Aspidimorpha* compiled by SPAETH and kept at the Manchester Museum the name *schubotzi* is treated as a possible synonym of *A. biguttata*.

MATERIAL EXAMINED

ETHIOPIA: Gamu Gofa, Konso, 1610 m, 28 III 1960, 1, W. RICHTER (SMNS).

KENYA: Kibwezi, 2, ab. *candens*, HUEBNER (ZMHU), 1, ab. *candens*, SCHEFFLER (ZMHU); Kisumu, 1906, 2, M. DE ROTHSCHILD (syntypes of *A. biguttata* var. *sulphurea*, MM, MNHN); Mumias, Kisumu Rd., 3800-4800 ft., 25-26 VI 1911, 2, S.A. NEAVE (BMNH); Nyahera, Kisumu K.C., VIII 1950, 1 ab. *sulphurea*, J. ADAMSON (USNM); Nyanghori, Nandi Occ., 1904, 1, Ch. ALLUAUD (syntype of



375. Distribution of *Aspidimorpha biguttata*

A. biguttata var. *sulphurea*, MM); Nyangori, N Kavirondo, 4800 ft., 18-19 V 1911, 11, S.A. NEAVE (BMNH); Nyangori, Nandi occid., 1904, 6, Ch. ALLUAUD (MNHN); Yala Riv. n. Kisumu, IX 1916, 1, G. BABAULT (MNHN).

MALAWI: Cholo, 26 IV 1966, 1 (NMM); Mt. Mlanje, Lujevi Tea Estate, 6 XII 1970, 1 (NMM); Zomba Plateau, 1600 m, 16-17 I 1986, 4, C.L. BELLAMY (ER), 16 III 1991, 2, C. Bayer (1 MS, 1 UA), 1500 m, 16 III 1991, 1, C. BAYER (MS).

MOZAMBIQUE: Amatonga Forest, II 1917, 3 (2 NMM, 1 CTM); Lour. Marques, I 1909, 9, *A.* JUNOD (TM).

TANZANIA: Amani, 1, coll. LE MOULT (IRSN), I 1904, 8, KARASEK (ZMHU), 1-4 II 1906, 3, VOSSELER (FMNH), 850 m, 9 XI 1957, 3, E.S. ROSS and R.E. LEECH (CAS); Bukoba, 2, ERTL (holotype and paratype of *A. candens*, ZMHU); Bukumbi, 2, ab. *candens* (ZMHU), 2, ERTL (syntypes of *A. candens*, 1 ZSM, 1 MM); Langenburg, 1, FÜLLEBORN (ZMHU); Lindi, 1 (ZMHU), 1 (FMNH), 10, coll. LE MOULT (IRSN); Marienberg, 2 (syntypes of *A. candens*, MM); Marienberg b. Bukoba, 2 (syntypes of *A. candens*, 1 ZSM, 1 ZMHU); Nguelo, 1 (ZMHU), 1 (FMNH); Shirati, IV 1909, 1 (lectotype of *A. biguttata* var. *Katonae*, HNHM), V 1909, 1, KATONA (paralectotype of *A. biguttata* var. *katonae*, HNHM); Sigital, 18 XII 1903, 1, KARASEK (ZMHU); Tanga, 1903, 18, KARASEK (ZMHU); Ukami, 1 (ZMHU); Uluguru Mts., Kimboza Forest, 250 m, 18 VII 1981, 4, M. STOLTZE and N. SCHARFF (ZMC); Usambara, 1, A. HEYNE (HNHM); Usambara Mts., Amani, 1000 m, 23 I 1977, 6, 30 I 1977, 2, 1 II 1977, 1, O. LOMHOLDT and O. MARTIN (ZMC), 5 VIII 1979, 7, 10 VII 1980, 3, M. STOLTZE and N. SCHARFF (ZMC); Usambara, Nguelo, 5 (IRSN),; Usambara, n. Tonga, 1, HILDEBRANDT (ZMHU); Utegi, I 1912, 1, KATONA (HNHM); Victoria Nyansa, 4, ERTL (syntypes of *A. candens*, 3 ZSM, 1 MM); Njassasee, 1, ab. *sulphurea* (ZMHU).

UGANDA: Moroto, Loo Hills, 7 X 1952, 1, B. VERDCOURT (MM); Mt. Kadam, Karamoja, VI 1949, 3, T.H. JACKSON (BMNH), IV 1950, 1, VAN SOMEREN (BMNH); Sesse Is., 1 (ZMHU), 10 (FMNH).

VARIA: Africa or., 1, KATONA (syntype of *A. biguttata* var. *katonae*, MM).

Aspidimorpha (s. str.) *bimaculata* (FABRICIUS, 1792)

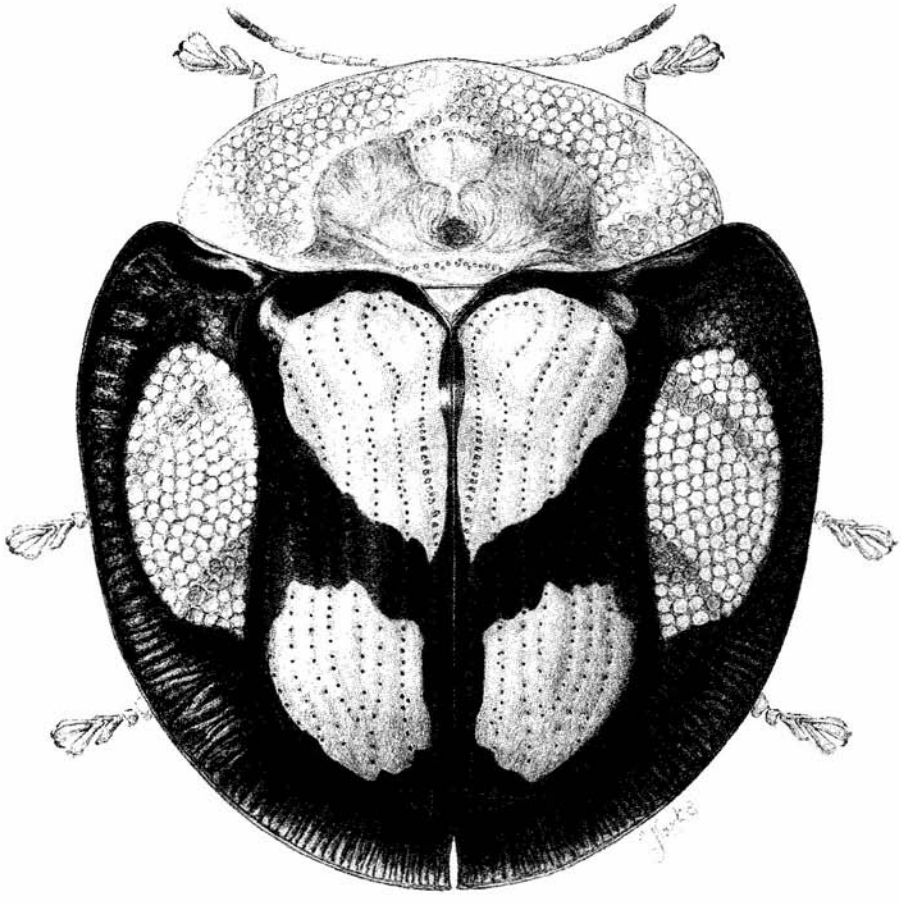
Cassida 2 maculata FABRICIUS. 1792: 300 (TE in ZMK); 1801: 400; ZIMSEN, 1964: 91.
Aspidomorpha bimaculata: BOHEMAN, 1854: 266, 1856: 108, 1862: 261; WAGENER, 1880: 161; KOLBE, 1898: 343; SHAW, 1972: 60.
Aspidomorpha (*Aspidomorpha*) *bimaculata*: SPAETH, 1914 b: 73.
Aspidomorpha bimaculata var. *cordigera* SPAETH, 1902: 447 (ST in IRSN, MM), **n. syn.**
Aspidomorpha cordigera: SPAETH, 1912 a: 127; 1925: 2.
Aspidomorpha (*Aspidomorpha*) *cordigera*: SPAETH, 1914 b: 73.
Aspidomorpha frenata BOHEMAN, 1854: 267 (TE in ?), 1856: 108, 1862: 261; WEISE, 1896: 17 (as syn of. *bimaculata*).

DESCRIPTION

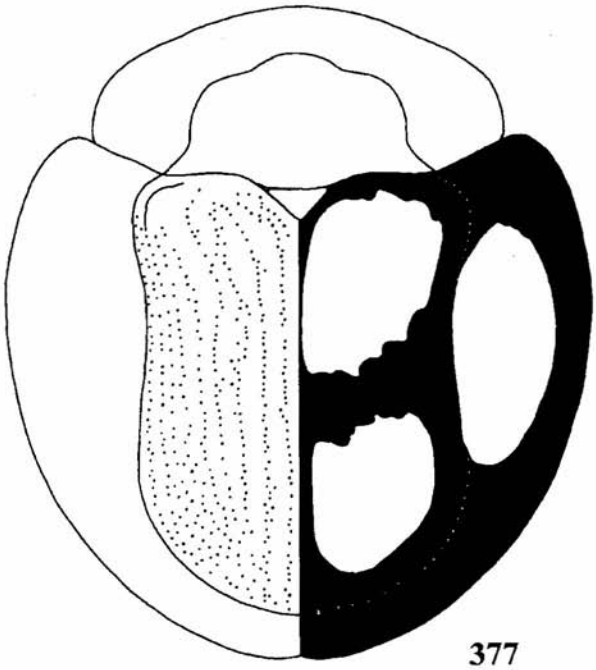
Le: male: 11.4-13.3, female: 12.3-15.2 mm, Wi: male: 10.2-12.3 mm, female: 10.0-12.3 mm, Lp: male: 3.4-3.7 female: 3.5-4.2 mm, Wp: male: 7.4-8.3 mm, female: 7.5-8.9 mm, Ex: male: 2.3-3.1 mm, female: 2.3-2.9 mm, Wd: male:

5.4-6.3 mm, female: 5.8-7.3 mm. Le/Wi: male: 1.08-1.14, female: 1.20-1.24, Wi/Wp: male: 1.39-1.48, female: 1.33-1.42; Wp/Lp: male: 2.06-2.24, female: 2.05-2.19. Body short-oval to almost circular (fig. 376).

Pronotum uniformly yellow. Elytral disc in typically coloured specimens mostly yellow with black basal margin, two to three marginal intervals, short line behind scutellum and posterior half of sutural interval, lateral band in the middle extending to sixth or fifth elytral row (fig. 373). Typically coloured specimens are rather rare and predominate in western part of the range. More common is form with complete oblique band across elytra (fig 374-375), disc with large cordiform, yellow spot in anterior half of elytra and large, yellow, round spot in posterior half of each elytron (=*cordigera*). The transverse band is usually



376. *Aspidimorpha bimaculata*, habitus (by J. Świętojańska)



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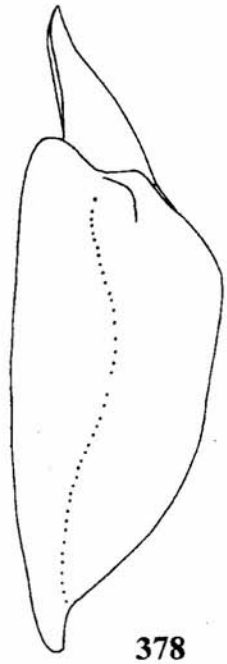

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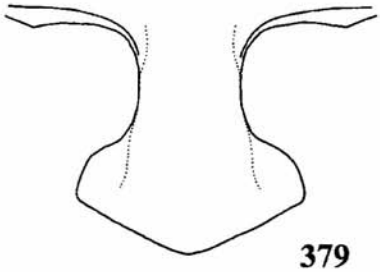

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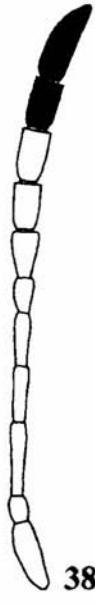

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377-382. *Aspidimorpha bimaculata*: 377 - body in dorsal view, 378 - body in profile, 379 – head and prosternum, 380 – antenna, 381 – inner side of claw, 382 – outer side of claw

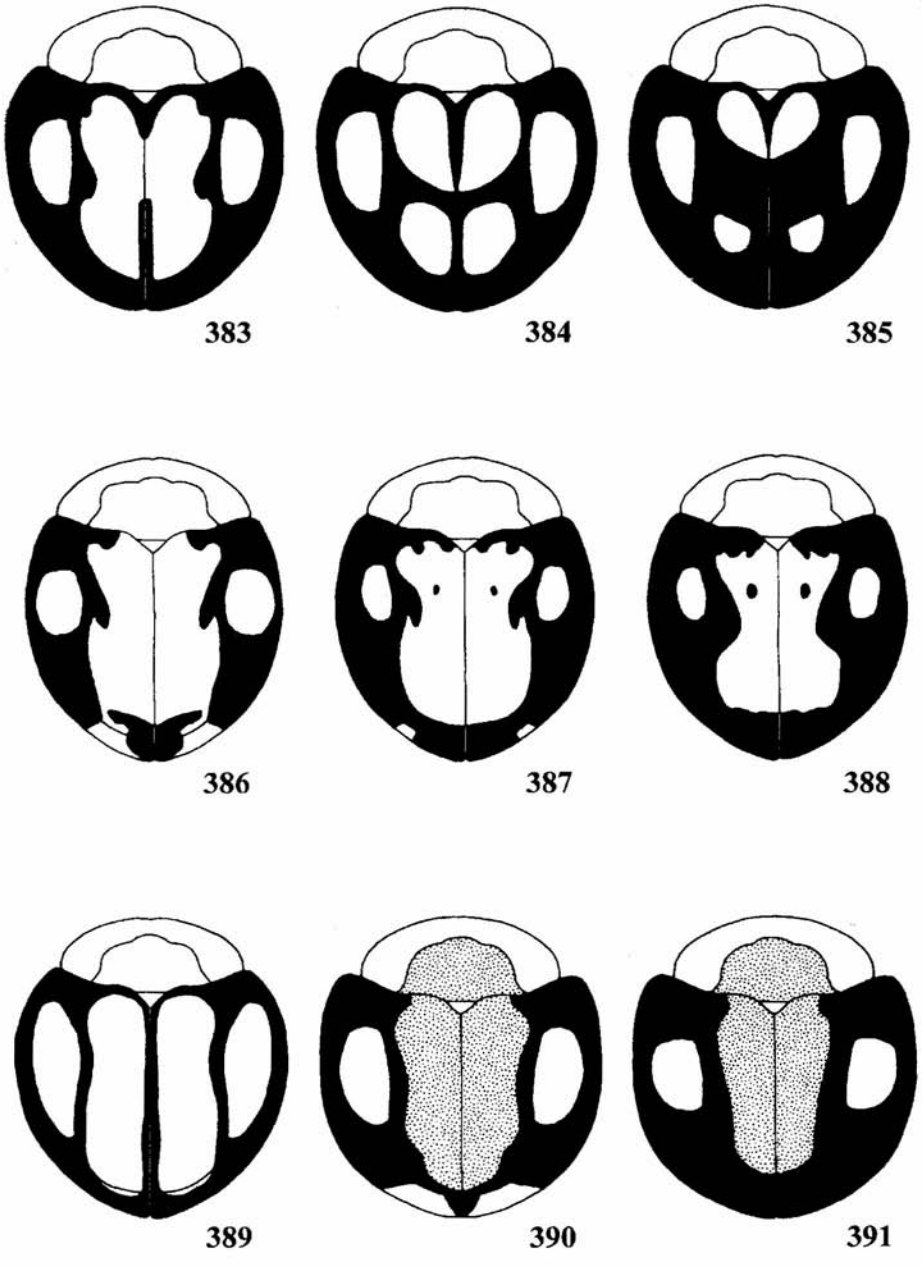
narrower than half diameter of each yellow spot, but sometimes is it is broad, as broad as or slightly broader than diameter of each yellow spot. Explanate margin in all forms black with large, yellow "window". Clypeus yellow. Ventrites in forms from western Africa usually uniformly yellow, in forms from central Africa pro-, meso- and metasternum except sides brown to black. Abdomen always yellow. Legs, including coxae, uniformly yellow. Antennae mostly yellow, two last antennal segments black except yellow ventral side of apex of last segment black, segment 10 often paler than segment 11, brownish, occasionally segments 9 and 8 slightly infuscate.

Pronotum narrowly elliptical to semicircular, in forms from western Africa usually narrower than in forms from central Africa, with maximum width at base, hind angles subangulate, forming blunt angle about 85-90ş. Disc moderately convex, smooth, shiny or, especially in forms from western Africa, slightly dull, with very small microreticulation. Explanate margin distinctly bordered from disc, almost horizontal, smooth, shiny.

Scutellum triangular, without or with transverse sulcus or impression. Base of elytra serrulate, moderately to distinctly wider than base of pronotum, elytral margins simple. Disc regularly convex (fig. 378), with distinct postscutellar impressions, so that it appears slightly gibbous in postscutellar point, principal impression obsolete or hardly marked, without lateral impressions, surface of lateral part of disc completely regular. Puncturation of disc mostly regular, but rows have tendency to irregularity, on fourth interval usually several irregular punctures, also intervals 6 and 7 often with few additional punctures. Punctures fine, only on dark parts of sides moderate, on slope slightly smaller than in anterior half of disc, in sutural half of disc two to three times smaller than in dark parts of sides of disc. Scutellar row with 5-8 punctures. Punctures in rows moderately dense to dense, disposed regularly, distance between punctures in groups as wide as to thrice wider than puncture diameter, on slope punctures sparser than in anterior part of disc. Marginal row shallow, its punctures not or only slightly larger than in submarginal row. Intervals flat, in sutural half of disc six to seven times wider than rows, on sides only c. thrice wider than rows, their surface mostly smooth, slightly dull to shiny, with small microreticulation. Explanate margin very broad, moderately declivous, without tendency to form a shallow gutter, impunctate, on pale parts smooth and shiny, on black parts with irregular transverse wrinkles, sometimes completely smooth. Apex of elytral epipleura bare in male, densely pubescent in female.

Head moderately broad, clypeus 1.6-1.7 times wider than long (fig. 379), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 380), extending to 1/5 length of metasternum, length ratio of antennal segments: 100:55:125:85:84:70:75:74:80:78:135.

Claws pectinate on both sides, inner pecten with five long teeth extending to 2/5-1/2 length of claw (fig. 381). Outer pecten with three short teeth (the most internal tooth sometimes obsolete), extending only to 1/6-1/6 length of claw (fig. 382).



383-391. Variation of dorsal maculation: 373-375. *Aspidimorpha bimaculata*, 376-378 - *A. bertiae*, 379 - *A. sessarum*, 380-381 - *A. fenestrata*

Sexual dimorphism distinct. Males stouter than females, with apex of elytra evenly rounded (subacuminate in female) and bare apex of elytral epipleura (pubescent in female).

DISTRIBUTION

Widespread in West and Central Africa east to Uganda (fig. 392).

REMARKS

It is a member of the *bimaculata* group. This group comprises only three large species: *bertiae*, *bimaculata* and *sessarum*. The first species is very similar to *A. bimaculata* but it is smaller, with both sexes regularly rounded (in *bimaculata* apex of elytra in females is subacuminate), puncturation of disc in *A. bertiae* is coarser and more impressed than in *A. bimaculata*, suture in posterior half is yellow (black in *bimaculata*) and explanate margin of elytra usually has two yellow spots on each side (usually only one in *bimaculata*). Both species are separated geographically, *A. bertiae* is a Madagascan endemic while *A. bimaculata* is widespread in central and western Africa. *A. sessarum* has a similar body size and shape but it is differently coloured, with yellow disc only narrowly margined with black while in *A. bimaculata* external black margin in the middle has a tendency to form a transverse band and in specimens from central Africa the central yellow spot is divided into two separate spots (*cordigera* form). SPAETH (1902) described thus coloured form as variety *cordigera* but in his subsequent paper he treated it as a distinct species. In my opinion it is only a common central African aberration of *A. bimaculata* and should be treated as a synonym.

MATERIAL EXAMINED

CAMEROON: Jaunde, 2 (MCZC); Joko, 8 (FMNH), 4 (HNHM), 4 (IRSN), VII 1912, 2 (FMNH).

GHANA: Aschanti, 4 (LU), 5 (MM); Ashanti Reg., Kumasi, Nhiasu, 30 IX 1967, 1, S. ENDRÖDY-YOUNGA (HNHM); Kack, 20 VIII 1964, 1, G. BENSUN (HNHM).

IVORY COAST: Comoé Nat. Park, VI 1994, 1, ab. typica, E. OBERMAIER (EO); Man, VIII 1948, 1, ab. *cordigera* (MHNG); Mount Ton Koui n. Man, XI 1970, 1 ab. typica, BINDER (MHNG).

NIGERIA: Buguma, 2 (IRSN).

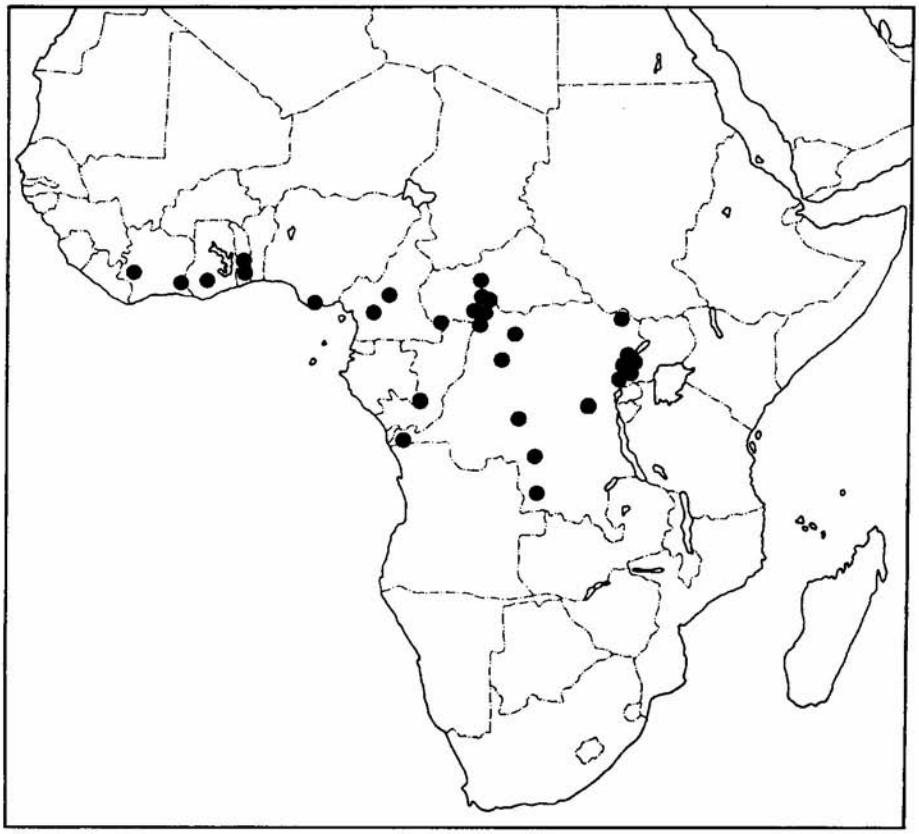
REPUBLIC OF CENTRAL AFRICA: Bangui, Oubanghi-Chari, 2 (IRSN), 1901, 1, D. VADON (MNHN), I-III 1968, 1 (MRAC); Fort Crampel, 125 (IRSN), 1 (ER); between Fort Crampel and Fort Sibut, 1, 1904, J. DECORSE (MNHN); Fort de Possel, I 1904, 11, J. DECORSE (MNHN); Fort Sibut, Oubanghi-Chari, 97 (IRSN), 1 (ER); Krebedje, Dar-Banda Mer., X 1904, 1, J. DECORSE (MNHN); Nola, 4 (IRSN).

REPUBLIC OF CONGO: Diele, 1890, 1, DOLISIE & LEZAC (MNHN).

TOGO: Bismarckburg, 23 XI-2 XII 1892, 1, L. CONRADT (IRSN); Kpalime env., Cascades, 17 III 1986, 1, HIERMEIER (MS); Misahöhe, 8 V 1895, 1, E. BAUMANN (ZMHU).

UGANDA: Bwamba Forest, Semliki Vall., 2300-2800 ft., 3-7 XI 1911, 1, S.A. NEAVE (BMNH); S L. George, 3200-3400 ft., 17-19 X 1911, 1, S.A. Neave (BMNH); Toro Distr., Ft. Portal, Kibale Forest, V-IX 1992, 2 (JM).

ZAIRE: Albert Nat. Park, R. Butahu, Nzenga, 27-28 XI 1949, 1, J. DE WILDE (MRAC); Albert Nat. Park, Kakunda, ouest Mwenda forest, 1100 m, III-IV 1949, 1, J. DE WILDE (MRAC); Albert Nat. Park, Kidele, af. Kabambewa, 1100 m, 21 IV 1949, 1, J. DE WILDE (MRAC); Albert Nat. park, Massif Ruwenzori, riv. Kakalari, affl. Bombi, 1740 m, 23 X 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mutsora, 1939, 1, HACKARS (MRAC); Albert Nat. Park, Plaine Semliki, 900-1100 m, IV-IX 1937, 11, HACKARS (MRAC); Albert Nat. Park, W Ruwenzori, 1200-1500 m, III 1937, HACKARS (MRAC); Albert Nat. Park, Ruwenzori, Mutawanga, 1000-1300 m, II-III 1937, 3, HACKARS (MRAC); Albert Nat. Park, Secteur Nord, riv. Byangolo, affl. g. Djilube, 1320 m, 19 IX 1956, 1, P. VANSCHUYT-



392. Distribution of *Aspidimorpha bimaculata*

BROECK (MRAC); Albert Nat. Park, Secteur Nord, R. Ngokoi, affl. Talya, 1250 m, 28 XII 1956, 1, 1100 m, 28 IV 1958, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, rive g. Talya, affl. dr. Lume, 1100 m, 29 I 1957, 2, P. VANSCHUYTBROECK (MRAC); Banzaville, 1, HERMANS (syntype of *A. bimaculata* v. *cordigera*, MM), IV 1897, 5, HERMANS (syntypes, IRSN); Butembo, Mont Hoyo, 1400 m, 23-24 II 1981, 3, CALLEGARI (MZSNV); Kasai, Lula, Terr. Luisa, VIII 1956, 1, M. POLL (MRAC); Katanga, Sandoa, X 1931, 24, F.G. OVERLAET (IRSN); Lac Moero, 1, J. DUVIVIER (syntype, IRSN); Libenge, 18 IX 1947, 1, 27 IX 1947, 5, 13 X 1947, 1, 14 X 1947, 1, 15 X 1947, 1, 17 X 1947, 1, 30 X 1947, 1, 8 XI 1947, 1, 28 II 1948, 3, R. CREMER and M. NEUMAN (IRSN); Libenge, Mawuya, 15 X 1947, 1, 28 XI 1947, 1, R. CREMER and M. NEUMAN (IRSN); Lisala, 28 VIII 1947, 17, 29 VIII 1947, 5, VIII 1947, 15, R. CREMER and M. NEUMAN (IRSN); Luluabourg, 1, P. CALLEWAERT (IRSN); Maniema, Kindu, 1917, 1, L. BURGEON (MNHN); Mokoanghay, 1, TILKENS (syntype of *cordigera*, IRSN); Motenge-Boma, 6 X 1947, 11, 2 XII 1947, 2, R. CREMER and M. NEUMAN (IRSN); Zongo, Mokoanghay, 1, TILKENS (syntype of *cordigera*, MM).

VARIA: Gold Coast, 1 (FMNH).

Aspidimorpha (s. str.) *cincta* (FABRICIUS, 1781)

Cassida cincta FABRICIUS, 1781: 109 (ST in BMNH, ZMC) , 1787: 63, 1792: 295, 1801: 392; GMELIN, 1787: 1637; HERBST, 1799: 331; Klug, 1835: 47; ZIMSEN, 1964: 89.

Aspidomorpha cincta: BOHEMAN, 1854: 251, 1856: 105, 1862: 257; CHAPUIS, 1880: 31; KOLBE, 1898: 343; SPAETH, 1914 b: 74; Maulik, 1916: 585; HARRIS, 1937: 488 (probably based on misidentified specimen); TIBERGHIEN, 1976: 179; BOROWIEC, 1985 a: 234; 1985 b: 443; 1986: 796.

Aspidomorpha (*Aspidomorpha*) *cincta*: SPAETH, 1914 b: 73.

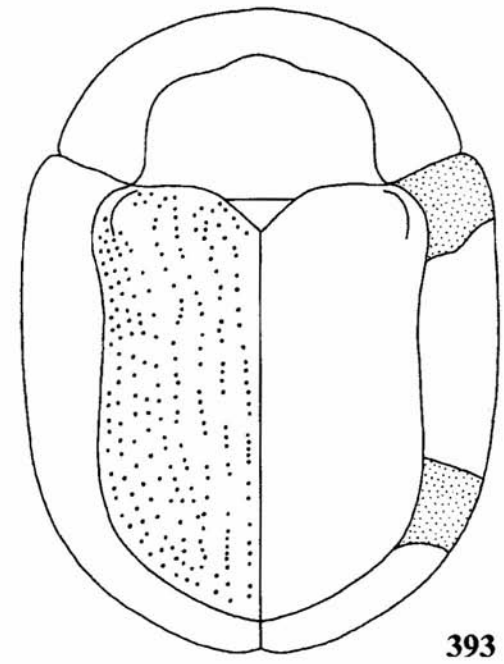
Cassida quadriremis SCHOENHERR, Syn. Ins. II p. 223 (HT in ?NRS); BOHEMAN, 1856: 105 (as syn. of *cincta*).

Aspidimorpha quadriremis: LUCAS, 1849: 53; SPAETH, 1914 b: 74 (as syn.).

DESCRIPTION

Le: male and female: 7.8-9.7, Wi: male and female: 5.7-7.4 mm, Lp: male and female: 2.5-3.2, Wp: male and female: 4.9-6.2 mm, Ex: male and female: 1.1-1.5 mm, Wd: male and female: 3.8-4.8 mm, Le/Wi: male and female: 1.30-1.39, Wi/Wp: male and female: 1.14-1.25, Wp/Lp: male and female: 1.75-2.07. Body oval, almost parallelsided (fig. 393).

Pronotum uniformly yellow. Elytra mostly yellow with rather constant pattern (figs 519-520). Disc yellow to argillaceous, each puncture often with darker, reddish or brown centre. In dark specimens disc with brown marble pattern, in extreme case whole disc reddish-brown to brown. Explanate margin yellow, with broad argillaceous to brown humeral and posterolateral spots, and usually narrow sutural spot. Margins of explanate margin slightly darker yellow than ventral half of explanate margin. Humeral spot never widened posterad. Clypeus yellow. Ventrites usually uniformly yellow, often metasternum with brown spot in the



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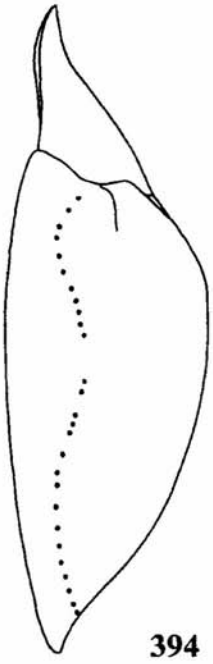

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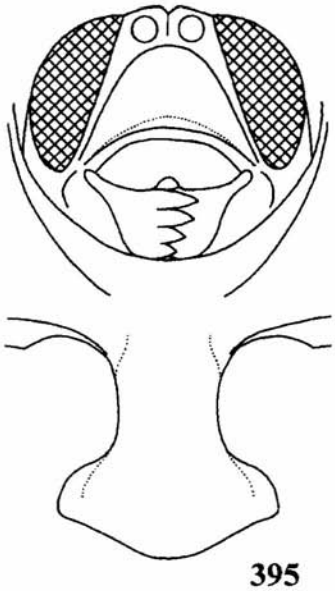

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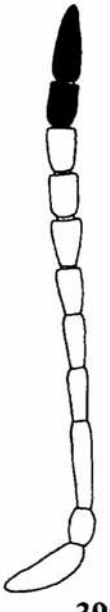

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393-398. *Aspidimorpha cincta*: 393 - body in dorsal view, 394 - body in profile, 395 – head and prosternum, 396 – antenna, 397 – inner side of claw, 388 – outer side of claw

middle, in extreme cases pro-, meso- and metasternum brown to black except yellow lateral plates and abdominal sterna with two brown to black spots in the middle. Legs, including coxae, uniformly yellow. Antennae mostly yellow, two last antennal segments black except yellow ventral side of apex of the last segment.

Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle about 90-95°. Disc moderately convex, smooth, shiny, with very small microeticulation. Explanate margin distinctly bordered from disc, almost horizontal, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, not or only slightly to wider than base of pronotum, elytral margins simple. Disc regularly convex (fig. 394), in posterior half slightly depressed with small and shallow principal impression, without lateral impressions, surface of lateral part of disc usually regular or only slightly irregular. Puncturation of disc mostly regular, punctures fine to moderate, on slope not smaller than in anterior half of disc, in sutural half of disc two to four times smaller than in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows moderately dense to dense, disposed mostly irregularly, partly grouped in 2-4 together, distance between punctures in groups c. as wide as puncture diameter, between groups three to seven times wider than puncture diameter. Marginal row deep, its punctures not larger than in submarginal row. Intervals flat, in sutural half of disc four to five times wider than rows, on sides only c. twice wider than rows, their surface mostly smooth, shiny, with very small microreticulation. Lateral fold of explanate margin low but broad. Explanate margin broad, subhorizontal, with tendency to form a shallow gutter, impunctate, smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.5-1.6 times wider than long (fig. 395), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 396), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:39:105:80:64:55:64:55:63:59:100.

Claws pectinate on both sides, inner pecten with four long teeth extending to half length of claw. Outer pecten with two to three teeth, extending to 1/4-1/3 length of claw (fig. 382).

Sexual dimorphism hardly marked. Males slightly stouter than females.

Distribution

Mostly west African species extending to northwestern part of Central Africa (fig. 399).

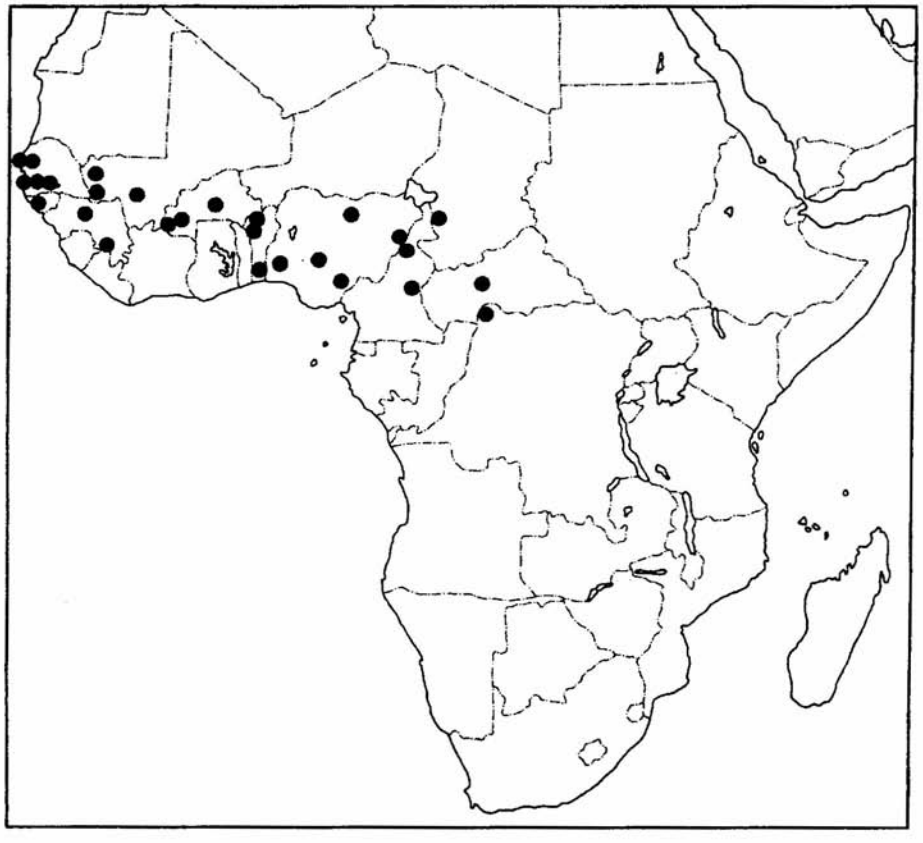
Remarks

It belongs to the *cincta* group. All species of the group are very similar and difficult to identify. *A. cincta* has the northern- and westernmost distribution. It has constant elytral pattern, elytra never with black markings, body narrow, almost parallelsided. The reddish-brown groundcolour place this species close to

A. ertli but the latter is distinctly larger and stouter. *A. katangana*, *A. astraea* and *A. sternalis* have groundcolour of elytra usually yellow, but they are often maculate. It is especially difficult to distinguish *A. cincta*, *A. quinquefasciata* and *A. gruevi*. The latter species is distributed only in Ethiopia and Arabian Pen. It has elytral disc more regularly convex, especially in posterior half, while in *A. cincta* the disc is slightly depressed behind the top. *A. quinquefasciata* is more variable, often forms maculate aberrations but specimens with uniformly reddish-brown elytral disc are extremely similar to specimens of *A. cincta* and differ only in slightly stouter body. Both species are partly sympatric and need study in the field. They may represent only ecological forms of a one widespread species.

MATERIAL EXAMINED

BENIN: Dahomey, Zagnanado, 4 (IRSN); Djougou-Fovande, 1908, 1, L. BROT (MNHN); Konkobiri, 1906, 1 (MNHN).



399. Distribution of *Aspidimorpha cincta*

BURKINA FASO: Baoulé, 15 km of Bobo, 20-24 III 1964, 1, R. SIFFOINTE (MRAC); Ouagadougou, X 1926, 3, OLSUFIEV (AB); X 1970, 3, P.C. FERNANDEZ (MRAC, LB).

CAMEROON: Garua, 19-24 VIII 1909, 1 (LB); Marona, X-XI 1965, 1, G. SCHMITZ (MRAC).

GAMBIA: Bakoe, 6 II 1984, 2, 22 II 1984, 1, 25 II 1984, 2, S. LUNDBERG (SL); Gambia, 2-22 XI 1973, 2, B. HÜTTLER (HNHM).

GUINEA: Guékédou, III 1962, 1, K. FERENCZ (HNHM); Guinea, 1 (HNHM); Labé, IV 1964, 1, J. DEDYCKER (MRAC); Matongouma, 1-11 VII 1965, 1, K. FERENCZ (HNHM).

GUINEA BISSAO: Bissao, 22 XII 1926, 1, F. HINTZ (ZMHU); Bissaoram, 11 II 1927, 1, F. HINTZ (ZMHU).

MALI: Bafing, Bakhoy, Badingo, 1891, 1, HUE (MNHN); Bamako, X 1963, 1, E. GHION (MRAC); Kayes, 2 (MCZC); Koulikoro, 1913, 1, P. LINARIX (MNHN).

NIGERIA: Kano, XI 1962, 1, H. SOLLITT (ZMC); Nauman, 29 VIII 1948, 2, A. JÖRGENSEN (ZMC); Ogoja County, 6 X 1963, 1, R. MEYER (ZSM); Oyo, Prov. Ogbomosho, 12 XII 1948, 1, B. MALKIN (CAS); Pandam, nr. Assaikio, 9 XII 1975, 1, C. SMEENK (NNML).

REPUBLIC OF CENTRAL AFRICA: Fort Crampel, 6 (IRSN, LB); Uamgeb., Bosum, 21-31 V 1914, 2, TESSMANN (ZMHU).

SENEGAL: Bambey, 1958, W. AMADOU (IFAN), 27 VIII 1953, 1, A. VILLIERS (IFAN); Dakar, 2, J. BOUVET (NMB), 1904, 1, E. BRUMPT (MNHN), 1905, 1, G. MELOU (MNHN), IV 1950, 1 (ITZ), I 1951, 1, A. VILLIERS (IFAN); Dakar-Fann, 28 XI 1960, 1, 15 VIII 1961, 1, 5 XI 1964, 2, R. ROY (IFAN); Dakar, Hann-Mariste, 7 V 1983, 1, 24 IX 1983, 1, F.C. ROEST (NNML); Dangane, 2 I 1965, 1, R. ROY (IFAN), 30 III 1965, 2, T. LEYE (IFAN); Fissel, 15 XII 1964, 1, M. CONDAMIN and T. LEYE (IFAN); Senegal, 5 (HNHM), 7 (IRSN), 4 (LB); Somone, 10 X 1961, 1, A. VILLIERS (MNHN); Yène, 28 VII 1953, 2, A. VILLIERS (IFAN).

ZAIRE: Ubangi, Bogezengbala, 18 IX 1957, 1, COFONCO (MRAC).

VARIA: introd. to Ottawa from Gambia, 19 IX 1981, 1, J. ADAIR (CNCI); "Seneg.", 1 (probably holotype of *Cassida quadriremis*, NRS).

Aspidimorpha (s. str.) *collarti* n. sp.

ETYMOLOGY

Dedicated to A. COLLART, who collected many interesting *Aspidimorpha* species.

DESCRIPTION

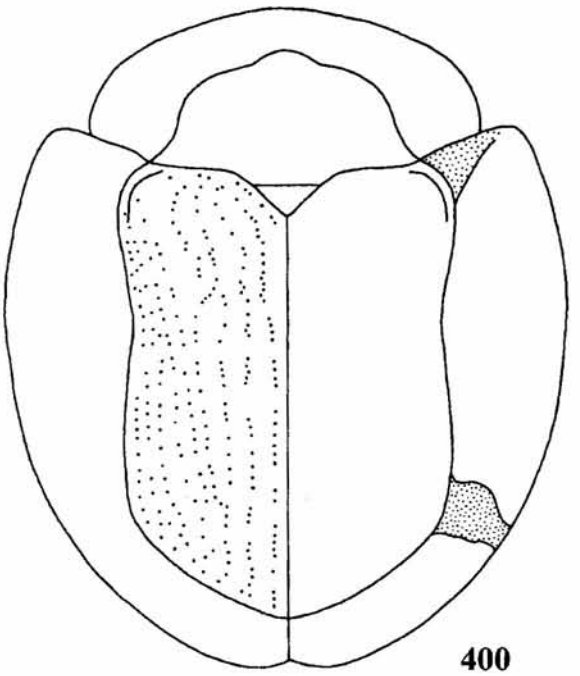
Le: female: 11.0-12.1 mm, Wi: female: 9.0-10.1 mm, Lp: female: 3.2-3.6 mm, Wp: female: 6.6-7.1 mm, Ex: female: 1.9-2.3 mm, Wd: female: 5.0-5.7 mm; Le/Wi ratio: female: 1.20-1.24, Wi/Wp: female: 1.34-1.42, Wp/Lp: female: 1.97-2.06. Body short-oval (fig. 400).

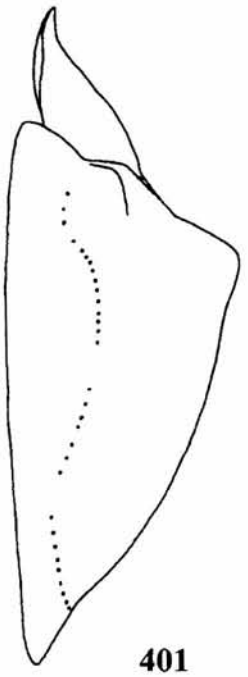
Pronotum uniformly argillaceous. Elytral disc argillaceous, each puncture usually with darker areola, explanate margin yellow with argillaceous margin, without or with humeral and posterolateral spots (figs 418-420). Of the three examined specimens one (paratype) has no spots, another (paratype) has spots only on the underside of explanate margin, brown humeral spot is shortened and extending only to half width of the margin, posterolateral, brown spot moderately broad, extending to margin of elytra, not widened anterad, the third specimen (holotype) has brown, broad humeral and posterolateral spots on both upper- and underside of explanate margin, humeral spot is only slightly widened posterad. Clypeus yellow. Pro-, meso- and metasternum black except yellow side and\or lateral plates, abdomen uniformly yellow or each sternite with two brown spots along sides. Antennae yellow, two last segments black, except yellow underside of apex of last segment, segment 9 with infuscate apex. Legs yellow, coxae partly infuscate.

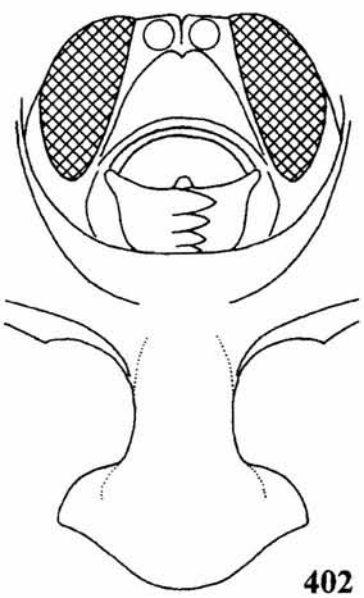
Pronotum narrowly ellyptical, with maximum width almost at base, hind angles form an angle of 95-100°. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, without tendency to form a gutter, its surface smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, much wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex (fig. 401), with moderately large postscutellar tubercle, top of the tubercle blunt to angulate, profile behind the tubercle slightly to distinctly concave. Discal surface with small but distinct principal impression, distinct scutellar impressions, without posterolateral impression, surface of lateral part of disc irregular. Puncturation of disc moderate to coarse, rows deeply impressed and punctures appear larger than in reality. Rows mostly regular, punctures on slope not smaller than in anterior half of disc, in sutural half of disc only slightly smaller than in lateral part of disc. Scutellar row with 4-5 punctures. Punctures in rows moderately dense to dense, disposed mostly regularly, partly grouped in 2-6 together, distance between punctures as wide as to thrice longer than puncture diameter, between groups of punctures two to five times larger than puncture diameter. Punctures in marginal row only slightly larger than in submarginal rows. Intervals slightly convex, in sutural half of disc two to three times, in lateral half as wide as to twice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral fold of marginal interval broad and convex. Explanate margin very broad, moderately declivous to subhorizontal without tendency to form a gutter, impunctate, its surface smooth and glabrous. Apex of elytral epipleura in female pubescent, apical margin of elytra with several erected hair.

Head moderately broad, clypeus 1.6 -1.7 times wider than long (fig. 402), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/3-1/4 length. Antennae moderately elongate (fig. 403), extending mid coxa, length ratio of antennal segments: 100:48:125:80:75:55:65:50:55:60:120.







400-405. *Aspidimorpha collarti*: 400 - body in dorsal view, 401 - body in profile, 402 – head and prosternum, 403 – antenna, 404 – inner side of claw, 405 – outer side of claw

Claws pectinate on both sides, inner pecten very short, with three teeth extending to 1/7-1/6 length of claw (fig. 404), outer pecten with two (sometimes three) teeth, only slightly exceeding margin of the claw (fig. 405).

Male unknown.

DISTRIBUTION

Gabon and Zaire.

REMARKS

It belongs to the *quadriramosa* group. It has variable shape of postscutellar angulation (blunt to obtuse) and presence of spots of the explanate margin of elytra (no spots-only humeral spot-both humeral and posterolateral spots). It differs from species of the *quadriramosa* group with obtuse postscutellar angulation in strongly impressed elytral rows and very short pecten of tarsal claws. It differs from species with distinct postscutellar tubercle also in combination of strongly impressed rows and extremely short pecten of tarsal claws. Only *A. sankuruensis* has a similar pecten but differs in finer, less impressed elytral puncturation and deep black last three antennal segments (in *collarti* only two last segments are black, segment 9 at least at base is always yellow).

MATERIAL EXAMINED

GABON: paratype: Gaboon, 1 (LB).

ZAIRE: holotype: Bambesa, Oriente Prov., Bas-Uele Dist., 10 II 1967, 1, DE WYNGAERT (LB); paratype: Masisi, Mandimba-Uluku, 14 IX 1929, 1, A. COLLART (IRSN).

Aspidimorpha (s. str.) *corrugata* n. sp.

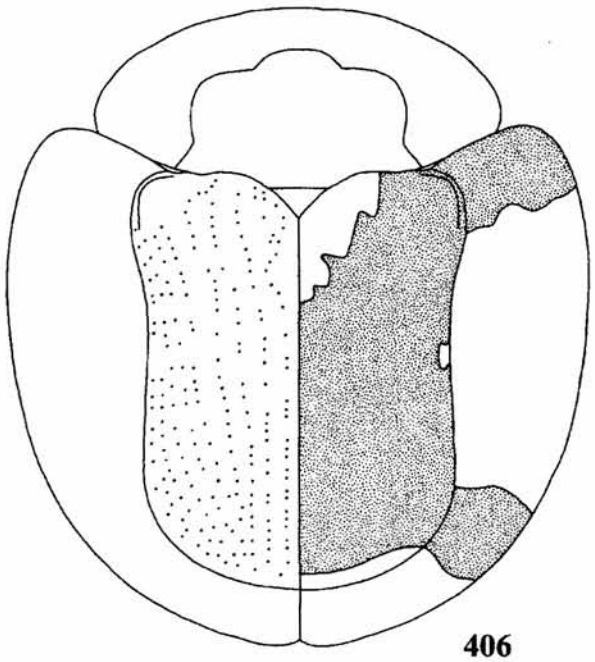
ETYMOLOGY

Latin "*corrugatus*" means wrinkled. Named after wrinkled elytral disc.

DESCRIPTION

Le: female: 9.0-10.6 mm, Wi: female: 8.6-9.7 mm, Lp: female: 2.9-3.1 mm, Wp: female: 6.1-6.7 mm, Ex: female: 2.1-2.4 mm, Wd: female: 4.3-5.0 mm. Le/Wi: female: 1.05-1.09, Wi/Wp: female: 1.41-1.45; Wp/Lp: female: 2.10-2.16. Body almost circular (fig. 406).

Pronotum uniformly yellow to argillaceous. Disc of elytra uniformly yellow to argillaceous, or mostly brown with yellow scutellar area and lateral folds and paler brown tops of elytral rugosities (figs 421-422). Punctures only slightly darker marked than surface of disc. Explanate margin yellow with argillaceous to brown, narrow to moderate humeral and posterolateral spots, without sutural spots. In pale specimens spots not extending to margin of elytra. Margins of explanate margin of elytra darker yellow than ventral part of the explanate



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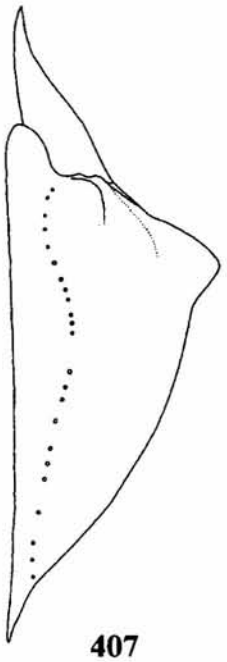

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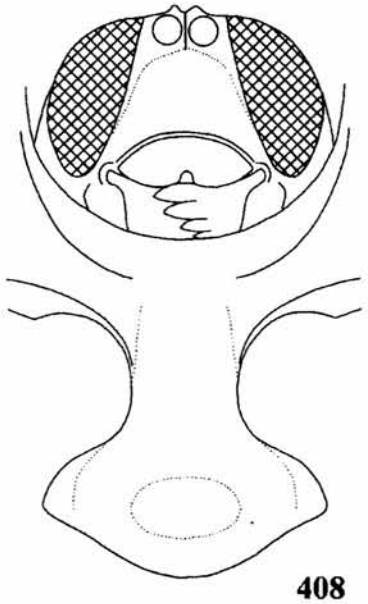

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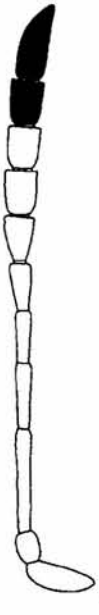

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406-411. *Aspidimorpha corrugata*: 406 - body in dorsal view, 407 - body in profile, 408 – head and prosternum, 409 – antenna, 410 – inner side of claw, 411 – outer side of claw

margin. Scutellum yellow to argillaceous. Ventrites uniformly yellow. Antennae yellow, two last segments black, except yellow underside of the apex of last segment, and yellow base of segment 10. Legs including coxae yellow.

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, especially on sides, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, slightly wider than base of pronotum, humeri narrowly rounded, elytral margins not marginate. Disc unevenly convex, with large, conical postscutellar tubercle, top of the tubercle slightly obtuse, profile deeply concave behind the top of convexity (fig. 407), discal surface without impressions. Puncturation of disc moderate, completely irregular, on slope slightly finer than in anterior half of disc, in sutural half of disc only slightly finer than in lateral part of disc. Scutellar row with 4-6 punctures. Punctures moderately dense to dense, partly grouped together, distance between punctures or their groups from twice narrower to twice larger than puncture diameter. Punctures deeply impressed. Punctures in marginal row deep, only twice larger than in central rows. Interspaces irregular, form irregular folds and wrinkles, surface of disc appears strongly rugose. Lateral fold of marginal interval absent or very small. Explanate margin broad, subhorizontal, with tendency to form a shallow gutter, its surface irregular, on posterolateral spot and behind the spot with deep transverse grooves. Elytral epipleura pubescent in female (male unknown).

Head moderately broad, clypeus 1.4-1.5 times wider than long (fig. 408), glabrous to slightly dull, slightly elevated before antennal insertions, shallowly impressed in the middle. Labrum emarginate to 1/5 length. Antennae moderately elongate (fig. 409), extending to mid coxa, length ratio of antennal segments: 100:51:134:83:69:34:66:62:62:59:100.

Claws pectinate on both sides, inner pecten short, with four teeth extending to 1/4-1/3 length of claw (fig. 410), outer pecten with two teeth, only slightly extending beyond margin of claw (fig. 411).

Male unknown.

DISTRIBUTION

Madagascar.

REMARKS

It belongs to the *intricata* group, and is the only member of the group occurring in Madagascar. It distinctly differs from the African representatives of the group in base of elytra distinctly wider than base of pronotum. It is smaller than the African species whose length usually exceeds 11 mm. Pecten of tarsal claws is distinctly shorter than in *A. delitescens* and *A. flaviceps*, and only slightly shorter than in *A. intricata*. It differs distinctly from Madagascan species with irregular or rugose elytral disc (*pontifex* and *undulatipennis*) in smaller size (length at most 10.6 mm, while in both relatives at least 11.6 mm, usually above

12.5 mm), less prominent postscutellar tubercle, and longer pecten of tarsal claws extending at least to 1/4 length of claw (at most to 1/5 in both relatives).

MATERIAL EXAMINED

MADAGASCAR: holotype: Suberbieville, 1 (LB), paratype: Suberbieville, 1 (LB).

Aspidimorpha (s. str.) *curtidens* HINCKS, 1962

Aspidomorpha curtidens HINCKS, 1962: 248.

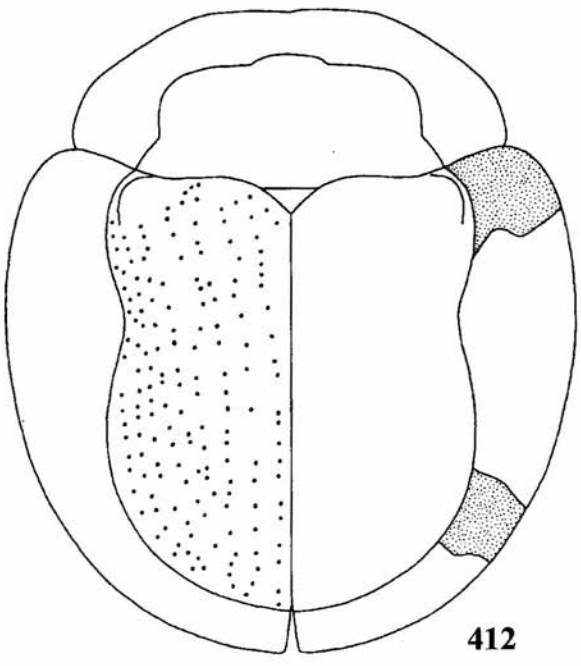
DESCRIPTION

Le: male: 8.6, female: 9.2-10.8 mm, Wi: male: 7.8 mm, female: 8.1-9.0 mm, Lp: male: 2.9 female: 3.2-3.3 mm, Wp: male: 6.0 mm, female: 6.5-6.9 mm, Ex: male: 2.0 mm, female: 2.0-2.1 mm, Wd: male: 4.2 mm, female: 4.5-5.3 mm. Le/Wi: male: 1.10, female: 1.14-1.20, Wi/Wp: male: 1.30, female: 1.25-1.30; Wp/Lp: male: 2.07, female: 2.03-2.09. Body almost circular (fig. 412).

Pronotum yellow to rusty yellow. Elytral disc uniformly rusty yellow, only in the darkest specimens brown with slightly paler, yellowish, anterior third of suture, scutellar area and lateral fold (figs 425-426). Punctures usually with darker brown centre. Explanate margin yellow, with moderately broad, rusty brown to brown humeral and posterolateral spots, without sutural spot. Humeral spot is not widened posterad and posterolateral spot not widened anterad. Margins of explanate margin usually slightly darker yellow than ventral half of the explanate margin. In the darkest specimen explanate margin completely brown with medium-sized yellow 'window". Clypeus yellow. Thorax, except yellow lateral plates, black. Abdomen in pale specimens yellow, in the darkest mostly black with yellow sides and apex. Legs yellow. Antennae yellow, two last segments black, except yellow apex of the ventral side.

Pronotum almost semicircular, with maximum width at base, hind angles subangulate, forming blunt angle about 90-95°. Disc moderately convex, smooth, shiny, with very small microeticulation. Explanate margin distinctly bordered from disc, almost horizontal, in anterior part with tendency to form a shallow gutter, smooth, shiny.

Scutellum triangular, without or with transverse sulcus or impression. Base of elytra serrulate, slightly to moderately wider than base of pronotum, elytral margins simple. Disc distinctly angulate in profile (fig. 413). Discal surface usually with large but shallow principal impression, without lateral impressions, surface of disc appears slightly irregular. Puncturation of disc regular, punctures medium-sized, on slope only slightly finer than in anterior half of disc, in sutural half of disc only slightly smaller than in lateral part of disc. Scutellar row with 4-5 punctures. Punctures in rows sparsely, disposed mostly regular, distance between punctures two to five (partly more, up to eight) times wider than puncture



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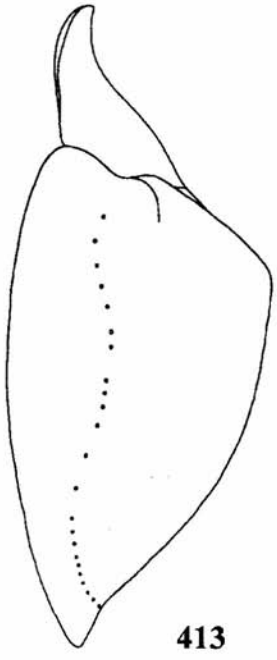

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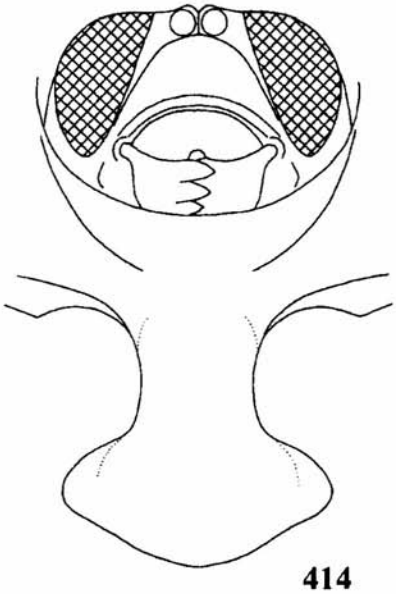

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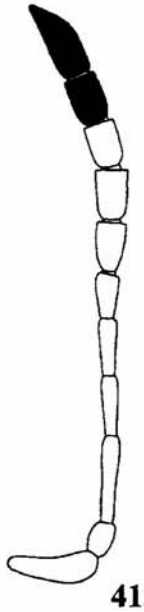

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417

412-477. *Aspidimorpha curtidens*: 412 - body in dorsal view, 413 - body in profile, 414 – head and prosternum, 455 – antenna, 466 – inner side of claw, 477 – outer side of claw

diameter. Rows slightly impressed. Marginal row deep, its punctures c. thrice larger than in submarginal row. Intervals flat, in sutural half of disc five to six times wider than rows, on sides twice to thrice wider than rows, their surface mostly smooth, shiny, with very small microreticulation. Lateral fold of explanate margin low, usually broad. Explanate margin broad, moderately declivous, has no tendency to form a shallow gutter, impunctate, smooth to slightly irregular, especially in the darkest specimens, shiny. Elytral epipleura bare in male, pubescent in female.

Head broad, clypeus c. 1.6 times wider than long (fig. 414), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/4-1/3 length. Antennae moderately elongate (fig. 415), extending to 1/4 length of metasternum, length ratio of antennal segments: 100:47:110:77:73:50:73:65:70:67:123.

Claws pectinate on both sides, inner pecten with three short teeth extending to 1/5-1/3 length of claw (fig. 416). Outer pecten with two teeth, extending to 1/6-1/5 length of claw (fig. 417).

Sexual dimorphism distinct. Males slightly stouter than females with bare apex of elytral epipleura (pubescent in female).

DISTRIBUTION

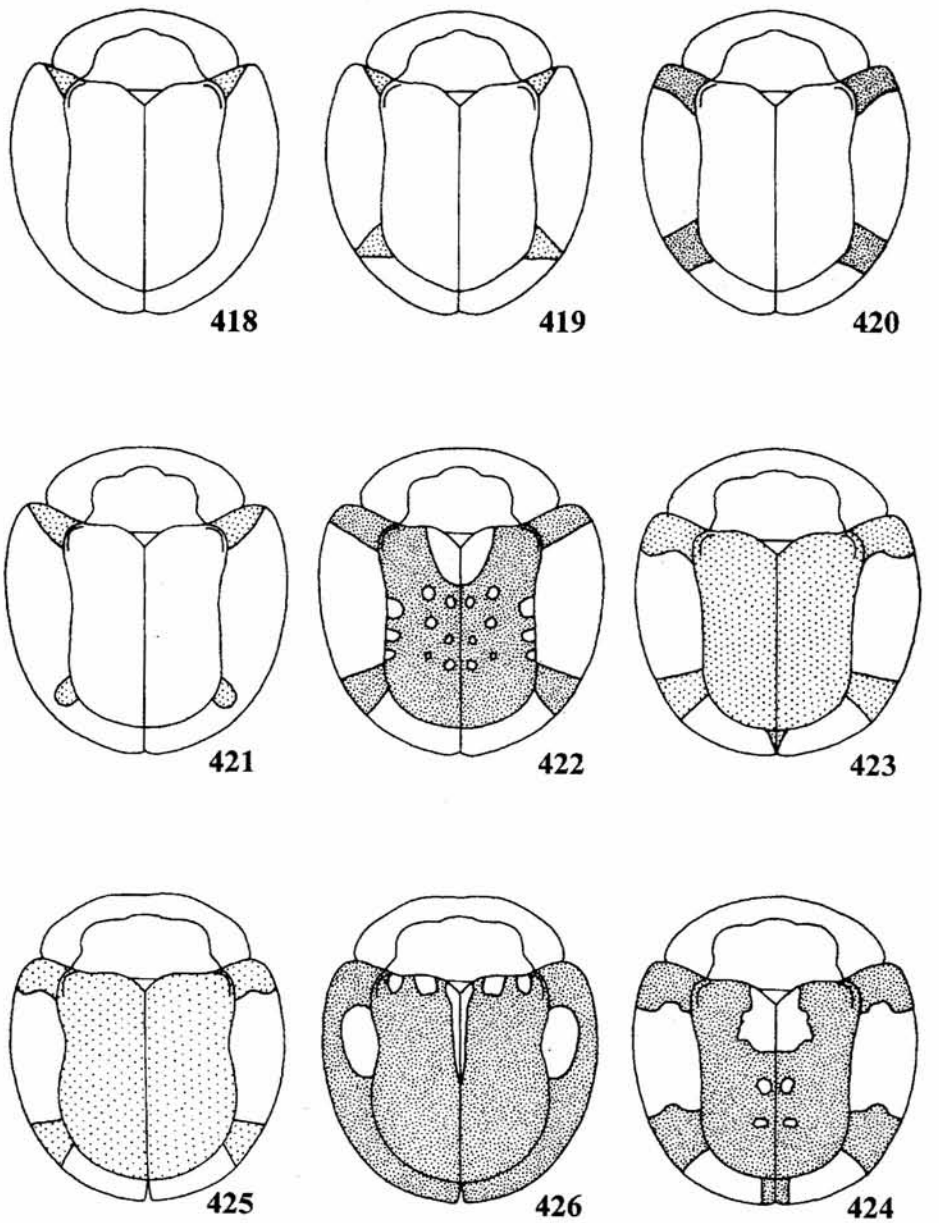
Madagascar (fig. 434).

REMARKS

It belongs to the *dissentanea* species group which comprises seven species, two exclusively from Madagascar, one widespread in both Madagascar and Africa, and four exclusively African. They are partly very difficult to identify but Madagascan species are rather distinct. *A. curtidens* differs from both other Madagascan members of the group in short pecten of tarsal claws, extending at most to 1/3 length of claw (in *densepicta* and *madagascarica* at least to 2/5 length of claw) and in sparse elytral puncturation. Explanate margin of elytra in *A. curtidens* is more declivous than in both Madagascan relatives, without tendency to form a shallow gutter (in *densepicta* and *madagascarica*, especially in large males, explanate margin of elytra is almost horizontal with a tendency to form a shallow gutter). Sexual dimorphism in *A. curtidens* is distinct, females have pubescent apex of elytral epipleura, while in *densepicta* and *madagascarica* elytral epipleura are bare in both sexes. *A. densepicta* differs also in postscutellar gibbosity with obtuse top, while in *A. curtidens* it is distinctly angulate. African species *A. dissentanea* and *A. infuscata* are also similar to *A. curtidens* but their females have bare apex of elytral epipleura and lower elytral angulation with less convex profile.

MATERIAL EXAMINED

MADAGASCAR: Ambohimanga, 20 km N Tana, XII 1955, 1, VIEU (LB); Ampijoroa, Tsaramandroso, 2 (holotype, MNHN, paratype, MM); Madagascar, 2 (LB).



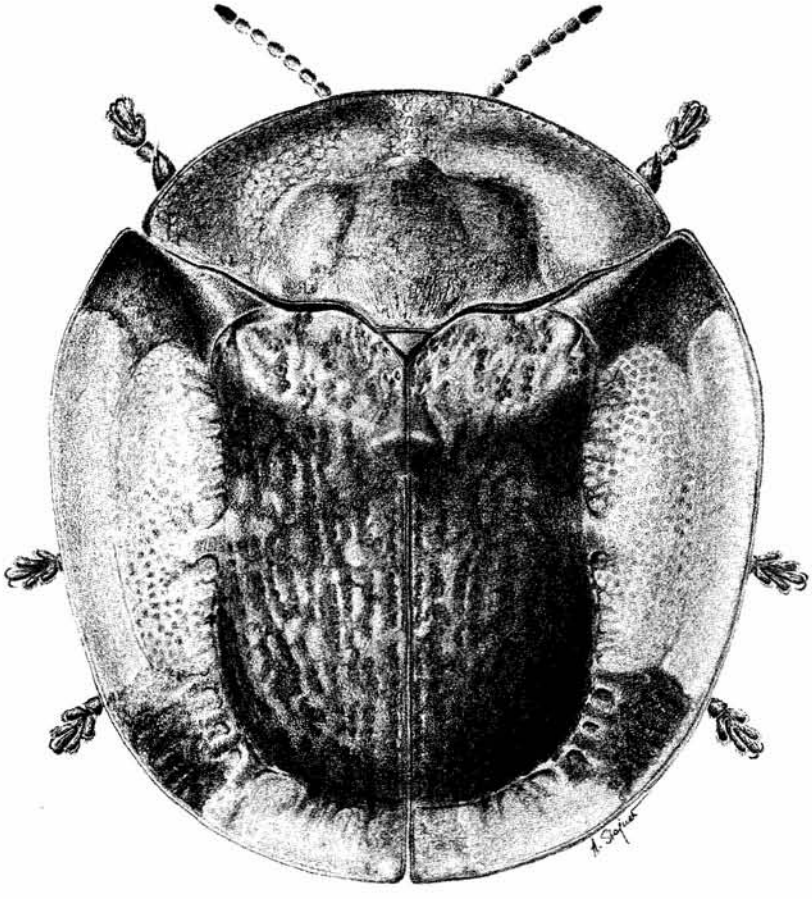
418-426. Variation of dorsal maculation: 418-420 - *Aspidimorpha collarti*, 421-422 - *A. corrugata*, 423-424 - *A. densepicta*, 425-426 - *A. curtidens*

Aspidimorpha (s. str.) *delitescens* WEISE, 1903

Aspidomorpha delitescens WEISE, 1903: 222 (HT in ZMHU); 1908: 203; SPAETH, 1906: 401; 1935: 172; SHAW, 1961: 11; BOROWIEC, 1985 a: 236.
Aspidomorpha (Aspidomorpha) delitescens: SPAETH, 1914 b: 73.

DESCRIPTION

Le: male and female: 11.3-13.0 mm, Wi: male and female: 10.0-11.3 mm, Lp: male and female: 3.6-4.0 mm, Wp: male and female: 7.9-8.9 mm, Ex: male and female: 2.4-2.8 mm, Wd: male and female: 5.2-6.0 mm; Le/Wi ratio: male and



427. *Aspidimorpha delitescens*, habitus (by A. STOICZEW)

female: 1.11-1.19, Wi/Wp: male and female: 1.23-1.31, Wp/Lp: male and female: 2.13-2.32. Body broadly oval to almost circular (fig. 427).

Pronotum uniformly yellow to argillaceous. Dorsal part of elytra uniformly yellow to argillaceous, punctures with reddish centre. Explanate margin yellow with reddish, very broad humeral and posterolateral and narrow sutural spots. Apex of humeral spot usually widened posterad, apex of posterolateral spot usually widened anterad. External part of explanate margin of elytra darker yellow than its ventral part. Scutellum yellow to argillaceous. Clypeus yellow. Thorax usually mostly to completely yellow, often partly infuscate in the middle, occasionally mostly black, except yellow lateral plates. Abdomen uniformly yellow. Antennae yellow, usually last segment black, except yellow underside of apex, occasionally apex of segment 10 infuscate to black. Legs including coxae yellow.

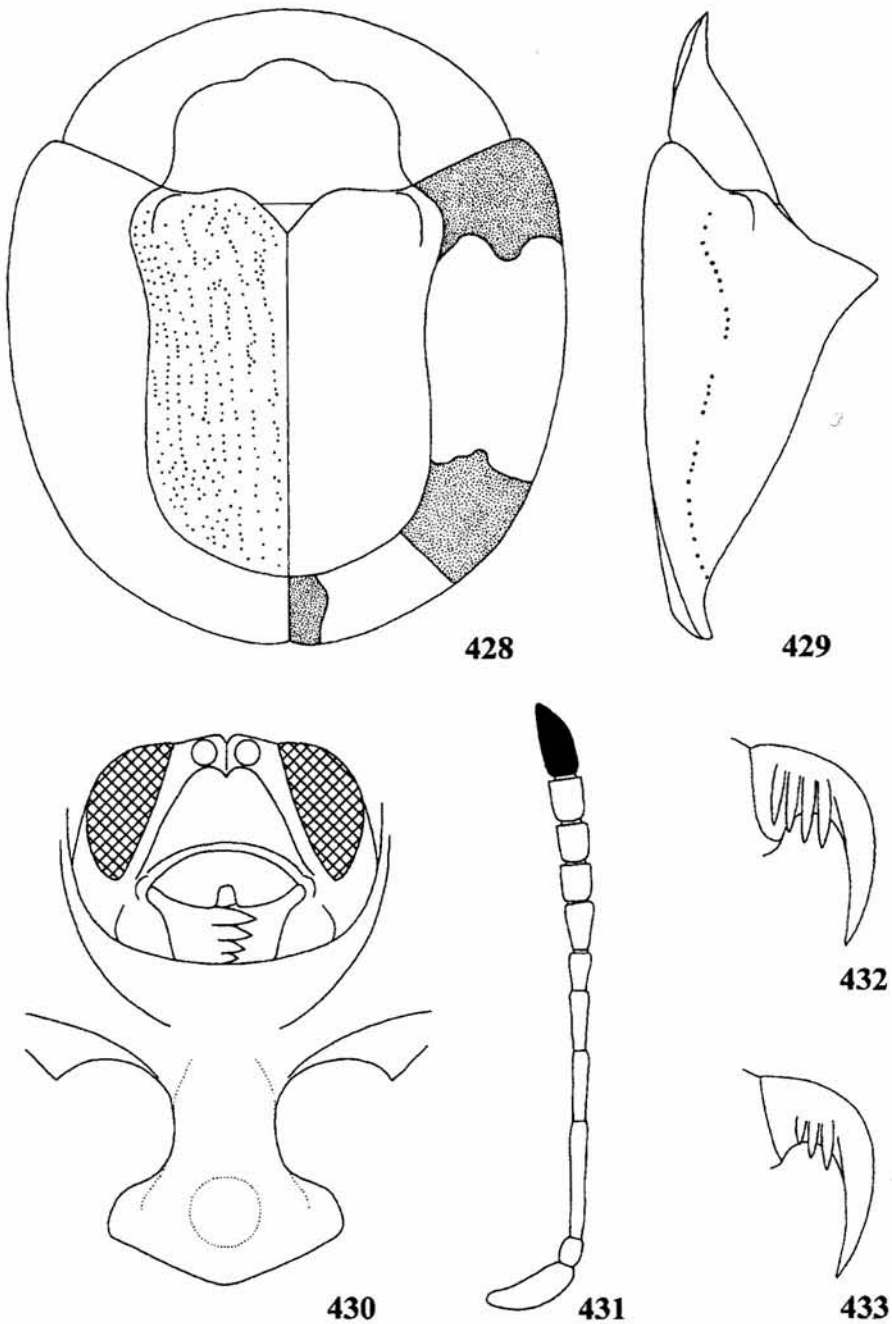
Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, especially on sides, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, slightly wider than base of pronotum, humeri narrowly rounded, elytral margins not marginate. Disc unevenly convex, with extremely large, conical postscutellar tubercle, top of the tubercle sharp, profile deeply concave behind the top of convexity (fig. 429), discal surface without impressions. Puncturation of disc moderate to coarse, completely irregular, only in sutural part of disc with tendency to form rows, on slope slightly finer than in anterior half of disc, in sutural half of disc only slightly finer than in lateral part of disc. Scutellar row with 6-8 punctures. Punctures moderately dense to dense, partly grouped together, distance between punctures or their group from twice shorter to twice larger than puncture diameter, in groups punctures often touching each other. Punctures deeply impressed. Punctures in marginal row deep, only twice larger than in central rows. Interspaces irregular, form irregular folds and wrinkles, surface of disc appears strongly rugose. Lateral fold of marginal interval absent or small. Explanate margin very broad, subhorizontal, with tendency to form a gutter, its surface slightly irregular, on posterolateral spot and behind the spot with deep transverse grooves. Elytral epipleura bare in both sexes.

Head broad, clypeus 1.6-1.7 times wider than long (fig. 430), glabrous to slightly dull, slightly elevated before antennal insertions, shallowly impressed in the middle. Labrum emarginate to 1/3-1/2 length. Antennae moderately elongate (fig. 431), extending to mid coxa, length ratio of antennal segments: 100:35:139: 83:70:46:57:52:50:52:94.

Claws pectinate on both sides, inner pecten long, with four teeth extending to half length of claw (fig. 432), outer pecten with two teeth, first extending to 1/4 length of claw, second slightly smaller (fig. 433).

Sexual dimorphism indistinct, males slightly stouter than females.



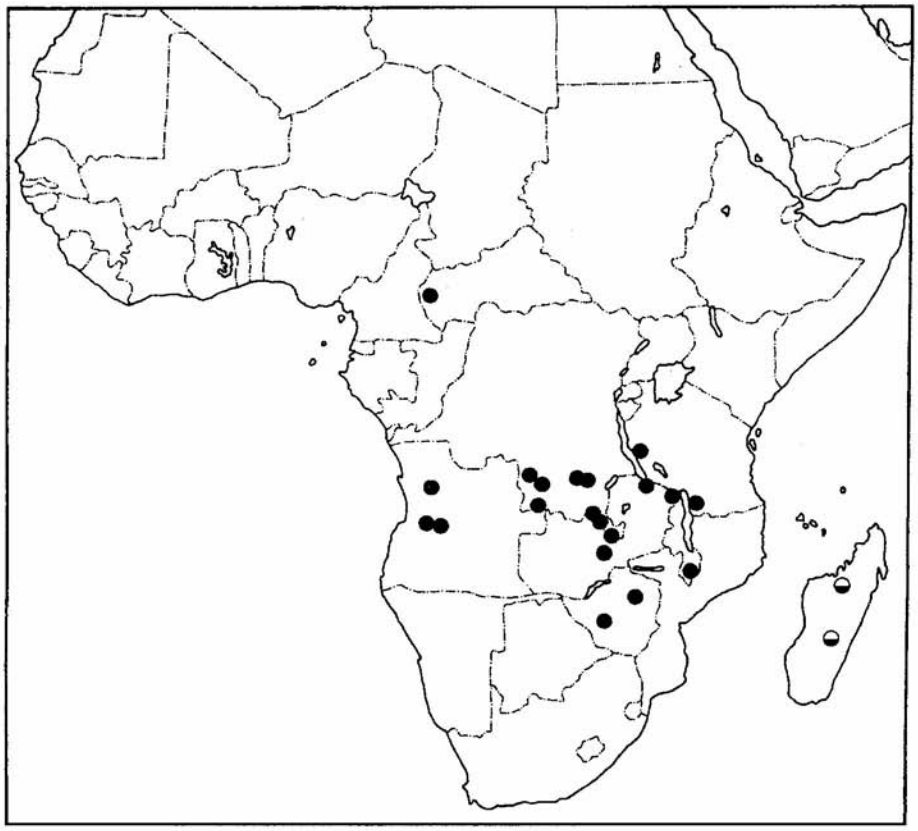
428-433. *Aspidimorpha delitescens*: 428 - body in dorsal view, 429 - body in profile, 430 – head and prosternum, 431 – antenna, 432 – inner side of claw, 433 – outer side of claw

DISTRIBUTION

Central and northern part of southern Africa, north to Cameroon and Republic of Central Africa, south to Zimbabwe, east to eastern Tanzania (fig. 434).

REMARKS

It is the largest member of *intricata* group, very close to *A. intricata*. Two other species of the group, *A. flaviceps* and *A. corrugata* are rather distinct. *A. flaviceps* differs in slimmer body and three to four last antennal segment black (only one, occasionally two in *delitescens*). *A. corrugata* differs in base of elytra distinctly wider than base of pronotum (only slightly wider in *A. delitescens*). *A. intricata* is very similar but differs in more rugose elytra, usually two last antennal segments black and shorter pecten of tarsal claws extending at most to 2/5 length of claw (to half length of claw in *delitescens*).



434. Distribution of *Aspidimorpha curtidens* (white above black circles) and *A. delitescens* (black circles)

MATERIAL EXAMINED

ANGOLA: Benguela, 1 (MRAC), 1, Dr. WELLMAN (DEI); Bihi, 1, Dr. HORN (ZMHU); Gauca, Malange Distr., 20 mls. E Rio Quanza, 3650 ft., 8 I 1931, 1 (CMNH); Typelongo, 1 (IRSN).

CAMEROON: Mvaa, XII 1961, 1, CHASSOT (MRAC).

MALAWI: Chitipa Distr., Jembya Reserve, 18 km SSE Chisenga, 1870 m, 1-10 I 1980, 1, J. RAWLINS and S. THOMPSON (CMNH); Nyasaland, Mlanje, 19 XII 1912, 2, 6 II 1913, 1, 17 I 1913, 1, S.A. NEAVE (BMNH, LB).

REPUBLIC OF CENTRAL AFRICA: Uam, Bosum, 10 VI 1914, 1, TESSMANN (ZMHU).

TANZANIA: Nyassa-See, Kigonsera, 3 (FMNH); Tanganyika Bez., 3 (ZMHU); Wambora, 1, KOHLSCHÜTTER (holotype, ZMHU).

ZAIRE: Haut Katanga, Sakayia, 15 XII 1931, 1, J. ROMIEUX (MHNG); Kafakumba, XII 1932, 1, G.F. OVERLAET (MRAC); Lenge, 5 XI 1940, 1, H.J. BRÉDO (IRSN); Lubumbashi, XII 1928, 1, Ch. SEYDEL (MRAC); Lulua, Luashi, XI 1938, 1, F. FREYNE (MRAC); Lulua, Tshibamba, V 1927, 1, F.G. OVERLAET (MRAC); Tshinsenda, XII 1911, 1, Miss. Agric. (MRAC); Upemba Nat. Park, Kankunda, 1300 m, 19-24 XI 1947, 1, G.F. DE WITTE (MRAC); Upemba Nat. Park, Lusinga, 1760 m, 8 IV 1947, 1, G.F. DE WITTE (MRAC); Upemba Nat. Park, Munoi, Lupiala, 890 m, 31 V-2 VI 1948, 1, G.F. DE WITTE (MRAC).

ZAMBIA: Abercorn, 15 XII 1943, 1, H.J. BRÉDO (IRSN); Brokenhills, II 1929, 1 (LB).

ZIMBABWE: Bulawayo, I 1939, 1 (NMM); Salisbury, 1 (TM), 7 III 1910, 1, 8 VII 1917, 1, J. O'NEIL (NMM), 1917, 1, J. O'NEIL (CTM).

VARIA: Zambezi, Mazoe, 1895, 1, DARLING (CTM).

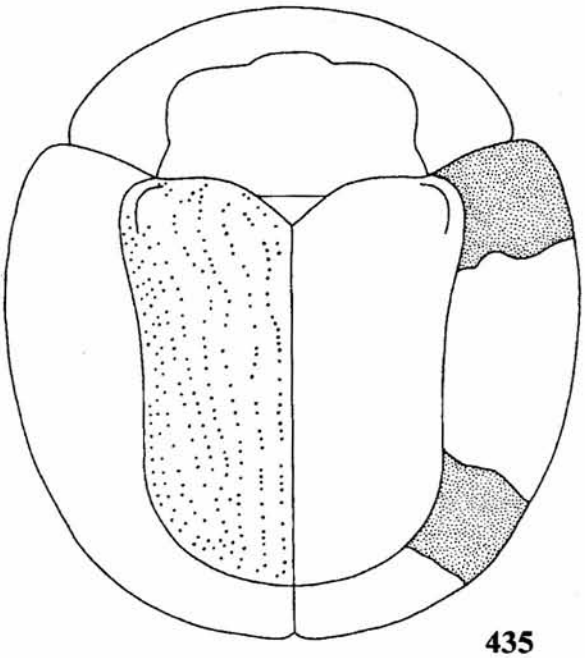
Aspidimorpha (s. str.) *densepicta* HINCKS, 1962

Aspidomorpha densepicta HINCKS, 1962: 247 (HT and PT in MNHN, PT in MM).

DESCRIPTION

Le: male: 10.0-11.5, female: 10.4-11.2 mm, Wi: male: 9.2-10.5 mm, female: 9.0-9.8 mm, Lp: male: 3.3-3.5 female: 3.4-3.6 mm, Wp: male: 7.0-7.6 mm, female: 6.7-7.4 mm, Ex: male: 2.4-2.6 mm, female: 2.1-2.5 mm, Wd: male: 4.8-5.5 mm, female: 4.9-5.5 mm. Le/Wi: male: 1.09-1.10, female: 1.14-1.16, Wi/Wp: male: 1.31-1.38, female: 1.32-1.34; Wp/Lp: male: 2.12-2.17, female: 1.97-2.06. Body short-oval to almost circular (fig. 435).

Pronotum uniformly yellow. Elytral disc uniformly rusty brown, or on sides and apex brown with yellow scutellar and sutural area, or mostly brown with yellow postscutellar area and few yellow spots along suture (figs 423-424). Explanate margin yellow, always with broad, rusty brown to brown humeral and posterolateral spots, and usually with sutural spot which in extremely pale specimens is reduced to sutural margin. Humeral spot is often widened posterad



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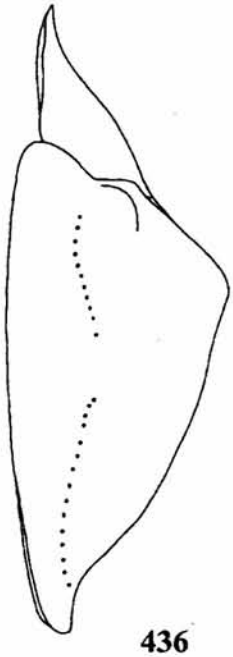

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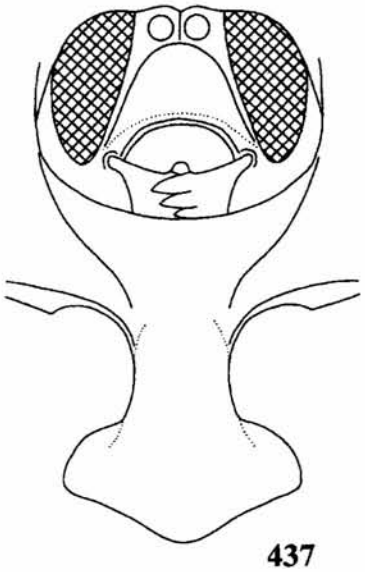

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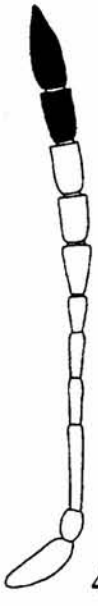

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435-440. *Aspidimorpha densepicta*: 435 - body in dorsal view, 436 - body in profile, 437 – head and prosternum, 438 – antenna, 439 – inner side of claw, 440 – outer side of claw

but posterolateral spot is not or only slightly widened anterad. External part of explanate margin usually slightly darker yellow than its ventral half. Clypeus yellow, basal corners often infuscate, Ventrites vary from almost uniformly yellow with only slightly infuscate central part of metasternum, to thorax mostly black except lateral plates. Abdomen yellow. Legs, including coxae, uniformly yellow. Antennae mostly yellow, two last antennal segments black except yellow ventral side of apex of the last segment.

Pronotum almost semicircular, with maximum width at base, hind angles subangulate, forming blunt angle about 90-95°. Disc moderately convex, smooth, shiny, with very small microeticulation. Explanate margin distinctly bordered from disc, almost horizontal, in anterior part with tendency to form a shallow gutter, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, slightly to moderately wider than base of pronotum, elytral margins simple. Disc distinctly gibbous in profile, the top of gibbosity obtuse (fig. 436). Discal surface usually with small but deep principal impression, without lateral impressions, surface of disc appears more or less irregular. Puncturation of disc mostly regular, but rows often interrupted by folds, punctures fine to moderate, on slope slightly smaller than in anterior half of disc, in sutural half of disc two to three times smaller than in lateral part of disc. Scutellar row with 4-8 punctures. Punctures in rows moderately dense to dense, disposed partly irregularly, grouped in 2-5, distance between punctures in groups c. as long as to thrice longer than puncture diameter, between groups three to five times longer than puncture diameter. Rows slightly impressed. Marginal row deep, its punctures c. twice larger than in submarginal row. Intervals flat, in sutural half of disc five to six times wider than rows, on sides c. twice to thrice wider than rows, their surface mostly smooth, shiny, with very small microreticulation. Lateral fold of explanate margin low but usually broad. Explanate margin broad, moderately declivous to almost horizontal, especially in large males, margins often have tendency to form a shallow gutter, impunctate, smooth to slightly irregular, especially on black spots, shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.4-1.5 times wider than long (fig. 437), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 438), extending to 1/4 length of metasternum, length ratio of antennal segments: 100:38:100:66:65:47:65:56:59:56:112.

Claws pectinate on both sides, inner pecten with three to four moderate to long teeth extending to 1/3-2/5 length of claw (fig. 439). Outer pecten with two teeth, extending to 1/5-1/4 length of claw (fig. 440).

Sexual dimorphism indistinct. Males slightly stouter than females.

DISTRIBUTION

Madagascar (fig. 448).

REMARKS

It is a third member of the *dissentanea* group from Madagascar. Like *A. curtidens* it is a Madagascan endemic, while *A. madagascarica* is common in both Africa and Madagascar. It differs from *A. curtidens* in postscutellar angulation more obtuse and explanate margin of elytra less declivous with a tendency to form a shallow gutter. The surface of elytra in *A. densepicta* is distinctly irregular, with several low folds, while in *A. curtidens* it is almost regular. *A. madagascarica* is the most similar but it has more angulate elytral profile (in *densepicta* the angulation is high but obtuse, thus disc is gibbous rather than angulate). The surface of elytra in *A. madagascarica* varies from almost regular to distinctly irregular but folds of disc are usually smaller and thinner than in *A. densepicta.*

MATERIAL EXAMINED

MADAGASCAR: route d'Anosibé, XI-XII 1960, 1 (LB); Madagascar, 1 (LB); Morondava, forêt sud de Befasy, I 1956, 1, R. PAULIAN (holotype, MNHN); Station Agric. Bas Mangoky, 1 (paratype, MM).

Aspidimorpha (s. str.) *diaphana* (SAHLBERG, 1823)

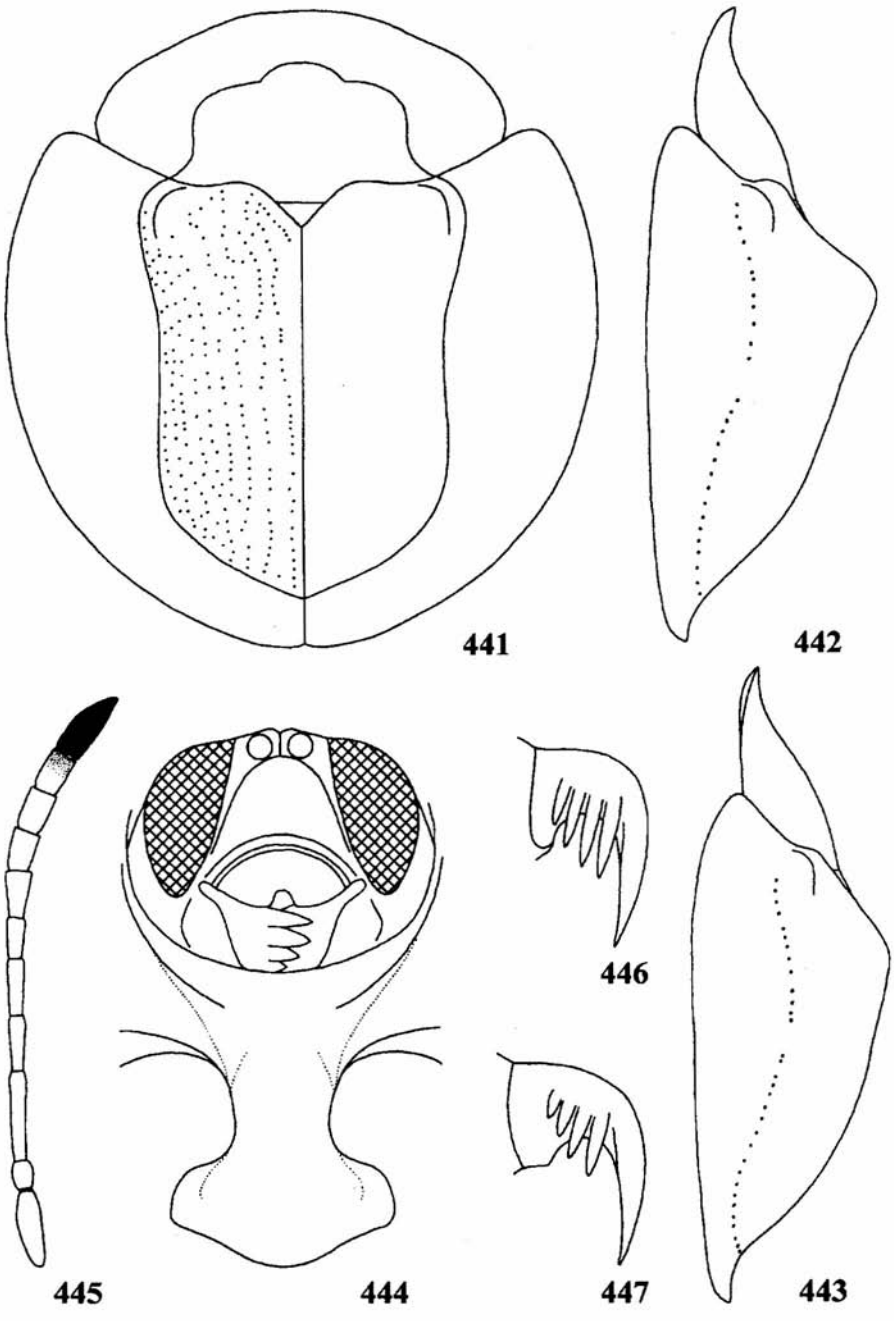
Cassida diaphana SAHLBERG, 1823: 58 (LT in NRS).
Aspidomorpha diaphana: BOHEMAN, 1854: 302, 1856: 113, 1862: 270; HAROLD, 1879: 215; SPAETH, 1903: 175; 1916: 40, 1929 a: 158; SHAW, 1961: 11; 1968 b: 780; 1972: 61.
Aspidomorpha (Aspidomorpha) diaphana: SPAETH, 1914 b: 73.
Aspidomorpha impicta BOHEMAN, 1854: 303 (HT in NRS); 1856: 113; 1862: 270; SPAETH, 1903: 175 (as syn.).
Aspidomorpha (Aspidomorpha) diaphana var. *impicta*: SPAETH, 1914 b: 75.
Aspidomorpha diaphana ab. *impicta*: SHAW, 1956 b: 593.

DESCRIPTION

Le: male: 8.7-9.7, female: 10.2-11.3 mm, Wi: male: 8.0-9.2 mm, female: 9.2-10.4 mm, Lp: male: 2.9-3.1 female: 3.2-3.5 mm, Wp: male: 5.7-6.4 mm, female: 6.5-7.3 mm, Ex: male: 2.0-2.5 mm, female: 2.1-2.5 mm, Wd: male: 4.1-4.4 mm, female: 4.6-5.1 mm. Le/Wi: male: 1.05-1.09, female: 1.09-1.13, Wi/Wp: male: 1.40-1.44, female: 1.41-1.43; Wp/Lp: male: 1.97-2.06, female: 1.97-2.09. Body almost circular (fig. 441).

Pronotum and elytra uniformly pale yellow, margins of explanate margin of elytra darker yellow than ventral part of the explanate margin. Clypeus yellow. Ventrites vary from mostly yellow to mostly black, pro-, meso- and metathorax often black except yellow sides, abdomen only in the darkest forms black with yellow sides. Legs, including coxae, uniformly yellow. Antennae mostly yellow, usually only last segment, and apex of segment 10 infuscate to black, sometimes segment 10 completely yellow.

Pronotum ellyptical to semicircular, with maximum width slightly behind the middle or close to base, sides rounded, hind angles usually barely marked. Disc



441-447. *Aspidimorpha diaphana*: 441 - body in dorsal view, 442-443 - body in profile: 442 - western form, 443 - eastern form, 444 – head and prosternum, 445 – antenna, 446 – inner side of claw, 447 – outer side of claw

moderately convex, smooth, shiny. Explanate margin distinctly bordered from disc, almost horizontal, in anterior part with tendency to form a shallow gutter, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, much wider than base of pronotum, elytral margins simple. Disc unevenly convex with postscutellar angulation which varies from low and obtuse in populations from southern part of the distribution area, to high and almost angulate in populations west of western Cameroon (figs 442-443). In some populations from Zaire and Equatorial Guinea disc is only slightly gibbous in postscutellar part. Principal impression very shallow, often barely marked or obsolete, postscutellar impressions usually well marked, without lateral impression, surface of lateral part of disc completely regular. Puncturation of disc completely regular, punctures extremely fine to fine, on slope distinctly smaller than in anterior half of disc, sometimes hardly marked, in sutural half of disc two to three times smaller than in sides of disc. Scutellar row with 4-7 punctures. Punctures in rows sparse, disposed regularly, distance between punctures in sutural rows three to five, in lateral rows two to four times longer than puncture diameter (in some populations punctures in central rows are densely arranged, with distance only twice to thrice longer than puncture diameter). Marginal row shallow, its punctures twice to thrice larger than in submarginal row. Intervals flat, in sutural half of disc six to seven times wider than rows, on sides three to four times wider than rows, their surface smooth, strongly glabrous. Explanate margin very broad, moderately declivous to almost horizontal, but without tendency to form a shallow gutter, impunctate, usually smooth and strongly glabrous. Apex of elytral epipleura in male bare, in female pubescent.

Head moderately broad, clypeus 1.7-1.8 times wider than long (fig. 444), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/4-1/3 length. Antennae moderately elongate (fig. 445), extending to 1/4 length of metasternum, length ratio of antennal segments: 100:45:130:80:78:55:53:55:59:60:106.

Claws pectinate on both sides, inner pecten with four (sometimes five) very long teeth extending to 2/3-3/5 length of claw (fig. 446). Outer pecten with three teeth, extending to 2/5-1/2 length of claw (fig. 447).

Sexual dimorphism distinct. Males distinctly smaller and stouter than females, with apex of elytral epipleura bare (pubescent in female).

DISTRIBUTION

West and Central Africa east to Uganda, records from western Africa are limited to relict forest localities (fig. 448).

REMARKS

It is the only member of *diaphana* group. At first glance only *A. sassii* is similar, but differs in larger body, base of elytra only slightly wider than pronotum and partly irregular elytral rows.

MATERIAL EXAMINED

CAMEROON: Bangwe, 1, CONRADT (ZMHU); Bare, 800 m, 6 XI 1912, 1, v. ROTHKIRCH (ZMHU); Barombi-Stat., 2, PREUSS (ZMHU), 2, ZENNER (ZMHU); Batanga, 30 I 1911, 1, II 1911, 1, VI 1912, 1, A.I. GOOD (CMNH), X 1912, 1, XI 1912, 1, J. A. REIS (CMNH), IV 1914, 3, V 1914, 1, F.H. HOPE (CMNH); Bipindi, X-XII 1896, 6, G. ZENKER (ZMHU); Douala, 1, LENCSZ (MRAC), 2, J. CANTALOUBE (MRAC); Efulen, 9 II 1910, 1, A. I. GOOD (CMNH), 27 V 1910, 1, H. L. WEBER (CMNH), II 1911, 1, IX 1912, 1, XI 1912, 8, J.A. REIS (CMNH); Ekok, 2 (ZMHU); Japoma, 3, SCHÄFER (ZMHU); Jaunde, X 1923, 1 (IRSN); Jaunde St., 52, ZENKER (ZMHU); Joh.-Albrechthöhe, 1 VII-31 VIII 1897, 3, 1 IX-31 X 1897, 2, 11 IV-27 V 1898, 3, L. CONRADT (ZMHU); Joko, 3 (HNHM), 5 (ZMHU), 1 (FMNH); Kribi, 3, CARRET (MRAC), 1890, 2, MORGEN (ZMHU), 0-30 m, 18 III-31 III 1974, 2, M. KÜHBANDNER (ZSM); Kumba, 230 m, 12 II 1967, 5, W. HARTWIG (MKB); Lolodorf, 1, v. HEYNE (ZMHU), VI 1914, 2, J.A. REIS (CMNH); Mont Balmayo, 2, J. CANTALOUBE (MRAC), VII 1965, 2, BARGA (MRAC); Mueli, Mt. Kamerun, 600 m, II 1958, 1, W. HARTWIG (MKB); Mundame, 4 (IRSN); Nkolbisson, Dept. Nyong-Sanaga, IX 1963, 2, L.G. SEGERS (MRAC); Nkolbisson, Yaounde-Bi, 16 II 1963, 1, L. SEGERS (ZSM); Nssanakang, 2, A. DIETL (ZMHU); Nyong et Kélé, 9 I 1972, 1, G. NOVEILLER (HNHM); Okala, IV-V 1965, 3, J. POUGET (MRAC); Okola, Ebougsi-r. Mbanize, 17 IX 1963, 1 from *Setaria megaphyllia* BEAUV., L. SEGERS (ZSM); Pipinde, 2, ZENKER (ZMHU); Ubenji, 13 IV 1911, 1 (CMNH); Victoria, 4 (ZMHU), 4, STAUDINGER (ZMHU), 1, PREUSS (ZMHU).

EQUATORIAL GUINEA: Benito, 1 (CMNH), Nkolentangan, XI 1907-V 1908, 1, G. TEßMANN (ZMHU).

GABON: Bas-Ogooué, 6 (IRSN); Gabon, 1, "Jekel" (holotype of *Aspidomorpha impicta*, NRS), 1 (ZMHU), 5 (FMNH); Libreville, 2 (SD); Ogové R., Kangvé, 20, A.C. GOOD (CMNH); Ogowe, 1, M. SCHMIDT (ZMHU).

GHANA: Ashanti Reg., Mampong, 28 IX 1971, 1, S. ENDRÖDY-YOUNGA (HNHM); Takoradi, 1, BESNARD (MRAC); Volta Reg., Amedzofe, 31 VIII 1967, 1, S. ENDRÖDY-YOUNGA (HNHM); Western Reg., Busua, 26 VIII 1969, 1, S. ENDRÖDY-YOUNGA (HNHM).

GUINEA: Coyah, III 1963, 1, K. FERENCZ (HNHM); Kankau, VI-XII 1963, 1, K. FERENCZ (HNHM); Macenta, 8-16 VIII 1965, 1, K. FERENCZ (HNHM).

IVORY COAST: Abidjan, 16 IV 1973, 1 (RB).

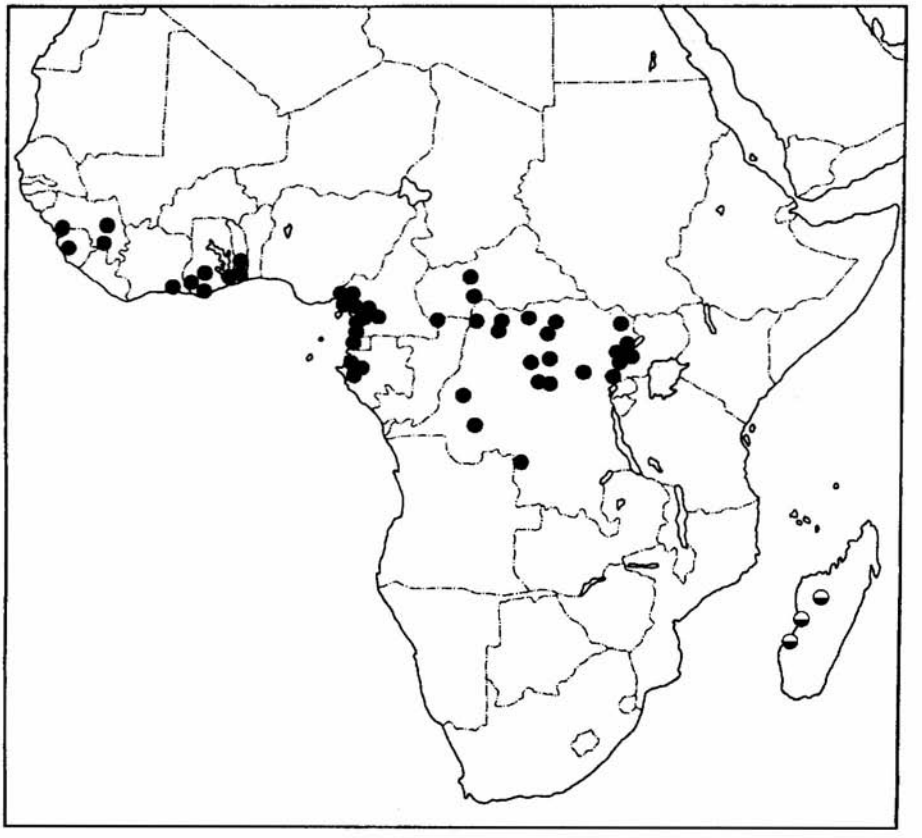
REPUBLIC OF CENTRAL AFRICA: Fort Crampel, 11 (IRSN); Fort Sibut, Oubanghi-Chari, 1968, 6 (MRAC); Nola, 1 (IRSN).

SIERRA LEONE: Moyamba, 1, coll. LE MOULT (IRSN); Sierra Leon., 1, "AFZEL" (lectotype of *Cassida diaphana*, present designation, NRS).

TOGO: Bismarckburg, 1-15 III 1891, 1, 25 IX-12 XI 1892, 1, BÜTTNER (ZMHU); Kpalimé, Fort de Missahoée, 1-28 VI 1989, 1, J.M. BOUSQUET (CNCI); Misahohe, 4 XII 1893, 1, 8 V 1895, 1, E. BAUMANN (ZMHU); Togo, 1 (MM).

UGANDA: Fort Portal, 15 km E Sebitoli, 23 XI-5 XII 1994, 1, M. SNIZEK (MS).

ZAIRE: Albert Nat. Park, Ruwenzori, Mutawanga, 1000-1300 m, II-III 1937, 3, HACKARS (MRAC); Albert Nat. Park, Mutsora, 1939, 7, HACKARS (MRAC); Albert Nat. Park, Plaine Semliki, 1000-1100 m, IV-X 1937, 1, HACKARS (MRAC); SW Albert-See, Mboga, III 1908, 1, A. Herzog (ZMHU); Amadi, 10-16 III 1913, 1, P. VAN DEN PLAS (MRAC); Bambesa, 2 X 1937, 1, 3 I 1940, 1, J.M. VRIJDAGH (IRSN); Bokonge, 11 X 1927, 1, A. COLLART (IRSN); Buta, 1 (FMNH); Eala, 1914, 3, R. MAYNÉ (MRAC); Etshushu, X 1912, 1, R. MAYNÉ (MRAC); Faradje, Sesenge, 17 III 1930, 1, A. COLLART (IRSN); Kikwit, 1914, 1, R. MAYNÉ (MRAC); Kivu, Terr. Beni, M'Bau, 1200 m, 13 V 1953, 1, J. CELIS (MRAC); Lac Léopold II, 11-24 VI 1925, 2, P. LEOPOLD (IRSN); Libenge, 17 X 1947, 1, R. CREMER and M. NEUMANN (IRSN); Likimi, Bokapo, 16 VIII 1927, 1, A. COLLART (IRSN); Likimi, Mumbia, 29 X 1927, 4, A. COLLART (IRSN); Lomani, Yambema, 1 (IRSN); Lubutu, 15 X 1929, 1, A. COLLART (IRSN); Lulua, Kapelekese, 18 XI 1933, 1, G.F. OVERLAET (MRAC); Mobwasa, 30 XI 1912, 1, R. MAYNÉ (MRAC); Mondombe, X 1912, 11, R. MAYNÉ (MRAC); Rutshuru, 5 VIII 1954, 1, J. PIZON



448. Distribution of *Aspidimorpha diaphana* (black circles) and *A. densepicta* (white above black circles)

(MRAC); W Ruwenzori, Beni, I 1908, 1, A. HERZOG (ZMHU); Samlia Fall, Riv. N'Gamie, 1890, 1, A. MOCQUERYS (IRSN); Tshuapa, Etata, VII-VIII 1969, 4, IX-X 1969, 2, J. HAUWAERTS (MRAC); Tshuapa, Ikela, 1955, 41, 1956, 50, VIII 1956, 1, X 1956, 5, XI 1956, 23, R.P. LOOTENS (MRAC), III-VI 1956, 12, P. DEGUIDE (MRAC); Ubangi, Binga, 8 III 1932, H.J. BRÉDO (MRAC); Ubangi, Nzali, 3-4 II 1932, 2, H.J. BRÉDO (MRAC); Yangambi, XI 1959, 5, J. DECELLE (MRAC).

VARIA: Baliland, Musenni, 1, LUBECK (ZMHU).

Aspidimorpha (s. str.) *dilecta* BOHEMAN, 1854

Aspidomorpha dilecta BOHEMAN, 1854: 312 (HT in NRS); 1856: 114; 1862: 279; SPAETH, 1909: 280; 1924: 288, 1932 b: 4; 1934 b: 385; BOROWIEC, 1985 a: 235.
Aspidomorpha (Aspidomorpha) dilecta: SPAETH, 1914 b: 75.
Aspidomorpha fragilis WEISE, 1899: 257 (LT and PLT in ZMHU); SPAETH, 1909: 279, 1932 b: 4; BOROWIEC, 1987: 413.
Aspidomorpha (Aspidomorpha) fragilis: SPAETH, 1914 b: 75.
Aspidomorpha dilecta ab. *fragilis*: SPAETH, 1924: 288, 1934 b: 385; SHAW, 1956 a: 260, 1961: 11.

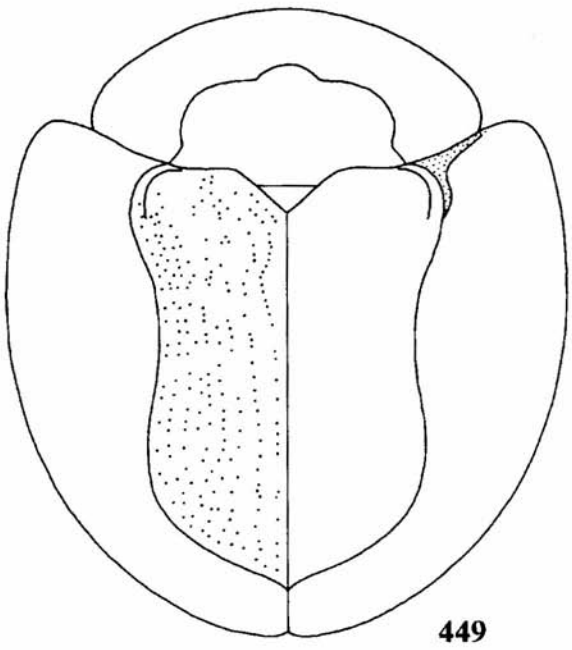
DESCRIPTION

Le: male and female: 8.2-9.9 mm, Wi: male and female: 7.2-8.8 mm, Lp: male and female: 2.7-3.0 mm, Wp: male and female: 5.1-6.2 mm, Ex: male and female: 2.0-3.3 mm, Wd: male and female: 3.2-4.0 mm; Le/Wi ratio: male and female: 1.10-1.15, Wi/Wp: male and female: 1.41-1.47, Wp/Lp: male and female: 1.89-2.14. Body almost circular (fig. 449)

Pronotum uniformly pale yellow. Elytra pale yellow with no humeral or posterolateral spots, usually sutural intervals in 2/3 length of disc with elongate brown spot, occasionally some punctures, especially on sides of postscutellar tubercle and in apical part of sutural rows marked with brown, in one of the examined specimens base of elytral disc with indistinct, irregular, large brownish spot (figs 503-505). Explanate margin of pronotum and elytra almost transparent. Scutellum yellow. Ventrites uniformly yellow. Antennae yellow, only last segment mostly black with base and ventral side of apex yellowish, never uniformly yellow like in similar *A. togoensis*.

Pronotum broadly ellyptical, with maximum width in 3/5 length, narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin indistinctly bordered from disc, flat, almost horizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, sometimes impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri rounded, elytral margins simple. Disc with large, sharp, conical postscutellar tubercle (fig. 450), outline behind the top of tubercle deeply concave. Principal impression large and deep, also posterolateral impression distinct. Puncturation of disc very fine, regular, on slope distinctly finer than in anterior half of disc, hardly visible, in sutural half of disc finer than in lateral part



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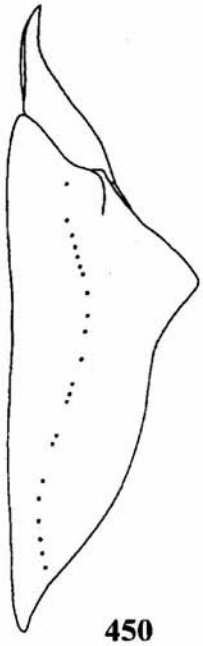

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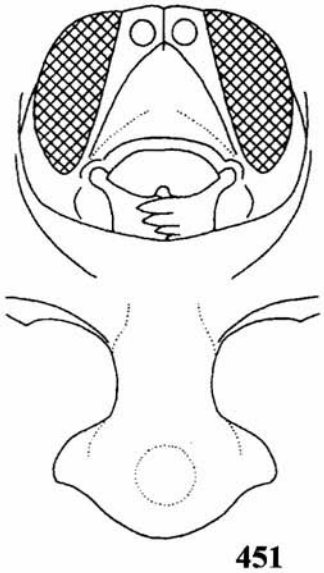

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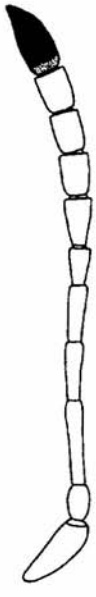

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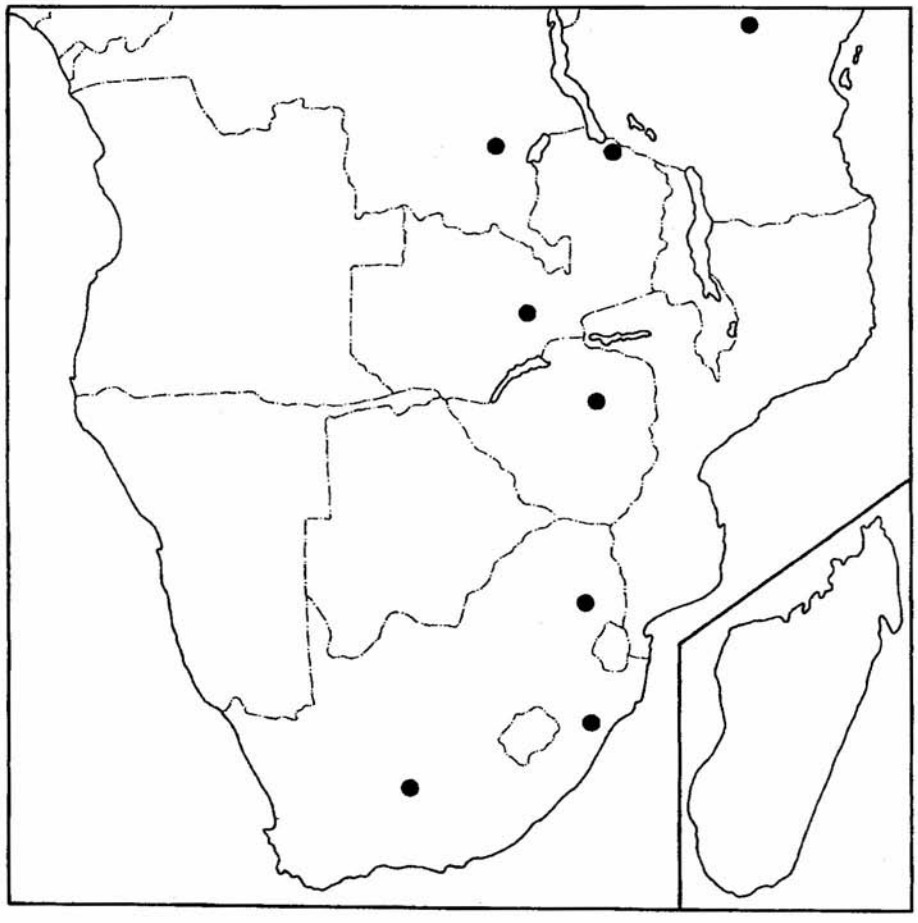
454

449-454. *Aspidimorpha dilecta*: 449 - body in dorsal view, 450 - body in profile, 451 – head and prosternum, 452 – antenna, 453 – inner side of claw, 454 – outer side of claw

of disc. Scutellar row with 4-5 punctures. Punctures in rows sparse, disposed almost regularly, distance between punctures or their groups two to four times larger than puncture diameter. Rows not impressed, surface of disc regular. Punctures in marginal row deep, c. three to four times larger than in central rows. Intervals flat, in sutural half five to six, in lateral half two to three times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, subhorizontal, forms a very shallow gutter, impunctate, its surface smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus c. 1.4 times wider than long (fig. 451), glabrous, slightly elevated before antennal insertions, without median impression. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 452), extending to mid coxa, length ratio of antennal segments: 100:46:110:67:63:50:67:47:56:54:100.



455. Distribution of *Aspidimorpha dilecta*

Claws pectinate on both sides, inner pecten moderately long, with three teeth extending 1/3 length of claw, two external teeth equal in length, internal slightly shorter (fig. 453). Outer pecten with two teeth, c. twice shorter than in inner pecten (fig. 454).

Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

S Zaire, Zambia, Zimbabwe and South Africa (fig. 455). Record from Tanzania is doubtful (SPAETH 1924: 288), probably based on misidentified specimen of *A. submutata* with reduced humeral spot.

REMARKS

It belongs to the *mutata* species group. It is one of the largest species of the group, with large conical postscutellar tubercle. A similar postscutellar tubercle is present also in *A. laevigata*, *A. vernicata*, *A. submutata*, *A. obtusangula*, *A. muehlei*, *A. splendidula*, *A. semiramosa* and *A. togoensis*. The first seven species differ in the presence spots of explanate margin of elytra (humeral or posterolateral or both humeral and posterolateral). Sometimes *A. submutata* has reduced humeral spots. Such coloured specimens are very similar to *A. dilecta* and differs mostly in darker, testaceous groundcolour of elytra (in *dilecta* pale yellow). *A. togoensis* like *A. dilecta* have always reduced spots of explanate margin. Both species have a pale yellow ground colour of pronotum and elytra. *A. dilecta* is larger (Le 8.2-9.9 mm, in *togoensis* 7.3-8.0), slightly stouter, with slightly larger postscutellar tubercle and usually black last antennal segment (in *togoensis* at most apex of last segment is infuscate). Both species are mostly separated geographically, *A. togoensis* has a more northern and western distribution (see figs 455 and 1117), only in SE Zaire both are sympatric. Specimens from northern part of the distribution range are slightly smaller than those from southern part of the range, especially syntypes of *A. fragilis* represent the series of the largest members of the species.

MATERIAL EXAMINED

SOUTH AFRICA: Natal, Malvern, XII 1898, 1 (DNSM); Pt. Nat., 1, holotype of *A. dilecta*, NRS); South Africa, 1, CHAPUIS (IRSN); Three Sisters, 15 II 1911, 1 (LB); Transvaal, Lydenburg, 1 (LB); Zululand, Mfongosi, II 1923, 1, M. JONES (CTM).

ZAIRE: Upemba Nat. Park, Lusinga, 1760 m, 15 IV 1947, 1, G.F. DE WITTE (MRAC).

ZAMBIA: Kashitu, N of Broken Hills, I 1915, 1 (LB).

ZIMBABWE: Zambezi, Mazoe, 1895, 1, DARLING (CTM).

VARIA: Zambesi, 10 (lectotype and paralectotypes of *Aspidomorpha fragilis*, ZMHU).

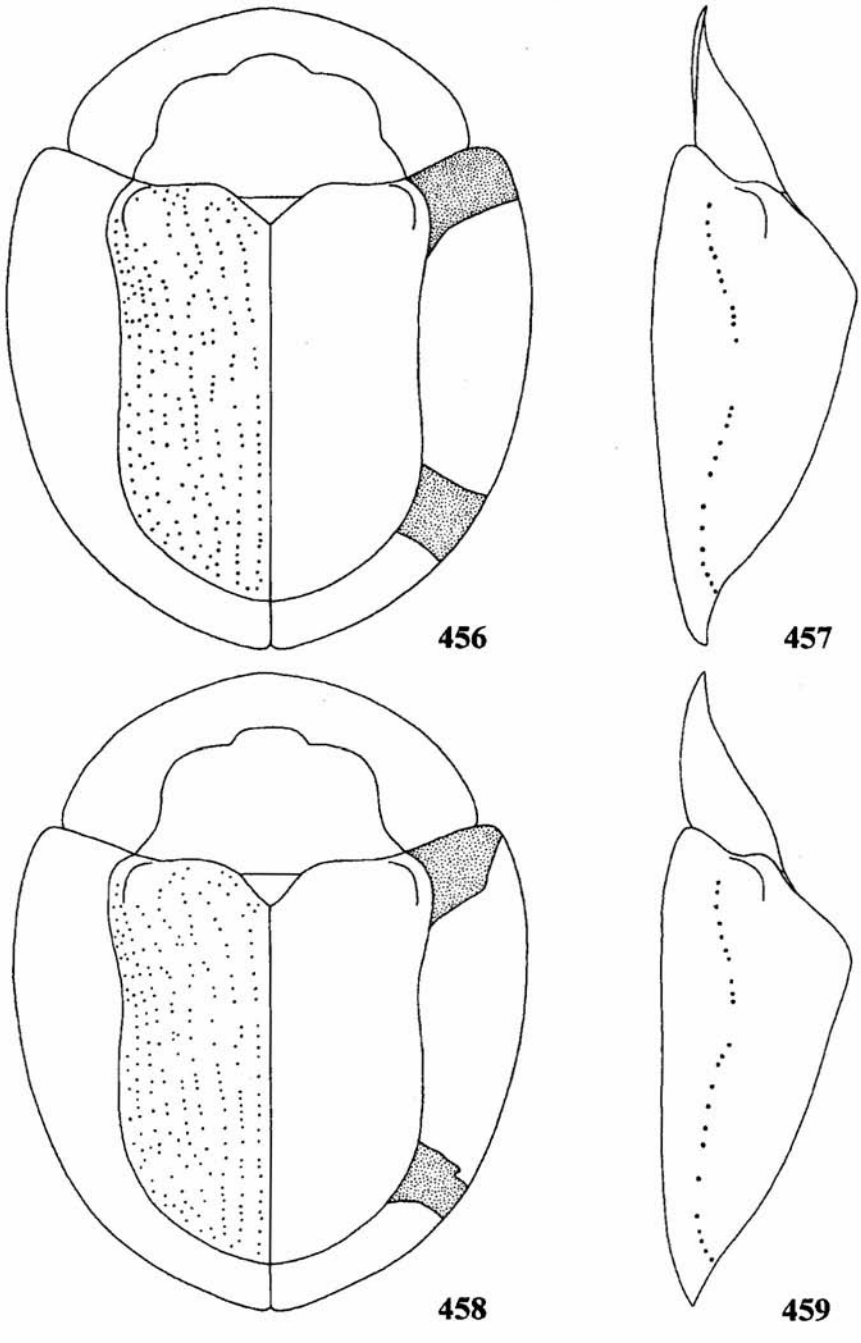
Aspidimorpha (s. str.) *dissentanea* BOHEMAN, 1862

Aspidomorpha dissentanea BOHEMAN, 1862: 264 (LT in NRS); SPAETH, 1903: 174; 1916 b: 40, 1924: 284, 1925: 2; 1929: 159; SHAW, 1956 b: 593; 1968 a: 369, 1972: 61; JOLIVET, 1957: 50; BOROWIEC, 1985 a: 234; 1986: 799.
Aspidomorpha (Aspidomorpha) dissentanea: SPAETH, 1914: 75.
Aspidimorpha insculpta BOHEMAN, 1862: 263 (HT in NRS); SPAETH, 1914: 75, **n. syn.**
Aspidomorpha burgeoni SPAETH, 1932 b: 9 (LT and PLT in MRAC, PLT in MM).
Aspidomorpha icterica ab. *burgeoni*: SHAW, 1961: 13, 1968 b: 781.
Aspidomorpha icterica: SPAETH, 1932 b: 12; 1943: 52; SHAW, 1955: 234; 1961: 13; 1963: 459; 1968 b: 780; BOROWIEC, 1985 a: 235 (misidentifications).
Aspidomorpha (Aspidomorpha) icterica: SPAETH, 1914 b: 75.
Aspidomorpha icterica ab. *absiliens* SPAETH, 1932 b: 13 (ST in MM, MRAC).

DESCRIPTION

Le: male: 7.2-9.7 mm, female: 8.0-10.0 mm, Wi: male: 6.2-9.0 mm, female: 6.8-8.5 mm, Lp: male: 2.3-2.8 mm, female: 2.5-2.9 mm, Wp: male: 5.2-6.0 mm, female: 5.2-6.1 mm, Ex: male: 1.3-2.2 mm, female: 1.5-1.7 mm, Wd: male: 3.4-4.6 mm, female: 3.6-4.7 mm; Le/Wi ratio: male: 1.08-1.16, female: 1.18-1.26, Wi/Wp: male: 1.29-1.50, female: 1.24-1.39, Wp/Lp: male: 2.00-2.14, female: 2.07-2.10. Body short-oval (figs 456, 458, 464, 470).

Extremely variable species, with many local and geographic forms (figs 476-493). Pronotum usually uniformly yellow. Elytra yellow, usually with variable pattern. The palest specimens are uniformly yellow to argillaceous, with punctures darker yellow-brown, explanate margin with large paler yellow "window", without spots. Common form is also almost uniformly yellow to argillaceous with moderately broad, argillaceous humeral and posterolateral spot, and very narrow sutural spot (= *dissentanea*); also common is dark form with elytral disc mostly brownish-black with yellow basal margin, scutellar area and few yellow spots along suture, explanate margin with broad, brownish-black humeral, posterolateral and sutural spots. The darkest form has pronotal disc yellow-brown, elytral disc uniformly brown and explanate margin chocolate-brown with large, yellow "window" (= *dispilota* sensu SPAETH). In intermediate forms pattern is mixed reddish-brown or brown and yellow. In rare forms humeral spot of explanate margin is diagonal and posterolateral spots are completely reduced (= *absiliens*). In all forms punctures are usually darker coloured than neighbouring surface. Scutellum yellow, only in the darkest form brown. Clypeus yellow. Ventrites usually uniformly yellow, often pro- and mesosternum and metasternum except sides black. Abdomen usually yellow, sometimes each sternite in the middle with a pair of brown to black spots, only in the darkest specimens the spots partly coalescent, especially on second and third sternite. No correlation between dorsal and ventral pattern was observed, and specimens mostly dark dorsally have often uniformly yellow ventrites, while specimens uniformly yellow dorsally often have sterna mostly black. Antennae yellow, usually two last segments mostly brown to black, occasionally segment 10 completely or mostly yellow and only slightly infuscate apically. Legs including coxae yellow. The colour pattern is usually not correlated geographically and in the same population all forms have

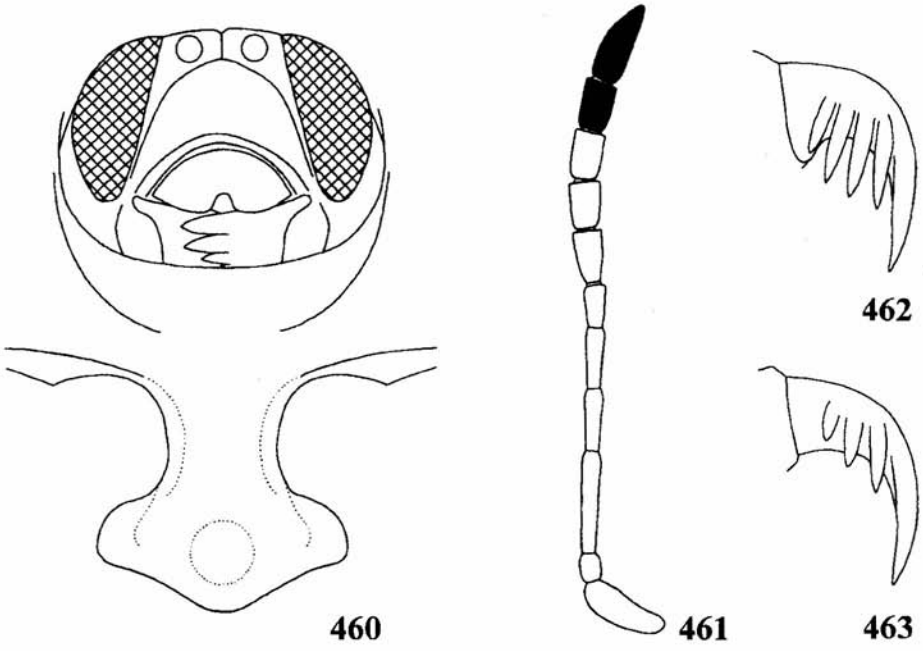


456-459. *Aspidimorpha dissentanea*, typical form from central Africa: 456, 458 - body in dorsal view, 457, 459 - body in profile

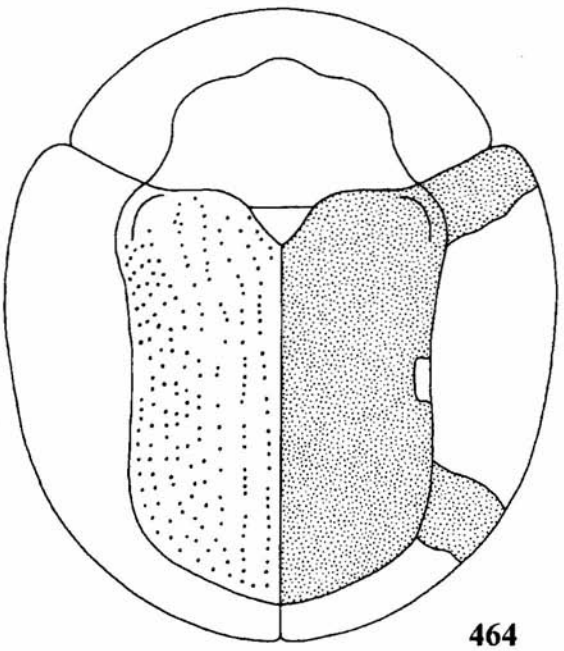
been observed but in western part of the distribution range dark forms are more common than in the eastern part, typical form is especially common in central part of Cameroon and Republic of Central Africa, forms with reduced spots of explanate margin are more common in eastern Zaire than in western part of the range.

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, moderately wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, moderately (fig. 465) to strongly angulate in postscutellar point (figs 457, 459), in extreme forms angulation forms a distinct postscutellar tubercle (= *burgeoni*, fig. 471). Populations with extremely high tubercles have been observed in Cameroon and Ituri Region of eastern Zaire, specimens with the lowest angulation occur in N Angola, but are observed also in populations from western and central Zaire. Elytral profile behind top of convexity straight in specimens with moderate angulation, concave in specimens with large postscutellar tubercle. Disc with small but distinct principal impression, very shallow scutellar impressions, only in specimens with large postscutellar tubercle they are moderate, but usually without posterolateral impression or it is shallow. Surface of disc usually uneven,



460-463. *Aspidimorpha dissentanea*, typical form from central Africa: 460 – head and prosternum, 461 – antenna, 462 – inner side of claw, 463 – outer side of claw



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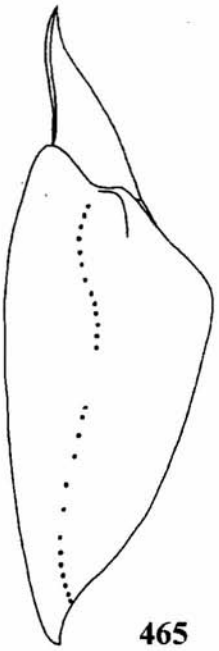

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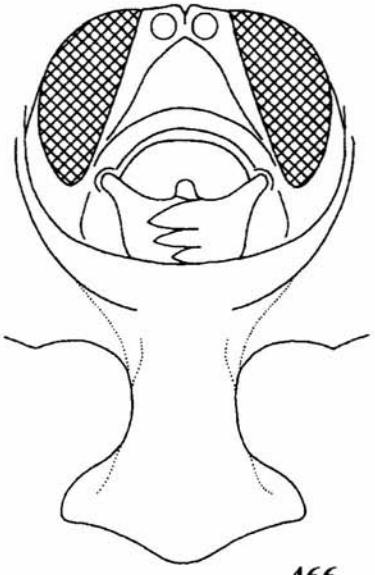

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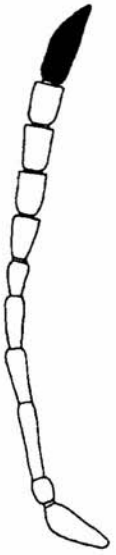

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464-469. *Aspidimorpha dissentanea*, form from Angola: 464 - body in dorsal view, 465 - body in profile, 466 – head and prosternum, 467 – antenna, 468 – inner side of claw, 469 – outer side of claw

especially on sides, in extreme cases appears irregular to slightly rugose, but sometimes is almost even, without folds or impressions. Puncturation of disc fine, regular, on slope not finer than in anterior half of disc, in sutural half of disc not or slightly, at most twice smaller than in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-4 together, distance between punctures or their groups three to five times larger than puncture diameter. Punctures in marginal row deep, only twice larger than in central rows. Intervals flat, in sutural half four to six times, in lateral half thrice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low to moderate. Explanate margin very broad, moderately declivous, does not form a gutter, impunctate, dark spots sometimes with shallow, irregular punctures, their surface smooth and shiny. Elytral epipleura bare in both sexes.

Head broad, clypeus c. 1.8 -1.9 times wider than long (figs 460, 466, 472), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4-1/3 length. Antennae moderately elongate (figs 461, 467, 473), extending to mid coxa, length ratio of antennal segments: 100:42:124:76:73:50:69:62:65:63:122.

Claws pectinate on both sides, inner pecten very long, with three to four teeth extending to 2/3-3/4 length of claw (figs 462, 468, 474), outer pecten usually with three teeth, two external equal in length, c. twice shorter than those of inner pecten, internal tooth slightly shorter (figs 463, 469, 475).

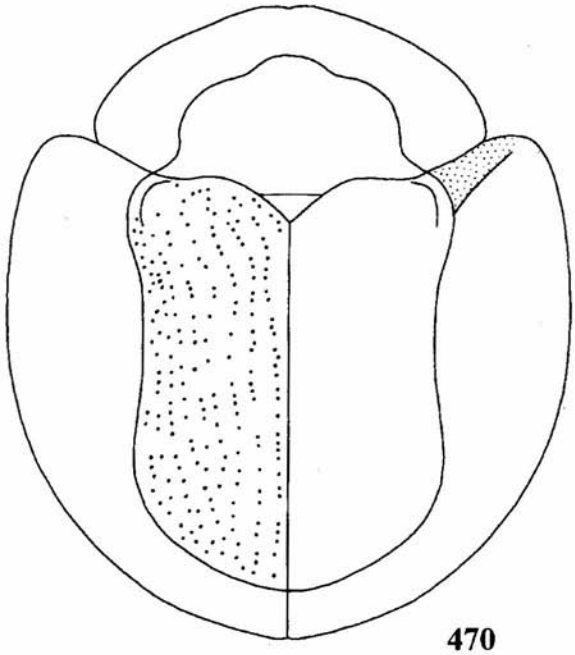
Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

Mostly West and Central African species south to Malawi and Angola. Few records from eastern Africa are limited to relict forest localities, mostly in the mountains (fig. 494).

REMARKS

It is one of the most common and most variable African members of the genus *Aspidimorpha*. It belongs to the *dissentanea* species group, but some specimens can be confused with some members of *isparetta*, *tanganikana* and *quadriramosa* groups. Typical specimens with moderate elytral angulation are especially similar to *A. equatoriensis*, but the latter differs in slightly smaller body and less angulate elytral disc, both species are mostly separated geographically. In the area of sympatry specimens of *A. dissentanea* are always more angulate than specimens of *A. equatoriensis*, but populations of *A. dissentanea* from the western part of the range, especially from Angola and SW Zaire are extremely similar to specimens of *A. equatoriensis* and unlabelled specimens are impossible to identify correctly. *A. madagascarica* is also very similar but it is usually larger and slimmer, only small male specimens are difficult to identify. They usually differ in less declivous explanate margin of elytra. Both species are partly separated geographically. *A. infuscata* is also similar, especially to pale



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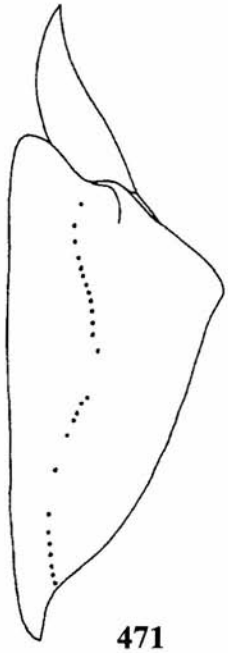

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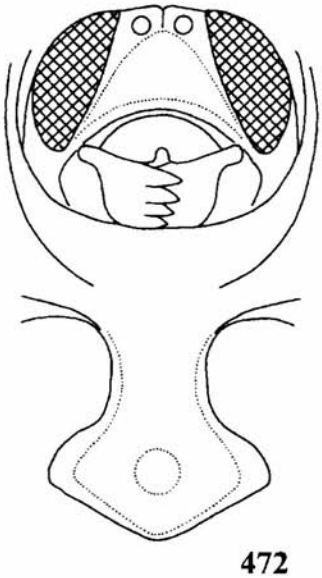

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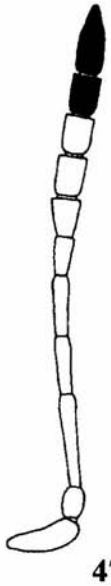

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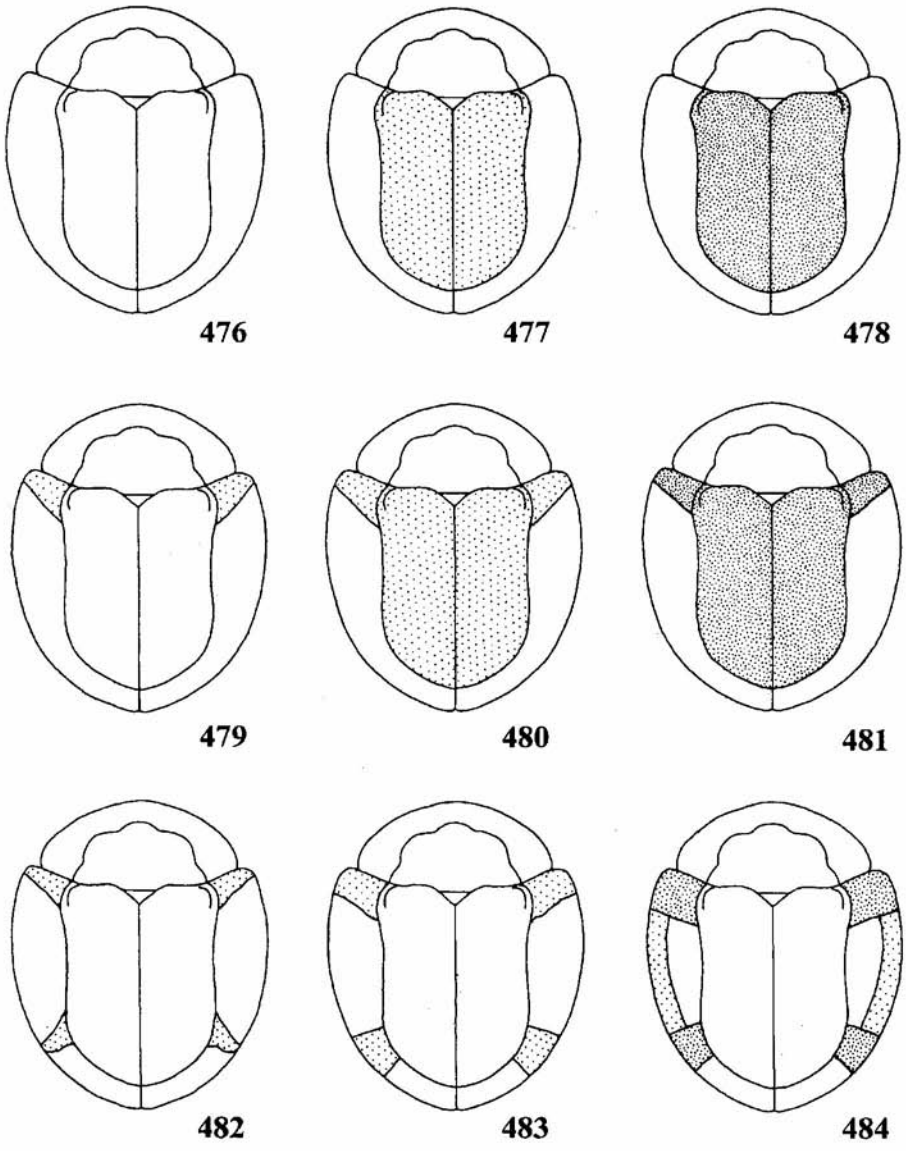
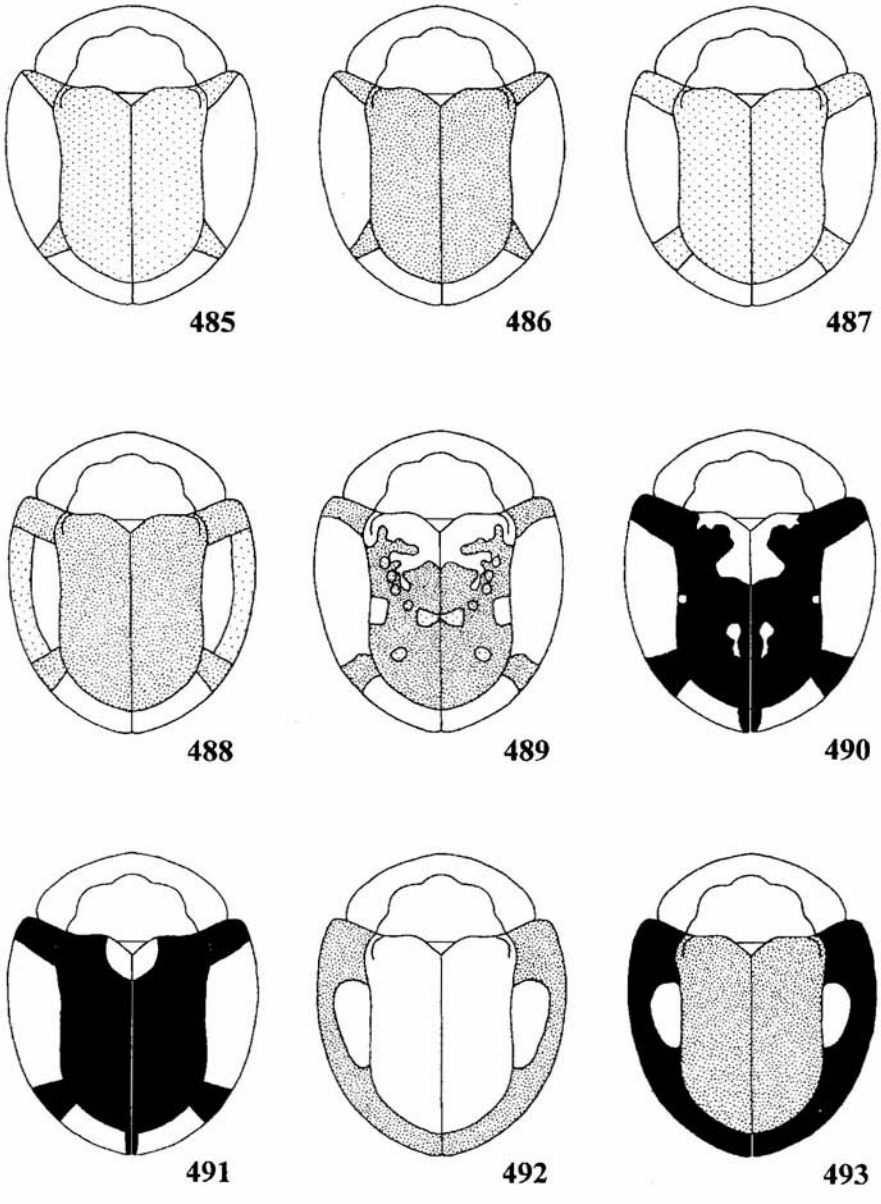
470-475. *Aspidimorpha dissentanea*, form *burgeoni* from Zaire: 470 - body in dorsal view, 471 - body in profile, 472 – head and prosternum, 473 – antenna, 474 – inner side of claw, 475 – outer side of claw

specimens of *A. dissentanea*, but *infuscata* is usually larger, with more angulate elytral disc, elytral pattern pale and quite constant. It is distributed mostly in mountain regions of East Africa and mostly allopatric with *A. dissentanea*. The last African member of the *dissentanea* group, *A. mombonensis* distinctly differs in almost circular body with base of elytra not or only slightly wider than base of



476-484. *Aspidimorpha dissentanea*, variation of dorsal maculation

pronotum (in *dissentanea* base of elytra is at least moderately wider than base of pronotum). Small, less angulate specimens of *A. dissentanea* are also similar to *A. isparetta* and *A. icterica* of the *isparetta* group. Elytral disc in both the latter species is more regularly convex than in *A. dissentanea*, female has pubescent apex of elytral epipleura (bare in *dissentanea*). Specimens of *A. tanganikana* are



485-493. *Aspidimorpha dissentanea*, variation of dorsal maculation (continuation)

similar to males of *A. dissentanea* but differ in green groundcolour of elytra, pattern reduced to dark punctures, and elytral surface completely regular (in *dissentanea* elytral surface is always slightly irregular, especially on sides of disc). Specimens of *burgeoni* form with conical postscutellar tubercle are similar to *A. quadriramosa* but the latter species is more circular with base of elytra distinctly wider than base of pronotum.

Based on types *A. insculpta* is just a synonym of *A. dissentanea*. Though *A. insculpta* was described one page before the description of *A. dissentanea*, I prefer the latter name because it was commonly used by numerous authors, while the name *A. insculpta* had been forgotten.

MATERIAL EXAMINED

ANGOLA: Cabinda, Landana, 2, L. PETIT (IRSN); Luanda, 1965, 19, Mme GIRAUDET (MRAC); Lunda Distr., 1200 m, 1927, 1, P. A. NENNINGS (ITZ).

BENIN: Athième, 1 (IRSN); Dahomey, 1 (IRSN); Mars, 1, LE MOULT (IRSN); Zagnanado, 1 (IRSN).

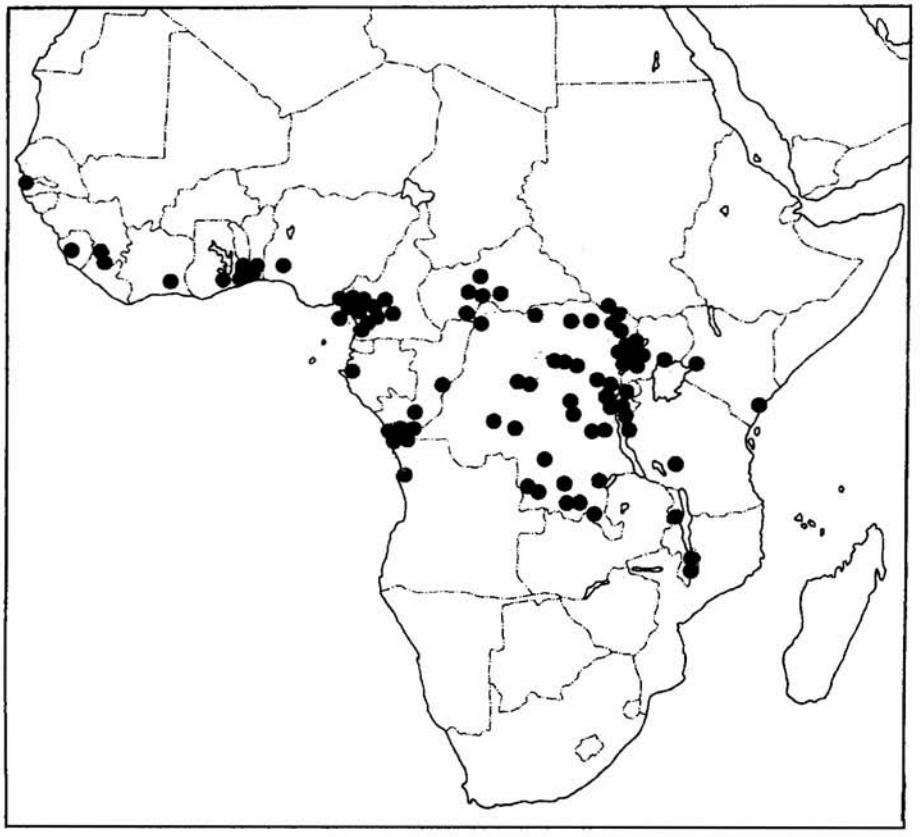
BURUNDI: Bujumbura, V 1969, 1, R.P. GIRAUDIN (MRAC); Bururi, 1 (MRAC).

CAMEROON: Abas, V 1922, 1 (CMNH); Bamum, 1 (HNHM); Bapey, 3 III 1906, 1, GLAUNING (ZMHU); Barombi, 1, PREUSS (ZMHU); Batanga, 1 (MRAC), I 1911, 4, VI 1911, 2, 30 VI 1911, 1; A.I. GOOD (CMNH), IV 1914, 4, F.H. HOPE (CMNH); Bendiba, Betare-Oya, 19-22 VII 1949, 2, B. MALKIN (CAS); Bipindi, XI 1898, 1, G. ZENKER (ZMHU), 1-15 II 1908, 1, G. TESSMANN (ZMHU); Boma, 1891, 2, M. TSCHOFFEN (ER); Borombi St., 1, ZENNER (ZMHU); Dengdeng, Godje, 11-26 III 1914, 1, MILDBRAED (ZMHU); Doumé, III 1960, 1 (MRAC); Duala, 1 (ZMHU), 3 (IRSN), 3, LENCSZ (MRAC), 5, J. CANTALOUBE (MRAC); IX 1912, 1, v. ROTHKIRCH (ZMHU); Ebolowa, 5 V 1912, 1, v. ROTHKIRCH (ZMHU); Edea, 28 VIII 1922, 1, 4 IX 1922, 1, J.A. REIS (CMNH); Efulen, III 1910, 1, I 1911, 8, IX 1912, 3, XI 1912, 8, J.A. REIS (CMNH), II 1910, 1, 1 I 1918, 1, 13 XI 1920, 1, 22 XI 1920, 1, 10 III 1921, 1, 23 III 1921, 1, VI 1922, 1, 3 VI 1922, 3, H.L. WEBER (CMNH); Ekok, 4 (ZMHU); Faradje, Gaduma Mola, 13 III 1930, 1, A. COLLART (IRSN); Isongo, 27 II-7 III 1938, 1, EISENTRANT (ZMHU); Jaunde, 1950, 1 (MRAC), 4 V 1897, 2, v. CARNAP (IRSN), X 1923, 3 (IRSN); Joh.-Albrechtshöhe, 14 IX-6 X 1898, 1, L. CONRADT (ZMHU); Joko, 5 (HNHM), 7 (ZMHU), 1 (syntype of *A. icterica* ab. *absiliens*, MM), I 1957, 7, J. CANTALOUBE (MRAC); Kumba, 230 m, 12 II 1967, 2, W. HARTWIG (MKB); Lolodorf, III 1911, 5, A.I. GOOD (CMNH), III 1914, 1, V 1914, 1, 24 V 1914, 1, VI 1914, 1, 19 XI 1914, 1, 27 XI 1914, 1, 7 II 1918, 1, 30 I 1919, 2, J.A. REIS (CMNH); Mabete, Victoria, 24 V -7 VI 1949, 1, B. MALKIN (CAS), VII-VIII 1949, 1, S. TITA (CAS); Malenge-Banga, 125 m, 5-20 XII 1957, 3, H. KNORR (SMNS); Masna, Lubutu, 12 IX 1929, 1, A. COLLART (IRSN); Matenda, Bubunde, 22 IX 1929, 2, A. COLLART (IRSN); Mokundange, 1-15 VI 1905, 1, G. TESSMANN (ZMHU); Moliwe, 13 IV 1938, 1, BÜHR (ZMHU); Moliwe n. Victoria, 18-30 XI 1907, 1, 17 I-7 III 1908, 1, F. v.MALTZAN (ZMHU); Mont Balmayo, 1, BARGA (MRAC); Mont Cameroon, Buea, 13-17 V 1949, 2, B. MALKIN (CAS); Muëli, 600 m, 27 II 1958, 1, H. KNORR

(ZSM), 600 m, II 1958, 1, W. HARTWIG (MKB); Mukonje n. Kumba, 23-25 II 1938, 3, EISENTRANT (ZMHU); Mukonje Farm, 1, R. Rhode (IRSN); Mundame, 3 (IRSN); Ndjole, XI-XII 1902, 1, L. FEA (MCSNG); Nssanakang, 6, A. DIEHL (ZMHU); Oberssanga, Gadsa, 14-17 II 1914, 1, TESSMANN (ZMHU); Arr. Okola, Etoud r. Méfou, 17 II 1963, 1 (ZSM); Oku See, 24 I 1967, 1, W. HARTWIG (MKB); Pipinde, 12, ZENKER (ZMHU); Sappo n. Buea, III 1951, 4, IV-V 1951, 2, S. TITA (CAS); Sasse near Buea, II 1951, 4, S. TITA (CAS); Sasse-Sappo, 22-26 II 1952, 2, S. TITA (CAS); Sasse-Sappo-Buea, III 1952, 4, S. TITA (CAS); Victoria, 1, PREUSS (ZMHU); Wum, 6 IX 1907, 1, GLAUNING (ZMHU).

EQUATORIAL GUINEA: Feranndo Poo, IV 1900, 5 (ZMHU), 29 IV-10 VIII 1890, 2, VI 1900, 1, L. CONRADT (ZMHU); Fernando Poo, Santa Isabel, 22 V-7 VI 1900, 5, L. CONRADT (ZMHU).

GABON: Bas-Ogoué, 1 (IRSN); Gabon, 7 (IRSN); Ogowe, 1, DUVIVIER (IRSN), 4, M. SCHMIDT (ZMHU); Ogové R., Kangvé, 11, A.C. GOOD (CMNH).



494. Distribution of *Aspidimorpha dissentanea*

GAMBIA: Bathurst, I 1968, 1, T. PALM (LU).

GHANA: Busua, 26 VIII 1961, 1, S. ENDRÖDY-YOUNGA (HNHM); Mpraeso, 500 m, 3 IX 1966, 1, E.S. ROSS and K. LORENZEN (CAS).

GUINEA: Equat., Mico, 12 VII 1989, 1, M. ALDERWEIRELDT (MRAC).

IVORY COAST: Dimbokro, 3 (IRSN); Kossou, 14 V 1974, 1, R. JOCQUÉ (MRAC).

KENYA: Kisumu, 2 VI 1975, 1, H. GØNGET (ZMC); Malindi, Gedi Forest, IV 1973, 3, H. GØNGET (ZMC); Mumias, Kisumu Rd., 25-26 VI 1911, 1, S.A. NEAVE (BMNH).

LIBERIA: 20 mls S of Voinjama, 13 VIII 1966, 1, E.S. ROSS and K. LORENZEN (CAS); 8 mls NW of Zorzor, 12 VIII 1966, 1, E.S. Ross and K. LORENZEN (CAS).

MALAWI: Chintheche, 1 XII 1977, 1, R. JOCQUÉ (MRAC); Mlanje, 29 IV 1913, 1, S.A. NEAVE (BMNH); Port Johnston, Nyassaland, I-II 1896, 1, P. RENDALL (MCZC); Zomba, Upp. Shire R., 3000 ft., X-XII 1895, 10, P. RENDALL (MCZC).

NIGERIA: Ogbomosho Prov., Oyo, 12 XII 1948, 1, B. MALKIN (CAS).

REPUBLIC OF CENTRAL AFRICA: Bambari, 1968, 1, G. PIERRARD (MRAC); Fort Crampel, 17 (IRSN); Fort Sibut, Oubanchi-Chari, 1 (IRSN).

REPUBLIC OF CONGO: Kindamba, Meya, 11 XI 1963, 1, S. ENDRÖDY-YOUNGA (HNHM); Mossaka, V 1980, 2, ONORE (OSU).

RWANDA: Kiboga, S. Bishoke, 2400 m, 16-19 II 1935, 1, G.F. DE WITTE (IRSN).

SIERRA LEONE: Mayamba, 2 (IRSN).

TANZANIA: Njam-Njam, Semnio, 2, Bohndorff (ZMHU); Udjidji, 27 VIII 1897, 1 (ZMHU).

TOGO: Bismarckburg, 1, L. CONRADT (ZMHU), 1-15 III 1891, 2, R. BÜTTNER (ZMHU), 20-27 III 1933, 1, L. CONRADT (ZMHU); Misahöhe, IV 1894, 4, E. BAUMANN (ZMHU); Missahoué, 650 m, VI 1963, 1, Y. SCHACH (MRAC).

UGANDA: Budongo Forest, 27-28 VIII 1971, 3, H. GØNGET (ZMC); Daro Forest, Toro, 4000-4500 ft., 25-29 X 1911, 1, S.A. NEAVE (BMNH); Fort Portal, 15 km E Sebitoli, 1400 m, 23 XI-5 XII 1994, 10, M. SNIZEK (MS, LB); Kampala, 24 I 1897, 1, Dr. ANSORGE (MCZC); Masindi Distr., Budongo Forest n. Sonso, 1°45»N, 31°35'E, 19-30 VI 1995, 2, 11-20 VI 1995, 2, T. WAGNER (TW, LB).

ZAIRE: Albert Nat. Park, Massif Ruwenzori, riv. Lume, affl. Semliki, 1830 m, 29 VIII 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Massif Ruwenzori, riv. Talya, affl. dr. Lume, 1600 m, 2 XII 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mont Hoyo, riv. Kofuhola, affl. Kalakala, 1285 m, 25 VII-10 VIII 1955, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mont Hoyo, riv. Yolohafiri, 1030 m, 19-20 VII 1955, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mutsora, 1939, 19, HACKARS (MRAC); Albert Nat. Park, Reg. Oycha, 1100 m, IV-V 1950, 1, J. DE WILDE (MRAC); Albert Nat. Park, Ruwenzori, Mutawanga, 1000-1300 m, X 1936, 2, XI 1936, 1, II-III 1937, 17, XI 1936-II 1937, 5, HACKARS (MRAC); Albert Nat. Park, Plaine Semliki, IV-X 1937, 3, HACKARS (MRAC); Albert Nat. Park, Secteur Nord, riv. Byangolo, affl. g. Djilube, 1320 m, 19 IX 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur

Nord, riv. Katamongu, affl. g. Butahu, 1360 m, 16 IX 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Lesse, affl. g. Semliki, 695 m, 9 VII 1957, 3, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Lume, affl. Semliki, 1830 m, 29 VIII 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Mukandwe, affl. dr. Talya, 1140 m, 20 V 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Ngokoi, affl. Talya, 1100 m, 27 V 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Talya, affl. dr. Lume, 1600 m, 2 XII 1957, 1, P. VANSCHUYTBROECK (MRAC); SW Albert-See, Mboga, III 1908, 1, A. HERZOG (ZMHU); W Albert-See, Route Mawambi, Awakubi, Aruwimi, 20 IV 1908, 2, A. HERZOG (ZMHU); W Albert-See, Mawambi n. Ituri, IV 1908, 2, A. HERZOG (ZMHU); N Albert-Edward-see, Ruwenzori, 8 II 1908, 2, A. HERZOG (ZMHU); W Albert-Njansa, Ituri-Fahre, 24 VIII 1891, 1, STUHLMANN (ZMHU); Bambesa, IV 1937, 1, 3 VI 1937, 1, 10 VI 1937, 3, 17 VI 1937, 1, 13-14 VII 1937, 1, 26 VIII 1937, 6, 11 IX 1937, 1, 18 IX 1937, 1, 5 XI 1937, 1, 2 III 1939, 1, J.M. VRIJDAGH (IRSN); Banana, 1, F. BUSSCHODTS (IRSN); Banana-Boma, 1891, 4, M. TSCHOFFEN (IRSN); Banga Manteke, 1, A.L. BAIN (CMNH); Beni, 1150 m, 7 XI 1931, 1, L. LEBRUN (MRAC); Beni Forest, X 1910, 2, GRAUER (NMW); Birungo, 3200 ft., 10 VII 1924, 1, H. VAN MOLL (ITZ); Biruwe-Buhunde, 17 IX 1929, 2, A. COLLART (IRSN); Bobende, 14 I 1928, 2, A. COLLART (IRSN); Boma, 36, M. TSCHOFFEN (IRSN), 1891, 103, M. TSCHOFFEN (IRSN); Bomokandi, 26 XI-6 XII 1925, 1, Prince LEOPOLD (IRSN); Bopoto, 1 (MCZC); Buhunde-Matenda, 21 IX 1929, 1, A. COLLART (IRSN); Buhunde-Okondo, 17 IX 1929, 2, 18 IX 1929, 2, A. COLLART (IRSN); Bukama, VII 1938, 2, Lt MARÉE (MRAC); Bunyakiri, Kivu Distr., 1200 m, 20 XII 1957, 1, E.S. ROSS and R.E. LEECH (CAS); Chiloango, 1, M. TSCHOFFEN (IRSN); Doedoe, 20 VI 1924, 1, LAAN (ITZ); Elisabethville, 9 XI 1921, 1 (ITZ), I 1939, 1, H.J. BRÉDO (IRSN); Equateur, 2, VAN GELE (IRSN); Ikengi, 18 IX 1912, 3, R. MAYNÉ (MRAC); Irangi, Luhoho Riv., 900 m, 10 IX 1957, 2, E.S. ROSS and R.E. LEECH (CAS); Ituri, Beni, 1, L. BONNEVIE (MRAC); Ituri, La Moto, Madyu, 1, L. BURGEON (lectotype of *A. burgeoni*, present designation, MRAC); Ituri, Mont Hoyo, 1250 m, 2 X 1957, 1, E.S. ROSS and R.E. LEECH (CAS); Ituri, Nioka, VII 1934, 1, J. LEROY (MRAC); Kangu, Mayombe, 1, PEREGI (HNHM); Kasai, Luebo, XII 1958, 1, P. FRANCOIS (MRAC); Kasenyi, XII 1938, 1, 1, P. LEFÈVRE (MRAC); Kasongo, VIII-IX 1959, 1, IX 1959, 1, L.G. BENOIT (MRAC); Kassongo n. Stanleyville, 1, ROM (IRSN); Katanga, Kafakumba, 1 (IRSN); Katanga, Kakanda, Mutaka, 15 XII 1953-4 I 1954, 1, Th. DE CATERS (MRAC); Katanga, Luembe, VIII-IX 1956, 1, Th. DE CATERS (MRAC); Katanga, Mwera, 1956, 1, Th. DE CATERS (MRAC); Katanga, Sandoa, 20 III 1919, 1 (IRSN); Kibali, Ituri, Kilomines, V 1957, 2, C. SMOOR (MRAC); Kivu, Irangi, 26 I 1967, 1, 27 I 1967, 1, 28 I 1967, 1, Dr. JILLY (SMNS), 1-2 II 1986, 4, H. MÜHLE (MD), IX 1992, 2, H. HINKEL (TW); S Kivu, Irangi, 900 m, X 1993, 1, T. WAGNER (TW); Kivu, Kalehe Terr., Irangi, 7 X 1960, 1, LABOR and LELEUP (MRAC); Kivu, Lukando, Bunyakiri, 1959-60, 4, J. HECQ (MRAC); Kivu, Lwiro, 18 I 1967, 1, Dr. JILLY (SMNS); Kivu, Masa, Terr. Mwenga, 650 m, IV 1958, 1, N. LELEUP (MRAC); Kivu, Vall. de la Ruzizi, Kanambo, III 1959, 1, L.G. BENOIT (MRAC); Lelo, Sundi, Mayumbe, 26

X 1923, 1, A. COLLART (MRAC); Libenge, Mission Mawuya, 17 X 1947, 2, 19 X 1947, 1, 28 XI 1947, 1, R. CREMER and M. NEUMAN (IRSN); Lokandu, V-VI 1939, 2, Lt VISSERS (MRAC); Lokandu, Ile Biawa, V-VI 1939, 1, VIII 1939, 1, MARÉE (MRAC), XII 1939, 1, Lt VISSERS (MRAC); Lualaba, Kakande, Mutaka, III-VI 1954, 1, Th. DE CATERS (MRAC); Lualaba, Kolwezi, XII 1956, 2, V. ALLARD (MRAC); Lualaba, Ruwe, 30 VIII 1960, 1, V. ALLARD (MRAC); Lubutu-Masua, 8 IX 1929, 2, 10 IX 1929, 2, 11 IX 1929, 1, 26 IX 1929, 1, 11 X 1929, 1, A. COLLART (IRSN); Lubutu-Obongena, 7 IX 1929, 1, A. COLLART (IRSN); Luebo, IX 1921, 1, Dr. SCHOUTEDEN (syntype of *A. icterica* ab. *absiliens*, MM); Lulua, Kepaza, IV 1934, 1, F.G. OVERLAET (MRAC); Lulua, Tshiwana, XII 1933, 1, F.G. OVERLAET (MRAC); Mandimba-Uluku, 14 IX 1929, 1, A. COLLART (IRSN); Maniema, Terr. Kasongo, VIII-IX 1959, 1, 1960, 1, L.G. BENOIT (MRAC); Masua-Obongena, 8 IX 1929, 2, A. COLLART (IRSN) Mayumbe, Terr. Tshela, riv. Lubonga, VI 1958, 1, R. LAURENT (MRAC); Moera Forest, 1910, 2, GRAUER (NMW); Mongbwalu, 10 III 1939, 1, V 1939, 1, 20 V 1939, 1, A. LEPERSONNE (MRAC); Mongbwalu, Kilo, 1939, 1, SCHEITZ (MRAC); W Ruwenzoei, Beni, II 1908, 1, A. HERZOG (ZMHU); Samlia Fall, Riv. N'Gamie, 1, A. MOCQUERYS (IRSN); Seke, Banza, Mayumbe, 13 IV 1924, 1, A. COLLART (MRAC); Stanley Pool to Lukolele, 1894, 2, HARRISON (MCZC); Stanleyville, 1948, 1, L. SALATHIEL (MRAC), 18 II 1928, 1, 24 II 1928, 2, 15 III 1928, 1, 31 V 1929, 1, A. COLLART (IRSN); Stanleyville, Ongoka, riv. Lowa, IV-IX 1952, 2, J. PANTOS (MRAC); Tshuapa, Bamanya, 1964, 1, IV 1964, 1, VI 1964, 1, P. HULSATERT (MRAC); Tshuapa, Bokuma, II 1952, 1, III 1952, 1, VII 1952, 2, 1954, 2, III 1954, 1, R.P. LOOTENS (MRAC); Tshuapa, Ikela, 1955, 4, 1956, 7, X 1956, 9, XI 1956, 13, R.P. LOOTENS (MRAC); H Uele, Abimwa, V 1925, 1, L. BURGEON (paralectotype of *A. burgeoni*, present designation, MRAC); B Uele, Bambesa, 1937-1938, 7, J. VRYDAGH (MRAC); 12 IV 1957, 1 (FMNH); H Uele, Bunie, 29 X 1956, 1 (FMNH); Uele, Monga, 28 IV-8 V 1935, 1, F. G. DE WITTE (IRSN); H Uele, Moto, X-XI 1923, 1, L. BURGEON (paralectotype of *A. burgeoni*, MRAC); H Uele, Watsa, 1, BURGEON (paralectotype of *A. burgeoni*, present designation, MM); Uele, Yakuluku, IV 1927, 2, F.S. PATRIZI (MCSNG); Ukaika, XII 1910, 1, GRAUER (NMW); 39 km S of Walikale, 700 m, 25 XII 1957, 1, E.S. ROSS and R.E. LEECH (CAS); Wombali, VII 1913, 1, VANDERIJST (syntype of *A. icterica* ab. *absiliens*, MM); Yangambi, IV 1964, 1, M. PAVAN (MZSNV).

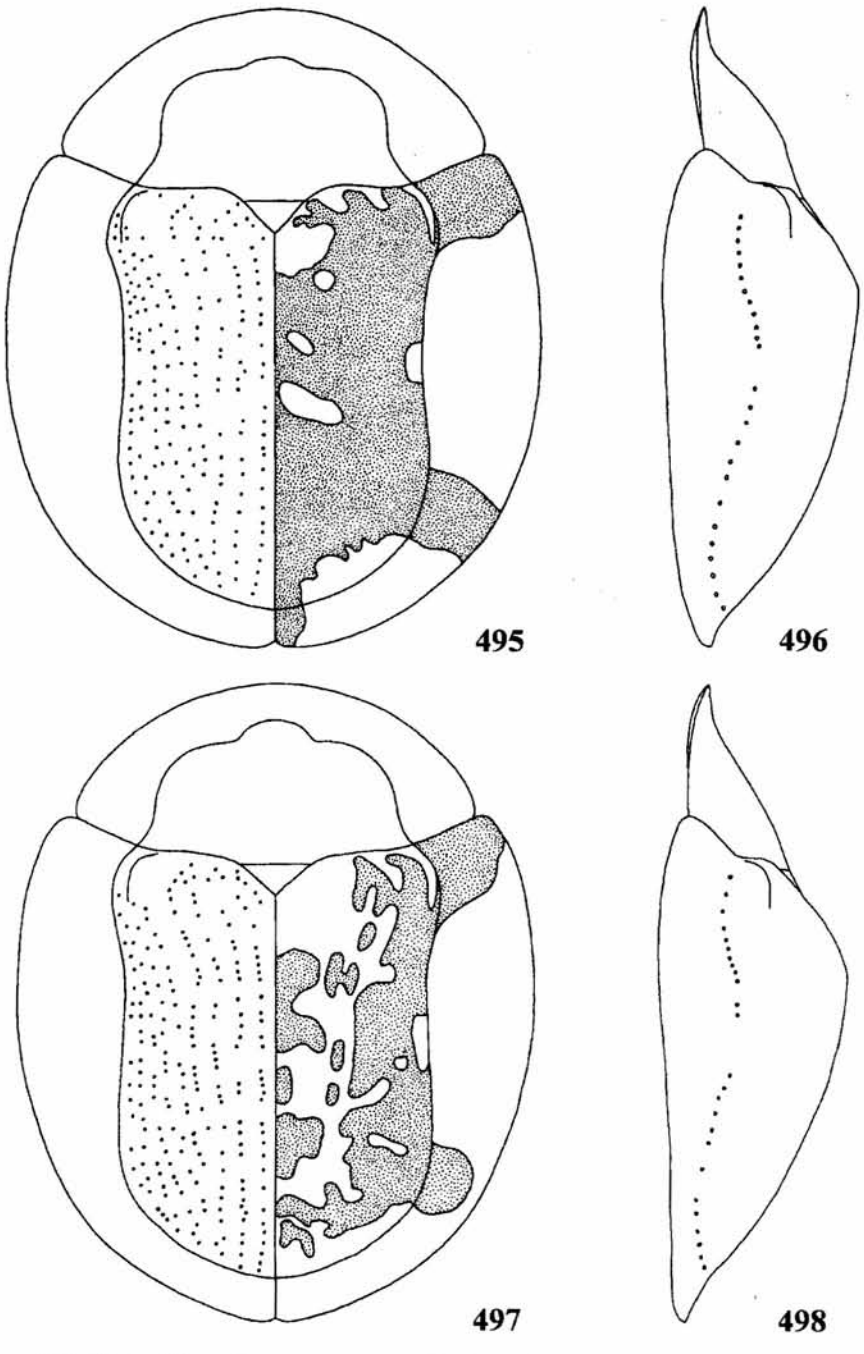
VARIA: Old Calabar, 1, "MURRAY" (lectotype of *Aspidomorpha dissentanea*, present designation, NRS), 1, Clark (NRS); Senegallia, 1 (holotype of *Aspidomorpha insculpta*, BM).

Aspidimorpha (s. str.) *equatoriensis* BOROWIEC, 1986

Aspidomorpha equatoriensis BOROWIEC, 1986: 799 (HT in ZMUH, PT in ZMUH, LB, ZMC).

DESCRIPTION

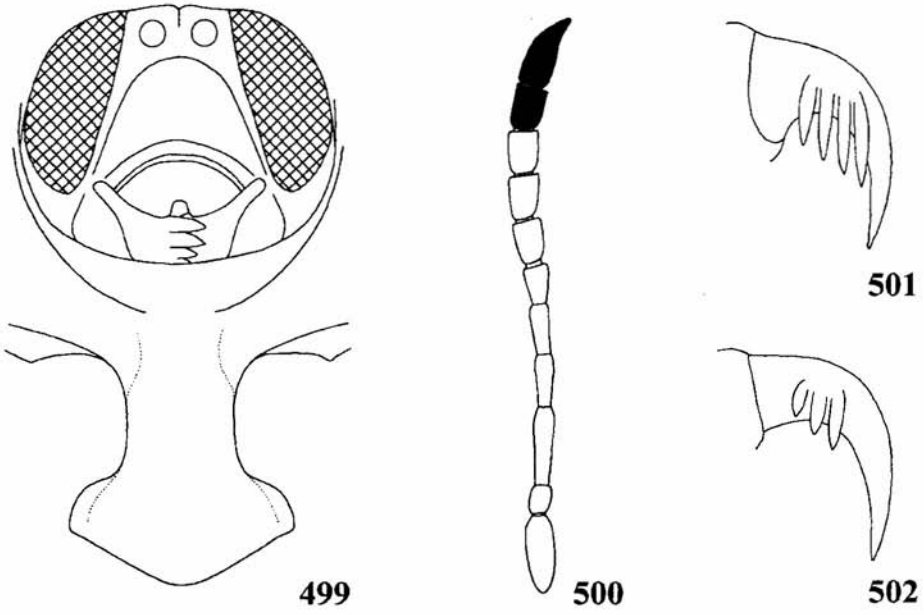
Le: male: 6.8-8.4 mm, female: 8.9-9.1 mm, Wi: male: 5.5-7.1 mm, female: 7.0-7.3 mm, Lp: male: 2.2-2.6 mm, female: 2.7-2.8 mm, Wp: male: 4.3-5.4 mm,



495-498. *Aspidimorpha equatoriensis*: 495, 497 - body in dorsal view, 496, 498 - body in profile, 495-496 - male, 497-498 - female

female: 5.5-5.6 mm, Ex: male: 1.2-1.7 mm, female: 1.3-1.5 mm, Wd: male: 3.2-3.9 mm, female: 4.2-4.3 mm; Le/Wi ratio: male: 1.18-1.32, female: 1.25-1.27, Wi/Wp: male: 1.18-1.34, female: 1.25-1.30, Wp/Lp: male: 1.95-2.08, female: 1.96-2.07. Body short-oval (figs 495, 497)

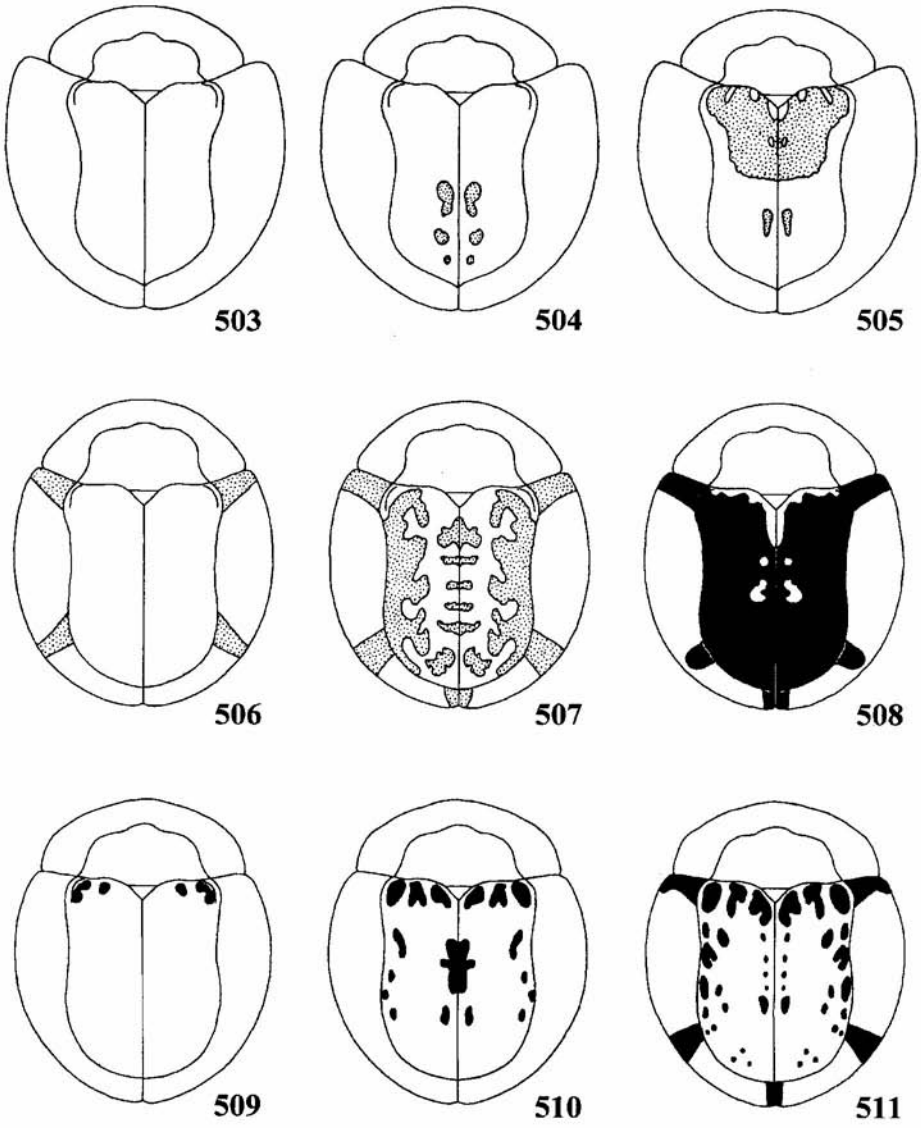
Pronotum uniformly yellow. Elytra yellow with variable pattern (figs 506-508). The palest specimens have elytral disc uniformly argillaceous, punctures with darker yellow-brown centre, explanate margin with moderately broad, argillaceous humeral and posterolateral spot, and very narrow sutural spot. The darkest form has elytral disc mostly brownish-black with yellow basal margin, scutellar area and few yellow spots along suture, explanate margin with broad, brownish-black humeral, posterolateral and sutural spots. In intermediate forms pattern is reddish-brown or brown, most common form has elytral disc with irregular band along sides and several small spots disposed irregularly on whole disc. In rare forms humeral spot of explanate margin is diagonal and posterolateral spots are mostly to completely reduced. In all forms punctures usually darker coloured than neighbouring surface. Scutellum in all forms yellow. Clypeus yellow, at most basal corners slightly infuscate. Pro- and mesosternum and metasternum except sides black. Abdomen usually mostly yellow, each sternite in the middle with a pair of brown to black spots, only in the darkest specimens the spots partly coalescent, especially on second and third sternite. Antennae yellow, usually two last segments mostly brown to black, occasionally segment 10 mostly yellow and only slightly infuscate apically. Legs including coxae yellow.



499-502. *Aspidimorpha equatoriensis*: 499 – head and prosternum, 500 – antenna, 501 – inner side of claw, 502 – outer side of claw

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, in forms from Ethiopia, Somalia and Sudan



503-511. Variation of dorsal maculation: 503-505 - *Aspidimorpha dilecta*, 506-508 - *A. equatoriensis*, 509-511 - *A. expansa*

indistinctly wider than base of pronotum, in specimens from western and southern part of range usually more distinctly wider than pronotum, especially in males, humeri rounded, elytral margins simple. Disc unevenly convex, moderately angulate in postscutellar point, straight behind top of the convexity (figs 496, 498), with small but distinct principal impression, very shallow scutellar impressions, but usually without posterolateral impression, or posterolateral part of disc is slightly impressed and irregular. Puncturation of disc fine, regular, on slope not smaller than in anterior half of disc, in sutural half of disc c. twice smaller than in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-4, distance between punctures or their groups three to five times larger than puncture diameter. Rows not impressed, surface of disc regular or only on sides slightly irregular. Punctures in marginal row deep, only twice larger than in central rows. Intervals flat, in sutural half five to six times, in lateral half thrice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral folds of marginal interval moderate. Explanate margin very broad, moderately declivous, does not form a gutter, its surface smooth and shiny, impunctate, only dark spots with shallow, irregular punctures. Elytral epipleura bare in both sexes.

Head broad, clypeus c. 1.8 -1.9 times wider than long (fig. 499), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4-1/3 length. Antennae moderately elongate (fig. 500), extending to mid coxa, length ratio of antennal segments: 100:42:122:77: 72:48:69:58:65:63:122.

Claws pectinate on both sides, inner pecten very long, with four teeth extending to 2/3-3/4 length of claw (fig. 501), outer pecten with two external teeth equal in length, c. twice shorter than those of inner pecten, internal tooth slightly shorter (fig. 502).

Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

Mostly northeastern part of tropical Africa, south to N Zaire and Uganda (fig. 512).

REMARKS

It is a member of the *dissentanea* group. Of all the species of the group it has the most north-eastern distribution. It is also the smallest species of the group, only small specimens of *A. dissentanea* have a similar size. Both species are vicariant and have also a narrow zone of sympatry. *A. equatoriensis* is less angulate (but allopatric populations of *dissentanea* from SW Zaire and Angola are as convex as *A. equatoriensis*) with surface of elytra more regular, on sides not or only slightly wrinkled. Males of *A. equatoriensis* are slimmer than males of *dissentanea* (Le/Wi ratio 1.18-1.32, in *dissentanea* 1.08-1.16), elytral pattern in *equatoriensis* is never as variable as in *dissentanea*. Other species of the group are distinctly larger or more angulate than *A. equatoriensis*.

MATERIAL EXAMINED

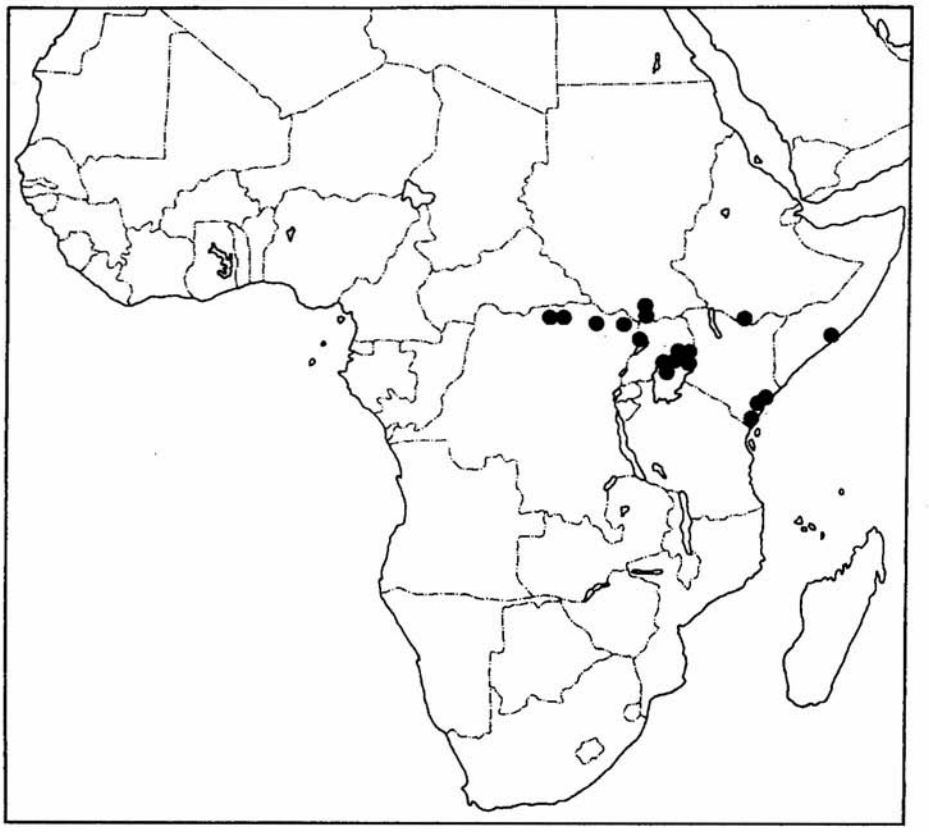
ETHIOPIA: Worlekan Limu, 1800 ft., 3 V 1905, 1, P.C. ZAPHIRO (BMNH).

KENYA: Malindi, Gedi Forest, V 1973, 6, H. GØNGET (paratypes, ZMK, LB); Shimba Hills, 27 V 1973, 6, H. GØNGET (paratypes, ZMK, LB); NO Victoria-Nyansa, Kawirondo, 2, O. NEUMANN (ZMHU); Uchweni Forest n. Witu, 25-27 II 1912, 1, S.A. NEAVE (BMNH); Watita Hill, Kedai, 1, C. SMYTH (BMNH).

SOMALIA: Afgoi, 3 IX 1977, 2, OLMI (MRAC).

SUDAN: Equatoria, Juba-Nimule, 10-11 III 1963, 1, R. LINNAVUORI (allotype, ZMUH); Equatoria, Nimule, 11-13 III 1963, 3, R. LINNAVUORI (holotype and two paratypes, ZMUH).

UGANDA: Acholi Ranch, 19 XI 1972, 2, H. GØNGET (ZMK, LB); W Busoga, between SE shore of Lake Kioga, Kakindu, 3500 ft., 22-23 XI 1911, 1, S.A. NEAVE (BMNH); Bweya, 15 V 1913, 1, C.C. GOWDEY (BMNH); Entebbe, 1, F. J. JACKSON (BMNH), 14 VII 1906, 1 (ZMHU), 17 VIII 1911, 1, 26-29 VI 1912, 2, VIII 1912, 1, X 1912, 1, 24-25 V 1913, 1, C.C. GOWDEY (BMNH), I 1972, 4, H. FALKE (CNCI), 21 IV 1990, 1, E. COENEN (MRAC); Kagora, 19 XII 1971, 1, H.



512. Distribution of *Aspidimorpha equatoriensis*

GØNGET (paratype, ZMK); Kampala, 1, S. SCHNEPP (NMW), 17 IV 1913, 1, 1-10 X 1915, 2, 17 IV 1917, 1, 14 VI 1917, 1, 10-20 VII 1917, 1, 13-27 X 1917, 1, C.C. GOWDEY (BMNH); Mbale-Kumi Rd., S of L. Salisbury, 3700 ft., 15-17 VIII 1911, 1, S.A. NEAVE (BMNH); Mount Elgon, 2, F.M. ISEMONGER (BMNH); Siroko R. near W foot of Mt. Elgon, 3600 ft., 12-14 VIII 1911, 1, S.A. NEAVE (BMNH); Torotoro Distr., Sukula, 25 III 1962, 1, E. BURTT (BMNH).

ZAIRE: Faradje, Maba, 11 IV 1930, 1, A. COLLART (IRSN); Mahagi, Abok, 7 III 1929, 5, A. COLLART (IRSN); B Uele, Alipago, 8 V 1957, 1 (FMNH); B Uele, Beo, IV 1958, 1 (FMNH); B Uele, Bongide, 20 VIII 1957, 1 (FMNH); H Uele, Poyot, 11 XII 1956, 1 (FMNH).

Aspidimorpha (s. str.) *ertli* SPAETH, 1906

Aspidomorpha Ertli SPAETH, 1906: 400 (ST in MM, FMNH, ZSM, ZMHU); BOROWIEC, 1985 a: 235.
Aspidomorpha (*Aspidomorpha*) *Ertli*: SPAETH, 1914 b: 75.

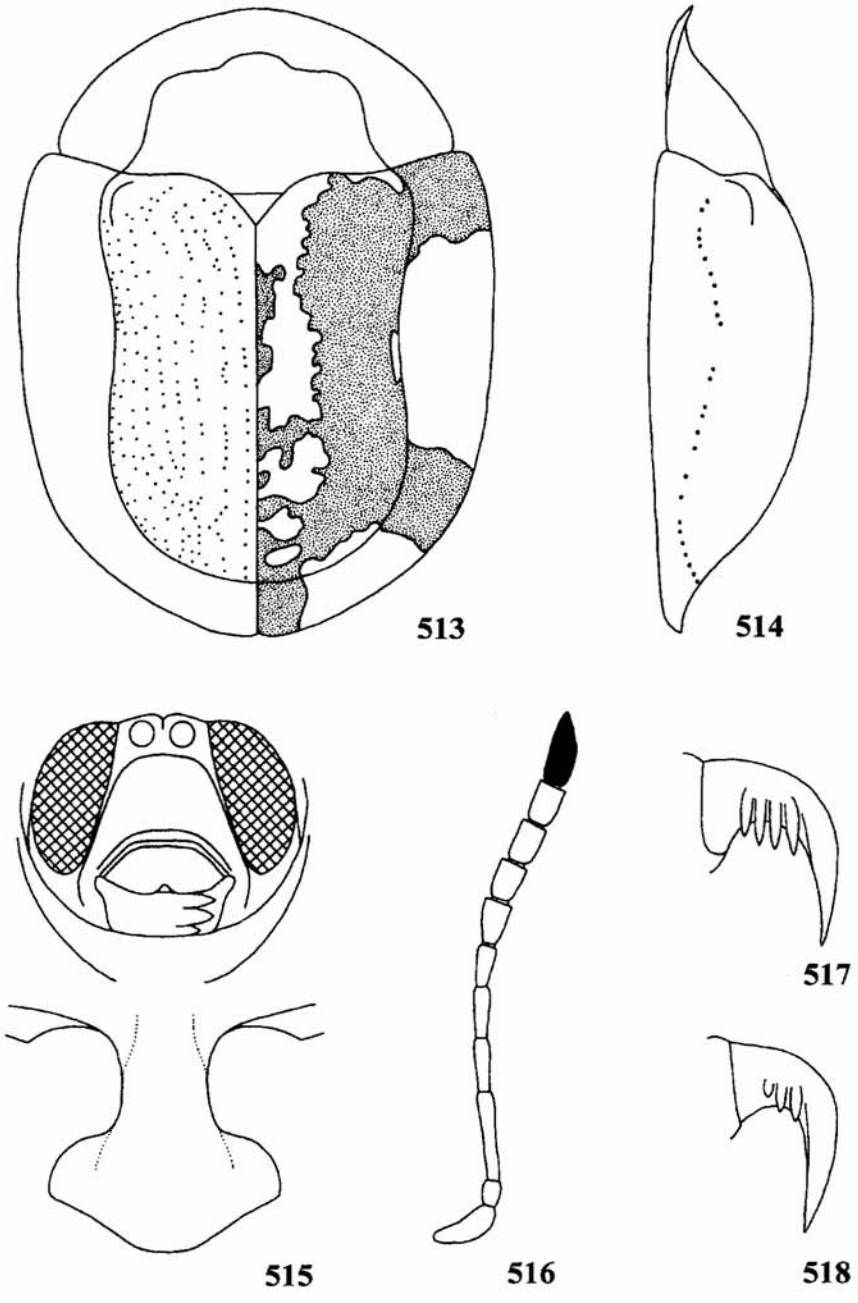
DESCRIPTION

Le: male: 10.5-12.7 mm, female: 11.3-12.1 mm, Wi: male: 8.1-10.0 mm, female: 8.5-9.1 mm, Lp: male: 3.3-3.9 mm, female: 3.5-3.7 mm, Wp: male: 6.8-8.0 mm, female: 7.3-7.7 mm, Ex: male: 1.6-2.3 mm, female: 1.7-1.9 mm, Wd: male: 5.0-5.7 mm, female: 5.3-5.8 mm; Le/Wi ratio: male: 1.27-1.33, female: 1.32-1.33, Wi/Wp: male: 1.19-1.25, female: 1.16-1.22, Wp/Lp: male: 2.05-2.14, female: 2.00-2.14. Body short-oval (fig. 513).

Pronotum uniformly yellow. Elytra mostly yellow with rather constant pattern (figs 525-527). Disc yellow to argillaceous, each puncture with usually darker, reddish, brown or black centre. In dark specimens disc with brown marble pattern, in extreme cases whole disc reddish-brown to brown. Explanate margin yellow, with broad argillaceous to brown humeral and posterolateral spots, and often narrow sutural spot. In pale specimens the spots are present only on underside of explanate margin but they are visible through the transparent margin. Humeral spot sometimes widened posterad, hammer-shaped. Clypeus yellow. Ventrites usually uniformly yellow, only in the darkest form metasternum with brown spot in the middle. Legs, including coxae, uniformly yellow. Antennae mostly yellow, two last antennal segments black except yellow ventral side of the last segment.

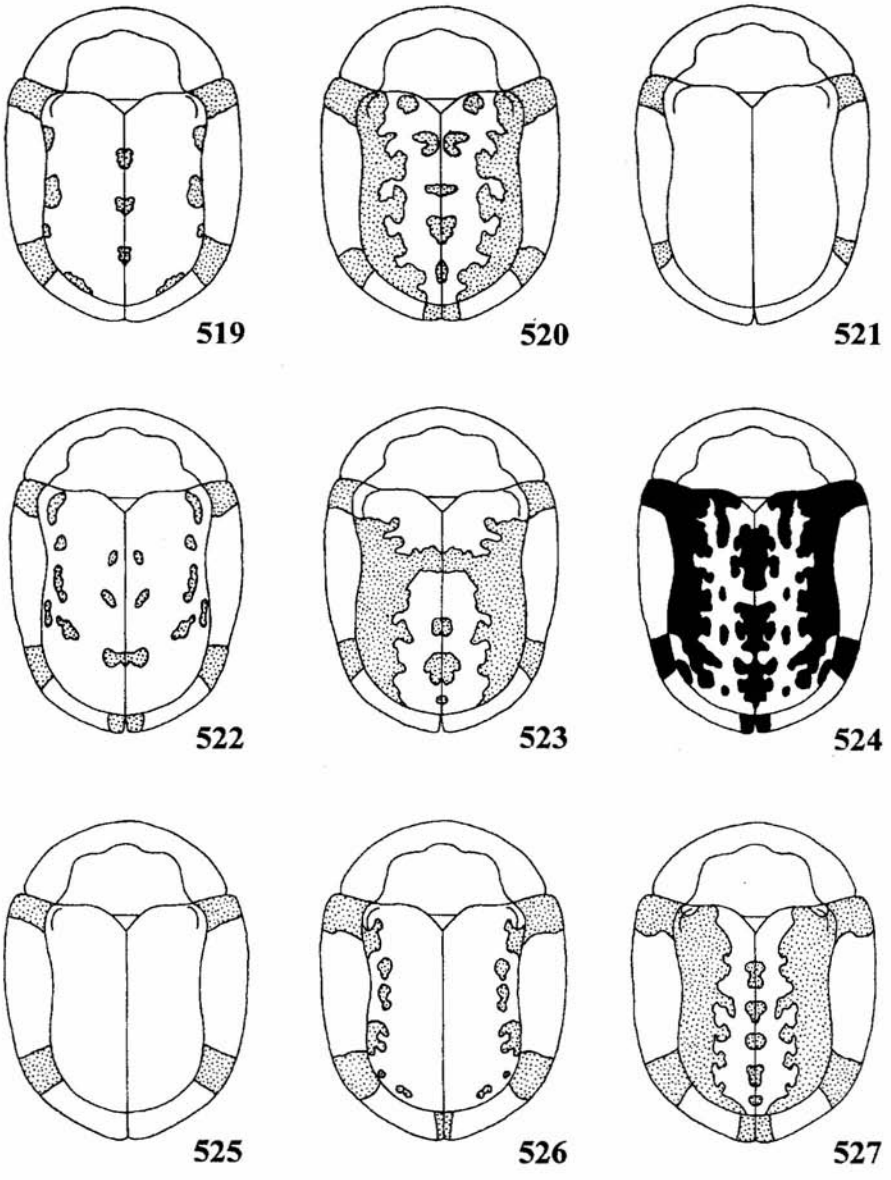
Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle about 90-100°. Disc moderately convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, almost horizontal, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, not or only slightly wider than base of pronotum, elytral margins simple. Disc slightly depressed (fig. 514) with small and shallow principal impression, without lateral impressions but surface of lateral part of disc usually slightly irregular. Puncturation of disc mostly regular, punctures fine to moder-



513-518. *Aspidimorpha ertli*: 513 - body in dorsal view, 514 - body in profile, 515 – head and prosternum, 516 – antenna, 517 – inner side of claw, 518 – outer side of claw

ate, on slope not smaller than in anterior half of disc, in sutural half of disc two to four times smaller than in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows moderately dense to dense, disposed mostly irregularly, partly grouped in 2-4, distance between punctures in groups c. as long as puncture diameter, between groups three to seven times wider than puncture diameter.



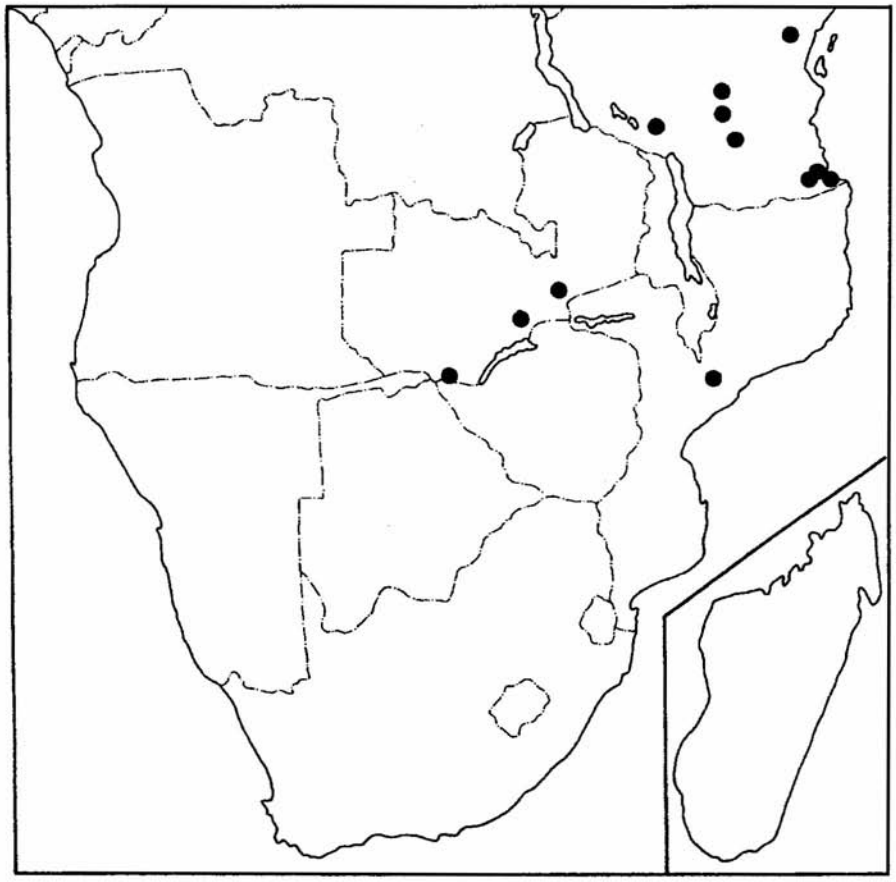
519-527. Variation of dorsal maculation: 519-520 - *Aspidimorpha cincta*, 521-524 - *A. katangana*, 525-527 - *A. ertli*

Marginal row deep, its punctures not larger than in submarginal row. Intervals flat, in sutural half of disc four to five times wider than rows, on sides only as wide as to twice wider than rows, their surface mostly smooth, shiny, with very small microreticulation. Explanate margin broad, subhorizontal, with tendency to form a shallow gutter, impunctate, smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.5-1.6 times wider than long (fig. 515), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 516), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:39:105:80:64:55:64:55:63:59:100.

Claws pectinate on both sides, inner pecten with four moderately long teeth extending to 1/4 length of claw (fig. 517). Outer pecten with two to three very short teeth, only slightly extending beyond the margin of claw (fig. 518).

Sexual dimorphism indistinct. Males slightly stouter than females.



528. Distribution of *Aspidimorpha ertli*

DISTRIBUTION

Tanzania, Zambia and Mozambique (fig. 528).

REMARKS

It belongs to the *cincta* group. It is well defined by large and depressed body and rather constant elytral pattern. It never forms aberrations with black spots. *A. sternalis* differs in slimmer body, especially in females (Le/Wi ratio in male 1.31-1.36, in *ertli* 1.27-1.30; female 1.38-1.42, in *ertli* 1.32-1.33), variable pattern and mostly black ventrites (in *ertli* ventrites are usually uniformly yellow, at most metasternum in the middle infuscate), *A. astraea* and *A. katangana* differ in smaller body (usually below 11 m, in *ertli* usually above 11 mm) and thorax usually partly black (in *ertli* usually uniformly yellow), *A. quinquefasciata* differs in smaller (usually below 11 mm) body, variable pattern of elytra, body more circular and less depressed, and thorax often partly black, *A. wahlbergi* differs in very small and strongly depressed body (length below 7.5 mm) and *A. gruevi* differs in smaller body (length below 9.5 mm) and more regularly convex elytral disc, both species are separated geographically. *A. cincta* is the most similar, especially in constant elytral pattern and depressed elytral disc, at first glance *A. cincta* looks like a miniature of *A. ertli*. *A. cincta* is distinctly smaller (length below 9.8 mm), both species are separated geographically (see figs 399 and 528).

MATERIAL EXAMINED

MOZAMBIQUE: Mozambique, 2, PLASON (MRAC); Zambesi, Boroma, 1 (IRSN).

TANZANIA: Amani, 1 (FMNH); Lindi, 6 (4 FMNH, 1 IRSN, 1 ZMHU), 1, H. ROLLE (ZMHU), 3, O. WERNER (ZMHU), III 1903, 2 (ZMHU); Lukuledi, 14 (syntypes, 4 ZSM, 4 MM, 6 ZMHU, 1 FMNH), 4 (MRAC); Mikindani, 1897, 1, REIMER (NMW); Muenda, Mahenge, 14-29 VI 1908, 1, FROMM (ZMHU); Namupa, 2 (ZMHU); Ndanda, 1 (ZMHU); N Nyassa-see, Usafua, Beya Berg, Songwe Fl., 9 VI 1899, 1, GÖTZE (ZMHU); Ugogo, 1, v. BERINGER and JOST (ZMHU); Uhehe-Iringa, I-III 1899, 1, GÖTZE (ZMHU); Usambara, 1 (syntype, MM).

ZAMBIA: Lusaka, Kafue City, Kafue Riv., 1200 m, 22 XI-2 XII 1987, 1, R. MOURGLIA (SZ).

Aspidimorpha (s. str.) *expansa* SPAETH, 1917

Aspidomorpha expansa SPAETH, 1917: 426 (LT and PLT in MM); 1932 b: 8; BOROWIEC, 1985 b: 444.

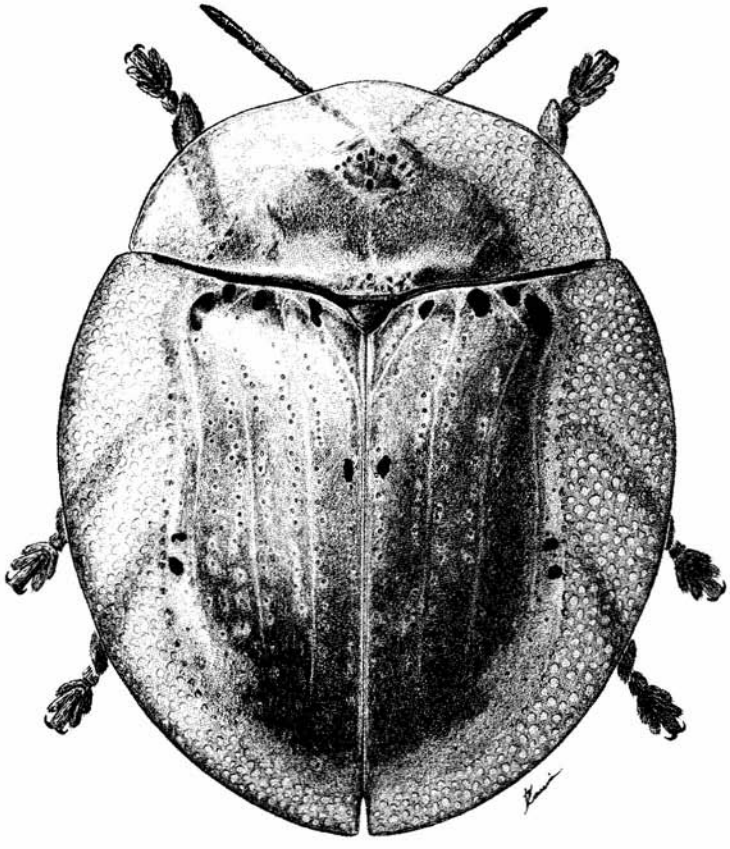
Aspidomorpha obsoleta WEISE, 1919: 204 (LT and PLT in ZSM, PLT in NRS); SPAETH, 1932 b: 8 (as syn.); BOROWIEC, 1987: 414.

DESCRIPTION

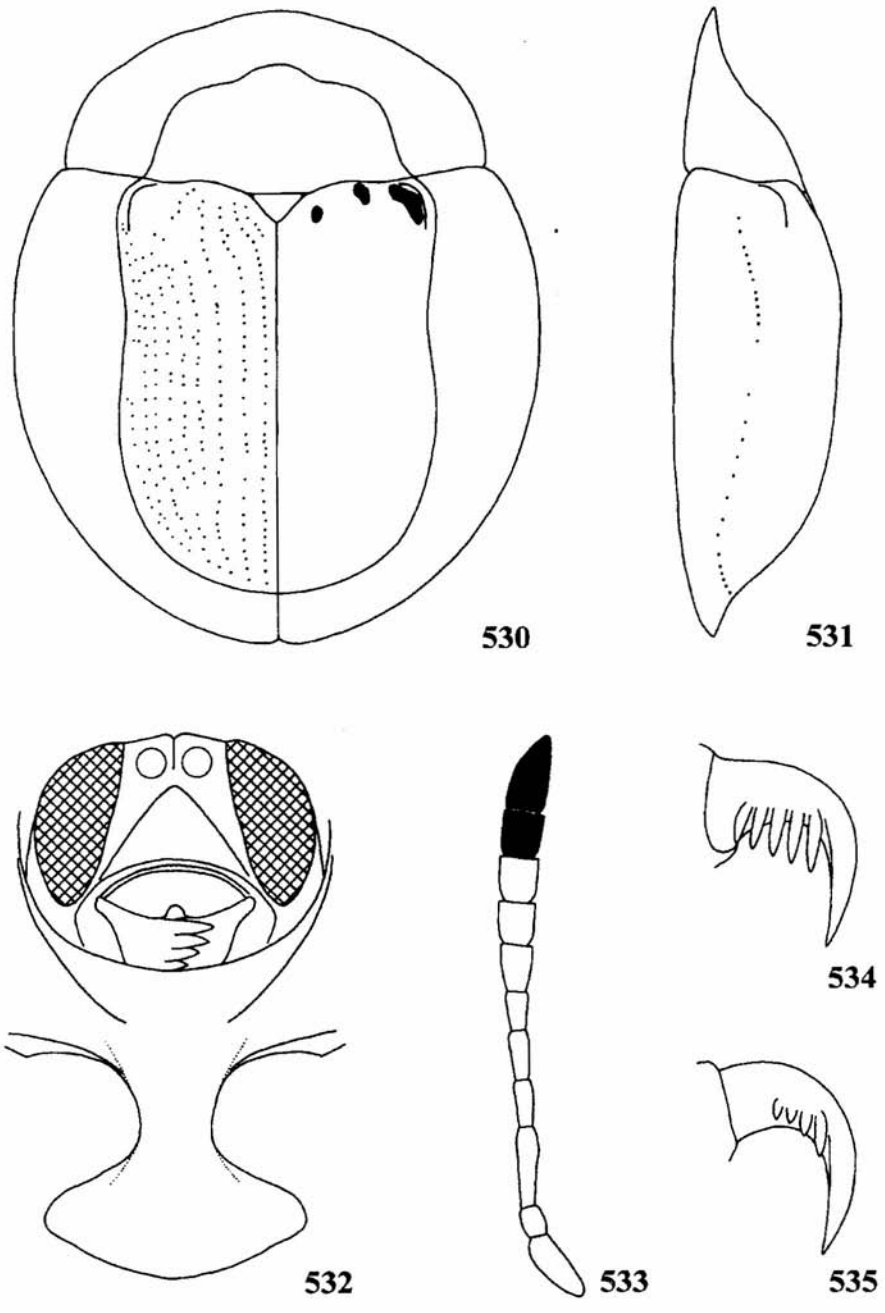
Le: male: 10.8-11.2 mm, female: 11.9-12.8 mm, Wi: male: 9.0-9.3 mm, female: 9.6-9.9 mm, Lp: male: 3.3-3.4 mm, female: 3.4-3.8 mm, Wp: male: 6.9-

7.4 mm, female: 7.5-7.7 mm, Ex: male and female: 1.9-2.0 mm, Wd: male: 5.3 mm, female: 5.8-6.0 mm; Le/Wi ratio: male: 1.20, female: 1.24-1.29, Wi/Wp: male: 1.26-1.30, female: 1.28-1.29, Wp/Lp: male: 2.09-2.18, female: 2.03-2.21. Body short-oval to almost circular (figs 529, 530).

Pronotum yellow, disc sometimes with indistinct reddish M-shaped figure. Elytral disc in typically coloured specimens yellow, at basal margin of elytron three small, black spots: one close to scutellar corner, one in the middle and one on humerus, punctures without darker centre or areola. Sometimes some small, additional spots: in 1/2 and 2/3 of sutural interval, in 1/3 of submarginal interval



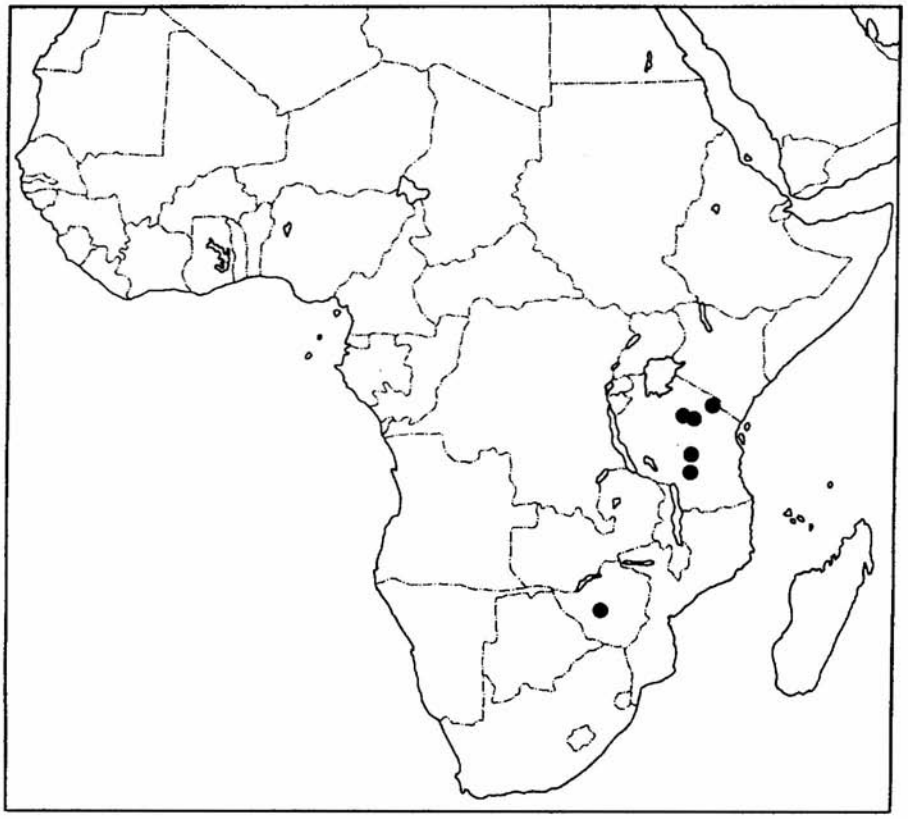
529. *Aspidimorpha expansa*, habitus (by A. Dąbrowska)



530-535. *Aspidimorpha expansa*: 530 - body in dorsal view, 531 - body in profile, 532 – head and prosternum, 533 – antenna, 534 – inner side of claw, 535 – outer side of claw

and half of marginal interval. In dark specimens spots of basal margin of elytron are large to partly coalescent, sutural interval with two to three large irregular spots and sides of disc with several, partly coalescent spots (figs 509-511). Explanate margin usually uniformly yellow, sometimes posterolateral spot present in form of small patch close to margin of elytron, occasionally explanate margin with narrow to moderate, black humeral, posterolateral and sutural spots. External part of explanate margin usually not darker yellow than ventral half of the explanate margin. Clypeus and ventrites uniformly yellow. Legs, including coxae, uniformly yellow. Antennae mostly yellow, two last antennal segments brown to black except yellow ventral side of apex, often segment 10 mostly yellow, occasionally segment 9 with infuscate apex.

Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle about 85-90°. Disc moderately convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, almost horizontal, smooth, shiny.



536. Distribution of *Aspidimorpha expansa*

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, not wider than base of pronotum, elytral margins simple. Disc evenly convex, slightly depressed (fig. 531). Discal surface without, surface completely regular. Puncturation of disc regular, extremely fine, on slope almost obsolete, in sutural half of disc only slightly finer than in lateral part of disc. Scutellar row with 5-8 punctures. Punctures in rows moderately dense, disposed mostly regularly, distance between punctures twice to thrice longer than puncture diameter. Rows not impressed. Marginal row moderate, its punctures c. twice larger than in submarginal row. Intervals flat, in sutural half of disc five to seven times wider than rows, on sides three to five times wider than rows, their surface smooth, usually with mirror brilliance, microreticulation invisible. Lateral fold of explanate margin flat, sometimes obsolete. Explanate margin broad, moderately declivous, without tendency to form a shallow gutter, impunctate, smooth and shiny. Elytral epipleura bare in both sexes.

Head very broad, clypeus 1.9-2.0 times wider than long (fig. 532), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 533), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:41:106:64:62:53:765:55:59:55:106.

Claws pectinate on both sides, inner pecten with five long teeth extending to 2/5-1/2 length of claw (fig. 534). Outer pecten with three teeth, extending to 1/6-1/5 length of claw (fig. 535).

Sexual dimorphism indistinct. Males slightly stouter than females.

DISTRIBUTION

Tanzania, Uganda and Zimbabwe (fig. 536).

REMARKS

It is a member of the *expansa* group. It differs from both relatives in very fine elytral puncturation and rows never impressed (in *adumbrata* and *filiola* puncturation is moderate and rows impressed). In *A. expansa* base of elytra has always at least two to three small black spots while in *adumbrata* and *filiola* elytra are always immaculate.

MATERIAL EXAMINED

TANZANIA: Dodoma, 1918, 13, H. L. ANDREWES (11 BMNH, 1 MM, 1 MRAC); Mangaro Lake, 23 XI 1979, 1, W.G. DOWNS (PMNH); Moschi, 1 (lectotype of *A. expansa*, present designation, MM); Tanganika, 1, PLASON (paralectotype of *A. expansa*, present designation, MM); Tanganyika-S, 1 (LB); Tosameganga, 1 (lectotype nad paralectotypes of *A. obsoleta*, lectotype and paralectotype in ZSM, one paralectotype in NRS); Uhehe, 1 (LB).

UGANDA: Roscoe, 1 (LB).

ZIMBABWE: Bulawayo, III 1966, 1 (NMM).

Aspidimorpha (s. str.) *extumida* SPAETH, 1915

Aspidomorpha extumida SPAETH, 1915 b: 127 (ST in MM); HINCKS, 1962: 247.

DESCRIPTION

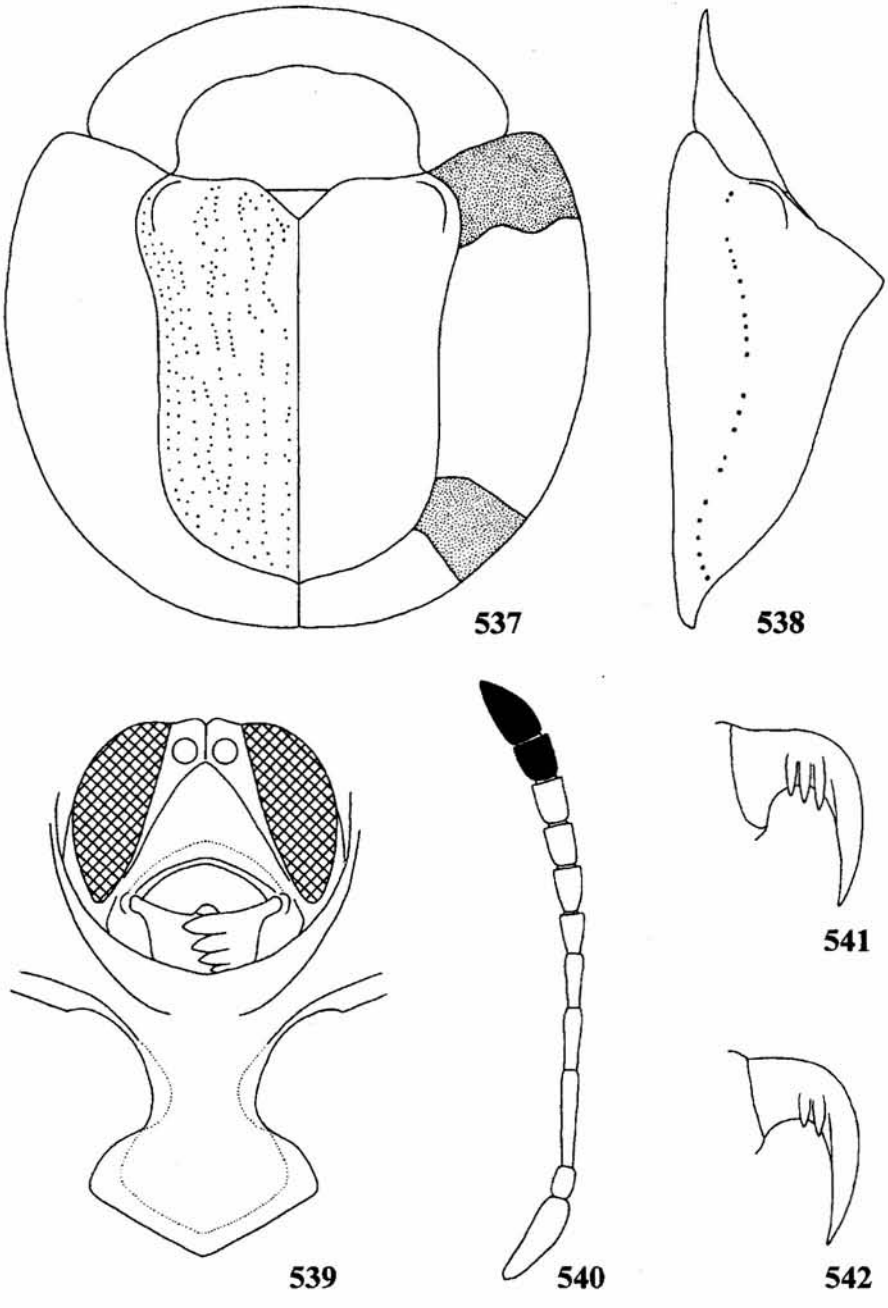
Le: male: 10.0-11.1, Wi: male: 9.4-10.3 mm, Lp: male: 3.3-3.4, Wp: male: 7.1-7.4, Ex: male: 2.6 mm, Wd: male: 4.4-4.7 mm, Le/Wi: male: 1.06-1.08, Wi/Wp: male: 1.32-1.39, Wp/Lp: male: 2.15-2.18. Body almost circular (fig. 537).

Pronotum uniformly argillaceous. Elytral disc argillaceous to brown, punctures with darker centre and/or areola. Explanate margin yellow, with broad, brown humeral and posterolateral spots. Humeral spot sometimes slightly widened posterad. Margin of explanate margin darker yellow than central part of the explanate margin. Clypeus and ventrites uniformly yellow. Antennae yellow with two last segment black, except ventral side of apex of the last segment, apex of segment 9 sometimes infuscate to black. Legs uniformly yellow.

Pronotum ellyptical to semicircular, with maximum width almost at base, hind angles form an angle of 85-90°. Disc moderately convex, smooth, glabrous, with very small microreticulation. Explanate margin indistinctly bordered from disc, subhorizontal, in anterior part with tendency to form a gutter, its surface smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, moderately to distinctly wider than base of pronotum, humeri broadly rounded, elytral margins simple. Disc unevenly convex, with very large, conical postscutellar tubercle, top of the tubercle sharp, profile behind the tubercle deeply concave (fig. 538). Discal surface completely regular, with deep principal impression and well marked postscutellar impressions. Puncturation of disc in sutural rows and on slope fine, in impressions and on sides moderate to coarse, rows not impressed, punctures on slope distinctly smaller and sparser than in anterior half of disc, in sutural half of disc four to five times smaller than in lateral part of disc. Scutellar row with 5-7 punctures. Punctures in rows sparse to moderately dense, disposed mostly regularly, partly grouped in 2-4, distance between punctures in anterior part of sutural rows and on sides as long as to twice longer than puncture diameter, on slope two to four times longer than puncture diameter. Punctures in marginal row very large, three to four times larger than in central rows. Intervals flat, in sutural half of disc three to five times, in lateral half as wide as to twice wider than rows, their surface smooth and glabrous. Lateral fold of marginal interval low and narrow to moderately broad. Explanate margin extremely broad, almost horizontal but without tendency to form a gutter, impunctate, its surface smooth and glabrous. Apex of elytral epipleura pubescent in both sexes.

Head moderately broad, clypeus 1.5-1.6 times wider than long (fig. 539), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/5-1/4 length. Antennae moderate (fig. 540), length ratio of antennal segments: 100:40:125:75:75:54:65:55:58:55:100.



537-542. *Aspidimorpha extumida*: 537 - body in dorsal view, 538 - body in profile, 539 – head and prosternum, 540 – antenna, 541 – inner side of claw, 542 – outer side of claw

Claws pectinate on both sides, inner pecten short, with four teeth extending to c. 1/5 length of claw (fig. 541), outer pecten with two teeth, extending to 1/7-1/6 length of claw (fig. 542).

Sexual dimorphism indistinct. Males stouter and more rounded than female.

DISTRIBUTION

Madgascar.

REMARKS

It belongs to the *pontifex* group which comprises only five large Madagascan species. *A. extumida* is the smallest species of the group. *A. illustris* differs in immaculate explanate margin of elytra and base of elytra as wide as base of pronotum (in *extumida* moderately to distinctly wider). *A. undulatipennis* and *A. pontifex* differs in size above 11 mm (below 10.7 mm in *extumida*) and surface of elytra irregular, wrinkled (in *extumida* almost regular); *A. rubroornata* differs in length above 11 mm and elytral disc purple red with yellow relief.

MATERIAL EXAMINED

MADAGASCAR: S. de la baie d'Antongil, 1, coll. DONCKIER (syntype, MM); Fenerive, 1, E. PERROT (syntype, MM); Madagascar, 2 (ZMHU), 2 (LB).

Aspidimorpha (s. str.) *fampanamboensis* n. sp.

ETYMOLOGY

Named after the type locality, Fampanambo in Madagascar.

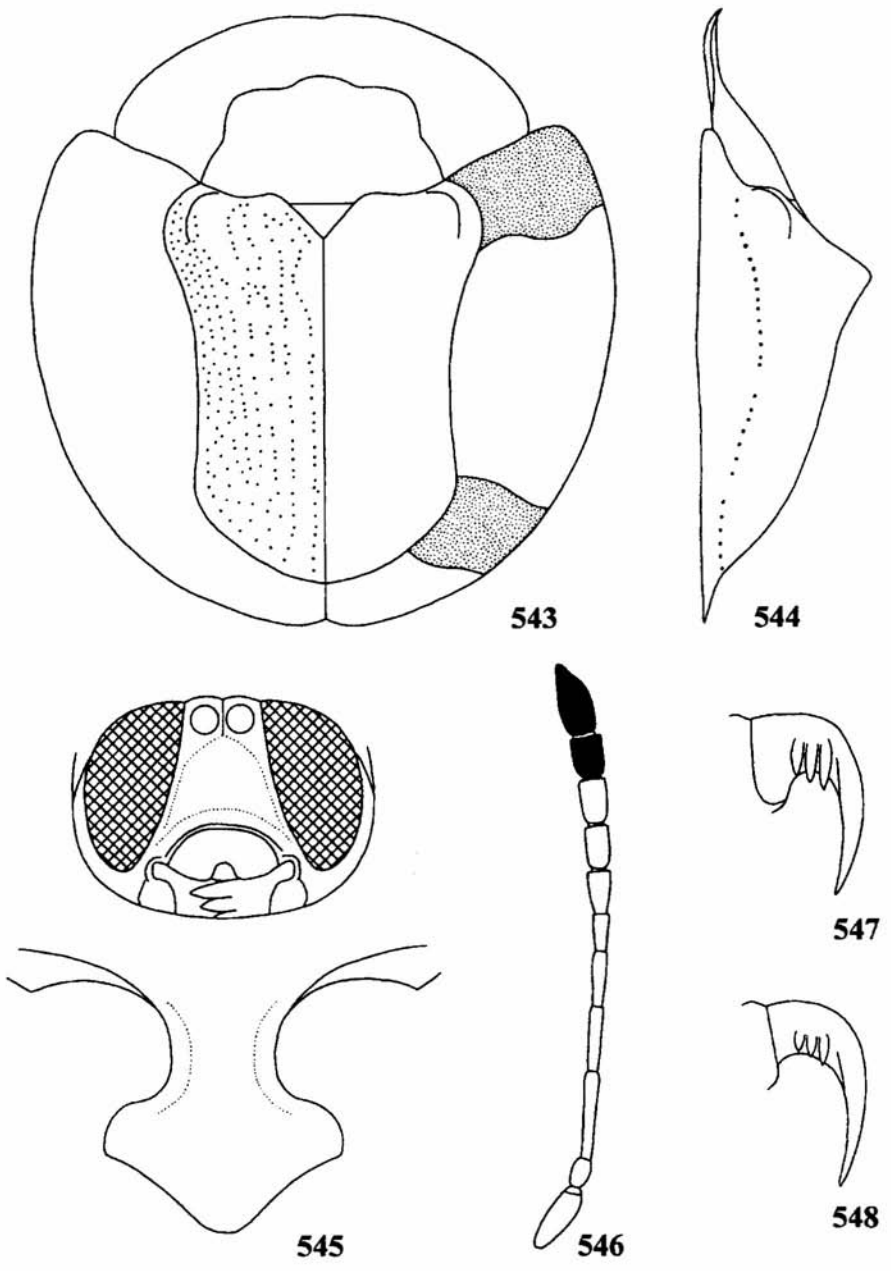
DESCRIPTION

Le: male: 8.2 mm, Wi: male: 7.9 mm, Lp: male: 2.8 mm, Wp: male: 4.7 mm, Ex: male: 2.2, Wd: male: 3.5 mm, Le/Wi ratio: male: 1.04, Wi/Wp: male: 1.68, Wp/Lp: male: 1.68. Body almost circular (fig. 543).

Pronotum uniformly yellow. Elytral disc reddish-argillaceous with brown elongate spot behind humerus, punctures in impressions of basal part of disc with brownish areola, explanate margin yellow with broad, reddish-brown humeral and posterolateral spots, no sutural spot. Scutellum argillaceous. Ventrites uniformly yellow. Antennae yellow, two last segments, except ventral part of apex of last segment, black. Legs uniformly yellow.

Pronotum broadly ellyptical, with maximum width almost at base, sides rounded. Disc slightly convex, smooth, shiny, microreticulation hardly visible. Explanate margin indistinctly bordered from disc, subhorizontal, in anterior part with tendency to form a gutter, its surface smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus or impression. Base of elytra serrulate, distinctly wider than base of pronotum, humeri rounded, elytral margins simple. Disc with large, sharp, conical postscutellar tubercle, profile behind tubercle concave (fig. 544). Principal impression small but very



537-542. *Aspidimorpha fampanamboensis*: 537 - body in dorsal view, 538 - body in profile, 539 – head and prosternum, 540 – antenna, 541 – inner side of claw, 542 – outer side of claw

deep, scutellar and posterolateral impressions very shallow. Puncturation of disc very fine to fine, regular, on slope distinctly finer than in anterior half of disc, in sutural half of disc c. twice finer than in lateral part of disc. Scutellar row with 2-4 punctures. Punctures in rows moderately dense, disposed mostly regularly, distance between punctures behind tubercle two to five times longer, on sides as long as to twice longer than puncture diameter. Rows not impressed, surface of disc regular. Punctures in marginal row deep, c. four times larger than in central rows. Intervals flat, in sutural half four to five, in lateral half 1.5-2.0 times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, subhorizontal, with tendency to form a shallow gutter, impunctate, its surface smooth and shiny. Elytral epipleura in male bare.

Head moderately broad, clypeus c. 1.3 times wider than long (fig. 545), glabrous, slightly elevated before antennal insertions, without median impression. Labrum emarginate to 1/5 length. Antennae moderately elongate (fig. 546), extending 1/3 length of metasternum, length ratio of antennal segments: 100:47:132:95:79:53:74:68:63:61:102.

Claws pectinate on both sides, inner pecten moderately long, with three teeth, first extending to 1/3 length of claw, two internal gradually shorter (fig. 547). Outer pecten with two teeth, c. twice shorter than in inner pecten (fig. 548).

Female unknown.

DISTRIBUTION

Madagascar.

REMARKS

A. fampanamboensis and *A. vernicata* are the only members of the *mutata* group that occur exclusively in Madagascar. Both have sharp, conical postscutellar tubercle. *A. vernicata* is distinctly slimmer (Le/Wi ratio 1.13-1.18, in *fampanamboensis* 1.04), usually paler coloured, with a pattern, if present, yellowish to reddish-brown (in *fampanamboensis* darker brown). The only known specimen of *A. fampanamboensis* has distinct posterolateral spots on elytra while in *A. vernicata* these spots are often reduced.

MATERIAL EXAMINED

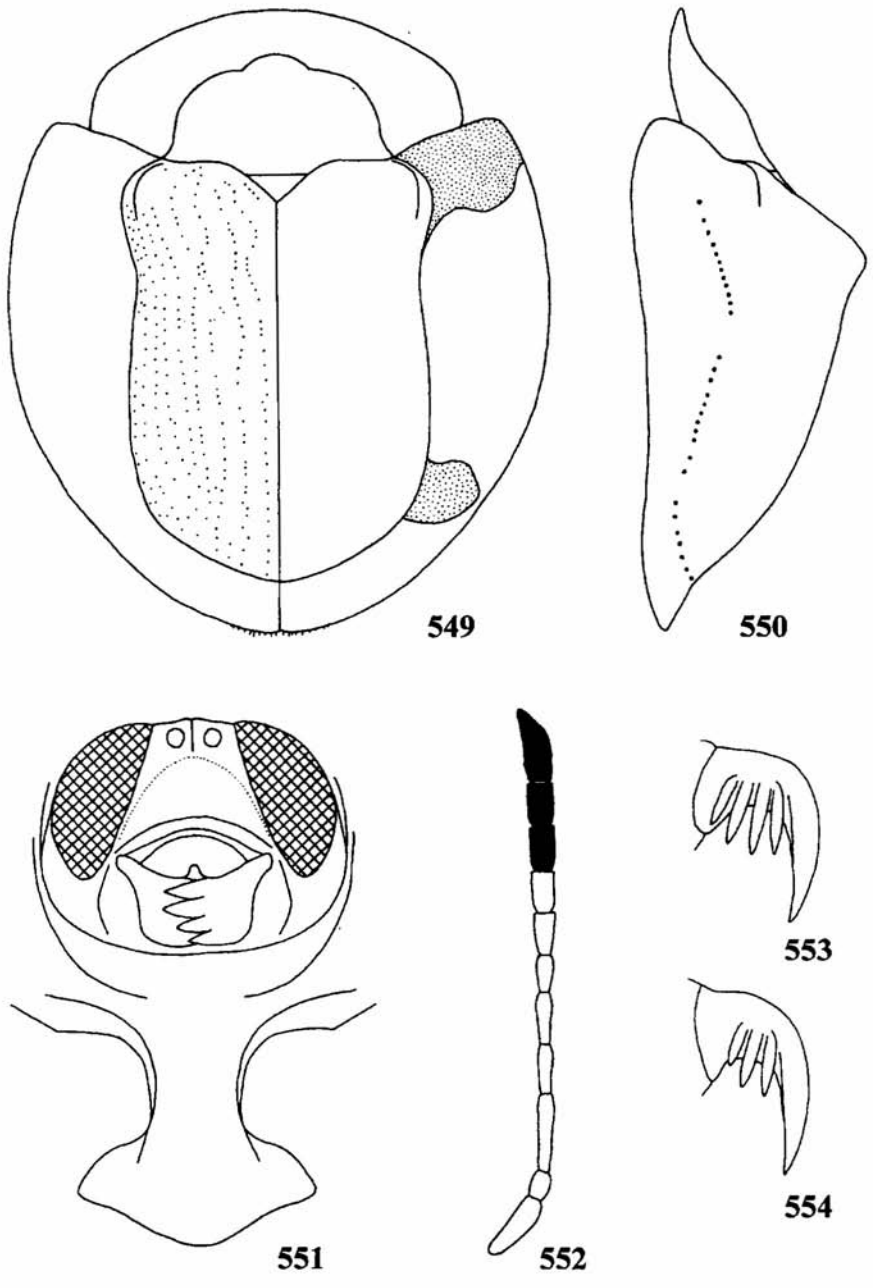
Madagascar: holotype: Fampanambo, I 1991, 1, native collector (LB).

Aspidimorpha (s. str.) *fausta* SPAETH, 1932

Aspidomorpha fausta SPAETH, 1932 b: 14 (LT in MRAC, PLT in MRAC, MM, ZSM).

DESCRIPTION

Le: male: 9.2-11.1, female: 10.4-11.5 mm, Wi: male: 8.5-10.1 mm, female: 8.9-10.1 mm, Lp: male: 3.0-3.3, female: 3.1-3.3 mm, Wp: male: 6.2-7.3 mm, female: 6.3-6.9 mm, Ex: male: 2.0-2.5 mm, female: 2.0-2.4 mm, Wd: male: 3.8-



549-554. *Aspidimorpha fausta*: 549 - body in dorsal view, 550 - body in profile, 551 – head and prosternum, 552 – antenna, 553 – inner side of claw, 554 – outer side of claw

4.8 mm, female: 3.9-4.8 mm. Le/Wi: male: 1.08-1.13, female: 1.07-1.19, Wi/Wp: male: 1.33-1.42, female: 1.35-1.42; Wp/Lp: male: 2.07-2.33, female: 2.03-2.20. Body short-oval (fig. 549).

Pronotum uniformly yellow to argillaceous. Elytra uniformly yellow to argillaceous, punctures without darker centre, explanate margin with broad brown to black humeral and posterolateral spots, no sutural spot. Apex of humeral spot not or only slightly widened posterad, apex of posterolateral spot not widened anterad. Clypeus yellow. Ventrites uniformly yellow or prothorax, or pro-, meso- and metasternum black except yellow sides and lateral plates. Antennae yellow, usually three last segments black, often base of segment 9 yellow, occasionally whole segment 9 yellow. Legs completely yellow.

Pronotum narrowly ellyptical, with maximum width almost at base, hind angles form an angle of 95-100°. Disc moderately convex, smooth, with mirror brilliance, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, in anterior part with tendency to form a gutter, its surface smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, much wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, with large postscutellar tubercle, top of the tubercle angulate, profile behind tubercle distinctly concave (fig. 550). Discal surface with small but deep principal impression, indistinct scutellar impressions, without posterolateral impression, surface of lateral part of disc completely regular. Puncturation of disc fine to moderate, rows not impressed, regular, punctures on slope slightly sparser and smaller than in anterior half of disc, in sutural half of disc c. twice smaller than in lateral part of disc. Scutellar row with 5-6 punctures. Punctures in rows moderately dense to dense, disposed mostly regularly, distance between punctures as long as to four times longer than puncture diameter, in two sutural rows slightly denser. Punctures in marginal row c. thrice larger than punctures in submarginal rows. Intervals flat, in sutural half of disc c. five, on sides three to four times wider than rows, their surface smooth, with mirror brilliance. Lateral fold of marginal interval broad and moderately convex. Explanate margin very broad, moderately subhorizontal without tendency to form a gutter, impunctate, its surface smooth and glabrous. Apex of elytral epipleura in female pubescent, hairs sparse but very long, apical margin of elytra with several erected hairs.

Head broad, clypeus 1.8 -1.9 times wider than long, glabrous (fig. 551), slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/3 length. Antennae moderately elongate (fig. 552), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:45:105:90:73:50:73:68:64:61:105.

Claws pectinate on both sides, inner pecten long, with four teeth extending to 2/5-1/2 length of claw (fig. 553), outer pecten moderate with three teeth, extending to 1/3-2/5 length of claw (fig. 554).

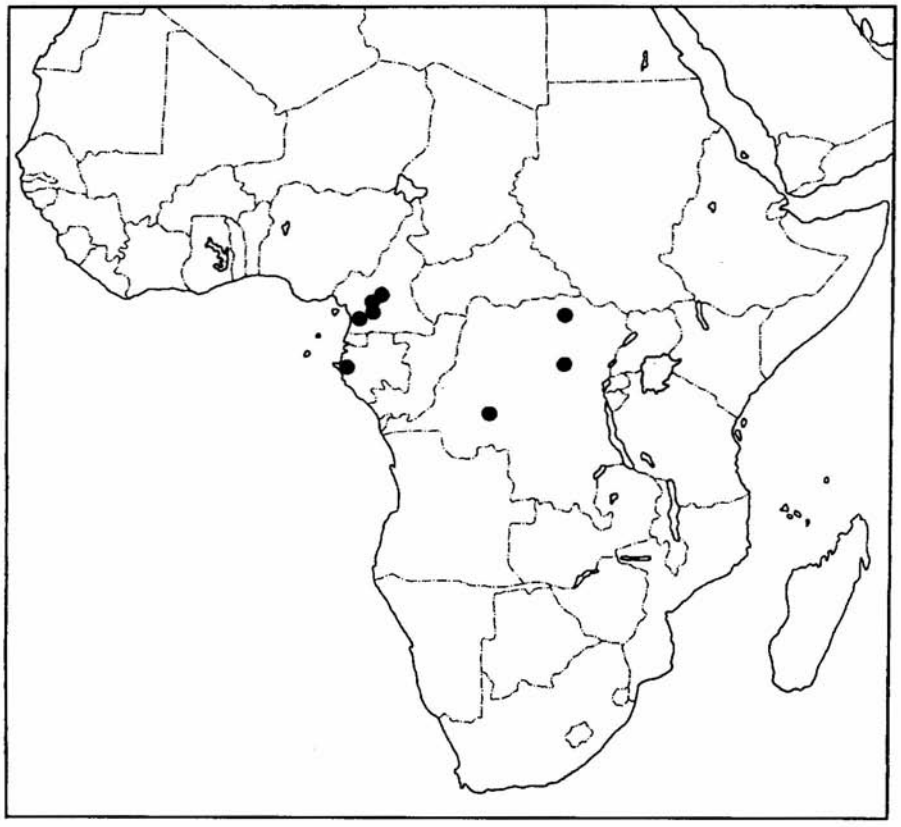
Sexual dimorphism distinct, male slightly smaller and stouter than female with unpubescent apex of elytral epipleura.

DISTRIBUTION

Cameroon, Gabon and Zaire (fig. 555).

REMARKS

It belongs to the *quadriramosa* group. With *A. incerta*, *levissima*, *procax*, *sankuruensis*, *setosa* and *sulfuripennis* it forms a subgroup of moderate to large species with glabrous elytral surface, often with mirror brilliance. Postscutellar tubercle often varies within the species from obtuse to sharp, conical. *A. levissima* and *A. sankuruensis* differ in extremely short pecten of tarsal claws, extending at most to 1/6 length of claw (in *fausta* to 2/5-1/3 length). *A. setosa* differs in antennae uniformly yellow or with last segment partly infuscate to black (in *fausta* usually three last segments black, segment 9 often yellow basally). *A. sulfuripennis* differs in presence of only humeral spots, with no posterolateral spot (in *fausta* both humeral and posterolateral spots present). *A. incerta* is, at first glance, very similar but differs in low and obtuse postscutellar tubercle (in



555. Distribution of *Aspidimorpha fausta*

fausta always large and conical). *A. procax* is the most similar and looks like a miniature of *A. fausta*. It differs in smaller size and in shorter pecten of tarsal claws extending to 1/3 length of claw (in *fausta* to 2/5-1/2 length).

MATERIAL EXAMINED

CAMEROON: Etondi Assok, near Mbalmayo, V 1982, 1, F. NOTARI (MHNG); Joko, 1 (paralectotype, present designation, ZSM), 1, COLIN (ZSM); Lolodorf, III 1914, 1, J.A. REIS (CMNH); Nanga Eboko, III-IV 1959, 1 (LB).

GABON: Ogowe, 1, M. SCHMIDT (ZMHU).

ZAIRE: Eala, IX-X 1923, 1, H. LEBEAU (paralectotype, present designation, MRAC), 2, Ertl (paralectotype, present designation, ZSM), X 1935, 2, J. GHESQUIÈRE (MRAC); Sankuru, Kok, II 1928, 1, J. GHESQUIÈRE (MRAC); Uelé, Bafuba, 10 III 1914, 1, Dr RODHAIN (lectotype, present designation, MRAC).

Aspidimorpha (s. str.) *fenestrata* (OLIVIER, 1808)

Cassida fenestrata OLIVIER, 1808: 947 (type in ?).
Aspidomorpha fenestrata: BOHEMAN, 1854: 269, 1856: 108, 1862: 261; KOLBE, 1898: 343; BOROWIEC, 1986: 801.
Aspidomorpha (Aspidomorpha) fenestrata: SPAETH, 1914 b: 75.
Aspidomorpha bioculata WAGENER, 1877: 63 (HT in MM); 1880: 161; WEISE, 1896: 21 (as syn. of *fenestrata*); SPAETH, 1901: 350 (as bona sp.).

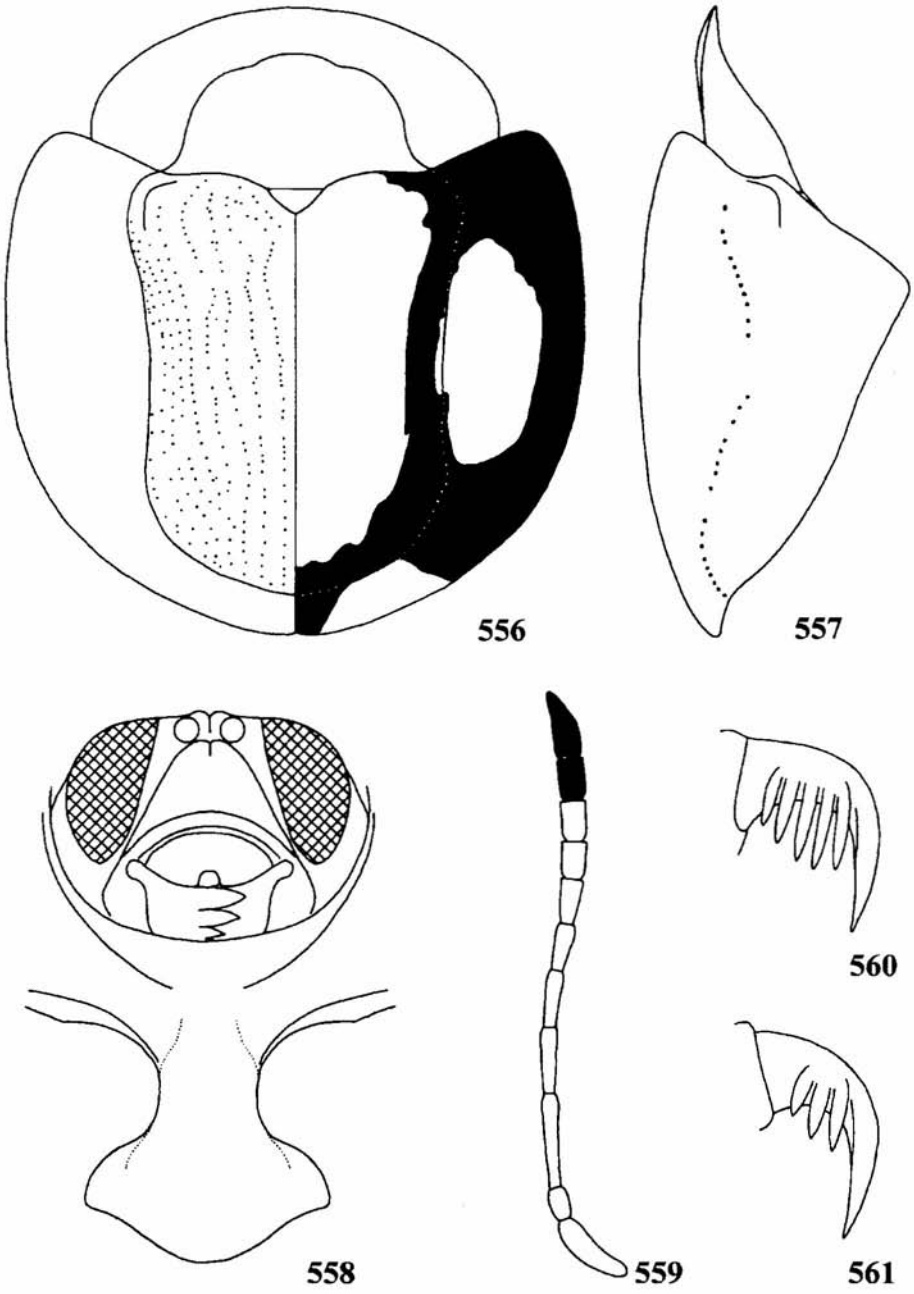
DESCRIPTION

Le: male: 11.5, female: 12.0-13.0 mm, Wi: male: 11.4 mm, female: 11.2-12.3 mm, Lp: male: 3.6, female: 3.7-4.2 mm, Wp: male: 7.1 mm, female: 7.5-8.1 mm, Ex: male: 3.2 mm, female: 2.8-3.1 mm, Wd: male: 5.3 mm, female: 5.5-6.0 mm. Le/Wi: male: 1.01, female: 1.06-1.11, Wi/Wp: male: 1.61, female: 1.44-1.52; Wp/Lp: male: 1.97, female: 1.88-2.11. Body circular (fig. 556).

Pronotum uniformly yellow to argillaceous. Elytra with rather constant pattern (figs 380-381). Elytral disc mostly chocolate brown with black band along sides extending at most to fifth elytral row, apex of disc black. Explanate margin mostly black with moderately large, yellow "window" and yellow spot close to apex, posterior spot sometimes reduced. Clypeus yellow. Ventrites mostly yellow, only metasternum with large brown to black spot in the middle, prosternal process only occasionally slightly infuscate. Legs, including coxae, uniformly yellow. Antennae mostly yellow, two last antennal segments brown to black except yellow ventral side of apex of the last segment, sometimes segment 10 only slightly infuscate, occasionally segment 9 with slightly infuscate apex.

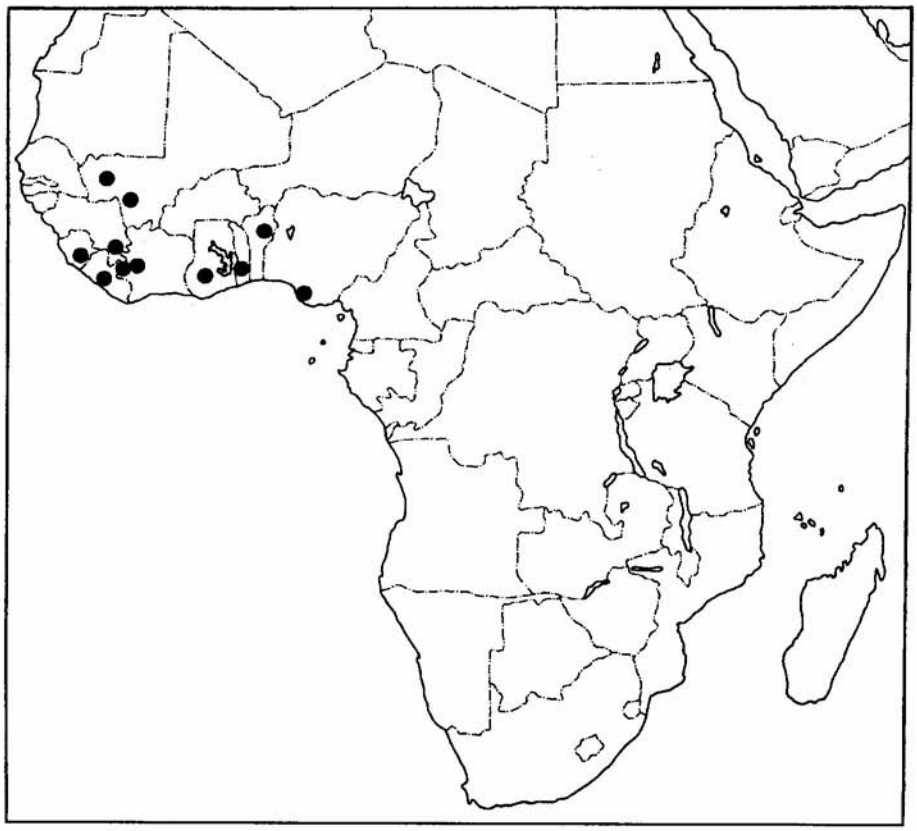
Pronotum ellyptical, with maximum width slightly behind the middle, sides rounded, hind angles hardly marked. Disc moderately convex, smooth, shiny. Explanate margin distinctly bordered from disc, almost horizontal, in anterior part with tendency to form a shallow gutter, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, much wider than base of pronotum, elytral margins simple. Disc



556-561. *Aspidimorpha fenestrata*: 556 - body in dorsal view, 557 - body in profile, 558 – head and prosternum, 559 – antenna, 560 – inner side of claw, 561 – outer side of claw

unevenly convex with large postscutellar tubercle, top of tubercle angulate, profile behind tubercle slightly concave (fig. 557). Principal impression small but distinct, postscutellar impressions well marked, usually with a shallow lateral impression, surface of lateral part of disc almost completely regular. Puncturation of disc completely regular, punctures moderate, on slope slightly smaller than in anterior half of disc, in sutural half of disc two to three times smaller than on sides of disc. Scutellar row with 4-7 punctures. Punctures in rows moderately dense to sparse, disposed regularly, distance between punctures in sutural rows twice to thrice, in central rows four to six times longer than puncture diameter (in some populations punctures in central rows are densely arranged, with distance only twice to thrice longer than puncture diameter), on slope punctures sparser distributed than in anterior part of disc. Marginal row shallow, its punctures twice to thrice larger than in submarginal row. Intervals flat, in sutural half of disc five to seven times wider than rows, on sides two to four times wider than rows, their surface mostly smooth, shiny, with indistinct microreticulation. Explanate mar-



562. Distribution of *Aspidimorpha fenestrata*

gin very broad, moderately declivous to almost horizontal, but without tendency to form a shallow gutter, impunctate, usually smooth and shiny, or in posterior part with several transverse grooves or wrinkles. Apex of elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.7-1.8 times wider than long (fig. 558), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 559), extending to 1/4 length of metasternum, length ratio of antennal segments: 100:50:133:85:82:55:58:50:57:56:88.

Claws pectinate on both sides, inner pecten with five very long teeth extending to 1/2-3/5 length of claw. Outer pecten with three teeth, extending to 1/4-1/3 length of claw.

Sexual dimorphism indistinct. Males stouter than females.

DISTRIBUTION

West Africa from Liberia to Nigeria (fig. 562).

REMARKS

It belongs to the *biguttata* group. Only *A. fenestrata* and dark coloured specimens of typical form of *A. togata* have large postscutellar tubercle combined with groundcolour of elytral disc argillaceous to chocolate brown and explanate margin mostly black with yellow "window". Postscutellar tubercle in *A. fenestrata* is higher and sharper than in *A. togata*, surface of disc almost regular while in *togata* sides of disc are slightly irregular. Both species are practically separated geographically, *fenestrata* is an exclusively western African species, while *A. togata* is a typical central African element. Few records of *A. togata* from western Africa were based probably on introduced specimens.

MATERIAL EXAMINED

BENIN: Dahomey, Mars, 2 (IRSN); Zougou, 1948, 1, HOLAS and DECKEYSER (IFAN).

GHANA: Aschantee, 1 (holotype of *A. bioculata*, MM), 1 (MM).

GUINEA: Serdou, 1 (IFAN).

IVORY COAST: Man, VIII 1948, 1 (MHNG); Mt. Nimba, 500-700 m, 1-20 IX 1946, 1, A. VILLIERS (IFAN); Tonkovi C.I., 500-900 m, 20-30 IX 1946, 1, A. VILLIERS (IFAN).

LIBERIA: Bolahun, 1 (MCZC).

MALI: Diala, 1948, 1, DECKEYSER and HOLAS (IFAN); Dioleba, 1948, 2, DECKEYSER and HOLAS (IFAN).

NIGERIA: Warri, VII 1897, 1, 17 VIII 1897, 1 (MCZC), 3, Dr. ROTH (MCZC).

SIERRA LEONE: Kenema, 1975, 3, M. VERHAEGHE (MRAC), III-VI 1975, 1, M. VERHAEGHE (IRSN).

TOGO: Bismarckburg, 25-27 XII 1892, 1, L. CONRADT (BMNH).

VARIA: Gold Coast, 1 (MCZC).

Aspidimorpha (s. str.) *filiola* n. sp.

ETYMOLOGY

The name *filliola* was proposed by F. SPAETH in his unpublished key to the world *Cassidinae*. I do not know what his intentions regarding the name; "*filiola*" is Latin for "little girl" or daughter.

DESCRIPTION

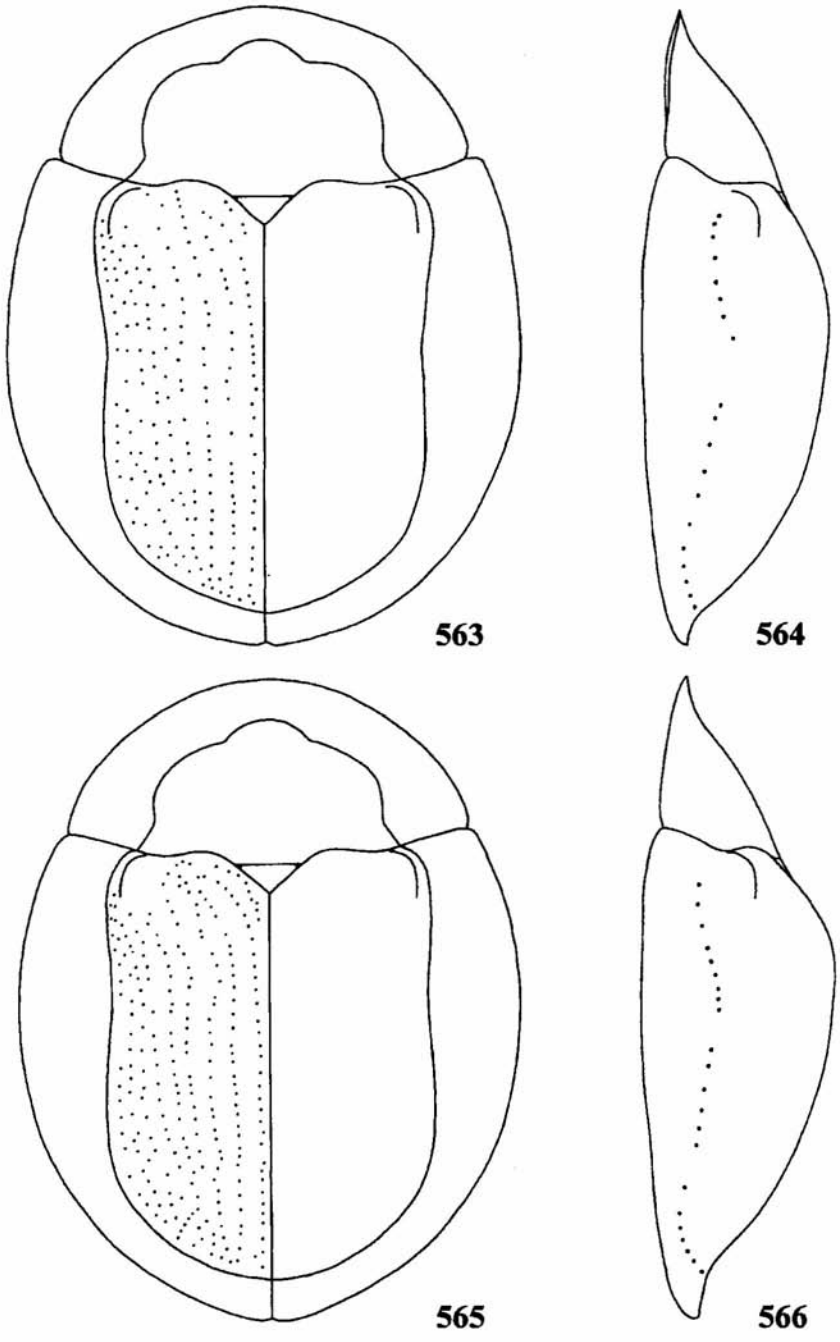
Le: male: 8.5 mm, female: 10.0 mm, Wi: male: 6.9 mm, female: 7.7 mm, Lp: male: 2.7 mm, female: 3.1 mm, Wp: male: 5.5 mm, female: 6.3 mm, Ex: male: 1.3 mm, female: 1.5 mm, Wd: male: 4.3 mm, female: 4.8 mm; Le/Wi ratio: male: 1.23, female: 1.29, Wi/Wp: male: 1.25, female: 1.22, Wp/Lp: male: 2.04, female: 2.03. Body short-oval (figs 563, 565).

Pronotum and elytra uniformly pale yellow, punctures without darker centre or areola. Explanate margin yellow, without spots. Margins of explanate margin not darker yellow than ventral half of the explanate margin. Clypeus yellow, basal corners sometimes infuscate. Pro-, meso- and metasternum black, except yellow lateral plates, abdomen in the middle brown to black, sometimes on apical sternites dark spot is divided into tow spots. Legs, including coxae, uniformly yellow. Antennae mostly yellow, two last antennal segments black except yellow ventral side of apex of last segment, often segment 9 infuscate apically.

Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle about 85-90°. Disc moderately convex, smooth, shiny, with very small microreticulation. Explanate margin indistinctly bordered from disc, almost horizontal, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, not or only slightly wider than base of pronotum, elytral margins simple. Disc evenly convex, with top of convexity in postscutellar point (figs 564, 566). Discal surface without impressions, surface of whole disc slightly irregular, rows impressed. Puncturation of disc mostly regular, punctures large, on slope slightly smaller than in anterior half of disc, in sutural half of disc only slightly smaller than in lateral part of disc. Scutellar row with 6-8 punctures. Punctures in rows dense, disposed mostly regularly, distance between punctures as long as to twice shorter than puncture diameter, partly punctures touching each other. Marginal row deep, its punctures c. twice larger than in submarginal row. Intervals slightly convex, in sutural half of disc c. thrice wider than rows, on sides as wide as to twice narrower than rows, their surface mostly smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low but very broad. Explanate margin moderately broad, moderately declivous, without tendency to form a shallow gutter, impunctate, its surface slightly irregular but shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.6-1.7 times wider than long (fig. 567), glabrous, slightly elevated before antennal insertions, without or with shallow



563-566. *Aspidimorpha filiola*: 563, 565 - body in dorsal view, 564, 566 - body in profile, 563-564 - male, 565-566 - female

median impression. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 568), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:50:115:70:65:45:55:50:52:50:98.

Claws pectinate on both sides, inner pecten with four long teeth extending to 2/5 length of claw (fig. 569). Outer pecten with two teeth, extending to 1/5-1/4 length of claw (fig. 570).

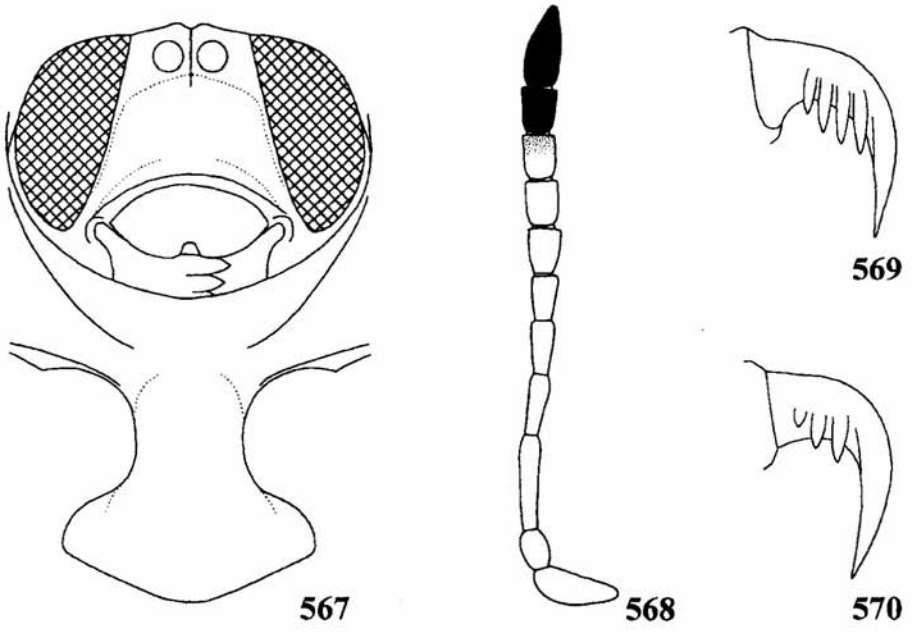
Sexual dimorphism indistinct. Males slightly stouter than females.

DISTRIBUTION

Zimbabwe (fig. 829).

REMARKS

It is a member of the *expansa* group. It is the only member of the group with elytral puncturation very strong and intervals in sutural half of disc as wide as to narrower than rows. *A. adumbrata* at first glance is similar, especially in quite coarse elytral puncturation and irregular surface of disc, but differs in intervals always wider than rows. Both species are widely separated geographically. Uniformly yellow specimens of *A. tecta* are also similar but differ in more convex elytral disc and finer elytral puncturation.



567-570. *Aspidimorpha filiola*: 567 – head and prosternum, 568 – antenna, 569 – inner side of claw, 570 – outer side of claw

MATERIAL EXAMINED

ZIMBABWE: holotype: Matopos, S. Rhodesia, II 1921, Rhod. Museum (BMNH); paratypes: Matopos, S. Rhodesia, II 1921, 4 (1 BMNH, 2 MM, 2 LB); paratype: S. Rhodesia, Ziwa Farm, Inyanga, 29 XI 1965, 1, PALGRAVE (NMM).

Aspidimorpha (s. str.) *firma* WEISE, 1912

Aspidomorpha firma WEISE, 1912: 160 (HT in ZMHU).
Aspidomorpha (*Aspidomorpha*) *firma*: SPAETH, 1914 b: 75.
Aspidomorpha (*Conchyloctenia*) *firma*: SPAETH, 1932 b: 3.

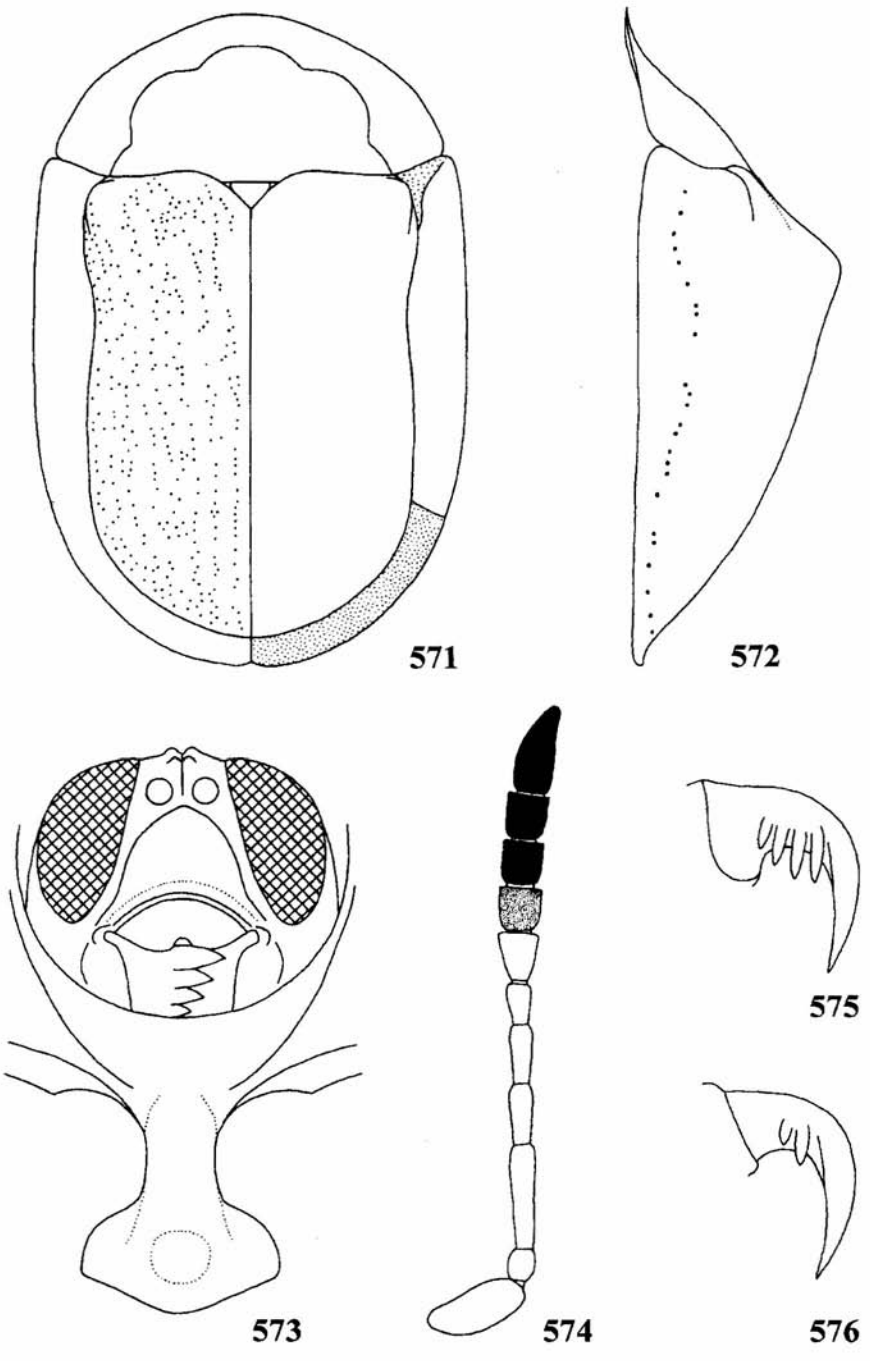
DESCRIPTION

Le: male and female: 12.0 mm, Wi: male and female: 8.0 mm, Lp: male and female: 3.8 mm, Wp: male and female: 6.9 mm, Ex: male and female: 1.2 mm, Wd: male and female: 5.8 mm; Le/Wi ratio: male and female: 1.50, Wi/Wp: male and female: 1.16, Wp/Lp: male and female: 1.82. Body elongate-oval, almost parallelsided (fig. 571).

Pronotum uniformly yellow to argillaceous. Dorsal part of elytra uniformly yellow to argillaceous, punctures in basal part of disc, sides and along suture partly with darker, reddish to brown centre, humerus and anterior part of postscutellar tubercle with reddish, small, irregular spots. Explanate margin yellow on upperside with darker argillaceous, on underside brown posterolateral spot and very narrow, reddish sutural spot, no humeral spot, sometimes with yellow, not transparent, diagonal area in humeral part. Margins of explanate margin of elytra not darker yellow than ventral part of explanate margin. Scutellum yellow to argillaceous. Head black, only central part of clypeus, frontal tubercles and labrum argillaceous. Prosternum mostly black to brownish-black, apex of prosternal process sometimes argillaceous to brownish. Metasternum mostly black, except argillaceous lateral plates, sometimes with paler brown to argillaceous spots. Abdomen yellow, sternites in the middle sometimes slightly infuscate, first sternite at base often darker brown. Legs including coxae yellow. Antennae yellow, four last segments black, except yellow apex of underside of last segment, base of segment 8 sometimes yellowish.

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, especially on sides, subhorizontal, smooth, shiny.

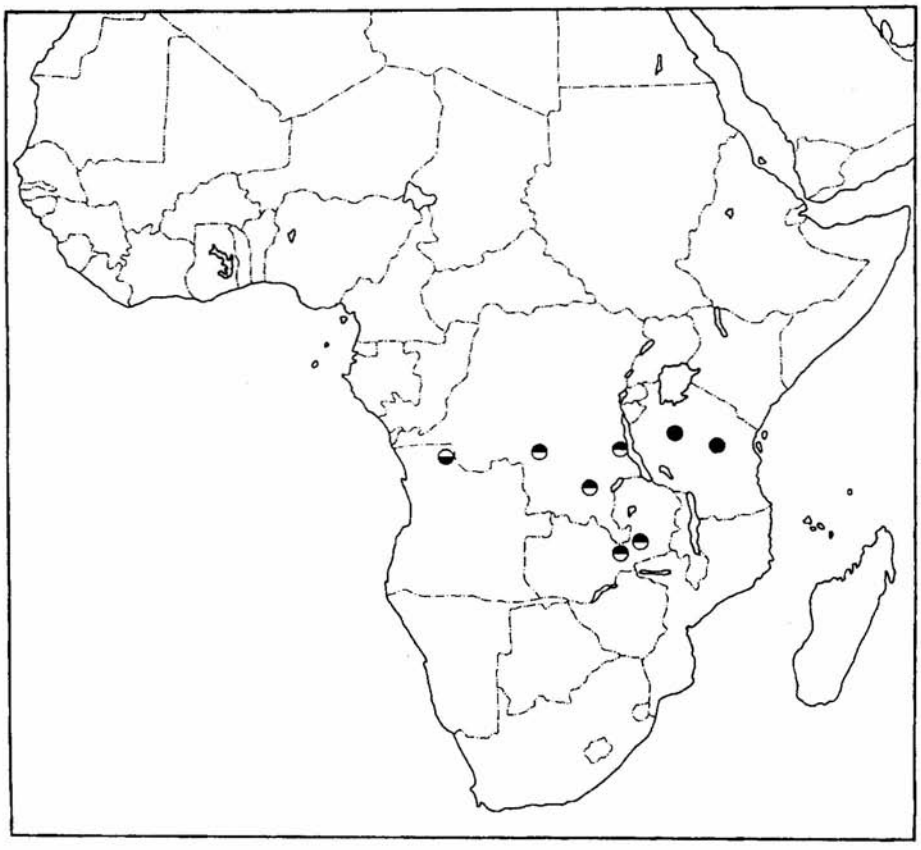
Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, not or only slightly wider than base of pronotum, humeri subangulate, elytral margins narrowly marginate. Disc unevenly convex, with large, conical postscutellar with slightly obtuse top, profile concave behind the top of convexity (fig. 572), discal surface without distinct impressions. Puncturation of disc moderate, mostly irregular, but with tendency to form irregular rows, especially in sutural part of elytron, on slope slightly finer than in anterior half of disc, in sutural half of disc only slightly finer than in



571-576. *Aspidimorpha firma*: 571 - body in dorsal view, 572 - body in profile, 573 – head and prosternum, 574 – antenna, 575 – inner side of claw, 576 – outer side of claw

lateral part of disc. Punctures often grouped in 2-5. Scutellar row with 7-8 punctures. Punctures moderately dense, in groups dense, distance between punctures in groups smaller than puncture diameter, between groups twice to thrice larger than puncture diameter. Punctures deeply impressed. Punctures in marginal row deep, only twice larger than in central rows. Interspaces irregular, only in sutural half of disc form irregular intervals, on sides form low folds, surface of disc appears irregular but not rugose, surface of folds smooth and glabrous. Irregular intervals in sutural half of disc three to four times wider than rows. Lateral fold of marginal interval broad and strongly convex. Explanate margin narrow, in ventral part declivous, only extreme margin subhorizontal, with tendency to form a very narrow gutter, its surface only slightly irregular, only on posterolateral spot and behind the spot with deep transverse grooves. Elytral epipleura bare.

Head very broad, clypeus c. 1.9 times wider than long (fig. 573), glabrous, slightly elevated before antennal insertions, shallowly impressed in the middle. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 574),



577. Distribution of *Aspidimorpha firma* (black circles), *A. flaviceps* (white above black circle) and *A. fusca* (black above white circles)

extending to mid coxa, length ratio of antennal segments: 100:35:110:65:62:40: 50:45:47:45:100.

Claws pectinate on both sides, inner pecten moderate, with four teeth extending 1/3-2/5 length of claw (fig. 575), outer pecten with two teeth, first extending 1/6 length of claw, the second distinctly smaller (fig. 576).

Sexual dimorphism indistinct, males slightly stouter than females.

DISTRIBUTION

Tanzania (fig. 577).

REMARKS

It belongs to the *potens* group. *A. firma* and *A. potens* are the only members of African *Aspidimorpha* with elongate body and elytral disc with conical postscutellar tubercle. *A. firma* is slightly narrower than *A. potens* with body almost parallelsided, postscutellar tubercle of *A. firma* has obtuse top while in *A. potens* it is sharp. Edge of elytra in *A. firma* is marginate on whole length while in *A. potens* only in anterior half. Surface of elytra in *A. firma* is more irregular than in *A. potens*, almost rugose.

MATERIAL EXAMINED

TANZANIA: D. Ost Afr., 1 (LB); Tabora, Unianiembe, 1 (MM); Ugogo-Ungamwezi, 1200 m, I 1907, 1, Dr. MARSHALL (holotype, ZMHU).

Aspidimorpha (s. str.) *flaviceps* n. sp.

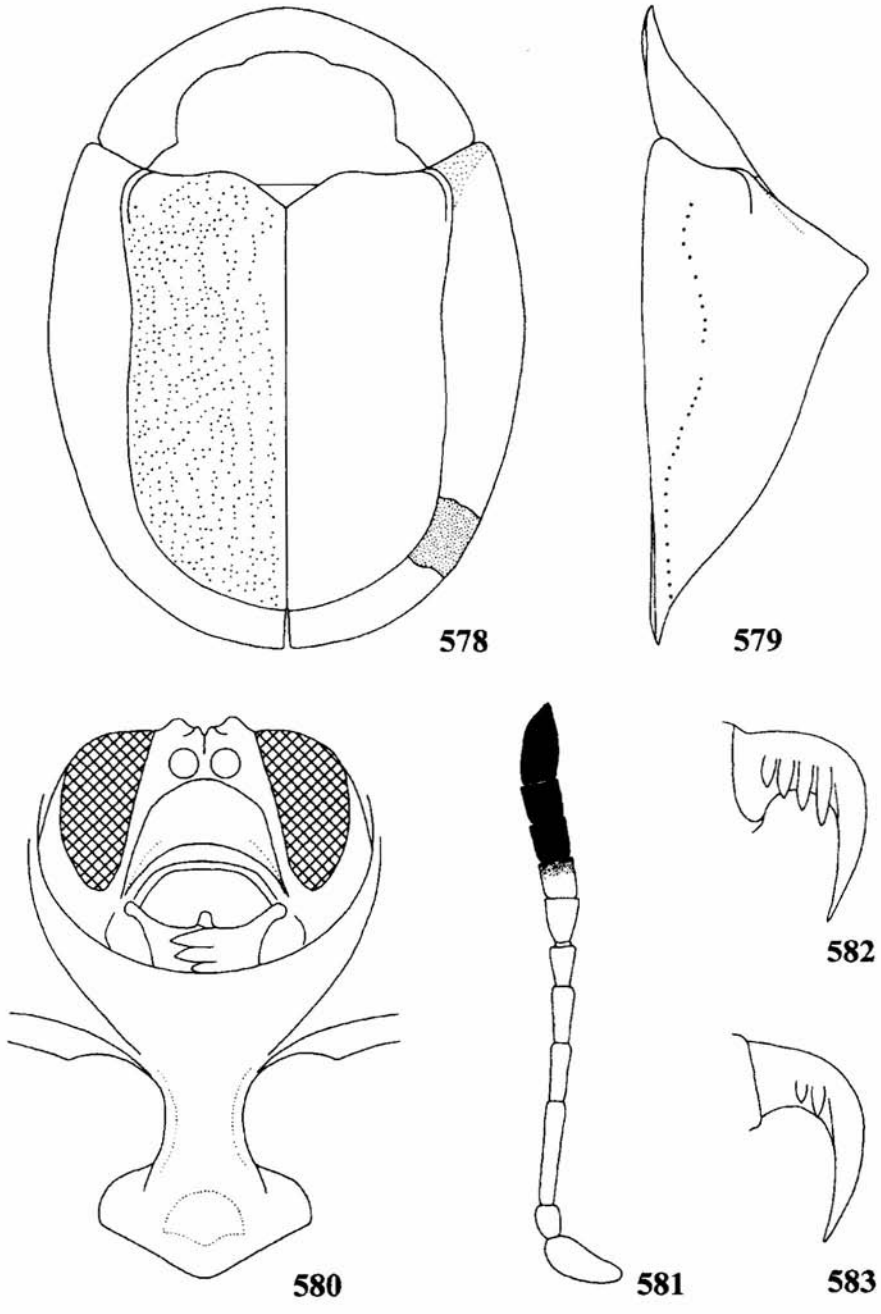
ETYMOLOGY

Latin "*flaviceps*" mean yellowish. Named after body colour.

DESCRIPTION

Le: male and female: 11.6 mm, Wi: male and female: 8.5 mm, Lp: male and female: 3.5 mm, Wp: male and female: 6.8 mm, Ex: male and female: 1.9 mm, Wd: male and female: 5.6 mm; Le/Wi ratio: male and female: 1.36, Wi/Wp: male and female: 1.25, Wp/Lp: male and female: 1.94. Body elongate-oval (fig. 578).

Pronotum uniformly yellow to argillaceous. Dorsal part of elytra uniformly yellow to argillaceous, punctures in basal part of disc, sides and along suture partly with darker, reddish to brown centre, humerus and anterior part of postscutellar tubercle with reddish brown, irregular spots. Explanate margin yellow with reddish posterolateral spot and very narrow, reddish sutural spot, no humeral spot. Margins of explanate margin of elytra indistinctly darker yellow than ventral part of the explanate margin. Scutellum yellow to argillaceous. Ventrites uniformly argillaceous. Antennae yellow, three last segments black, except yellow underside of apex of last segment, also apex of segment 8 infuscate. Legs including coxae yellow.



578-583. *Aspidimorpha flaviceps*: 578 - body in dorsal view, 579 - body in profile, 580 – head and prosternum, 581 – antenna, 582 – inner side of claw, 583 – outer side of claw

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, especially on sides, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, only slightly wider than base of pronotum, humeri subangulate, elytral margins narrowly marginate. Disc unevenly convex, with large, conical postscutellar tubercle, profile deeply concave behind the top of convexity (fig. 579), discal surface without impressions. Puncturation of disc moderate, almost completely irregular, on slope slightly finer than in anterior half of disc, in sutural half of disc only slightly finer than in lateral part of disc. Scutellar row with 6-8 punctures. Punctures moderately dense to dense, distance between punctures or their groups from twice shorter to twice larger than puncture diameter. Punctures deeply impressed. Punctures in marginal row deep, only twice larger than in central rows. Interspaces irregular, form irregular folds and wrinkles, surface of disc appears irregular to rugose, but surface of folds smooth and glabrous. Lateral fold of marginal interval narrow but strongly convex. Explanate margin moderately broad, in ventral half moderately declivous, external half subhorizontal, with tendency to form a narrow gutter, its surface irregular, on posterolateral spot and behind the spot with deep transverse grooves. Elytral epipleura bare.

Head very broad, clypeus c. 1.9 times wider than long (fig. 580), glabrous, slightly elevated before antennal insertions, shallowly impressed in the middle. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 589), extending to mid coxa, length ratio of antennal segments: 100:33:122:72:67:44:54:44:46:44:100.

Claws pectinate on both sides, inner pecten moderate, with four teeth extending to c. 2/5 length of claw (fig. 590), outer pecten with two teeth, first extending to 1/6 length of claw, the second slightly smaller (fig. 591).

DISTRIBUTION

Angola (fig. 577).

REMARKS

It belong to the *intricata* group. It is intermediate species between *intricata* and *potens* groups. Like species of the *potens* group it is elongate-oval, but less elongate than both species of the *potens* group, with more broad explanate margin; it has also infuscate four last antennal segments, while in species of the *intricata* group usually only last one or two segments are infuscate. But similar to species of the *intricata* group it has almost irregularly punctate elytra with strongly irregular, wrinkled to rugose surface between punctures. Explanate margin of elytra in *A. flaviceps* is less declivous than in both species of the *potens* group, but more declivous than in members of the *intricata* group. Its type locality is distincly more west than any locality of species of both *potens* and *intricata* groups.

MATERIAL EXAMINED

ANGOLA: holotype: Angola, Kuvangu [Kwango], 1, Mis. la Chand. (MM).

Aspidimorpha (s. str.) *fusca* SHAW, 1961

Aspidomorpha fusca SHAW, 1961: 12 (HT in MRAC, PT in MM, MRAC).

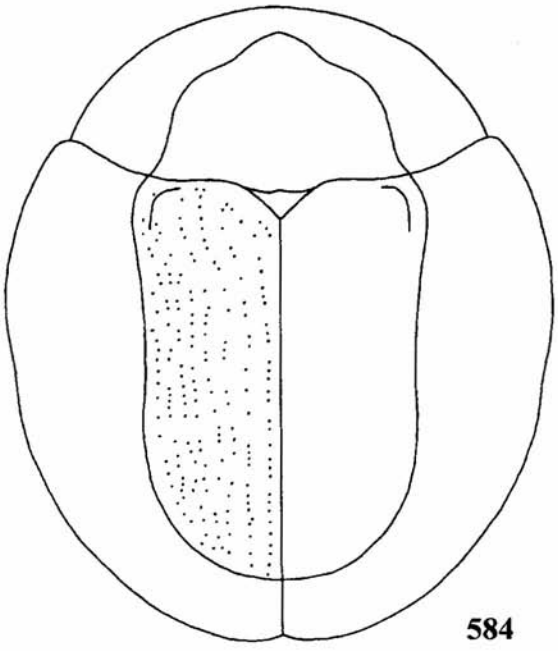
DESCRIPTION

Le: male: 9.6-11.0 mm, female: 10.5-11.4 mm, Wi: male: 8.6-9.5 mm, female: 8.7-9.6 mm, Lp: male: 3.2-3.5 mm, female: 3.3-3.6 mm, Wp: male: 6.3-7.2 mm, female: 6.5-7.3 mm, Ex: male and female: 2.3-2.6 mm, Wd: male: 4.4-4.8 mm, female: 4.6-4.9 mm. Le/Wi: male: 1.12-1.16, female: 1.19-1.26, Wi/Wp: male: 1.32-1.37, female: 1.29-1.35; Wp/Lp: male 1.97-2.06, female: 1.91-2.03; Wp/Lp: male 1.86-1.94, female: 1.94-1.97. Body short-oval (fig. 584)

Yellow, punctures of elytra often brown marked, epipleura always with reddish to brown sutural spot. In the darkest specimens elytral disc with irregular, brown band along sides from humerus to sutural end, but external two intervals always yellow. In thus coloured specimens brown colour of punctures of sutural row extended beyond puncture pit. Lateral band often reduced to separate few brownish spots or only brown colour extending beyond puncture pits. Clypeus usually mostly yellow with black corners, in extreme cases yellow is reduced to apex of clypeus. Thorax usually uniformly yellow, only in the darkest specimens black, meso and metathorax usually yellow or with infuscate central plates, occasionally black with yellow lateral plates. Abdomen in all examined specimens yellow, only in one specimen infuscate in the middle. Legs always yellow, only coxae sometimes partly infuscate to black. Usually two last antennal segments brown to black, base of segment 10 and apex of last segment usually yellowish, sometimes whole segment 10 yellow.

Pronotum semicircular, with maximum Wi at base, hind angles subangulate, forming blunt angle of about 85-90°. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, impunctate, without or with transverse sulcus, or with small impression in the middle. Base of elytra serrulate, only slightly wider than base of pronotum, elytral margins simple. Disc slightly gibbous, with maximum convexity in postscutellar point (fig. 585), with shallow postscutellar impression, without lateral impressions, and deep principal impression. Puncturation of disc regular, punctures larger than in both related *A. obovata* and *A. indistincta*, on slope only slightly smaller than in anterior half of disc, in sutural half of disc twice smaller than in lateral part of disc. Scutellar row with 6-8 punctures. Punctures in rows sparse, disposed irregularly, partly grouped in 2-4, so in part of row distances between punctures are only slightly larger than puncture diameter, but distances between groups are often many times larger than punctures. Rows



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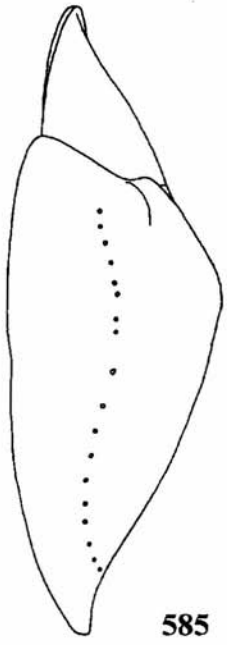

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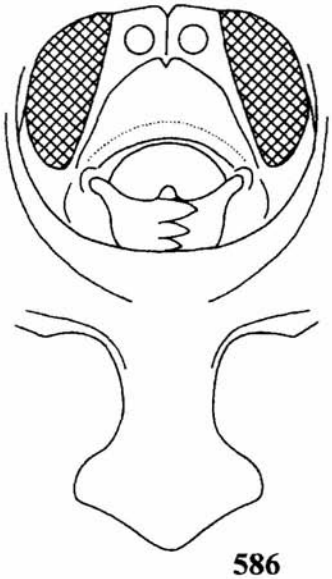

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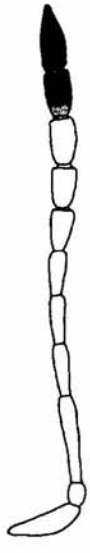


587

588

589

584-589. *Aspidimorpha fusca*: 584 - body in dorsal view, 585 - body in profile, 586 – head and prosternum, 587 – antenna, 588 – inner side of claw, 589 – outer side of claw

impressed, especially on sides of disc (rows 6 and 7 are more impressed than neighbouring ones), so surface of disc appears irregular. Punctures in marginal row deep, c. two to three times larger than in central rows. Intervals mostly flat, but on sides of disc intervals between puncture groups often form low folds, in sutural half four, in lateral half three times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin less declivous than in *A. indistincta*, in some specimens forms a shallow gutter, shallowly punctate, intervals between punctures slightly folded and surface appears irregular. Margin of elytra simple. Elytral epipleura in male bare, in female pubescent on 1/3 length (in fresh specimens also anterior half of epipleuron with short sparse hairs, but in dried specimens they are usually broken), hairs are sparser and shorter than in related *A. obovata*.

Head broad, clypeus c. two times wider than long (fig. 586), dull, distinctly elevated before antennal insertions, with distinct median impression. Labrum emarginate to 1/3 length. Antennae moderately elongate (fig. 587), extending slightly behind mid coxa, length ratio of antennal segments: 100:34:114:71:67: 54:60:57:60:60:97.

Claws pectinate on both sides, inner pecten with four long teeth extending to half length of claw, two outer teeth equal in length, two inner slightly shorter (fig. 588). Outer pecten with three teeth, two outer c. 1.5 times shorter than teeth of inner pecten, inner tooth twice shorter than outer teeth (fig. 589).

Sexual dimorphism less distinct than in *A. obovata*. Female larger, with body only slightly slimmer and pubescent elytral epipleura.

DISTRIBUTION

S Zaire and Zambia (fig. 577).

REMARKS

It belongs to the *obovata* species group. It differs from *A. obovata* in stouter body, less declivous and broader explanate margin of elytra, distinctly impressed elytral punctures, slightly gibbous elytral convexity and shallowly punctate surface of explanate margin of elytra. *A. indistincta* is very similar to *A. fusca* but differs in smaller body, more regular elytral convexity, less impressed principal impression and impunctate but slightly irregular explanate margin of elytra

MATERIAL EXAMINED

ZAIRE: Albertville, 1 (LB); Congo, V 1924, 1 (LB); Loulouabourg, 1 (LB); S Katanga, 1 (LB); Upemba Nat. Park, Ganza Pr., r. Kamandula, affl. Lukoka, 860 m, 27 VI-6 VII 1949, 1, miss. DE WITTE (holotype, MRAC); Upemba Nat. Park, Reg. riv. Luanana, pistes Pelenge-Lunra, 1400 m, 13 XI 1947, 1, miss. DE WITTE (paratype, MM).

ZAMBIA: Kashitu, N Broken Hill, XI 1914, 1, H.C. DOLLMAN (BMNH); Serenje, 20 X 1907, 1 (LB).

Aspidimorpha (s. str.) *gruevi* Borowiec, 1985

Aspidomorpha gruevi Borowiec, 1985 c: 451 (HT and AT in HNHM, PT in LB).

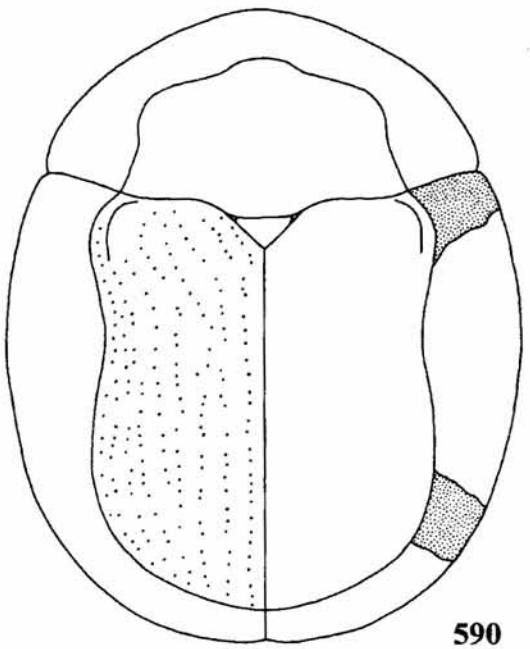
Description

Le: male: 7.5-9.2 mm, female: 8.4-9.4 mm, Wi: male: 5.9-7.0 mm, female: 6.4-6.9 mm, Lp: male: 2.6-3.1 mm, female: 2.8-3.0-3.9 mm, Wp: male: 4.8-5.8 mm, female: 5.3-5.9 mm, Ex: male: 1.1-1.3 mm, female: 1.1-1.3 mm, Wd: male: 3.6-4.5 mm, female: 4.2-4.5 mm; Le/Wi ratio: male: 1.23-1.29, female: 1.29-1.36, Wi/Wp: male: 1.15-1.23, female: 1.10-1.23, Wp/Lp: male: 1.85-2.00, female: 1.89-2.00. Body oval (fig. 590)

Pronotum uniformly yellow. Elytra mostly yellow with rather constant pattern. Disc yellow to argillaceous, each puncture often with darker, reddish or brown centre. In rare dark specimens disc with brown marble pattern, in extreme case whole disc reddish-brown to brown. Explanate margin yellow, with moderately broad argillaceous to brown humeral and posterolateral spots, and usually narrow sutural spot. Spots often are visible only on underside of explanate margin, sutural spot sometimes reduced. Humeral spot is often diagonal and posterolateral is shortened, extending only to half width of explanate margin. Margins of explanate margin slightly darker yellow than ventral half of explanate margin. Clypeus yellow. Ventrites usually uniformly yellow, often metasternum with brown spot in the middle, in extreme cases pro-, meso- and metasternum brown to black except yellow lateral plates and abdominal sterna at most slightly infuscate in the middle. Legs yellow, including coxae. Antennae mostly yellow, usually only last antennal segment black, except yellow ventral side of apex, sometimes segment 10 partly infuscate or with black dorsal side.

Pronotum semicircular, but anterior margin is not as regularly rounded as in similar *A. cincta* and *A. quinquefasciata*, with maximum width at base, hind angles subangulate, forming blunt angle about 80-85°. Disc moderately convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, almost horizontal, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, not or only slightly wider than base of pronotum, elytral margins simple. Disc regularly convex (fig. 591), with small and shallow principal impression, without lateral impressions, surface lateral part of disc usually regular or only slightly irregular. Puncturation of disc mostly regular, punctures fine to moderate, on slope not smaller than in anterior half of disc, in sutural half of disc twice to thrice smaller than in lateral part of disc. Scutellar row with 4-6 punctures. Punctures in rows moderately dense to dense, disposed mostly irregularly, partly grouped in 2-5, distance between punctures in groups c. as wide as to twice wider than puncture diameter, between groups three to seven times wider than puncture diameter. Marginal row deep, its punctures only slightly larger than in submarginal row. Intervals flat, in sutural half of disc four to five times wider than rows, on sides only c. twice wider than rows, their surface mostly smooth, shiny, with very small microreticulation. Lateral fold of explanate mar-



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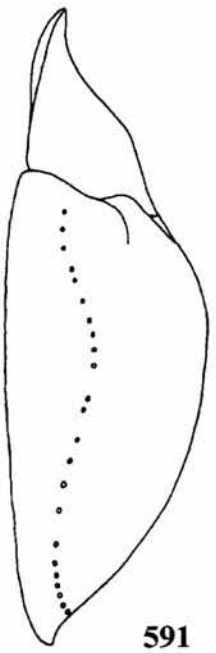

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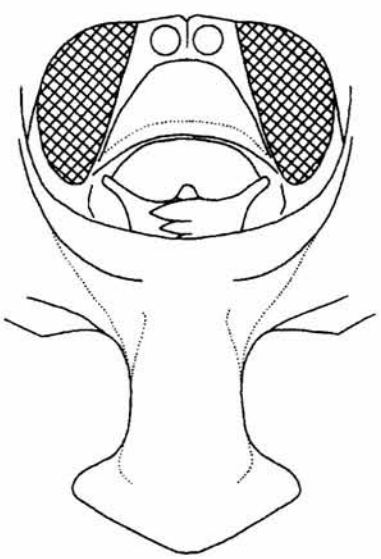

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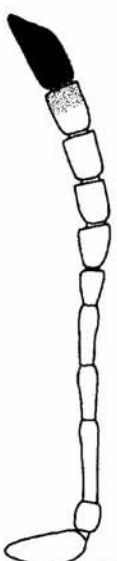

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590-595. *Aspidimorpha gruevi*: 590 - body in dorsal view, 591 - body in profile, 592 – head and prosternum, 593 – antenna, 594 – inner side of claw, 595 – outer side of claw

gin low and moderately broad. Explanate margin broad, moderately declivous to subhorizontal, without tendency to form a shallow gutter, impunctate, smooth and shiny. Elytral epipleura bare in both sexes.

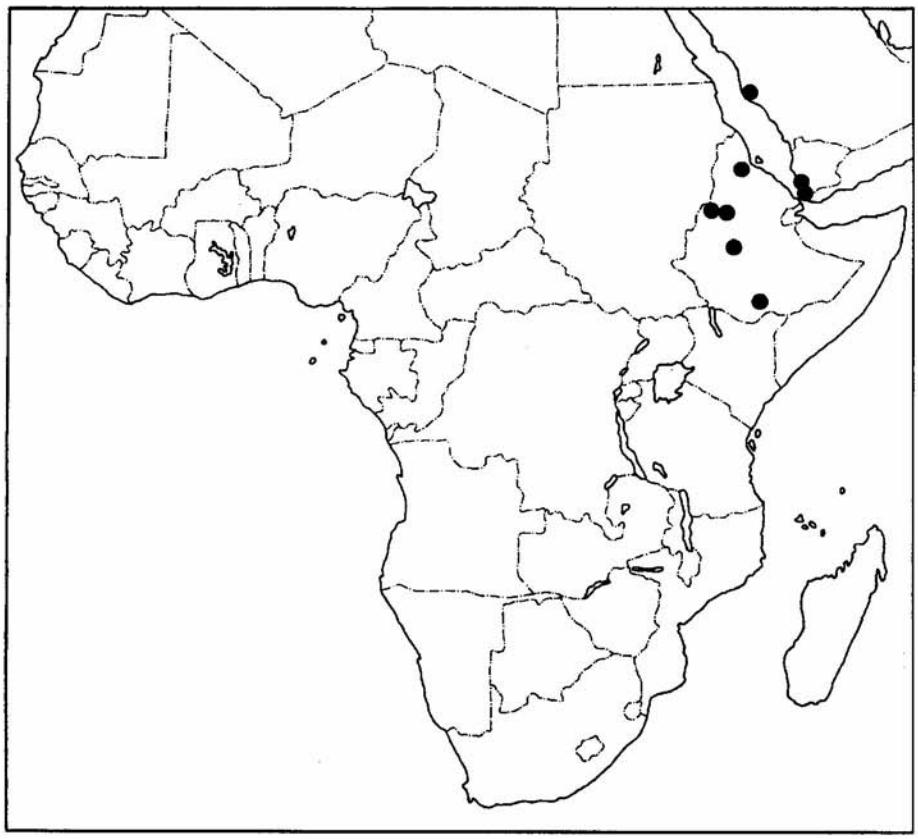
Head very broad, clypeus 1.8-1.9 times wider than long (fig. 592), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 593), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:42:95:63:53:37:58:53:55:57:100.

Claws pectinate on both sides, inner pecten with four long teeth extending to half length of claw (fig. 594). Outer pecten with two to three teeth, extending to 1/4-1/3 length of claw (fig. 595).

Sexual dimorphism hardly marked. Males slightly stouter than females.

HOST PLANT

Convolvulaceae: *Ipomoea batatas* (label data).



596. Distribution of *Aspidimorpha gruevi*

DISTRIBUTION

Yemen, Saudi Arabia and Ethiopia (fig. 596).

REMARKS

It belongs to the *cincta* group. It is the only member of the genus *Aspidimorpha* occurring in Arabian Peninsula. It is the smallest member of the group, very close to *A. quinquefasciata* and *A. astraea*. *A. gruevi* differs from both these species in more regularly convex elytral disc, especially in posterior half it is also convex and slope is more declivous (in both relatives elytral disc is regularly declivous from top of convexity in postscutellar point to apex of disc). Both relatives have a more western distribution with no records east of African rift, only *A. quinquefasciata* occurs also in Madagascar and adjacent islands, where it is probably introduced. Other species of the group are larger or slimmer and more depressed than *A. gruevi*.

MATERIAL EXAMINED

ETHIOPIA: Din Daraa (Dindar r.), 1 (ZMHU); N Galla, 2, v. ERLANGER (ZMHU); Ghinda, II 1893, 1, RAGAZZI (Genua); Lake Tana, 3 (IRSN, LB); Shoa, Debre Zeyt, V 1989, 2, K. WERNER (ZMUF); Shoa, Soddere, 25 IX 1988, 1500 m, 1, S. PERSSON (LU).

SAUDI ARABIA: Jeddah, N. Fatma, 1, from *Ipomoea batatas* (MHNG), II 1979, 3, W. BÜTTIKER (NMB, LB).

YEMEN: Taiz, 7, BENARDELLI (TM, LB); Wadi Zabid, XII 1969, 10, A. SZALAY-MARZSÓ (HNHM, LB).

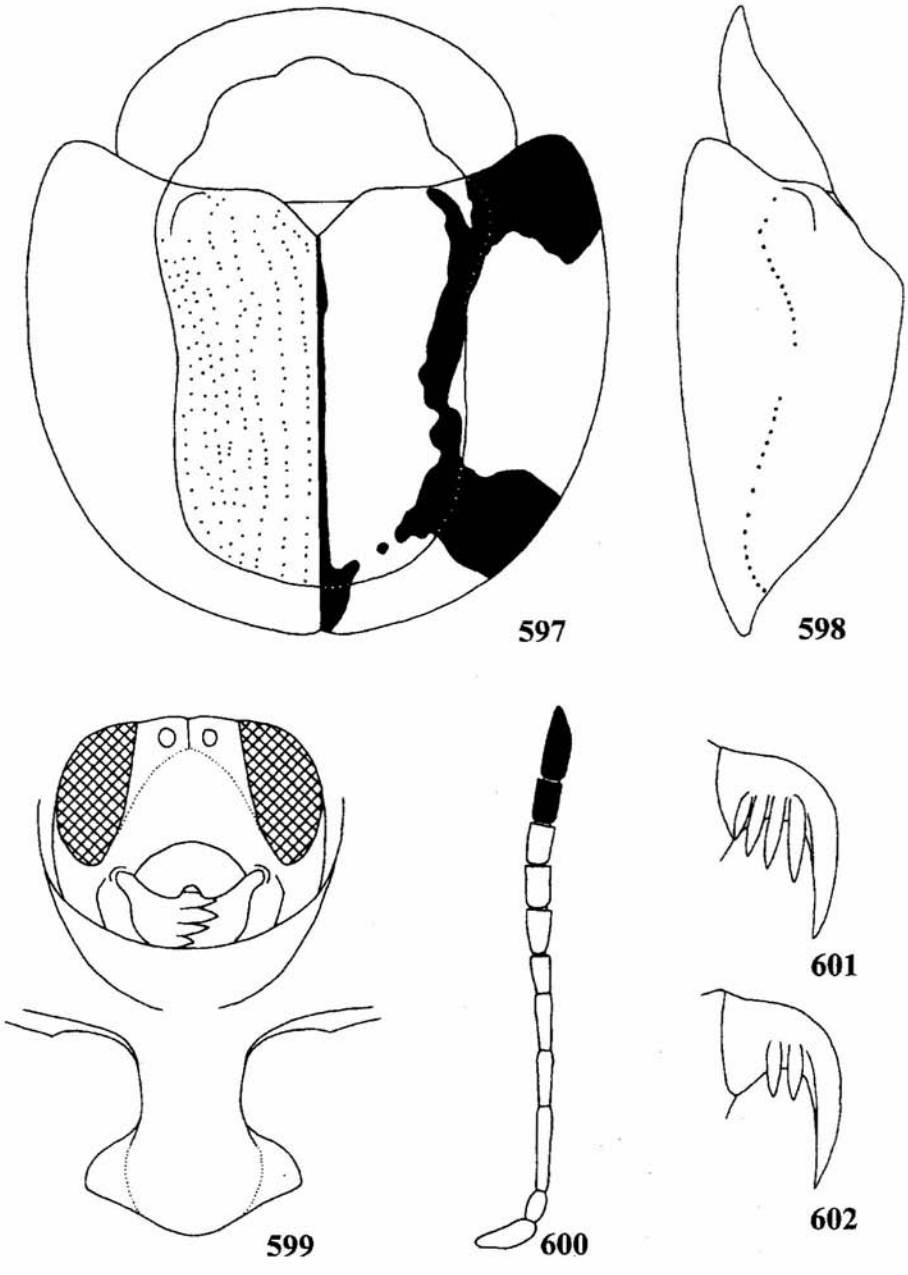
Aspidimorpha (s. str.) *honesta* SPAETH, 1902

Aspidomorpha honesta SPAETH, 1902: 446 (LT and PLT in IRSN, PLT in MM); 1912 a: 127, 1929: 159; 1932 b: 12.
Aspidomorpha (*Aspidomorpha*) *honesta*: SPAETH, 1914 b: 75.

DESCRIPTION

Le: male: 9.4-10.6, female: 11.6-12.4 mm, Wi: male: 8.7-10.1 mm, female: 10.4-11.2 mm, Lp: male: 3.0-3.5 female: 3.5-3.6 mm, Wp: male: 6.0-6.9 mm, female: 7.2-7.6 mm, Ex: male: 2.2-2.5 mm, female: 2.5-2.7 mm, Wd: male: 4.4-5.0 mm, female: 5.4-5.8 mm. Le/Wi: male: 1.04-1.08, female: 1.08-1.13, Wi/Wp: male: 1.45-1.55, female: 1.44-1.51; Wp/Lp: male: 1.91-2.00, female: 2.00-2.11. Body almost circular (fig. 597)

Pronotum uniformly yellow to argillaceous. Elytra yellow to argillaceous with a rather constant pattern (figs 619-620). Disc yellow to argillaceous, punctures usually without darker centre. Sides of disc with black band occupying two to three marginal intervals, lateral folds of marginal interval yellow, also anterior part of humerus and extreme apex of disc usually yellow, sometimes the band ends on posterolateral spot of explanate margin and whole apex of disc pale.



597-602. *Aspidimorpha honesta*: 597 - body in dorsal view, 598 - body in profile, 599 – head and prosternum, 600 – antenna, 601 – inner side of claw, 602 – outer side of claw

Internal margin of the lateral band usually irregular, with several emarginations. Occasionally, pale parts of disc reddish-yellow to brown. Sutural margin always black, often also internal part of sutural interval black. Explanate margin with extremely broad, black humeral, posterolateral and sutural spots. Humeral spot widened posterad, posterolateral spot widened anterad, both hammer-shaped. In extreme cases posterolateral spot is widened also posterad and coalescent with sutural spot and whole apex of explanate margin is black. Pale margins of explanate margin of elytra slightly darker than pale ventral part of the explanate margin. Clypeus yellow. Pro-, meso- and metasternum except sides and lateral plates brown to black, abdomen usually yellow, sometimes sternites infuscate in the middle. In extreme cases brown occupies only central part of metasternum. Antennae yellow, two last segments on upperside brown, often only last segment infuscate dorsally. Legs including coxae yellow.

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, much wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, with moderate, broadly obtuse postscutellar gibbosity, profile slightly convex behind the top of convexity (fig. 598), discal surface with distinct principal impression, shallow scutellar impressions, without posterolateral impression but surface of lateral part of disc slightly irregular. Puncturation of disc fine, regular, on slope only slightly finer than in anterior half of disc, in sutural half of disc at most twice finer than in lateral part of disc. Scutellar row with 4-6 punctures. Punctures in rows moderately dense to dense, disposed mostly regularly, only partly grouped in 2-3, distance between punctures or their groups two to five times larger than puncture diameter. Rows not impressed. Punctures in marginal row deep, thrice larger than in central rows. Intervals flat, in sutural half of disc c. four times, in lateral half c. thrice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low to moderate. Explanate margin very broad, subhorizontal to horizontal with tendency to form a gutter, especially in males, impunctate, its surface smooth and glabrous. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus c. 1.5 -1.6 times wider than long (fig. 599), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/3-2/5 length. Antennae moderately elongate (fig. 600), extending to mid coxa, length ratio of antennal segments: 100:50:127:84:77:59:64:56:59:61:123.

Claws pectinate on both sides, inner pecten long, with four teeth extending to c. 1/2-2/3 length of claw (fig. 601), outer pecten with three teeth, first extending to 1/3-1/2 length of claw, remainder gradually smaller (fig. 602).

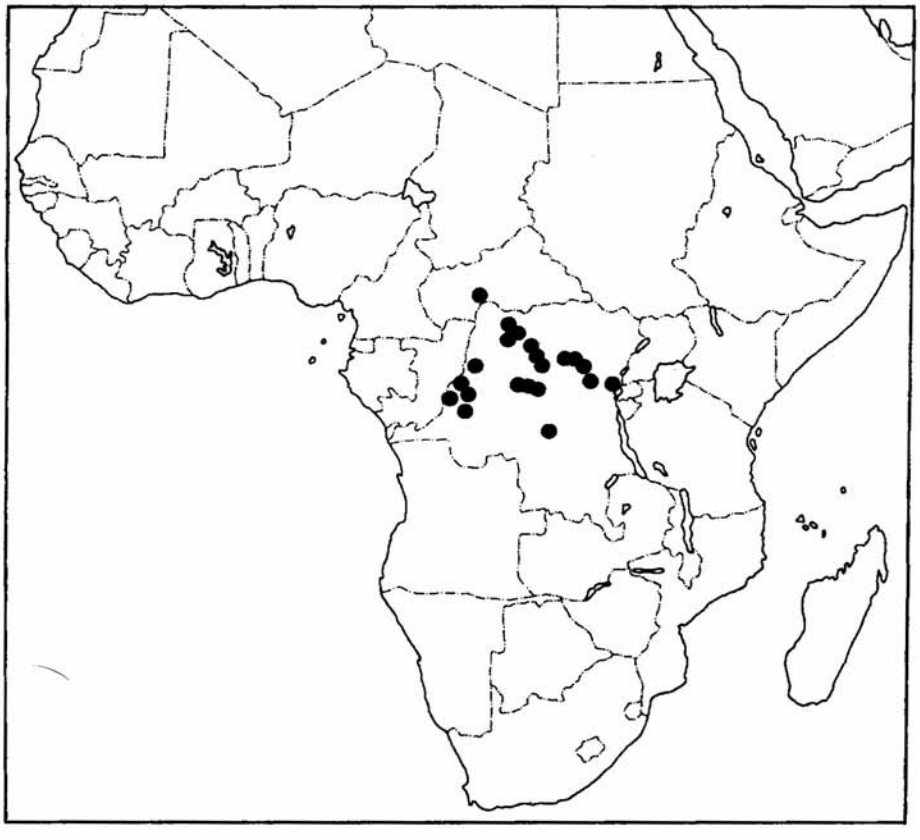
Sexual dimorphism indistinct. Male slightly stouter, with base of elytra slightly wider in relation to base of pronotum than in female.

DISTRIBUTION

Zaire and Republic of Central Africa (fig. 603).

REMARKS

It is a member of the *isparetta* group. The constant, black pattern of this species is quite characteristic. *A. sjoestedti* differs in argillaceous groundcolour of disc (pale yellow in *honesta*) and explanate margin of elytra without sutural spot (in *honesta* always present). *A. tecta* differs in elytral pattern never black. Some specimens of *A. isparetta* can be deceptively similar in their pattern of elytra but they differ in surface never as glabrous as in *honesta* and sutural margin usually yellow (always black in *honesta*). Females of both species distinctly differ in apex of elytral epipleura, pubescent in *A. isparetta*, while in *A. honesta* in both sexes it is bare.



603. Distribution of *Aspidimorpha honesta*

MATERIAL EXAMINED

REPUBLIC OF CENTRAL AFRICA: Fort Sibut, Oubanghi-Chari, 1968, 4 (MRAC).

ZAIRE: Bokalakala, Bolobo, 1954, 2, C. Eloy (MRAC); Bolombo, 1 (MRAC); Botuna-Bokungu, 1950, 6, M. BOEL (IRSN); Buhunde, Biruwe n. Matenda, 21 IX 1929, 1, A. COLLART (IRSN); Equateur, Bokuma, I-II 1952, 1, R.P. LOOTENS (MRAC); Equateur, Masanga, Terr. Bokungu, Tshuapa, 11, MASSART (IRSN); Haute Maringa, 1894-96, 1, L. MAIRESSE (lectotype, IRSN); Kasai, Makaw, 1958, 1, E. JANS (MRAC); Lac Leopold II, 11-24 IV 1925, 1, Prince LEOPOLD (IRSN); Likimi, 16 X 1927, 1, A. COLLART (IRSN); Likimi-Bobanga, 21 XI 1927, 1, A. COLLART (IRSN); Likimi-Bokapo, 16 VIII 1927, 2, A. COLLART (IRSN); Likimi-Diobo, 30 IX 1927, 1, A. COLLART (IRSN); Likimi-Gwanga, 18 VIII 1927, 2, A. COLLART (IRSN); Likimi-Mumbia, 29 X 1927, 4, A. COLLART (IRSN); Likimi-Mundjungani, 3 X 1927, 1, A. COLLART (IRSN); Likundu, Stanl., 1954, 1, P. SAUSSUS (MRAC); Lubutu, IX-X 1929, 1 A. COLLART (IRSN); Lubutu-Kirundu, 2 IX 1929, 2, A. COLLART (IRSN); Lukulela, 1938, 1, R. MASSART (IRSN); Lusambo, 1950, 1, P. HOSTIE (MRAC); Masisi, Mandimba-Uluku, 14 IX 1929, 1, A. COLLART (IRSN); Ngowa, 16 XI 1938, 1, J. MERTENS (IRSN); Stanley Falls, 3, MALFEYT (paralectotypes, 1 MM, 2 IRSN); Stanley Pool to Lukolele, 1894, 4, HARRISON (MCZC); Tshuapa, Bamanya, 20-30 X 1966, 1, V 1967, 1, 1968, 1, R.P. HULSTAERT (MRAC); Tshuapa, Etata, VII-VIII 1969, 2, IX-X 1969, 5, V 1970, 3, J. HAUWAERT (MRAC); Tshuapa, Ikela, IX 1955, 1, III-VI 1956, 20, R. DEGUIDE (MRAC), I 1953, 1, R.P. HULSTAERT (MRAC), 1955, 60, 1956, 50, R.P. LOOTENS and R. DEGUIDE (MRAC), IX 1956, 2, X 1956, 11, XI 1956, 26, R.P. LOOTENS (MRAC); Umangi, IX-XI 1896, 2, E. WILVERTH (paralectotypes, 1 MM, 1 IRSN); Yangambi, XI 1959, 1, J. DECELLE (MRAC).

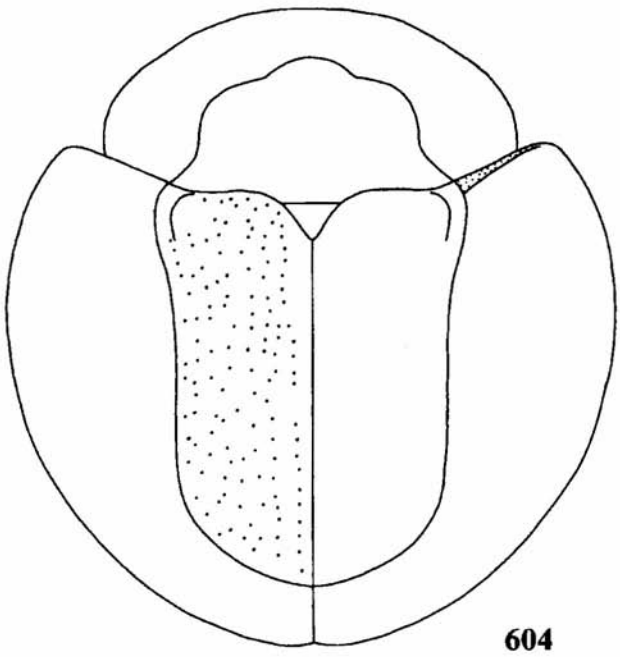
Aspidimorpha (s. str.) *hyalina* SPAETH, 1934

Aspidomorpha hyalina SPAETH, 1934: 382 (LT in MRAC, PLT in MRAC, MM); SHAW, 1955: 233.

DESCRIPTION

Le: male and female: 9.3-9.5 mm, Wi: male and female: 8.8-9.1 mm, Lp: male and female: 2.7-3.1 mm, Wp: male and female: 5.8-6.2 mm, Ex: male and female: 2.4 mm, Wd: male and female: 4.2 mm; Le/Wi ratio: male and female: 1.04-1.06, Wi/Wp: male and female: 1.47-1.52, Wp/Lp: male and female: 2.00-2.15. Body almost circular (fig. 604).

Pronotum uniformly yellow. Elytra yellow with rather constant pattern. Disc yellow-green to yellow, uniform, each puncture with darker, brown to almost black centre, explanate margin on both upper and underside of the same colour like disc, only margins darker yellow than internal part. Clypeus yellow, basal corners usually brown to black. Ventrites uniformly yellow. Antennae yellow, only last segment mostly brown to black. Legs uniformly yellow.



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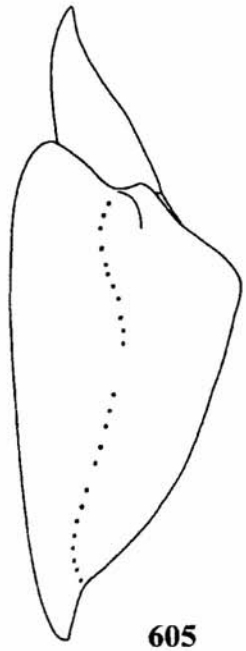

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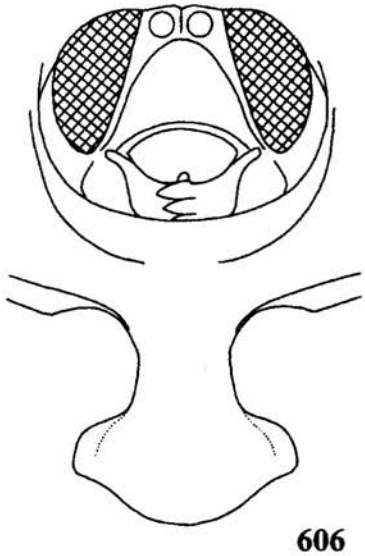

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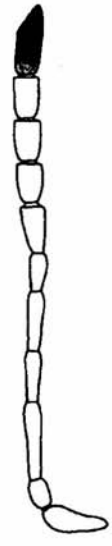

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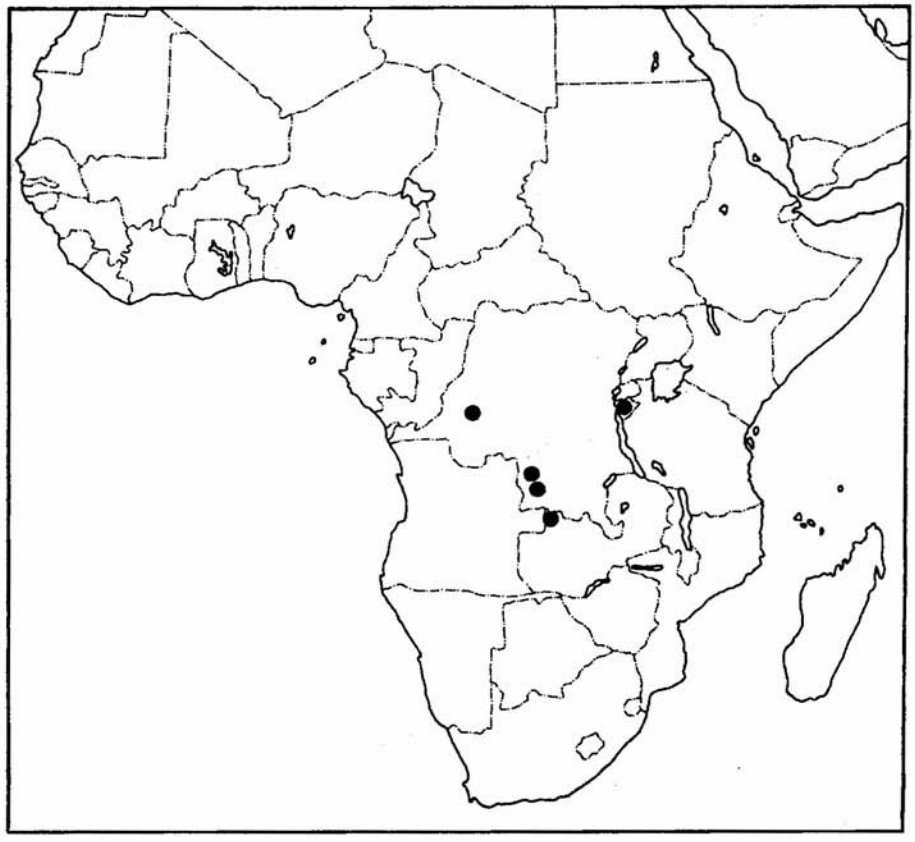
604-609. *Aspidimorpha hyalina*: 604 - body in dorsal view, 605 - body in profile, 606 – head and prosternum, 607 – antenna, 608 – inner side of claw, 609 – outer side of claw

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri broadly rounded, elytral margins simple. Disc unevenly convex, strongly angulate in postscutellar point, profile behind the top of convexity concave, angulation appears like tubercle (fig. 605), impression absent or hardly marked, surface of lateral part of disc regular. Puncturation of disc very fine, regular, on slope slightly finer than in anterior half of disc, in sutural half of disc only twice finer than in lateral part of disc. Scutellar row with 3-5 punctures. Punctures in rows very sparse, disposed regularly, distance between punctures or their groups five to eight times larger than puncture diameter. Rows not impressed. Punctures in marginal row deep, twice larger than punctures in central rows. Intervals flat, in sutural half five to six times, in lateral half twice to thrice wider than rows,



610. Distribution of *Aspidimorpha hyalina*

their surface smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low and moderately broad. Explanate margin very broad, moderately declivous, with no tendency to form a gutter, impunctate, its surface smooth and shiny. Extreme apex of elytral epipleura in both sexes sparsely pubescent.

Head broad, clypeus c. 1.6 -1.7 times wider than long (fig. 506), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 507), extending to mid coxa, length ratio of antennal segments: 100:47:112:76:74: 53:71:59:61:58:112.

Claws pectinate on both sides, inner pecten long, with four teeth extending c. to half length of claw (fig. 608), outer pecten with three teeth, first extending to 1/3 length of claw, remainder gradually smaller (fig. 609).

Sexual dimorphism indistinct. Male slightly stouter, with a less pubescent apex of elytral epipleura.

DISTRIBUTION

Submountain regions of Burundi, Zaire and Zambia (fig. 610).

REMARKS

It is a member of the *tanganikana* group, the only one with ventral surface uniformly yellow. Postscutellar tubercle of *A. hyalina* is distinctly higher then in *A. montanella* and *A. tanganikana* but lower than in *A. mirabilis*. In *A. hyalina* it is almost conical, the profile behind tubercle is slightly concave while in *A. mirabilis* almost whole disc is conical and the profile behind the top of tubercle is straight. Groundcolour of elytra in *A. hyalina* is yellow while in other members of the group it is yellow-green.

MATERIAL EXAMINED

BURUNDI: Urundi, 1800-2000 m, 5-12 III 1953, 1, P. BASILEVSKY (MM).

ZAIRE: Lulua, Kabomba, XI 1937, 1, VANDERSTICHELE (MRAC); Lulua, Sandoa, 1930, 2, OVERLAET (paralectotypes, present designation, MM); Mt. Pogge, 1 (LB); Sandoa, X 1930, 3, OVERLAET (lectotype and paralectotype, present designation, MRAC, paralectotype, MM).

ZAMBIA: Mwinilunga, III 1960, 1 (LB).

Aspidimorpha (s. str.) *icterica* BOHEMAN, 1854

Aspidomorpha icterica BOHEMAN, 1854: 306 (LT and PLT in NRS); 1856: 113; 1862: 273; SHAW, 1955: 234; 1956 a: 260

Aspidomorpha flavens SPAETH, 1912 b: 506 (ST in MM), 1924: 282; 1925: 2; 1943: 52; BOROWIEC, 1985 a: 234, **n. syn.**

Aspidomorpha (Aspidomorpha) flavens: SPAETH, 1914 b: 75.

Aspidomorpha appendiculata, applicata, flavopunctata, vulnodorsata: nomina nuda, coll. names.

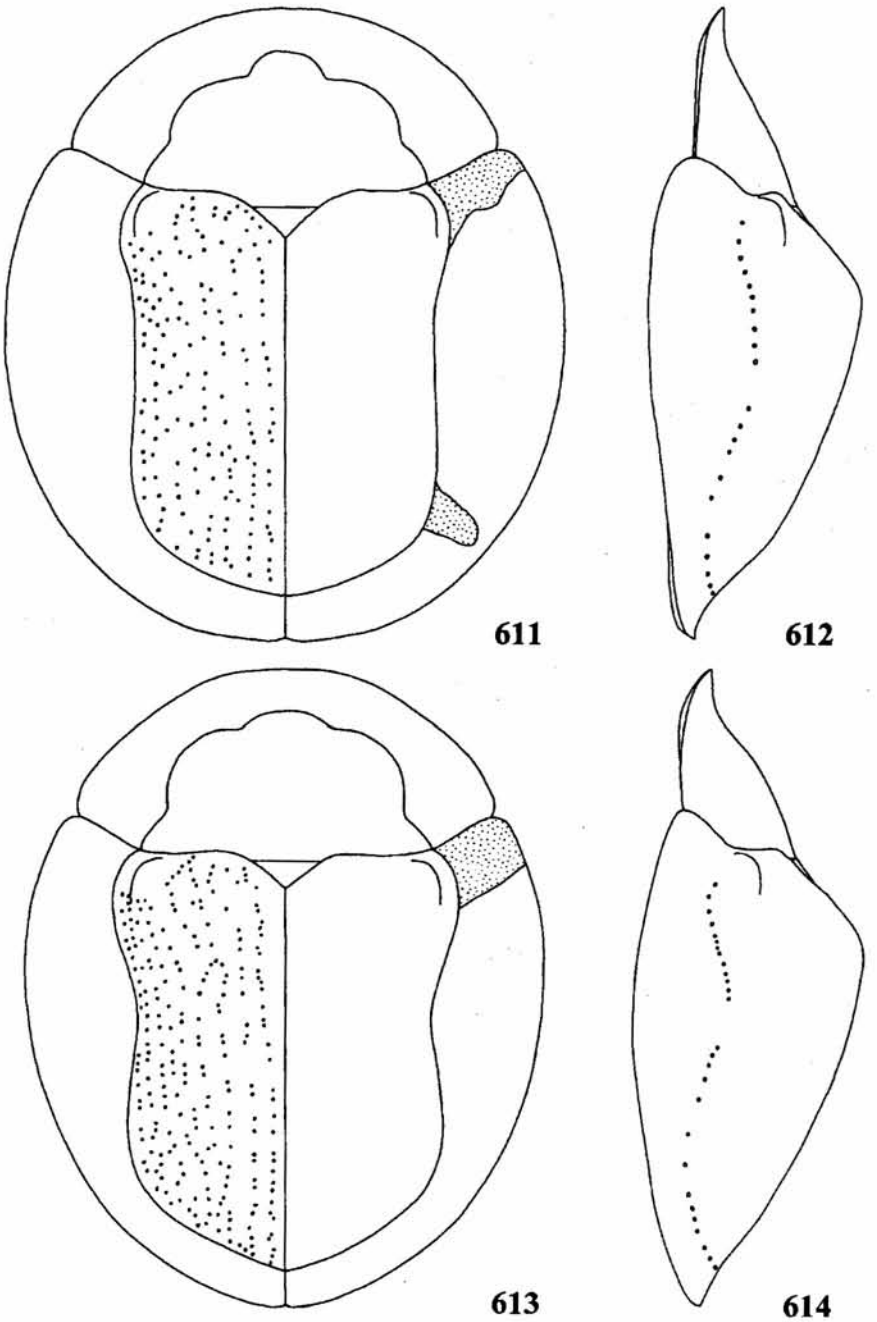
Description

Le: male: 8.3-9.3 mm, female: 8.6-10.4 mm, Wi: male: 7.1-8.2 mm, female: 6.8-8.8 mm, Lp: male: 2.7-3.0 mm, female: 2.6-3.1 mm, Wp: male: 5.6-6.2 mm, female: 5.5-6.8 mm, Ex: male: 1.6-2.0 mm, female: 1.4-2.1 mm, Wd: male: 3.9-4.5 mm, female: 4.1-5.0 mm; Le/Wi ratio: male: 1.11-1.17, female: 1.15-1.26, Wi/Wp: male: 1.26-1.32, female: 1.24-1.38, Wp/Lp: male: 2.07-2.14, female: 2.06-2.13. Body short-oval to almost circular (figs 611, 613).

Moderately variable species (figs 621-624). Pronotum always uniformly yellow. Elytra in most common form uniformly yellow, only explanate margin with slightly darker yellow, diagonal humeral spot and broad band along lateral margin (= *flavens*). Sometimes explanate margin with narrow to moderate posterolateral spot and humeral spot not diagonal but rectangular. Thus coloured, pale forms predominate in northern part of the range, in Kenya, Uganda and Tanzania. Sometimes elytral disc with mixed yellow and brown or brownish-black pattern, and explanate margin with darker brown humeral and posterolateral spots. Occasionally disc with distinct pattern but explanate margin uniform or only with small diagonal humeral spot. Maculate forms are especially common in southern part of the range, in Malawi and Republic of Central Africa. In all forms elytral punctures usually with darker centre. Scutellum in all forms yellow. Clypeus yellow. Pro- and mesosternum and metasternum except sides usually black, but sometimes ventrites uniformly yellow. Abdomen usually mostly yellow, each sternite in the middle sometimes with a pair of brown to black spots, only in the darkest specimens the spots partly coalescent, especially on second and third sternite. Antennae yellow, usually two last segments mostly brown to black, occasionally segment 10 mostly yellow and only slightly infuscate apically. Legs including coxae yellow.

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, slightly wider than pronotum, especially in females, humeri rounded, elytral margins simple. Disc unevenly convex, moderately gibbous in postscutellar point, straight to slightly convex behind the top of convexity (figs 612, 614), with small but distinct principal impression, very shallow scutellar impressions, but usually without posterolateral impression, posterolateral part of disc usually even or only slightly irregular. Puncturation of disc fine, regular, on slope not finer than in anterior half of disc, in sutural half of disc c. twice finer than in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-4, distance between punctures or their groups three to six times larger than puncture diameter. Rows not impressed. Punctures in marginal row deep, only twice larger than in central rows. Intervals flat, in sutural half of disc four to five times, in lateral half thrice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral folds of marginal interval low and moderately broad.



611-614. *Aspidimorpha icterica*: 611, 613 - body in dorsal view, 612, 614 - body in profile: 611-612 - male, 613-614 - female

Explanate margin very broad, moderately declivous, does not form a gutter, impunctate, its surface smooth and shiny. Elytral epipleura bare in male, densely pubescent in female.

Head moderately broad, clypeus c. 1.5 -1.6 times wider than long (fig. 615), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4-1/3 length. Antennae moderately elongate (fig. 616), extending to mid coxa, length ratio of antennal segments: 100:47:116:79:76:58:78:74:72:72:126.

Claws pectinate on both sides, inner pecten very long, with five teeth extending to 2/3-3/4 length of claw (fig. 617), outer pecten c. twice shorter, with three teeth, external two equal in length, internal tooth slightly shorter (fig. 618).

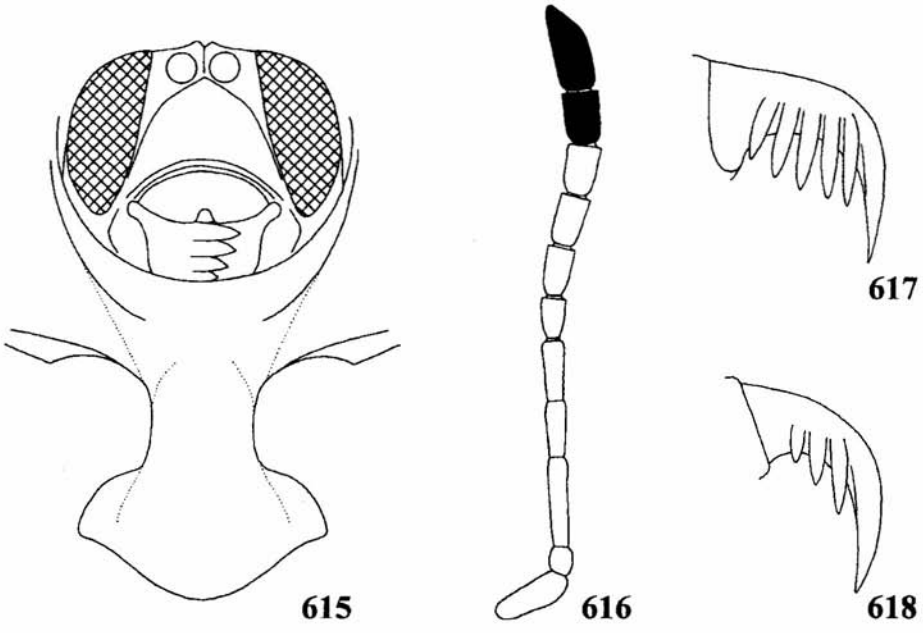
Sexual dimorphism distinct. Male stouter, with last antennal segment slightly longer than in female, apex of elytral epipleura in male bare, in female pubescent.

HOST PLANTS

Convolvulaceae: *Convolvulus farinosus*, *Hewittia sublobata*, *Ipomoea alba*, *I. arborescens*, *I. batatas*, *I. cairica*, *I. congesta*, *I. ficifolia*, *I. fistulosa*, *I. plebeja*, *I. wightii* (HERON & BOROWIEC 1997).

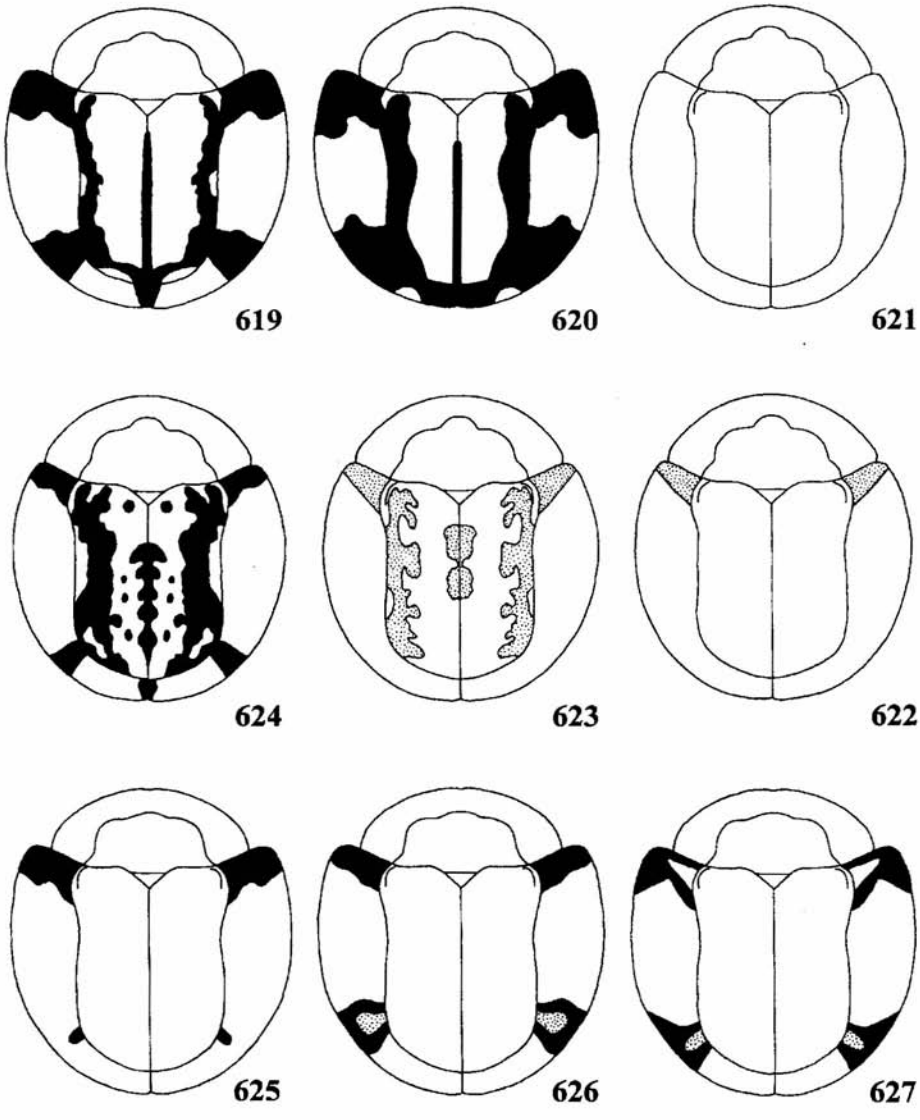
BIONOMICS AND IMMATURE STAGES (after H. HERON, letter inf.)

Ootheca: The concave basket-shaped ootheca is attached to the underside of the leaf by one end of a curved papery scale: subsequent papery membranes being



615-618. *Aspidimorpha icterica*: 615 – head and prosternum, 616 – antenna, 617 – inner side of claw, 618 – outer side of claw

piled inside the concavity. The basal scale is narrower than the width of the ootheca: ca. 2 mm wide (ootheca ca. 3 mm wide). A succesion of strongly curved (concave) mebranous egg-cases are attached to the apical edge of the basal scale, with that edge forming the basal portion of the pile. Exits are at the opposite "free" ends. There appear to be five "egg-purses" in the pile. The broad outer



619-627. Variation of dorsal maculation: 619-620 - *Aspidimorpha honesta*, 621-624 - *A. icterica*, 625-627 - *A. incerta*

upper covering membrane of the pile appears roughly rectangular (edges may bulge outwards) with a double-ridged "keel" running longitudinally near the centre and a hint of another "keel" about midway to the margin in some examples. The intervening area is crossed by fine transverse ribs. Ootheca size varies from 3x3.5x2.5 mm to 3.25x3.75x3 mm. Freshly laid oothecae are reddish-brown, fading to pale brown after a week or two. Each ootheca hosts eight ova.

5th instar larva: larvae are flattened oval, tapering posteriorly, and generally found singly on the underside of a leaf. Where several are found together, their association is random. Size in the vicinity of 9x5 mm (11x8 mm including larval lateral spines) but is variable depending upon gender. Lateral spines whitish with conspicuous short setae. Relative spinal lengths: 6>3 8>2>10>9 11>1 16>15>4>5>7 12 13 14. The first two spines are not fused basally. Tips of larger lateral spines black. Pronotum dull whitish olive with a pale rust-brown roughly triangular mark, the base of which reaches the first two lateral spines. Brownish patch widens to form a broad dorsal band on the mesothorax but, on the metathorax, it disintegrates and colours only the ridges of the segments. The pronotal shields are densely pubescent; the pubescence linking up with the basal pubescence on lateral spines 2 and 3. Remainder of pronotum, meso- and metathorax slightly pubescent. A pair of black bifurcate markings exist laterally on all three thoracic segments. Abdominal segments dull whitish olive but creamy-white laterally about bases of spines 9 to 16, bordered anteriorly by the thin bifurcate marking on the posterior margin of the metathorax. A dark greyish band exists alongside the cream band. The supra-anal process is obscured by exuvia and long thin filamentous faeces from earlier instars. Abdominal segments with same matted pubescence as thorax, appearing more dense laterally. Dorsum with light pubescence.

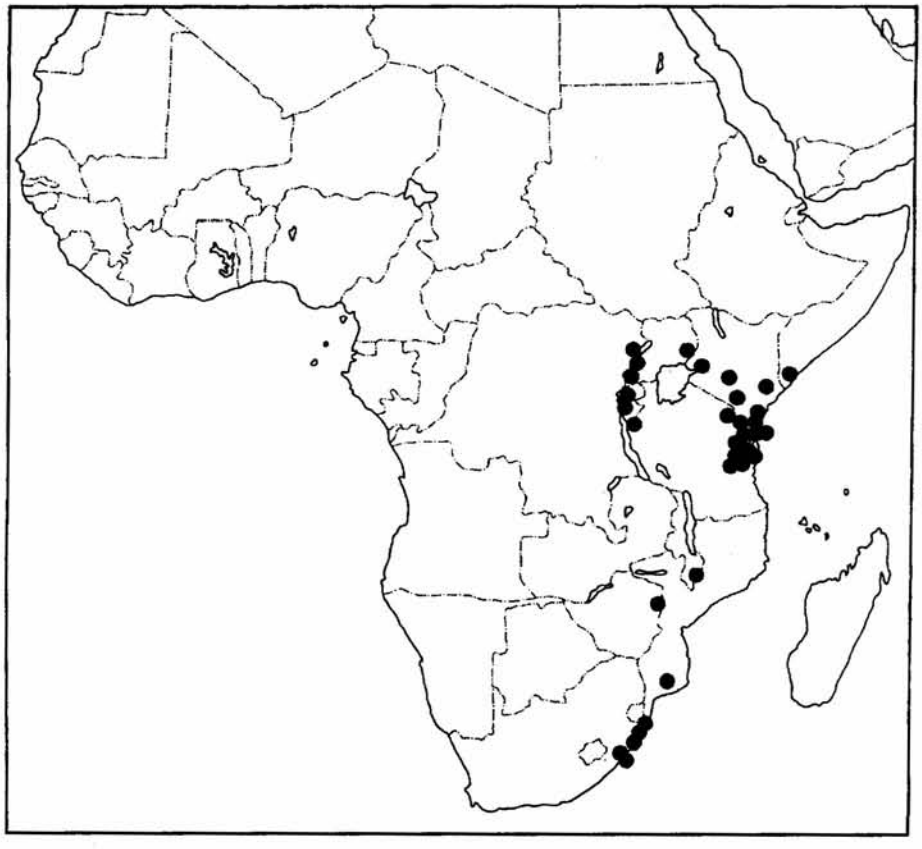
Pupa: measured 9x5 mm (9x7 mm including epipleura) but size varies according to gender. Glabrous. Colour yellow-green and the body flat, oval. The explanate margin is colourless, depresses anterolaterally, with about 66 marginal spinules of which two pairs on the anterior margin are just over 2x the length of the others. Lateral posterior recurved portions of the pronotum have dark blackish-brown margin. Remainder of pronotal disc yellow-green. A thin dark brown line marks the boundary between the pronotum and mesothorax with a small break dorsomedially. A similar thin line marks the posterior boundary of the metathorax and extends antero-laterally along the anterior margin of the first leaf-like abdominal lateral scale. The abdomen hosts five pairs of leaf-like lateral projections. The first has a brownish cast and the remainder are colourless and transparent. Each scale has 2 to 3 pairs of lateral spinules. Abdominal segments are glabrous and yellow-green with a brown lateral band extending from segment 1 to at least segment 6 (7 to 9 obscured by exuvium of 5th instar). The band is bounded laterally by the whitish spiracles and swells anteriorly to twice the width, on segment 1, as for the remaining segments. A line of small brown spots, one pair per segment, exists parallel to the lateral band midway between the median and lateral portions of each segment. Each segment is bordered by a very thin brown line with a wide dorso-medial gap. Exuvia of all the previous instars

are retained in the supra-anal process. Pupa usually on underside of leaf, frequently on the host plant.

Predators and parasitoids: adults taken by the crab spider *Thomisus* sp., also taken by clubionid spider. An adult taken by assassin bug (*Reduviidae*). Larvae taken by plant bug (*Pentatomidae*), lynx spider (*Oxyopidae*), stinging ant (possibly *Pseudomyrmecinae*), social wasps (*Polistes* sp.), larva of carabid beetle and larva of a lacewing (*Chrysopidae*). Oothecae: the parasitoid *Pediobus* sp. (*Eulophidae*) noted about the oothecae. Small bugs (*Miridae*) noted about oothecae and taking 1st instar larva. A pyrrhocorid bug attacked ootheca (*Pyrrhocoridae*). Pupa killed by *Brachymeria* sp. (*Chalcididae*), also attacked by bug (*Miridae*).

DISTRIBUTION

Eastern and southern Africa north to Somalia, south to Natal in South Africa (fig. 628).



628. Distribution of *Aspidimorpha icterica*

REMARKS

It is a member of the *isparetta* group but it is intermediate between species of the *isparetta* group and the *dissentanea* group. Its elytral convexity is higher than in other members of the *isparetta* group but lower and less angulate than in species of the *dissentanea* group. Pale specimens of *A. infuscata*, *A. madagascarica* and *A. dissentanea* are very similar to *A. icterica*, but it differs in pubescent apex of female epipleura (in all three relatives epipleura are bare in both sexes) and usually more obtuse elytral elevation. Small specimens of *A. uluguruensis* are also similar, especially females of the latter species have also pubescent apex of elytral epipleura, but differ in more prominent elytral elevation and usually distinctly larger size. Specimens of *A. icterica* with low postscutellar elevation are similar to the most convex specimens of *A. isparetta*, the latter species differs in base of elytra more distinctly wider than base of pronotum (in *icterica* it is only slightly wider). Both species are mostly separated geographically. A special problem is distinguishing *A. tecta* and *A. icterica* in South Africa, where both are partly sympatric. Body shape and colouration of both species are very similar, *A. icterica* is slightly more angulate in profile than *A. tecta* and in South Africa often forms an aberration with partly maculate elytral disc (in *tecta* elytral disc is never maculate). The best character distinguishing both species is pubescent apex of elytral epipleura in *icterica*, while in *tecta* both sexes have bare epipleura.

The name *A. icterica* was used by many authors as a senior synonym of *A. dissentanea*, despite of its terra typica being "Port Natal", the region outside the distribution area of *A. dissentanea*. Based on types both species are distinct, and the name *icterica* is a senior synonym of the species described by SPAETH (1912) and recorded by subsequent authors as *A. flavens*.

MATERIAL EXAMINED

BURUNDI: NW Urundi, 2140 m, 10 IX 1911, 1, H. MEYER (ZMHU).

KENYA: Fort Hall, 1 (ZMHU); Kibwezi, 2 X 1908, 1, SCHEFFLER (ZMHU); 31 mls NW of Mombasa, 375 m, 4 XI 1957, 1, E.S. ROSS and R.E. LEECH (CAS); Mumias, Kisumu Rd., 3800-4800 ft., 25-26 VI 1911, 1, S.A. NEAVE (BMNH); Shimba Hills, 27 V 1973, 1, H. GØNGET (ZMC); Voi, 24-28 I 1996, 1, M. SNIZEK (MS).

MALAWI: Cholo, 3, R.C. WOOD (BMNH); Mlanje, 29 IV 1913, 1, 2 V 1913, 1, 2 VI 1913, 1, 29 XII 1913, 1, 5 II 1914, 1, S.A. NEAVE (BMNH).

MOZAMBIQUE: Chirinda Forest, Gaza Ld., III 1907, 1, D. ODENDAAL (BMNH).

RWANDA: SW Ruanda, 2700 m, 5-6 IX 1911, 1, H. MEYER (ZMHU).

SOMALI: S Somali, 1, ERLANGER (ZMHU).

SOUTH AFRICA: Grand Bana, 12 VIII 1892, 2 (TM); Natal, Durban, 2, P. REINECK (ZMHU), 23 XII 1906, 1, G.F. LEIGH (TM); Natal, Hluhluwe Game Res., 27-28 II 1967, 1, D. GILLISSEN and L. BLOMMERS (ITZ); Port Natal, 2 (ZMC); Hluhluwe, XII 1960, 1, G. v. SON (TM), 16 XI 1970, 1, O. BORQUIN (TM); Natal, Indaleni, Distr. Richmond, 1 III 1956, 1 (MRAC); Pt. Nat., 2, "I. VAHLB." lectotype and paralectotype of *Aspidomorpha icterica*, present designation, NRS);

Zululand, Empangeni, 12 II 1976, 1, 26 XII 1978, 1, P.E. REAVEL (TM); Zululand, Lake Sibaya, 10 XI 1984, 1, BELLAMY and SCHOLTZ (TM); Zululand, Maputa, 1 XII 1955, 1 (MRAC).

TANZANIA: Amani, X-XII 1905, 1, C. SCHRÖDER (ZMHU), X-XI 1905, 1, 1-4 II 1906, 9, 1-20 II 1906, 3, 5 XI 1906, 1, 25-30 XII 1906, 1, VOSSELER (ZMHU), 900 m, X-XII 1905, 1, Ch. SCHRÖDER (FMNH), 9 XI 1957, 1, E.S. ROSS and R.E. LEECH (CAS); Bomole, X-XII 1905, 2, C. SCHRÖDER (ZMHU); Dar es Salaam, 1 (ZMHU), 2 (ZMC), 1, METHNER (ZMHU); Kibateni, 10 VIII 1904, 1, KARASEK (ZMHU); S Kilimandjaro, 20-21 I 1906, 1, C. SCHRÖDER (ZMHU); Magamba-Bge n. Magila n. Korogwe, V 1893, 1, O. NEUMANN (ZMHU); Masinde, 1600-2000 m, 6 I 1905, 1 (ZMHU); Matombo, 12 VII 1952, 1, H. KNIPPER (SMF); Mhonde, Ungu, 8 IX 1888, 1 (ZMHU); Mombo or., 9-11 I 1996, 1, M. SNIZEK (MS); Morogoro reg., Kimboza For. Res., Kibungo, at Mimion, swept, 30 III 1989, 1, S. MAHUNKA and A. ZICSI (HNHM); Morogoro reg., 40 km SW Mikumi, near Kidatu Dam, Great Ruatra river, swept, 29 III 1989, 1, S. MAHUNKA and A. ZICSI (HNHM); Moschi, 1 (ZMHU), VII 1905, 5, KATONA (syntypes, MM); Nguelo, 7 (ZMHU), 3 (FMNH); W Pemba, 20 IV-1 V 1903, 1, VOELTZKOW (ZMHU); W Pemba, Insel Fundu, 26 IV 1903, 1, VOELTZKOW (ZMHU); Sigi, III 1905, 1, Ch. SCHRÖDER (ZMHU), 20 III 1907, 2, VOSSELER (ZMHU); Sisima, 27 IX 1904, 1, KARASEK (ZMHU); Tanga, 1 (IRSN); Ukami, 3 (FMNH); Uluguru Mts., Kimboza Forest, 250 m, 18 VII 1981, 4, M. STOLTZE and N. SCHARFF (ZMC), 300 m, 1 XII 1984, 1, M. STOLTZE (ZMC); Usambara, 1 (IRSN), 11 X 1893, 2 (BMNH); Usambara Mts., Amani, 1000 m, 25 I 1977, 1, 28 I 1977, 1, 8 II 1977, 1, O. LOMHOLDT and O. MARTIN (ZMC), 5 VIII 1979, 1, M. STOLTZE (ZMC); Usambara, Derema, 850 m, 8-24 IX 1891, 1, CONRADT (ZMHU); Usambara, Hinterland v. Tonga, 1, HEINSEN (ZMHU); Usambara, Lutindi, 1, K. AHLWARTH (ZMHU); Usambara, Neu Bethel, X 1900, 1 (ZMHU); Usambara, Nguelo, 4 (ZMHU), 5 (IRSN), 1 (syntype, MM), 1, Kummer (ZMHU), 1, HEINSEN (ZMHU); Tanga, 13 (IRSN), 3 VII 1904, 1, KARASEK (ZMHU); Zanguebar, Mhonda-Ozzigona, 1 (syntype, MM).

UGANDA: Fort Portal, 15 km E Sebitoli, 1400 m, 23 XI-5 XII 1994, 16, M. SNIZEK (MS, LB); Lac Eduard, 1, Casati (Genua); Mt. Kokanjero, SW of Elgon, 6400 ft., 7-9 VIII 1911, 2, S.A. NEAVE (BMNH).

ZAIRE: SW Albert-Njansa, Undussuma, 1, STUHLMANN (ZMHU).

ZIMBABWE: Vumba, 10-15 XII 1937, 1, G. v. SON (TM).

Aspidimorpha (s. str.) *illustris* HINCKS, 1962

Aspidomorpha illustris HINCKS, 1962: 245 (HT and PT in MNHN, PT in MM).

DESCRIPTION

Le: female: 12.6-12.9 mm, Wi: male: female: 11.2-11.8 mm, Lp: female: 4.0 mm, Wp: female: 8.6-8.7 mm, Ex: female: 3.0 mm, Wd: female: 5.8-6.0 mm; Le/

Wi ratio: female: 1.09-1.13, Wi/Wp: female: 1.30-1.36, Wp/Lp: female: 2.15-2.18. Body almost circular with no emargination between base of pronotum and base of elytra (fig. 629).

Pronotum and elytra uniformly yellow, punctures without darker centre, margin of explanate margin darker yellow than central part of the explanate margin. Clypeus and ventrites uniformly yellow. Antennae in both examined specimens broken from sixth segment (based on description yellow with only last segment infuscate). Legs uniformly yellow.

Pronotum narrowly ellyptical, with maximum width almost at base, hind angles forming an angle of 90°. Disc moderately convex, smooth, with mirror brilliance, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, in anterior part with tendency to form a gutter, its surface smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, as wide as base of pronotum, humeri rounded, elytral margins slightly marginate. Disc unevenly convex, with large, conical postscutellar tubercle, top of the tubercle sharp, profile behind the tubercle distinctly concave (fig. 630). Discal surface with deep principal impression, distinct scutellar impressions, without posterolateral impression, surface of lateral part of disc almost regular. Puncturation of disc fine to moderate, rows not impressed, punctures on slope slightly sparser and smaller than in anterior half of disc, in sutural half of disc c. twice smaller than in lateral part of disc. Scutellar row with 5-7 punctures. Punctures in rows sparse to moderately dense, disposed mostly regularly, distance between punctures two to four times wider than puncture diameter, in sutural row slightly denser. Punctures in marginal row distinctly larger than punctures in submarginal rows. Intervals flat, in sutural half of disc four to five times, in lateral half twice to thrice wider than rows, their surface smooth, with mirror brilliance. Lateral fold of marginal interval broad and moderately convex. Explanate margin very broad, almost horizontal with tendency to form a gutter, impunctate, its surface smooth and glabrous. Apex of elytral epipleura in female pubescent, hair dense and long, apical margin of elytra with several erected hair.

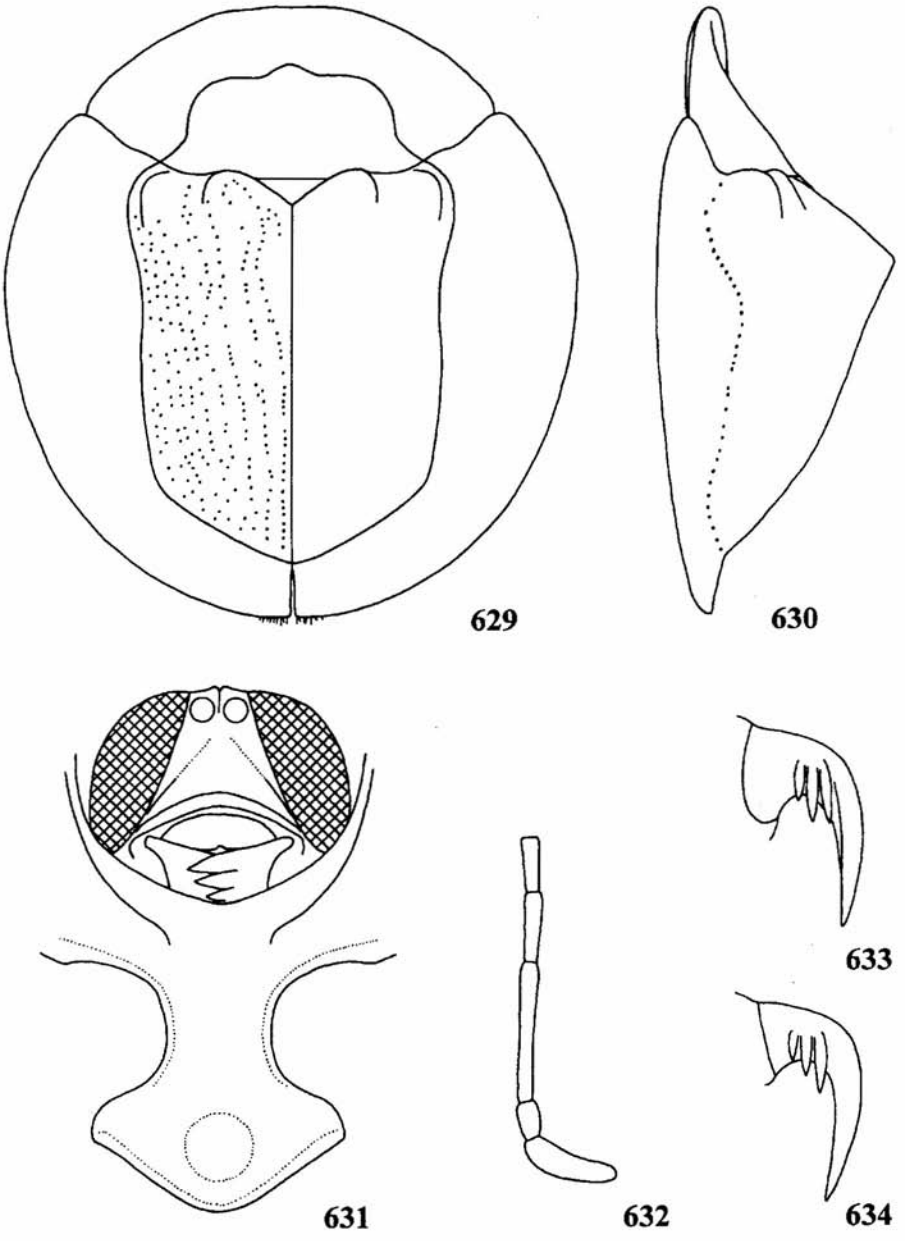
Head moderately broad, clypeus 1.4 -1.5 times wider than long (fig. 631), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum very shallowly and broadly emarginate. Length ratio of five basal antennal segments: 100:45:172:86:68 (remaining segments broken in both examined specimens, fig. 632).

Claws pectinate on both sides, inner pecten moderately long, with three teeth extending to 1/4-1/3 length of claw (fig. 633), outer pecten with three teeth, extending to 1/4 length of claw (fig. 634).

Male unknown.

DISTRIBUTION

Madagascar.



629-634. *Aspidimorpha illustris*: 629 - body in dorsal view, 630 - body in profile, 631 – head and prosternum, 632 – basal segments of antenna, 633 – inner side of claw, 634 – outer side of claw

REMARKS

It is a member of the *pontifex* group, occurring only on Madagascar. It is the only species of the group with immaculate explanate margin of elytra. It is also characteristic in completely circular body outline, without cleft between pronotum and elytra, only specimens of *A. pontifex* have similar body outline but differ in strongly punctate elytra whose surface appears rugose (in *illustris* puncturation is fine, intervals wide, smooth and glabrous).

MATERIAL EXAMINED

MADAGASCAR: Lambomakandro, Tuléar, 2 (holotype and paratype, 1 MM, 1 MNHN).

Aspidimorpha (s. str.) *incerta* n. sp.

ETYMOLOGY

Latin "*incertus*" means undetermined, undefined. Named after general body shape with no distinct species characters.

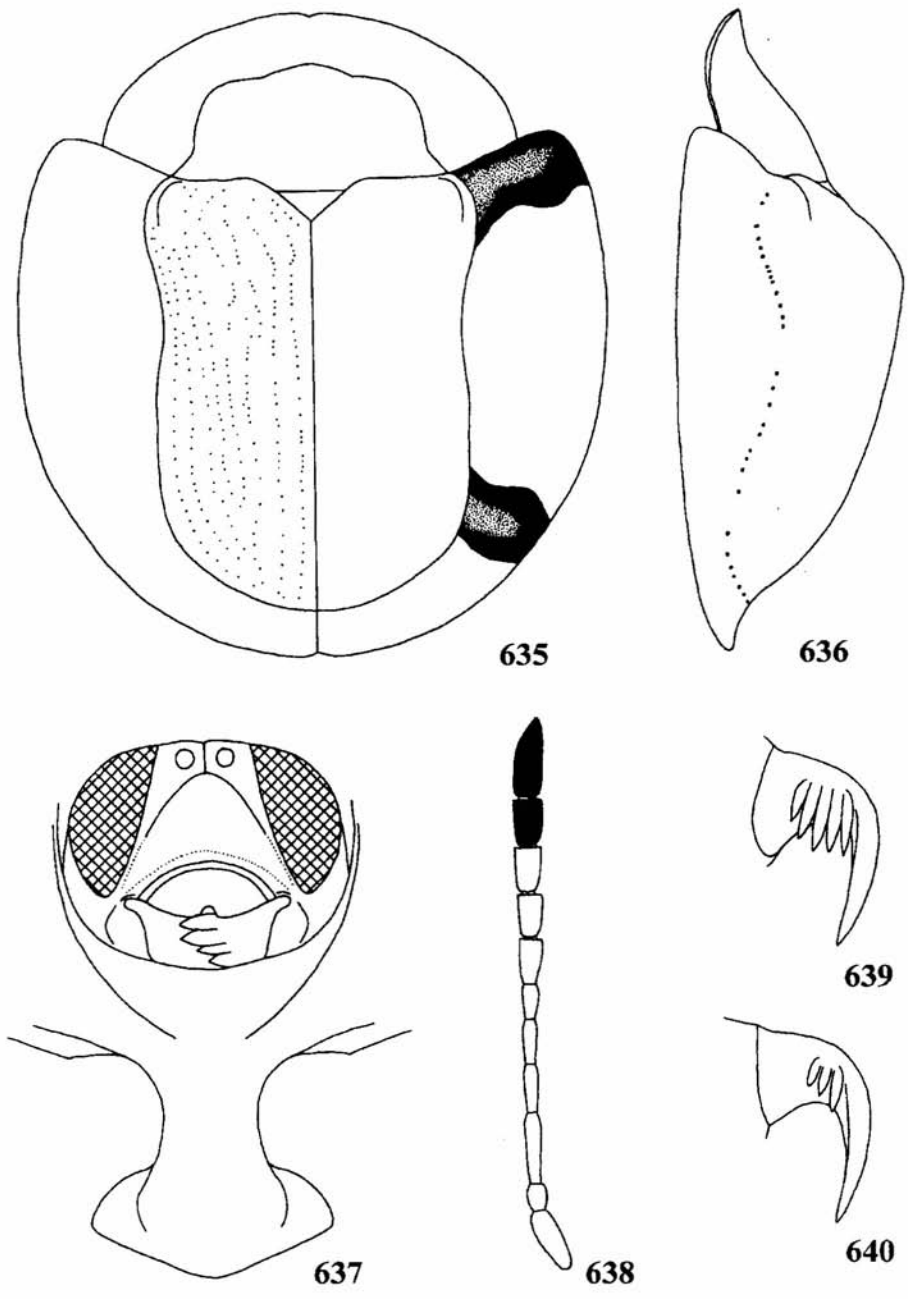
DESCRIPTION

Le: male: 9.8-10.1 mm, female: 10.5-11.3 mm, Wi: male: 8.7-9.0 mm, female: 9.1-9.9 mm, Lp: male: 3.1-3.2 mm, female: 3.2-3.5 mm, Wp: male: 6.3-6.8 mm, female: 6.4-7.1 mm, Ex: male: 2.1-2.3 mm, female: 2.1-2.5 mm, Wd: male: 4.5-4.7 mm, female: 4.9-5.3 mm; Le/Wi ratio: male: 1.11-1.13, female: 1.12-1.18, Wi/Wp: male: 1.32-1.41, female: 1.35-1.42, Wp/Lp: male: 2.03-2.13, female: 2.00-2.09. Body short-oval to almost circular (fig. 635).

Pronotum uniformly yellow. Elytral disc uniformly yellow or with indistinct reddish oblique band from humerus to the middle of disc, punctures without or with slightly darker areola especially on darker band. Explanate margin with moderately broad brown to black humeral and posterolateral spots, without sutural spot, only in one of the examined specimens posterolateral spot is reduced to small spot close to marginal row. Apex of humeral spot sometimes widened posterad and apex of posterolateral spot widened anterad (figs 625-627). Margins of explanate margin usually distinctly darker yellow than internal part. Scutellum yellow to argillaceous. Clypeus yellow. Ventrites usually uniformly yellow, sometimes prosternum infuscate to brown. Antennae yellow, two last segments black, except yellow ventral side of apex of last segment, apex of segment 9 infuscate.

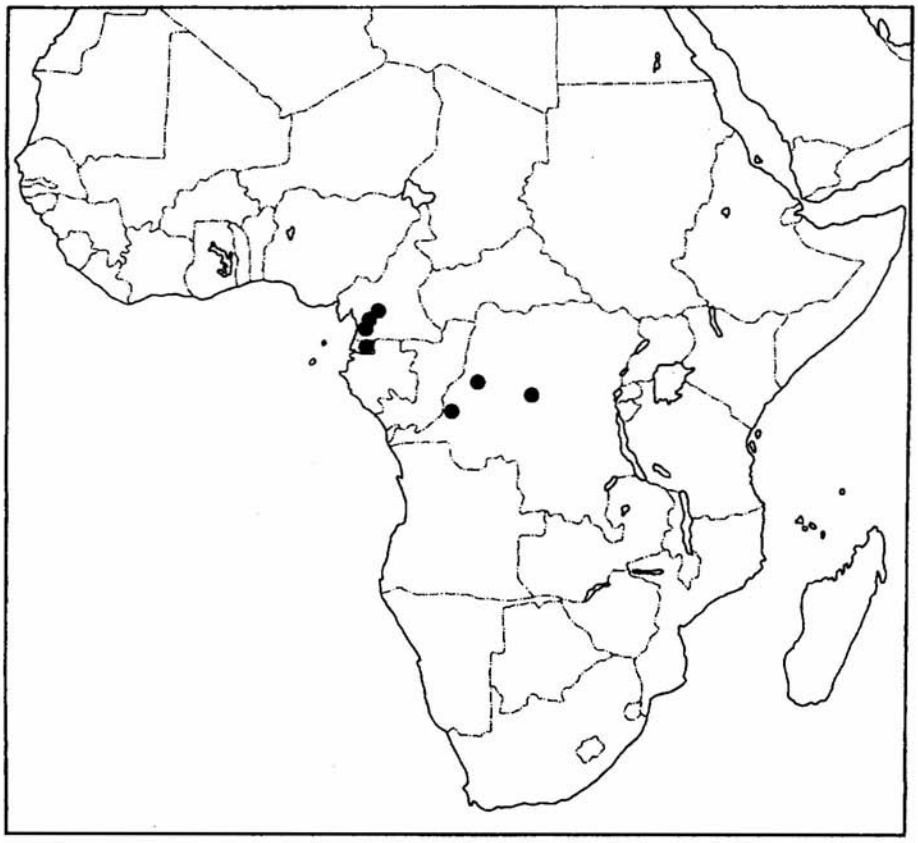
Pronotum semicircular, with maximum width slightly in front of the base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, with or without transverse sulcus. Base of elytra serrulate, distinctly wider than base of pronotum, humeri rounded, elytral



635-640. *Aspidimorpha incerta*: 635 - body in dorsal view, 636 - body in profile, 637 – head and prosternum, 638 – antenna, 639 – inner side of claw, 640 – outer side of claw

margins simple. Disc unevenly convex, with low and obtuse postscutellar tubercle, profile straight to slightly concave behind the top of angulation (fig. 636). Disc with small but distinct principal impression, surface of lateral part of disc completely regular. Puncturation of disc coarse, on slope only distinctly sparser and finer than in anterior half of disc, in sutural half of disc slightly smaller than in lateral part of disc. Scutellar row with 6-7 punctures. Punctures in rows moderately dense to dense, disposed mostly regularly, distance between punctures two to four times larger than puncture diameter. Rows not impressed. Punctures in marginal row deep, thrice larger than in central rows. Intervals flat, in sutural half four to five, in lateral half two to four times wider than rows, their surface smooth, with mirror brilliance. Lateral fold of marginal interval low but broad. Explanate margin very broad, moderately declivous, does not form a gutter, impunctate, its surface smooth and shiny. Apex of elytral epipleura bare in both sexes, only extreme apex of elytral margin with several very short setae.



641. Distribution of *Aspidimorpha incerta*

Head broad, clypeus c. 1.7 -1.8 times wider than long (fig. 637), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 638), extending mid coxa, length ratio of antennal segments: 100:43:114:77:68: 57:68:70:68:70:109.

Claws pectinate on both sides, inner pecten long, with five teeth extending to c. half length of claw (fig. 639), outer pecten with two to three teeth, extending to 1/5-1/4 length of claw (fig. 640).

Sexual dimorphism indistinct, male slightly smaller and stouter than female.

DISTRIBUTION

Cameroon, Equatorial Guinea, Gabon and Zaire (fig. 641).

REMARKS

It is a member of the *guadriramosa* group. *A. incerta* has the lowest postscutellar gibbosity within the group, only *subdeplanata* form of *A. quadriramosa* and small specimens of *A. ulugurensis* have elytral gibbosity as low as in *incerta*. *A. uluguruensis* differs in stronger elytral puncturation, base of elytra only slightly wider than base of pronotum and pubescent apex of female epipleura (in *incerta* bare in both sexes). *A. quadriramosa* ab. *subdeplanata* is slightly stouter, more circular, its puncturation of disc is slightly coarser and surface of sides of disc appears slightly irregular and dull (in *incerta* surface of disc is always regular, glabrous with mirror brilliance). Pecten of tarsal claws in *A. quadriramosa* is longer, extending to 2/3 length of claw while in *A. incerta* it extending only to half length of claw. Ventrites in *A. incerta* are usually uniformly yellow, or with only infuscate prosternum while in *A. quadriramosa* ventrites are often partly black. Other species of the *quadriramosa* group distinctly differ in more prominent postscutellar elevation and/or base of elytra slightly to moderately wider than base of pronotum (in *incerta* distinctly wider). Distinctly convex form of *A. isparetta* with yellow elytral disc but brown to black spots of explanate margin is at first glance also similar to *A. incerta*, but in *A. isparetta* surface of disc is never as glabrous as in *A. incerta*, pecten of tarsal claws is longer, extending to 2/3 length of claw, and females have pubescent apex of epipleura. At first glance *A. fausta* is the most similar especially in its surface with mirror brilliance, but differs in conical postscutellar tubercle and groundcolour of elytra darker, rather rusty-yellow, while in *A. incerta* it is pale yellow.

MATERIAL EXAMINED

CAMEROON: paratype: Cameroun, lok. 904, 10 III 1950, 1, J.B.S. J.D. (MRAC); paratype: Camerun merid., 1 (LB); paratype: Lolodorf, 19 II-7 VI 1895, 1, L. CONRADT (LB); paratype: R.F. Nyong, 27 I 1950, 1, J.B.S. J.D. (MRAC); paratypes: Yaunde-Stat., 2 (LB).

EQUATORIAL GUINEA: paratypes: Nkolentangan, XI 1907-V 1908, 4 (LB).

GABON: paratype: Ogooué-Ivindo, 6 km ENE Koumamevong, 3 X 1992, 1, J.J. WIERINGA (coll. J.WIERINGA, Belgium).

ZAIRE: holotype: Tshuapa, Ikela, 1955, R. DEGUIDE (MRAC); paratype: Bokalakala, Bolobo, 1954, 1, R.C. ELOY (MRAC); paratype: Congo belge, 1, ex. coll. STEINMETZ (IRSN); paratype: Equateur, Bokuma, I-II 1952, 1, R.P. LOOTENS (LB).

ZIMBABWE: paratype: Salisbury [probably mislabelled], 1, ex coll. BREUNING (MRAC).

Aspidimorpha (s. str.) *indistincta* BOHEMAN, 1854

Aspidomorpha indistincta BOHEMAN, 1854: 248 (ST in NRS, BMNH), 1856: 105, 1862: 255; Harold, 1879: 215; SPAETH, 1935: 172; SHAW, 1963: 461; 1972: 62; BOROWIEC, 1985 b: 441 (incl. male fig.).

Aspidomorpha (*Aspidomorpha*) *indistincta*: SPAETH, 1914 b: 75.

Aspidomorpha innocua BOHEMAN, 1854: 249 (ST in NRS, ZMHU), 1856: 105, 1862: 256; HAROLD, 1879: 215 (as syn.).

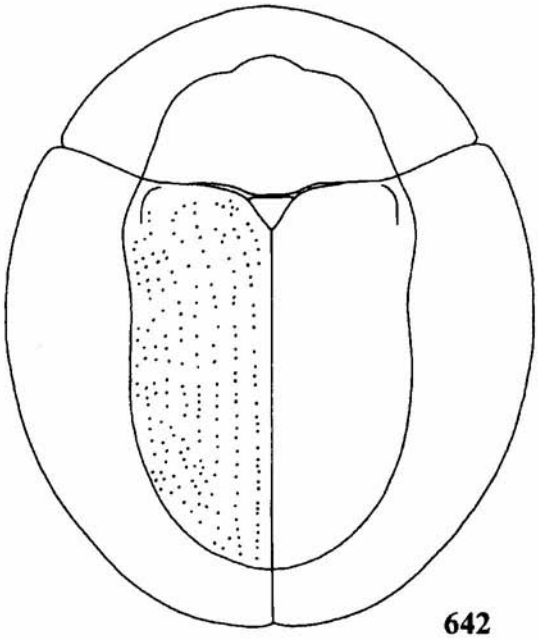
DESCRIPTION

Le: male: 8.5-9.0 mm, female: 9.3-10.2 mm, Wi: male: 6.9-7.5 mm, female: 7.4-7.8mm, Lp: male: 2.8-3.0 mm, female: 3.0-3.4 mm, Wp: male: 5.6-6.2 mm, female: 5.8-6.6 mm, Ex: male: 1.8-1.9 mm, female: 1.9-2.2 mm, Wd: male: 3.7-3.9 mm, female: 4.0-4.4 mm. Le/Wi: male: 1.20-1.24, female: 1.26-1.32, Wi/Wp: male: 1.21-1.27, female: 1.18-1.28; Wp/Lp: male 1.87-2.04, female: 1.85-2.00. Body almost circular (fig. 642)

Yellow, punctures of elytra often brown marked, epipleura always with reddish to brown sutural spot. In the darkest specimens elytral disc with irregular, brown band along sides from humerus to sutural end, but external two intervals always yellow. In thus coloured specimens brown colour of punctures of sutural row extended beyond puncture pit, in extreme cases forms brownish, narrow band along suture. Lateral band is often reduced to separate few brownish spots (figs 657-658). Clypeus varies from uniformly yellow to uniformly black, usually mostly yellow with black corners. Thorax varies from uniformly yellow to black with yellow lateral plates. Abdomen usually yellow, often with brown centre, occasionally mostly black with yellow sides. Legs always yellow, only coxae sometimes partly infuscate to black. Usually two last antennal segments brown to black, base of segment 10 and apex of last segment usually yellowish, sometimes whole segment 10 yellow, occasionally apex of segment 9 infuscate.

Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle of about 85-90°. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, impunctate, without or with transverse sulcus, or impressed in the middle. Base of elytra serrulate, only slightly wider than base of



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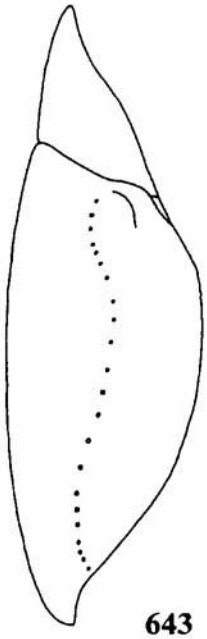

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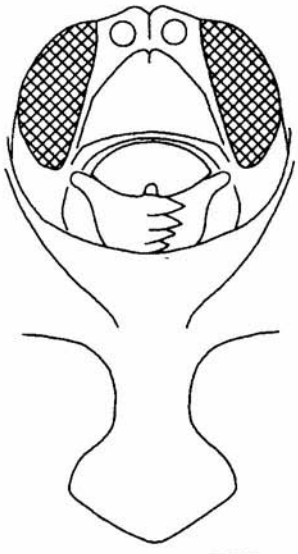

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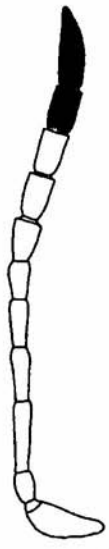

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642-647. *Aspidimorpha indistincta*: 642 - body in dorsal view, 643 - body in profile, 644 – head and prosternum, 645 – antenna, 646 – inner side of claw, 647 – outer side of claw

pronotum, elytral margins simple. Disc regularly convex, with maximum convexity in postscutellar point (fig. 643), with hardly marked postscutellar impression, without lateral impressions, principal impression shallow but distinct. Puncturation of disc regular, punctures fine but larger than in related *A. obovata*, on slope only slightly smaller than in anterior half of disc, in sutural half of disc slightly smaller than in lateral part of disc. Scutellar row with 4-6 punctures. Punctures in rows sparse, disposed irregularly, partly grouped in 2-4, so in part of row distance between punctures is only slightly larger than puncture diameter, but distances between groups are often many times larger than punctures. Rows slightly impressed, especially on sides of disc (rows 6 and 7 are more impressed than neighbouring ones), so surface of disc appears slightly irregular. Punctures in marginal row shallow, c. two to three times larger than in central rows. Intervals flat, in sutural half five, in lateral half three times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin less declivous than in *A. obovata*, but more declivous than in *A. fusca*, impunctate, its surface slightly irregular. Margin of elytra simple, does not form a gutter. Elytral epipleura in male bare, in female pubescent on 1/3 length, hairs are sparser and shorter than in related *A. obovata.*

Head broad, clypeus c. two times wider than long (fig. 644), dull, distinctly elevated before antennal insertions, without or with very shallow median impression. Antennae moderately elongate (fig. 645), extending slightly behind mid coxa, length ratio of antennal segments: 100:32:97:71:58:39:65:58:65:65:103.

Claws pectinate on both sides, inner pecten with four long teeth extending to half length of claw, two outer teeth equal in length, two inner slightly shorter (fig. 646). Outer pecten with three teeth, two outer c. 1.5 times shorter than teeth of inner pecten, inner tooth twice shorter than outer teeth (fig. 647).

Sexual dimorphism less distinct than in *A. obovata*. Female distinctly larger, with body only slightly slimmer and with pubescent elytral epipleura.

HOST PLANT

Convolvulaceae: *Ipomoea argentaurata* (E. OBERMAIER, letter inf.).

DISTRIBUTION

West and Central Africa, south to C Zaire, east to W Uganda (fig. 648).

REMARKS

It belongs to the *obovata* group. It differs from *A. obovata* in stouter body, less declivous and broader explanate margin of elytra, more impressed elytral punctures, less regular elytral convexity and slightly irregular surface of explanate margin of elytra. *A. fusca* is very similar to *A. indistincta* but differs in larger body, slightly gibbous elytral convexity, deeper impressed principal impression and shallowly punctate explanate margin of elytra

MATERIAL EXAMINED

BENIN: Dahomey, 1 (ZMHU).

BURKINA FASO: Pundu, 1, OLSUFIEFF (ZSM).

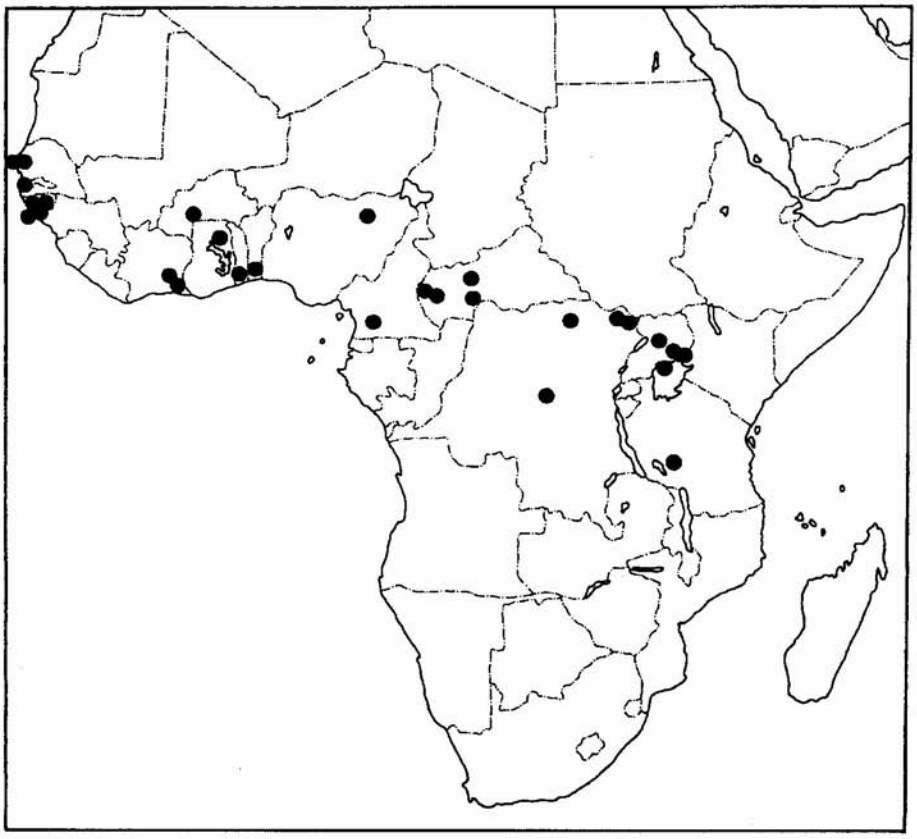
CAMEROON: Mvaa, XII 1964, 1, CHASSOT (MRAC).

GAMBIA: Bakau, 6-26 XI 1984, 2, T. PALM (LU); Bathurst, I 1968, 5, T. PALM (LU, LB).

GHANA: Northern Reg., Tamale, 60 km S of Ho, 17 VIII 1969, 1, S. ENDRÖDY-YOUNGA (HNHM).

GUINEA BISSAU: Bafatà, 1, F. Hintz (ZMHU), II 1954, 7 (4 OSU, 3 PMNH); Bolama, VI-XII 1899, 3, L. FEA (MM); Bubaque, VII 1958, 1, BENASSI (PMNH); Guinea Bissau, VII 1993, 1, L. and M. LUNDBERG (SL); Suzana, VIII 1954, 1, 1957, 1, VI 1958, 1, VIII 1958, 3, 1964, 1, ANDREOLETTI (3 OSU, 3 PMNH, 1 MNHN).

IVORY COAST: Comoé, VI 1995, 2, on *Ipomoea argentaurata*, E. OBERMAIER (EO); Dimbokro, 2 (IRSN).



648. Distribution of *Aspidimorpha indistincta*

NIGERIA: Azare, 1925, 1 (LB).

REPUBLIC OF CENTRAL AFRICA: Fort Crampel, 2 (IRSN); Fort Sibut, 1 (IRSN); Uamgeb., Bosum, 11-20 IV 1914, 2, 11-28 IV 1914, 6, 21-30 IV 1914, 3, TESSMANN (ZMHU, LB); Uham, Obersanga, 1 (LB).

SENEGAL: Bambey, 1958, 4, W. AMADOU (IFAN, LB); Senegal, 7 (ZMHU), 5 (IRSN), 2, BUG. (syntypes of *A. innocua*, ZMHU).

TANZANIA: Njamnjam, Semnio, 1, BOHUDORFF (ZMHU).

TOGO: Mangu, I 1902, 2, THIERRY (ZMHU).

UGANDA: Entebbe, 27 II 1913, 1, C.C. GOWDEY (BMNH); Kadunguru, Eastern PROV., 1-10 I 1914, 1, C.C. GOWDEY (BMNH); Karuma, 22 XII 1971, 1, H. GØNGET (ZMC); between Kumi and NE shore of L. Kioga, 3400-3600 ft., 18-20 VIII 1911, 1, S.A. NEAVE (BMNH); Mbale, 3800 ft., 6 VIII 1911, 1, S.A. NEAVE (BMNH); Mujenje, IX 1913, 1, KATONA (HNHM).

ZAIRE: Bambesa, 5 XI 1937, 1, 21 XII 1937, 1, J.M. VRIJDAGH (IRSN); Faradje, Mzope, 22 III 1930, 1, A. COLLART (IRSN) ; Gonga, 16 III 1929, 1, A. COLLART (IRSN); Lomami, Kishinde, IX 1931, 1, P. QUARRÉ (MRAC).

VARIA: Africa, 1, "MOCCY." (syntype of *Aspidomorpha indistincta*, NRS); Seneg., 1, "MHM." (syntype of *Aspidomorpha innocua*, NRS).

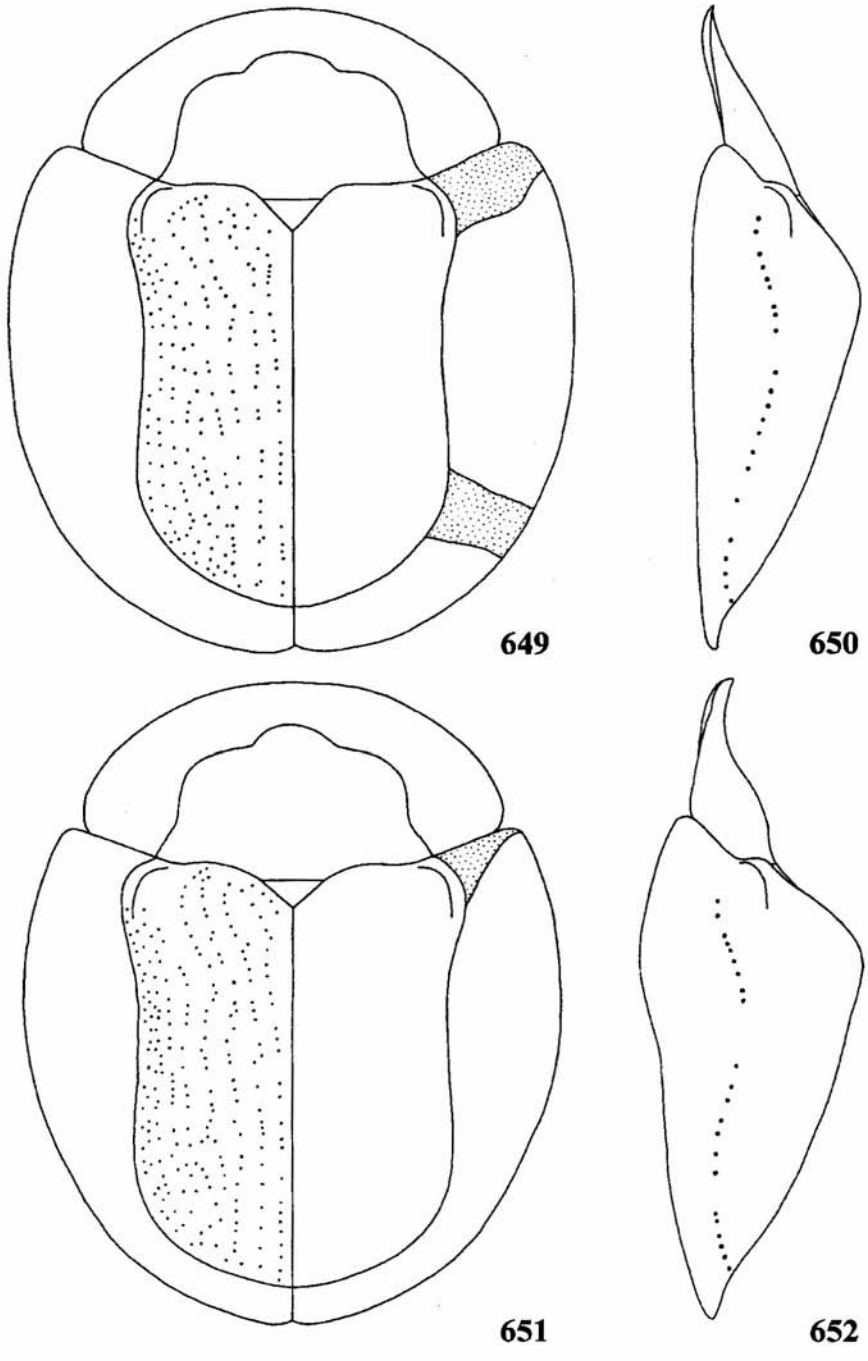
Aspidimorpha (s. str.) *infuscata* SPAETH, 1909

Aspidomorpha infuscata SPAETH, 1909: 280 (LT in NRS, PLT in NRS, MM), 1922 b: 998; 1924: 281; SHAW, 1960: 369; BOROWIEC, 1986: 799.
Aspidomorpha (*Aspidomorpha*) *infuscata*: SPAETH, 1914 b: 75.

DESCRIPTION

Le: male: 8.5-10.0 mm, female: 9.6-11.0 mm, Wi: male: 7.4-8.8 mm, female: 8.1-9.6 mm, Lp: male: 2.6-3.0 mm, female: 2.9-3.2 mm, Wp: male: 5.5-6.2 mm, female: 6.0-6.7 mm, Ex: male: 1.7-2.3 mm, female: 1.8-2.3 mm, Wd: male: 4.2-4.7 mm, female: 4.5-5.0 mm; Le/Wi ratio: male: 1.08-1.18, female: 1.15-1.20, Wi/Wp: male: 1.34-1.44, female: 1.31-1.45, Wp/Lp: male: 2.07-2.18, female: 2.06-2.14. Body short-oval (figs 649, 651).

Pronotum uniformly yellow. Elytra yellow with rather constant pattern (figs 663-665). Disc argillaceous, each puncture with darker, reddish to brown centre, explanate margin with reddish-brown to brown broad humeral and posterolateral, and very narrow sutural spots. Occasionally whole elytral disc chocolate brown and explanate margin with humeral and posterolateral spots of the same colour. Scutellum yellow to argillaceous, only in form with chocolate brown elytra of the same colour as disc. Clypeus yellow, only in form with chocolate brown disc brown. Pro- and mesosternum and metasternum except sides black, sometimes uniformly yellow. Abdomen usually mostly yellow, each sternite in the middle with a pair of brown to black spots, only in the darkest specimens the spots partly or completely coalescent, especially on second and third sternite, in extreme case ventrites black except yellow lateral plates of metasternum and extreme margins

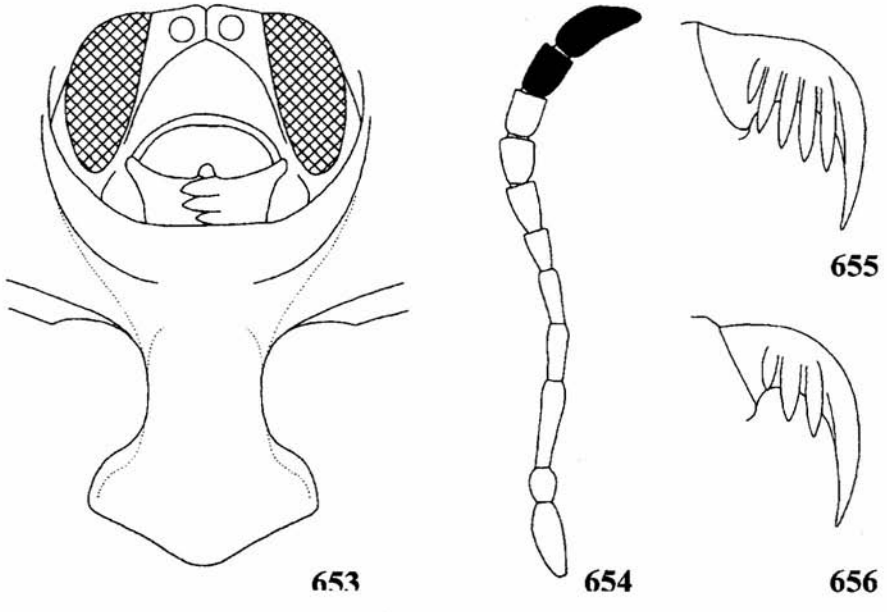


649-652. *Aspidimorpha infuscata*: 649, 651 - body in dorsal view, 650, 652 - body in profile: 649-650 - moderately convex form, 651-652 - strongly convex form

of abdomen. Antennae yellow, usually two last segments mostly brown to black, occasionally segment 10 mostly yellow and only slightly infuscate apically. Legs including coxae yellow, only in the darkest specimens coxae brown.

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.

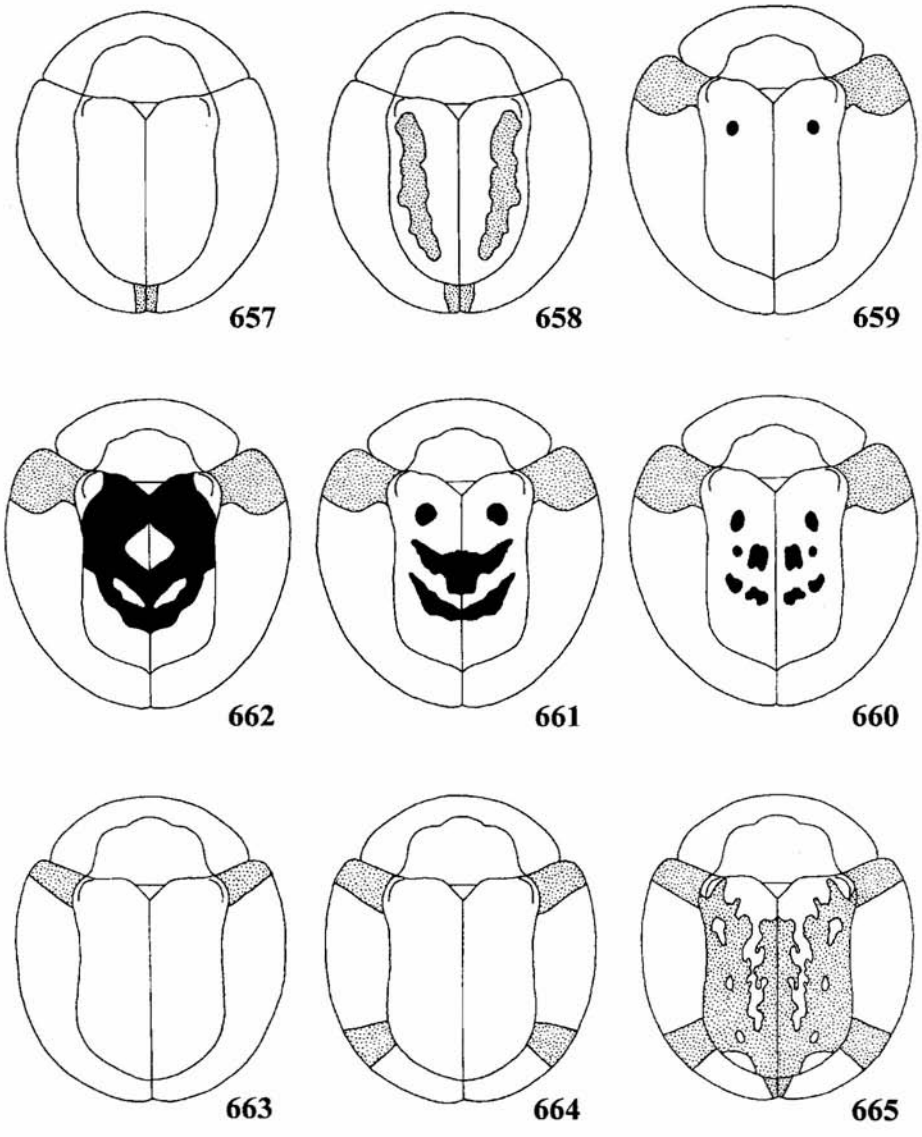
Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, moderately wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, strongly angulate in postscutellar point, straight to slightly concave behind the top of convexity (figs 650, 652), with small but distinct principal impression, very shallow scutellar impressions, but usually without posterolateral impression, surface of lateral part of disc usually slightly irregular. Puncturation of disc fine, regular, on slope not finer than in anterior half of disc, in sutural half of disc at most twice finer than in lateral part of disc. Scutellar row with 4-6 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-5, distance between punctures or their groups twice to thrice larger than puncture diameter. Rows not or slightly impressed, surface of disc regular or only on sides slightly irregular. Punctures in marginal row deep, only twice larger than punctures in central rows. Intervals flat, in sutural half c. four times, in lateral half thrice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low to moderate. Explanate margin very broad, moderately



653-656. *Aspidimorpha infuscata*: 653 – head and prosternum, 654 – antenna, 655 – inner side of claw, 656 – outer side of claw

declivous, does not form a gutter, impunctate, its surface smooth and shiny. Elytral epipleura bare in both sexes.

Head broad, clypeus c. 1.6 -1.7 times wider than long (fig. 653), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4-1/3 length. Antennae moderately elongate



657-665. Variation of dorsal maculation: 657-658 - *Aspidimorpha indistincta*, 659-662 - *A. ingens*, 663-665 - *A. infuscata*

(fig. 654), extending to mid coxa, length ratio of antennal segments: 100:47:110:75: 74:60:70:64:69:67:110.

Claws pectinate on both sides, inner pecten long, with five teeth extending to c. 1/2 length of claw (fig. 655), outer pecten with three teeth, first extending to 1/3 length of claw, remainder gradually smaller (fig. 656).

Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

Mountain regions of Kenya, Uganda, Tanzania and E Zaire (fig. 666).

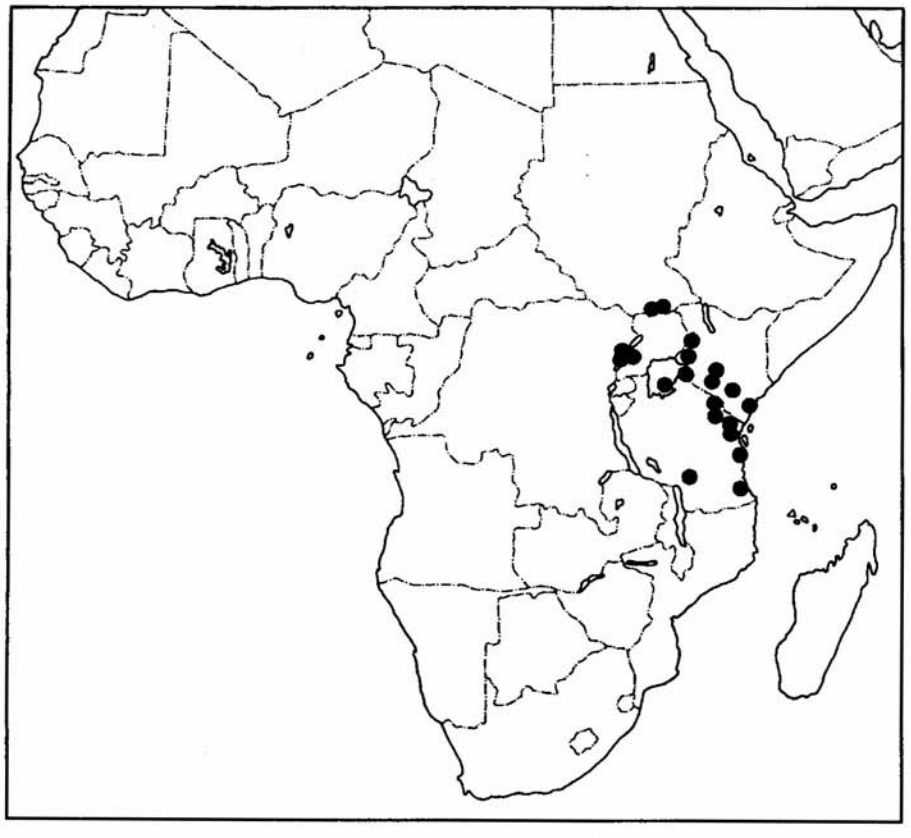
REMARKS

It is a member of the *dissentanea* group occurring only in mountain regions of eastern Africa. *A. dissentanea*, *madagascarica* and *infuscata* are extremely similar and sometimes possible to identify only by comparison with a series of properly identified specimens. *A. dissentanea* differs in usually smaller body and less prominent elytral angulation, but specimens of *A. dissentanea* from mountain regions of E Zaire and Uganda are usually as angulate as *A. infuscata*. They differ from the latter species only in base of elytra slightly more distinctly wider than base of pronotum than in *infuscata* and apex of elytra in female slightly acuminate (in *infuscata* in both sexes apex of elytra is regularly rounded). Punctures of disc in *A. dissentanea* have usually reddish centre and areola and surface of elytra appears darker reddish-yellow, while in *A. infuscata* punctures are marked only in centre and surface of elytra appears paler yellow. Elytral pattern of *A. infuscata* is quite constant, while *A. dissentanea* is one of the most variable species. *A. madagascarica* is also similar but less so than *A. dissentanea*. It is slimmer than *A. infuscata* (Le/Wi ratio in male 1.16-1.25, in *infuscata* 1.08-1.15, in female 1.22-1.30, in *infuscata* 1.15-1.20) with explanate margin of elytra less explanate, often with tendency to form a shallow gutter, especially in large specimens (in *infuscata* explanate margin is always declivous, without tendency to form a gutter). Elytral pattern in *A. madagascarica* is more variable than in *A. infuscata*. *A. icterica* of the *isparetta* group partly co-occurs in the same mountain regions of eastern Africa with *A. infuscata* and has very similar body convexity. It differs in quite obtuse elytral angulation and pubescent apex of female epipleura (in *infuscata* bare in both sexes). In *A. icterica* the most common form in eastern Africa has reduced spots of explanate margin, especially posterolateral spot while in *A. infuscata* form with distinct spots predominates. Small specimens of *A. uluguruensis* of the *quadriramosa* group are also similar but differ in more angulate elytral convexity and pubescent apex of female epipleura. Also small specimens of *A. quadriramosa* are similar but differ in base of elytra distinctly wider than base of pronotum (in *infuscata* only moderately wider).

MATERIAL EXAMINED

KENYA: Elgon Mt., east slope, 2470 m, 1932-33, 1, C. ARAMBOURG, P. CHAPUIS & R. JEANNEL (MNHN); Fort Hall, 1 (ZMHU); Ikutha, 1 (ZMHU); Kakamega Forest Reserve, 1800 m, swept, 30 I 1992, 1, O. MERKL and G. VÁRKONYI (HNHM); Kisumu, 1906, 1, M. DE ROTSCHILD (MNHN); Kitale, env. Kapenguria, 2300 m, 22-27 XII 1995, 2, P. SMRZ & M. SNIZEK (MS); Malindi, Gedi Forest, IV 1973, 1, H. GØNGET (ZMC); Muguga, 31 VIII 1970, 1 (USNM) ; Nairobi, 1660 m, 1, C. ARAMBOURG, P. CHAPUIS & R. JEANNEL (MNHN); N Nyansa, Poroto, Usa, 17 VI 1899, 1 (ZMHU); NO Victoria-Nyansa, Kawirondo, 1, O. NEUMANN (ZMHU); Voi, 1906, 1, M. DE ROTHSCHILD (MNHN).

TANZANIA: Amani, 1, VOSSELER (ZMHU); Arusha-Ju, XI 1905, 1, KATONA (HNHM); Cap Storms, 1 (IRSN); Dar-es-Salaam. 2 (ZMHU), 1, KRAUSS (MRAC); Dschagbi-Ngoila n. Oscha, 21 VIII 1913, 2, TESSMANN (ZMHU); Kilimandjaro, 1, SJÖSTEDT (LU); Kilimandjaro, Kibonoto, 1'-1200 m, 1, SJÖSTEDT (lectotype, present designation, NRS), 1000-1300 m, 1905-6, 2, SJÖSTEDT (paralectotypes, present designation, MM), 1300-1900 m, 2 V, 1, 4 V, 1, 12 V, 1 (paralectotypes, present designation, ZMHU), Kibonoto kulturz., 3 III, 1, 7 V, 1 (paralectotypes, present

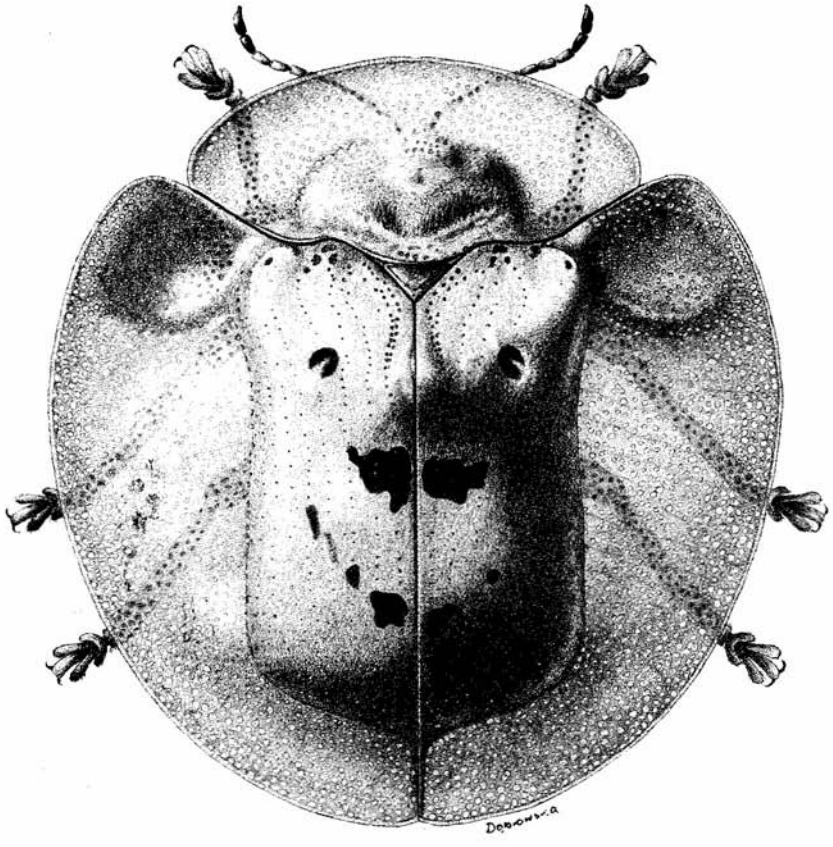


666. Distribution of *Aspidimorpha infuscata*

designation, 1 NRS, 1 MM); Kilimandjaro, Leito Kitok, 1 (paralectotype, present designation, MM); Lindi, 1 (IRSN); Lukungu, 1, Ch. HAAS (IRSN); Msala, 16 IV 1952, 1, H. KNIPPER (SMF); Noko, VI, 3, STOLZ (ZMHU); Uheheland, Kidugala, 1 (ZMHU); Ukerewe Is., 1, CONRADS (USNM); O Usambara, V 1903, 1 (ZMHU); Usambara, Mombo, VI, 2, SJÖSTEDT (paralectotypes, 1 NRS, 1 MM).

UGANDA: Budongo Forest, 27-28 VIII 1971, 2, H. GØNGET (ZMC).

ZAIRE: Albert Nat. Park, Massif Ruwenzori, Mt. Diego, 2200 m, 19 VII 1954, 1, P. VANSCHUYTBROECK and H. SYNAVE (MRAC); Albert Nat. Park, Mutsora, 1939, 14, HACKARS (MRAC); Albert Nat. Park, Ngesho, 3 VIII 1935, 1, H. DAMAS (MRAC); Albert Nat. Park, Ruwenzori, Mutawanga, 1000-1300 m, XI 1936-II 1937, 2, HACKARS (MRAC).



667. *Aspidimorpha ingens*, habitus (by A. DĄBROWSKA)

Aspidimorpha (s. str.) *ingens* Duvivier, 1891

Aspidomorpha ingens Duvivier, 1891: 422 (HT in IRSN); Weise, 1899 a: 255; Spaeth, 1912 a: 127, 1916: 41.
Aspidomorpha (*Aspidomorpha*) *ingens*: Spaeth, 1914 b: 75.
Aspidomorpha ingens ab. *piceidorsis* Spaeth, 1916: 44 (ST in MM).

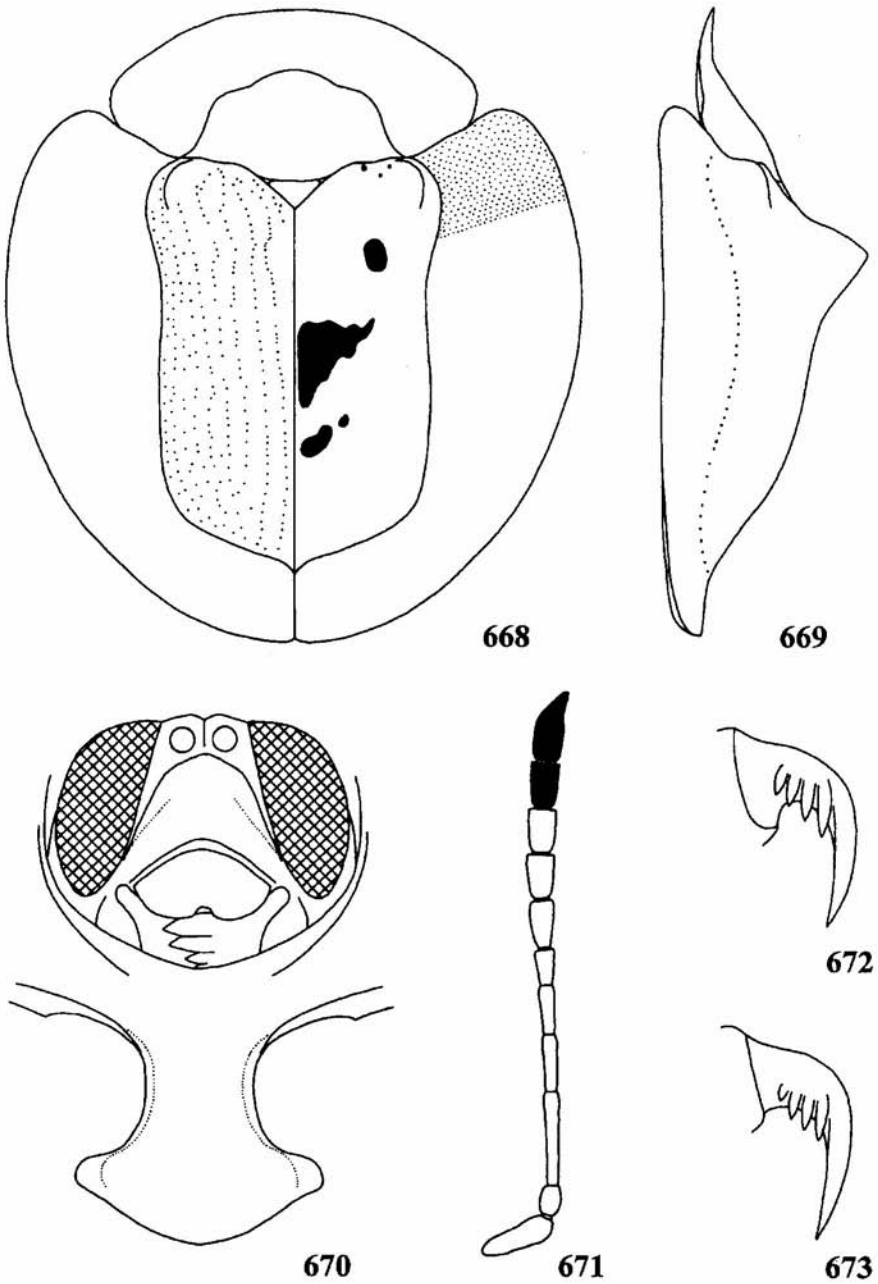
Description

Le: male: 13.4-14.3, female: 14.7-16.9 mm, Wi: male: 12.3-13.3 mm, female: 13.1-15.2 mm, Lp: male: 3.6-4.0 female: 4.0-4.6 mm, Wp: male: 7.6-8.5 mm, female: 8.6-9.9 mm, Ex: male: 3.3-3.7 mm, female: 3.3-4.1 mm, Wd: male: 5.7-5.9 mm, female: 6.0-6.8 mm. Le/Wi: male: 1.08-1.11, female: 1.11-1.15, Wi/Wp: male: 1.52-1.62, female: 1.54-1.57; Wp/Lp: male: 2.10-2.18, female: 2.02-2.16. Body almost circular, but with slightly angulate apex, especially in females (fig. 667, 668).

Pronotum uniformly pale yellow, in the darkest specimens disc argillaceous to pale brown. Elytra with moderately variable pattern (figs 659-662). Elytral disc usually pale yellow, punctures without darker centre, with a few black spots: small, round on each side of base of postscutellar tubercle, two moderately large behind the tubercle and two to four in 3/4 length of sutural and subsutural rows, often also posterior surface of postscutellar tubercle with two small spots, and spots behind the tubercle with additional small spot. Basal part of each disc often with irregular M-shaped brown figure. In dark specimens spots are partly coalescent and whole anterior part of disc brown with blackish areas, except yellowish top of the tubercle, in extreme cases whole disc brown. Explanate margin usually pale yellow, on upperside with darker yellow, on underside brown, very broad humeral spot, usually not reaching margin of elytron, no posterolateral and sutural spots. In dark forms humeral spot brown on both upper- and underside of explanate margin, the spot usually widened posterad. Clypeus and ventrites uniformly yellow. Antennae mostly yellow with two last segments black, except yellow ventral side of apex of the last segment, segment 9 sometimes paler, brown. Legs uniformly yellow.

Pronotum narrowly ellyptical, with maximum width almost at base, hind angles forming an angle of 80-85°. Disc moderately convex, smooth, with mirror brilliance, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, in anterior part with tendency to form a gutter, its surface smooth, shiny.

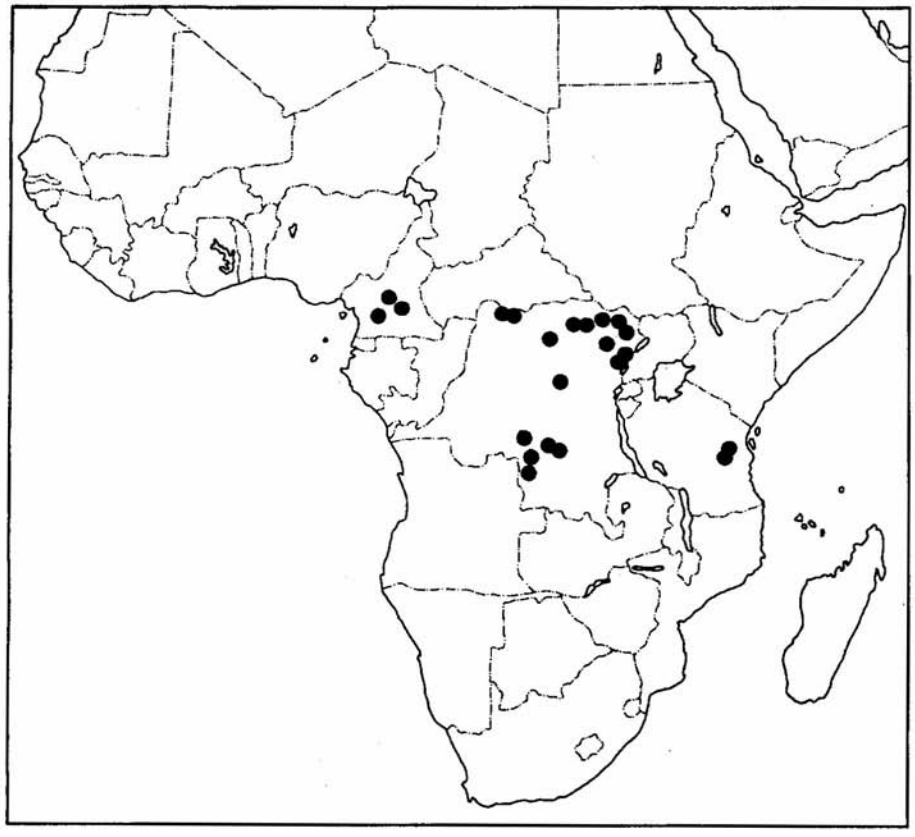
Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, much wider than pronotum, humeri rounded, elytral margins slightly marginate. Disc unevenly convex, with extremely large, conical postscutellar tubercle, top of the tubercle sharp, profile behind the tubercle deeply concave (fig. 669). Discal surface with deep principal impression, distinct scutellar impressions, without posterolateral impression, surface of lateral part of disc completely regular. Puncturation of disc extremely fine to fine, rows not impressed, punctures on slope hardly marked to obsolete, in sutural half



668-673. *Aspidimorpha ingens*: 668 - body in dorsal view, 669 - body in profile, 670 – head and prosternum, 671 – antenna, 672 – inner side of claw, 673 – outer side of claw

of disc c. twice smaller than in lateral part of disc. Scutellar row with 5-8 punctures. Punctures in rows sparse, disposed regularly, distance between punctures three to six times wider than puncture diameter, in sutural row slightly denser. Punctures in marginal row distinctly larger than in submarginal rows. Intervals flat, in sutural half of disc five to eight times, in lateral half two to four times wider than rows, their surface smooth, with mirror brilliance. Lateral fold of marginal low and narrow, often obsolete. Explanate margin extremely broad, almost horizontal with tendency to form a gutter, impunctate, its surface smooth and glabrous. Apex of elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.5 -1.6 times wider than long (fig. 670), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/6-1/5 length. Antennae moderately long (fig. 671), length ratio of five basal antennal segments: 100:38:132: 76:72:46:60:54:50:52:92.



674. Distribution of *Aspidimorpha ingens*

Claws pectinate on both sides, inner pecten short, with four teeth extending to 1/5-1/4 length of claw (fig. 672), outer pecten with two to three teeth, extending to 1/6 length of claw (fig. 673).

Sexual dimorphism indistinct. Males slightly stouter with more rounded apex of elytra.

DISTRIBUTION

Mountain and submountain regions of Cameroon, Zaire and Tanzania (fig. 674).

REMARKS

It is the only member of the *ingens* group. It distinctly differs from other *Aspidimiorpha* species in its very large size combined with presence of only humeral spots and extremely large conical postscutellar tubercle. A similar combination of characters occurs only in *A. oblectans* of the *quadriramosa* group but it differs in stronger elytral puncturation, longer pecten of tarsal claws extending to 1/3-2/5 length of claw (in *ingens* to 1/5-1/4 length of claw) and pubescent apex of female epipleura (in *ingens* bare in both sexes). In *A. oblectans* elytral disc is always immaculate while in *A. ingens* at least with few black spots behind the tubercle.

MATERIAL EXAMINED

CAMEROON: Doumé, II 1961, 1, CHASSOT (MRAC); Jaunde, 1, ZENKER (ZMHU), 4 V 1897, 1, v. CARNAP (ZMHU); Joko, 7 (ZMHU, LB).

TANZANIA: Ukami, 1, Staud. (ZMHU); Uluguru Mts., Kimboza Forest, 250 m, 18 VII 1981, 1, M. STOLTZE and N. SCHARFF (ZMC).

ZAIRE: Albert Nat. Park, riv. dr. Loule, 1100 m, 14 V 1949, 1, J. DE WILDE (MRAC); Albert Nat. Park, Mutsora, 1939, 5, HACKARS (MRAC, LB); Albert Nat. Park, Ruwenzori, Mutawanga, 1000-1300 m, II-III 1937, 1, HACKARS (MRAC); W Albert-See, Route Mawambi, Awakubi, Aruwimi, 23 IV 1908, 1, A. HERZOG (ZMHU); Bambesa, V 1933, 1, H.J. BRÉDO (MRAC), X 1933, 2, J.V. LEROY (MRAC), 6 IV 1937, 1, 10 V 1937, 1, 20 V 1937, 1, 8 VII 1937, 1, VII 1938, 1, IV 1939, 1, J. VRYDAGH (MRAC), 14 V 1939, 1, P. HENRARD (MRAC); Banzyville, 1, ROYAUX (MRAC); Beni n. Lesse, VII 1911, 1, MURTULA (MRAC); Beni Forest, 1910, 1, GRAUER (syntype of *A. ingens* ab. *piceidorsis*, MM), 1 (MRAC); Dungu-Nyangara-Doruma, V 1912, 1, HUTEREAU (MRAC); Gandajika, 23 XI 1950, 1, P. DE FRANQUEN (MRAC); Haut Uele, Moto, 1923, 1, IV 1926, 1, L. BURGEON (MRAC); Ibembo, IX 1890, 1, J. DUVIVIER (holotype of *A. ingens*, IRSN); Irangi, 1 (LB); Kasai, 1, R.P. BOYKEMANS (IRSN); Kasai, Luisa, 1921, 1, L. ACHTEN (MRAC); Lomami, Mwene-Ditu, 1, DOUTRELEPONT (MRAC); Luluabourg, 1, P. CALLEWAERT (MRAC); Lulua, Kapanga, IX 1932, X 1933, 10, F.G. OVERLAET (MRAC); Mambasa, V-VI 1987, 1, M. BORRIL (MZUF); Mue no Ditu, XII 1935, 2, Ch. SEYDEL (MRAC); Mukongo, 1, TOGGE (ZMHU); Sassa Reg., 1895-96, 2, COLMANT (MRAC); Ubangi, Molegbwe, 17 VII 1951, 1, 17 XII 1951, 1, R.P. MOSTINCKX (MRAC); Uele, Dingila, VI 1933, 1, H.J. BRÉDO (MRAC); Uele, Van Kerkhovenville, 1, DEGREEF (MRAC).

Aspidimorpha (s. str.) *intricata* WEISE, 1903

Aspidomorpha intricata WEISE, 1903: 222 (HT in ZMHU); SPAETH, 1906: 401; SHAW, 1961: 13; BOROWIEC, 1985 a: 236.
Aspidomorpha (*Aspidomorpha*) *intricata*: SPAETH, 1914 b: 75.

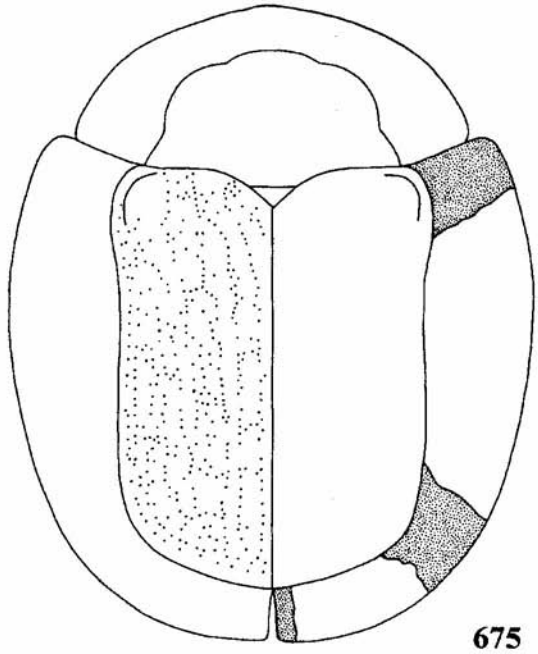
DESCRIPTION

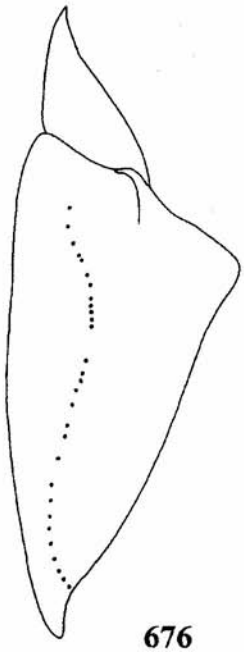
Le: male and female: 10.6-12.5 mm, Wi: male and female: 8.5-9.9 mm, Lp: male and female: 3.0-3.6 mm, Wp: male and female: 6.4-7.5 mm, Ex: male and female: 1.8-2.2 mm, Wd: male and female: 4.7-5.8 mm; Le/Wi ratio: male and female: 1.20-1.31, Wi/Wp: male and female: 1.28-1.38, Wp/Lp: male and female: 2.03-2.18. Body broadly oval (fig. 675).

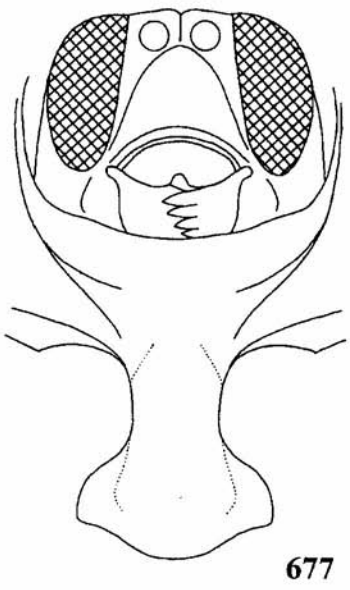
Pronotum uniformly yellow to argillaceous. Dorsal part of elytra uniformly yellow to argillaceous, punctures in basal part of disc, sides and along suture partly with darker, reddish to brown centre, humerus and anterior part of postscutellar tubercle often with reddish brown, irregular spots, sometimes posterior half of disc with small, irregular reddish spots, or all punctures of disc with reddish centre. Explanate margin yellow with reddish, very broad humeral and posterolateral and very narrow sutural spots. Apex of humeral spot not or only slightly widened posterad, apex of posterolateral spot not widened anterad. Margins of explanate margin of elytra darker yellow than ventral part of explanate margin. Scutellum yellow to argillaceous. Clypeus yellow. Thorax mostly black, except yellow lateral plates. Sometimes dark spots of thorax occupy only central part of metathorax, occasionally thorax uniformly yellow to argillaceous. Abdomen uniformly yellow. Antennae yellow, usually two last segments black, except yellow underside of the apex of last segment, basal part of segment 10 often yellow, only occasionally whole segment 10 yellow. Legs including coxae yellow.

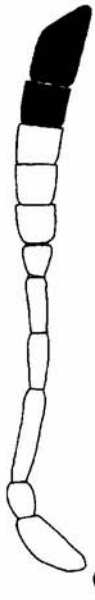
Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, especially on sides, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, slightly wider than base of pronotum, humeri narrowly rounded, elytral margins not marginate. Disc unevenly convex, with large, conical postscutellar tubercle, top of the tubercle slightly obtuse, profile deeply concave behind the top of convexity (fig. 676), discal surface without impressions. Puncturation of disc moderate, completely irregular, on slope slightly smaller than in anterior half of disc, in sutural half of disc only slightly smaller than in lateral part of disc. Scutellar row with 4-6 punctures. Punctures moderately dense to dense, partly grouped together, distance between punctures or their groups from twice narrower to twice larger than puncture diameter. Punctures deeply impressed. Punctures in marginal row deep, only twice larger than punctures in central rows. Interspaces irregular, form irregular folds and wrinkles, surface of disc appears strongly rugose. Lateral fold of marginal interval absent









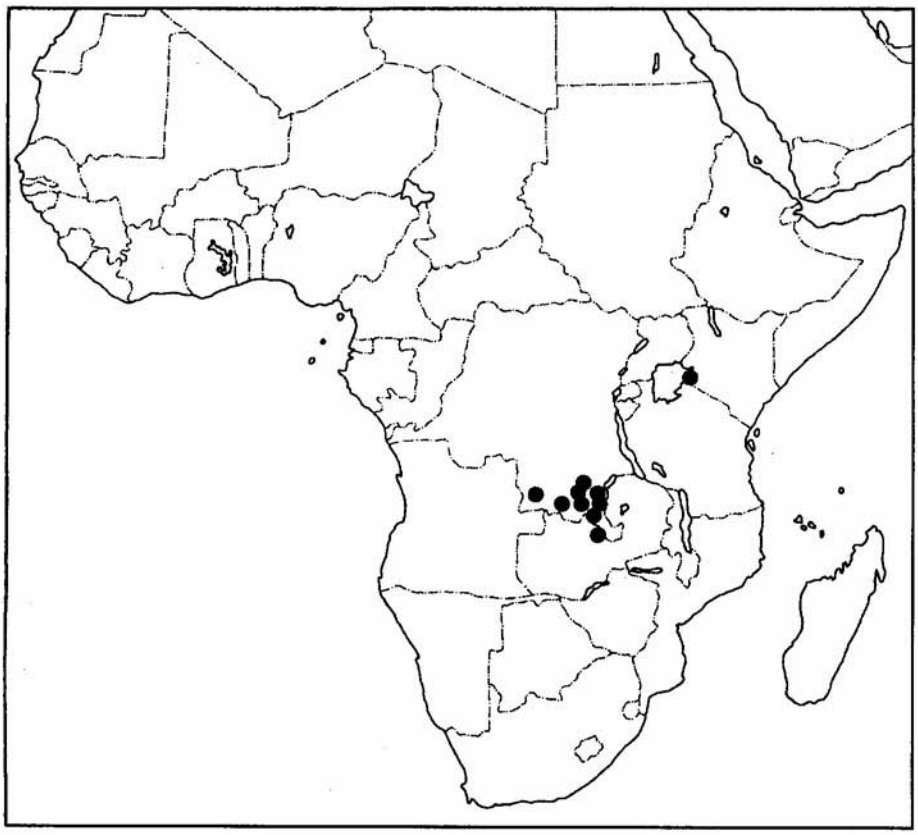
675-680. *Aspidimorpha intricata*: 675 - body in dorsal view, 676 - body in profile, 677 – head and prosternum, 678 – antenna, 679 – inner side of claw, 680 – outer side of claw

or very small. Explanate margin broad, subhorizontal, with tendency to form a shallow gutter, its surface irregular, on posterolateral spot and behind the spot with deep transverse grooves. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.4-1.5 times wider than long (fig. 677), glabrous to slightly dull, slightly elevated before antennal insertions, shallowly impressed in the middle. Labrum emarginate to 1/5 length. Antennae moderately elongate (fig. 678), extending to mid coxa, length ratio of antennal segments: 100:40:130:85:80:55:60:57:50:50:105.

Claws pectinate on both sides, inner pecten short to moderate, with four teeth extending to 1/3-2/5 length of claw (fig. 679), outer pecten with two teeth, first extending 1/7 length of claw, the second distinctly smaller (fig. 680).

Sexual dimorphism indistinct, males slightly stouter than females with slightly more explnate elytral margins.



681. Distribution of *Aspidimorpha intricata*

DISTRIBUTION

SE Zaire and W Kenya (fig. 681).

REMARKS

It is a member of the *intricata* group, with two other species from continental Africa and one only in Madagascar. *A. corrugata* from Madagascar differs in base of elytra distinctly wider than base of pronotum (only slightly wider in *intricata*). *A. flaviceps* differs in slimmer body and at least three last antennal segment black (only two in *intricata*). *A. delitescens* is the most similar, both are very stout with broad explanate margin of elytra with tendency to form a gutter. Puncturation of disc in *A. intricata* is completely irregular while in *delitescens* punctures are partly arranged in more or less regular rows. In *A. intricata* usually two last antennal segments are black while in *A. delitescens* only last segment is infuscate to black. *A. intricata* has shorter pecten of tarsal claws extending only to 1/3-2/5 length of claw, while in *A. delitescens* it is very long, extending to half length of claw.

MATERIAL EXAMINED

KENYA: Victoria-Njansa, Pondo, 1 (holotype, ZMHU).

ZAIRE: Elisabethville, IX 1911, 1, Miss. Agric. (MRAC), 11 XI 1923, 1, XII 1926, 1, Ch. SEYDEL (MRAC), 1 XII 1929, 1, M. BEQUAERT (MRAC); Jadotville, Mwera, XII 1956, 1 (LB); Kafakumba, XII 1931, 1, G.F. OVERLAET (MRAC); Katanga, Musonoie, 16 XI 1963, 1, V. ALLARD (MRAC); Kiandi, 6 XII 1911, 1, BEQUAERT (MRAC); Kundulungu, 9-22 XII 1910, 1, BEQUAERT (MRAC); Mulungwe, 2, BEQUAERT (MRAC); Upemba Nat. Park, Ganza n. riv. Kamandula, Lukoka, 1860 m, 4-6 VII 1949, 1, G.F. DE WITTE (MRAC); Upemba Nat. Park, r. Mubale, 1480 m, 1-20 V 1947, 1, G.F. DE WITTE (MRAC).

Aspidimorpha (s. str.) *isparetta* BOHEMAN, 1854

Aspidomorpha Isparetta BOHEMAN, 1854: 252 (LT in NRS); 1856: 105, 1862: 257; KOLBE, 1898: 344; SPAETH, 1924: 284, 1929: 158; SHAW, 1955: 234, 1956 b: 593; 1963: 459; 1968 a: 369; 1968 b: 781; BOROWIEC, 1985 a: 233; 1986: 797.

Aspidomorpha (*Aspidomorpha*) *isparetta*: SPAETH, 1914 b: 75.

Aspidomorpha Schönherri BOHEMAN, 1854: 270 (LT in NRS); 1856: 109; 1862: 262; KARSCH, 1882: 400; SPAETH, 1903: 173; 1916 b: 40, 1929: 159; WEISE, 1912: 159; ZAJCEV, 1989: 300 (larva, probably misidentification).

Aspidomorpha (*Aspidomorpha*) *Schönherri*: SPAETH, 1914 b: 77.

Aspidomorpha isparetta ab. *schönherri*: SHAW, 1955: 234.

Aspidomorpha Afzelii BOHEMAN, 1854: 272 (LT and PLT in NRS), 1856: 109, 1862: 262; SPAETH, 1903: 174 (as syn. of *schoenherri*), 1925: 2.

Aspidomorpha Schönherri var. *Afzelii*: SPAETH, 1916 b: 40.

Aspidomorpha (*Aspidomorpha*) *Schönherri* var. *Afzelii*: SPAETH, 1903: 174, 1914 b: 77.

Aspidomorpha schoenherri ab. *afzelii*: SPAETH, 1929: 159; SHAW, 1968 a: 370.

Aspidomorpha isparetta afzelii: SPAETH, 1943: 52.

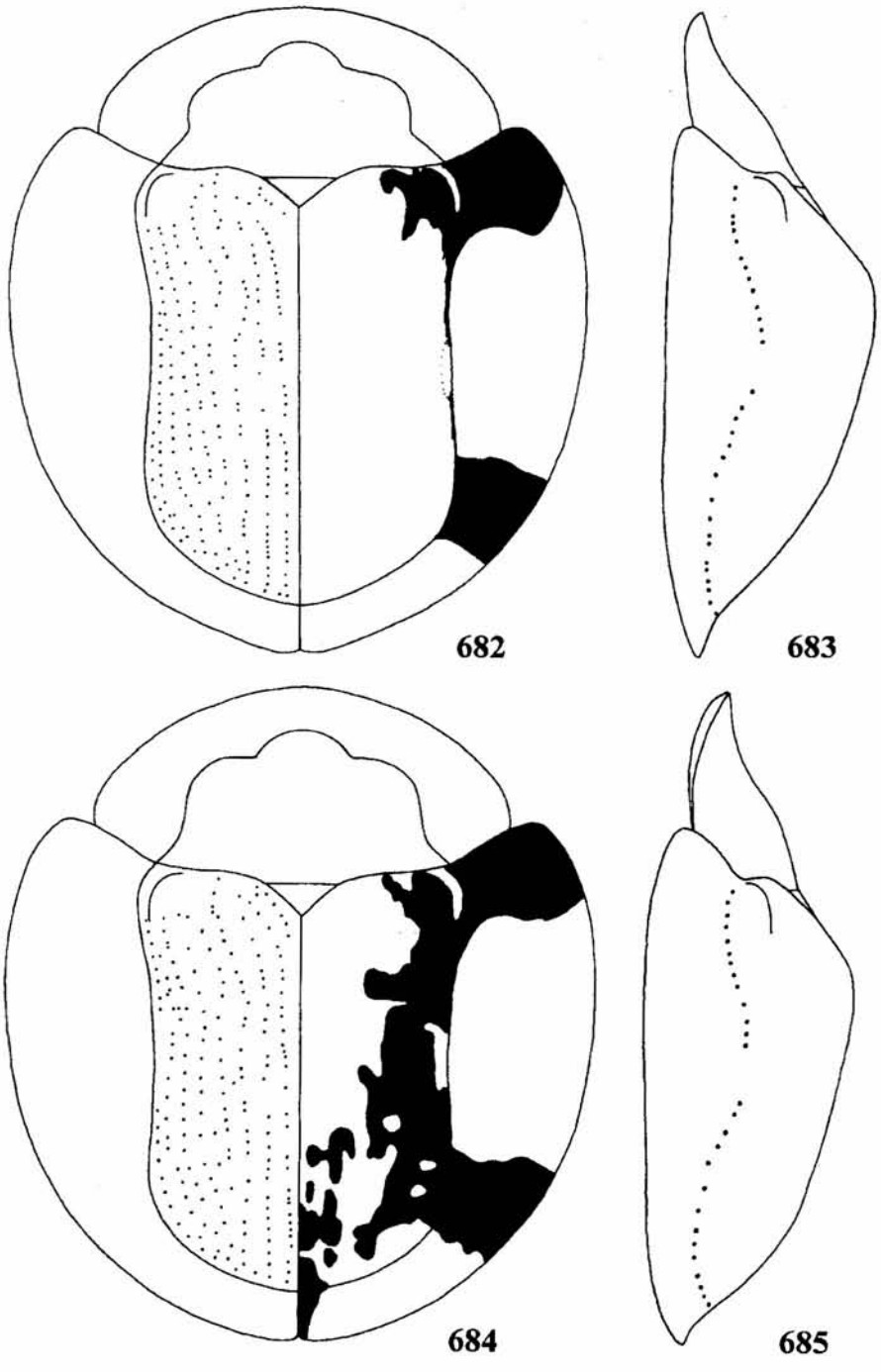
Aspidomorpha funerea BOHEMAN, 1854: 273 (LT in NRS); 1856: 109; 1862: 262; KARSCH, 1882: 400; SPAETH, 1903: 174 (as syn of *schoenherri*).

Aspidomorpha (Aspidomorpha) Schönherri var. *funerea*: SPAETH, 1914 b: 77.
Aspidomorpha isparetta ab. *funerea*: SHAW, 1968 a: 370.
Aspidomorpha stolata BOHEMAN, 1854: 274 (TE in NRS); 1856: 109; 1862: 262; GORHAM in GORHAM and GAHAN, 1892: 93; SPAETH, 1903: 174 (as syn. of *schoenherri*).
Aspidomorpha (Aspidomorpha) Schönherri var. *stolata*: SPAETH, 1914 b: 77.
Aspidomorpha isparetta ab. *stolata*: SHAW, 1955: 234, 1968 a: 370.
Aspidomorpha sugillata BOHEMAN, 1854: 280 (LT and PLT in ZMHU); 1856: 109; 1862: 265; SPAETH, 1903: 174 (as syn. of *schoenherri*).
Aspidomorpha (Aspidomorpha) Schönherri var. *sugillata*: SPAETH, 1914 b: 77.
Aspidomorpha isparetta ab. *sigillata* [sic]: SHAW, 1968 a: 370.
Aspidomorpha galamensis BOHEMAN, 1854: 270 (LT in NRS), 1856: 108, 1862: 262, **n. syn.**
Aspidomorpha (Aspidomorpha) galamensis: SPAETH, 1914 b: 75.
Aspidomorpha isparetta galamensis: SPAETH, 1924: 284.
Aspidomorpha ludibunda BOHEMAN, 1862: 256 (ST in BMNH); SPAETH, 1914 b: 76.
Aspidomorpha dispilota BOHEMAN, 1862: 261 (HT in NRS), **n. syn.**
Aspidomorpha (Aspidimorpha) galamensis var. *dispilota*: SPAETH, 1914 b: 75.
Aspidomorpha dissentanea dispilota: SPAETH, 1924: 284.
Aspidomorpha dissentanea ab. *dispilota*: SHAW, 1972: 62.
Aspidomorpha obtusa THOMSON, 1858: 228 (type in ?); BOHEMAN, 1862: 282.
Aspidomorpha (Aspidomorpha) Schönherri var. *obtusa*: SPAETH, 1914 b: 77.
Aspidomorpha isparetta ab. *obtusa*: SHAW, 1968 a: 370, 1968 b: 781.

DESCRIPTION

Le: male: 7.5-10.9 mm, female: 8.7-11.5 mm, Wi: male: 6.5-9.8 mm, female: 7.4-10.3 mm, Lp: male: 2.2-3.5 mm, female: 2.6-3.5 mm, Wp: male: 4.6-6.7 mm, female: 5.2-7.1 mm, Ex: male: 1.3-2.5 mm, female: 1.5-2.5 mm, Wd: male: 3.5-5.1 mm, female: 4.1-5.5 mm; Le/Wi ratio: male: 1.10-1.15, female: 1.09-1.18, Wi/Wp: male: 1.40-1.46, female: 1.42-1.56, Wp/Lp: male: 1.91-2.09, female: 2.00-2.06. Body broadly oval to almost circular (figs 682, 684).

The most variable species (figs 691-708). Pronotum uniformly yellow, disc often slightly darker, argillaceous, in extreme dark specimens whole disc brownish. Elytral disc in the palest specimens uniformly yellow to argillaceous, punctures usually with slightly darker, argillaceous to reddish brown centre (= *afzelii*). Often disc with reddish-brown, brown to blackish marble pattern, often sides of disc with irregular brown to black bands, in extremely dark specimens whole disc brown to black. All intermediate specimens have been observed. Explanate margin yellow, varies from uniform to maculate, often only with humeral spot of various size (= *stolata*), also common is form with both humeral and posterolateral spot (= *schoenherri*), always with humeral and posterolateral spots, sutural spot occurs only in specimens with dark brown to black humeral and posterolateral spots. These spots vary from narrow to very broad, argillaceous to black, humeral spot is often widened posterad and posterolateral spot widened anterad, sometimes spots coalescent and explanate margin is mostly brown to black with yellow "window" (= *galamensis* auct.), in extreme cases whole explanate margin black. In pale forms margin of explanate margin usually slightly darker yellow than ventral half of the explanate margin. Clypeus yellow, basal corners often infuscate. Ventrites vary from uniformly yellow (rare), to mostly black (also rare), usually pro-, meso- and metasternum mostly black except lateral plates.

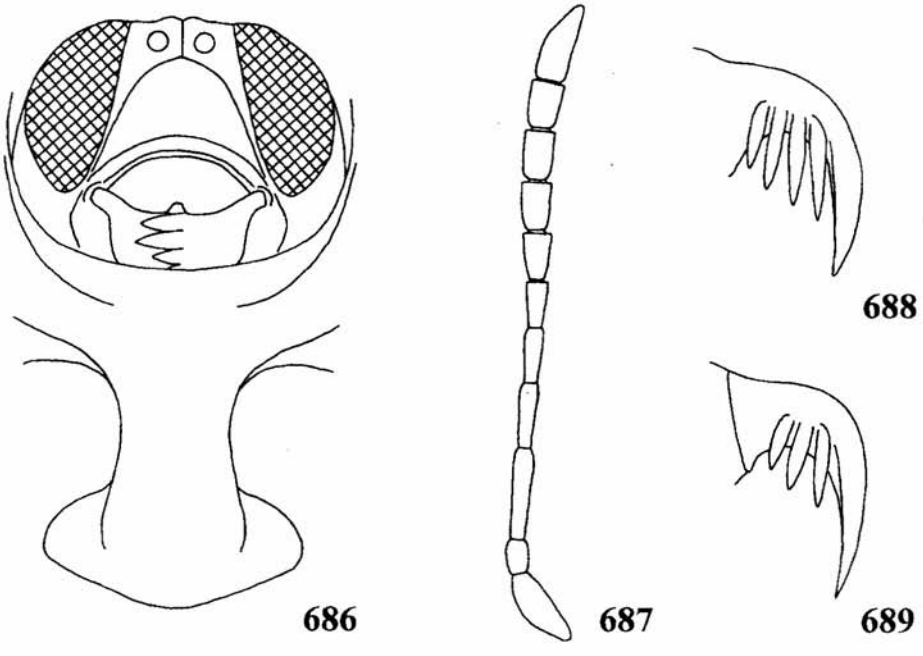


682-685. *Aspidimorpha isparetta*: 682, 684 - body in dorsal view, 683, 685 - body in profile

Abdomen usually mostly yellow, sternites only with two brown to black spots. Legs, including coxae, uniformly yellow. Antennae mostly yellow, two last antennal segments black except yellow ventral side of apex of the last segment.

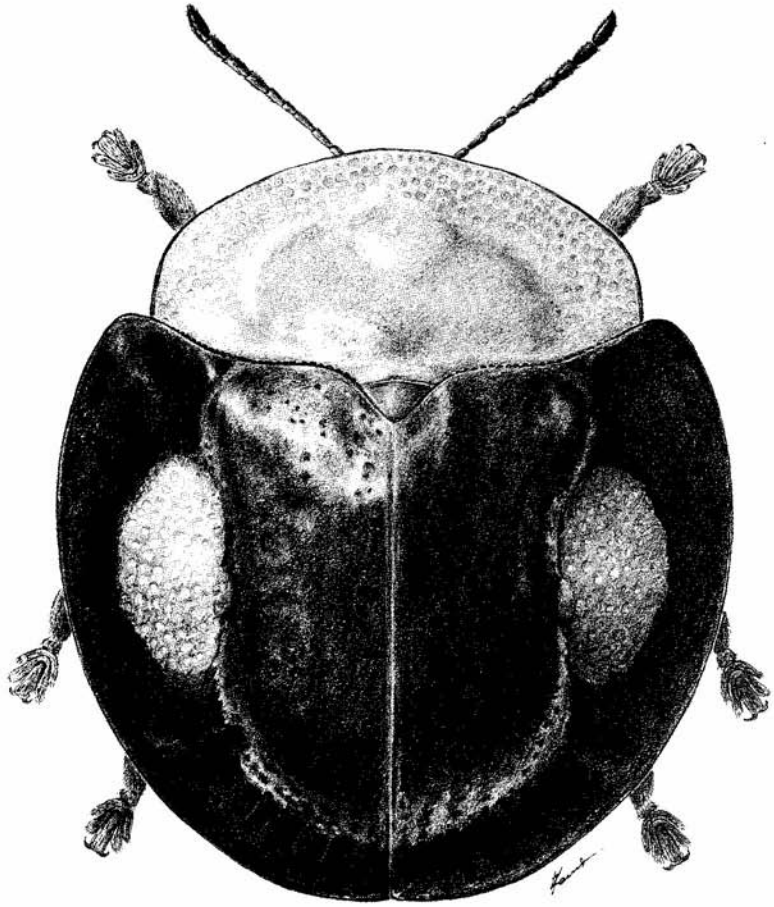
Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle of about 90-95°. Disc moderately convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, almost horizontal, in anterior part with tendency to form a shallow gutter, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, distinctly wider than base of pronotum, elytral margins simple. Disc moderately gibbous to angulate in profile, the profile behind the top of gibbosity straight to slightly convex, top of gibbosity always obtuse (figs 683, 685). In some specimens disc is almost regularly convex, only slightly gibbous in postscutellar point. Discal surface usually with small and shallow principal impression, without lateral impressions, surface of lateral part of disc not to slightly irregular, in some specimens whole disc surface slightly irregular. Puncturation of disc mostly regular, punctures fine to moderate, on slope slightly smaller than in anterior half of disc, in sutural half of disc two to three times smaller than in lateral part of disc. Scutellar row with 4-8 punctures. Punctures in rows moderately dense to sparse, disposed mostly regularly, partly grouped in 2-5, distance between punctures in groups c. two to four times larger than puncture diameter,



686-689. *Aspidimorpha isparetta*: 686 – head and prosternum, 687 – antenna, 688 – inner side of claw, 689 – outer side of claw

between groups three to six times larger than puncture diameter. Rows not or slightly impressed. Marginal row deep, its punctures c. twice larger than in submarginal row. Intervals flat to slightly convex, in dark coloured specimens intervals have tendency to convexity, in sutural half of disc five to six times wider than rows, on sides c. twice to thrice wider than rows, their surface mostly smooth, shiny, with very small microreticulation. Lateral fold of explanate margin low narrow to broad. Explanate margin broad, moderately declivous to almost horizontal, especially in large males, margin usually has no tendency to



690. *Aspidimorpha isparetta* var. *galamensis*, habitus (by J. KANIA)

form a shallow gutter, impunctate, smooth to slightly irregular, especially on black spots, shiny. Apex of elytral epipleura bare in male, densely pubescent in female.

Head broad, clypeus 1.6-1.8 times wider than long (fig. 686), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 687), extending to 1/4 length of metasternum, length ratio of antennal segments: 100:47:125:88:83:67:72:68:67:72:119.

Claws pectinate on both sides, inner pecten with four to five very long teeth extending to 1/2-3/5 length of claw (fig. 688). Outer pecten with two to three teeth, extending to 1/4-1/3 length of claw (fig. 689).

Sexual dimorphism distinct. Males stouter than females with bare apex of elytral epipleura.

HOST PLANT

Convolvulaceae: *Merremia hederacea* (E. OBERMAIER, pers. comm.).

DISTRIBUTION

The most common species in West and Central Africa, also with relict localities in forests of eastern Africa (fig. 709).

REMARKS

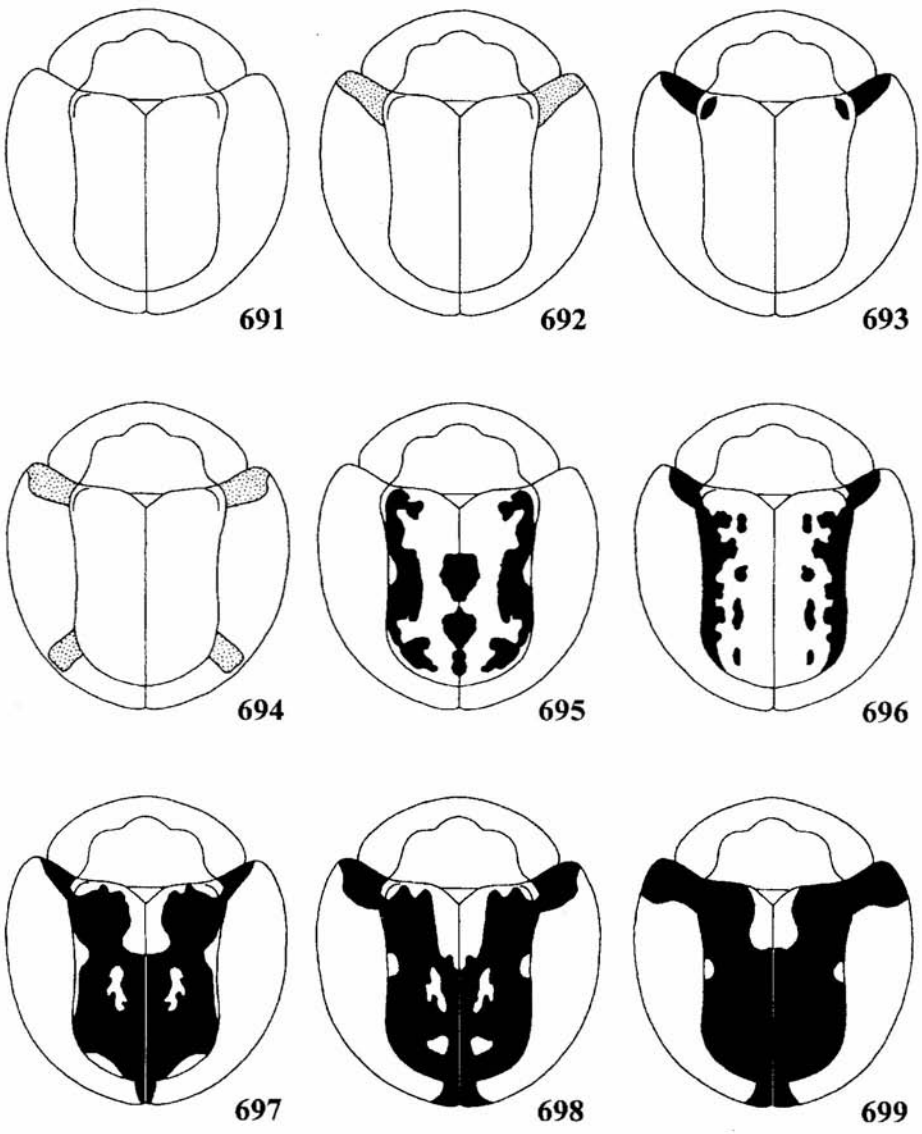
It is a member of the *isparetta* group, in western and central Africa the most common and the most variable species of the genus. The best character distinguishing *A. isparetta* from most species with only slightly gibbous elytral disc is pubescent apex of female epipleura, only female specimens of *A. icterica* with low elytral angulation have the same character but differ in more convex body and base of elytra only slightly to moderately wider than base of pronotum (in *isparetta* usually distinctly wider). Males of *A. isparetta* are similar to males of all species with only slightly gibbous elytral disc; small, pale specimens are very similar to almost immaculate form of *tortuosa*, but have elytral disc slightly more convex and ventrites often partly brown to black (in *tortuosa* always yellow). Males of A. *honesta* differ in sutural margin always black (in *isparetta* usually mostly yellow) and usually wider sutural spot. Males of *A. sjoestedti* are distinctly larger than males of *A. isparetta*, with groundcolour of elytra rusty-yellow (in *isparetta* pale yellow). Males of *A. tecta* are slightly slimmer, with base of elytra only slightly to moderately wider than base of pronotum (in *isparetta* distinctly wider) and elytral disc more regularly convex. Both species are separated geographically.

MATERIAL EXAMINED

BENIN: Athiémé, 1 (IRSN); Dahomey, 1 (ZMHU); Dahomey, Zagnanado, 3 (IRSN).

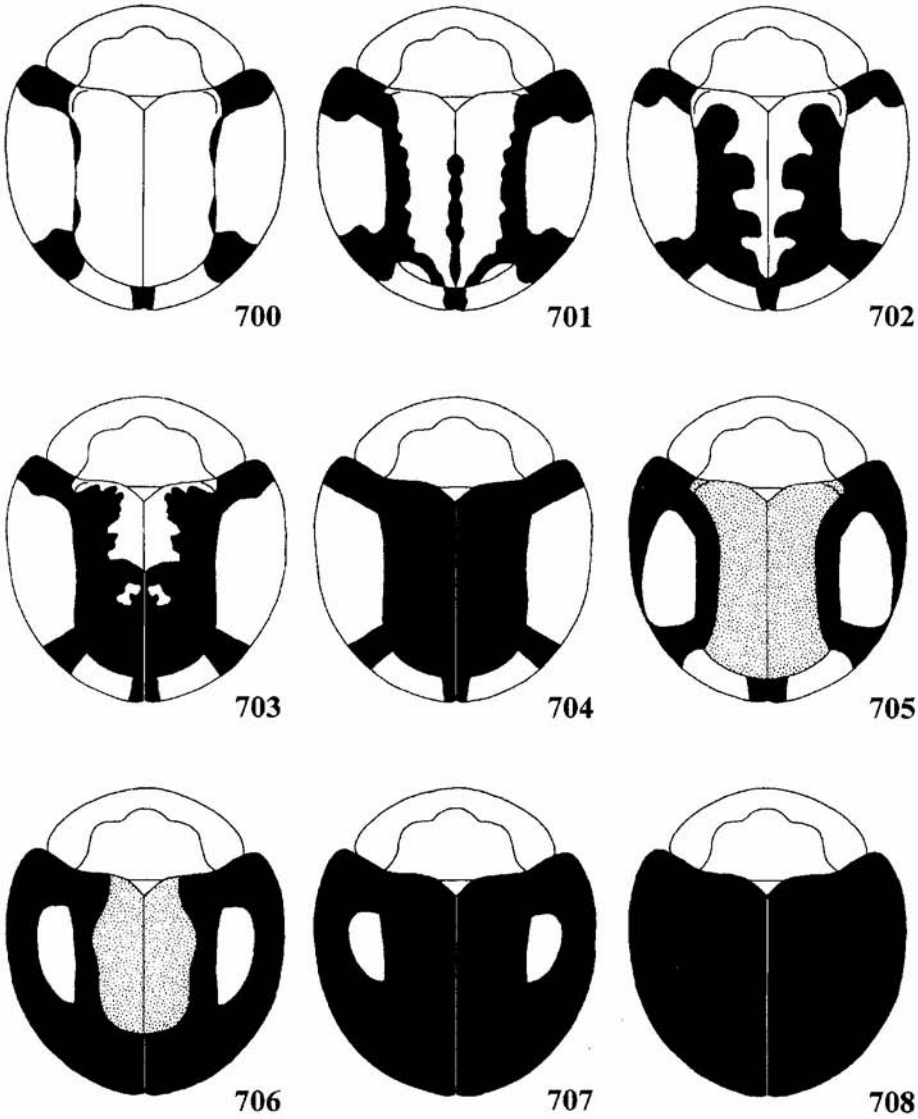
BURUNDI: Bururi, III 1959, 1 (MRAC).

CAMEROON: Batanga, II 1914, 1, III 1914, 9, IV 1914, 112, V 1914, 1,F.H. HOPE (CMNH); Dschang, 1400 m, XI 1912, 1, ROTHKIRCH (ZMHU); Duala, 1, LENCSZ (MRAC); Ebolowa, 700 m, 15-25 IV 1912, 1, v. ROTHKIRCH (ZMHU); Edea, 23 IV 1922, 1, 28 VIII 1922, 1, J.A. REIS (CMNH); Efulen, I 1911, 4, IX 1912, 1, X 1912, 1, XI 1912, 1, J.A. REIS (CMNH), 8 I 1918, 1, VIII 1920, 1, H.L. WEBER (CMNH); Etoug Ebé, 5 km SW Jaoundé, 12 III 1982, 1, G.J. STECK (ER);



691-699. *Aspidimorpha isparetta*, variation of dorsal maculation

Jaunde, X 1923, 1 (IRSN), 9 IV 1923, 1 (CMNH), Jaunde St., 5, ZENKER (ZMHU), 29 (IRSN); 6, v. CARNAP (ZMHU); Joko, 56 (HNHM), 7 (LU), 2, (ZMHU), 9 (FMNH), 16 VII, 1, GLAUNING (ZMHU), VII 1912, 2 (FMNH); Kumba, 230 m, 12 II 1967, 2, W. HARTWIG (MKB); Lolodorf-Kribi, 7-12 VII 1901, 1, GLAUNING (ZMHU), 30 I 1919, 1, J.A.REIS (CNMH); Moliwa n. Victoria, 17 I-7 III 1908, 1, F. v. MALTZAN (ZMHU); Mt Balmayo, 80, BARGA (MRAC), 3, J. CANTALOUBE



700-708. *Aspidimorpha isparetta*, variation of dorsal maculation (continuation)

(MRAC), VII 1965, 10, BARGA (MRAC); Kribi, 2, CARRET (MRAC); Lolodorf, 15 V 1918, 1, 30 I 1919, 1, J.A. REIS (CMNH); Muëli, 23 II 1958, 3, H. KNORR (NNML), 600 m, 24 II 1958, 6, H. KNORR (ZSM); Mukonye Farm, 1, R. RHODE (IRSN); Nangu Eboko, III-IV 1959, 36, LENCZY (HNHM); Nkolbisson, 12 III 1982, 1, G.J. STECK (ER); Nsanakang, 4, A. DIEHL (ZMHU); Okala, IV-V 1965, 4, R.P. POUGET (MRAC); Okola, Ebouggsi-r. Mbanize, 19 VII 1963, 3 from *Setaria megaphyllia* BEAUV., L. SEGERS (ZSM); Sappo near Buea, III 1951, 1, S. TITA (CAS); Victoria, 39 (ZMHU).

CHAD: Fort Lamy, Bas Chari, 1904, 3, J. DECORSE (MNHN); Gory-Damraou, Moyen Chari, VI 1904, 4, J. DECORSE (MNHN).

EQUATORIAL GUINEA: Fernando Poo, IV-VI 1900, 15, L. CONRADT (ZMHU); Fernando Poo, Basile, 400-600 m, VIII-IX 1901, 1, L. FEA (MCSNG); Fernando Poo, Santa Isabel, 28 IV-10 VIII 1900, 5, 21 V 1900, 5, 27 V 1900, 4, 1 VI 1900, 1, 7 VI 1900, 1, 17 VI 1900, 1, L. CONRADT (ZMHU); Makomo, Campo, 1-15 IV 1906, 1, G. TESSMANN (ZMHU); Nkolentangan, 11 XII 1907, 3, G. TESSMANN (ZMHU).

GABON: Bas-Ogooué, 7 (IRSN); Fernan Vaz, 2 (ITZ); Gabon, 2 (syntypes of *A. obtusa*, 1 IRSN, 1 NRS), 3 (IRSN); Ogové R., Kangvé, 15, A.C. GOOD (CMNH); Ogowe, 1, M. SCHMIDT (ZMHU).

GHANA: Aschanti, 2 (IRSN); Ashanti Reg., Juaben, 19 II 1967, 2, S. ENDRÖDY-YOUNGA (HNHM); Ashanti Reg., Kumasi, Nhiasu, 30 IX 1967, 2, S. ENDRÖDY-YOUNGA (HNHM); Ashanti, Mim env., 23 III 1986, 2, HIERMEIER (MS); Axim, 22, BESNARD (MRAC); Juaben, 19 II 1967, 1, S. ENDRÖDY-YOUNGA (MHNG); Kpandu, 18 V 1972, 1, M.S. HOOGMOED (NNML); Kumasi, III 1986, 6, K. WERNER (MD, MS); Takoradi, 138, BESNARD (MRAC).

GUINEA: Conacry, 1 (MS); Coyah, 10 VII 1966, 1, K. FERENCZ (HNHM); Guinea, 1, "WESTERMANN" (paralectotype of *afzelii*, present designation, NRS), Guinea, 1 (syntype of *ludibunda*, BMNH), 8 (FMNH); N'Zérékoré, 23 IV 1950, 1, S. OLSEN (ZMC).

IVORY COAST: Abidjan, 29 VIII 1952, 2, L. SHELJUZHKO (MM); Adiopadoumé, 2 (MRAC); Adzopé, IX 1948, 1 (MHNG); Comoé, XII 1995, 1, from *Merremia hederacea*, E. OBERMAIER (EO); Dimbokro, 153 (IRSN); Kossou, 14 V 1974, 1, R. JACQUÉ (MRAC); Man, VIII 1948, 1 (MHNG); Marabadiassa, 15-17 X 1974, 1, P.M. ELSEN (MRAC); San Pedro Reg., 1901, 1, G. THOIRE (MNHN); Sassandra, I 1950, 1 (MHNG); Thai-Park, VI 1995, 3, on *Ipomoea batatas*, E. OBERMAIER (EO).

KENYA: Malindi, Gedi Forest, IV 1973, 2, V 1973, 1, GØNGET (ZMC); Meru Park, Timau, 28 VI 1973, 1, H. GØNGET (ZMC).

LIBERIA: Bolahun, 1, J. KOLBE (ZMHU); Cap Palmas, 2 (IRSN); Cap Palmas, 2, WELLE (lectotype and paralectotype of *A. sugillata*, present designation, ZMHU); Liberia, 3, W. BANGHAM (OSU); Monrovia, 5 VII 1957, 1, 22 VI 1958, 1, E.S. ROSS and R.E. LEECH (CAS), 11 IV 1965, 3, S. ENDRÖDY-YOUNGA (HNHM); Stampfli, VII 1910, 3 (NNML).

NIGERIA: Assaba, 1, Dr. CRASTER (MCZC); Ibadan, 10 V 1967, 2, W.A. EVANS (CAS); 16 IX 1978, 1, G. G. SCHULTEN (ITZ), 21 XI 1962, 1, D.C. EIDT

(CNCI); Ilesha, 1, L.E. HUMFREY (BMNH); Kabbu Prov., Lokoja, 24-28 II 1949, 1, B. MALKIN (CAS); Ogoja County, 7 III 1964, 2, R. W. MEYER (ZSM); near Ogoja, 17 III 1963, 7, R. MEYER (ZSM); Warri, VII-IX 1897, 16 (MCZC).

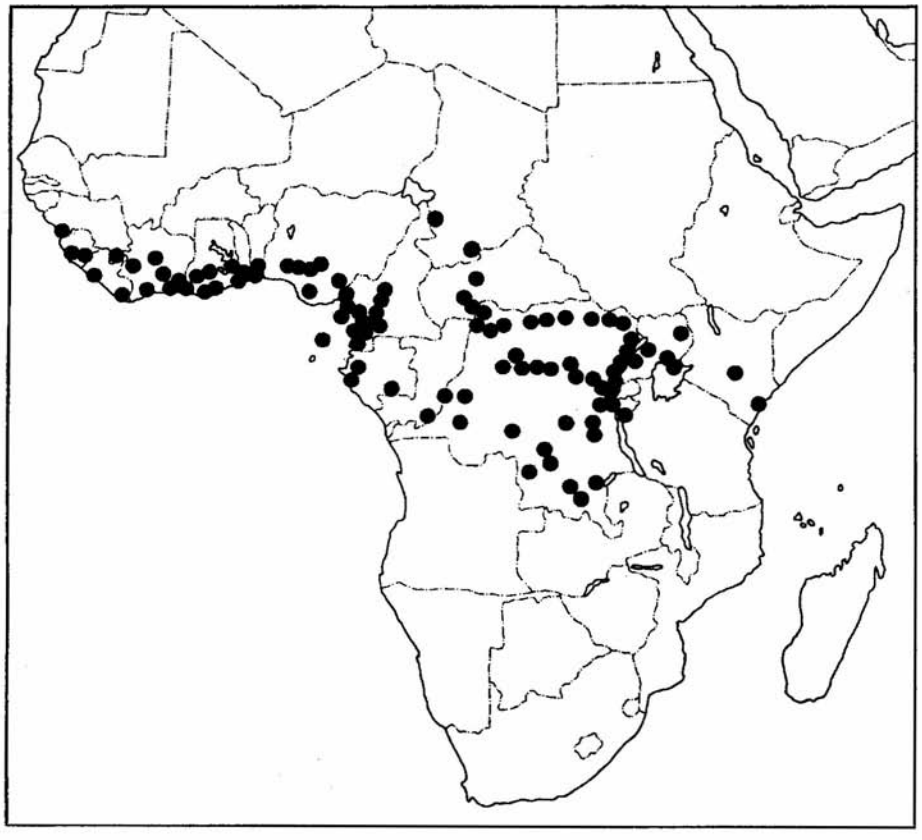
PRINCIPE IS.: Ile de Prince, 1, ERMANS (ZMHU).

REPUBLIC OF CENTRAL AFRICA: Bangui, 1 (IRSN); Fort Crampel, 7 (IRSN).

REPUBLIC OF CONGO: Bonga, 2, v. SÖHSTEN (IRSN); Brazzaville, 1 (IRSN); Kuilu, 1892, 2, MOCQUERYS (MCZC).

SENEGAL: Senegal, 6 (IRSN).

SIERRA LEONE: Kenema, III-VI 1975, 7, M. VERHAEGE (IRSN), 1975, 8, M. VERHAEGE (MRAC); Mayamba, 27 (IRSN); Rhobomp, 1, KLAGES (CMNH); Sierra Leone, 8 (IRSN), Sierra Leon., 1, "AFZEL." (lectotype of *Aspidomorpha funerea*, present designation, NRS), Sierra Leon., 1, "AFZEL." (lectotype of *Aspidomorpha schoenherri*, present designation, NRS), Sierra Leon., 1, "AFZEL." (lectotype of *Aspidomorpha afzelii*, present designation, NRS), Sierra Leon., 1, "AFZEL" (paralectotype of *Cassida diaphana* SAHLBERG, present designation, NRS).



709. Distribution of *Aspidimorpha isparetta*

TOGO: Bismarckburg, I 1891, 1, R. BÜTTNER (ZMHU), 12 X 1892, 1, L. CONRADT (ZMHU); Misahöhe, 2 VII 1894, 1, E. BAUMANN (ZMHU).

UGANDA: Budongo Forest, 1000 m, 27-28 VIII 1971, 1, 23-30 IX 1973, 2, H. GØNGET (ZMC); Bwamba Forest, 2800 ft., 13 II 1912, 1 (BMNH), 2500 ft., III 1948, 1, J.G. WILLIAMS (BMNH); Bwamba, Bundibugyo, V 1954, 1, T.H. JACKSON (BMNH); Kampala, Tank Hill, 1300 m, 5 VI 1976, 1, H. GØNGET (ZMC); Karamoja, Mt. Kadam, VI 1949, 1, T.H. JACKOSN (BMNH); Lac Victoria, Buvuma Is., vill. Magyo, III 1968, 1, E. VERTRIEST (MRAC); Mabira, 1 (IRSN); Mabira Forest, Chagwe, 3500-3800 ft., 16-25 VII 1911, 1, S.A. NEAVE (BMNH); Masindi Distr., Budongo Forest n. Sonso, 1°45'N, 31°35'E, 19-30 VI 1995, 3, 21-30 VII 1995, 1, T. WAGNER (TW); between Seziwa R. and Kampala, 27-31 VIII 1911, 1, S.A. NEAVE (BMNH).

ZAIRE: W Albert L., Mawambi a. Ituri, IV 1908, 1 (ZMHU); SW Albert L., Mboga, III 1908, 1 (ZMHU); NW Albert-Njansa, Andebali, Wambutti, 26 IX 1891, 1, STUHLMANN (ZMHU); W Albert-Njansa, Ituri-Fahre, 25 VIII 1891, 1, STUHLMANN (ZMHU); W Albert-Njansa, Kibissibili, Ituri, 8 IX 1891, 1, STUHLMANN (ZMHU); between Albert L. and Edward L., Ruwenzori Vall., 8 II 1908, 1 (ZMHU); Albert Nat. Park, Riv. Djobula, piste Mwenda, Katyka, 1000 m, 29 VIII 1948, 1, J. DE WILDE (MRAC); Albert Nat. Park, Mt Hoyo, riv. Kofuhola, affl. Kalakala, 1285 m, 25 VII-10 VIII 1955, 7, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mont Hoyo, grotte Saga-Saga, 1160 m, 3 VIII 1955, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mont Hoyo, grotte Yolohafiri, 1030 m, 19 IX 1956, 3, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Riv. Kasalala, 1100 m, 6 XI 1948, 1, J. DE WILDE (MRAC); Albert Nat. Park, Kidele, af. Kabambewa, 1100 m, 21 IV 1949, 1, J. DE WILDE (MRAC); Albert Nat. Park, Loule, 1100 m, 14 V 1949, 1, J. DE WILDE (MRAC); Albert Nat. Park, Mutsora, 1939, 57, HACKARS (MRAC); Albert Nat. Park, Reg. Oycha, 1100 m, IV-V 1950, 13, J. DE WILDE (MRAC); Albert Nat. Park, Ruwenzori, riv. Bombi, affl. Butahu, 1820 m, 15 IX 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Byangolo, affl. Djjilube, 1320 m, 19 IX 1956, 3, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park. Secteur Nord, riv. Lume (moyenne), 1420 m, 10 IX 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. May ya Moto, affl. Talya, 1120 m, 21 IX 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Mukandwe, affl. Talya, 1140 m, 20 V 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, vill. Mulala, sur riv. Mukandwe, 1150 m, 17 IV 1951, 1, R. CHRISTIAENS (MRAC); Albert Nat. Park, Secteur Nord, Mulingo, Sect. Kikura, Reg. Baniangala, 1350 m, 9 VII 1954, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Seceur Nord, riv. Ngokoi, affl. Talya, 1080 m, 29 XI 1956, 1, 1100 m, 27 V 1957, 1, P. VANSCHUYTBROECK (MRAC); Bambesa, 14 XI 1936, 1, 1-2 VI 1937, 5, 10 VI 1937, 7, 12 VI 1937, 2, 17 VI 1937, 2, 24 VI 1937, 2, 28 VI 1937, 12, 29 VI 1937, 1, 3 VII 1937, 1, 6 VII 1937, 1, 9 VII 1937, 1, 28 VII 1937, 1, 11 VIII 1937, 3, 20 VIII 1937, 1, 26 VIII 1937, 37, 1 IX 1937, 2, 11 IX 1937, 21, 18 IX 1937, 1, 22 IX 1937, 1, 30 X 1937, 1, 5 XI 1937, 1, 6 VII 1938, 1, 26 I 1939, 1, 3 VI 1939, 3, 10 VI 1939, 2, 18 XII 1939, 1, J.M. VRIJDAGH (IRSN); Banzyville, IV 1897, 1, HERMANS (IRSN);

Barumbu, 1, J. QUESQUIERE (IRSN); Baudoinville, Tanganika, 1909, E. CAPELLE (IRSN); Beni Bendi, Sankuru, I 1895, 7, L. CLOETENS (IRSN); Beni Forest, Ituri, I 1947, 1, T.H. JACKSON (BMNH); Biruwe n. Matenda, 21 IX 1929, 1, A. COLLART (IRSN); Bobende, 14 I 1928, 1, A. COLLART (IRSN); Bokalalala, Bolobo, 1954, 1, R.C. ELOY (MRAC); Bokote, 6 VI 1912, 2, R. MAYNÉ (MRAC); Buhunde, Biruwe n. Matenda, 16 IX 1929, 2, A. COLLART (IRSN); Buhunde-Matenda, 21 IX 1929, 8, 22 IX 1929, 2, A. COLLART (IRSN); Buhunde-Sawasawa, 15 IX 1929, 1, A. COLLART (IRSN); 15 mls NW of Bunyakiri, 800 m, 8 IX 1957, 1, E.S. ROSS and R.E. LEECH (CAS); Equateur, Masanga, Terr. Bokungu, Tschuapa, 3, MASSART (IRSN); Gemena, 20 VIII 1947, 1, R. CREMER and M. NEUMAN (IRSN); Haute Maringa, 3, 1894-96, 1, L. MAIRESSE (IRSN); Ibembo, 2, DE SMET (IRSN), 6 II 1890, 1, J. DUVIVIER (IRSN); Irangi, IX 1992, 4, H. HINKEL (TW); Irangi, Luhoho Riv., 900 m, 10 IX 1957, 5, E.S. ROSS and R.E. LEECH (CAS); Isangi, 3, Baltus (IRSN); Ituri, Mt. Hoyo, 8-9 VII 1953, 1, J. VERBEKE (IRSN), 1200-1500 m, 20 VIII 1978, 1, M. D'ADAMO (DS); 30 mls SE of Jadotville, 27 I 1958, 1, E.S. ROSS and R.E. LEECH (CAS); 45 mls E of Kama, 16 VIII 1957, 5, E.S. ROSS and R.E. LEECH (CAS); Kaniama, 2 II 1939, 2, H.J. BRÉDO (IRSN); Kasai, Luebo, I-IV 1959, 1, F. FRANCOIS (MRAC); Kasongo, IX 1959, 1, P.L. BENOIT (MRAC); Kassongo, Stanleyfalls, 28, Rom (IRSN, ZMHU); Katanga, Lualaba-Maka, 25 I 1939, 7, H.J. BRÉDO (IRSN); 16 mls E of Kenge, 5 VIII 1957, 14, E.S. ROSS and R.E. LEECH (CAS); Kivu, Beni, 8 XII 1953, 1, J. VERBEKE (IRSN); Kivu, Irangi, 25-30 XI 1966, 1, 4 I 1967, 3, 26 I 1967, 1, Dr. JILLY (SMNS), 800 m, 24 IV 1983, 1, 22 II 1985, 2, 1-2 II 1986, 3, H. MÜHLE (MD); Kivu, Kabare, 1951, 2, R.S. VAN DE VELDE (MRAC); Kivu, Lwiro, IV 1966, 1, Dr. JILLY (SMNS); Kivu, Masisi, 1, A. COLLART (IRSN); Kivu, Mont Kahuzi, km 82, IX 1951-II 1952, 1, H. BOMANS (MRAC); Kivu, Vall de la Ruzizi, Kanambo, III 1959, 2, P.L. BENOIT (MRAC); Lac Albert, Foret de Kawa, 30 IV 1929, 1, A. COLLART (IRSN); Lac Eduard, Katakunda, 5 III 1936, 1, L. LIPPENS (MRAC); Lac Leopold II, 11-24 VI 1925, 1, Prince LEOPOLD (IRSN); Libenge, 16-17 X 1947, 3, R. CREMER and M. NEUMAN (IRSN); Likimi-Bosanga, 21 X 1927, 1, A. COLLART (IRSN); Likimi-Busu Mandi, 8 XI 1927, 1, A. COLLART (IRSN); Lubutu, IX-X 1929, 1, A. COLLART (IRSN); Lubutu-Kituri, 6 IX 1929, 2, A. COLLART (IRSN); Lubutu-Masua, 10 IX 1929, 1, A. COLLART (IRSN); Lubutu-Obongena, 7 IX 1929, 3, A. COLLART (IRSN); Luebo, VIII 1921, 1, L. GHESQUIÈRE (MRAC); Luhoho, Riv. Bunyakiri, 1100 m, 6 IX 1957, 1, E.S. ROSS and R.E. LEECH (CAS); Lukolela, 1937, 2, R. MASSART (IRSN); Lulua, Kapanga, 11 XII 1932, 1, F.G. OVERLAET (MRAC); Mambasa, V-VI 1987, 1, M. BORRIL (MZUF); Mandimba-Masua, 26 IX 1929, 2, A. COLLART (IRSN); Mandimba-Uluku, 14 IX 1929, 5, A. COLLART (IRSN); Masisi-Uluku, 14 IX 1929, 5, A. COLLART (IRSN); Masua n. Obongena, 8 IX 1929, 2, A. COLLART (IRSN); Masua-Lubutu, 9 IX 1929, 2, A. COLLART (IRSN); Moenge, 2, R. MAYNÉ (MRAC); Moera Forest, 1910, 1, GRAUER (NMW); S slope of Mont Kahuzi, 1700 m, 4 IX 1957, 1, 2200 m, 5 IX 1957, 1, E.S. ROSS and R.E. LEECH (CAS); Mulungu, 1953, 1 (MRAC); Ngowa, 16 XI 1938, 1, J. MERTENS (IRSN); Plaine Semliki, 900-1100 m, IV-X 1937, 21, HACKARS (MRAC); W Ruwenzori, Fort Beni, I 1908, 2, A. HERZOG (ZMHU); Ruwenzori, Mutawanga, 1000-1300 m, XI 1936-II 1937, 3, II-

III 1937, 4, HACKARS (MRAC); Samlia Fall, Riv. N. Gamie, 1890, 2, A. MOCQUERYS (IRSN); 17 mls S of Sampwe, 1000 m, 21 I 1958, 1, E.S. ROSS and R.E. LEECH (CAS); Stanleyville, 1948, 2, L. SALATHIEL (MRAC); 10 II 1928, 11, 17 II 1928, 5, 18 II 1928, 3, 21 II 1928, 6, 22 II 1928, 4, 24 II 1928, 1, 8 IV 1928, 1, 9 IV 1928, 4, 22 VI 1928, 1, 27 VI 1928, 1, 19 VII 1928, 1, 30 VII 1928, 1, 2 VIII 1928, 4, 11 VIII 1928, 10, 13 VIII 1928, 5, 15 VIII 1928, 5, 23 VIII 1928, 5, 26 VIII 1928, 1, 28 VIII 1928, 2, 31 V 1929, 1, 24 XI 1929, 1, A. COLLART (IRSN); Stanleyville, Ongoka (riv. Lowa), IV-IX 1952, 4, J. PANTOS (MRAC); Station de Gandajika, 1957, 1, P. DE FRANCQUEN (MRAC); Terr. de Kasongo, Riv. Tambve, 23 I 1960, 1, P.L. BENOIT (MRAC); Tsela, VI 1924, 1, A. COLLART (IRSN); Tshuapa, Bokuma, XII 1951, 1, II 1952, 1, P. LOOTENS (MRAC); Tshuapa, Ikela, X-XI 1956, 301, R.P. LOOTENS (MRAC); B Uele, Alipago, 16 V 1957, 1 (FMNH); B Uele, Bambesa, 31 III 1957, 1 (FMNH), 1937/1938, 13, J. VRYDAGH (MRAC); B Uele, Beo, 20 IV 1958, 1 (FMNH); H Uele, Bunie, 29 X 1956, 1 (FMNH); Uele, fl. Duru, III 1927, 2, F.S. PATRIZI (MCSNG); Uele, Gangala-na-Bodio, X 1956, 1, M. POLL (MRAC); Uele, Kapili, V 1927, 1, F.S. PATRIZI (Genua); Uele, Pakana, IV 1927, 1, F.S. PATRIZI (MCSNG); Uluku-Buhunde, 25 IX 1929, 2, A. COLLART (IRSN); Umangi, IX-XI 1896, 1, E. WILVERTH (IRSN); Yangambi, XII 1958, 8, V 1959, 3, X-XII 1959, 2, P. DESSART (MRAC), IV 1964, 1, M. PAVAN (MZSNV); Zaire, 12 (IRSN); Zongo, Mokoanghay, 1, L. TILKENS (IRSN).

VARIA: Old Calabar, 1, "Murray" (holotype of *Aspidomorpha dispilota*, NRS); Seneg., 1, "MHM." (lectotype of *Aspidomorpha isparetta*, present designation, NRS); Seneg., 1, "MHM." (lectotype of *Aspidomorpha galamensis*, present designation, NRS).

Aspidimorpha (s. str.) *katangana* SPAETH, 1932

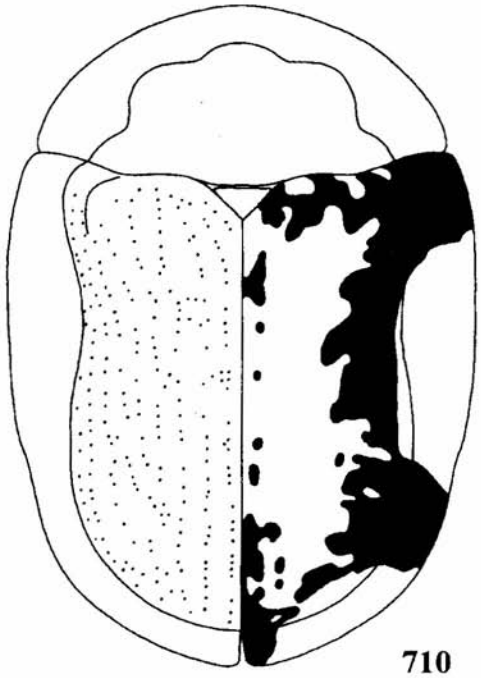
Aspidomorpha katangana SPAETH, 1932 b: 5 (LT in MM, PLT in MM, MRAC); BOROWIEC, 1985 a: 234.

Aspidomorpha katangana ab. *rufipennis* SPAETH, 1932 b: 6 (LT in MRAC, PLT in MRAC, MM).

DESCRIPTION

Le: male: 8.6-10.7 mm, female: 9.4-10.9 mm, Wi: male: 6.7-8.5 mm, female: 6.9-7.8 mm, Lp: male: 2.8-3.6 mm, female: 2.8-3.5 mm, Wp: male: 5.5-7.1 mm, female: 5.6-6.7 mm, Ex: male: 1.1-1.9 mm, female: 1.1-1.4 mm, Wd: male: 4.4-5.1 mm, female: 4.7-5.2 mm; Le/Wi ratio: male: 1.26-1.36, female: 1.36-1.43, Wi/Wp: male: 1.20-1.24, female: 1.13-1.23, Wp/Lp: male: 1.96-2.03, female: 1.82-2.03. Body elongate-oval, almost parallelsided (fig. 710)

Pronotum uniformly yellow. Elytra uniformly yellow or with variable pattern (figs 521-524). Disc in the palest form uniformly yellow, punctures without reddish-brown to black centre. Often disc with reddish-brown to brown pattern in formi of irregular spots of various shape and size along suture and irregular spots along each side of disc, the spots on sides often partly or mostly coalescent and forming irregular bands, sometimes brown occupies almost whole elytral disc



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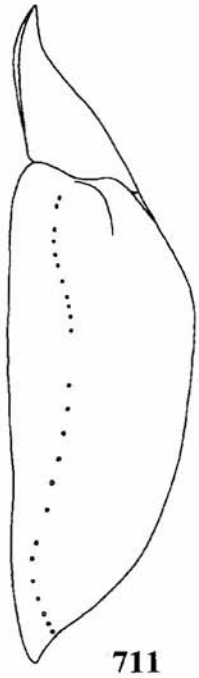

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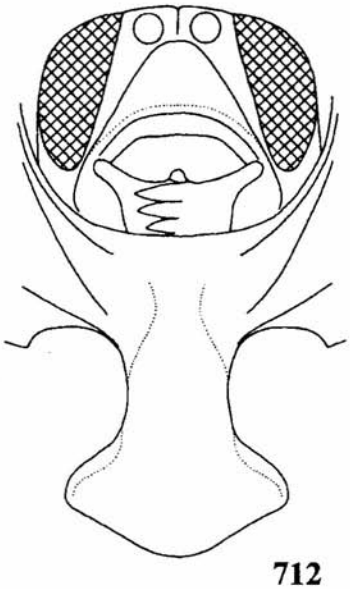

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710-715. *Aspidimorpha katangana*: 710 - body in dorsal view, 711 - body in profile, 712 – head and prosternum, 713 – antenna, 714 – inner side of claw, 715 – outer side of claw

except scutellar area, humerus, lateral fold of marginal interval, few spots along suture and extreme apex of disc; in another form the pattern is similar as in the preceding form but black. Explanate margin in the palest form with moderately broad argillaceous humeral and posterolateral spots, occasionally the spots are visible only on underside of explanate margin. In dark forms the spots are reddish brown to black and often there is narrow sutural spot. Clypeus yellow, basal corners never infuscate. Ventrites in pale forms yellow with brown spot in the middle of metasternum, in dark forms thorax except sides black. Abdomen usually yellow or sternites in the middle with two brown spots. Legs yellow, including coxae. Antennae mostly yellow, two last antennal segments black except yellow ventral side of apex of the last segment black, sometimes segment 10 mostly or completely yellow.

Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle of about 85-90°. Disc moderately convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, almost horizontal in anterior part with tendency to form a shallow gutter, smooth, shiny.

Scutellum triangular, without or with transverse sulcus or impression. Base of elytra serrulate, not or only slightly wider than base of pronotum, elytral margins simple. Disc regularly convex or in posterior part slightly depressed (fig. 711), with small and shallow principal impression, without lateral impressions, surface of lateral part of disc usually slightly irregular. Puncturation of disc mostly regular, punctures fine to moderate, on slope not or only slightly smaller than in anterior half of disc, in sutural half of disc two to four times smaller than in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows moderately dense to dense, disposed mostly irregularly, partly grouped in 2-4, distance between punctures in groups c. as large as to twice larger than puncture diameter, between groups three to five times larger than puncture diameter. Marginal row deep, its punctures c. twice larger than in submarginal row. Intervals flat, in sutural half of disc four to five times wider than rows, on sides only twice wider than rows, their surface mostly smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low but broad. Explanate margin broad, subhorizontal, with tendency to form a shallow gutter, impunctate, smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.7-1.8 times wider than long (fig. 712), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate c. to 1/4 length. Antennae moderately elongate (fig. 713), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:45:108:80:73:53:63:53:60:56:100.

Claws pectinate on both sides, inner pecten with four long teeth extending to half length of claw (fig. 714). Outer pecten with two to three short teeth, extending to 1/4-1/3 length of claw (fig. 715).

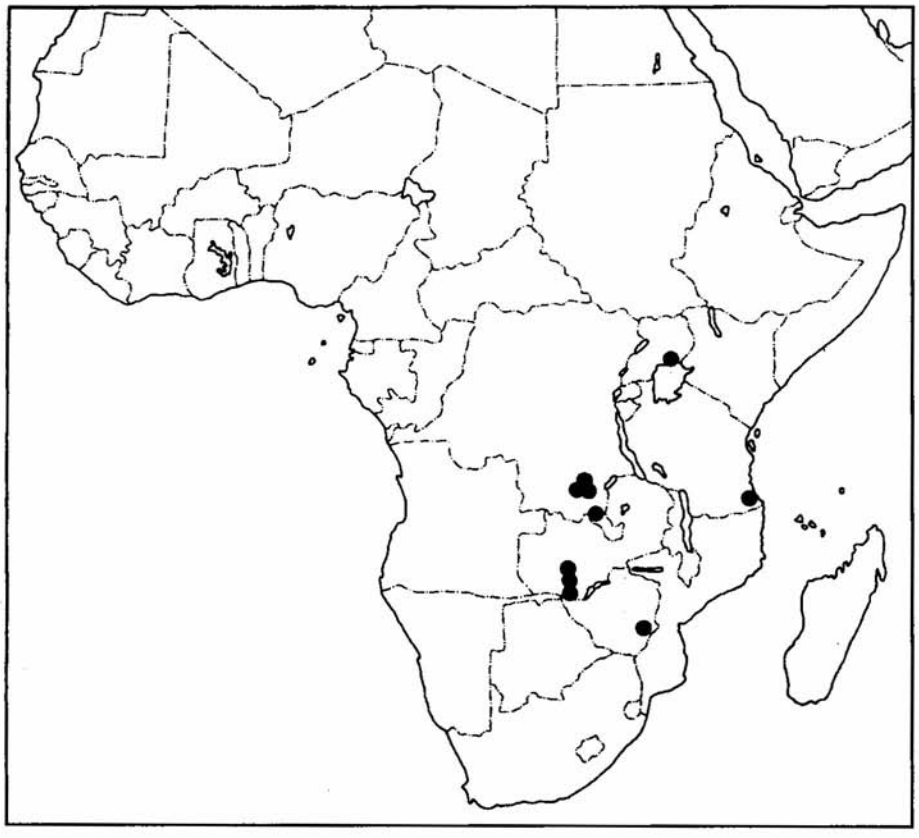
Sexual dimorphism indistinct. Males slightly stouter than females.

DISTRIBUTION

Uganda, Tanzania, S Zaire, Zambia and Zimbabwe (fig. 716).

REMARKS

It belongs to the *cincta* group. It has a variable pattern like in *A. sternalis* and *A. quinquefasciata*. *A. sternalis* differs in mostly black abdomen (in *A. katangana* abdomen usually uniformly yellow or basal sternites with brown spot on each side), *A. quinquefasciata* differs in slimmer body (Le/Wi ratio in male 1.14-1.27, in *katangana* 1.26-1.36, in female 1.24-1.38, in *katangana* 1.36-1.43), both species are also mostly separated geographically (see figs. 716 and 973). Forms with reddish pattern are also similar to *A. cincta* which has similar body shape and elytral convexity. *A. cincta* differs in constant elytral pattern and more western distribution (see figs. 399 and 716). Both species may be vicariant or they may represent geographic forms of the same taxon. *A. gruevi* differs in more constant elytral pattern and smaller size, and *A. wahlbergi* differs in very small body size and strongly depressed elytral disc.



716. Distribution of *Aspidimorpha katangana*

MATERIAL EXAMINED

TANZANIA: Lindi, III 1893, 2 (FMNH).

UGANDA: Busu-Hill, Busoga, 1, J. CARL (ZMHU).

ZAIRE: Elisabethville, XI 1911, 2, (paralectotypes of *A. katangana*, MM); Kapiri, IX 1912, 6, X 1912, 1, XI 1912, 1, Miss. Agric. (lectotype and 5 paralectotypes of *A. katangana*, 1 paralectotype of *A. katangana* ab. *rufipennis*, 4 MM, 3 MRAC); S Katanga, 1, J. NEYNEUS (IRSN); SE Katanga, 4000 ft. 30 XI 1907, 1 (LB); Katanga, Mitwaba, Manono, 1 (LB); Mulungwa, Sampwe, 1, Dr. BEQUAERT (lectotype of *A. katangana* ab. *rufipennis*, MRAC); 4 mls S of Sampwe, 980 m, 20 I 1958, 1, E.S. ROSS and R.E. LEECH (CAS); 17 mls S Sampwe, 21 I 1958, 1 (LB).

ZAMBIA: Livingstone, 25 II 1913, 1, H.C. DOLLMAN (BMNH); Musosa, 2 (LB); Mwenga, 15 XI 1913, 1, 14 II 1914, 2, H.C. DOLLMAN (BMNH, LB); Nameula, 3 IX 1914, 1, H.C. DOLLMAN (BMNH); Ngoa, 1912, 1 (LB).

ZIMBABWE: Birchenough Bridge, I 1938, 1 (LB).

Aspidimorpha (s. str.) *laevigata* SPAETH, 1905

Aspidomorpha laevigata SPAETH, 1905: 113 (ST in MM, ZMHU), 1932 b: 4; 1934: 385.
Aspidomorpha (*Aspidomorpha*) *laevigata*: SPAETH, 1914 b: 75.

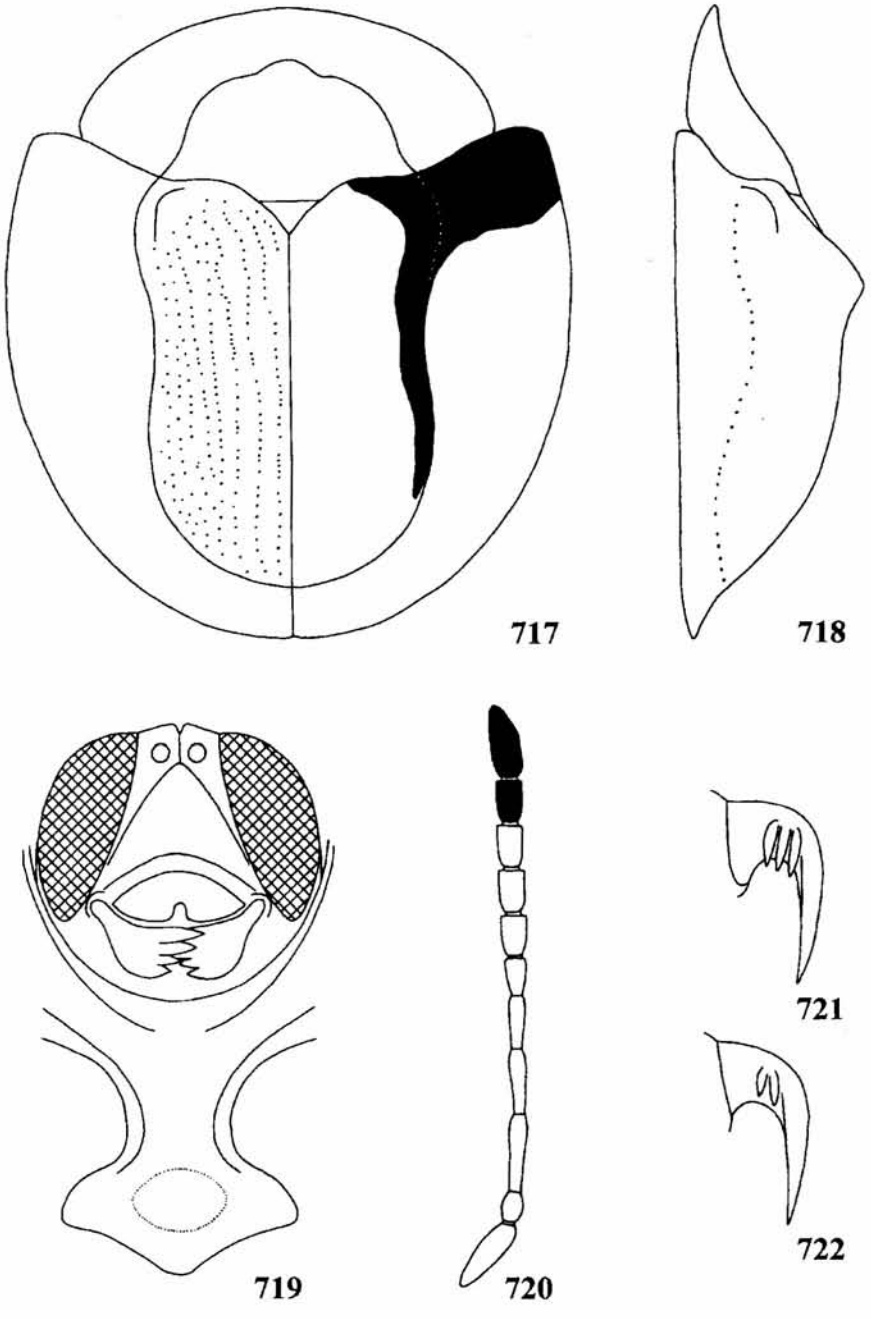
DESCRIPTION

Le: male and female: 8.6-9.3 mm, Wi: male and female: 7.6-8.5 mm, Lp: male and female: 2.8-2.9 mm, Wp: male and female: 5.5-6.1 mm, Ex: male and female: 1.9-2.2 mm, Wd: male and female: 3.7-4.1 mm; Le/Wi ratio: male and female: 1.09-1.13, Wi/Wp: male and female: 1.36-1.42, Wp/Lp: male and female: 1.96-2.11. Body almost circular (fig. 717).

Pronotum uniformly yellow, in the darkest form base of pronotal disc with large brown spot of indistinct border. Elytra yellow with brown humeral spot, elytral disc usually yellowish-brown to reddish-brown with large dark brown to black spot occupying basal part of disc and humerus and prolonged along sides of disc to 1/2-2/3 its length, postscutellar tubercle not marked with dark spot. The pattern is rather constant and aberrations differ only in colour intensity of dark spot (figs 777-779). Explanate margin with no posterolateral spot. Scutellum yellow. Ventrites uniformly yellow. Antennae yellow, two last segments, except ventral part of apex of last segment, black; occasionally apex of segment 9 infuscate or three last segments black.

Pronotum broadly ellyptical, with maximum width in 3/5 length, sides narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

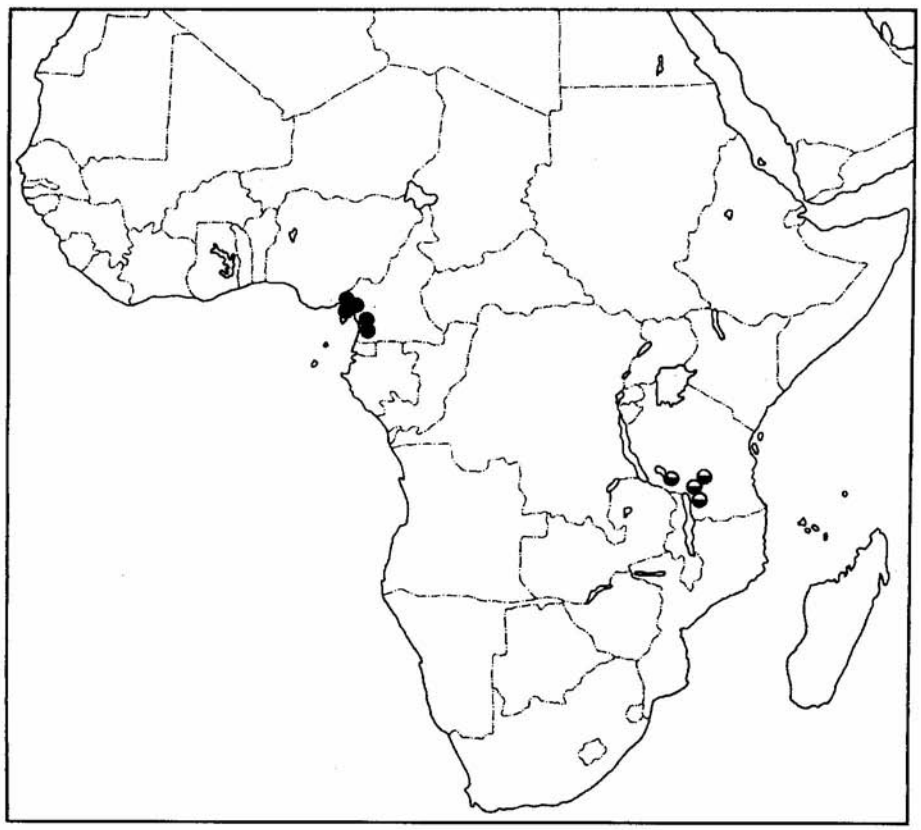
Scutellum triangular, impunctate, without transverse sulcus, sometimes impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri rounded, elytral margins simple. Disc with moderately large,



717-722. *Aspidimorpha laevigata*: 717 - body in dorsal view, 718 - body in profile, 719 – head and prosternum, 720 – antenna, 721 – inner side of claw, 722 – outer side of claw

conical postscutellar tubercle (fig. 718). Puncturation of disc fine, regular, on slope distinctly finer than in anterior half of disc, in sutural half of disc finer than in lateral part of disc. Scutellar row with 4-7 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-4, distance between punctures or their groups two to four times larger than puncture diameter. Rows not impressed, surface of disc regular. Punctures in marginal row deep, c. four to five times larger than in central rows. Intervals flat, in sutural half five, in lateral half three to four times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, moderately declivous, impunctate, its surface smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.3 times wider than long (fig. 719), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/3 length. Antennae moderately elongate (fig. 720), extending to half length of metasternum, length ratio of antennal segments: 100:43:116:66:66:40:70:57:67:58:106.



723. Distribution of *Aspidimorpha laevigata* (black circels) and *A. lynesi* (white above black circles)

Claws pectinate on both sides, inner pecten short, with three teeth extending to 1/5-1/4 length of claw, two external teeth equal in length, internal c. twice shorter (fig. 721). Outer pecten with two teeth, c. twice shorter than in inner pecten (fig. 722).

Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

Cameroon (fig. 723).

REMARKS

It belongs to the *mutata* species group. It is a moderately large species of the group, with moderately large but sharp, conical postscutellar tubercle. A similar postscutellar tubercle occurs also in *A. dilecta*, *A. togoensis*, *A. vernicata*, *A. submutata*, *A. obtusangula*, *A. muehlei*, *A. splendidula* and *A. semiramosa*. *A. dilecta* differs in the absence of humeral spots; *A. togoensis* differs in the absence humeral spots and distinctly smaller body (Le 7.3-8.0 mm, in *laevigata* 8.6-9.3); *A. vernicata* differs in the presence of usually both humeral and posterolateral spots, smaller body and distribution (exclusively Madagascar, *laevigata* only in Cameroon); *A. muehlei* differs in black pronotal disc (in *laevigata* mostly yellow) and almost uniformly black elytral disc (in *laevigata* at least with black spots in basal part of elytral disc); *A. splendidula* differs in the presence of both humeral and posterolateral spots (in *laevigata* only humeral spots) and smaller body; *A. semiramosa* differs in the presence of only posterolateral spots (in *laevigata* no posterolateral spots). *A. submutata* is very similar but it is usually smaller (Le 6.9-8.0 mm), with basal part of elytra without dark spots (in *laevigata* posthumeral part of elytron often with black or dark brown band). Large specimens of *A. submutata* with length 8-9 mm are very similar to small specimens of *A. laevigata* but in the latter species groundcolour of elytra is usually darker, argillaceous to reddish (in *submutata* yellow), and ventral pecten of claws shorter, extending to 1/5-1/4 length of claw (2/5 in *submutata*). *A. obtusangula* is the most similar, especially in colouration and short pecten of tarsal claws, but differs in slightly larger postscutellar tubercle and only last antennal segment black, while in *A. laevigata* last two segments are black. Both species are separated geographically, *A. laevigata* is known only from Cameroon, *A. obtusangula* only from Tanzania.

MATERIAL EXAMINED

CAMEROON: Barombi St., 1, ZENNER (ZMHU); Camerun, 7 (syntypes, 6 MM, 1 ZMHU), 3 (HNHM), 1 (LB); Efulen, 10 X 1920, 1, WEBER (LB); Johann-Albrechtshöhe, 19 X 1895, 2, L. CONRADT (ZMHU); Mt Cameroon, 2 (LB); Namlong n. Lolodorf, 1 (LB).

Aspidimorpha (s. str.) *levissima* n. sp.

ETYMOLOGY

Latin "*levis*" means smooth. Named after smooth elytral surface.

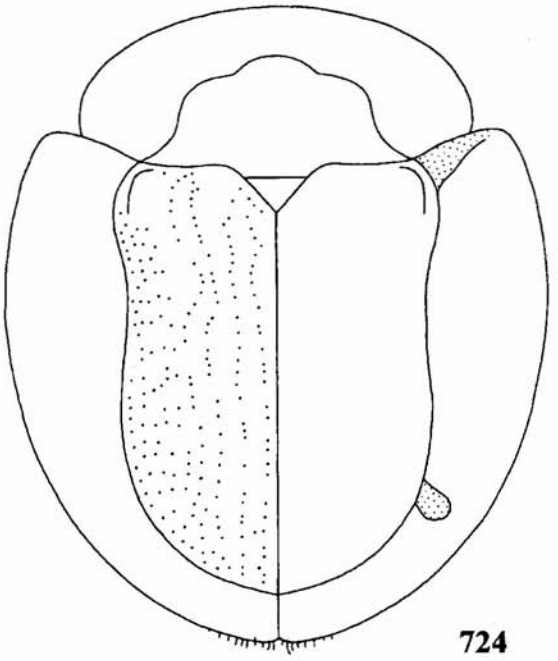
DESCRIPTION

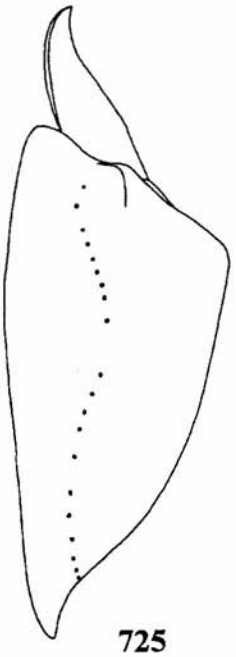
Le: female: 10.7-11.5 mm, Wi: female: 9.0-9.5 mm, Lp: female: 3.2-3.5 mm, Wp: female: 6.6-7.0 mm, Ex: female: 2.2 mm, Wd: female: 5.1-5.7 mm; Le/Wi ratio: female: 1.19-1.21, Wi/Wp: female: 1.36, Wp/Lp: female: 2.00-2.06. Body short-oval (fig. 724).

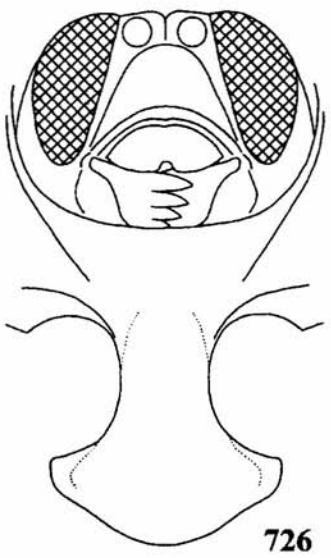
Pronotum uniformly yellow to argillaceous. Elytra uniformly yellow to argillaceous, each puncture usually with darker centre, explanate margin without spots or underside with rudimentary posterolateral spot extending to half width of the margin, margin of explanate margin darker yellow than central part of the explanate margin. Clypeus yellow. Pro-, meso- and metasternum black except yellow side and\or lateral plates, abdomen uniformly yellow to mostly black with yellow sides and apex. Antennae yellow, three last segments black, or basal half of segment 9 yellow. Legs yellow, coxae partly infuscate.

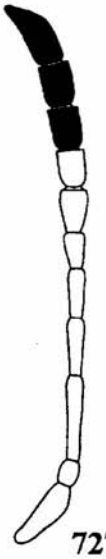
Pronotum narrowly ellyptical, with maximum width almost at base, hind angles form an angle of 95-100°. Disc moderately convex, smooth, with mirror brilliance, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, in anterior part with tendency to form a gutter, its surface smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, strongly wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, with large postscutellar tubercle, top of the tubercle blunt to angulate, profile behind the tubercle slightly to distinctly concave (fig. 725). Discal surface with small but deep principal impression, distinct scutellar impressions, without posterolateral impression, surface of lateral part of disc almost regular. Puncturation of disc fine to moderate, rows not impressed or only on sides and in sutural row slightly impressed, regular, punctures on slope distinctly sparser and smaller than in anterior half of disc, in sutural half of disc c. twice smaller than in lateral part of disc. Scutellar row with 4-5 punctures. Punctures in rows sparse to moderately dense, disposed mostly regularly, distance between punctures in anterior part of disc twice to thrice, on slope five to six times wider than puncture diameter, only in two sutural rows slightly denser. Punctures in marginal row only slightly larger than in submarginal rows. Intervals flat, in sutural half of disc four to five times, in lateral half twice to thrice wider than rows, their surface smooth, with mirror brilliance. Lateral fold of marginal interval broad and moderately convex. Explanate margin very broad, moderately declivous to subhorizontal without tendency to form a gutter, impunctate, its surface smooth and glabrous. Apex of elytral epipleura in female pubescent, hair sparse but very long, apical margin of elytra with several erected hair.









724-729. *Aspidimorpha levissima*: 724 - body in dorsal view, 725 - body in profile, 726 – head and prosternum, 727 – antenna, 728 – inner side of claw, 729 – outer side of claw

Head moderately broad, clypeus 1.5 -1.6 times wider than long (fig. 726), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 727), extending to 1/4 length of metasternum, length ratio of antennal segments: 100:45:125:90:78:53:65:60:60:65:105.

Claws pectinate on both sides, inner pecten very short, with three teeth extending to 1/7-1/6 length of claw (fig. 728), outer pecten with two teeth, only slightly reaching beyond margin of the claw (fig. 729).

Male unknown.

DISTRIBUTION

Cameroon.

REMARKS

It belongs to the *quadriramosa* group. It distinctly differs from all species of the group in immaculate explanate margin of elytra and very short pecten of tarsal claws extending to only 1/7-1/6 length of claw. Smooth elytral surface place this species near to *A. fausta* and *A. sankuruensis*. Both often have three last antennal segments infuscate to black, but in *A. fausta* pecten of tarsal claws extending to 2/3 length of claw and in *A. sankuruensis* explanate margin of elytra is maculate. *A. incerta* is also similar but differs in distinct spots of explanate margin of elytra, obtuse postscutellar tubercle and infuscate only two last antennal segments. *A. setosa* differs in uniformly yellow antennae with at least infuscate last segment. Other species of the group differ in less glabrous elytral surface, longer pecten of tarsal claws and/or stronger elytral puncturation.

MATERIAL EXAMINED

CAMEROON: holotype: Camerun, 1 (LB); paratype: Lolodorf, 19 II-7 VI 1895, 1 (LB).

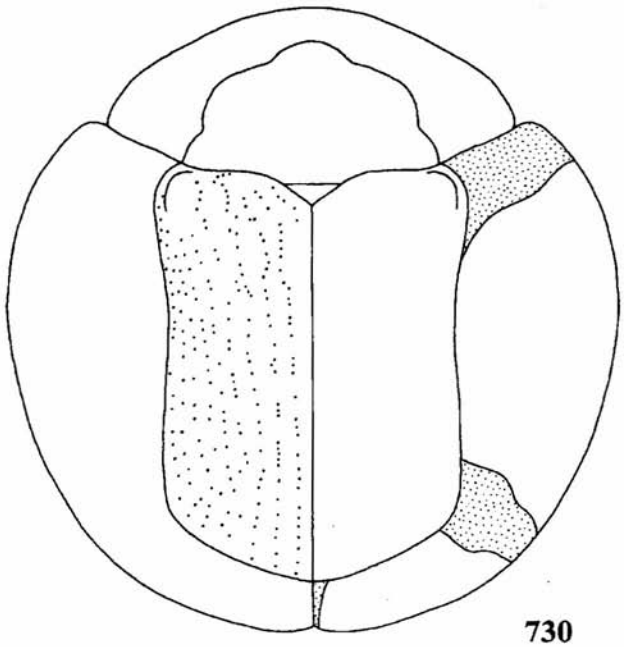
Aspidimorpha (s. str.) *lynesi* SPAETH, 1937

Aspidomorpha lynesi SPAETH, 1937: 266 (HT in MRAC).

DESCRIPTION

Le: male: 9.1-9.4 mm, female: 10.6 mm, Wi: male: 8.9-9.1 mm, female: 9.9 mm, Lp: male: 2.7-2.8 mm, female: 3.0 mm, Wp: male: 6.0-6.1 mm, female: 6.8 mm, Ex: male: 2.3-2.4 mm, female: 2.4 mm, Wd: male: 4.3 mm, female: 5.0 mm; Le/Wi ratio: male: 1.02-1.03, female: 1.07, Wi/Wp: male: 1.48-1.49, female: 1.46, Wp/Lp: male: 2.18-2.22, female: 2.27. Body almost circular (fig. 730).

Pronotum uniformly yellow. Elytral disc yellow, punctures usually with the same colour only slightly darker, reddish, explanate margin with argillaceous, moderately broad humeral and posterolateral spot, without sutural spot, only



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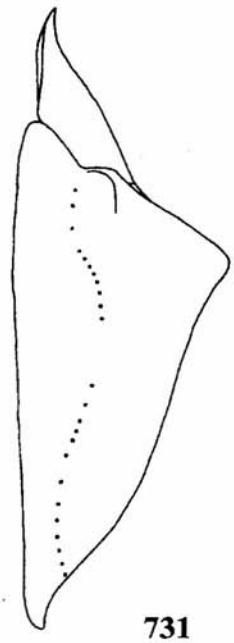

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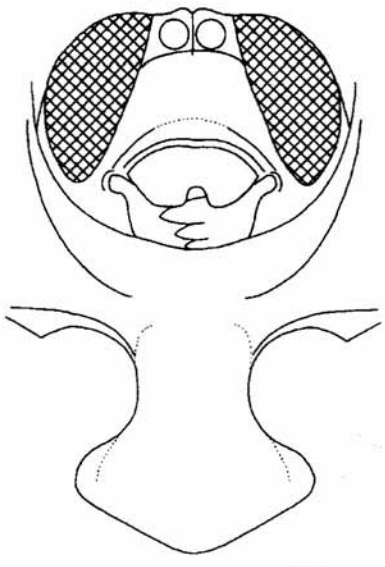

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730-735. *Aspidimorpha lynesi*: 730 - body in dorsal view, 731 - body in profile, 732 – head and prosternum, 733 – antenna, 734 – inner side of claw, 735 – outer side of claw

sutural margin slightly darker. External part of explanate margin of elytra not or indistinctly darker than ventral part of the explanate margin. Scutellum yellow. Clypeus yellow, pro- and mesosternum and metasternum in the middle black, and abdomen with sternites in the middle with a pair of brown to black spots. In extreme cases basal corners of clypeus, whole sterna, except lateral plates and margins of abdomen black. Antennae yellow, two last segments black, except yellow underside of the apex of last segment, occasionally apex of segment 9 slightly infuscate. Legs including coxae yellow, only in specimens with mostly black ventrites pro- and mesocoxae partly blackish.

Pronotum semicircular, very short, with maximum width almost at base, sides narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, moderately wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, with large, conical postscutellar tubercle, profile distinctly concave behind the top of convexity (fig. 731), discal surface with indistinct principal impression, shallow scutellar impressions, without posterolateral impression, surface of almost whole disc slightly irregular. Puncturation of disc fine, regular, on slope not finer than in anterior half of disc, in sutural half of disc only slightly finer than in lateral part of disc. Scutellar row with 4-5 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-4, distance between punctures or their groups three to five times larger than puncture diameter. Rows not or only slightly impressed. Punctures in marginal row deep, only thrice larger than in central rows. Intervals flat, in sutural half of disc four to five times, in lateral half twice to thrice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low to moderate. Explanate margin very broad, subhorizontal to horizontal but has no tendency to form a gutter, its surface almost regular. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus c. 1.4 -1.5 times wider than long (fig. 732), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4-1/3 length. Antennae moderately elongate (fig. 733), extending to mid coxa, length ratio of antennal segments: 100:40:129:81:76:57:71:62:67:64:96.

Claws pectinate on both sides, inner pecten long, with four teeth extending c. to 1/2 length of claw (fig. 734), outer pecten with three teeth, first extending to 2/5 length of claw, remainder gradually smaller (fig. 735).

Sexual dimorphism indistinct. Male slightly stouter, with last antennal segment slightly longer than in female.

DISTRIBUTION

Tanzania (fig. 723).

REMARKS

It belongs to the *quadriramosa* group, to the subgroups with both humeral and posterolateral spots and conical postscutellar tubercle. *A. collarti* and *A. sankuruensis* differ in extremely short pecten of tarsal claws extending only to 1/6 length of claw (in *lynesi* to half length). *A. natalensis* differs in base of elytra slightly (in female) to moderately (in male) wider than base of pronotum (in *lynesi* in both sexes moderately wider) and usually with uniformly yellow ventrites (in *lynesi* ventrites always partly black). Both species are separated geographically. *A. tuberosa* differs in stronger elytral puncturation and impressed rows (in *lynesi* not or only slightly impressed). *A. procax* differs in smaller size and shorter pecten of tarsal claw extending to 1/3 length of claw. *A. quadriramosa* differs in base of elytra distinctly wider than base of pronotum (in *lynesi* moderately wider). *A. uluguruensis*, the second species occurring only in Tanzania, differs in top of postscutellar tubercle obtuse (in *lynesi* sharp) and pubescent apex of female epipleura. In *A. uluguruensis* abdomen is always black, while in *A. lynesi* it is partly infuscate to mostly black.

MATERIAL EXAMINED

TANZANIA: Mufindi, XI 1899, 1, FÜLLEBORN (ZMHU); N'Jombe, 21 XII 1931, 1, adm. LYNES (holotype, MRAC); N Nyassa-See, Bulongwa, 26 IX 1899, 1, FÜLLEBORN (ZMHU); Songea, Uwemba, 2000 m, 2 X 1952, 1 (LB); Uwemba n. Njombe, 2000 m, 13 XI 1958, 1 (LB); Uzungwe Mts., Chita Forest Res., 1500 m, 10 XI 1984, 1, M. STOLTZE and G. PETERSEN (ZMC).

Aspidimorpha (s. str.) *madagascarica* BOHEMAN, 1854

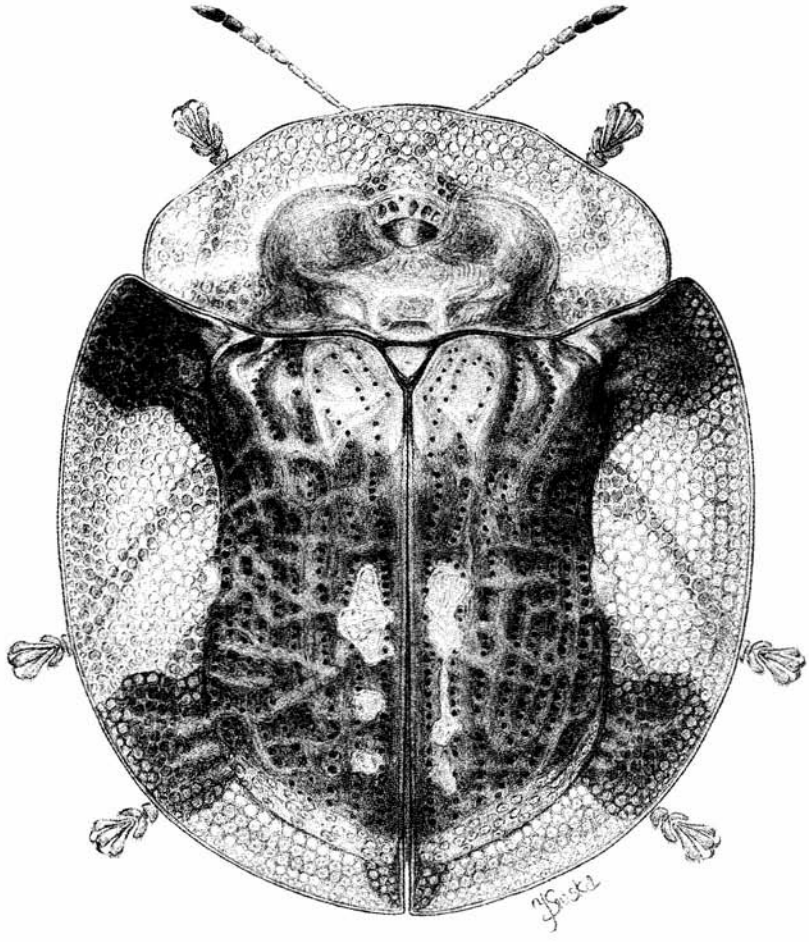
Aspidomorpha madagascarica BOHEMAN, 1854: 275 (LT and PLT in NRS); 1856: 109; 1862: 263; WAGENER, 1880: 161; XAMBEU, 1905: 148; SPAETH, 1909: 282; 1912 b: 507; 1916: 41, 1935: 172; WEISE, 1910: 446; HINCKS, 1962: 246 (incl. fig.); SHAW, 1972: 63; BOROWIEC, 1985 a: 233; 1986: 797.
Aspidomorpha (Aspidomorpha) madagascarica: SPAETH, 1914 b: 76.
Aspidimorpha madagascarica: BOROWIEC, 1995 b: 370.
Aspidomorpha madagascarica fugax SPAETH, 1915 b: 128 (ST in MM).
Aspidomorpha infuscata: BOROWIEC, 1985 b: 444 (misidentification).

DESCRIPTION

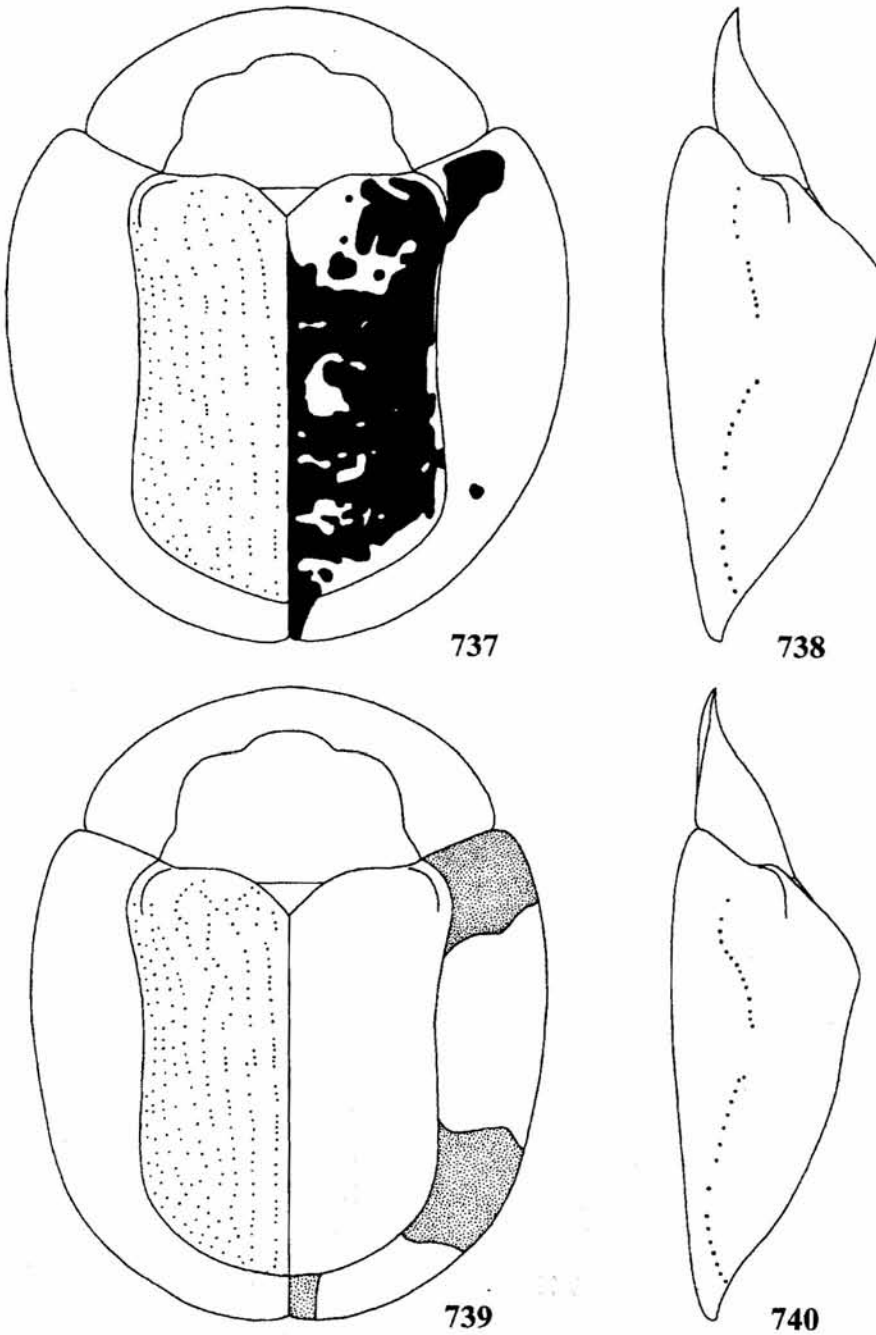
Le: male: 8.2-10.9 mm, female: 9.0-10.7 mm, Wi: male: 6.8-9.3 mm, female: 6.9-8.3 mm, Lp: male: 2.4-3.2 mm, female: 2.5-3.2 mm, Wp: male: 5.3-7.1 mm, female: 5.6-6.8 mm, Ex: male: 1.4-2.2 mm, female: 1.4-1.9 mm, Wd: male: 3.8-4.9 mm, female: 4.1-5.1 mm; length/Wi ratio: male: 1.16-1.25, female: 1.20-1.30, Wi/Wp: male: 1.21-1.33, female: 1.23-1.28, Wp/Lp: male: 2.00-2.22, female: 2.10-2.24. Body short-oval to almost circular (figs 736, 737, 739).

Very variable species (figs 745-753). Pronotum uniformly yellow. Elytral disc in the palest specimens yellow to argillaceous, punctures usually with

darker, argillaceous to reddish-brown centre. Often disc with reddish-brown, brown to blackish marble pattern. In extremely dark specimens disc dark brown to black with few yellow spots: behind scutellum, on humerus, on lateral fold and in the middle of second interval. All intermediate specimens have been observed. Explanate margin yellow, always with humeral and posterolateral spots, and usually with sutural spot which in extremely pale specimens is reduced to sutural margin. These spots vary from narrow to very broad, argillaceous to black, humeral spot is often widened posterad and posterolateral spot widened anterad



736. *Aspidimorpha madagascarica*, habitus (by J. Świętojańska)

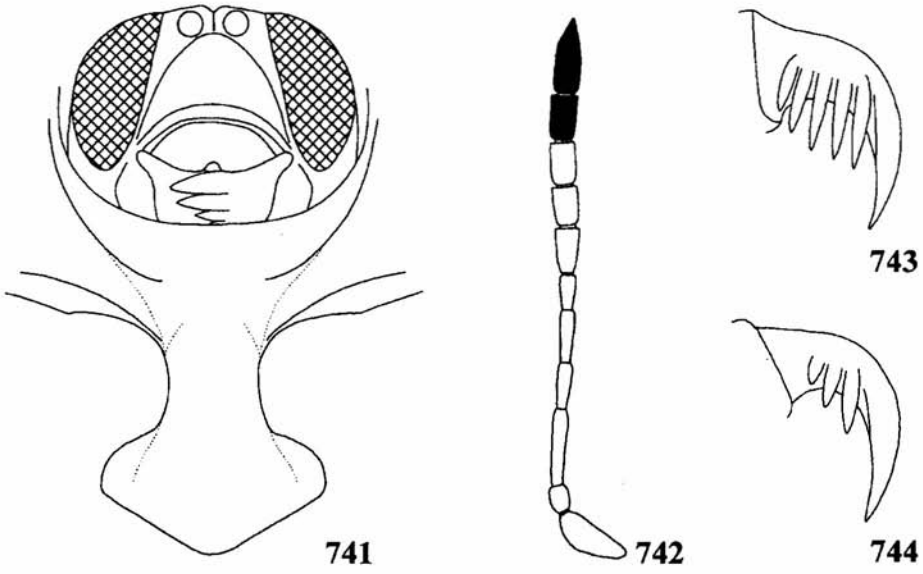


737-740. *Aspidimorpha madagascarica*: 737, 739 - body in dorsal view, 738, 740 - body in profile, 737-738 - male, 739-740 - female

but never connected. Margins of explanate margin usually slightly darker yellow than ventral half of the explanate margin. Clypeus yellow, basal corners often infuscate. Ventrites vary from uniformly yellow (rare), to mostly black (also rare), usually pro-, meso- and metasternum mostly black except lateral plates. Abdomen usually mostly yellow, sternites only with two brown to black spots. Legs, including coxae, uniformly yellow. Antennae mostly yellow, two last antennal segments black except yellow ventral side of apex of the last segment.

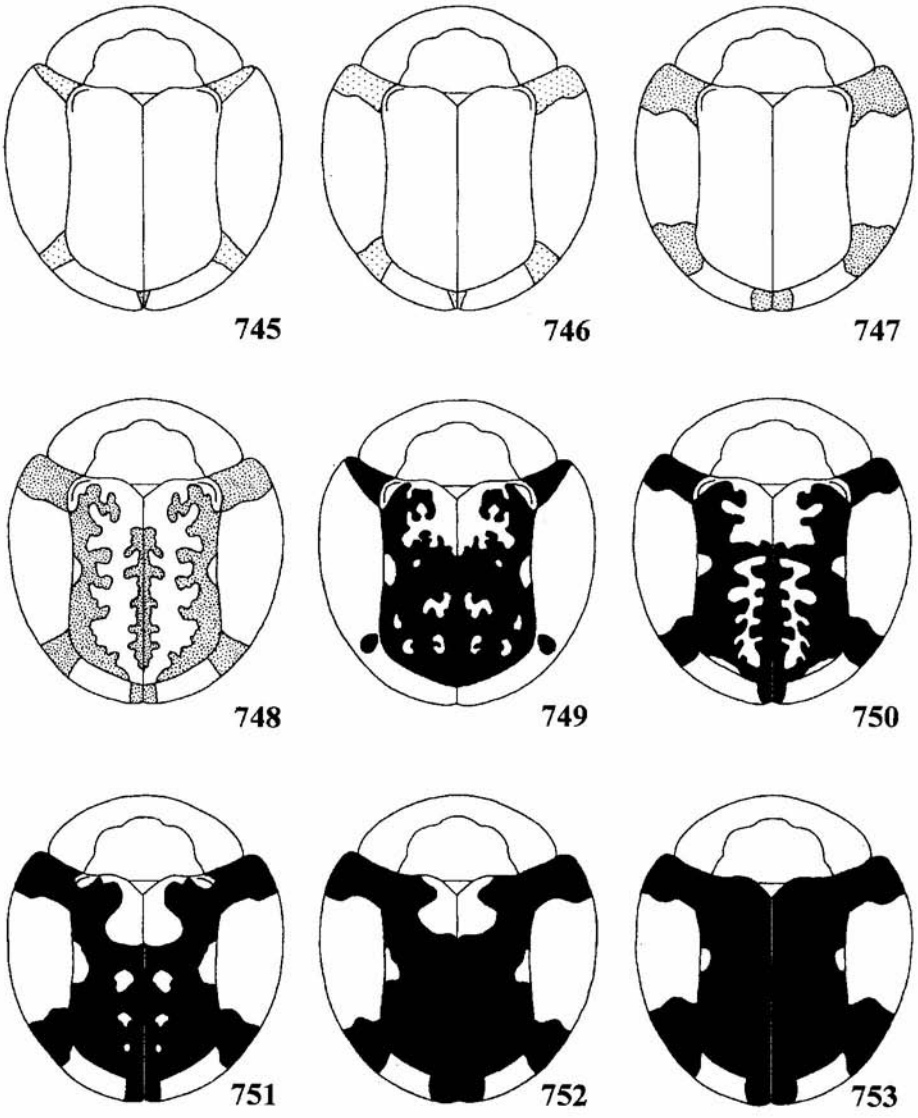
Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle about 90-95°. Disc moderately convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, almost horizontal, in anterior part with tendency to form a shallow gutter, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, slightly to moderately wider than base of pronotum, elytral margins simple. Disc more or less angulate in profile, the profile behind the top of gibbosity straight to slightly concave (figs 738, 740). Discal surface usually with small but deep principal impression, without lateral impressions, surface of lateral part of disc usually slightly irregular, in some specimens whole disc surface slightly irregular. Small specimens, especially from Madagascar (=*fugax*), have disc surface usually regular, or only on sides slightly irregular. Puncturation of disc mostly regular, punctures fine to moderate, on slope slightly smaller than in anterior half of disc, in sutural half of disc two to three times smaller than in



741-744. *Aspidimorpha madagascarica*: 741 – head and prosternum, 742 – antenna, 743 – inner side of claw, 744 – outer side of claw

lateral part of disc. Scutellar row with 4-8 punctures. Punctures in rows moderately dense to dense, disposed partly irregular, grouped in 2-5, distance between punctures in groups c. as wide as to thrice wider than puncture diameter, between groups three to five times wider than puncture diameter. Rows not or slightly impressed. Marginal row deep, its punctures c. twice larger than in submarginal



745-753. *Aspidimorpha madagascarica*, variation of dorsal maculation

row. Intervals flat, in sutural half of disc five to six times wider than rows, on sides c. twice to thrice wider than rows, their surface mostly smooth, shiny, with very small microreticulation. Lateral fold of explanate margin low but usually broad. Explanate margin broad, moderately declivous to almost horizontal, especially in large males, margins often have tendency to form a shallow gutter, impunctate, smooth to slightly irregular, especially on black spots, shiny. Elytral epipleura bare in both sexes.

Head broad, clypeus 1.7-1.8 times wider than long (fig. 741), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 742), extending to 1/4 length of metasternum, length ratio of antennal segments: 100:45:120:75: 70:52:62:50:60:55:100.

Claws pectinate on both sides, inner pecten with four to five very long teeth extending to 1/2-3/5 length of claw (fig. 743). Outer pecten with three teeth, extending to 1/4-1/3 length of claw (fig. 744).

Sexual dimorphism indistinct to moderate. Males slightly to moderately stouter than females.

DISTRIBUTION

Wide spread in Central, East and Southern Africa, also in Madagascar (fig. 754).

REMARKS

It is one of the most common and most variable species. It belongs to the *dissentanea* species group, but some specimens can be confused with members of *quadriramosa* groups. Typical specimens with distinct elytral angulation are especially similar to *A. infuscata*, but the latter differs in slightly stouter body and more declivous explanate margin of elytra, never with tendency to form a shallow gutter (in *A. madagascarica*, especially in males, the margin has tendency to form a gutter). *A. dissentanea* is also very similar but it is usually smaller and stouter, only large female specimens are difficult to identify correctly. They usually differs in more declivous explanate margin of elytra. Both species are partly separated geographically. The other African member of the *dissentanea* group, *A. mombonensis* distinctly differs in almost circular body with base of elytra not or only slightly wider than base of pronotum (in *madagascarica* base of elytra is at least moderately wider than base of pronotum). *A. madagascarica* is the only species of the group occurring in both Africa and Madagascar. *A. curtidens* and *A. densepicta* are members of the group occurring only in Madagascar. *A. curtidens* distinctly differs in shorter pecten of tarsal claws, extending at most to 1/3 length of claw (in *madagascarica* at least to half length of claw). *A. densepicta* differs in postscutellar angulation more prominent but obtuse (in *madagascarica* distinctly angulate) and pecten of tarsal claws extending only to 2/5 length of claw.

MATERIAL EXAMINED

ANGOLA: Anisol, 900 m, 1, J. KAML (ZMHU).

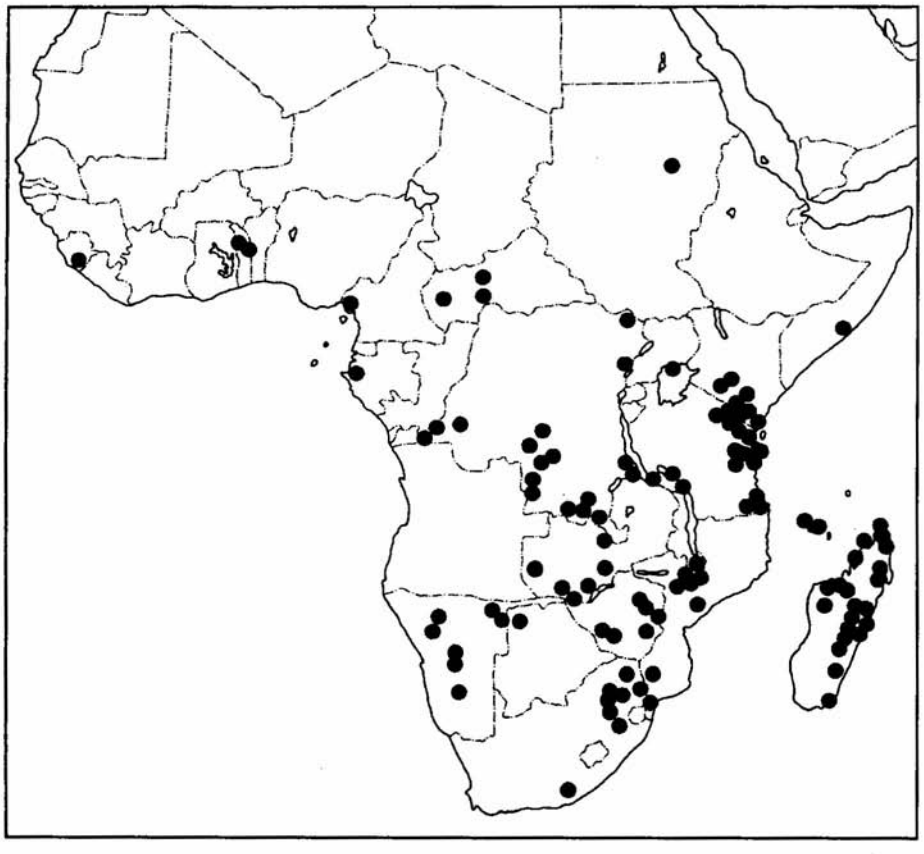
BOTSWANA: Okavango, Chiefs island, 24 V 1974, 1, R. GREY (NMM).

CAMEROON: Victoria Div., Mabeta, VII-VIII 1949, 1, S. TITA (CAS).

COMOREN: Anjanan, X 1903, 1, VOELTZKOW (ZMHU); Grand Comores: La Grille, 825 m, 22 XI 1983, 1, R. JOCQUÉ (MRAC).

GABON: Bas-Ogooué, 2 (IRSN); Gabon, 1 (IRSN); Kangvé, Ogové R., 1, A.C. GOOD (CMNH).

KENYA: Fort Hall, 1 (ZMHU); Ikutha, 1 (ZMHU); Kibwezi, 2, G. SCHEFFLER (ZMHU), 8 VIII 1917, 2, G. SCHEFFLER (ZMHU); 11 mls S of Maktau, Teita Prov., 1000 m, 2 XI 1957, 1, E.S. ROSS and R.E. LEECH (CAS); Nairobi, IX 1923, 1, G. BABAULT (MNHN), 12, I 1979, 2, 8 II 1979, 2, T. PALM (LU); 17 V 1980, 1, JERMY (HNHM); Taroeta, 1, GOTSCH (NMW); Tiwi Beaches, S of Mombasa, 6-14 IV 1977, 1, H. GØNGET (ZMC); Tsavo West N. P., Ngai, swept, 3 VII 1992, 1, S. and



754. Distribution of *Aspidimorpha madagascarica*

L. MAHUNKA (HNHM); Watita Hill, Kedai, 2, C. SMYTH (BMNH); Wesu, Teita Hills, 1170 m, 30 X 1957, 1, E.S. Ross and R.E. LEECH (CAS); Wundanyi, Teita Hills, 1450 m, 1 XI 1957, 1, E.S. Ross and R.E. LEECH (CAS).

MADAGASCAR: Akarami, XII 1889, 1 (MCZC); Ambatondrasaka, 5 (HNHM); Ambodivoangy, X 1961, 1, J. VADON (MRAC); Ambositra, 1 (syntype of *A. madagascarica fugax*, MM), 8 (IRSN), 1 (HNHM); Analalava, 1 (FMNH); Andasibe, 31 X 1987, 1, H. SCHÜLE (SMNS); Ankarafantsika, Forest Res. near Marovoay, 1 XII 1950, 1, E.S. ROSS (CAS); route d'Anosibe, 4 (MRAC); S. de la baie d'Antongil, 1 (syntype of *A. madagascarica fugax*, MM); Antananarivo, 3 I 1987, 1, F. FARACI (MCSNV); Beraphia Is., 1934, 3 (MKB); Cap d. Ambre, 1 (ZMHU); Cap Diego, 1916, 1, FRIEDERICHS (ZMHU); Diego Suarez, Montagne d'Ambre, 4 (SD); Fanpanambo, I 1961, 2, III 1961, 1, J. VADON (MRAC); Fianarantsoa, 38 (HNHM); Fianarantsoa, Ranomafana, 1-6 II 1995, 1, J. MORAVEC (MS); Foret de Fito, 5 (MRAC), VI-VII 1897, 9 (MKB); Fort Dauphin, 3 (HNHM); Imerina, 2 (HNHM); Ivohibe, 1, SIRGUÉY (IRSN); Lac Alaotra, 27 III 1962, 2, J. DUBOIS (MRAC); Lac Alastra, Didy, 1 (IRSN); Madag., 1, "M. Gall." (lectotype of *Aspidomorpha madagascarica*, present designation, NRS), 1, "Chevr." (paralectotype of *Aspidomorpha madagascarica*, present designation, NRS); La Mandraka, I-II 1960, 1 (MRAC); Maevatanana, 56 (IRSN); Majunga, 2, J. FORAIN (HNHM); Mananara, X 1963, 1 (MRAC); Mananjari, 1, VOELTZKOW (ZMHU); Mandritsara, 1 (IRSN); Nossi-Bè, 4 (HNHM); Maroantsetra, 1 (HNHM), 2 (syntypes of *A. madagascarica fugax*, ZMHU), 1962, 1, J. VADON (MRAC), II 1919, 8, coll. LE MOULT (IRSN); Miarinarivo, 1 (IRSN); Ranomafana Nat. Park, 5 V 1991, 1, J. RAFIDISON (ZMUF); Sandrangato, 28 I 1960, 1 (MRAC); Sihanaka, 3, LE MOULT (IRSN); Tamatave, Fanandrana, 5 II 1972, 1, L. BLOMMERS (ITZ); Tamatave, 1 (ZMHU); Tamatave et foret Alahakato, I-VII 1888, 8 (MRAC); Tampina, 3, M. LAVAUDEN (AB); Tananarive, 4 (IRSN), 8 (FMNH), 2 (LU), 1 (SD), 2 (EGS), X 1949, 1 (CAS), 1300 m, 28 I 1972, 1, L. and R. BLOMMERS (ITZ), 19 XI 1961, 2 (MRAC), XII 1989, 1, C. RAHARIMINA (ZMUF); Tuléar, 14 I 1971, 1, L. BLOMMERS (ITZ); Vohémar, 2 (IRSN).

MALAWI: Chiromo, XII 1918, 3, R.C. WOOD (BMNH); Cholo, IX 1918, 1, R.C. WOOD (BMNH); Dally's, 12 I 1947, 1, R.H. LOWE (BMNH); SW of Lake Chilwa, 9 I 1914, 2, S.A. NEAVE (BMNH); Lower Shire Vall., Chikwawa, 27 III 1971, 1, S. ENDRÖDY-YOUNGA (HNHM); Mlanje, 6 V 1913, 1, 6 XII 1913, 1, 27 I 1914, 1, S.A. NEAVE (BMNH); southern Nkopola Forest Res., 500 m, 20-21 I 1985, 1, BELLAMY and SCHOLTZ (TM); 15 km S Solima, 500 m, 25 I 1985, 1, C.L. BELLAMY (ER); Zomba, Upp. Shire R., 3000 ft., IV-V 1896, 1, P. RENDALL (MCZC).

MOZAMBIQUE: Chirinda Forest, Gaza Ld., III 1907, 1, D. ODENDAAL (BMNH); Chupanga, 1, TAVARES (ZMHU); Delagoa Bay, 1, MONTEIRO (ZMHU); Delagoa Bay, Rikatla, 1, JUNOD (MCZC); Lour. Marques, I 1909, 2, H.A. JUNOD (TM); Maputo, 20 III-8 IV 1985, 1, M. OLMI (CNCI); mitl. Sambesi, 1, W. TIESLER (ZMHU).

NAMIBIA: Damaraland, Abachaus, XII 1951, 1, G. HOBOHM (TM); Okahandja, 13 XII 1938, 1 (MW); Okavango, Diona, 29 XII 1954, 1 (WM); Okavango, Tondoro, XI 1951, 1, R.G. STREY (TM); Otavi-Grootfontein, 16 I-8 II 1979, 1, H. ROER (MKB); Tondoro, Okavango, 14 I 1975, 2, H. ROER (MKB); Waterberg, 1898-99, 2, v. JUTRZENCKA (TM); Windhoek, V 1957, 1 (WM).

REPUBLIC OF CENTRAL AFRICA: Fort Crampel, 1 (IRSN): Fort Sibut, 5 (IRSN); Uamgebiet, Bosum, 11-20 IV 1914, 1, 1-10 VI 1914, 1, TESSMANN (ZMHU).

SIERRA LEONE: Kenema, 1975, 1, M. VERHAEGHE (MRAC).

SOMALIA: Eggi, 22-25 VIII 1962, 1, Miss. Biologica (MZUF); 10 km SW Giohar, 16 IX 1960, 1, S.B.S. (MZUF); Ola Uager, 11-13 VIII 1970, 2, S.B.S. (MZUF).

SOUTH AFRICA: Cap, 1 (IRSN); Cape Prov., Grahamstown, 8 XII 1977, 1, S. ENDRÖDY (HNHM); Haenertsburg, 4 XII 1909, 1, C.J. SWIERSTRA (TM); Johannesburg, 10-12 I 1970, 1, LINDNER (SMNS); Pienaars, X-XI 1900, 1, v. JUTRZENCKA (TM); Pretoria, 9 III 1954, 4, T.A. DE BEER (TM), 5 IV 1971, 1, OTTE (TM); Transvaal, 5 km N Globrelsdal, 12 III 1984, 1, C.L. BELLAMY (ER); Transvaal, Johannesburg, II 1947, 1, W.G. KOBROW (TM); Transvaal, Kaapmuiden, 4-7 XII 1984, 2, H. and A. HOWDEN (CMN); Transvaal, Kruger Nat. Park, near Satara, 15-18 XII 1985, 1, H. and A. HOWDEN (CMN); Transvaal, Magdaliesburg, 1 (MCZC); Transvaal, vic. Melodie, 29-31 XII 1985, 1, C.L. BELLAMY (ER); Transvaal, Middelburg, 5000 ft., 28 I 1969, 12, R. T. SIMON THOMAS (ITZ); Transvaal, Pretoria, 10-25 XI 1980, 1, S. ENDRÖDY (HNHM); Utrecht, 30 X 1967, 1, M. KROON (TM).

SUDAN: Chartoum, 28 III 1978, 1, G. G. SCHULTEN (ITZ).

TANZANIA: Amani, X-XII 1905, 900 m, 1, C. SCHRÖDER (ZMHU), 25-30 XII 1906, 1, VOSSELER (ZMHU); Aruscha, II 1905, 1, ABEL (ZMHU); Arusha-Ju, XII 1905, 1, KATONA (HNHM); Bomole, X-XII 1905, 1, Ch. SCHRÖDER (ZMHU); Dar-es-Salaam, 1 (ZMHU), 1896, 2, H. MAYER (NMW); Ikuu Camp. XII 1950, 1, H.J. BRÉDO (IRSN); Kassanga, 1 II 1899, 1, WEDLER (ZMHU); Kilimandjaro, 1, BORNEMISSZA (HNHM), 1905-6, 2, SJÖSTEDT (LU); Kilimandjaro, Kibonoto, 3 V, 2 SJÖSTEDT (LU); E Kilimandjaro, Mt. Meru, 4500-5000 ft., V 1937, 1, B. COOPER (BMNH); Kilimatinde, VII-VIII 1908, 1, CLAUS (ZMHU); Korogwe, 450 m, 24 IV 1957, 1 (MRAC); Langenburg, 1 II-15 III 1898, 1, 18 III-23 IV 1898, 1, FÜLLEBORN (ZMHU); Lindi, 3 (IRSN), 1 (FMNH), II-III 1903, 10 (ZMHU); Lukuledi, 1 (ZMHU), 1 (IRSN); Lulanguru, 17 mls W of Tabora, 1148, X-XII 1917, G.D. CAPENER (BMNH); Madinula, 1, S. P. DE HILAIRE (ZMHU); Makonde, 15-16 XII 1910, 1, H. GROTE (ZMHU); Masailand, Kisale, 15 III 1960, 1, J. POPP (ZSM); Mikindani, II-III 1911, 2, H. GROTE (ZMHU); Mhonda, 1, METHNER (ZMHU); Mombo, VII 1899, 1 (ZMHU); Morogoro, I 1963, 2, G. HEINRICH (ZSM); Mto-ja-Kifaru, 2, KATONA (HNHM); Ngomeni, XII 1904, 1, VOSSELER (ZMHU); N Nyassa, Langenburg, 15 III-23 IV 1898, 8, FÜLLEBORN (ZMHU); Panganisteppe, Mombo-Masinde, I 1906, 2, C. SCHRÖDER (ZMHU); Rukwa, VII-IX 1899, 1, GLAUNING (ZMHU); Sansibar, Kitui, 1, HILDEBRANDT (ZMHU); Tanga, 1 (IRSN), 1, VOSSELER (ZMHU), 1 (HNHM), 1974, 1, J.L. GEROLD (NNML); Tendaguru, 1912, 1, RECK (ZMHU); Uhehe, Dabaga, 1, E. NIGMANN (ZMHU);

Uheheland, Kidugala (ZMHU); Ukami, 1 (IRSN); Uluguru Mts., 1500-1800 m, 3 (ZSM); Uluguru Mts., Kimboza Forest, 18 VII 1981, 1, M. STOLTZE and N. SCHARFF (ZMC); Usambara, Amani, 1000 m, 30 I 1977, 1, O. LOMHOLDT and O. MARTIN (ZMC); W Usambara, Lutindi, 1 (ZMHU), 2 (ZMC); N Usambara, Mlalo, 1, HOLST (ZMHU); Usambara, Neu Bethel, IV 1903, 3 (ZMHU); Usambara, Nguelo, 4 (IRSN); Usambara, Sakarani, 1500 m, 10 XI 1952, 1, LINDEMANN and PAVLITZKI (ZSM); Usandawl, 11 II 1930, 1, 14 V 1930, 1, H. FLIEGNER (ZMHU); Voi to Moshi, 1, KATONA (HNHM); Zanzibar Is., Kizimbani, 16 III 1980, 1, G. G. SCHULTEN (ITZ).

TOGO: Sokode Basari, 1, E. SCHRÖDER (ZMHU); Yendi, 1, THIERRY (ZMHU).

UGANDA: Entebbe, 1 (ZMHU).

ZAIRE: Bas Congo, Reg. Thysville, 1959-63, 2, R. MICHAUX (MRAC); Baudoinville, Tanganika, 1909, 1 (IRSN); Béni, 24 XI 1946, 1, A. COMELLINI (MHNG); Haut Katanga, Panda, 3 II 1929, 1, J. ROMIEUX (MHNG); Elisabethville, 20 I 1922, 1 (ITZ), XII 1961-IV 1962, 1, H. LIPS (MRAC); Jadotville, Mwera, XII 1956-V 1957, 1, Th. DE CATERS (MRAC); Kasai, Gandajika, 1952, 2, P. DE FRANCQUEN (MRAC); Kasai, Kele, I 1953, 1, R. ROISEAUX (MRAC); Katanga, riv. Sashila, X 1925, 2 (IRSN); Kinchassa, 1, WAELBROECK (IRSN); Leopoldville, 1885, 1, DUVIVIER (IRSN); Lolouabourg, 1 (IRSN); Lulua, Kapanga, XI 1932, 1, F.G. OVERLAET (MRAC); Lulua, Tshibamba, III 1932, 1, F.G. OVERLAET (MRAC); Lualaba, Kakanda, Mutaka, 1955, 1, Th. DE CATERS (MRAC); Lualaba, Kakanda, Terr. Jadotville, I-III 1954, 1, Th. DE CATERS (MRAC); Lualaba, Kolwezi, 3-15 I 1954, 1, L. GILBERT (MRAC); Luluabourg, Kasai, 29 I 1963, 1, J. DEHEEGHER (MRAC); Luputa, 1 II 1939, 1, H.J. BRÉDO (IRSN); Lusambo, 1950, 2, P. HOSTIE (MRAC); Moliro, 1, J. DUVIVIER (IRSN); Ngowa, XI 1938, 1, 12 VI 1939, 1, J. MERTENS (IRSN); Uele, 1 (HNHM); Ulombolo, 8 I 1947, 1, Miss. Tanganika (IRSN).

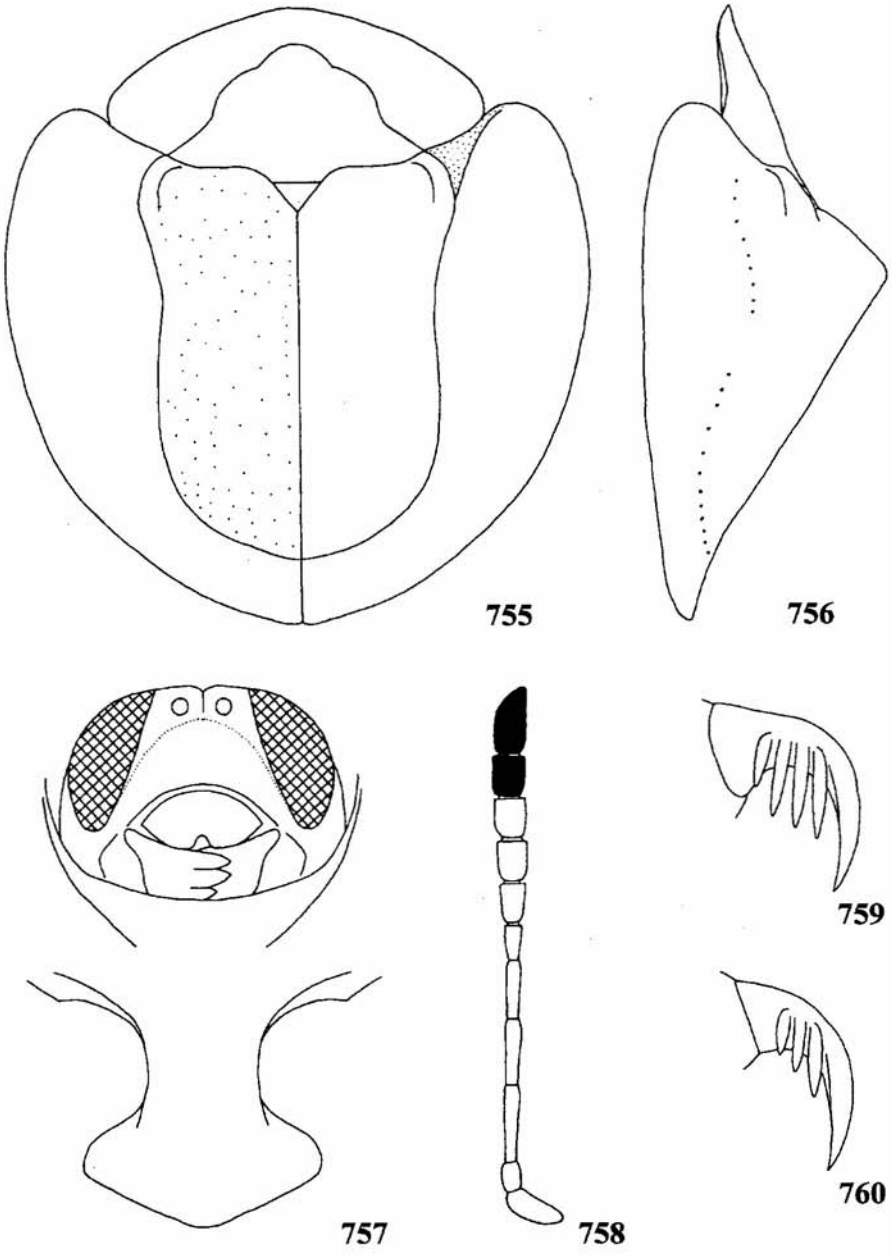
ZAMBIA: Haut Zambeze, Lealui, 1919, 1, V. ELLENBERGER (MNHN); Livingstone, Victoria Falls, 26-31 XII 1993, 1, M. SNIZEK (MS); Lusaka, 24 XII 1993, 1, M. SNIZEK (MS); Ndola, 24 II 1953, 1, P. DE VRIES (TM); Pemba, 1918, 1, Lassel (CTM).

ZIMBABWE: Arrington, Ft. Salisbury, II 1895, 1, CORYNODON (MCZC); Balla Balla, V 1969, 1, H. C. GARDNEY (NMM); Balla Balla, Irbvale, 2 I 1976, 1, R. TOMS (TM); Birchenough Bridge, I 1938, 1, G. v. SON (TM); Bulawayo, III 1972, 1 (NMM); Bulawayo R., 1904, 1 (TM); Marandellas, Springvale, 4 III 1962, 1, N. PATERSON (NMM); Salisbury, 1 (EGS), 26 IV 1972, 1, N. F. BRESLER (NMM); Umtali, 1902, 1, A. BODONG (CTM); Victoria Falls, 9 I 1972, 1, C. MYERS (NMM); Vumba, 2-9 II 1959, 1, G. v. SON (TM).

Aspidimorpha (s. str.) *mirabilis* n. sp.

ETYMOLOGY

Latin "*mirabilis*" means marvellous. In my opinion it is the most elegant African species of the genus *Aspidimorpha*.



755-760. *Aspidimorpha mirabilis*: 755 - body in dorsal view, 756 - body in profile, 757 – head and prosternum, 758 – antenna, 759 – inner side of claw, 760 – outer side of claw

DESCRIPTION

Le: male and female: 8.5-10.1 mm, Wi: male and female: 8.2-9.8 mm, Lp: male and female: 2.6-3.1 mm, Wp: male and female: 5.3-6.4 mm, Ex: male and female: 2.1-2.6 mm, Wd: male and female: 3.8-4.6 mm; Le/Wi ratio: male and female: 1.03-1.10, Wi/Wp: male and female: 1.44-1.55, Wp/Lp: male and female: 2.00-2.06. Body almost circular (fig. 755).

Pronotum uniformly pale yellow. Elytra pale yellow without pattern. Disc pale yellow, each puncture with black centre and areola, upperside of explanate margin of the same colour as disc, upperside also uniform, only anterior margin of explanate margin darker reddish-brown. Clypeus yellow. Pro- and meso- and metathorax black except yellow lateral plates. Abdomen black with yellow margin and apex to mostly yellow with brown to black spots in the middle of sternites. Antennae yellow, two last segments mostly brown to black. Legs yellow, including coxae.

Pronotum subrhomboidal, with maximum width almost at base, sides narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri broadly rounded, elytral margins simple. Disc unevenly convex, strongly angulate in postscutellar point, almost conical, profile behind the top of convexity straight to only slightly concave (fig. 756), principal impression small but distinct, scutellar impressions very shallow, no posterolateral impressions, surface of lateral part of disc regular. Puncturation of disc very fine (because of dark areola punctures appear larger than in reality), regular, on slope not finer than in anterior half of disc, in sutural half of disc only slightly finer than in lateral part of disc. Scutellar row with 1-2 punctures. Punctures in rows very sparse, disposed regularly, distance between punctures five to seven times larger than puncture diameter. Rows not impressed. Punctures in marginal row shallow, only slightly larger than in central rows. Intervals flat, in sutural half five to six times, in lateral half c. thrice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral fold of marginal interval barely marked. Explanate margin very broad, moderately declivous to subhorizontal, with no tendency to form a gutter, impunctate, its surface smooth and shiny. Apex of elytral epipleura in both sexes densely pubescent.

Head very broad, clypeus c. 1.7 -1.8 times wider than long (fig. 757), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4-1/3 length. Antennae moderately elongate (fig. 758), extending to mid coxa, length ratio of antennal segments: 100:45:123:75:80:50:68:60:63:59:100.

Claws pectinate on both sides, inner pecten very long, with four teeth extending c. to 2/5-3/4 length of claw (fig. 759), outer pecten with three teeth, first extending to half length of claw, remainder gradually smaller (fig. 760).

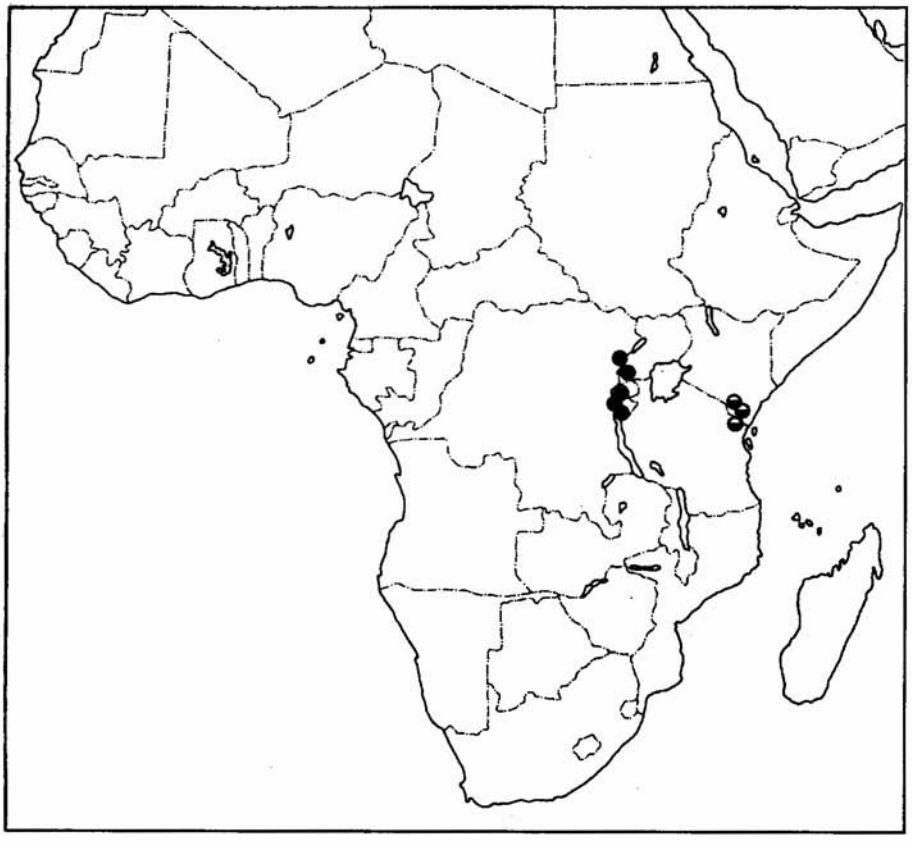
Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

Mountains of Rwanda, Urundi, Uganda and E Zaire (fig. 761).

REMARKS

It belongs to the *tanganikana* group. It differs distinctly in extremely high postscutellar angulation, thus elytral disc appears almost conical. Only *A. hyalina* has also large postscutellar tubercle but it is lower, with profile behind the top of tubercle slightly concave. *A. hyalina* differs also in uniformly yellow ventrites while in *mirabilis* they are mostly black. *A. tanganikana* and *A. montanella* distinctly differ in low postscutellar angulation.



761. Distribution of *Aspidimorpha mirabilis* (black circles) and *A. mombonensis* (white above black circles)

MATERIAL EXAMINED

RWANDA: paratype: Rutovu, for. du Rugege, 2350 m, 20-23 I 1953, P. BASILEWSKY (det. as *A. hyalina* by SHAW, MRAC).

UGANDA: paratypes: Mafuga Forest, Kegezi, VI 1951, 3, VAN SOMEREN (BMNH, LB).

URUNDI: paratypes: Bururi, III 1953, 1 (LB); NW Urundi, 2400 m, 11 IX 1911, 1 (LB).

ZAIRE: holotype: Parc Nat. Albert, W. Ruwenzori, 3000-4000 m, III 1937, 1, HACKARS (MRAC).

Aspidimorpha (s. str.) *mombonensis* WEISE, 1899

Aspidomorpha mombonensis WEISE, 1899: 256 (LT and PLT in ZMHU); SPAETH, 1912: 507; BOROWIEC, 1987: 414.

Aspidomorpha (*Aspidomorpha*) *mombonensis*: SPAETH, 1914 b: 76.

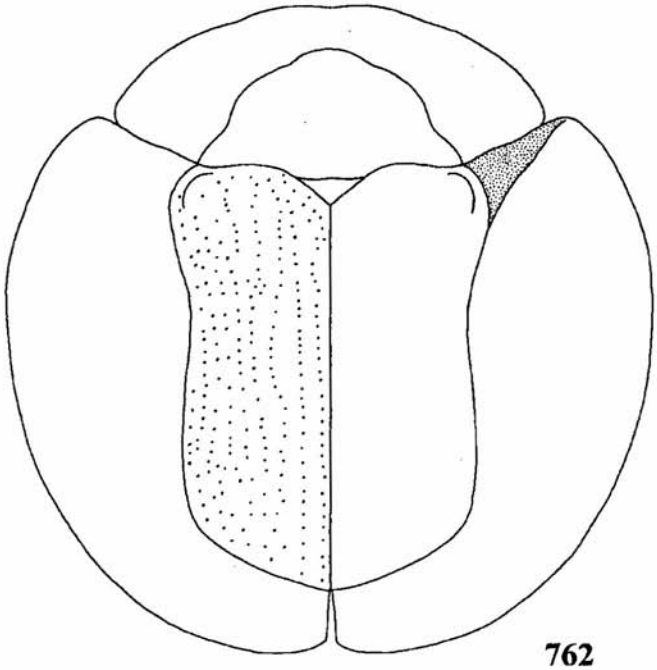
DESCRIPTION

Le: male: 10.5-10.6 mm, female: 11.2 mm, Wi: male: 9.8-10.3 mm, female: 10.0 mm, Lp: male: 3.1-3.2 mm, female: 3.2 mm, Wp: male: 6.7-7.0 mm, female: 6.7 mm, Ex: male: 2.6-2.9 mm, female: 2.5 mm, Wd: male: 4.5-4.7 mm, female: 5.1 mm; Le/Wi ratio: male: 1.03-1.07, female: 1.12, Wi/Wp: male: 1.46-1.47, female: 1.49, Wp/Lp: male: 2.09-2.26, female: 2.09. Body almost circular (fig. 762).

Pronotum uniformly yellow. Dorsal part of elytra uniformly yellow, punctures of the same colour as discal surface, explanate margin only on underside with reddish-brown to brown, short, diagonal humeral spots. Clypeus yellow with basal corners infuscate to brown. Pro- and mesosternum, metasternum except sides, and abdomen except margins and apex black. Antennae yellow, usually two last segments mostly brown to black, sometimes segment 9 infuscate apically. Legs including coxae yellow, only in the darkest specimens coxae brown.

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, slightly to moderately wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, moderately gibbous in postscutellar point, not appear angulate in profile, straight behind the top of convexity (fig. 763), with small but distinct principal impression, very shallow scutellar impressions, without posterolateral impression, surface of lateral part of disc only slightly irregular. Puncturation of disc fine, regular, on slope slightly finer than in anterior half of disc, in sutural half of disc at most twice finer than in lateral part of disc. Scutellar row with 4-6 punctures.



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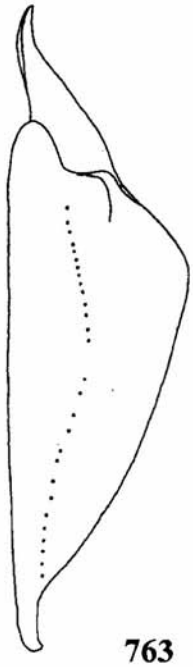

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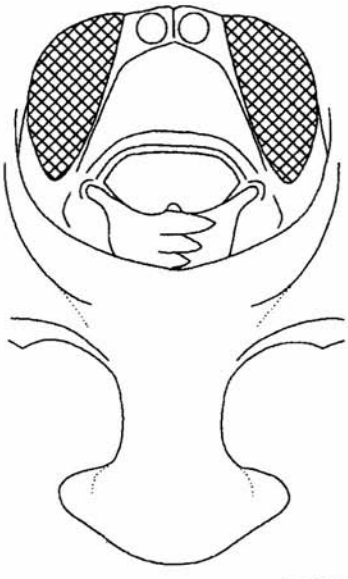

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762-767. *Aspidimorpha mombonensis*: 762 - body in dorsal view, 763 - body in profile, 764 – head and prosternum, 765 – antenna, 766 – inner side of claw, 767 – outer side of claw

Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-5, distance between punctures or their groups two to five times larger than puncture diameter. Rows not impressed. Punctures in marginal row deep, thrice larger than in central rows. Intervals flat, in sutural half five to six times, in lateral half thrice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low but broad. Explanate margin extremely broad, almost horizontal, with tendency to form a gutter, impunctate, its surface smooth and shiny. Elytral epipleura bare in male, densely pubescent in female.

Head moderately broad, clypeus c. 1.4 -1.5 times wider than long (fig. 764), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 765), extending to mid coxa, length ratio of antennal segments: 100:50:132:95:90:61:73:68:73:73:105.

Claws pectinate on both sides, inner pecten very long, with five teeth extending to c. 3/5 length of claw (fig. 766), outer pecten with three teeth, first extending almost to half length of claw, remainder gradually smaller (fig. 767).

Sexual dimorphism distinct. Male slightly stouter with last antennal segment slightly longer than in female, explanate margin wider, more horizontal, apex of elytral epipleura bare, pubescent in female.

DISTRIBUTION

S Kenya and N Tanzania (fig. 761).

REMARKS

It is a member of the *dissenatanea* group. It differs from all species of the group in obtuse postscutellar angulation, in profile appearing rather gibbous than angulate. Females differs also in pubescent apex of elytral epipleura, while in other species of the group epipleura are bare in both sexes. This character and low postscutellar gibbosity place it close to the *isparetta* group, especially to pale form of *A. isparetta*. *A. mombonensis* differs in body almost circular in both sexes, with very broad explanate margin of elytra with tendency to form a gutter (in *isparetta* body is never as circular as in *mombonensis*, especially females are more elongate, and explanate margin of elytra is slightly more declivous, male of *isparetta* has explanate margin of elytra narrower, especially in posterior half).

MATERIAL EXAMINED

KENYA: Kasigao, XI 1893, 1 (LB); Teita Hills, near Voi, 4500 ft., 10-16 XI 1921, 1, H.E. Box (BMNH); Wandanyi (Wandani), 5000 ft., III 1939, 1 (BMNH).

TANZANIA: Mombo, 1, PAUL (lectotype, ZMHU), VII 1899, 1 (paralectotype, ZMHU), 1 (LB).

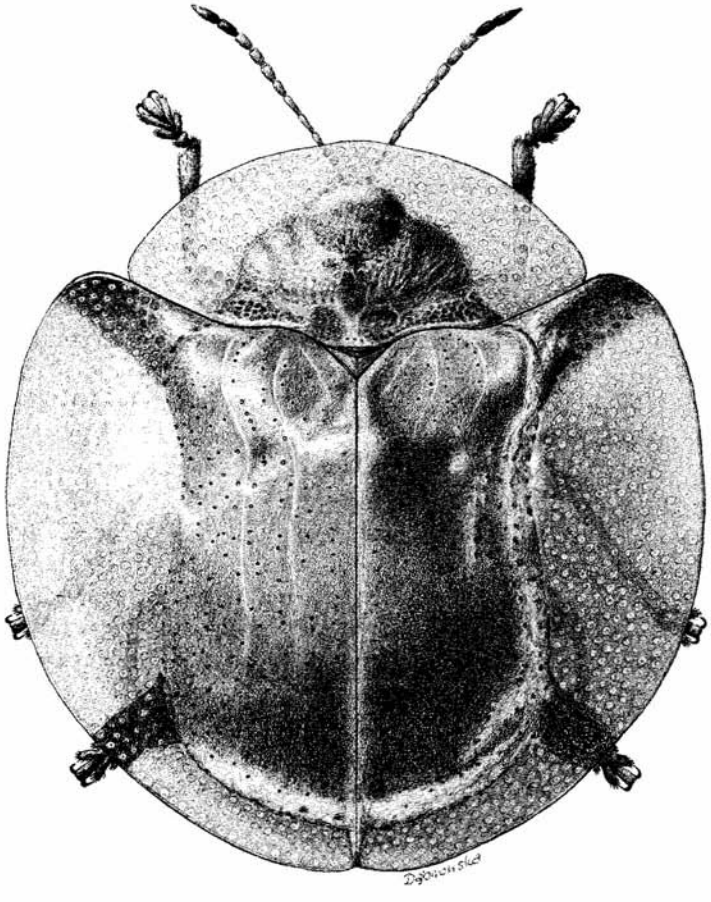
Aspidimorpha (s. str.) *montanella* n. sp.

ETYMOLOGY

Named after its habitat, this species is known only from mountain regions of E Zaire and W Uganda.

DESCRIPTION

Le: male: 7.4-8.4 mm, female: 9.2-9.6 mm, Wi: male: 6.8-7.9 mm, female: 8.6-9.3 mm, Lp: male: 2.3-2.6 mm, female: 2.7-2.8 mm, Wp: male: 4.6-5.4 mm, female: 5.7-5.9 mm, Ex: male: 1.6-2.0 mm, female: 2.1-2.3 mm, Wd: male: 3.5-



768. *Aspidimorpha montanella*, habitus (by A. DĄBROWSKA)

3.9 mm, female: 4.3-4.6 mm; Le/Wi ratio: male: 1.04-1.09, female: 1.02-1.07, Wi/Wp: male: 1.43-1.50, female: 1.48-1.60, Wp/Lp: male: 2.00-2.08, female: 2.04-2.15. Body almost circular (figs 769, 771).

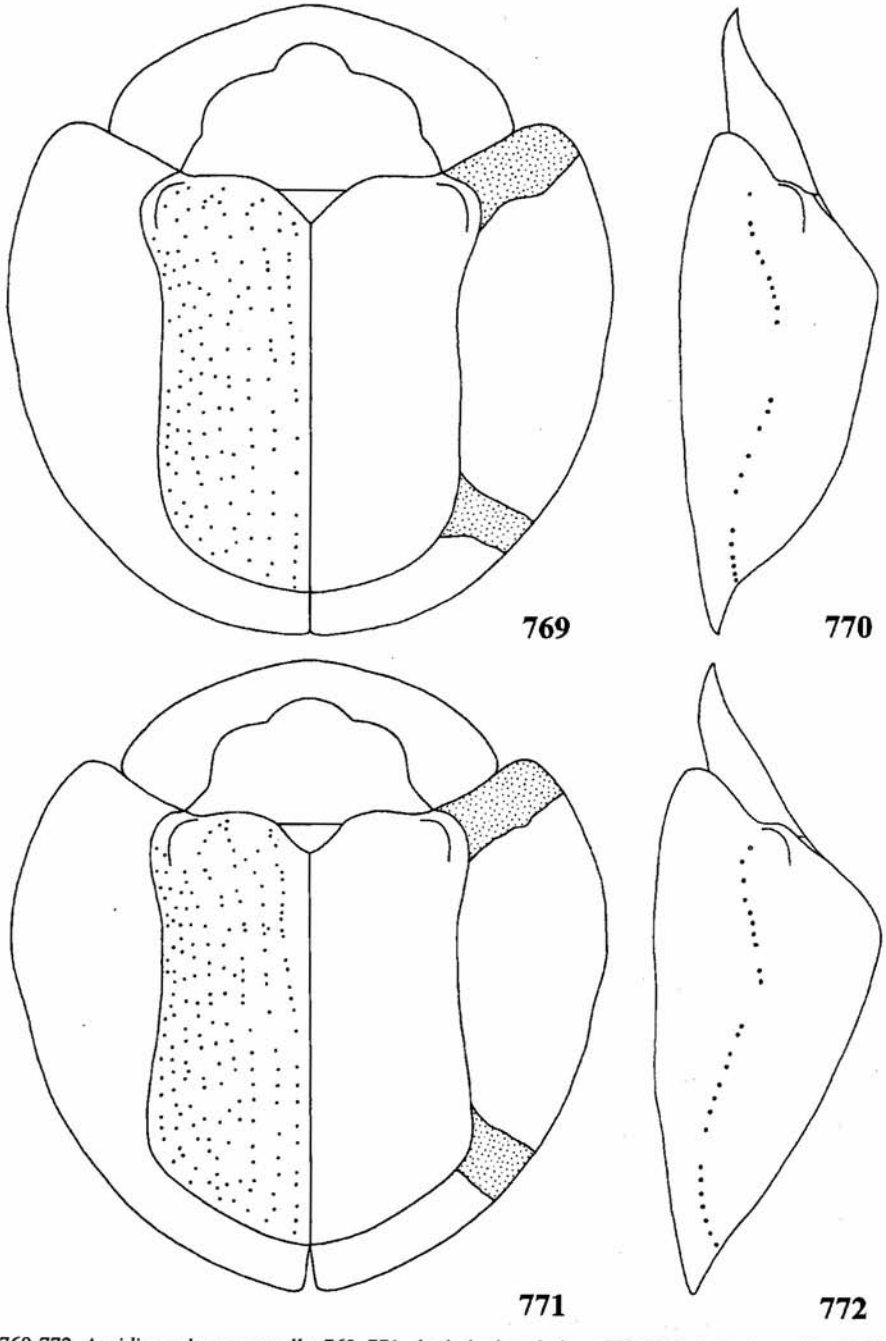
Pronotum uniformly yellow-green to yellow. Elytra yellow-green to yellow with rather constant pattern (figs. 780-782). Disc yellow-green to yellow, uniform, each puncture with darker, brown to almost black centre, upperside of explanate margin of the same colour as disc, upperside usually with moderately broad, reddish-brown to brown humeral and posterolateral spots, without sutural spot. Often posterolateral spots are completely reduced and humeral spots shortened, diagonal, occasionally underside of explanate margin immaculate. Clypeus yellow, basal corners usually brown to black. Ventrites, except lateral plates of thorax and margins and apex of abdomen, black. Antennae yellow, two last segments mostly brown to black, occasionally segment 9 slightly infuscate apically. Legs yellow, pro- and mesocoxae often partly or completely blackish.

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri broadly rounded, elytral margins simple. Disc unevenly convex, distinctly angulate in postscutellar point, profile behind the top of convexity straight to slightly convex (figs 770, 772), principal impression small but distinct, scutellar impressions shallow, no posterolateral impressions, surface of lateral part of disc usually not or only slightly irregular. Puncturation of disc very fine, regular, on slope not finer than in anterior half of disc, in sutural half of disc only slightly finer than in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows sparse, disposed mostly regularly, partly grouped in 2-3, distance between punctures or their groups four to seven times larger than puncture diameter. Rows not impressed. Punctures in marginal row shallow, only slightly larger than in central rows. Intervals flat, in sutural half five to six times, in lateral half twice to thrice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low but broad. Explanate margin very broad, moderately declivous, in large specimens with tendency to form a shallow gutter, impunctate, its surface smooth and shiny. Elytral epipleura in male bare, in female extreme apex sparsely pubescent.

Head very broad, clypeus c. 1.7-1.8 times wider than long (fig. 773), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 774), extending to mid coxa, length ratio of antennal segments: 100:47:111:84:74:53:73:58:61:59:105.

Claws pectinate on both sides, inner pecten very long, with four teeth extending c. to 2/5-3/4 length of claw (fig. 775), outer pecten with three teeth, first extending to half length of claw, remainder gradually smaller (fig. 776).



769-772. *Aspidimorpha montanella*: 769, 771 - body in dorsal view, 770, 772 - body in profile: 769-770 - male, 771-772 - female

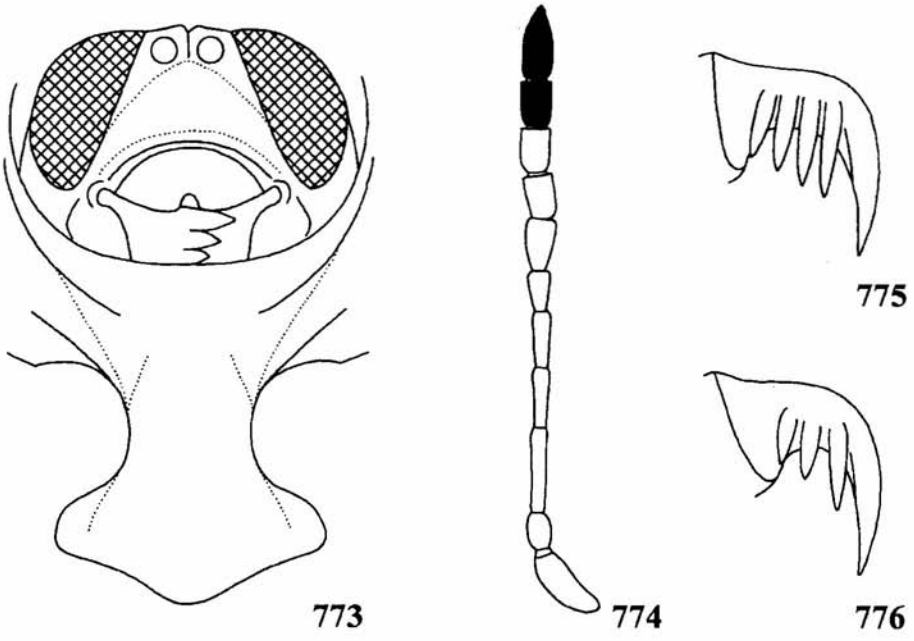
Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female and apex of elytral epipleura bare, sparsely pubescent in female.

DISTRIBUTION

Mountains of E Zaire and W Uganda (fig. 777).

REMARKS

It is a member of the *tanganikana* group, very close to *A. tanganikana*. Both the remaining relatives, *hyalina* and *mirabilis*, distinctly differ in conical postscutellar angulation (in *montanella* it is only slightly gibbous). Females of *tanganikana* distinctly differ from females of *montanella* in bare apex of elytral epipleura (in *montanella* pubescent). *A. tanganikana* is slightly slimmer with base of elytra not so much wider than base of pronotum as in *montanella*. Sides of elytra in posterior third in *A. montanella* are more rounded and then more converging than in *A. tanganikana*, thus elytra appear less regularly circular. Elytral convexity in *montanella* is more prominent but more obtuse than in *tanganikana*, which is in profile is angulate rather than gibbous.

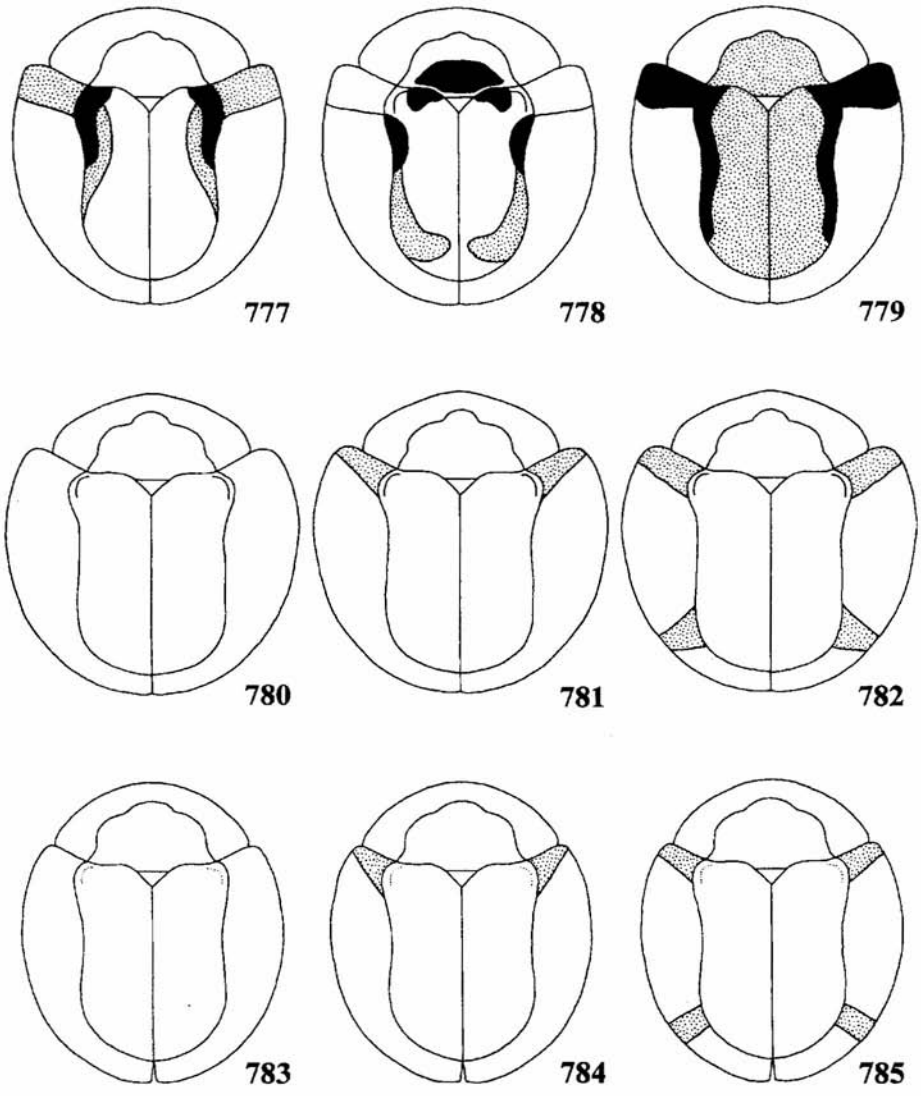


773-776. *Aspidimorpha montanella*: 773 – head and prosternum, 774 – antenna, 775 – inner side of claw, 776 – outer side of claw

MATERIAL EXAMINED

UGANDA: paratypes: Ruwenzori Range, Namwamba Vall., 6500 ft., XII 1934-I 1935, 3, F.W. EDWARDS (BMNH).

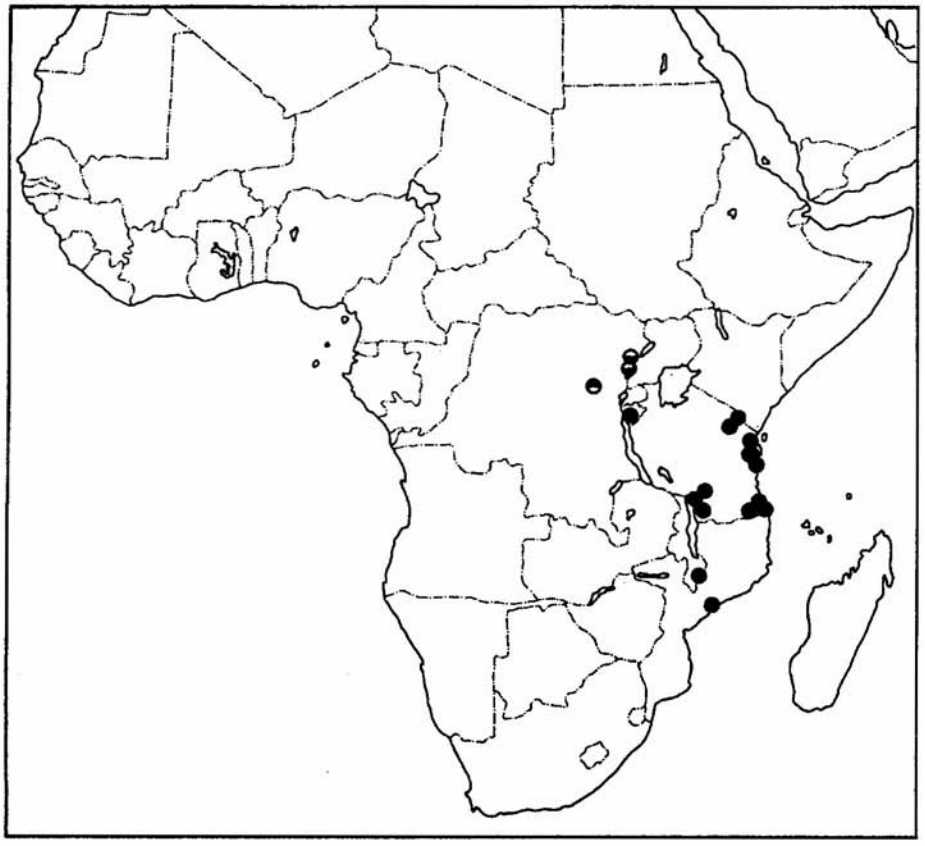
ZAIRE: holotype: Albert Nat. Park, Secteur Tshiaberimu, riv. Musabaki, affl. dr. Talia Nord, 2720 m, 15 III 1954, 1, P. VANSCHUYTBROECK and H. SYNAVE (MRAC); paratypes: Albert Nat. Park, Massif Ruwenzori, Bomboka n. Kyandolire,



777-785. Variation of dorsal maculation: 777-779 - *Aspidimorpha laevigata*, 780-782 - *A. montanella*, 783-785 - *A. tanganikana*

1650 m, 22 X 1952, 1, P. VANSCHUYTBROECK and J. KEKENBOSCH (MRAC); Albert Nat. Park, Massif Ruwenzori, Gîte Ruwenzori, 2080 m, 1-3 II 1955, 1, P. JOLIVET and R. FONTEYN (MRAC); Albert Nat. Park, Massif Ruwenzori, Kalonge, riv. Kamahoro, aff. Butahu, 2210 m, 27 VIII 1952, 1, P. VANSCHUYTBROECK and J. KEKENBOSCH (MRAC); Albert Nat. Park, Massif Ruwenzori, riv. Kalonge, Katauleko, aff. Butahu, 2180 m, 26 VIII 1952, 1, P. VANSCHUYTBROECK and J. KEKENBOSCH (MRAC); Albert Nat. Park, Massif Ruwenzori, Kalonge, Kiondo ya Kwanza, 2030 m, 5 X 1952, 2, P. VANSCHUYTBROECK and J. KEKENBOSCH (MRAC); Albert Nat. Park, Massif Ruwenzori, Kalonge, riv. Nyamwamba, aff. Butahu, 2100 m, 25-27 VIII 1952, 2, P. VANSCHUYTBROECK and J. KEKENBOSCH (MRAC); Albert Nat. Park, Massif Ruwenzori, Kamusonge-marais près Mutsora, 1200 m, 28 VII 1954, 1, P. VANSCHUYTBROECK and H. SYNAVE (MRAC); Albert Nat. Park, Massif Ruwenzori, Kyandolire, Camp des Gardes, 1700 m, 7-15 X 1952, 1, 21 X 1952, 1, P. VANSCHUYTBROECK and J. KEKENBOSCH (MRAC); Albert Nat. Park, Massif Ruwenzori, Kyandolire, Mulaku, af. Kakalari, 1750 m, 23 X 1952, 1, P. VANSCHUYTBROECK and J. KEKENBOSCH (MRAC); Albert Nat. Park, Massif Ruwenzori, Litongo, 1575 m, 20 VII 1954, 1, P. VANSCHUYTBROECK and H. SYNAVE (MRAC); Albert Nat. Park, Massif Ruwenzori, Mont Ibale, n. Kyandolire, 1800 m, 26 I-29 II 1953, 1, P. VANSCHUYTBROECK and J. KEKENBOSCH (MRAC); Albert Nat. Park, Massif Ruwenzori, Mont Kavana, 1800 m, 28 II 1951, 1, J. DE WILDE (MRAC); Albert Nat. Park, Massif Ruwenzori, Wandondu, affl. dr. Butahu, n. Kyandolire, 1840 m, 11 X 1952, 1, P. VANSCHUYTBROECK and J. KEKENBOSCH (MRAC); Albert Nat. Park, Mont Hoyo, sur plantes basses, 1280 m, 7-15 VII 1955, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Tshiaberimu, Buliwa-Susuvirwa, 2700 m, 20 IV 1955, 3, P. JOLIVET (MRAC); Albert Nat. Park, Secteur Tshiaberimu, Busiangwa, aff. Musabaki, 2380 m, 11-23 III 1954, 3, 19 III 1954, 2, P. VANSCHUYTBROECK and H. SYNAVE (MRAC); Albert Nat. Park, Secteur Tshiaberimu, Hintumo, 2450 m, 24 III 1954, 2, P. VANSCHUYTBROECK and H. SYNAVE (MRAC); Albert Nat. Park, Secteur Tshiaberimu, Kalindera, 2720 m, 26 IV 1955, 1, P. VANSCHUYTBROECK and R. FONTEYN (MRAC); Albert Nat. Park, Secteur Tshiaberimu, riv. Kalivina, affl. Talya Nord, 2350 m, 15-27 IV 1955, 1, P. VANSCHUYTBROECK and R. FONTEYN (MRAC), 29 III 1954, 1, P. VANSCHUYTBROECK and H. SYNAVE (MRAC); Albert Nat. Park, Secteur Tshiaberimu,Kirungu, 2720 m, 6-19 III 1954, 1, P. VANSCHUYTBROECK and H. SYNAVE (MRAC); Albert Nat. Park, Secteur Tshiaberimu, riv. Kisesa, affl. Talya Nord, 2580 m, 20 IV 1955, 1, P. VANSCHUYTBROECK and R. FONTEYN (MRAC); Albert Nat. Park, Secteur Tshiaberimu, riv. Konjungungu, affl. Kavulinda, 2100 m, 25 IV 1955, 1, P. JOLIVET (MRAC); Albert Nat. Park, Secteur Tshiaberimu, Mbolu-Musavaki, 2150 m, 15 IV 1955, 5, P. JOLIVET (MRAC); Albert Nat. Park, Secteur Tshiaberimu, riv. Mbulikerere, affl. Kalivina, 2720 m, 19 IV 1955, 6, P. JOLIVET (MRAC); Albert Nat. Park, Secteur Tshiaberimu, riv. Mbulikerere, affl. Talya Nord, 2720 m, 26 VIII 1953, 2, P. VANSCHUYTBROECK and V. HENDRICKX (MRAC); Albert Nat. Park, Secteur Tshiaberimu, Mont Buliwa, 2450 m, 25 IV 1955, 3, P. VANSCHUYTBROECK and R. FONTEYN (MRAC); Albert Nat. Park, Secteur Tshiaberimu, Mont Musimba,

2450 m, 16 III 1954, 1, P. VANSCHUYTBROECK and H. SYNAVE (MRAC); Albert Nat. Park, Secteur Tshiaberimu, Mont Musienene, n. Kirungu, 2680 m, 21 IV 1955, 1, P. VANSCHUYTBROECK and R. FONTEYN (MRAC); Albert Nat. Park, Secteur Tshiaberimu, Mont Musimba, riv. Musavaki, 2450 m, 16-29 III 1954, 2, P. VANSCHUYTBROECK and H. SYNAVE (MRAC), 18 IV 1955, 1, P. VANSCHUYTBROECK and R. FONTEYN (MRAC); Albert Nat. Park, Secteur Tshiaberimu, riv. Musavaki, 15 IV 1955, 2, 15-21 IV 1955, 1, P. VANSCHUYTBROECK and R. FONTEYN (MRAC); Albert Nat. Park, Secteur Tshiaberimu, riv. Musavero, affl. Kiteria, 2200 m, 24 IV 1955, 3, 25 IV 1955, 1, P. JOLIVET (2 MRAC, 1 ZMHU); Albert Nat. Park, Secteur Tshiaberimu, riv. Talia Nord, 2340 m, 23 III 1954, 4, P. VANSCHUYTBROECK and H. SYNAVE (MRAC); Albert Nat. Park, Secteur Tshiaberimu, Vikole, riv. Kyambula, 2750 m, 19 IV 1955, 1, P. VANSCHUYTBROECK and H. SYNAVE (MRAC); Albert Nat. Park, Secteur Tshiaberimu, Vusiango, 9 III 1954, 1, P. VANSCHUYTBROECK and H. SYNAVE (MRAC).



786. Distribution of *Aspidimorpha montanella* (white above black circles), *A. mrogorensis* (black circles) and *A. muehlei* (black above white circle)

Aspidimorpha (s. str.) *mrogorensis* WEISE, 1899

Aspidomorpha mrogorensis WEISE, 1899: 254 (HT in ZMHU); SPAETH, 1917: 423; 1932 b: 4; SHAW, 1956 a: 261.
Aspidomorpha (Aspidomorpha) mrogorensis: SPAETH, 1914 b: 76.
Aspidomorpha kilimana WEISE, 1903: 220 (HT in ZMHU); SPAETH, 1917: 423; 1932 b: 4, **n. syn.**
Aspidomorpha (Aspidomorpha) kilimana: SPAETH, 1914 b: 75.

DESCRIPTION

Le: male: 10.4-10.9 mm, female: 10.3-12.0 mm, Wi: male: 8.0-8.3 mm, 7.1-8.2 mm, Lp: male and female: 3.2-3.7 mm, Wp: male: 6.8-7.1 mm, female: 6.0-7.1 mm, Ex: male: 1.5-2.1 mm, female: 1.5-1.8 mm, Wd: male: 4.7-5.1 mm, female: 4.9-5.3 mm. Le/Wi: male: 1.34-1.46, female: 1.47-1.49, Wi/Wp: male: 1.15-1.22, female: 1.13-1.17. Body elongate-oval (fig. 787).

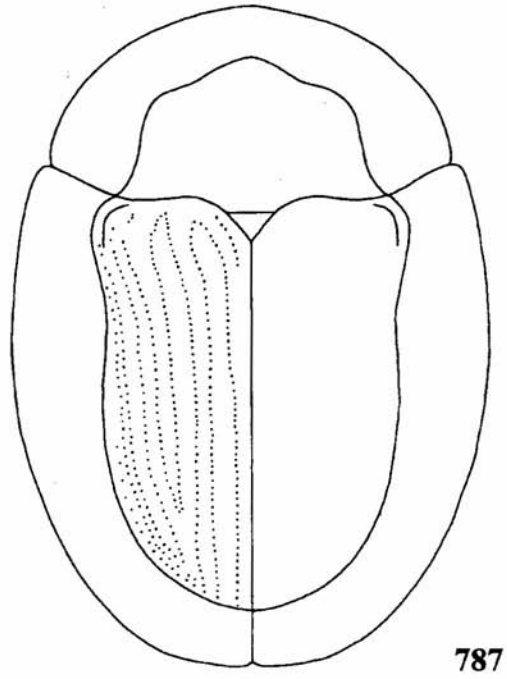
Yellow, rows of punctures not or indistinctly reddish marked. Clypeus usually mostly yellow, with only base black, occasionally black with yellowish centre. Prosternum, meso-, metasternum except lateral plates, and abdomen except sides black. Coxae and trochanters black, femora uniformly yellow or only with extreme base blackish. Two last antennal segments infuscate to black, segment 10 often brownish, apex of segment 11 yellowish.

Pronotum semicircular, with maximum Wi at base, hind angles subangulate, forming blunt angle of about 90-100°. Disc moderately convex, smooth, shiny, with very small microreticulation and extremely fine pricks. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, without sulci, microreticulate with 6-9 very small punctures. Base of elytra serrulate, only slightly wider than base of pronotum, elytral margins slightly emarginate. Disc regularly convex, with no postscutellar gibbosity or tubercle (fig. 788), without principal and lateral impressions, row 4 on 1/4 length with shallow, narrow impression. Puncturation of disc regular, punctures in sutural half of disc smaller than in lateral part. Scutellar row with 7-9 punctures. Punctures in rows dense, distance between punctures 0.8-1.5 times larger than puncture diameter. Punctures in marginal row c. two to three times larger than punctures in central rows. Intervals 1-4 flat, 5-10 feebly convex, five times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin strongly declivous, impunctate, shiny, but its surface slightly irregular, with several short, transverse folds, especially in hind part. Margin of elytra narrowly but distinctly marginate. Apex of elytral epipleura in male without hair, in female pubescent.

Head broad, clypeus c. 1.6-1.7 times wider than long (fig. 789), dull, distinctly elevated before antennal insertions, without or with very shallow median impression. Antennae moderately elongate (fig. 790), extending to mid coxa, length ratio of antennal segments: 100:31:102:57:54:43:57:51:51:54:106.

Claws pectinate on both sides, inner pecten with four (occasionally five) long teeth extending to half length of claw, three outer teeth equal in length, inner



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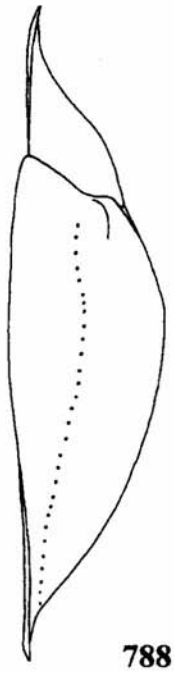

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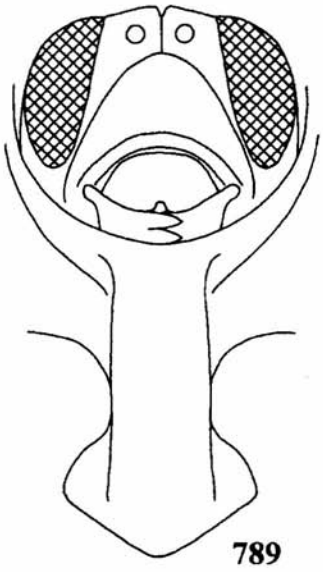

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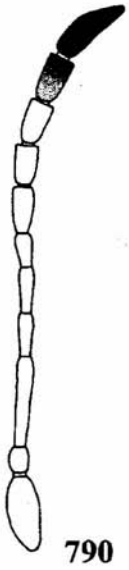

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787-792. *Aspidimorpha mrogorensis*: 787 - body in dorsal view, 788 - body in profile, 789 – head and prosternum, 790 – antenna, 791 – inner side of claw, 792 – outer side of claw

slightly shorter (fig. 791). Outer pecten with two teeth c. 1.5 times shorter than inner pecten, inner tooth distinctly shorter than outer (fig. 792).

Sexual dimorphism distinct. Female with body slimmer, subacuminate apex of elytra and pubescent hind part of elytral epipleura.

DISTRIBUTION

Central and southern part of East Africa- Tanzania, Burundi, Malawi and Mozambique (fig. 786).

REMARKS

It belongs to the *palleago* species group. Moderately broad, strongly declivous explanate margin of elytra place this species close to *A. strigosa*. It differs in elytral punctures marked with deep red, simple elytral margin and usually three to four last antennal segments infuscate (in *A. mrogorensis* elytral punctures are not or indistinctly marked with red, elytral margin is slightly emarginate and only two last antennal segments are infuscate to black). *A. mrogorensis* has almost entirely yellow mid- and hind femora, with at least extreme base blackish, while in *A. strigosa* femora are usually to 1/4-1/2 length brown to black. *A. proszynskii* and *A. silfverbergi* differ in elytral intervals partly reddish. *A. pallescens* and *A. palleago* differ in broader body, explanate margin of elytra less declivous and more explanate, and mid- and hind femora black to 1/3-1/2 length.

MATERIAL EXAMINED

BURUNDI: Bururi, 1, R.P. GIRAUDIN (MRAC).

MALAWI: Mlanje, 6 I 1913, 1, 7 III 1913, 1, S.A. NEAVE (BMNH).

MOZAMBIQUE: Quilimane, I-III 1899, 1 (ZMHU); Pueji, 2 (ZMHU).

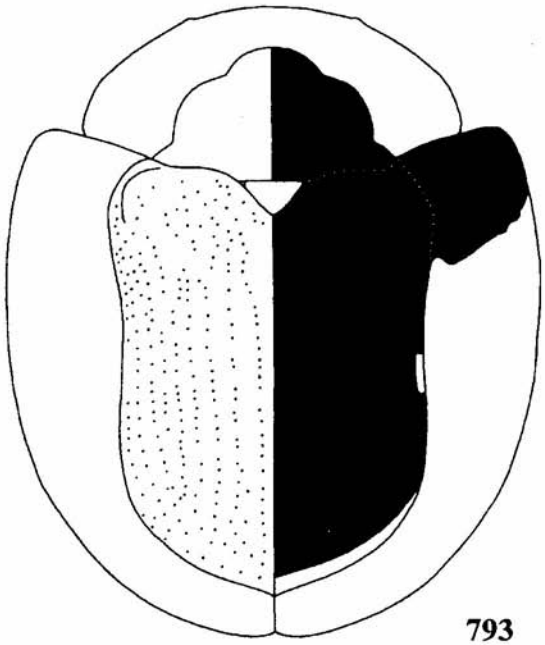
TANZANIA: Arusha, Kilimandj., 1 (holotype of *A. kilimana*, ZMHU); Bagamoyo, 1 (HNHM), 3. coll. DONCKIER (MM); Dar-es-Salaam, 1891, 1, v. Linnaea (ZMHU); Kigonsera, 1906, 1 (ZSM); Kikogwe, 1 (LB); Lindi, 1 (LB); Litema Gbg., 2, BÖTTCHER (ZMHU); Lukuledi, 2 (ZSM); Mikindani, 1 (LB); N Nyassa L., Kondoland, XI 1899, 1, FÜLLEBORN (ZMHU); N Nyassa, Langenburg, 12-15 II 1899, 1, FÜLLEBORN (ZMHU); Tendaguru-Lindi, XII 1909-I 1910, 1, JANENSCH (ZMHU); Uheheland, Kidugala, 1 (ZMHU); Zanzibar, 1, coll. DONCKIER (MM).

VARIA: Afr. or., 1, BENIGS. (holotype of *A. mrogorensis*, ZMHU); Zanguebar, 1 (ZMHU).

Aspidimorpha (s. str.) *muehlei* n. sp.

ETYMOLOGY

Dedicated to H. MÜHLE, who collected the holotype.



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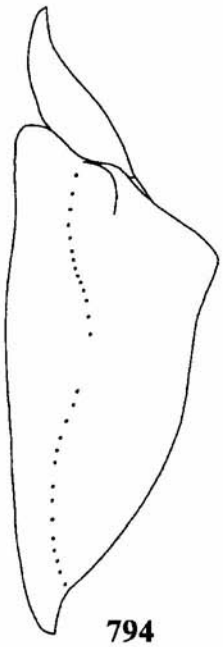

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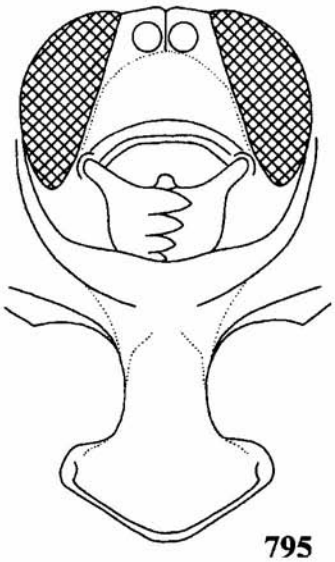

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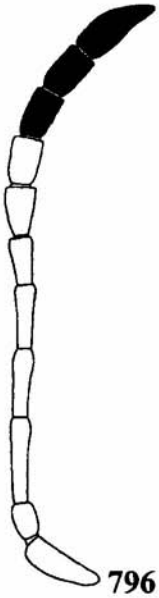

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793-798. *Aspidimorpha muehlei*: 793 - body in dorsal view, 794 - body in profile, 795 – head and prosternum, 796 – antenna, 797 – inner side of claw, 798 – outer side of claw

DESCRIPTION

Le: male and female: 9.2-10.1 mm, Wi: male and female: 7.8-8.5 mm, Lp: male and female: 2.7-3.1 mm, Wp: male and female: 5.8-6.2 mm, Ex: male and female: 1.9 mm, Wd: male and female: 4.4-4.8 mm; Le/Wi ratio: male and female: 1.18-1.19, Wi/Wp: male and female: 1.34-1.37, Wp/Lp: male and female: 2.00-2-15. Body almost circular (fig. 793).

Pronotal disc black, explanate margin yellow. Elytral disc black except extreme apex, sometimes in front of the postscutellar tubercle and in the middle of marginal interval small, yellow spot, explanate margin yellow with black humeral spot. Scutellum yellow. Clypeus yellow, pro-, meso- and metasternum except lateral plates black, abdomen yellow. Antennae yellow, three last segments, except ventral part of apex of last segment and sometimes base of segment 9, black.

Pronotum broadly ellyptical, with maximum width in 4/5 length, sides narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, sometimes impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri rounded, elytral margins simple. Disc with moderately large, conical postscutellar tubercle (fig. 794). Principal impressions deep, posterolateral impressions distinct. Puncturation of disc moderate, regular, on slope distinctly smaller than in anterior half of disc, in sutural half of disc smaller than in lateral part of disc. Scutellar row with 5-6 punctures. Punctures in rows dense, disposed almost regularly, distance between punctures as wide as to twice wider than puncture diameter only in submarginal rows distance between punctures slightly finer than puncture diameter. Rows slightly impressed but surface of disc regular. Punctures in marginal row deep, c. twice larger than in central rows. Intervals flat, in sutural half three, in lateral half of disc 1.5-2.0 times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, moderately declivous, impunctate, its surface smooth and shiny. Apex of elytral epipleura with sparse, long, erected hairs.

Head moderately broad, clypeus 1.6 times wider than long (fig. 795), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/3 length. Antennae moderately elongate (fig. 796), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:47:110:90:83:57:67:70:63:67:100.

Claws pectinate on both sides, inner pecten moderately long, with four teeth extending to 1/4 length of claw, two external teeth equal in length, internal third c. twice shorter, fourth very small, hardly visible (fig. 797). Outer pecten with two teeth, c. twice shorter than in inner pecten (fig. 798).

Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

Zaire (fig. 786).

REMARKS

It belongs to the *mutata* species group, the subgroup of moderately large species with moderately large but sharp, conical postscutellar tubercle. A similar postscutellar tubercle occurs also in *A. dilecta*, *A. togoensis*, *A. vernicata*, *A. laevigata*, *A. obtusangula*, *A. semiramosa*, *A. splendidula*, *A. submutata* and *A. obuduensis*. It differs rom all these species, except *A. obuduensis*, in mostly black pronotal disc and almost completely black elytral disc. *A. obuduensis* which has also mostly black pronotal and elytral disc differs in explanate margin of elytra largely black with large yellow window (in *muehlei* only black humeral spot), very fine elytral puncturation (in *muehlei* moderate), smaller size (8 mm, in *muehlei* 9.2-10.1) and extremely short pecten of claws extending only to 1/6-1/5 length of claw (1/4 in *muehlei*).

MATERIAL EXAMINED

ZAIRE: holotype, Kivu, Irangi, 24 IV 1983, 1, H. MÜHLE (LB); paratype: Lubutu-Masua, 1 (LB).

Aspidimorpha (s. str.) *mutata* BOHEMAN, 1854

Aspidomorpha mutata BOHEMAN, 1854: 311 (LT in NRS, PLT in MNHN, NRS); 1856: 114; 1862: 279; SPAETH, 1903: 177; 1916: 40, 1924: 289; 1925: 2; 1929: 159; 1934: 383; 1943: 51; SHAW, 1955: 234; 1961: 17; 1963: 459; 1968 a: 370; 1968 b: 781; 1972: 63; BOROWIEC, 1985 b: 444.

Aspidomorpha (*Aspidomorpha*) *mutata*: SPAETH, 1914 b: 76.

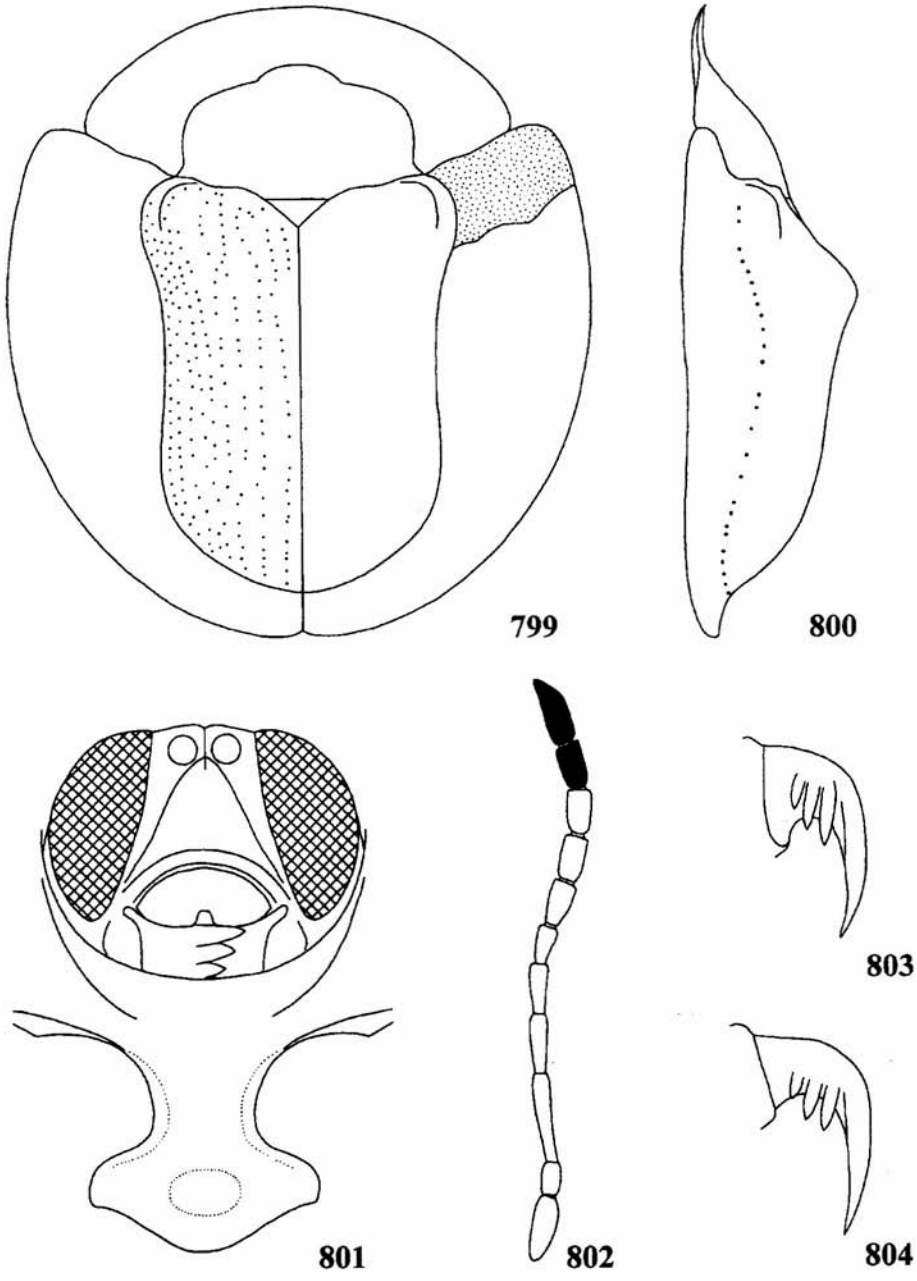
Aspidomorpha mutata ssp. *transversicollis* SPAETH, 1934: 384 (ST in MM).

Aspidomorpha insidiosa THOMSON, 1858: 229 (type in MM?); BOHEMAN, 1862: 282; SPAETH, 1914 b: 76 (as syn. of *mutata*), 1924: 289.

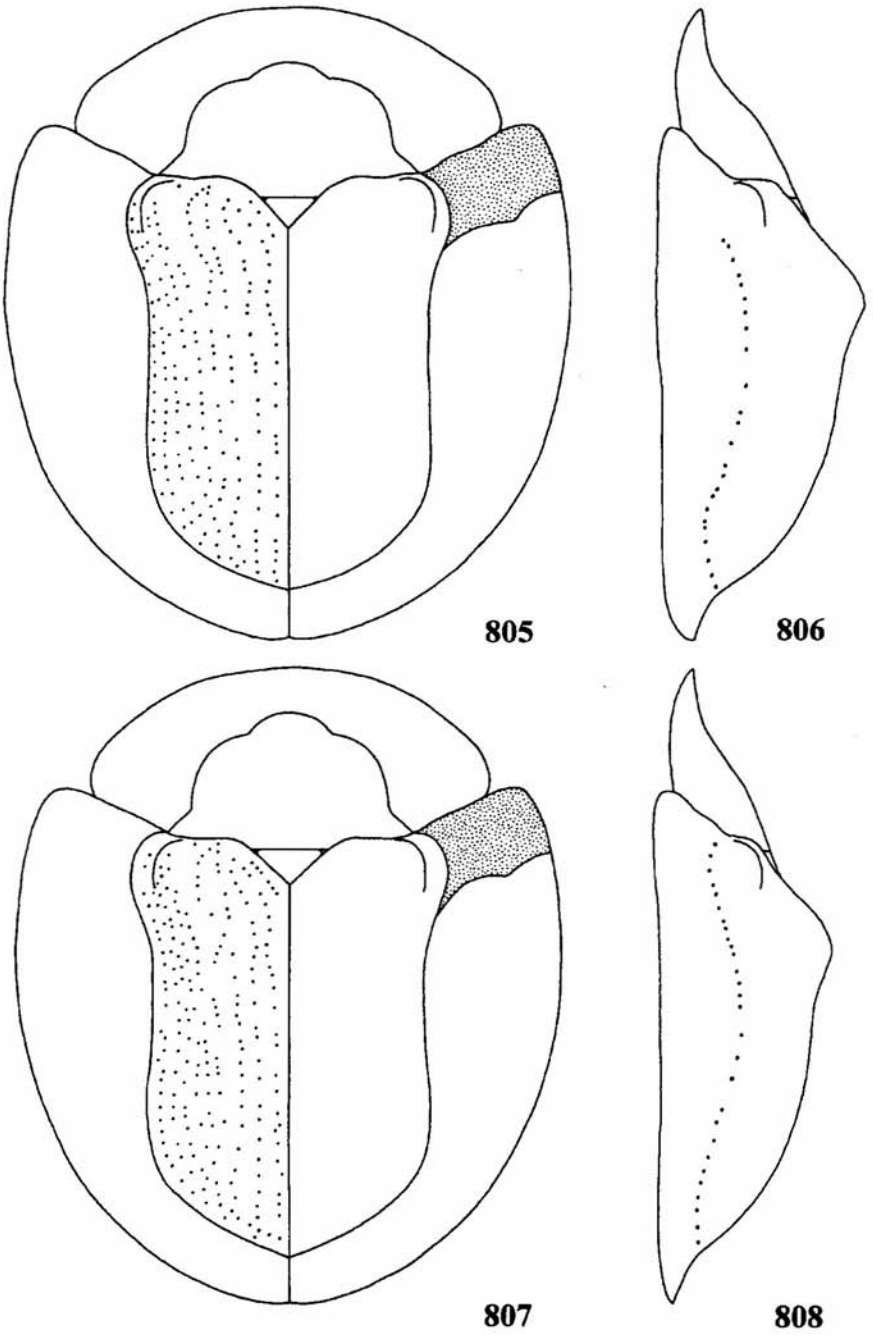
DESCRIPTION

Le: male and female: 6.1-9.4 mm, Wi: male and female: 5.6-8.7 mm, Lp: male and female: 2.0-3.0 mm, Wp: male and female: 4.0-6.2 mm, Ex: male and female: 1.4-2.2 mm, Wd: male and female: 2.4-4.3 mm; length/Wi ratio: male and female: 1.08-1.11, Wi/Wp: male and female: 1.33-1.43, Wp/Lp: male and female: 2.00-2.28. Body almost circular (figs 799, 805, 807)

Pronotum uniformly pale yellow to yellow. Elytra pale yellow to yellow with yellowish-brown to reddish-brown humeral spot (figs 813-818). Punctures of elytral disc usually marked with brown. Often submarginal interval darker yellowish-red to yellowish-brown, occasionally whole disc and humeral spot brown. Scutellum yellow. Ventrites uniformly yellow. Antennae yellow, usually two last segments, except ventral part of apex black, sometimes base of segment 10 yellow, occasionally apex of segment 9 black or only last segment black.



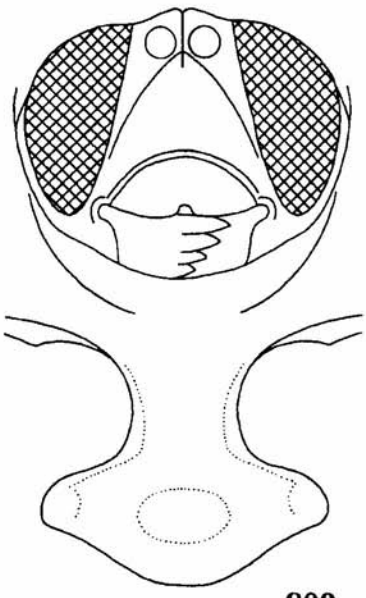
799-804. *Aspidimorpha mutata*, typical form: 799 - body in dorsal view, 800 - body in profile, 801 – head and prosternum, 802 – antenna, 803 – inner side of claw, 804 – outer side of claw



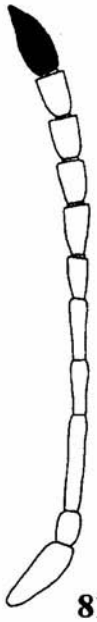
805-808. *Aspidimorpha mutata*, mountain form from E Zaire: 805, 807 - body in dorsal view, 806, 808 - body in profile: 805-806 - male, 807-808 - female

Pronotum broadly ellyptical, with maximum width in 3/5 length, sides narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, sometimes impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri subrounded to rounded, elytral margins simple. Disc with small, obtuse postscutellar tubercle (figs 800, 806, 808). Principal impression small and shallow, sometimes hardly marked, no posterolateral impression. Puncturation of disc fine, regular, on slope distinctly finer than in anterior half of disc, sometimes hardly marked, in sutural half of disc finer than in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-4, distance between punctures or their groups two to five times larger than puncture diameter. Rows not impressed, surface of disc regular. Punctures in marginal row deep, c. three to four times larger than in central rows. Intervals flat, in sutural half four to five, in lateral half 1.5-2.0 times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, subhorizontal, impunctate, its surface smooth and shiny. Elytral epipleura bare in both sexes.



809



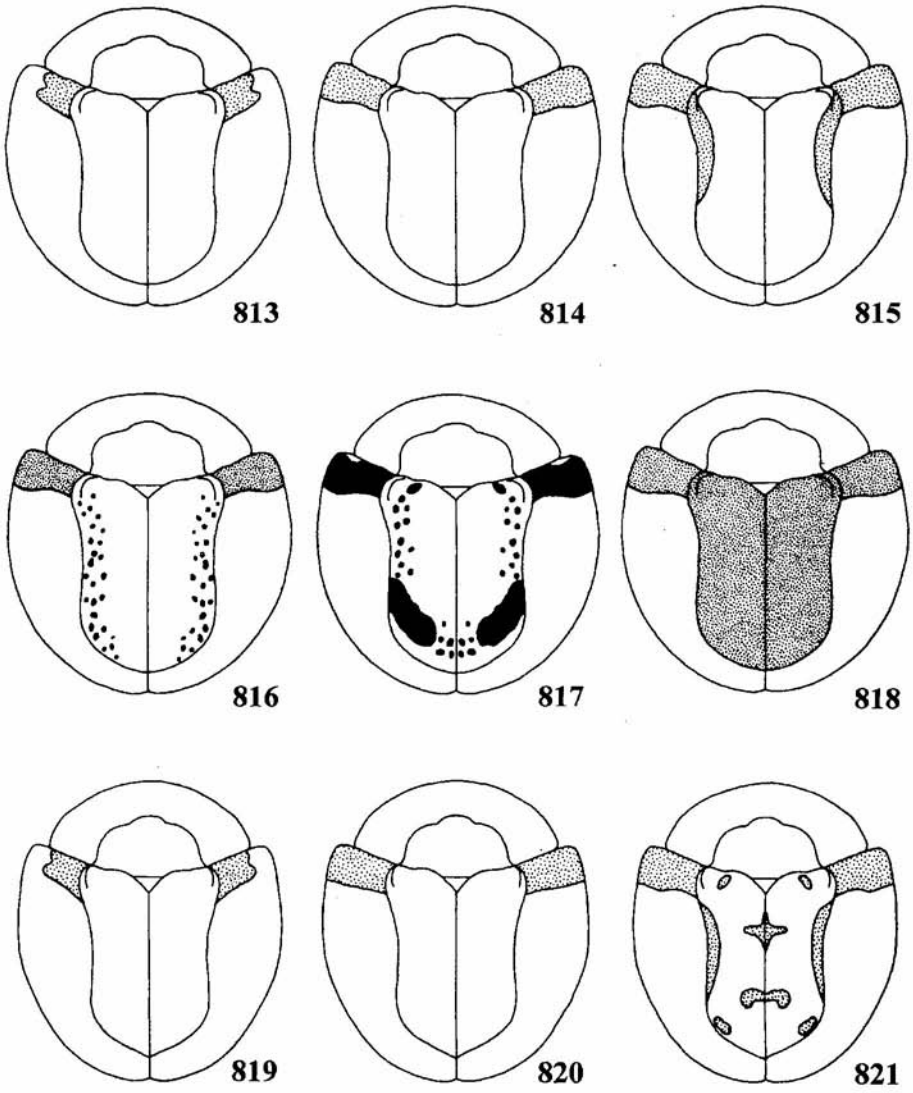
810

811

812

809-812. *Aspidimorpha mutata*, mountain form from E Zaire: 809 – head and prosternum, 810 – antenna, 811 – inner side of claw, 812 – outer side of claw

Head moderately broad, clypeus c. 1.3-1.4 times wider than long (figs 801, 809), glabrous, slightly elevated before antennal insertions, without median impression. Labrum emarginate to 1/4 length. Antennae moderately elongate (figs 802, 810), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:44:140:80:72:44:56:44:52:48:96.



813-821. Variation of dorsal maculation: 813-818 - *Aspidimorpha mutata*, 819-821 - *A. submutata*

Claws pectinate on both sides, inner pecten long, with three teeth, first extending to 2/5 length of claw, remaining gradually shorter (figs 803, 811). Outer pecten with two teeth, c. twice shorter than in inner pecten (figs 804, 812).

Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

Widespread in West and Central Africa (fig. 822).

REMARKS

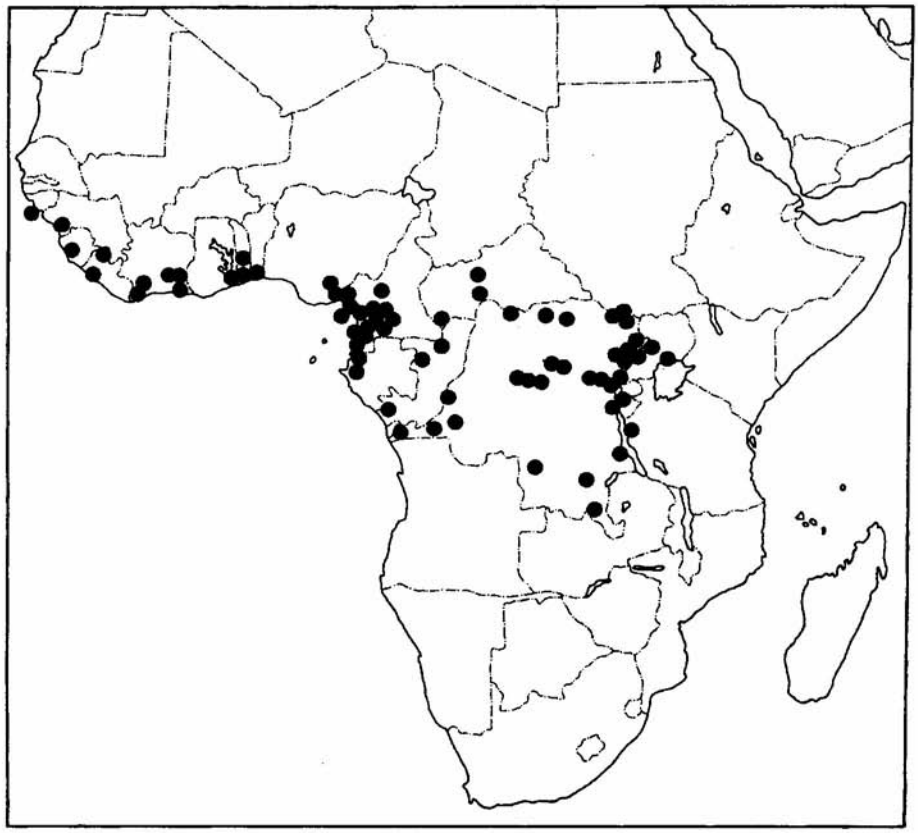
It belongs to the *mutata* species group. It is the smallest and the commonest species of the group, with moderately large and obtuse postscutellar tubercle. Other species with obtuse postscutellar tubercles are *A. uelensis*, *A. orbifera*, *A. atrodorsata* and *A. adjecta*. The first two species distinctly differ in larger size, elytra usually with dark brown to black pattern and especially in extremely short pecten of tarsal claw extending only to 1/6 length of claw (2/5 in *mutata*), *A. orbifera* differs also in the absence of humeral spot. *A. atrodorsata* differs in elytral disc mostly brownish-black (in *mutata* never brownish-black), explanate margin of elytra without spots (in *mutata* with humeral spot) and in extremely short pecten of tarsal claw extending only to 1/6 length of claw (2/5 in *mutata*). *A. adjecta* is the most similar but differs in elytral patter forming a dark ring on elytral disc (in *A. mutata* usually elytral disc is immaculate or brown forms irregular spots or bands along sides of disc. *A. adjecta* maybe only an extremely dark form of *A. mutata*. An another problem is the occurrence in mountains of eastern Zaire populations of *A. mutata* slightly larger than in other parts of the range and with distinctly smaller postscutellar tubercle (like in *A. orbifera* but slightly larger); they often have only last antennal segment black while in this species usually last two segments are black. Other characters (puncturation, colour variation, tarsal claws) are identical like in other populations. In my opinion it is only a mountain form of *A. mutata*, but this problem needs verification based on field studies.

MATERIAL EXAMINED

BENIN: Athieme, 1 (MNHN); Dahomey, 1, ZAGNAN (ZMHU).

CAMEROON: Batanga, IV 1910, 1, 20 IV 1910, 3, I 1911,1, 30 I 1911, 3, II 1911, 2, IV 1911, 5, V 1911, 15, VI 1911, 9, IV 1912, 1, IV 1913, 1, VI 1913, 1, A.I. GOOD (CMNH), III 1914, 3, IV 1914, 9, V 1914, 2, F.H. HOPE (CMNH); Bipindi, IV 1897, 1 (ZMHU); Doumé, III 1960, 1 (MRAC); Dschang, 1400 m, XI 1912, 1, v. ROTHKIRCH (ZMHU); Duala, 19 XI 1910, 1, E. HINTZ (FMNH), 1939, 1, LEPESME, PAULIA & VILLIERS (MNHN); Edea, 20 III 1922, 3, 13 IV 1922, 1, 14 IV 1922, 1, 5 VI 1922, 1, 6 VI 1922, 1, 10 VI 1922, 1, 28 VIII 1922, 1, J.A. REIS (CMNH); Efulen, III 1910, 1, I 1911, 1, XI 1912, 1, J.A. Reis (CMNH), 1 I 1918, 1, 4 I 1918, 1, VI 1920, 1, VIII 1920, 4, VI 1922, 2, 3 VI 1922, 1, IV 1923, 1, H.L. WEBER (CMNH); Ekok, 4 (ZMHU); Japoma, 1, SCHÄFER (ZMHU); Elat, X 1930, 1

(CMNH); Jaunde, 2, ZENKER (ZMHU), IV-V 1897, 4, VI-VIII 1897, 2, ZENKER (ZMHU), X 1914, 1, TESSMANN (ZMHU), I III 1923, 2, 27 III 1923, 1, 31 III 1923, 1 (CNMH), X 1923, 2 (IRSN); Joh.-Albrechtshöhe, 7 X -22 XI 1898, 1, L. CONRADT (ZMHU); Joko, 1 (ZMHU), XII, 1, L. RODIN (ZMHU); Kribi, 3, CARRET (MRAC), 1925, 1, GROMIER (MNHN); Lolodorf, 1 (ZMHU), 8 II-27 III 1895, 4, L. CONRADT (ZMHU), 24 V 1914, 1, 7 II 1918, 1, J.A. REIS (CMNH), V 1923, 1, VI 1925, 1, X 1926, 1, A.I. GOOD (CMNH); Longji, 1, H. PASCHEN (ZMHU); Mabete, Victoria, 24 V-7 VI 1949, 2, B. MALKIN (CAS); Moliwe, 13 IV 1938, 1, Buhr (ZMHU); Mont Balmayo, 1, J. CANTALOUBE (MRAC); Mont Cameroon, Sasse near Buea, II 1951, 1, S. TITA (CAS); Mueli, Mt. Kamerun, II 1958, 2, W. HARTWIG (MKB); Nkolbisson, Dept. Nyong-Sanaga, IX 1963, 1, L.G. SEGERS (MRAC); Nkolbisson, Yaounde-Bi, 16 II 1963, 1, L. SEGERS (ZSM); Pipinde, 4, ZENKER (ZMHU); Sappo n. Buea, III 1951, 1, IV-V 1951, 1, S. TITA (CAS); Sardi n. Dengdeng, 3 IV 1914, 1, MILDBRAED (ZMHU); Sasse-Sappo, 20-31 I 1952, 1,



822. Distribution of *Aspidimorpha mutata*

S. TITA (CAS); Soppo, II 1913, 1, v. ROTHKIRCH (ZMHU); Victoria, 1, STRUNK (ZMHU); Victoria, Batoki, II 1954, 3, EISENTRAUT (SMNS).

EQUATORIAL GUINEA: Benito, 1, HOLLAND (CMNH); Fernando Poo, IV 1900, 1, L. CONRADT (ZMHU); Fernado Poo, St Isabel, 1 VI 1900, 2, 25 VI 1900, 1, L. CONRADT (ZMHU).

GABON: Bas-Ogoué, 11 (IRSN); Bas-Ogoove, Entre Lambaréné et la Mer, 1901, 1, E. HAUG (MNHN); Fernan Vaz, 1 (ITZ); Gabon, 2 (IRSN), 1 (LU); Lambarene, V 1892, 1, A.C. GOOD (CMNH); Libreville, 2 (SD); Ogové R., Kangvé, 65, A.C. GOOD (CMNH); Ogowe, 1, M. SCHMIDT (ZMHU).

GHANA: Volta Reg., Amedzofe, 31 VIII 1967, 1, S. ENDRÖDY-YOUNGA (HNHM).

GUINEA: Coyah, III 1963, 2, 24 X 1967, 1, K. FERENCZ (HNHM); Coyok, 2 X 1971, 1, K. FERENCZ (HNHM); Guinea, 1, "WESTERMANN" (lectotype of *Aspidomorpha mutata*, present designation, NRS).

GUINEA BISSAU: Bubaque, VI 1956, 1, BENASSI (PMNH).

IVORY COAST: Abidjan, 16 IV 1973, 1 (RB); Dimbokro, 4 (IRSN); San Pedro Reg., 1900, G. THOIRE (MNHN); Sassandra Riv., XII 1930-IV 1931, 1, ALLUAUD & CHAPUIS (MNHN).

LIBERIA: Monrovia, 22 VI 1958, 1, E.S. Ross and R.E. LEECH (CAS); 36 mls S of Voinjama, 13 VIII 1966, 1, E.S. ROSS and K. LORENZEN (CAS);

NIGERIA: Enugu prov., Kunanaw, 23 VIII 1963, 1, R. MEYER (ZSM); SE State, 21 III 1971, 1, J.T. MEDLER (MRAC).

REPUBLIC OF CENTRAL AFRICA: Fort Crampel, 10 (IRSN), 1 (ZMHU); Fort Sibut, Oubanghi-Chari, 1968, 1 (MRAC); Nola, 1 (IRSN).

REPUBLIC OF CONGO: Chutes de Sanilia, Riv. N'Gamie, 1, (ZMHU); Ouesso Reg., N'Goko-Sanga, 1906, 1, J. GRAVOT (MNHN).

RWANDA: Cyangugu Prov., Nyakabuye, 2, H. MÜHLE (MD).

SIERRA LEONE: Mayamba, 3, coll. LE MOULT (IRSN); Rhobomye, 1 (ZMHU); Sierra Leone, 1 (FMNH).

TANZANIA: Kigoma, Kefu Forest, I 1974, 1, J. KIELLAND (NNML).

TOGO: Bismarckburg, 13 XI 1892, 1, L. CONRADT (ZMHU); Misahöhe, 24 V 1894, 1, F. BAUMANN (ZMHU); Mt. Agou, 26 VI 1988, 1, F.-T. KRELL (SMNS).

UGANDA: Buamba Forest, Semliki Vall., 2300-2800 ft., 2-7 XI 1911, 1, S.A. NEAVE (BMNH); Budongo Forest, 27-28 VIII 1971, 1, H. GØNGET (ZMC); Fort Portal, 15 km E Sebitoli, 1400 m, 23 XI-5 XII 1994, 3, M. SNIZEK (MS, LB); Kampala, 15-31 I 1915, 1, C.C. GOWDEY (BMNH); Mabira Forest, Chagwe, 3500-3800 ft., 16-25 VII 1911, 1, S.A. NEAVE (BMNH); Mabira, 1 (IRSN); Masindi Distr., Budongo Forest n. Sonso, 1°45'N, 31°35'E, 19-30 VI 1995, 1, T. WAGNER (TW).

ZAIRE: Albert Nat. Park, SL Eduard, Katakunda, 5 III 1936, 1, L. LIPPENS (MRAC); Albert Nat. Park, Massif Ruwenzori, Mont, Teya, 1800 m, 19 V 1951, 1, R. CHRISTIAENS (MRAC); Albert Nat. Park, Mont Hoyo, Camp Ruscart, 1200 m, 13-24 VII 1955, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mont Hoyo, riv. Kofuhola, affl. Kalakala, 1285 m, 25 VII-10 VIII 1955, 1, P. VANSCHUYTBROECK

(MRAC); Albert Nat. Park, Mont Hoyo, grotte Yolohafiri, 1030 m, 25-28 VII 1955, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mutsora, 1939, 65, HACKARS (64 MRAC, 1 ER); Albert Nat. Park, Reg. Oycha, 1100 m, IV-V 1950, 1, J. DE WILDE (MRAC); Albert Nat. Park, W Ruwenzori, IV 1937, 1, HACKARS (MRAC); Albert Nat. Park, Ruwenzori, Mutawanga, XI 1936-II 1937, 3, II-III 1937, 4, HACKARS (MRAC); Albert Nat. Park, Secteur Nord, riv. Lesse, affl. g. Semliki, 695 m, 9 VII 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Mulingo, sect. Kitura, rég. Baniangala, 1350 m, 9 VII 1954, 1, P. VANSCHUYTBROECK and H. SYNAVE (MRAC); Albert Nat. Park, Secteur Nord, riv. Ngokoi, affl. Talya, 1100 m, 27 V 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Sud, Mbungwe, env. Rumangabo, 1500 m, 5 IV-13 VIII 1957, 1, C. DOUIS (MRAC); W Albert-See, Mawambi, Ituri, IV 1908, 1, A. HERZOG (ZMHU); Bambesa, 26 I 1939, 2, V 1939, 1, 7 VI 1939, 1, J.M. VRIJDAGH (3 IRSN, 1 MRAC); Banzyville, IV 1897, 1, HERMANS (IRSN); Batasiala, 19 V 1926, 1, A. COLLART (IRSN); Biruwe-Buhunde, 17 IX 1929, 2, A. COLLART (IRSN); Biruwe n. Matenda, 33 IX 1929, 1, A. COLLART (IRSN); Bokalakala, Bolobo, 1954, 1, R.C. ELOY (MRAC); Buhunde-Matenda, 22 IX 1929, 2, A. COLLART (IRSN); Buhunde-Okondo, 18 IX 1929, 1, A. COLLART (IRSN); Chiloango, 1, M. TSCHOFFEN (IRSN); Doedoe, 20 VI 1924, 1, LAAN (ITZ); Elisabethville, I 1939, H.J. BRÉDO (IRSN); Epulu, 950 m, 2 X 1957, 1, E.S. ROSS and R.E. LEECH (CAS) ; Equateur, Masanga, Terr. Bokungu, Tschuapa, 2, MASSART (IRSN); Faradje, Gaduma-Mala, 12 II 1930, 1, 13 III 1930, 2, A. COLLART (IRSN); Irangi, IX 1992, 1, H. HINKEL (TW); Ituri, Mt. Hoyo, 1250 m, 2 X 1957, 1, 5 X 1957, 1, E.S. ROSS and R.E. LEECH (CAS); Kangu Mayombe, 1, PEREGI (HNHM); km 153 on Kavumu Walikale Route, 700 m, 16 IX 1957, 1, E.S. ROSS and R.E. LEECH (CAS); Kibale, Ituri, Kilomines, IV 1957, 1, V 1957, 1, IX 1957, 1, C. SMOOR (MRAC); Kivu, Irangi, 1-2 II 1986, 2, H. MÜHLE (MD); Kituru n. Kakolo, 2 X 1929, 1, A. COLLART (IRSN); Kivu, Irangi, 24 VIII 1985, 1, H. MÜHLE (HK); Kivu, Kibumba, 7 IX 1932, 2, L. BURGEON (lectotype of *A. mutata* ssp. *transversicollis*, present designation, MRAC, paralectotype, present designation, MM); Kivu, Rutshuru, riv. Musugereza, 9 VII 1935, 1, G.F DE WITTE (IRSN); Kivu, Tshibinda, XI 1932, 3, L. BURGEON (paralectotypes of *A. mutata* ssp. *transversicollis*, present designation, 1, MRAC, 2 MM); Kivu, Vall. de la Ruzizi, Konambo, III 1959, 1, L.G. BENOIT (MRAC); Lubutu, 11 X 1929, 15 X 1929, 1, 1 (IRSN); Lubutu-Kituri, 6 IX 1929, 1, A. COLLART (IRSN); Lubutu-Obongena, 7 IX 1929, 4, A. COLLART (IRSN); Lulua, Kapanga, I 1934, 1, G.F. OVERLAET (MRAC); Mandimba-Masna, 26 IX 1929, 1, A. COLLART (IRSN); Mandimba-Uluku, 14 IX 1929, 1, A. COLLART (IRSN); Mpala, 2 (IRSN); Ngowa, 7 IV 1939, 1, J. MERTENS (IRSN); W Ruwenzori, Fort Beni, I 1908, 1, A. HERZOG (ZMHU); Samlia Fall, Riv. N'Game, 8 (IRSN); Stanleyville, 17 III 1928, 1, 18 VIII 1928, 1, 7 X 1928, 1, 23 XI 1929, 3, A. COLLART (IRSN); Thysville reg., Bas Congo, 1959-1963, 2, R. MICHAUX (MRAC); Tshuapa, Bokuma, XII 1951, 1, III 1952, 1, VII 1952, 2, R.P. LOOTENS (MRAC); Tshuapa, Ikela, 1955, 3, 1956, 2, IX 1956, 1, XI 1956, 2, R.P. LOOTENS (MRAC), III-VI 1956, 1, R. DEGUIDE (MRAC); B Uele,

Alipago, 8 V 1957, 1 (FMNH); B Uele, Beo, IV 1958, 2 (FMNH); Uele, fl. Duru, III 1927, 2, F.S. PATRIZI (Genua); B Uele, Kaibi, 25 VII 1958, 1 (FMNH); 39 km S of Walikale, 700 m, 25 XII 1957, 2, E.S. ROSS and R.E. LEECH (CAS), Yangambi, Stanleyville, IX-XII 1958, 1, J. DECELLE (MRAC).

VARIA: Old Calabar, 4 (IRSN).

Aspidimorpha (s. str.) *natalensis* BOHEMAN, 1854

Aspidomorpha natalensis BOHEMAN, 1854: 303 (LT and PLT in NRS); 1856: 113; 1862: 270; KOLBE, 1898: 344; MAULIK, 1916: 585; SHAW, 1956 a: 261.
Aspidomorpha (Aspidomorpha) natalensis: SPAETH, 1914 b: 76.

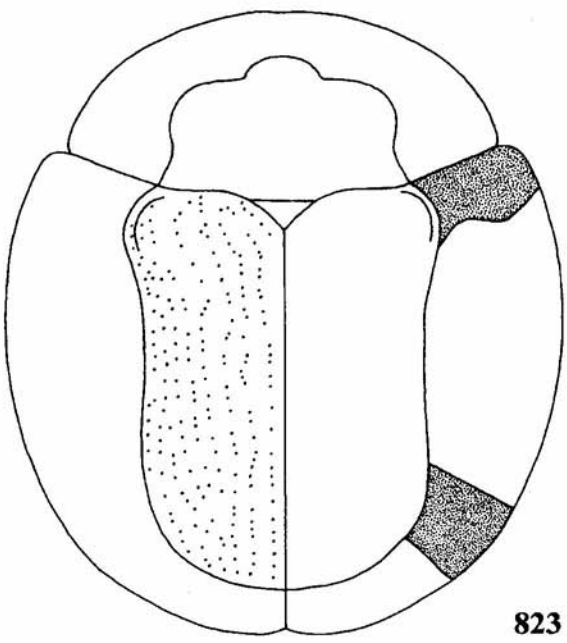
DESCRIPTION

Le: male: 9.1-10.1 mm, female: 9.5-10.6 mm, Wi: male: 7.7-9.1 mm, female: 7.7-9.2 mm, Lp: male: 3.0-3.5 mm, female: 3.2-3.5 mm, Wp: male: 6.1-7.0 mm, female: 6.5-7.2 mm, Ex: male: 1.7-2.3 mm, female: 1.7-2.1 mm, Wd: male: 4.2-4.7 mm, female: 4.5-4.9 mm; length/Wi ratio: male: 1.10-1.17, female: 1.15-1.23, Wi/Wp: male: 1.26-1.32, female: 1.18-1.28, Wp/Lp: male: 2.00-2.10, female: 2.03-2.09. Body almost circular (fig. 823).

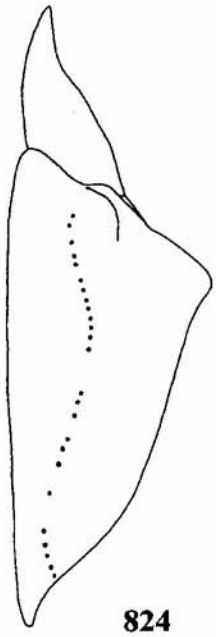
Pronotum uniformly yellow to pale argillaceous. Elytra yellow with a rather constant pattern. Disc argillaceous, each puncture usually with darker, reddish to brown centre, explanate margin with argillaceous, reddish-brown to brown broad humeral and posterolateral spot, usually without sutural spot or it is very narrow. Occasionally whole elytral disc chocolate brown and explanate margin with humeral and posterolateral spots of the same colour. Margins of explanate margin of elytra slightly darker than ventral part of the explanate margin. Only occasionally elytral disc yellow to argillaceous with several brownish spots disposed irregularly on whole disc, in extreme cases disc dark brown with several yellow spots: three at base of elytron, two on anterior side of elytral tubercle, one behind the tubercle close to suture and one in 3/4 length of sutural interval. Scutellum yellow to argillaceous. Ventrites usually uniformly yellow, only in some specimens from Malawi pro- and mesosternum and metasternum except sides black, and abdomen with sternites in the middle with a pair of brown to black spots. Antennae yellow, two last segments black, except yellow underside of the apex of last segment. Legs including coxae yellow.

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, in females slightly, in males moderately wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, with large postscutellar tubercle, profile distinctly concave behind the top of convexity (fig. 824), discal surface without or with indistinct



823



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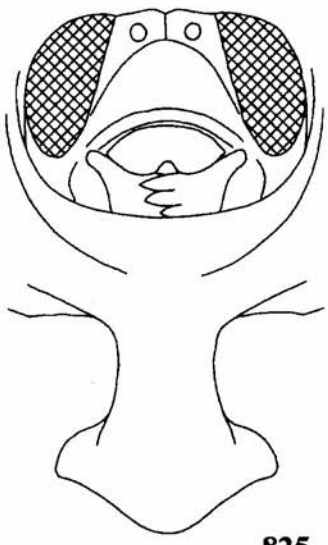

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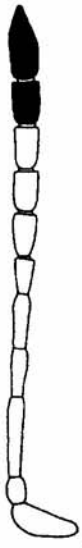


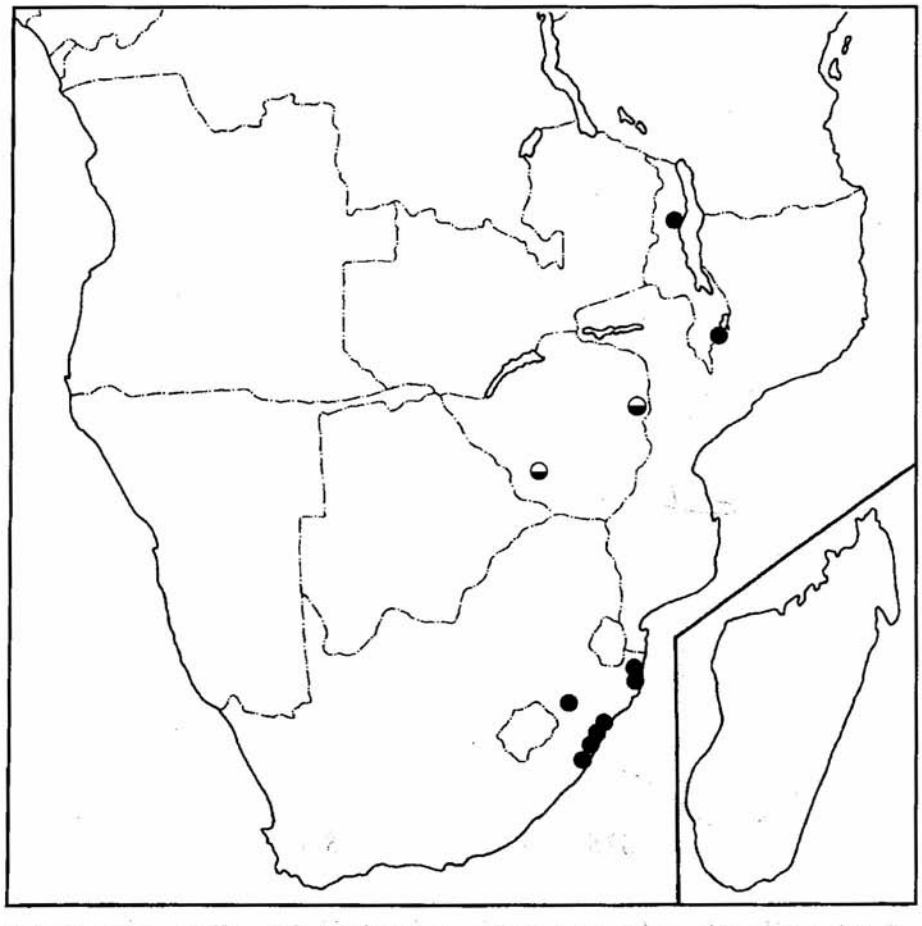
826

827

828

823-828. *Aspidimorpha natalensis*: 823 - body in dorsal view, 824 - body in profile, 825 - head and prosternum, 826 – antenna, 827 – inner side of claw, 828 – outer side of claw

principal impression, shallow scutellar impressions, without posterolateral impression, surface of lateral part of disc usually slightly irregular. Puncturation of disc fine, regular, on slope not finer than in anterior half of disc, in sutural half of disc at most twice finer than in lateral part of disc. Scutellar row with 4-6 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-4, distance between punctures or their groups three to five times larger than puncture diameter. Rows not impressed. Punctures in marginal row deep, only twice larger than in central rows. Intervals flat, in sutural half of disc c. four times, in lateral half twice to thrice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low, sometimes indistinct. Explanate margin very broad, subhorizontal to horizontal with tendency to form a gutter, especially in males, impunctate, its surface slightly irregular. Elytral epipleura bare in both sexes.



829. Distribution of *Aspidimorpha filiola* (white above black circles) and *A. natalensis* (black circles)

Head very broad, clypeus c. 1.8 -1.9 times wider than long (fig. 825), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 826), extending to mid coxa, length ratio of antennal segments: 100:50:155:72:94:56:77:64:69:67:117.

Claws pectinate on both sides, inner pecten long, with five teeth extending to c. 1/2 length of claw (fig. 827), outer pecten with three teeth, first extending to 1/3 length of claw, remainder gradually smaller (fig. 828).

Sexual dimorphism indistinct. Male slightly stouter, with base of elytra slightly wider in relation to base of pronotum than in female, with last antennal segment slightly longer than in female.

HOST PLANT

Convolvulaceae: *Ipomoea ficifolia* (HERON & BOROWIEC 1997).

DISTRIBUTION

Malawi and South Africa (fig. 829).

REMARKS

It is a member of the *quadriramosa* group, the only one distributed in South Africa north to Malawi. It distinctly differs from congeners in conical postscutellar tubercle combined with uniformly yellow ventrites (only two examined specimens have thorax partly black). At first glance *A. lynesi* from Tanzania is the most similar but differs in ventrites mostly brown to black. *A. quadriramosa*, *fausta*, *procax* and *tuberosa* differ in base of elytra distinctly wider than base of pronotum (in *natalensis* in female base of elytra is only slightly, in male moderately wider than base of pronotum). *A. sankuruensis A. levissima* and *A. collarti* differ in extremely short pecten of tarsal claws extending at most to 1/6 length of claw (in *natalensis* to half length). *A. setosa* which has also ventrites uniformly yellow differs in antennae uniformly yellow or with only last segment infuscate at apex (in *natalensis* two last segments black). *A. andrei* and *A. sulfuripennis* differ in absence of posterolateral spot of explanate margin of elytra. *A. incerta* differs in low and obtuse postscutellar elevation.

MATERIAL EXAMINED

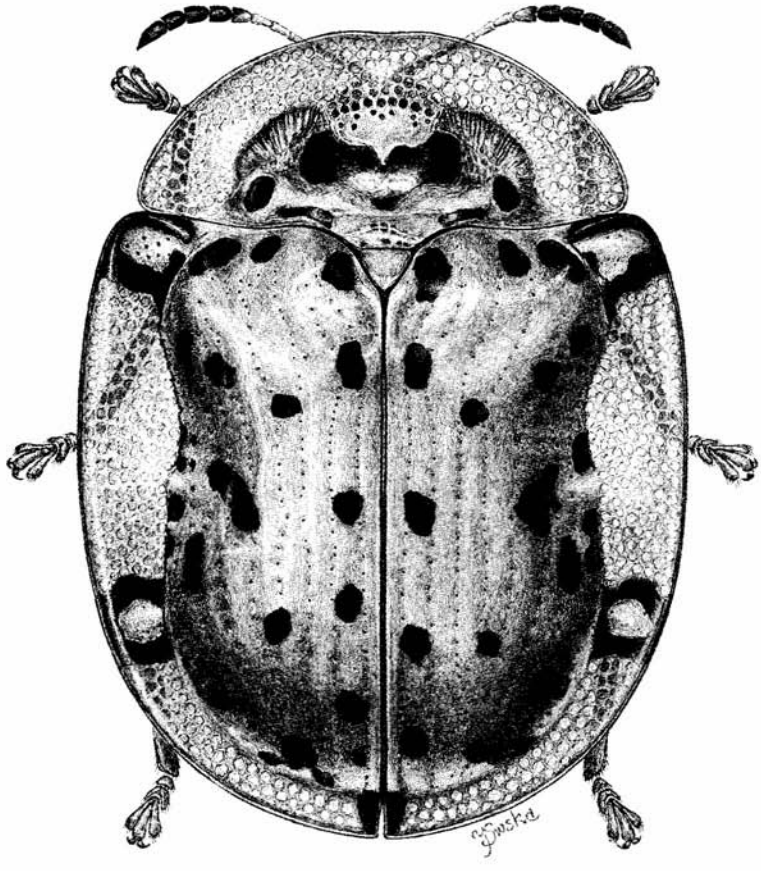
MALAWI: Mlanje, 20 V 1913, 1, S.A. NEAVE (BMNH); Viphya Mts, Chikangwa, II 1988, 1 (LB).

SOUTH AFRICA: Natal, 1, P. REINECK (ITZ); Natal, Durban, 6, P. REINECK (ZMHU), 1894, 1, C. N. BARKER (CTM), 2 X 1906, 1, G.F. LEIGH (TM), 4 X 1964, 1, C. ALLYN (FMNH); Natal, Frere, III 1892, 1, K. MARSHALL (CTM); Natal, Lake Sibaya, 10 XI 1984, C.L. BELLAMY and R.G. OBERPIELER (ER); Natal, Sordwana Bay, 8-10 XI 1984, 8, H. and A. HOWDEN (CMN), 1, C.L. BELLAMY (ER), 9-11 XI 1986, 3, D. d'HOTMANN (ER); Natal, Umkomaas, VII 1939, 1, A.L. CAPENER (TM); Pt. Nat., 3, I. VAHLB." (lectotype and two paralectotypes, present designa-

tion, NRS); Tongaat, 1909, 4, H. C. BURNUP (TM); Zululand, Lake Sibaya, 10 XI 1984, 1, BELLAMY and SCHOLTZ (TM); Zululand, Mapelane, 6 VIII 1975, 1, P.E. RAVEL (TM); Zululand, Sordwana Bay, 8-10 XI 1984, 1, BELLAMY and HOWDEN (TM).

Aspidimorpha (s. str.) *nigropunctata* (KLUG, 1835)

Cassida quadrimaculata OLIVIER, 1808: 945 (type in ?), not *C. quadrimaculata* DE GEER, 1775, not *C. quadrimaculata* THUNBERG, 1789.



830: *Aspidimorpha nigropunctata*, habitus (by J. ŚWIĘTOJAŃSKA)

Aspidomorpha quadrimaculata: BOHEMAN, 1854: 263, 1856: 107; WAGENER, 1880: 161; KOLBE, 1898: 343; WEISE, 1899: 260 (*4-maculata*), 1912: 159; SPAETH, 1906: 401; 1909: 278; 1912 b: 505; 1914 b: 40; 1916: 40, 1924: 281; 1929: 158; 1938: 61; 1943: 49; SHAW,1956 a: 262; 1956 b: 593; 1963: 459; 1968 a: 370; 1972: 65; BOROWIEC, 1985 a: 235; 1985 b: 444; 1986: 797.

Aspidomorpha (Aspidomorpha) quadrimaculata: SPAETH, 1914 b: 77.

Aspidomorpha 4-maculata ab. *signaticollis* WEISE, 1905: 334 (ST in ZMHU); SPAETH, 1909: 278; 1914 b: 41, 1916: 41.

Aspidomorpha (Aspidomorpha) quadrimaculata ab. *signaticollis*: SPAETH, 1914 b: 77.

Aspidomorpha quadrimaculata ssp. *signaticollis*: SHAW, 1972: 66.

Cassida nigropunctata KLUG, 1835: 47 (ST in ZMHU); BOHEMAN, 1856: 206, 1862: 488; SPAETH, 1914 b: 77 (as syn. of *quadrimaculata*).

Cassida tetraptera GERSTAECKER, 1884: 63 (type was preserved in Hamburg, destroyed during II World War); KOLBE, 1898: 345; SPAETH, 1906: 401 (as syn. of *quadrimaculata*).

Aspidomorpha (Conchyloctenia) tetraptera: SPAETH, 1902: 450.

Aspidomorpha Westermanni BOHEMAN, 1854: 262 (HT in NRS), 1856: 107; 1862: 259 (as syn. of *quadrimaculata*); GORHAM in GORHAM and GAHAN, 1892: 93; WEISE, 1896 c: 16.

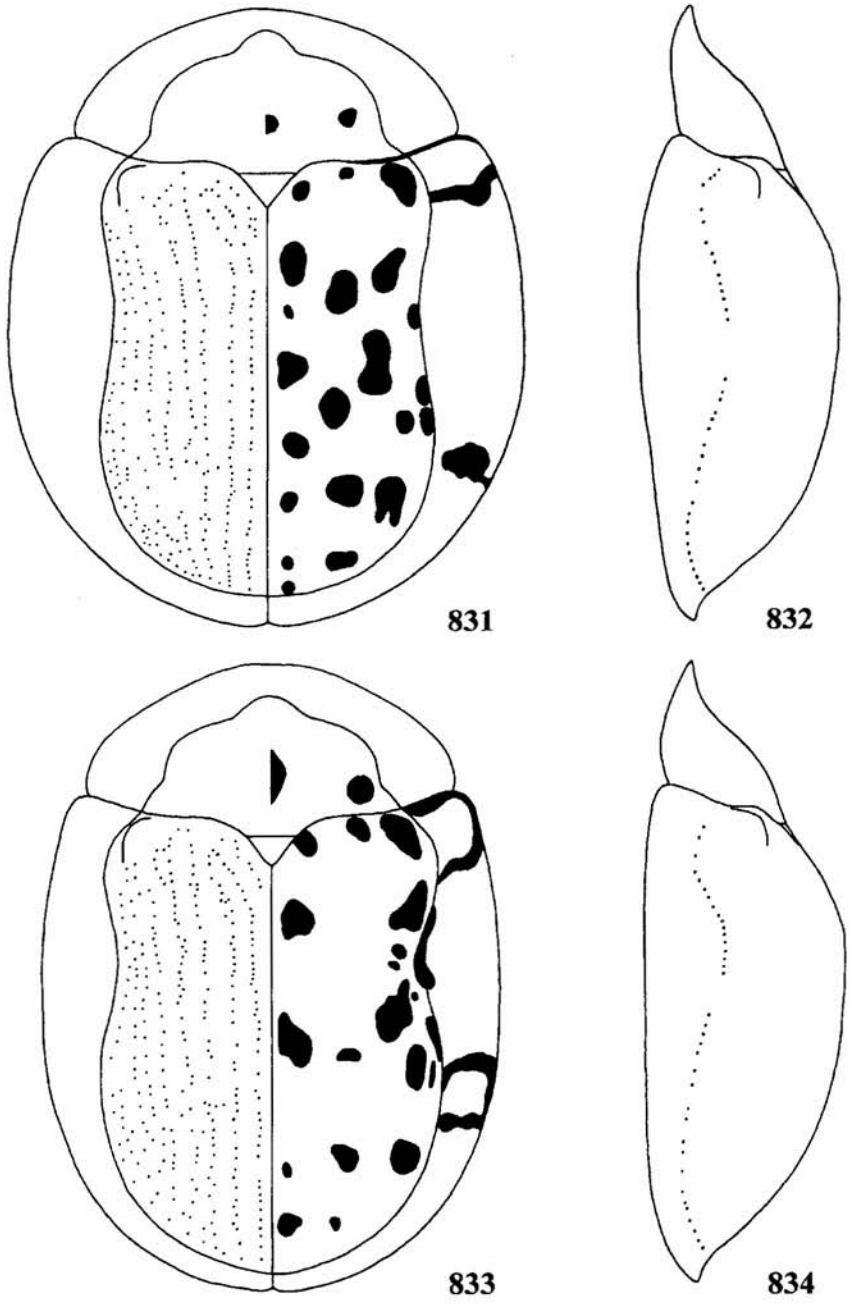
Aspidomorpha maculicollis LINELL, 1895: 696 (TE in USNM).

Aspidomorpha (Aspidomorpha) maculicollis: SPAETH, 1914 b: 76.

DESCRIPTION

Le: male: 9.9-12.0 mm, female: 9.8-13.8 mm, Wi: male: 7.6-9.8 mm, female: 7.2-10.4 mm, Lp: male: 3.1-3.4 mm, female: 3.1-3.9 mm, Wp: male: 6.3-7.3 mm, female: 6.0-8.0 mm, Ex: male: 1.6-2.1 mm, female: 1.5-2.0 mm, Wd: male: 5.0-6.1 mm, female: 5.0-7.2 mm; length/Wi ratio: male: 1.22-1.30, female: 1.29-1.36, Wi/Wp: male: 1.21-1.34, female: 1.20-1.34, Wp/Lp: male: 2.00-2.15, female: 1.94-2.03. Body short-oval (figs 830, 831, 833).

Very variable species (figs 839-847). Pronotum yellow, disc often with reddish V or M-shaped figure of indistinct borders and usually with three black, round or oval spots in transverse row in front of the base. Lateral spots sometimes obsolete, occasionally all spots reduced. Elytral disc yellow with numerous small, black spots of various size and number. In the darkest specimens spots on sides of disc mostly coalescent, forming an irregular band along side. In the palest specimens spots mostly reduced to six spots at base of elytra and two in postscutellar point. Between the palest and the darkest forms all intermediates have been observed. Explanate margin usually with broad humeral, posterolateral and sutural spots. In the most common form these spots have only borders black and centre yellow, often spots are uniformly black. In pale specimens spots usually are marked only on underside of explanate margin, sutural spot often completely reduced, occasionally humeral spot is reduced to a narrow line along anterior margin of explanate margin and posterolateral spot is reduced to small, round spot close to external margin of explanate margin. Clypeus yellow. Pro-, meso- and metasternum vary from yellow to mostly black, only lateral plates always yellow, in the palest specimens black is reduced to two transverse spots in front of posterior margin of metasternum. Abdomen in the palest specimens uniformly yellow, in the darkest one mostly black with yellow margins and apex, but usually mostly yellow with brown to black spots on sides and along base of

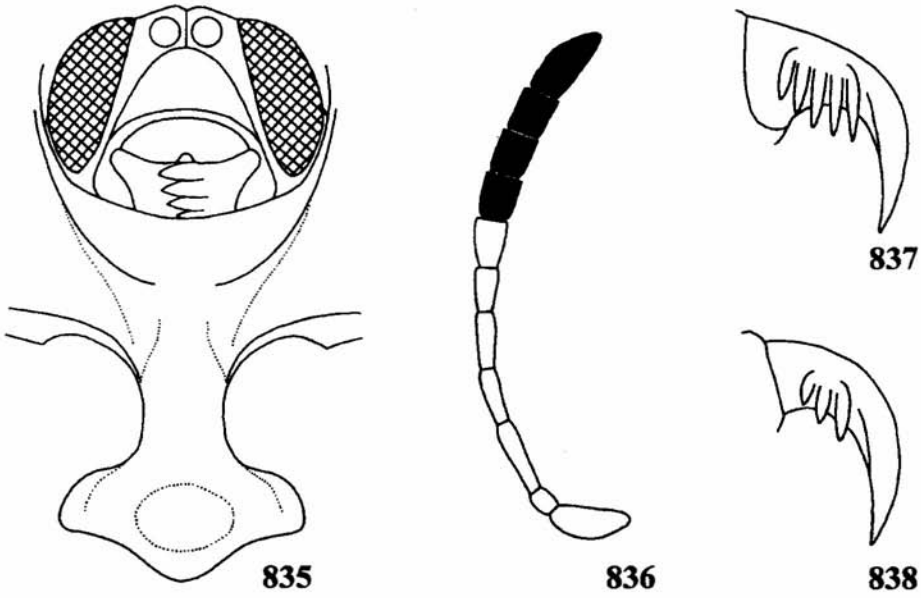


831-834. *Aspidimorpha nigropunctata*: 831, 833 - body in dorsal view, 832, 834 - body in profile: 831-832 - male, 833-834 - female

the last sternite. Legs, including coxae, uniformly yellow. Antennae mostly yellow, usually four last antennal segments black except yellow ventral side of apex of the last segment, occasionally also apex of segment 7 infuscate to black.

Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle of about 85°. Disc moderately convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, slightly to moderately wider than base of pronotum, elytral margins narrowly marginate. Disc regularly convex, with maximum convexity in postscutellar point (figs 832, 834), without impressions, or with shallow principal impression. Puncturation of disc regular, very fine, on slope only slightly finer than in anterior half of disc, in sutural half of disc as coarse as in lateral part of disc. Scutellar row with 6-10 punctures. Puncturation very fine, regular, punctures in rows moderately dense, disposed mostly regularly. Punctures in anterior part of disc only slightly larger than in slope, in marginal rows at most twice larger than in central rows. Marginal row deep, its punctures c. twice larger than in submarginal row. Intervals flat, in sutural half of disc five to six times wider than rows, on sides three to five times wider than rows, their surface smooth, shiny, with very small microreticulation, only in specimens from mountains surface slightly opaque. Explanate margin moderately declivous, impunctate,



835-838. *Aspidimorpha nigropunctata*: 835 – head and prosternum, 836 – antenna, 837 – inner side of claw, 838 – outer side of claw

smooth and shiny, only extreme margin has tendency to form a very narrow gutter. Elytral epipleura bare in both sexes.

Head broad, clypeus 1.9-2.0 times wider than long (fig. 835), dull, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 836), extending to mid coxa, length ratio of antennal segments: 100:43:100:67:67: 43:61:56:56:61:108.

Claws pectinate on both sides, inner pecten with four to five long teeth extending to 2/5-1/2 length of claw (fig. 837). Outer pecten with three short teeth, outer the largest, remainder gradually shorter, extending to c. 1/6 length of claw (fig. 838).

Sexual dimorphism indistinct. Males slightly stouter than females.

DISTRIBUTION

Almost whole Africa south of Sahara (fig. 848).

REMARKS

It belongs to the *cincta* group. Typically coloured specimens differ from all other members of the group and from most species of the nominotypical subgenus in pronotal disc with three black spots (occasionally lateral spots are obsolete). Rare form with immaculate pronotum differs in regularly and moderately convex elytral disc (other species of the group are slightly depressed) and four last antennal segments black (in other species at most two last segments infuscate to black). *A. nigropunctata* is the largest species of the group.

MATERIAL EXAMINED

BENIN: Dahomey, 7 (IRSN).

BURUNDI: Bujumbura, Quartier Zeimet, 4 IX 1976, 5, F.C. ROEST (NNML); Plaine de la Ruzizi, IV 1966, 4, S. N'Dani (MRAC), 22 III 1976, 1, F.C. ROEST (NNML); Urundi, 1 (ZMHU).

CAMEROON: Batanga, IV 1914, 2, F.H. HOPE (CMNH); Jaunde St., 1, ZENKER (ZMHU); Likemba, 21 II 1938, 5, BUHR (ZMHU); Nkolbisson, Yaounde-Bi, 18 I 1963, 1, 20 I 1963, 1, 9 II 1963, 1, 10 X 1963, 1, 15 X 1963, 1, L. SEGERS (ZSM); Okala, IV-V 1965, 2, R.P. POUGET (MRAC).

EQUATORIAL GUINEA: Muni, 1, ESCHERICH (ZMHU).

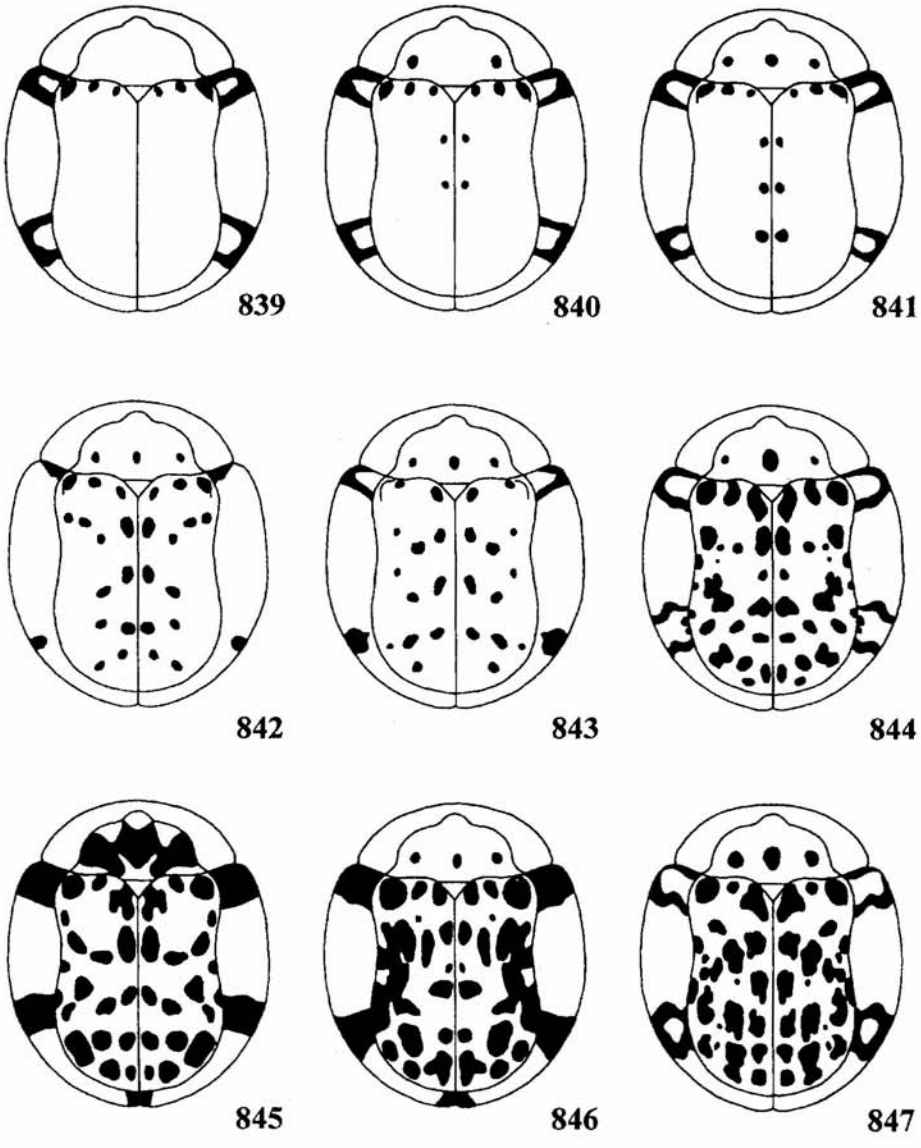
GHANA: Aschanti, 4 (IRSN), 3 (LU); Ashanti Reg., Bodomase, 12 VII 1967, 1, S. ENDRÖDY-YOUNGA (HNHM); Ashanti Reg., Kumasi, 13 X 1965, 1, S. ENDRÖDY-YOUNGA (HNHM); Bauda-Nkwanta, 5 VI 1965, 1, S. ENDRÖDY-YOUNGA (HNHM); Klef, 22 III 1970, 1, S. SOWAH (HNHM).

GUINEA: Guinea, 1, "WESTERMANN" (holotype of *Aspidomorpha westermanni*, NRS), 4 (CMNH).

GUINEA BISSAU: Bubaque, VI 1956, 7, VI 1957, 1, BENASSI (1 OSU, 7 PMNH); Suzana, VIII 1958, 10, ANDREOLETTI (7 OSU, 3 PMNH).

IVORY COAST: Assinie, 2, (IRSN); Dimbokro, 1 (IRSN).

KENYA: Ilala, Maramas Distr., 14 mls E Mumias, 8-13 VI 1911, 1, S.A. NEAVE (BMNH); Kibawezi, XI 1907, 3, SCHAEFFLER (ZMHU); Malindi, Gedi Forest, V 1973, 1, H. GØNGET (ZMC); Msembweni, 50 km S of Mombasa, 4-18 IV 1989, 1, W. BORSATO (MZSNV); Mombasa, 2 (EGS); Ngade, I 1904, 4, P. KRANTZ



839-847. *Aspidimorpha nigropunctata*, variation of dorsal maculation

(TM); Wesu, Teita Hills, 1170 m, 30 X 1957, 2, E.S. Ross and R.E. Leech (CAS); Wundanyi, Teita Hills, 1450 m, 1 XI 1957, 1, E.S. Ross and R.E. Leech (CAS).

MALAWI: Chintheche, 30 XI-11 XII 1977, 2, R. Jocqué (MRAC); SW Lake Chilwa, 9 I 1914, 1, S.A. Neave (BMNH); Mbewe, 31 X 1937, 1, J.P. de Verteuil (BMNH); Mlanje, 20 II 1913, 1, 14 IV 1913, 1, 6 XII 1913, 1, 21 XII 1913, 1, 10 II 1914, 1, S.A. Neave (BMNH); Mt. Mlanje, 3000-4000 ft., 3 XII 1913, 1, S.A. Neave (BMNH); Nyika NP., 6 XII 1986, 1, E. Holm and E. Marais (WM); Rhumphi Distr., 6 km SE Mwazisi, 1, E. Holm and E. Marais (WM).

MOZAMBIQUE: Delagoa Bay, 1 (MCZC); Makulane, 1, G. Audeoud (MHNG); Dondo, 3 II 1924, 1, R.H. Stevenson (TM); Quelimane, 10 (IRSN); Tschinde (Chinde), 1, Fruhstorfer (IRSN).

SENEGAL: Senegal, ɔ (IRSN).

SIERRA LEONE: Mayamba, 1 (IRSN); Sierra Leone, 1, Geittner (HNHM).

SOMALIA: Ghersale, 22 IV 1968, 29, Lanza and Simonetta (MZUF); Giohar, 3 VIII 1968, 1, 25 VIII 1968, 1, S.B.S. (MZUF).

SOUTH AFRICA: Natal, Durban, IX 1924, 1, H.W. Bell-Marley (TM); Zululand, Missionrock, 8 XII 1975, 1, S. Endrödy-Younga (TM).

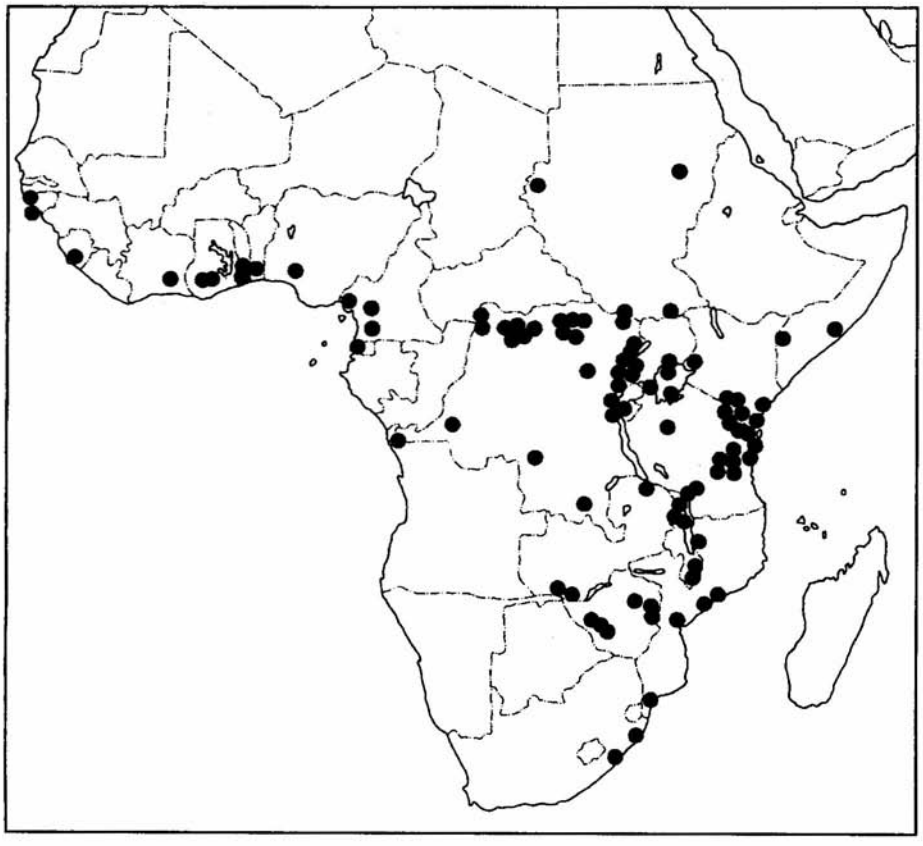
SUDAN: Chartum, 1 (ZMHU); N Darfur, El Gemeina, 24 VI 1979, 1, I.M. Abusinid (ZMHU).

TANZANIA: Amani, 850 m, 9 XI 1957, 1, E.S. Ross and R.E. Leech (CAS); Arusha, 10 III 1994, 2, J. Borowski (LB); Arusha-Chini, 1904, 5, Katona (HNHM); Arusha-Ju, XI 1905, 1, Katona (HNHM); Bukoba, 9-11 VI 1912, 2, C.C. Gowdey (BMNH); Dar-es-Salaam, 1 (EGS), 6 II 1961, 1, G. Heinrich (ZSM); inter Dar-es-Salaam et L. Tanganjika, 4 (HNHM); Kilimandjaro, 1, Sjöstedt (LU); Kilimandjaro, Madschame, 2 (HNHM); Korogwe, 24 IV 1962, 1 (ZSM); Lindi, 1 (IRSN); Langenburg, 1, Fülleborn (ZMHU); Mombo, 1 (LU), 1, Sjöstedt (LU); Morogoro, I 1963, 1, G. Heinrich (ZSM); Nguru, 1 (HNHM), IV 1909, 2, Holz (Sttutgart); Nkatta, I-VI 1909, 3, R. Schoenbeit (ZMHU); Pangani, 22 V 1974, 4, D.B. Gates (ER); Ruaha R., 18-21 XII 1910, 2, S.A. Neave (BMNH); Sangara, 4 III 1907, 6, E. Förster (ZMHU); Shirati, II 1912, 2, Katona (HNHM); Tabora, 3 (IRSN); Tanga, 1 (FMNH), 2 (HNHM), 1910, 1, Kadner (ZMHU); Uhehe, Kidugala, 1 (ZMHU); Ukerewe, 1 (HNHM); Ukerewe, Mwanza, 16, J. Muller (IRSN);Ukerewe, Nansio, 1935, 2, P.A. Conrads (1 NNML, 1 SMNS); Ukerewe-Nyansa, 4, P. Ringier (FMNH); Uluguru Mts., 1500-1800 m, 1 (ZSM); Uluguru Mts., Bundulni, 1200 m, 14 XI 1957, 1, E.S. Ross and R.E. Leech (CAS); Usagara Distr., Road to Kilossa, 22-26 XII 1910, 2, S.A. Neave (BMNH); E Usambara, Moheza, 1 (ZSM); Usambara, Nguelo, 16 (IRSN); Uzungwe Mts., Chita Forest Res., 750 m, 28 X 1984, 1, M. Stoltze and G. Petersen (ZMC); Zanzibar Is., 28 II-9 III 1994, 3, J. Borowski (LB).

TOGO: Bismarckburg, 4, R. Büttner (ZMHU), 1 III 1891, 1, R. Büttner (ZMHU); Dayes Plateau, 14 III 1986, 1, Hiermeier (MS); Kpalimé, Fort de Missahoée, 1-28 VI 1989, 1, J.M. Bousquet (CNCI); Misahöhe, VII 1894, 1, E. Baumann (ZMHU); Palimé, V 1963, 1, Y. Schach (MRAC); Station Ho, 1, Schröder (ZMHU).

UGANDA: Bugoma Forest, Unyoro, 3700 ft., 1-5 XII 1911, 1, S.A. NEAVE (BMNH); Entebbe, 6-10 V 1912, 1, C.C. GOWDEY (BMNH); Kampala, 17 IV 1913, 2, C.C. GOWDEY (BMNH); Kampala, Kabule, 18-25 VI 1911, 1, NÄGELE (ZMHU); Kampala, Muyenga Hill, 21 III 1973, 2, H. GØNGET (ZMC); Kasege, 600 m, 13-19 XI 1994, 1, M. SNIZEK (MS); Plains NE Lake Edward, 3200 ft., 15-16 X 1911, 1, S.A. NEAVE (BMNH); Uganda, 1 (FMNH).

ZAIRE: Albert Nat. Park, est colline Bukuku, sect. Kasindi, 950 m, 12 IX 1948, 2, J. DE WILDE (MRAC); Albert Nat. Park, Ishango, 9 XII 1935, 2, H. DAMAS (MRAC), 920 m, 1 VI 1935, 1, H. DAMAS (MRAC); Albert Nat. Park, Kakunda ouest, Mwenda forest, 1100 m, 11 IV 1949, 1, J. DE WILDE (MRAC); Albert Nat. Park, Kinyambahdre, 1100 m, Butahu, 25 XI 1949, 1, J. DE WILDE (MRAC); Albert Nat. Park, Riv. Mayiyamoto, 1100 m, 8 VIII 1949, 1, J. DE WILDE (MRAC); Albert Nat. Park, R. Mbumba, Musienene, 950 m, 16 III 1949, 1, J. DE WILDE (MRAC); Albert Nat. Park, Mutsora, 1939, 83, HACKARS (MRAC), 900 m,



848. Distribution of *Aspidimorpha nigropunctata*

29 IV 1945, 4, J. DE WILDE (MRAC); Albert Nat. Park, Riv. Okabulum, 950 m, 18 III 1949, 1, J. DE WILDE (MRAC); Albert Nat. Park, Oycha Reg., 1100 m, IV-V 1950, 1, J. DE WILDE (MRAC); Albert Nat. Park, Piste vers Ruwenzori, 17 IX 1948, 1100 m, 4, J. DE WILDE (MRAC); Albert Nat. Park, Plaine Semliki, 900-1100 m, IV-X 1937, 4, HACKARS (MRAC); Albert Nat. Park, Plaine Semliki, Ishango, 900 m, 6-8 X 1948, 21, J. DE WILDE (MRAC); Albert Nat. Park, Rutshuru, 7-24 VI 1934, 2, 17-20 VI 1934, 10, 20-24 VI 1934, 1, XII 1934, 1, 7-18 VI 1935, 1, G.F. DE WITTE (IRSN); Albert Nat. Park, W Ruwenzori, 1200-1500 m, III 1937, 2, 3000-4000 m, III 1937, 2, HACKARS (MRAC); Albert Nat. Park, Ruwenzori, riv. Bombi, affl. Butahu, 1820 m, 15 IX 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Ruwenzori, riv. Bongeya, aff. Talya, 1760 m, 11 I 1958, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Ruwenzori, Mt Kavana, 1800 m, 28 II 1951, 1, J. DE WILDE (MRAC); Albert Nat. Park, Ruwenzori, Kyandolire, Bomboka, 1650 m, 12-16 X 1952 m, 1, P. VANSCHUYTBROECK and J. KEKENBOSCH (MRAC); Albert Nat. Park, Ruwenzori, Lusilube, aff. Semliki, 1680 m, 25 IV 1958, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Ruwenzori, Mutawanga, 1000-1300 m, II-III 1937, 10, HACKARS (MRAC); Albert Nat. Park, Secteur Nord, Bumali, village prés Mutawanga, 1300 m, 7 IX 1951, 1, R. CHRISTIAENS (MRAC); Albert Nat. Park, Secteur Nord, riv. Byangolo, affl. Djilube, 1320 m, 19 IX 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Ishango, 915 m, 3 I 1952, 1, J. DE WILDE (MRAC); Albert Nat. Park, Secteur Nord, Mati, affl. Talya, 1300 m, 5 II 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. May ya Moto, affl. Talya, 1280 m, 3 IX 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, riv. Molindi, piste Watalinga, 1210 m, 18 IX 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Mukandwe, affl. Talya, 1260 m, 2 X 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Mutsora, 1200 m, 19 V 1951, 1, R. CHRISTIAENS (MRAC); Albert Nat. Park, Semliki sect., Kasindi, 930 m, 13 IX 1948, 1, J. DE WILDE (MRAC); Albert Nat. Park, Vallée Munsenene, 1000 m, 30 IX 1948, 1, J. DE WILDE (MRAC); Bambesa, 31 V 1937, 2, 1-2 VI 1937, 1, 2 VI 1937, 1, 3 VI 1937, 1, 5 VI 1937, 1, 10 VI 1937, 2, 17 VI 1937, 2, 28 VI 1937, 1, 29 VI 1937, 1, 13-14 VII 1937, 1, 26 VIII 1937, 1, 1 IX 1937, 1, 18 IX 1937, 1, 2 X 1937, 1, 30 X 1937, 2, 18 XII 1938, 1, 3 I 1940, 1, J.M. VRIJDAGH (IRSN); Beni, X 1910, 1, GRAUER (ZMHU); Bokapo, 15 VIII 1927, 1, A. COLLART (IRSN); Boma, 10, M. TSCHOFFEN (IRSN); Costermansville, 1948, 1, P.H. VERCAMMEN (MRAC); Genge, 6 III 1929, 1, A. COLLART (IRSN); Ipembo, Haut Itimbiri, IV 1890, 1, J. DUVIVIER (IRSN); Jadotville, Mwera, XII 1956-V 1957, 1, R.P. DE CATERS (MRAC); Kasai, Lula, terr. Luisa, VIII 1956, 1, M. POLL (MRAC); Kibali, Ituri, foret Ipulu, IX 1951, 1, Ch. SEYDEL (MRAC); Kivu, Ibanda, 1952, 1, M. VANDELANNOITE (MRAC); Kivu, Irangi, IV-VII 1969, 1, S. ORTS (MRAC); Kivu, Katana, 1, coll. ROELOFS (IRSN); Kivu, Lwiro, 28 XII 1966, 2, Dr. JILLY (SMNS), III 1985, 5, W. Banyw'ne (SMNS); Kivu, Mt Kakusi, VI 1957, 1, J. HECQ (MRAC); Kivu, Uvira, 3 (SD); Kuleponge, 8 V 1958, 2 (FMNH); Libenge, Mawuya, 1 XII 1947, 1, R. CREMER

and M. NEUMAN IRSN); Likimi, 23 VII 1927, 1, A. COLLART (IRSN); Likimi-Gwanga, 18 VIII 1927, 3, A. COLLART (IRSN); Likimi-Monveda, 16 XI 1927, 1, A. COLLART (IRSN); Lisala, 29 VIII 1947, 1, R. CREMER and M. NEUMAN (IRSN); Mambasa, 25 XII 1946, 1, Mus. Copenh. Exp. (ZMC); Ngowa, 16 XI 1938, 1, 9-18 III 1939, 1, J. MARTENS (IRSN); Saliboko-Nizi, 2 IV 1929, 2, A. COLLART (IRSN); Stanleyfalls, 5, MALFIET (IRSN); Stanleyville, 2 VIII 1928, 1, A. COLLART (IRSN); Stanleyville, Ongoka, riv. Lowa, IV-IX 1952, 1, J. PANTOS (MRAC); B Uele, Alipago, 8 V 1957, 1 (FMNH); B Uele, Angodia, 10 IV 1957, 1 (FMNH); B Uele, Bambesa, 14 III 1957, 1, 13 III 1958, 1 (FMNH); B Uele, Batite, 28 VIII 1957, 1, 16 IX 1957, 1 (FMNH); H Uele, Bunie, 4 XI 1956, 1 (FMNH); H Uele, Neisu, 18 X 1956, 1 (FMNH); H Uele, Rte to Wamba, 22 XI 1956, 1 (FMNH); Zongo, 1, L. TILKENS (IRSN).

ZIMBABWE: Bulawayo, 25 II 1921, 1 (NMM), 1 I 1923, 1, SWINBURNE and STEVENSON (TM); Bulawayo, Matsheamhlope, 3 XI 1979, 1, C. H. CAR (NMM); Hope Fountain, 6 I 1922, 1, 10 XI 1922, 1, N. JONES (CMNH); Nyamandhlovu, 6 II 1972, 2, E. PINKEY (NMM); Old Umtali, 25 XI 1976, 1, D. K. WHEELER (NMM); Rusape, 19 XII 1920, 2 (TM); Salisbury, 1 (TM), 4-16 XI 1976, 3, 1-14 XII 1976, 1, R. K. BROOKE (NMM); Sawmills, 31 XII 1921, 1 (NMM); Umtali, 23 I 1955, 1 (NMM).

VARIA: Kilideni, I 1917, 1, A. ROBERTS (TM)

Aspidimorpha (s. str.) *oblectans* SPAETH, 1924

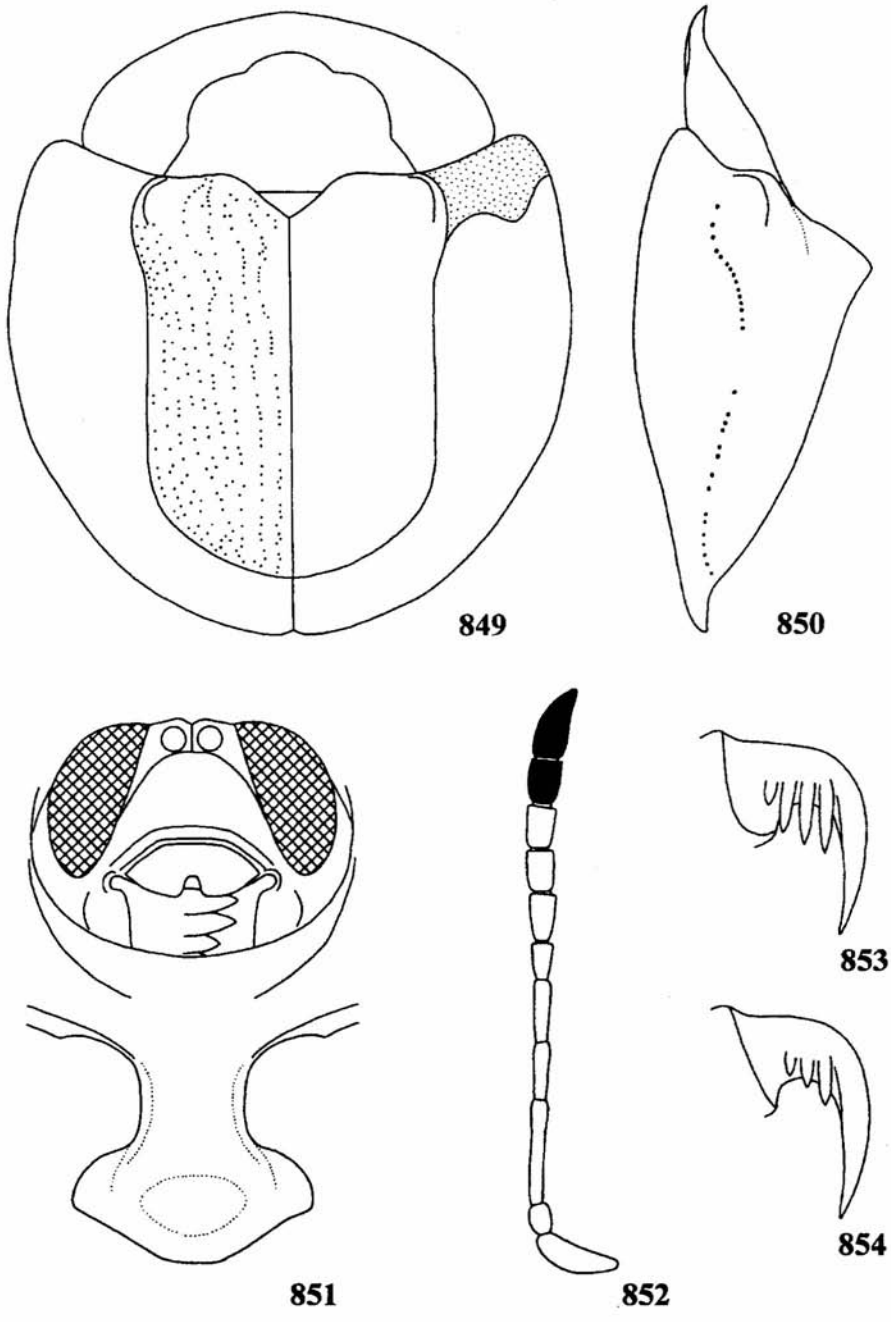
Aspidomorpha oblectans SPAETH, 1924: 287 (ST in MM).

DESCRIPTION

Le: male: 10.9 mm, female: 11.9-12.3 mm, Wi: male: 10.5 mm, female: 10.8-11.5 mm, Lp: male: 3.5 mm, female: 3.5-3.7 mm, Wp: male: 7.8 mm, female: 7.9-8.4 mm, Ex: male: 2.8 mm, female: 2.9 mm, Wd: male: 5.4, female: 5.5 mm; Le/Wi ratio: male: 1.04, female: 1.07-1.12, Wi/Wp: male: 1.35, female: 1.32-1.39, Wp/Lp: male: 2.23, female: 2.14-2.34. Body almost circular (fig. 849).

Pronotum uniformly yellow to argillaceous. Dorsal part of elytra uniformly yellow to argillaceous, only each puncture usually with darker, reddish to brown centre, ventral side of explanate margin with broad, brown to black humeral spot, no posterolateral or sutural spots. Margins of explanate margin of elytra slightly darker yellow than ventral part of the explanate margin. Scutellum yellow to argillaceous. Ventrites usually uniformly yellow, only metasternum in the middle with brown spot. Antennae yellow, two last segments black, except yellow underside of the apex of last segment. Legs including coxae yellow.

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.



849-854. *Aspidimorpha oblectans*: 849 - body in dorsal view, 850 - body in profile, 851 – head and prosternum, 852 – antenna, 853 – inner side of claw, 854 – outer side of claw

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, with large, conical postscutellar tubercle, profile deeply concave behind the top of convexity (fig. 850), discal surface with small but distinct principal impression, shallow scutellar impressions, and shallow posterolateral impression, surface of lateral part of disc only slightly irregular. Puncturation of disc fine, regular, on slope slightly finer than in anterior half of disc, in sutural half of disc at most twice finer than in lateral part of disc. Scutellar row with 5-6 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-4, distance between punctures or their groups three to five times larger than puncture diameter. Rows not impressed. Punctures in marginal row deep, only twice larger than in central rows. Intervals flat, in sutural half of disc c. four times, in lateral half twice to thrice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low but broad. Explanate margin very broad, subhorizontal to horizontal with tendency to form a gutter, impunctate, its surface almost regular. Elytral epipleura in male bare, in female densely pubescent.

Head very broad, clypeus c. 1.6 -1.7 times wider than long (fig. 851), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 852), extending to mid coxa, length ratio of antennal segments: 100:38:133:79:85:50:67:58:67:63:113.

Claws pectinate on both sides, inner pecten moderate, with four teeth extending c. to 2/5 length of claw (fig. 853), outer pecten with two to three teeth, first extending to 1/6 length of claw, remainder gradually smaller (fig. 854).

Sexual dimorphism distinct. Male stouter, with last antennal segment slightly longer than in female and elytral epipleura bare, pubescent in female.

Distribution

Tanzania (fig. 861).

Remarks

It is a member of the *quadriramosa* group. Only three species: *andrei*, *oblectans* and *sulfuripennis* have explanate margin with only humeral spot and conical postscutellar tubercle. *A. oblectans* distinctly differs from both relatives in large body, size always above 10.8 mm (in *andrei* and *sulfuripennis* below 10.7 mm).

Material examined

TANZANIA: Tanga, 1 (syntype, MM); Uluguru Mts., Kimboza Forest, 300 m, 1 XII 1984, 1, M. Stoltze (ZMC); Usambara, 3 (ZMHU, LB); W Usambara, III 1903., 1 (ZMHU).

Aspidimorpha (s. str.) *obovata* (KLUG, 1835)

Cassida obovata KLUG, 1835: 48 (HT in ZMHU); BOHEMAN, 1854: 340.
Aspidomorpha obovata: WEISE, 1896: 17; SPAETH, 1903c: 172; 1943: 49; SHAW, 1956a: 593; 1963: 459; 1968a: 370; 1968 b: 781; BOROWIEC, 1985 a: 233; 1985 b: 441; 1986: 796.
Aspidomorpha (*Aspidomorpha*) *obovata*: SPAETH, 1914 b: 76.
Aspidomorpha producta THOMSON, 1858: 229 (ST in MM); BOHEMAN, 1862: 281; WEISE, 1896: 17 (as syn. of *obovata*).
Aspidomorpha Simonis WAGENER, 1880: 162 (ST in MM); WEISE, 1896: 17 (as syn. of *producta*).

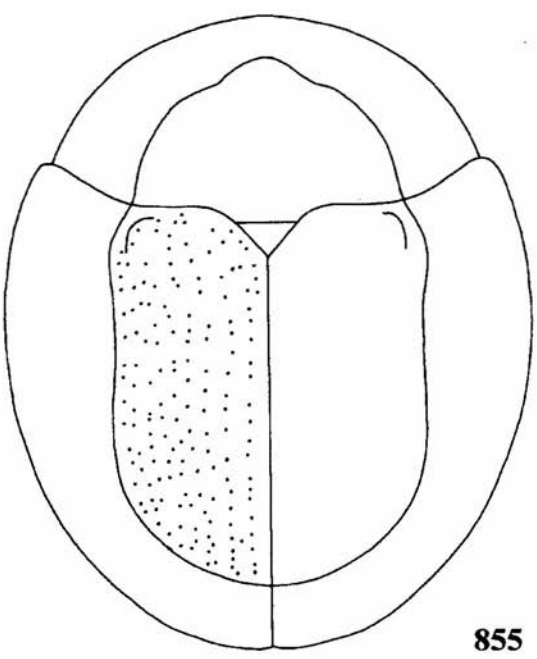
DESCRIPTION

Le: male: 7.7-8.5 mm, female: 8.9-10.1 mm, Wi: male: 5.8-6.7 mm, female: 6.1-7.1mm, Lp: male: 2.6-3.0 mm, female: 2.9-3.4 mm, Wp: male: 4.9-5.6 mm, female: 5.3-6.1 mm, Ex: male: 1.4-1.8 mm, female: 1.4-1.9 mm, Wd: male: 3.5-4.1 mm, female: 4.2-4.8 mm. Le/Wi: male: 1.24-1.33, female: 1.36-1.46, Wi/Wp: male: 1.16-1.26, female: 1.15-1.20; Wp/Lp: male 1.81-2.00, female: 1.76-1.87. Body in male short-oval, in female oval (fig. 855).

Yellow, punctures of elytra brown marked, epipleura with reddish to brown sutural spot. Clypeus usually mostly yellow, with only corners black, occasionally black with yellowish centre, labrum brown. Prosternum, meso-and metasternum except lateral plates usually black, in the palest specimens brown. Abdomen uniformly yellow or brown with yellow sides, only in the darkest specimens abdomen mostly black with yellow sides. Coxae yellow to brown, trochanters, femora, tibiae and tarsi always uniformly yellow. Usually only last antennal segment partly infuscate to black, sometimes also penultimate segment darkened.

Pronotum semicircular, with maximum Wi at base, hind angles subangulate, forming blunt angle of about 90-100°. Disc moderately convex, smooth, shiny, with very small microreticulation. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, without or with transverse sulcus, or impressed in the middle. Base of elytra serrulate, only slightly wider than base of pronotum, elytral margins simple. Disc regularly convex, with maximum convexity slightly in front of the middle (fig. 856), without postscutellar and lateral impressions, in male principal impression barely marked, in female it is distinct but very shallow. Puncturation of disc regular, punctures very fine, on slope only slightly finer than in anterior half of disc, in sutural half of disc as large as in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows sparse, disposed irregularly, partly grouped in 2-4, so in part of row distance between punctures are only slightly larger than puncture diameter, but distances between groups are often many times larger than punctures. Punctures in marginal row shallow, c. two to three times larger than in central rows. Intervals flat, five to six times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin strongly declivous, impunctate, smooth and shiny. Margin of elytra simple. Elytral epipleura in male without hair, in female pubescent on whole length, in apical half hairs are especially long and dense.



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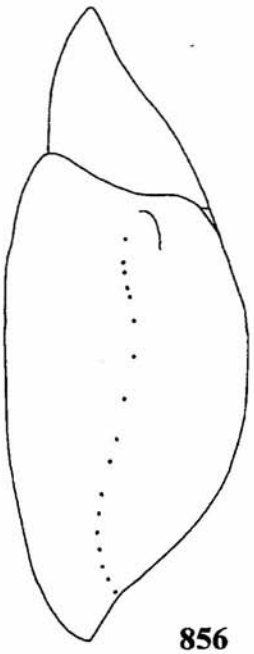

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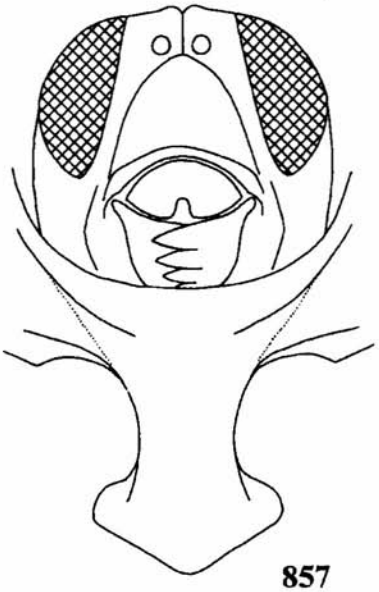

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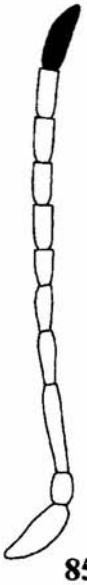

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855-860. *Aspidimorpha obovata*: 855 - body in dorsal view, 856 - body in profile, 857 – head and prosternum, 858 – antenna, 859 – inner side of claw, 860 – outer side of claw

Head broad, clypeus c. two times wider than long (fig. 857), dull, distinctly elevated before antennal insertions, with shallow median impression. Antennae moderately elongate (fig. 858), extending to mid coxa, length ratio of antennal segments: 100:38:106:63:60:44:47:44:47:47:78.

Claws pectinate on both sides, inner pecten with four long teeth extending to 1/2-2/3 length of claw, two outer teeth equal in length, two inner slightly shorter (fig. 859). Outer pecten with three teeth, outer the largest only slightly shorter than teeth of inner pecten, two inner c. 1.5 times shorter (fig. 860).

Sexual dimorphism distinct. Female distinctly larger, with body slimmer, subacuminate apex of elytra and pubescent elytral epipleura.

HOST PLANT

Convolvulaceae: *Ipomoea batatas* (E. OBERMAIER, pers. comm.).

DISTRIBUTION

West and Central Africa, south to C Zaire, east to W Uganda (fig. 861).

REMARKS

It belongs to the *obovata* species group. *A. obovata* differs from both related species, *A. indistincta* and *A. fusca*, in slimmer body, regularly convex elytra (in *A. indistincta* and especially in *A. fusca* elytra have top of convexity in postscutellar point), not impressed elytral rows, barely marked principal impression (in both relatives it is distinct) and more declivous and smooth explanate margin of elytra (in *A. indistincta* explanate margin has surface slightly irregular while in *A. fusca* it is punctate).

MATERIAL EXAMINED

BENIN: Dahomey, 1 (ZMHU).

CAMEROON: Barombi St., 2, ZENNER (ZMHU); Batanga, V 1914, 1, F.H. HOPE (CMNH); Bipindi, X-XII 1896, 2, VIII-IX 1898, 2, G. ZENKER (ZMHU); Bombe, 12 XI 1910, 3, E. HINTZ (FMNH); Douala, 1, LENCSZ (MRAC); Duala, 5 (IRSN), IX 1912, 1, v. ROTHKIRCH (ZMHU); Ekok, 27 VII 1988, 1, F.-T. KRELL (SMNS); Esudan-Mamfe, 1, GUILLEMAIN (ZMHU); Japoma, 1, SCHÄFER (ZMHU); Jaunde St., 1, ZENKER (ZMHU); Johann-Albrechtshöhe, 30 VIII-14 IX 1898, 2, CONRADT (ZMHU); Joko, 1 (FMNH), 1 (HNHM), 1 (ZMHU); Kribi, 2 (FMNH); Likemba, 21 II 1938, 1, BUHR (ZMHU); Lolodorf, V 1923, 1, A.I. GOOD (CMNH); Lomie, 1 (ZMHU); Malende, Mt. Kamerun, XII 1957, 1, W. HARTWIG (MKB); Malenge-Banga, 125 m, 5-20 XII 1957, 7, H. KNORR (SMNS); Moliwe n. Victoria, 17 I-7 III 1908, 1, F. v. MALTZAN (ZMHU); Mukonje n. Kumba, 23-26 II 1938, 1, EISENTRAUT (ZMHU); Mundame, 2, R. ROHDE (IRSN); Nanga Eboko, III-IV 1969, 2, LENCZY (HNHM); Nkolbisson, Dept. Nyong-Sanaga, IX 1963, 1, L. SEGERS (MRAC); Nkolbisson, Yaounde-Bi, 20 V 1963, 1, L. SEGERS (ZSM); Pipinde, 13, ZENKER (ZMHU); Victoria, 10 (ZMHU); Victoria Div., Muyuka, 24-29 VI 1949, 1, B. MALKIN (CAS).

EQUATORIAL GUINEA: Benito, 3 (ZMHU).

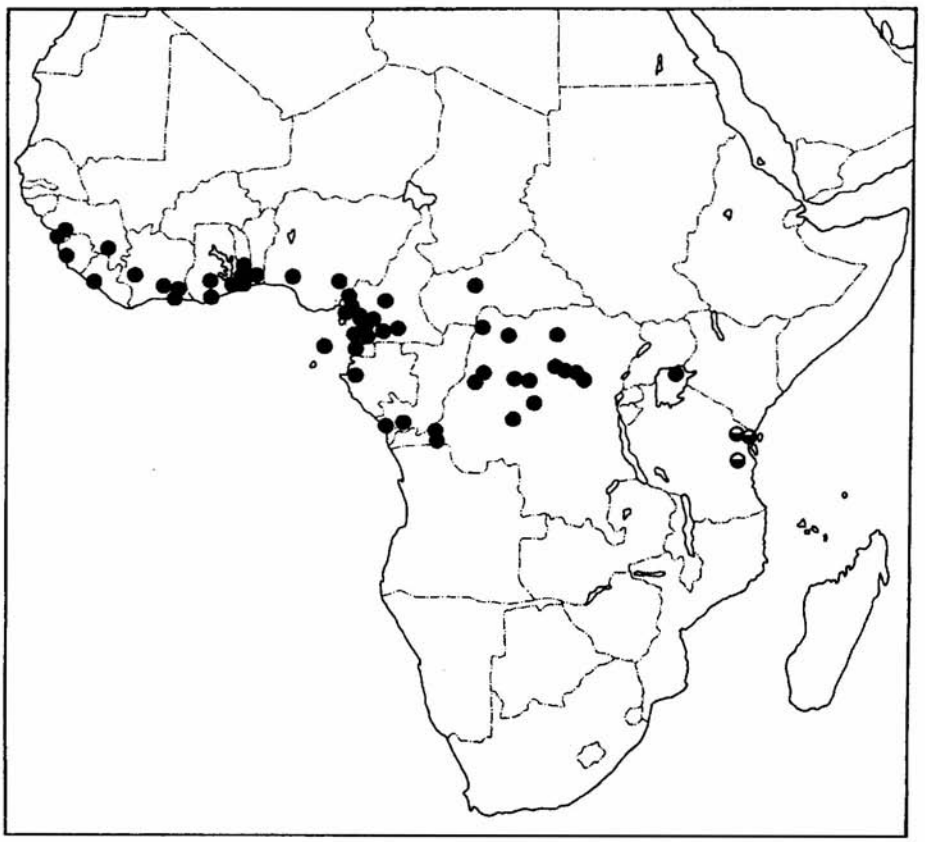
GABON: Ogooué, 7 (IRSN); Ogowe, 2, M. SCHMIDT (ZMHU).

GHANA: Aschanti, 2 (syntypes of *A. simonis*, MM); Ashanti Reg., Kumasi, Nhiasu, 30 IX 1967, 1, S. ENDRÖDY-YOUNGA (HNHM); Ashanti Reg., Nyinahin range, 7 IV 1969, 15, S. ENDRÖDY-YOUNGA (HNHM); Mamso, Anenti, IV-VI 1968, 4 (MRAC); Takoradi, 33, BESNARD (32 MRAC, 2 ER), IV-XI 1967, 4, BESNARD (MRAC); Volta reg., Amedzofe, 31 VIII 1967, 2, S. ENDRÖDY-YOUNGA (HNHM).

GUINEA: Conakry, 8 I-10 II 1965, 1, K. FERENCZ (HNHM); Guineé, 1 (IRSN); Kindia, 1964-65, 1, J. DEDYCKER (MRAC); Macenta, Mt. Baki, 30 I 1942, 3, M. LAMOTTE (IFAN).

IVORY COAST: Adiopodoume, 1 (MRAC); Adzope, IX 1948, 2 (MHNG); Assinie, 1 (IRSN); Dimbokro, 5 (IRSN); Man, VIII 1948, 1 (MHNG); Thai-Park, VI 1995, 2, on *Ipomoea batatas*, E. OBERMAIER (EO).

LIBERIA: Liberia, 1, W. Bangham (OSU); Monrovia, 11 IV 1965, 2, S. ENDRÖDY-YOUNGA (HNHM).



861. Distribution of *Aspidimorpha obovata* (black circles) and *A. oblectans* (white above black circles)

NIGERIA: near Ogoja, 1 VII 1964, 3, R. MEYER (ZSM); Ibadan, 10 I 1963, 1, D.C. EIDT (CNCI).

PRINCIPE IS.: Ile de Prince, 1, ERMANS (holotype of *C. obovata*, ZMHU).

REPUBLIC OF CENTRAL AFRICA: Fort Crampel, 1 (IRSN).

REPUBLIC OF CONGO: Loango, 1 (FMNH).

SIERRA LEONE: Freetown, S. Michel Lodge near Lakka, 9-24 VI 1988, 1, R. MOURGLIA (SZ); Sierra Leone, 2 (ZMHU), 2 (FMNH).

TOGO: Bismarckburg, 1 (ZMHU), 12 X 1892, 5, CONRADT (ZMHU); Kpédyi, VII 1963, 1, Y. SCHACH (MRAC); Misahohe, III 1894, 2, 10 V 1894, 2, BAUMANN (ZMHU); Missahoué, 650 m, VI 1963, 9, Y. SCHACH (MRAC); Palimé, V 1963, 1, Y. SCHACH (MRAC); Yob, V 1963, 1, Y. SCHACH (MRAC).

UGANDA: Bugaia Is., Lac Victoria, Musenyi Bay, IV 1968, 1, E. VERTRIEST (MRAC).

ZAIRE: Barumbu, VIII 1925, 4, J. GHESQUIERE (IRSN); Buta, 1 (HNHM); Eala, 28 VI 1980, 1, R. KISS (IRSN); Equateur, Bokuma, XII 1951, 4, I-II 1952, 1, III 1952, 1, VII 1952, 8, R.P. LOOTENS (MRAC); Ipembo, 1, DE SMET (IRSN); Isangi, 1, BALIUS (IRSN); Kasai, Terr. Dekese, IX 1959, 1, F. FRANÇOIS (MRAC); Kimbenze, 17 IV 1924, 1, A. COLLART (IRSN); Libenge, 18 IX 1947, 1, 23 IX 1947, 1, R. CREMER and M. NEUMAN (IRSN); Likimi, Mumbia, 29 X 1927, 1, A. COLLART (IRSN); Lomani, Yambema, 2 (IRSN); Mpese, 11 VI 1937, 1, R. COOREMAN (IRSN); Stanleyfalls, 1, R.P. KOHL (NNML); Stanleyville, 18 IX 1928, 1, 31 V 1929, 2, 4 VI 1929, 1, A. COLLART (IRSN); Stanleyville, Likundu, 1954, 1, P. SAUSSUS (MRAC); Stanleyville, Lokilo, 18 XI 1954, 1, P. SAUSSUS (MRAC); Stanleyville, Yangambi, 10 I 1956, 1, R. DAMOISEAU (MRAC); Tsele, 15 II 1923, 1, A. COLLART (IRSN); Tshuapa, Bamanya, VIII 1955, 1, VIII 1963, 1, 1964, 1, II 1964, 1, XII 1964, 1, I-V 1965, 2, P. HULSTAERT (MRAC); Tshuapa, Bokuma, XII 1951, 1, II 1952, 1, VII 1952, 1, 1954, 1, R.P. LOOTENS (MRAC); Tshuapa, Etata, VII-VIII 1969, 1, J. HAUWAERT (MRAC); Tshuapa, Ikela, 1955, 8, 1956, 28, XI 1956, 34, X 1956, 6, R.P. LOOTENS (MRAC); Uele, Buta, 11-13 V 1935, 1, Miss. DE WITTE (IRSN); Yangambi, 17 V 1949, 1, RAIGNIER and VAN BOVEN (MRAC); Zambi, 1, Ch. HAAS (IRSN).

VARIA: Calabar, 1, coll. DONCKIER (syntype of *A. producta*, MM); Old Calabar, 3 (IRSN); no locality, 1 (syntype of *A. producta*, MM).

Aspidimorpha (s. str.) *obtusangula* SPAETH, 1906

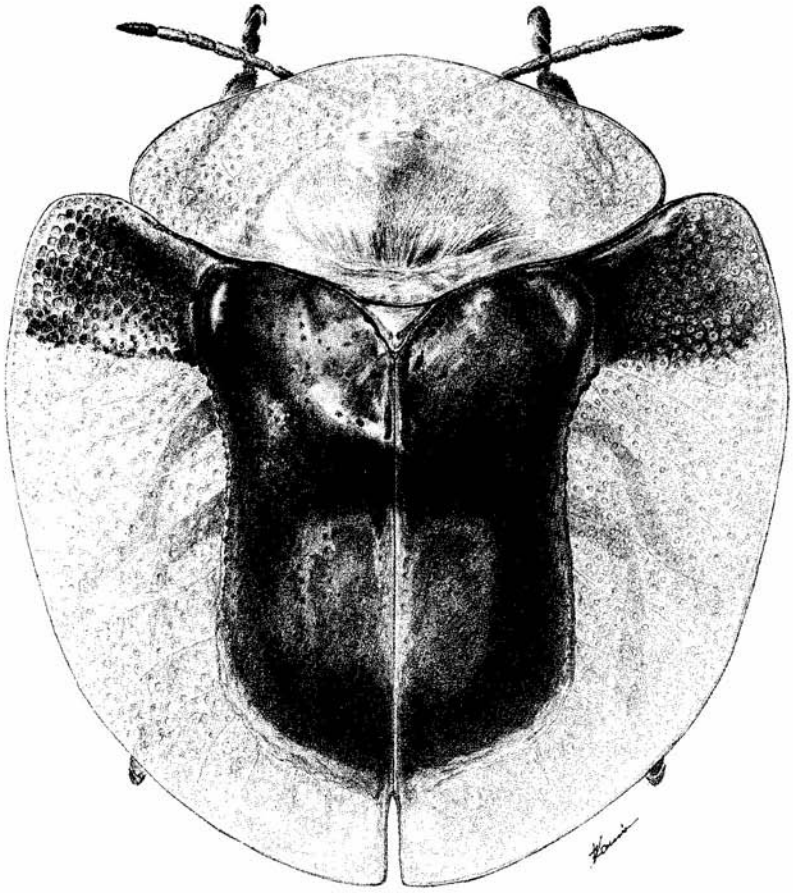
Aspidomorpha obtusangula SPAETH, 1906: 403 (ST in MM), 1932 b: 4, 1934: 385.
Aspidomorpha (*Aspidomorpha*) *obtusangula*: SPAETH, 1914 b: 76.

DESCRIPTION

Le: male and female: 8.0-9.8 mm, Wi: male and female: 7.3-9.1 mm, Lp: male and female: 2.7-3.2 mm, Wp: male and female: 5.2-6.2 mm, Ex: male and

female: 1.9-2.5 mm, Wd: male and female: 3.2-4.0 mm; Le/Wi ratio: male and female: 1.08-1.12, Wi/Wp: male and female: 1.40-1.47, Wp/Lp: male and female: 1.93-2.14. Body almost circular (figs 862, 863).

Pronotum yellow, elytra in typically coloured specimens yellow with brown humeral spot, elytral disc in 1/3-1/2 length with large brown to black spot, also sides of posterior half of disc and its apex brown and only spot behind postscutellar tubercle yellowish. Often posterior half of disc completely yellow, occasion-



862. *Aspidimorpha obtusangula*, habitus (by J. KANIA)

ally whole disc yellow. Explanate margin with no posterolateral spot (figs 872-874). Scutellum in all forms yellow. Ventrites uniformly yellow. Antennae yellow, usually apical half of segment 10 and segment 11, except ventral part of apex, black; sometimes segment 10 wholly yellow.

Pronotum broadly ellyptical, with maximum width in 3/5 length, sides narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, sometimes impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri rounded, elytral margins simple. Disc with large, conical postscutellar tubercle (fig. 864). Puncturation of disc fine, regular, on slope distinctly finer than in anterior half of disc, in sutural half of disc finer than in lateral part of disc. Scutellar row with 4-7 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-4, distance between punctures or their groups two to four times larger than puncture diameter. Rows not impressed, surface of disc regular. Punctures in marginal row deep, c. four to five times larger than in central rows. Intervals flat, in sutural half five, in lateral half three to four times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, moderately declivous, impunctate, its surface smooth and shiny. Elytral epipleura bare in both sexes, only apex of margin of explanate margin of elytra with row of erected setae but in dried specimens these setae are often broken.

Head moderately broad, clypeus elongated, 1.15-1.20 times wider than long (fig. 865), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/3 length. Antennae moderately elongate (fig. 866), extending to half length of metasternum, length ratio of antennal segments: 100:40:127:67:60:57:73:63:73:67:113.

Claws pectinate on both sides, inner pecten with four teeth extending to 1/5-1/4 length of claw, two external teeth equal in length, two internal c. twice shorter (fig. 867). Outer pecten with two teeth, external c. twice shorter than the largest tooth of inner pecten, internal c. twice shorter than external (fig. 868).

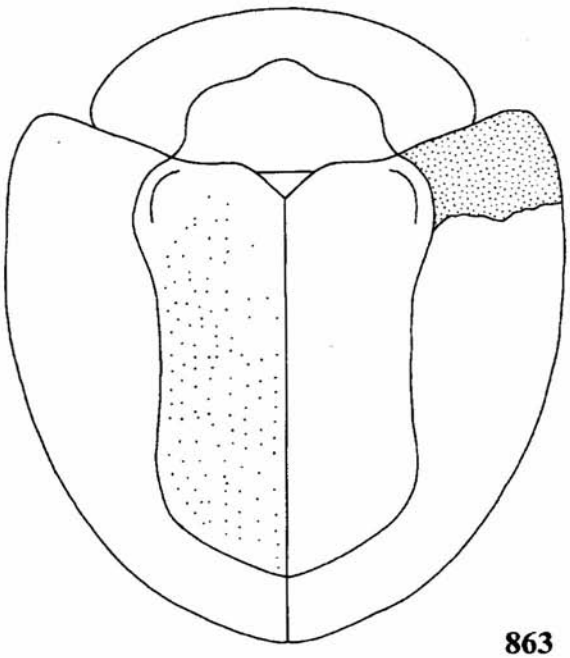
Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

Tanzania (fig. 890).

REMARKS

It belongs to the *mutata* species group. It is one of the largest species of the group, with large conical postscutellar tubercle. A similar postscutellar tubercle is present also in *A. dilecta*, *A. togoensis*, *A. vernicata*, *A. submutata*, *A. laevigata*, *A. muehlei*, *A. splendidula* and *A. semiramosa*. *A. dilecta* differs in the absence of humeral spots; *A. togoensis* differs in the absence of humeral spots and distinctly



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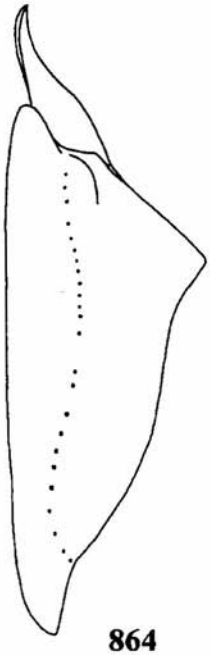

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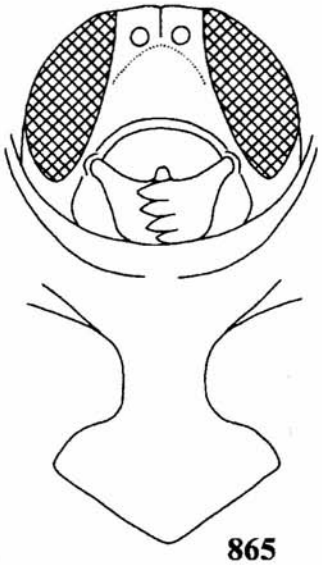
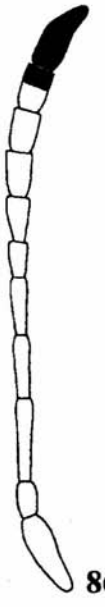


865



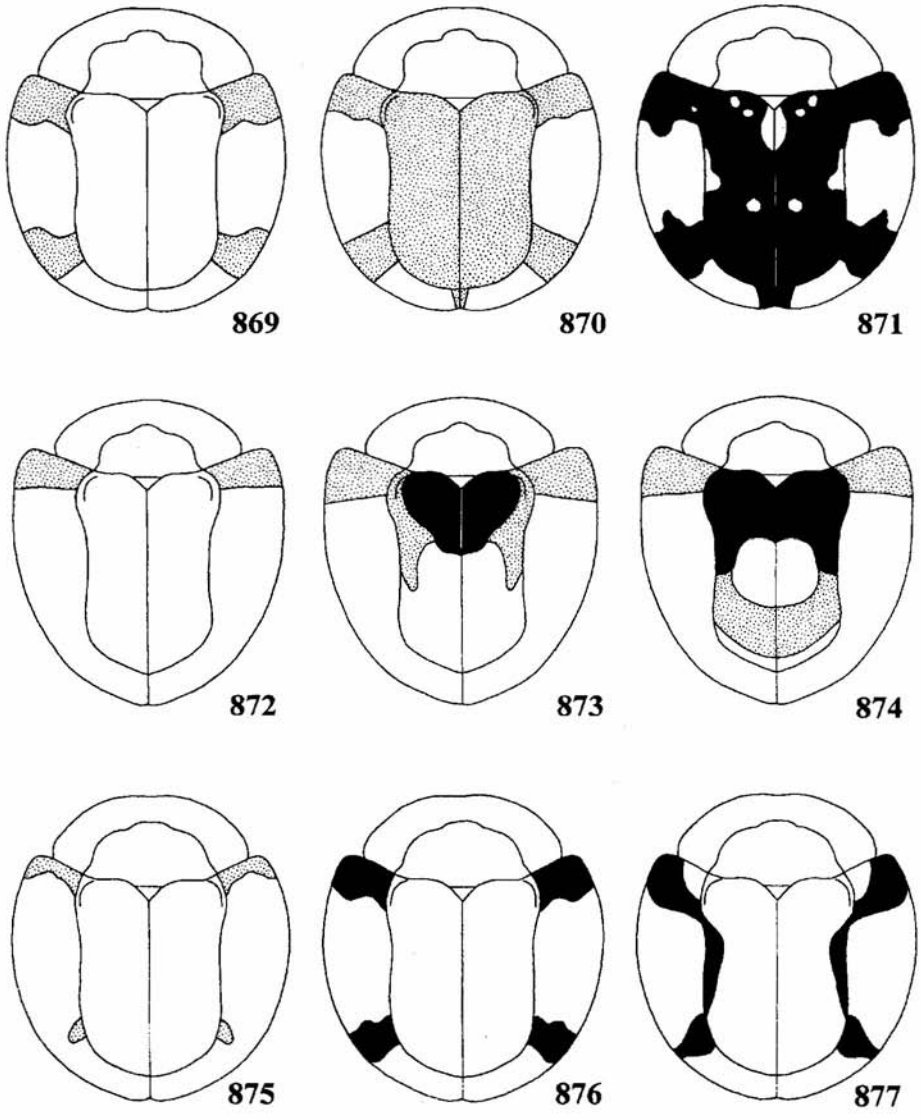
866

867

868

863-868. *Aspidimorpha obtusangula*: 863 - body in dorsal view, 864 - body in profile, 865 – head and prosternum, 866 – antenna, 867 – inner side of claw, 868 – outer side of claw

smaller body (Le 7.3-8.0 mm, in *obtusangula* 8.0-9.8); *A. vernicata* differs in the presence of usually both humeral and posterolateral spots, smaller body and distribution (exclusively Madagascar, *obtusangula* only in Tanzania); *A. muehlei* differs in black pronotal disc (in *obtusangula* mostly yellow) and almost uniformly black elytral disc (in *obtusangula* at least with black spots in basal part of elytral disc); *A. splendidula* differs in presence of both humeral and posterola-



869-877. Variation of dorsal maculation: 869-871 - *Aspidimorpha natalensis*, 872-874 - *A. obtusangula*, 875-877 - *A. procax*

teral spots (in *obtusangula* only humeral spots) and smaller body; *A. semiramosa* differs in the presence of only posterolateral spots (in *obtusangula* no posterolateral spots). *A. submutata* is very similar but it is usually smaller (length 6.9-8.0 mm), with basal part of elytra without dark spots (in *obtusangula* humeral part of elytron often with black or dark brown spots). Large specimens of *A. submutata,* 8-9 mm long are very similar to small specimens of *A. obtusangula* but in the latter species postscutellar tubercle is slightly larger, groundcolour of elytra usually darker, argillaceous (in *submutata* yellow), and ventral pecten of claws shorter, extending to 1/5-1/4 length of claw (2/5 in *submutata*). *A. laevigata* is the most similar, especially in colouration and short pecten of tarsal claws, but differs in slightly smaller postscutellar tubercle and at least two last antennal segments black, while in *A. obtusangula* usually only last segment is infuscate to black, occasionally also apex of segment 10 is also infuscate. Both species are separated geographically, *A. laevigata* is known only from Cameroon, *A. obtusangula* only from Tanzania.

MATERIAL EXAMINED

TANZANIA: Amani, 3 (LB); Mombo, IV 1899, 1 (ZMHU); Nguelo, 1 (LB); Uluguru Mts., 1500-1800 m, 1 (ZSM); Uluguru, Bunduki, 16 XI 1957, 1 (LB); Uluguru Mts., Lupanga West, 1400 m, 1 VII 1981, 1, M. STOLTZE and N. Scharff (ZMC); O Usambara, 1 (LB); W Usambara, I 1916, 2, METHNER (ZMHU); Usambara, Nguelo, 5 (syntypes, MM), 1 (ZMHU), 1 (IRSN).

Aspidimorpha (s. str.) *obuduensis* n. sp.

ETYMOLOGY

Named after its type locality, Obudu in Nigeria.

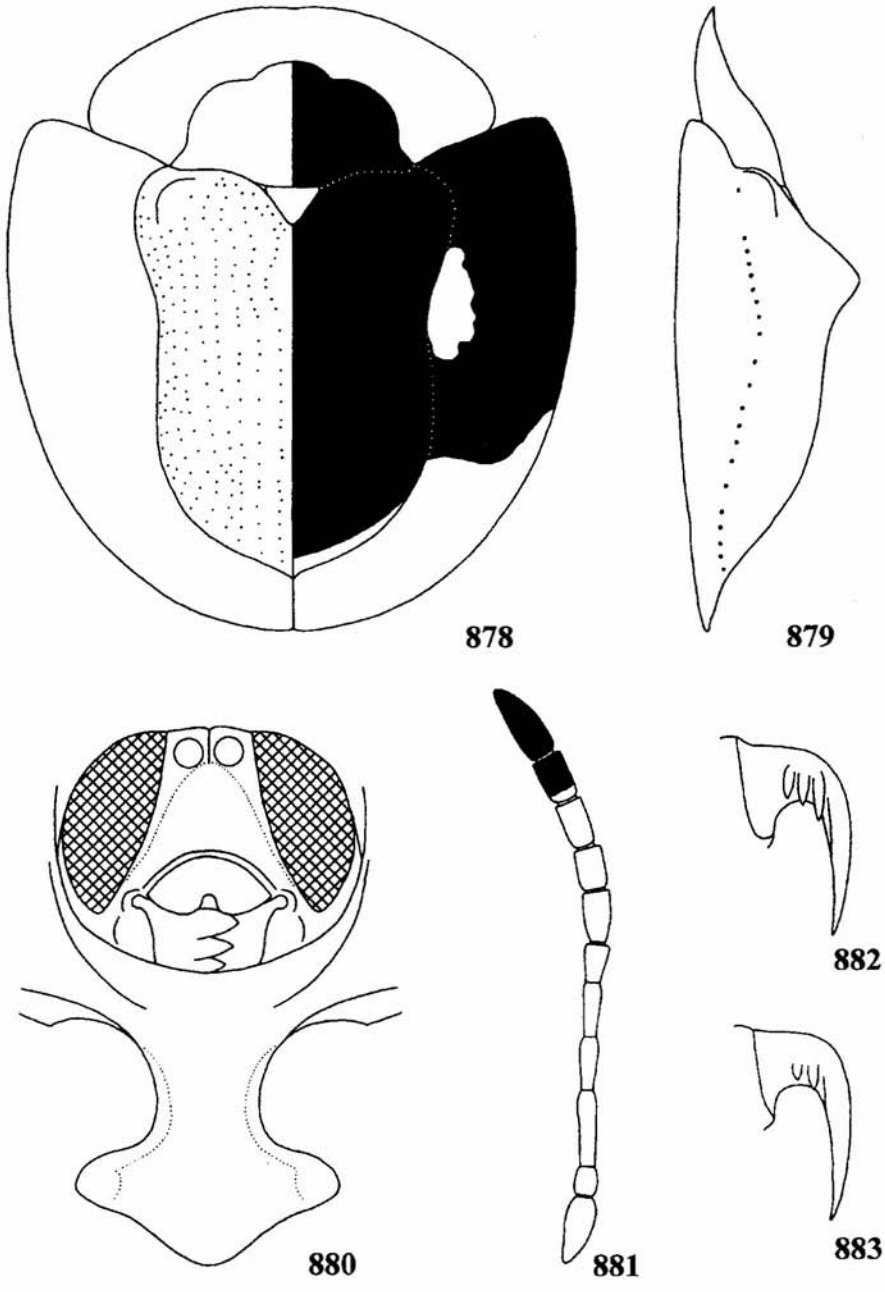
DESCRIPTION

Le: male: 8.0 mm, Wi: male: 7.3 mm, Lp: male: 2.6 mm, Wp: male: 5.2 mm, Ex: male: 2.0 mm, Wd: male: 3.3 mm; Le/Wi ratio: male: 1.10, Wi/Wp: male: 1.40, Wp/Lp: male: 2.00. Body almost circular (fig. 878)

Pronotal disc black, explanate margin uniformly yellow. Elytral disc black, explanate margin in 2/3 anterior length black with elongate oval yellow "window" close to marginal row, in posterior 1/3 length yellow. Scutellum yellow. Ventrites uniformly yellow. Antennae yellow, two last segments, except base of segment 10, black.

Pronotum broadly ellyptical, with maximum width in 3/5 length, sides narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra serrulate, distinctly wider than base of pronotum, humeri subangulate, elytral margins simple. Disc with large, sharp, conical postscutellar tubercle (fig. 879).



878-883. *Aspidimorpha obuduensis*: 878 - body in dorsal view, 879 - body in profile, 880 – head and prosternum, 881 – antenna, 882 – inner side of claw, 883 – outer side of claw

No principal impression, posterolateral impression small and shallow. Puncturation of disc very fine, regular, on slope distinctly finer than in anterior half of disc, barely marked, in sutural half of disc finer than in lateral part of disc. Scutellar row with 4-5 punctures. Punctures in rows sparse, disposed regularly, distance between punctures three to five times larger than puncture diameter. Rows not impressed, surface of disc regular. Punctures in marginal row deep, c. three to four times larger than in central rows. Intervals flat, in sutural half three to four, in lateral half 1.5-2.0 times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, subhorizontal, impunctate, its surface smooth and shiny. Elytral epipleura bare.

Head moderately broad, clypeus c. 1.4 times wider than long (fig. 880), glabrous, slightly elevated before antennal insertions, without median impression. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 881), extending to half length of metasternum, length ratio of antennal segments: 100:56:120:80:84:52:84:68:76:72:120.

Claws pectinate on both sides, inner pecten very short, with three teeth extending to 1/5 length of claw, two external teeth equal in length, internal twice shorter (fig. 882). Outer pecten with two very short teeth, c. twice shorter than in inner pecten (fig. 883).

DISTRIBUTION

Nigeria.

REMARKS

It is a member of the *mutata* group. The dorsal pattern of *A. obuduensis* is unique. Only *A. atrodorsata* and *A. uelensis* ab. *ituriensis* have elytral disc almost uniformly black but they have pronotum yellow, postscutellar tubercle low and obtuse (conical in *obuduensis*) and explanate margin of elytra immaculate or with only humeral spot (in *obuduensis* it is mostly black with yellow "window"). *A. muehlei* has also elytral and pronotal discs mostly black but it differs in distinctly larger body, stronger elytral puncturation, three last antennal segments black (in *obuduensis* two last segments black). Other species differ in pronotal disc yellow, or/and explanate margin of different pattern.

MATERIAL EXAMINED

NIGERIA: holotype: Obudu, III 1971, 1 (LB).

Aspidimorpha (s. str.) *officiosa* BOHEMAN, 1862

Aspidomorpha officiosa BOHEMAN, 1862: 255 (ST in BMNH, NRS); SPAETH, 1903: 172; 1916: 40, 1929: 158; JOLIVET, 1957: 50; SHAW, 1963: 459; 1968 b: 781; 1972: 65.

Aspidomorpha (Aspidomorpha) officiosa: SPAETH, 1914 b: 76.

Aspidomorpha lata WEISE, 1898: 220 (LT and PLT in ZMHU); SPAETH, 1914 b: 76 (as syn.); BOROWIEC, 1987: 414.

DESCRIPTION

Le: male: 8.3-9.9 mm, female: 9.7-11.2 mm, Wi: male: 8.0-8.9 mm, female: 8.4-9.5 mm, Lp: male: 2.8-3.3 mm, female: 3.0-3.6 mm, Wp: male: 5.5-6.6 mm, female: 6.1-7.0 mm, Ex: male: 2.2-2.6 mm, female: 2.2-2.5 mm, Wd: male: 4.0-4.7 mm, female: 4.7-5.5 mm. Le/Wi: male: 1.04-1.11, female: 1.14-1.25, Wi/Wp: male: 1.35-1.47, female: 1.29-1.40; Wp/Lp: male 1.93-2.07, female: 1.92-2.07. Body almost circular (fig. 884).

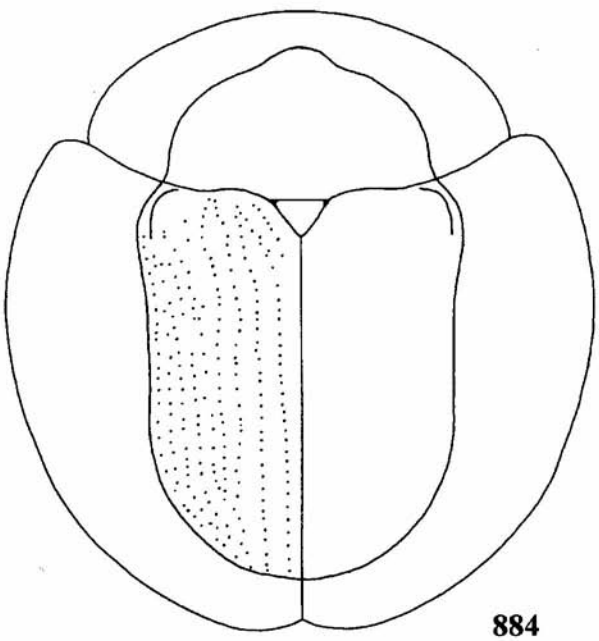
Pronotum and elytra uniformly yellow. Ventrites black, including clypeus and lateral plates of thorax, usually only lateral margins of abdomen yellowish. Occasionally, lateral parts of thorax brownish and only centre of abdomen infuscate, but thus coloured specimens represent not more than 1% of all populations. Legs yellow, except black coxae. Usually three last antennal segments brown to black, apex of last segment yellowish, sometimes whole segment 9 yellow, occasionally segment 8 also infuscate.

Pronotum ellyptical, with maximum Wi in 3/5 length, sides narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, sometimes impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, elytral margins simple. Disc regularly convex, with maximum convexity in postscutellar point (fig. 885), without impressions. Puncturation of disc fine, regular, on slope distinctly finer than in anterior half of disc, in sutural half of disc as large as in lateral part of disc. Scutellar row with 4-9 punctures. Punctures in rows moderately dense, disposed regularly, distance between punctures two to four times larger than puncture diameter. Rows not impressed, surface of disc regular. Punctures in marginal row shallow, c. two to three times larger than in central rows. Intervals flat, in sutural half five, in lateral half three to four times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, moderately declivous, impunctate, its surface smooth and shiny. Elytral epipleura in male only in sutural angle with hairs, in female pubescent on whole length, in apical part of epipleuron hairs are long and dense.

Head broad, clypeus c. two times wider than long (fig. 886), dull, distinctly elevated before antennal insertions, with shallow to deep median impression. Labrum emarginate to 1/3 length. Antennae moderately elongate (fig. 887), extending slightly behind mid coxa, length ratio of antennal segments: 100:40:110:70:67:50:70:57:60:60:106.

Claws pectinate on both sides, inner pecten extremely large, with four long teeth extending to 3/4 length of claw, three outer teeth equal in length, one inner c. twice shorter (fig. 888). Outer pecten in males usually with two teeth, outer c. 1.5 times shorter than teeth of inner pecten, inner tooth twice shorter than the outer; in large males and in females outer pecten with third tooth, c. twice shorter than median tooth (fig. 889).



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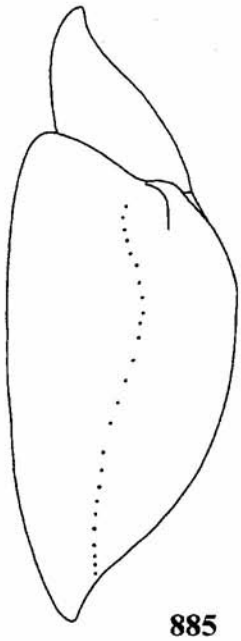

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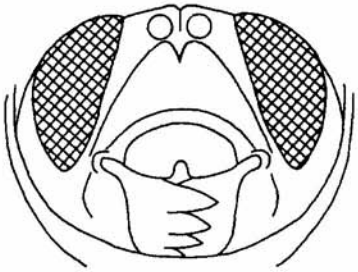

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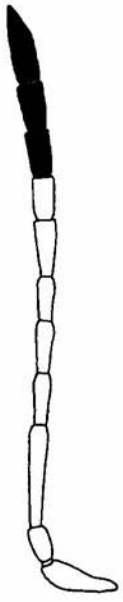

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884-889. *Aspidimorpha officiosa*: 884 - body in dorsal view, 885 - body in profile, 886 – head and prosternum, 887 – antenna, 888 – inner side of claw, 889 – outer side of claw

Sexual dimorphism distinct. Female distinctly larger, with body slimmer than in male and elytral epipleura pubescent on whole length.

DISTRIBUTION

West and Central Africa (fig. 890).

REMARKS

It is the only member of the *officiosa* group. At first glance it is more similar to stout species of *A. obovata* group - *A. indistincta* and *A. fusca.* It differs from both in the aabsence of sutural spot of elytral epipleura, finer and more regularly disposed elytral puncturation, more regular elytral convexity, ellyptical pronotum, usually black three last antennal segments and ventrites mostly black with at most yellowish sides of abdomen and part of lateral thoracal plates. It differs from regularly convex species of the *cincta* group in body more circular body, elytra always uniformly yellow and more convex elytral disc.

MATERIAL EXAMINED

ANGOLA: 30 km N of Quiculungo, IX-X 1957, 1 (CNCI).

CAMEROON: Bipindi, X-XII 1896, 1, G. ZENKER (ZMHU); Ebolowa, 5 V 1912, 1, v. ROTHKIRCH (ZMHU); Efulen, II 1910, 1, XII 1920, 1, VI 1922, 1, H.L. WEBER (CMNH), XI 1912, 1, J.A. REIS (CMNH); Japoma, 1, SCHÄFER (ZMHU); Jaunde, 27 III 1923, 4, 12 IV 1932, 1, 1 V 1923, 1 (CMNH); Jaunde St., 1, v. CARNAP (IRSN), 11, ZENKER (IRSN), 59, ZENKER (ZMHU), 19-25 X 1914, 1, TESSMANN (ZMHU), 17 III 1923, , 1, 12 IV 1923, 1, 1 V 1923, 1 (IRSN); Joko, 2 (IRSN), 2 (ZMHU), 4 (FMNH), 1 (HNHM), VII 1912, 2 (FMNH); Kribi, 1890, 1, MORGEN (ZMHU); Lolodorf, 5 (lectotype and 4 paralectotypes of *A. lata*, present designation, ZMHU), 1, G. SCHWAB (MCZC), 8 II-27 III 1895, 1, L. CONRADT (ZMHU), V 1914, 1, A.C. GOOD (CMNH), 19 XI 1914, 1, 7 II 1918, 1, J.A. REIS (CMNH); Arr. Mfou, Nkolnsala r. Nsala, 27 VIII 1963, 1, L. SEGERS (ZSM); Muëli, 400 m, 27 II 1958, 2, H. KNORR (NNML); Mukonye farm, 1, R. RHODE (IRSN); Nanga Eboko, VII-X 1959, 2, LENCZY (HNHM); Nkolbisson, Yaounde-Bi, 16 II 1963, 2, L. SEGERS (ZSM); Nssanakang, 1, A. DIEHL (ZMHU); Oberssanga, Gadsa, 14-17 II 1914, 1, TESSMANN (ZMHU); Pipinde, 1, ZENKER (ZMHU); Sardi n. Dengdeng, 2 IV 1914, 1, MILDBREAD (ZMHU); Tibati-Joko, 7-16 VII 1901, 1, GLAUNING (ZMHU); Victoria, 2 (ZMHU).

EQUATORIAL GUINEA: Nkolantangan, XI 1907-V 1908, 3, TESSMANN (ZMHU).

GABON: Gabon, 1 (ZMHU); Ogowe, 3, M. SCHMIDT (ZMHU).

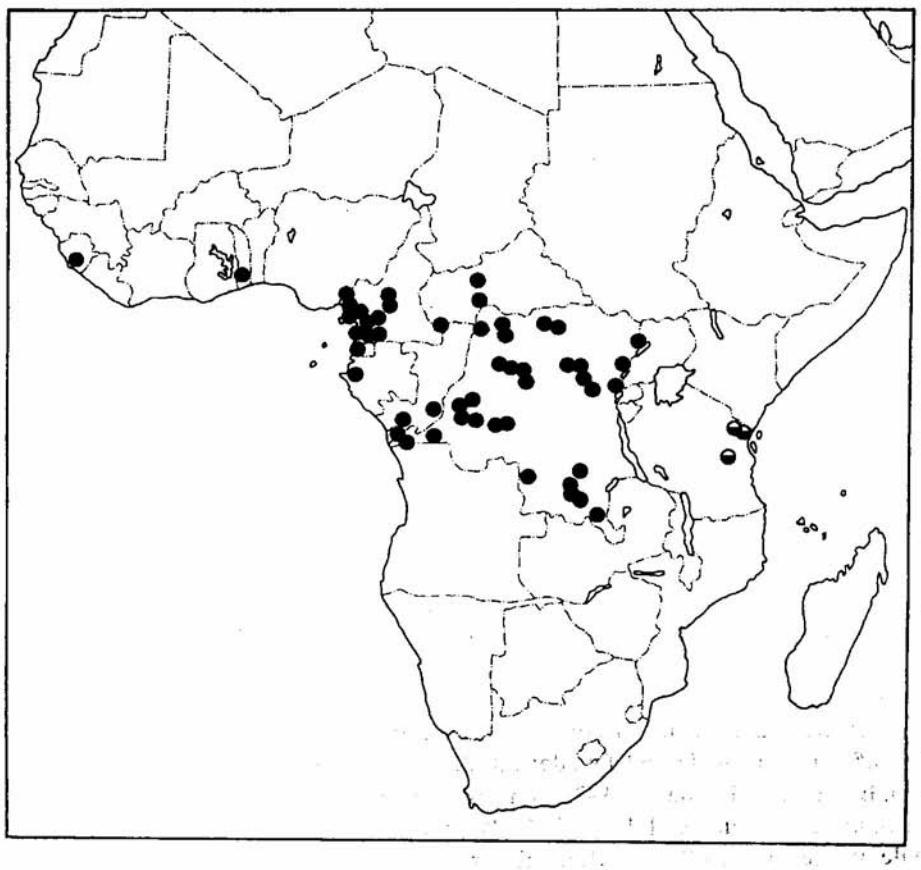
REPUBLIC OF CENTRAL AFRICA: Fort Crampel, 27 (IRSN); Fort Sibut, 3 (IRSN); Fort Sibut, Oubanghi-Chari, 1968, 4 (MRAC); Nola, 1 (IRSN).

REPUBLIC OF CONGO: Lefinie Res., Mbéokala forest, 10 I 1964, 2, 13 I 1964, 1, BALOGH and ZICSI (HNHM); Sibiti, Irho forest, 25 II 1963, 1, S. ENDRÖDY-YOUNGA (HNHM).

SIERRA LEONE: Mayamba, 1, coll. LE MOULT (IRSN).

TOGO: Misahöhe, 30 IV 1894, 1, E. BAUMANN (ZMHU).

ZAIRE: Bambesa, 20 VIII 1933, 1, V. LEROY (MM), III 1937, 1, VRIJDAGH (MM), 28 V 1937, 1, 20 XII 1939, 1, 3 I 1940, 1, 4 I 1940, 4, J.M. VRIJDAGH (IRSN); Beni Bendi, Sankuru, I 1925, 1, L. CLOETENS (IRSN); Biruwe-Buhunde, 17 IX 1929, 3, A. COLLART (IRSN); Botuna-Bokungu, 1950, 1, M. BOEL (IRSN); Buhunde-Matenda, 22 IX 1929, 1, A. COLLART (IRSN); Buhunde-Sawasawa, 15 IX 1929, 1, A. COLLART (IRSN); Bukungu, 1949, 4, M. BOEL (MRAC); Elisabethville, I 1939, 1, H.J. BRÉDO (IRSN), 1957-58, 1, Ch. SEYDEL (MRAC); Equateur, Masanga, Terr. Bokungu, Tshuapa, 5, MASSART (IRSN); Gemena, 10 IX 1947, 1, R. CREMER and M. NEUMAN (IRSN); Haute Maringa, 1894-96, 1, L. MAIRESSE (IRSN); Ilebo, 14-15 VII 1925, 1, Prince LEOPOLD (IRSN); Katanga, Kamina, II-III 1960, 1, A. FROIDEBISE (MRAC); Katanga, Mwene-Kama, XI 1925, 1, coll. LE MOULT (IRSN); Kibali-Ituri, Kilomines, IX 1957, 1, C. SMOOR (MRAC); Kisangani, XII 1970, 1, J. TAVERNIERS (MRAC); Kivu, Lukando, Bunyakiri, 1959-60, 1, J. HECQ (MRAC); Kwango, Djuma, 1953, 1, G. LÉTA (MRAC);



890. Distribution of *Aspidimorpha officiosa* (black circles) and *A. obtusangula* (white above black circles)

Kwango, N'Tumba, 1903-1904, 1, coll. d'ORYCHMONT (IRSN); Lac Leopold II, 11-24 VI 1925, 5, Prince LEOPOLD (IRSN),; Lac Leopold II, Bokalakala, 1957, N'Kele (MRAC); Libenge, 23 IX 1947, 1, 17 X 1947, 1, 10 XII 1947, 1, R. CREMER and M. NEUMAN (IRSN); Libenge, Isako, 13 XI 1947, 1, R. CREMER and M. NEUMAN (IRSN); Libenge, Mawuya, 14 X 1947, 1, 4 XI 1947, 1, 28 XI 1947, 1, R. CREMER and M. NEUMAN (IRSN); Likimi-Bokapo, 16 VII 1927, 2, A. COLLART (IRSN); Likimi-Gwanga, 18 VIII 1927, 2, A. COLLART (IRSN); Likimi-Mimbo, 8 X 1927, 1, A. COLLART (IRSN); Likimi-Mumbia, 29 X 1927, 2, A. COLLART (IRSN); Luvu, 22 VI 1924, 1, A. COLLART (IRSN); Mahagi-Niarembe, 1 (MM); Mandimba-Uluku, 14 IX 1929, 1, A. COLLART (IRSN); Masisi-Uluku, 14 X 1929, 1, A. COLLART (IRSN); Motenge, Boma, 2 XII 1947, 2, R. CREMER and M. NEUMAN (IRSN); Mpese, 21 VI 1937, 1, J. COOREMAN (IRSN); Mungubungu, IX-X 1936, 1, F.G. OVERLAET (IRSN); Ngowa, 2 XI 1938, 1, J. MERTENS (IRSN); Reg. Thysville, Bas-Congo, 1959-63, 2, R. MICHAUX (MRAC); Sankuru, Djeka, 1955-56, 1, R. ROISEUX (MRAC); Stanleyville, VI 1929, 1, A. COLLART (IRSN); Stanleyville, Likundu, 1954, 1, P. SAUSSUS (MRAC); Stanleyville, Lokilo, 18 XI 1954, 3, P. SAUSSUS (MRAC); Stanleyville, Yangambi, X-XII 1958, 1, J. DUBOIS (MRAC), XI 1959, 1, J. DECELLE (MRAC); Tshuapa, Bamanya, VI 1963, 1, IX 1964, 1, I-VI 1965, 1, 1968, 1, P. HULSTAERT (MRAC); Tshuapa, Bokuma, 2 (ER), XII 1951, 1, VI 1952, 1, VII 1952, 2, III 1954, 1, R.P. LOOTENS (MRAC); Tshuapa, Etata, VII-VIII 1969, 2, IX-X 1969, 2, V 1970, 1, J. HAUWAERTS (MRAC); Tshuapa, Ikela, III 1954, 1, 1955, 56, 1956, 52, X 1956, 15, XI 1956, 21, R.P. LOOTENS (MRAC), III-VI 1956, 20, R. DEGUIDE (MRAC); B Uele, 7-18 XI 1929, 1, Prince LEOPOLD (IRSN); B Uele, Beo, IV 1958, 2 (FMNH); Uluku-Buhunde, 24 IX 1929, 2, A. COLLART (IRSN); Umangi, IX-XI 1896, 2, E. WILVERTH (IRSN); Utike-Lubutu, 30 IX 1929, 1, A. COLLART (IRSN); Vaku-Luzi, 11 IV 1924, 1, A. COLLART (IRSN); Vungu, 24 V 1929, 1, A. COLLART (IRSN); Zambi, 1, M. TSCHOFFEN (IRSN).

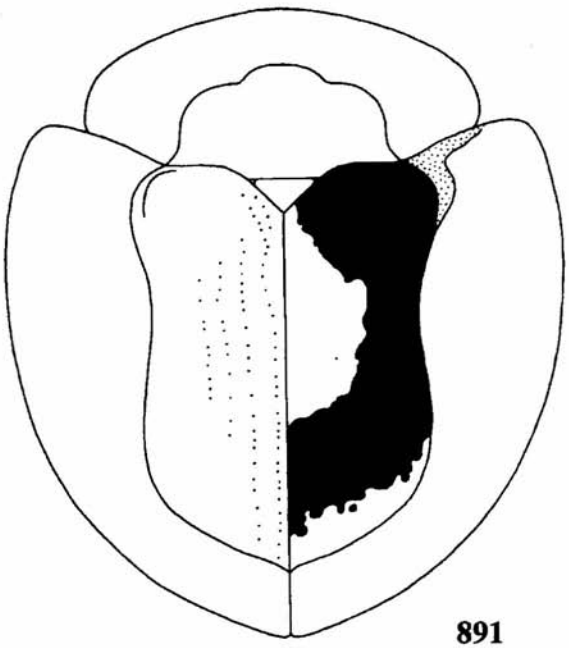
VARIA: Gold Coast, 1 (FMNH); Old Calabar, 1 (syntype of *A. officiosa*, BMNH), 1, "BALY" 1 (syntype of *A. officiosa*, NRS), 1 (IRSN).

Aspidimorpha (s. str.) *orbifera* SPAETH, 1934

Aspidomorpha uelensis ab. *orbifera* SPAETH, 1934: 386 (LT in MRAC, PLT in MM).
Aspidomorpha orbifera: SPAETH, 1940: 262; SHAW, 1972: 65.

DESCRIPTION

Le: male and female: 8.9-9.4 mm [mean 9.4, n=11], Wi: male and female: 7.7-8.5 mm, Lp: male and female: 2.6-2.9 mm, Wp: male and female: 5.4-6.1 mm, Ex: male and female: 1.9-2.2 mm, Wd: male and female: 3.8-4.3 mm; Le/Wi ratio: male and female: 1.11-1.17, Wi/Wp: male and female: 1.38-1.43, Wp/Lp: male and female: 2.00-2.27. Body almost circular (fig. 891).



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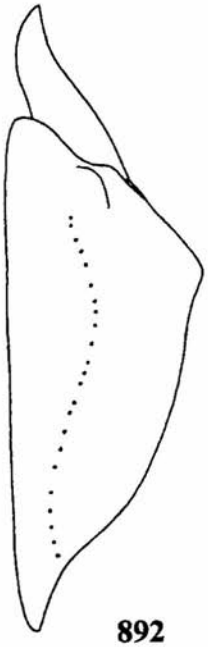

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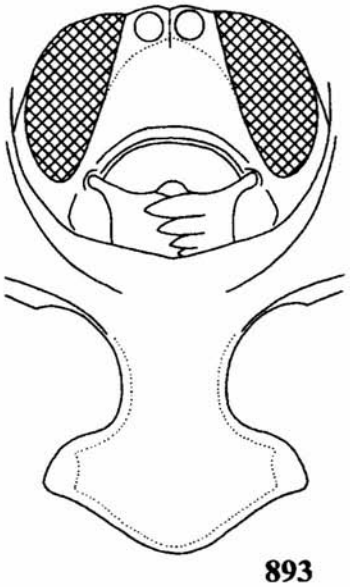

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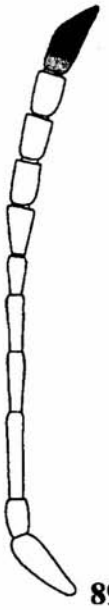

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895

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891-896. *Aspidimorpha orbifera*: 891 - body in dorsal view, 892 - body in profile, 893 – head and prosternum, 894 – antenna, 895 – inner side of claw, 896 – outer side of claw

Pronotum uniformly yellow. Elytra yellow with large black ring in humeral part of disc extending to marginal row, apex of disc yellow. This pattern is constant, in some specimens at base of humeral callus small, yellow spot. Scutellum yellow. Ventrites uniformly yellow. Antennae yellow, usually last segment partly black, except yellow ventral part of apex , sometimes last segment completely yellow, only occasionally segment 10 with infuscate apex.

Pronotum broadly ellyptical, with maximum width in 3/5 length, sides narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus. Base of elytra serrulate, distinctly wider than base of pronotum, humeri subrounded, elytral margins simple. Disc with very low and obtuse postscutellar tubercle (fig. 892). Principal impression very shallow, hardly marked, no posterolateral impression or it is very shallow, hardly marked. Puncturation of disc very fine, regular, on slope distinctly finer than in anterior half of disc, sometimes barely marked, in sutural half of disc finer than in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows moderately dense, disposed irregularly, distance between punctures two to five times larger than puncture diameter. Rows not impressed, surface of disc regular. Punctures in marginal row deep, c. three to four times larger than in central rows. Intervals flat, in sutural half five to six, in lateral half 1.5-3.0 times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, subhorizontal, forms a very shallow gutter, impunctate, its surface smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus c. 1.3-1.4 times wider than long (fig. 893), glabrous, slightly elevated before antennal insertions, without median impression. Labrum emarginate to 1/3 length. Antennae moderately elongate (fig. 894), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:50:140:96:80:57:66:66:60:63:113.

Claws pectinate on both sides, inner pecten very short, with four teeth extending to 1/6 length of claw (fig. 895). Outer pecten with two teeth, c. twice shorter than in inner pecten (fig. 896).

Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

S Zaire (fig. 1157).

REMARKS

It belongs to the *mutata* species group. It is one of the largest species, of the subgroup with low and obtuse postscutellar tubercle. Other species with obtuse postscutellar tubercles are *A. adjecta*, *A. mutata*, *A. atrodorsata* and *A. uelensis*. The two first species distinctly differ in larger pecten of tarsal claw extending to

2/5 length of claw (1/6 in *orbifera*). *A. orbifera*, like *A. atrodorsata* has no spots on explanate margin but the latter species differs in mostly brownish-black elytral disc (in *orbifera* with black ring) and distinctly smaller body. Structurally, *A. uelensis* is the most similar but always has humeral spot on elytra.

MATERIAL EXAMINED

ZAIRE: Kapanga, II 1933, 2, OVERLAET (paralectotypes of *A. uelensis* ab. *orbifera*, present designation, MM); Katanga, Louiza, 15 X 1933, 1, F.G. OVERLAET (MRAC); Lomani, Kishinda, IX 1931, 1, P. QUARRE (lectotype of *A. orbifera*, present designation, MRAC); Lulua, Kapanga, 10 XI 1932, 1, XII 1932, 2, I 1933, 1, VIII 1934, 1, F.G. OVERLAET (MRAC); Lulua, Sandoa, 1 (LB), XI 1930, 1, G.F. OVERLAET (paralectotype of *orbifera*, present designation, MRAC); Lulua, Tshibamba, III 1933, 1, F.G. OVERLAET (MRAC).

Aspidimorpha (s. str.) *palleago* BOHEMAN, 1854

Aspidomorpha Palleago BOHEMAN, 1854: 247 (HT in NRS); 1856: 104; 1862: 255; SPAETH, 1917: 423; 1932 b: 4; SHAW, 1956 a: 261.
Aspidomorpha (*Aspidomorpha*) *palleago*: SPAETH, 1914 b: 76.

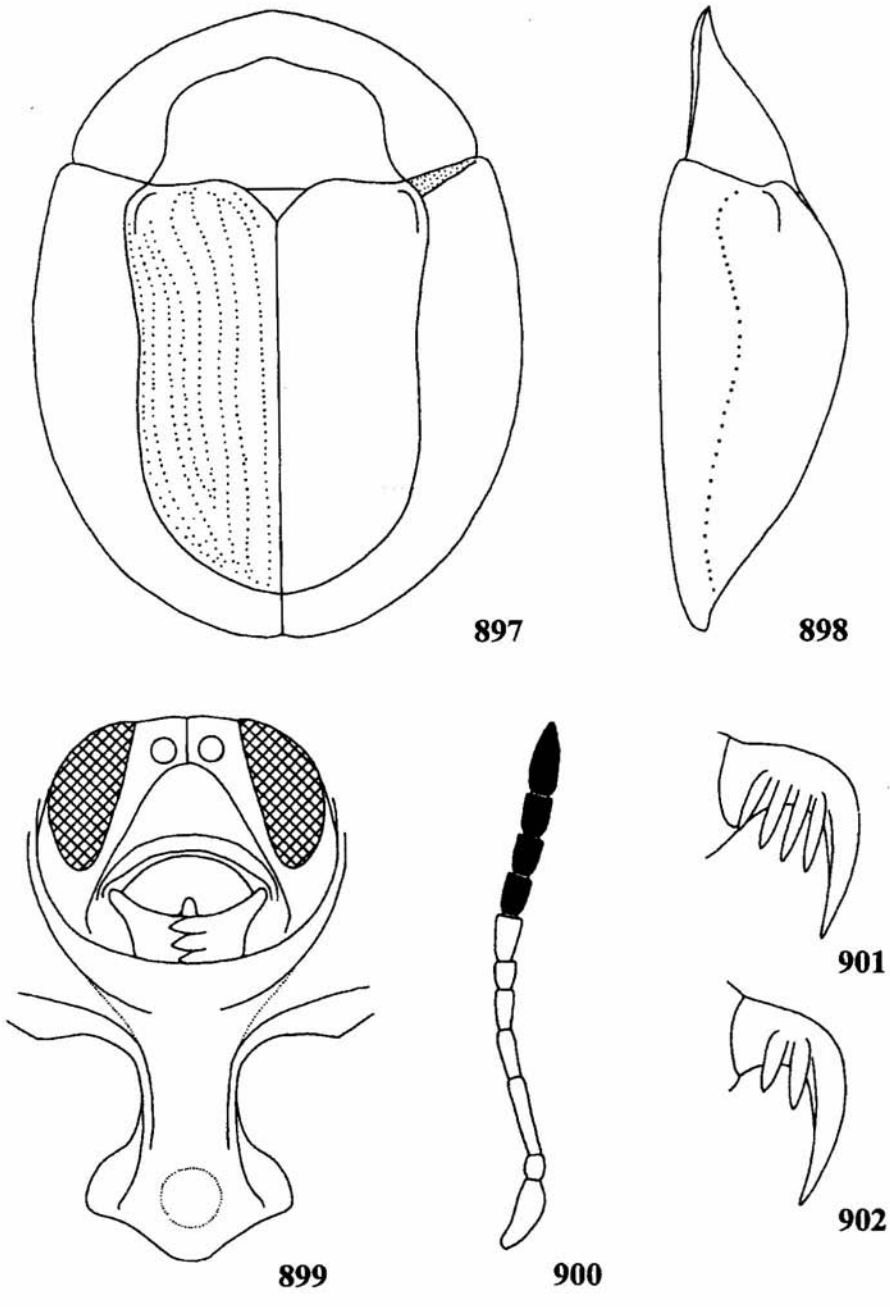
DESCRIPTION

Le: male: 10.7-13.3 mm, female: 12.7 mm, Wi: male: 8.4-10.0 mm, female: 9.4-9.7 mm, Lp: male: 3.5-4.2 mm, female: 3.9-4.0 mm, Wp: male: 6.7-8.2 mm, female: 7.8-7.9 mm, Ex: male: 2.1-2.2 mm, female: 2.1 mm, Wd: male: 5.3-6.1 mm, female: 5.6-5.7 mm. Le/Wi: male: 1.27-1.33, female: 1.31-1.35, Wi/Wp: male: 1.18-1.22, female: 1.21; Wp/Lp: male 1.90-2.05, female: 1.95-2.03. Body broadly oval (fig. 897).

Yellow, rows of punctures not reddish marked. Clypeus black, its centre sometimes yellowish. Prosternum, meso-, metasternum except lateral plates, and abdomen except sides black. Lateral plates of meso- i metathorax often partly black. Coxae and trochanters yellowish-brown to black, fore femora vary from yellow with only extreme base black to basal half black, mid and hind femora at basal 1/3-1/2 length also black. First antennal segment yellow, four last antennal segments black, apex of segment 11 yellowish, segment 7 often partly brown to black.

Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle of about 90-100°. Disc moderately convex, smooth, shiny, with very small microreticulation and extremely fine pricks. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

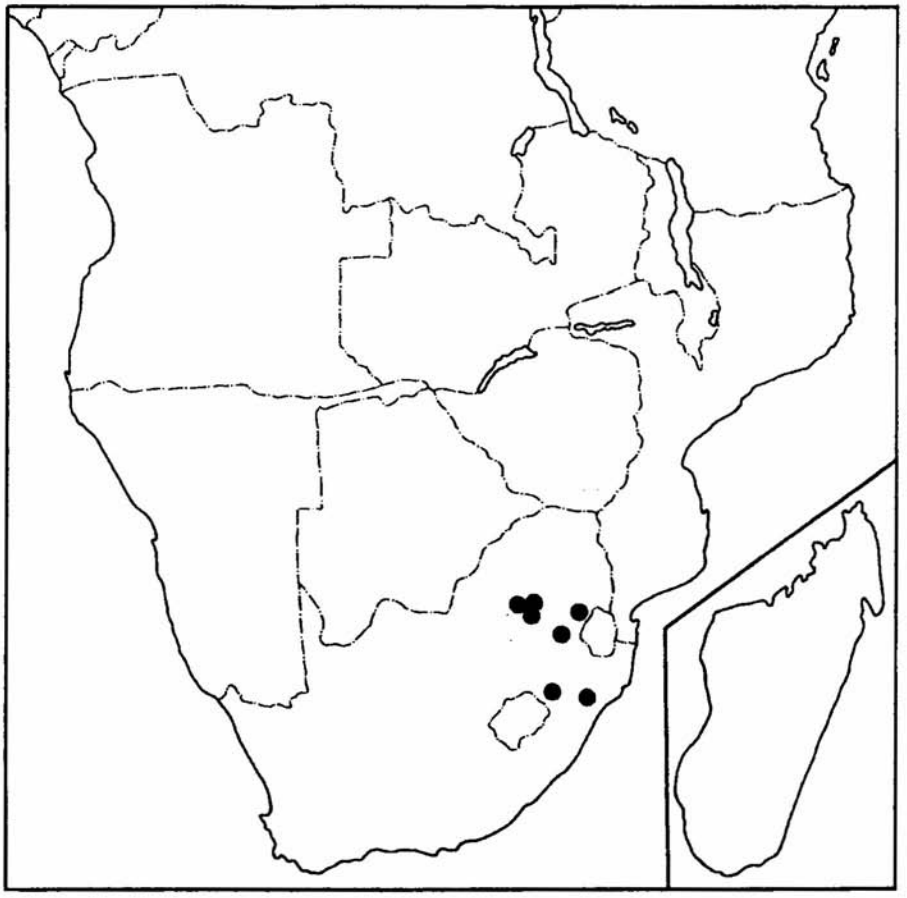
Scutellum triangular, without sulci, microreticulate, impunctate or with 3-5 very small punctures. Base of elytra serrulate, only slightly wider than base of pronotum, elytral margins slightly emarginate. Disc regularly convex, with no postscutellar gibbosity or tubercle (fig. 898), without principal and lateral im-



897-902. *Aspidimorpha palleago*: 897 - body in dorsal view, 898 - body in profile, 899 – head and prosternum, 900 – antenna, 901 – inner side of claw, 902 – outer side of claw

pressions, row 4 in 1/4 length with shallow, narrow impression. Puncturation of disc regular, punctures in sutural half of disc finer than in lateral part. Scutellar row with 7-9 punctures. Punctures in rows dense, distance between punctures 0.8-1.5 times larger than puncture diameter. Punctures in marginal row c. two to three times larger than in central rows. Intervals 1-4 flat, 5-10 only very feebly convex, five times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin moderately declivous, impunctate, shiny, but its surface slightly irregular, with several short, transverse folds, especially in hind part. Margin of elytra distinctly marginate, explanate margin forms broad, shallow gutter. Apex of elytral epipleura in male without hair, in female sparsely pubescent (in dried specimens hairs are often broken and females epipleura appear unpubescent).

Head broad, clypeus c. 1.7-1.9 times wider than long (fig. 899), dull, distinctly elevated before antennal insertions, with shallow median impression.



903. Distribution of *Aspidimorpha palleago*

Antennae moderately elongate (fig. 900), extending to mid coxa, length ratio of antennal segments: 100:37:115:65:58:40:60:40:50:52:78.

Claws pectinate on both sides, inner pecten with four long teeth extending to half length of claw, three outer teeth equal in length, inner slightly shorter (fig. 901). Outer pecten with three teeth c. 1.5 times shorter than inner pecten, both inner teeth distinctly shorter than outer (fig. 902).

Sexual dimorphism distinct. Female with body slimmer, subacuminate apex of elytra and pubescent hind part of elytral epipleura (in this species, like in *A. pallescens*, hair of epipleural apex are very fine and in dried specimens often broken).

DISTRIBUTION

South Africa: Natal, Transvaal (fig. 903).

REMARKS

It belongs to the *palleago* species group. The largest species of the group. Broad, moderately declivous explanate margin of elytra, unicolour elytral intervals and last four antennal segments black place this species close to *A. pallescens*. It differs in very broad elytra (length/width ratio in *A. palleago*: 1.27-1.35, in *A. pallescens*: 1.32-1.42), explanate margin forms a distinct, broad gutter, and first antennal segment yellow (partly infuscate in *A. pallescens*). *A. proszynskii* and *A. silfverbergi* differ in elytral intervals partly reddish. *A. mrogorensis* differs in more declivous explanate margin and narrower body, *A. strigosa* differs in strongly declivous explanate margin, simple elytral margin and punctures of elytra marked with red. *A. palleago* has the southernmost distribution of all the species of the *palleago* group.

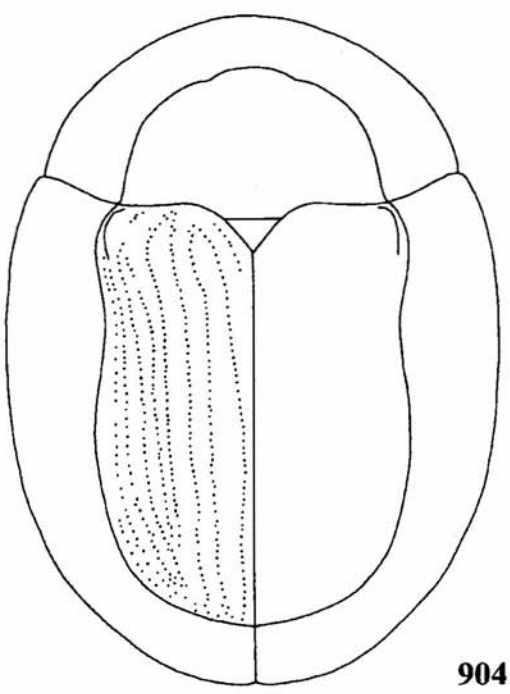
MATERIAL EXAMINED

SOUTH AFRICA: Barberton, 3 I 1906, 1, DE BEER (TM), 8 XII 1910, 1, A.J. JANSE (TM); Elandshoek, 1, A. CAPENER (TM); Johannesburg, Cyrildene, 30 XII 1961, 1 (TM); Natal, 1 (LB); Natal, Frere, 1892, 1, A. MARSHALL (CTM); Natal, Krantzkop, XI 1917, 1, K. H. BARNARD (CTM); Pretoria, 2 II 1979, 1, VARI (TM); Pt. Nat., 1, "I. VAHLB." (holotype, NRS); Rustenburg Naturres., 5-8 IV 1976, 1, POTGIETER and SCOBLE (TM); Transvaal, Ermelo, XII 1932, 1 (LB); Transvaal, Mp'home, 1, M. KNOTHE (ZMHU); Transvaal, Zoutsano, 800 m, 1 (ZMHU).

Aspidimorpha (s. str.) *pallescens* SPAETH, 1917

Aspidomorpha pallescens SPAETH, 1917: 422 (ST in MM); 1932 b: 4; SHAW, 1961: 17; BOROWIEC, 1985 a: 233.

Aspidomorpha sp. near *pallescens*: BOROWIEC, 1985 a: 233 (teratological specimen).



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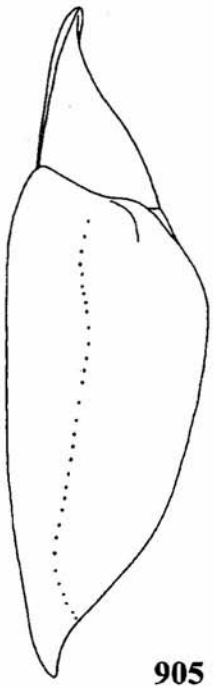

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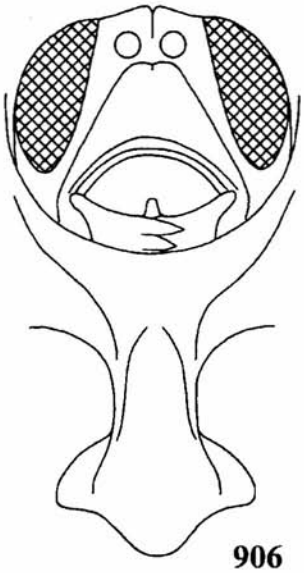

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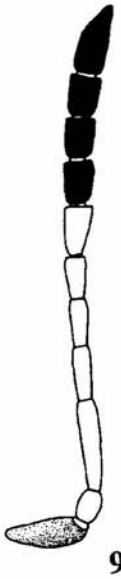

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904-909. *Aspidimorpha pallescens*: 904 - body in dorsal view, 905 - body in profile, 906 – head and prosternum, 907 – antenna, 908 – inner side of claw, 909 – outer side of claw

DESCRIPTION

Le: male: 10.1-11.1 mm, female: 10.7-12.2 mm, Wi: male: 7.5-8.5 mm, female: 7.2-8.7 mm, Lp: male and female: 3.3-3.7 mm, Wp: male: 6.4-6.9 mm, female: 6.5-7.2 mm, Ex: male: 1.7-1.9 mm, female: 1.8-2.0 mm, Wd: male: 4.7-5.1 mm, female: 5.0-5.4 mm. Le/Wi: male: 1.30-1.35, female: 1.37-1.42, Wi/Wp: male: 1.17-1.23, female: 1.17-1.24; Wp/Lp: male 1.86-1.94, female: 1.94-1.97. Body oval (fig. 904).

Yellow, rows of punctures not reddish marked. Clypeus black. Prosternum, meso-, metasternum except lateral plates, and abdomen except sides black. Lateral plates of meso- i metathorax often partly black. Coxae and trochanters black, femora at basal 1/2-2/3 length also black. First antennal segment partly infuscate to black, four last antennal segments black, apex of segment 11 yellowish, segment 7 often partly brown to black.

Pronotum semicircular, with maximum Wi at base, hind angles subangulate, forming blunt angle of about 90-100°. Disc moderately convex, smooth, shiny, with very small microreticulation and extremely fine pricks. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, without sulci, microreticulate with 6-9 very small punctures. Base of elytra serrulate, only slightly wider than base of pronotum, elytral margins slightly emarginate. Disc regularly convex, with no postscutellar gibbosity or tubercle (fig. 905), without principal and lateral impressions, row 4 in 1/4 length with shallow, narrow impression. Puncturation of disc regular, punctures in sutural half of disc finer than in lateral part. Scutellar row with 7-9 punctures. Punctures in rows dense, distance between punctures 0.8-1.5 times larger than puncture diameter. Punctures in marginal row c. two to three times larger than in central rows. Intervals 1-4 flat, 5-10 only very feebly convex, five times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin moderately declivous, impunctate, shiny, but its surface slightly irregular, with several short, transverse folds, especially in hind part. Margin of elytra distinctly marginate, explanate margin forms shallow but distinct gutter. Apex of elytral epipleura in male without hairs, in female sparsely pubescent (in dried specimens hairs are often broken and females epipleura appear unpubescent).

Head broad, clypeus c. 1.9-2.0 times wider than long (fig. 906), dull, distinctly elevated before antennal insertions, with shallow median impression. Antennae moderately elongate (fig. 907), extending to mid coxa, length ratio of antennal segments: 100:29:100:71:57:43:57:54:57:57:86.

Claws pectinate on both sides, inner pecten with four long teeth extending to half length of claw, three outer teeth equal in length, inner slightly shorter (fig. 908). Outer pecten with three teeth c. 1.5 times shorter than inner pecten, both inner teeth distinctly shorter than outer (fig. 909).

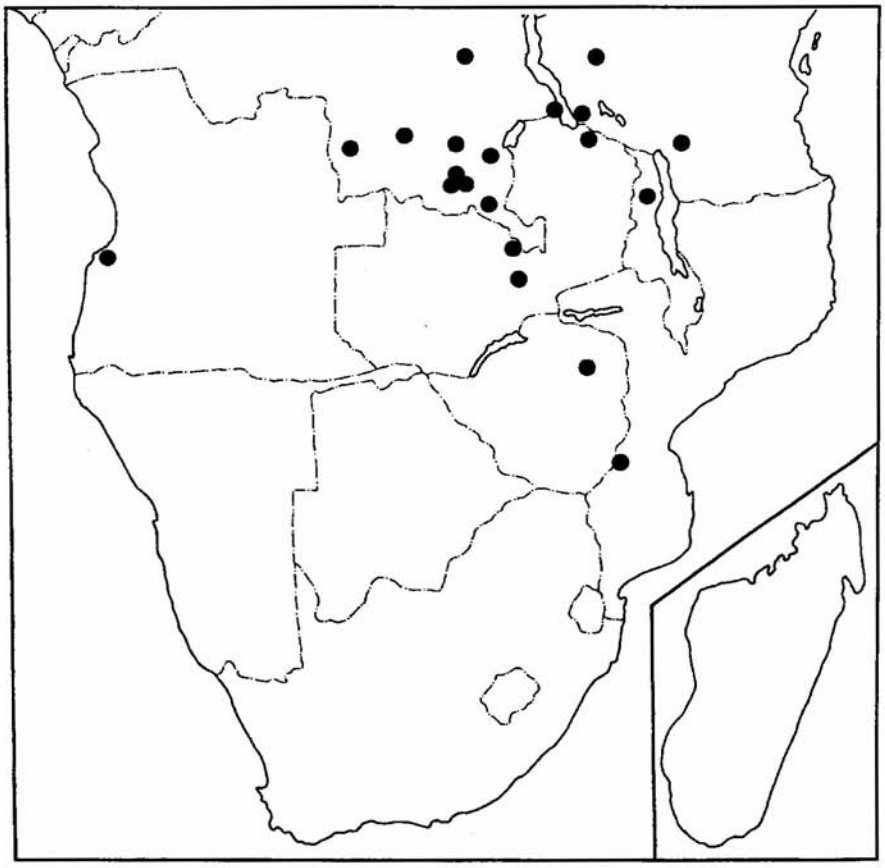
Sexual dimorphism distinct. Female with body slimmer, subacuminate apex of elytra and pubescent hind part of elytral epipleura.

DISTRIBUTION

Southern part of Central and East Africa and northern part of South Africa (fig. 910).

REMARKS

It belongs to the *palleago* species group. Broad, moderately declivous explanate margin of elytra, unicolour elytral intervals and last four antennal segments black place this species close to *A. palleago*. It differs in very broad elytra (Le/Wi ratio in *A. palleago*: 1.27-1.35, in *A. pallescens*: 1.35(30)-1.42) and uniformly yellow first antennal segment (partly infuscate in *A. pallescens*). Females of *A. pallescens* are similar to males of *A. mrogorensis*, but *A. pallescens* has mid- and hind femora black to 1/2 length while in *A. mrogorensis* femora are



910. Distribution of *Aspidimorpha pallescens*

entirely yellow, with at least extreme base blackish. In *A. pallescens* last four antennal segments are infuscate, while in *A. mrogorensis* only two. *A. pallescens* is stouter than *A. mrogorensis* (Le/Wi ratio in *A. pallescens*: male: 1.30-1.35, female: 1.37-1.42, in *A. mrogorensis*: male: 1.36-1.46, female: 1.47-1.49). *A. proszynskii* and *A. silfverbergi* differ in partly reddish elytral intervals, and *A. strigosa* differs in elytral rows marking with red.

MATERIAL EXAMINED

ANGOLA: Benguela, 3, PLASON (syntypes, MM), 1914, 1, PLASON (syntype IRSN).

MALAWI: Rhumphi Distr., 6 km SE Mwazisi, 2-3 XII 1986, 1, E. HOLM and E. MARAIS (WM).

MOZAMBIQUE: Espungabera, 11 II 1963, 1, A.C. VAN BRUGGEN (NNML); M. Pueji., 1 (ZMHU).

TANZANIA: Reg. du Tanganjika, Cap Storms, 1 (syntype, MM); Tanganjika L., 2, P. REICHARD (ZMHU); Uhehe, 1905, 1 (syntype, ZSM); Uheheland, Kidugala, 1 (TM); Urungu b. Bismarckburg, 1, ZENCKE (ZMHU); Usangu Distr., 3500-4500 ft., 29 XI-15 XII 1910, 1, S.A. NEAVE (BMNH).

ZAIRE: Haut Katanga, Chinkolobwe, 28 X 1930, 1, J. ROMIEUX (MHNG); Haut Katanga, Kiala, N'Guba, 3 VII 1929, 1, 23 VII 1929, 1, J. ROMIEUX (MHNG); Jadotville, Mwera, XII 1956-V 1957, 1, Th. DE CATERS (MRAC); Kasenga, 2 II 1912, 1, Dr. BEQUAERT (syntype, MRAC); Katanga, Elisabethville, Riv. Fulubwe, I 1956, 1, M. LIPS (MRAC); Katanga, Jadotville, X 1950, 2, J. VAN MOL (MRAC); Katanga, Kakanda, Mutaka, 15 XII 1953-4 I 1954, 1, Th. DE CATERS (MRAC); Katanga, Kiala n. N'Buba, 5 VII 1929, 1 (LB); Katanga, Luembe, VIII-IX 1956, 1, Th. DE CATERS (MRAC); Kongolo, 23 I 1911, 1, Dr. BEQUAERT (syntype, MRAC); Kundelunga, 21 XII 1910, 1, BEQUAERT (syntype, MM); Lac Tanganika, cap Storms, 1 (IRSN); Lualaba, Zilo, 25 XI 1958, 1, V. ALLARD (MRAC); Lulua, Kabomba, XI 1937, 1, VANDERSTICHELEN (MRAC); Moliro, 1, J. DUVIVIER (IRSN); Mulungwa, 1, BEQUAERT (paratype, MM).

ZAMBIA: Abercorn, 30 XII 1943, 1, H.J. BRÉDO (IRSN); Kashitu, N of Broken Hill, VI 1915, 2, H.C. DOLLMAN (BMNH); Musosa, 13 IX 1939, 1, H.J. BRÉDO (IRSN); Ndola, 9 II 1958, 1, P. JOHNSEN (ZMC).

ZIMBABWE: Salisbury, 1 (TM), 6 VIII 1913, 1, 21 XII 1919, 1, J. O'NEIL (NMM), 6 VII 1919, 1 (TM), 8 VII 1919, 1 (LB), 1915, 1, M. MELLE (CTM).

VARIA: Caffraria, 1 (ZMHU).

Aspidimorpha (s. str.) *pontifex* BOHEMAN, 1854

Aspidomorpha Pontifex BOHEMAN, 1854: 286 (ST in MM, ZMHU)1856: 110, 1862: 247; HINCKS, 1962: 247.

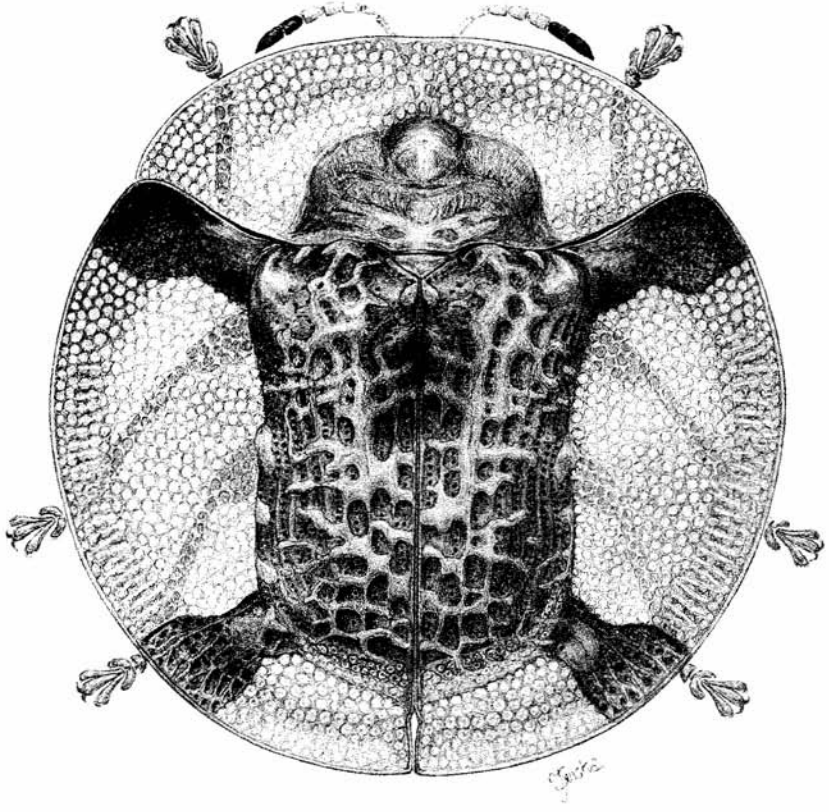
Aspidomorpha (*Aspidomorpha*) *pontifex*: SPAETH, 1914 b: 77.

Aspidomorpha rotunda FAIRMAIRE, 1897: 202 (ST in MNHN, MM); 1904: 270; WEISE, 1910 c: 479; SPAETH, 1914 b: 77 (as syn.).
Aspidomorpha roturica [sic]: XAMBEU, 1905: 148 (biology).

DESCRIPTION

Le: male: 13.4-15.1, female: 15.5 mm, Wi: male: 13.2-14.7 mm, female: 14.3 mm, Lp: male: 4.5-5.0 female: 4.4 mm, Wp: male: 10.0-11.5 mm, female: 10.2 mm, Ex: male: 3.6-4.3 mm, female: 3.5 mm, Wd: male: 6.0-6.6 mm, female: 7.2 mm. Le/Wi: male: 1.01-1.03, female: 1.08, Wi/Wp: male: 1.28-1.32, female: 1.40; Wp/Lp: male: 2.22-2.36, female: 2.32. Body almost circular (figs 911, 912).

Pronotum uniformly yellow. Elytral disc yellow, in male punctures with darker, red centre or areola, sometimes areolae partly coalescent and disc mostly reddish-brown, in extreme cases whole disc reddish-brown. Explanate margin yellow, with moderately broad to broad, reddish brown to brown humeral and



911. *Aspidimorpha pontifex*, habitus (by J. ŚWIĘTOJAŃSKA)

posterolateral spots. Humeral spot sometimes widened posterad and posterolateral spot widened anterad. Margin of explanate margin darker yellow than central part of the explanate margin. Clypeus and ventrites uniformly yellow. Antennae yellow with two last segments black, except ventral side of apex of the last segment. Legs uniformly yellow.

Pronotum narrowly ellyptical, with maximum width almost at base, hind angles form an angle of 80-85°. Disc moderately convex, smooth, glabrous, with very small microreticulation. Explanate margin indistinctly bordered from disc, subhorizontal, in anterior part with tendency to form a gutter, its surface smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, as wide as or only slightly wider than base of pronotum, humeri rounded, elytral margins simple to slightly marginate. Disc unevenly convex, with very large, conical postscutellar tubercle, top of the tubercle sharp, profile behind the tubercle deeply concave (fig. 913). Discal surface completely irregular with numerous irregular folds, appears rugose, with distinct principal impression. Puncturation of disc moderate to coarse, rows in male impressed, in female in sutural rows slightly impressed, on sides not impressed, punctures on slope c. twice finer than in anterior half of disc, in sutural half of disc c. twice to thrice finer than in lateral part of disc. Scutellar row with 5-7 punctures. Punctures in rows moderately dense to dense, disposed in male mostly irregularly, grouped in 2-5, groups separated by folds, in female punctures disposed mostly regularly but subsutural interval in the middle with several additional, irregular punctures, distance between punctures in groups as wide as to twice larger than puncture diameter. Punctures in marginal row only slightly larger than punctures in submarginal rows. Intervals in male more or less convex, in female partly flat, in sutural half of disc three to five times, in lateral half as wide as rows, their surface smooth, slightly dull. Lateral fold of marginal interval broad and strongly convex. Explanate margin extremely broad, almost horizontal with tendency to form a gutter, impunctate, its surface smooth, less glabrous than pronotum. Apex of elytral epipleura pubescent in both sexes, in female hair dense and long, in male sparser.

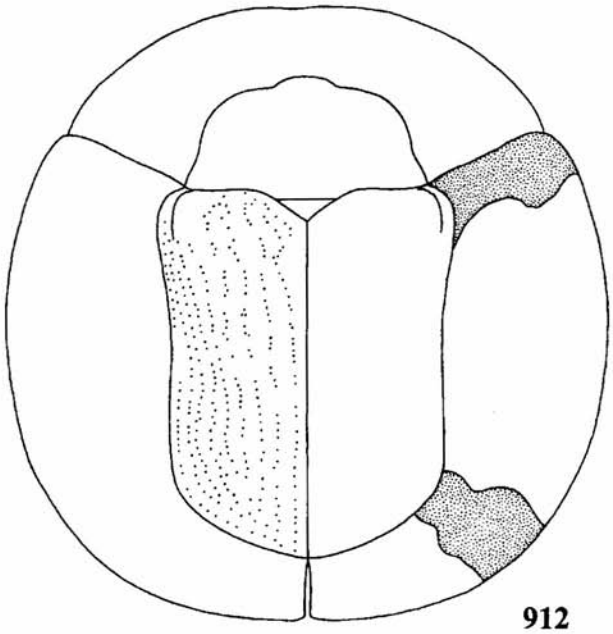
Head moderately broad, clypeus 1.4 -1.5 times wider than long (fig. 914), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/6-1/4 length. Antennae moderate (fig. 915), length ratio of antennal segments: 100:36:152:80:70:60:74:60:66: 64:112.

Claws pectinate on both sides, inner pecten extremely short, with four teeth only slightly extending beyond margin of claw (fig. 916), outer pecten with two teeth, slightly extending beyond the margin of claw (fig. 917).

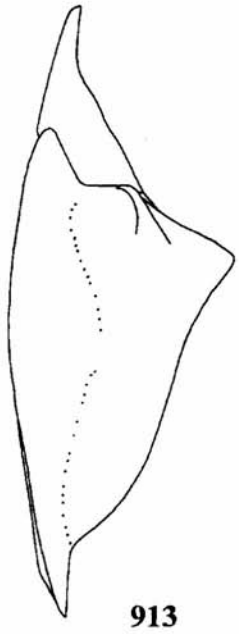
Sexual dimorphism indistinct. Male stouter and more rounded, with slightly more horizontal explanate margin of elytra.

DISTRIBUTION

Madgascar (fig. 924).



912



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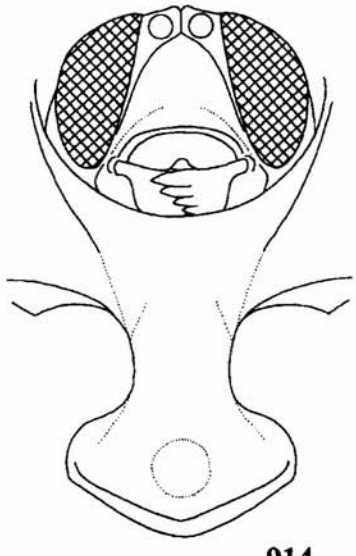

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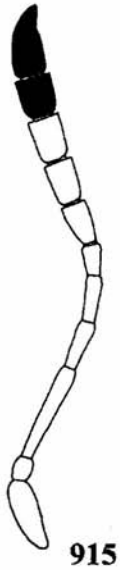


915

916

917

912-917. *Aspidimorpha pontifex*: 912 - body in dorsal view, 913 - body in profile, 914 – head and prosternum, 915 – antenna, 916 – inner side of claw, 917 – outer side of claw

REMARKS

It is a member of the *pontifex* group distributed only in Madagascar. It is the largest species of the group, only *A. rubroornata* has a similar size but differs in elytral sculpture with yellow relief on purple reddish groundcolour (in pontifex disc has no relief, punctures are mostly irregular and disc appears rugose). Large specimens of *A. undulatipennis* are similar to *A. pontifex* but differ in base of elytra slightly wider than base of pronotum with distinct cleft between elytron and pronotum, and elytral surface wrinkled but not appearing distinctly rugose (in *pontifex* base of elytra is as wide as base of pronotum and body outline is regularly circular).

MATERIAL EXAMINED

MADAGASCAR: Amber Geb., 2 (ZMHU); Bekily, Reg. Sud de l'Ile, 1 (MNHN); Diego Suarez, 1, coll. DONCKIER (syntype of *A. pontifex*, MM), 1 (ZMHU); Fampanambo, I 1961, 1 (LB); Madagascar, 2 (syntypes of *A. rotunda*, MM), 1, GOUDOT (syntype of *A. pontifex*, ZMHU); Madagascar, Sud d'Ile, 1 (MRAC); Suberbieville, 1 (syntype of *A. rotunda*, MM); Tamatave, 1 (ZMHU), 1 (LB).

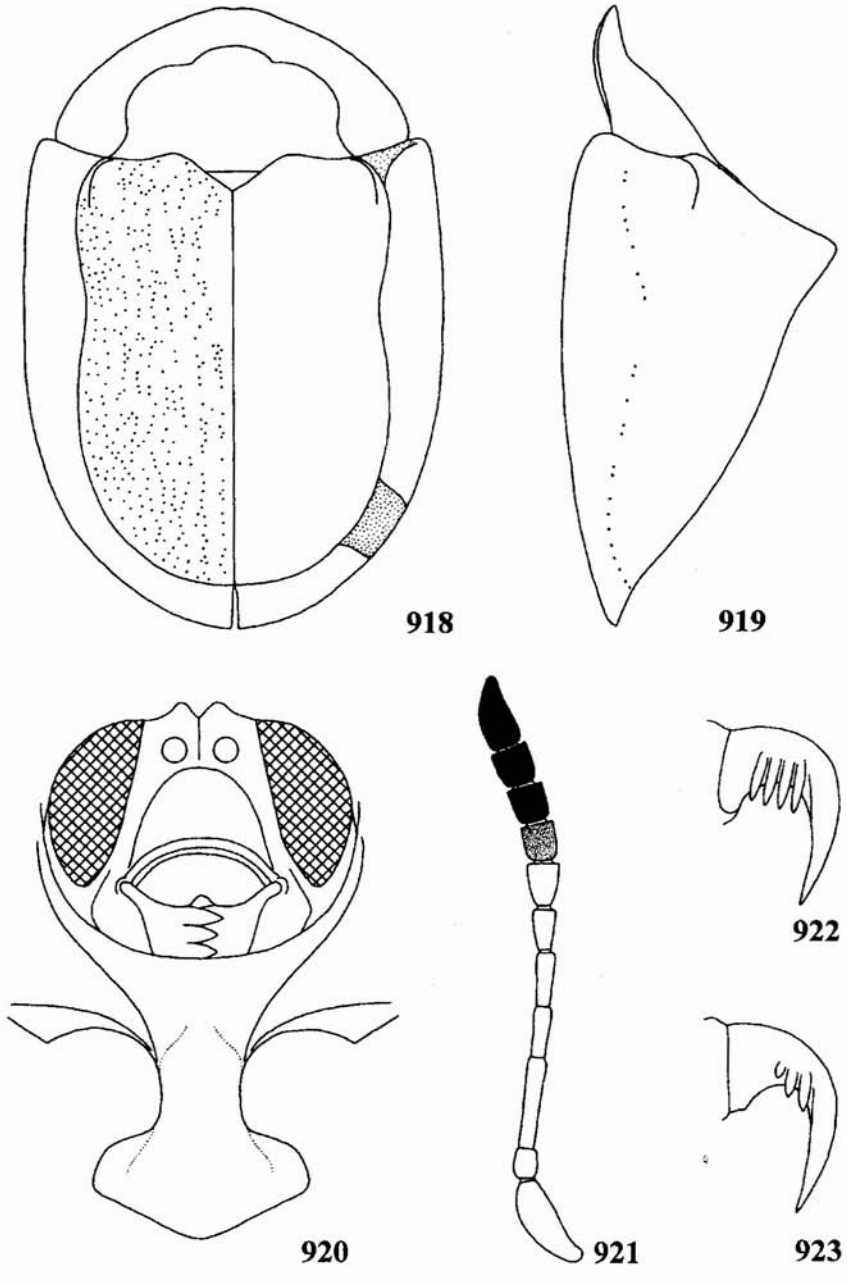
Aspidimorpha (s. str.) *potens* WEISE, 1903

Aspidomorpha potens WEISE, 1903: 223, 226 (ST in ZMHU); SHAW, 1961: 18.
Aspidomorpha (*Aspidomorpha*) *potens*: SPAETH, 1914 b: 77.
Aspidomorpha (*Conchyloctenia*) *potens*: SPAETH, 1932 b: 3.

DESCRIPTION

Le: male: 10.3-13.0, female: 10.3-13.7 mm, Wi: male: 7.4-9.4 mm, female: 7.3-9.3 mm, Lp: male: 2.9-3.5 female: 3.1-3.8 mm, Wp: male: 5.8-7.5 mm, female: 6.1-7.8 mm, Ex: male: 1.2-1.6 mm, female: 1.2-1.4 mm, Wd: male: 5.0-6.4 mm, female: 4.9-6.5 mm. Le/Wi: male: 1.35-1.39, female: 1.41-1.50, Wi/Wp: male: 1.25-1.28, female: 1.19-1.25; Wp/Lp: male: 1.88-2.14, female: 1.91-2.21. Body elongate-oval (fig. 918).

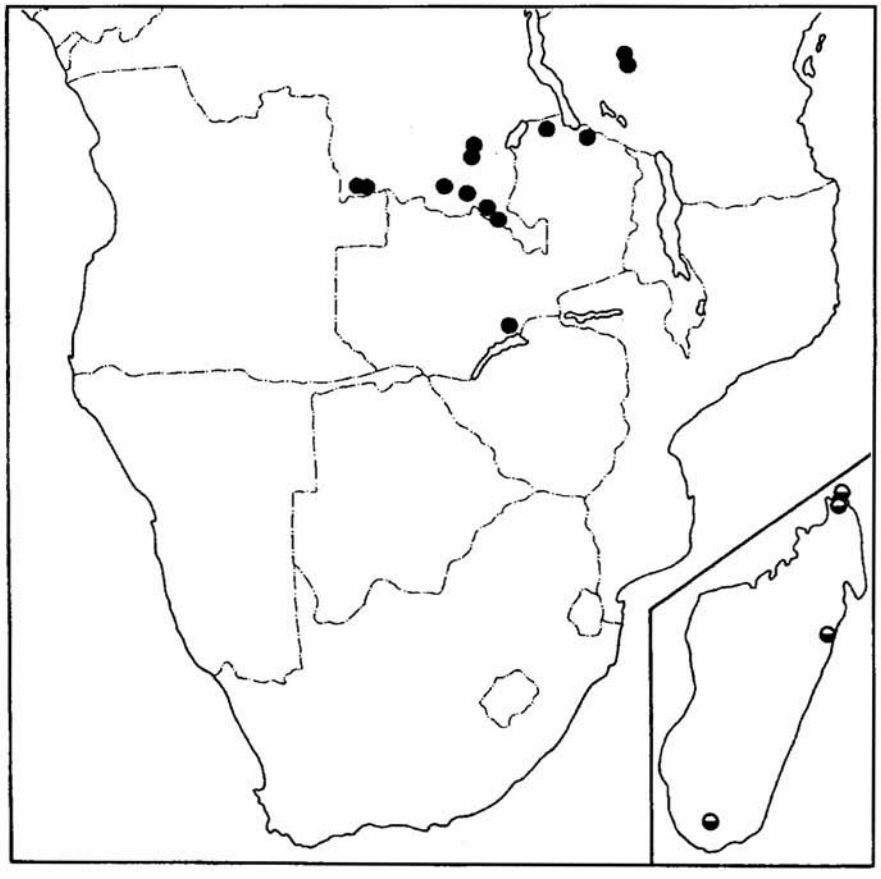
Pronotum uniformly yellow to argillaceous. Dorsal part of elytra uniformly yellow to argillaceous, punctures in basal part of disc, sides and along suture often with darker, reddish to brown centre, humerus and anterior part of posts-cutellar tubercle often with reddish brown, irregular spots. Explanate margin yellow with reddish broad posterolateral and narrow sutural spot, no humeral spot but humeral part of explanate margin usually with diagonal opaque area. Margins of explanate margin of elytra not darker yellow than ventral part of the explanate margin. Scutellum yellow to argillaceous. Head black, centre of clypeus sometimes brown, thorax, except lateral plates, black. Abdomen argillaceous, base of first sternite often with dark, brown to black spot. Antennae yellow, three to four last segments black, except yellow underside of the apex of last segment. Legs including coxae yellow.



918-923. *Aspidimorpha potens*: 918 - body in dorsal view, 919 - body in profile, 920 – head and prosternum, 921 – antenna, 922 – inner side of claw, 923 – outer side of claw

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, especially on sides, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri subangulate, elytral margins narrowly marginate. Disc unevenly convex, with large, conical postscutellar tubercle, profile moderately to deeply concave behind the top of convexity (fig. 919), discal surface without impressions. Puncturation of disc moderate, partly irregular, but with tendency to form rows, on slope slightly finer than in anterior half of disc, in sutural half of disc only slightly finer than in lateral part of disc. Punctures partly grouped in 3-7. Scutellar row with 6-8 punctures. Punctures moderately dense to dense, especially in groups, distance between punctures in groups smaller than puncture



924. Distribution of *Aspidimorpha pontifex* (white above black circles) and *A. potens* (black circles)

diameter, between groups as wide as to thrice wider than puncture diameter. Punctures deeply impressed. Punctures in marginal row deep, only twice larger than in central rows. Intervals irregular, in sutural half of disc twice to thrice wider than rows, their surface smooth and glabrous. Lateral fold of marginal interval broad, moderately convex. Explanate margin moderately broad, moderately declivous, with no tendency to form a gutter. Elytral epipleura bare.

Head very broad, clypeus 1.8-1.9 times wider than long (fig. 920), glabrous, slightly elevated before antennal insertions, shallowly impressed in the middle. Labrum emarginate to 1/4-1/3 length. Antennae moderately elongate (fig. 921), extending to mid coxa, length ratio of antennal segments: 100:32:105:60:56:40:48:46:48:48:100.

Claws pectinate on both sides, inner pecten short, with four teeth extending c. to 1/3 length of claw (fig. 922), outer pecten with two very short teeth, first extending to 1/8 length of claw, the second distinctly smaller (fig. 923).

Sexual dimorphism indistinct, males slightly stouter than females.

DISTRIBUTION

SE Zaire, Zambia and Tanzania (fig. 924).

REMARKS

It is a member of the *potens* group. From its only relative *A. firma* it differs in sharp, conical postscutellar tubercle (in *firma* top of the tubercle is blunt) and puncturation of elytra more regular with some rows distinct (in *firma* puncturation is mostly irregular and surface of disc appears rugose). *A. flaviceps* of the *intricata* group is also similar but differs in stouter body, less declivous explanate margin of elytra less and puncturation of elytra less regular, with surface of disc appears rugose, like in *A. firma*.

MATERIAL EXAMINED

TANZANIA: Kombe-Unyanyembe, 16-20 XI 1899, 1 (LB); Lulanguru, Tabora, X-XII 1917, 1 (LB); Wambora, 1, KOHLSCHÜTTER (syntype, ZMHU)

ZAIRE: Bukama, 30 IV 1923, 1, Ch. SEYDEL (MRAC); Elisabethville, IX-X 1911, 5, XI 1911, 3, 13 XI 1911, 1, Miss. Agric (1 MM, 7 MRAC), V 1920, 1 (MRAC), XI 1922, 1, Ch. SEYDEL (MRAC), 1935, 1, RICHARD (MRAC); Elisabethville-Lubumbashi, XII 1925, 2, VAN SACEGHEM (MRAC), XI 1926, 1, Ch. SEYDEL (MRAC); Katanga, Jadotville, 1 (LB); Katentania, X 1925, 1, Ch. SEYDEL (MRAC); Lulua, Luashi, XI 1938, 2, F. FREYNE (MRAC); Source Lubilash, Luashi, XI 1937, 3, F. FREYNE (MRAC); Tshinsenda, XII 1911, 3, Miss. Agric. (MRAC); Upemba Nat. Park, Mukana, 1810 m, 15-19 I 1948, 10, G.F. DE WITTE (MRAC); Yambata, 10 XII 1912, 1, R. MAYNÉ (MRAC).

ZAMBIA: Abercorn, 19 VI 1943, 1, H.J. BRÉDO (IRSN); Mweru-Wantipa, I 1945, 2 (LB); N'Changa, XII 1930, 1 (LB).

Aspidimorpha (s. str.) *procax* Spaeth, 1932

Aspidomorpha procax Spaeth, 1932 b: 15 (ST in MRAC, IRSN, MM).

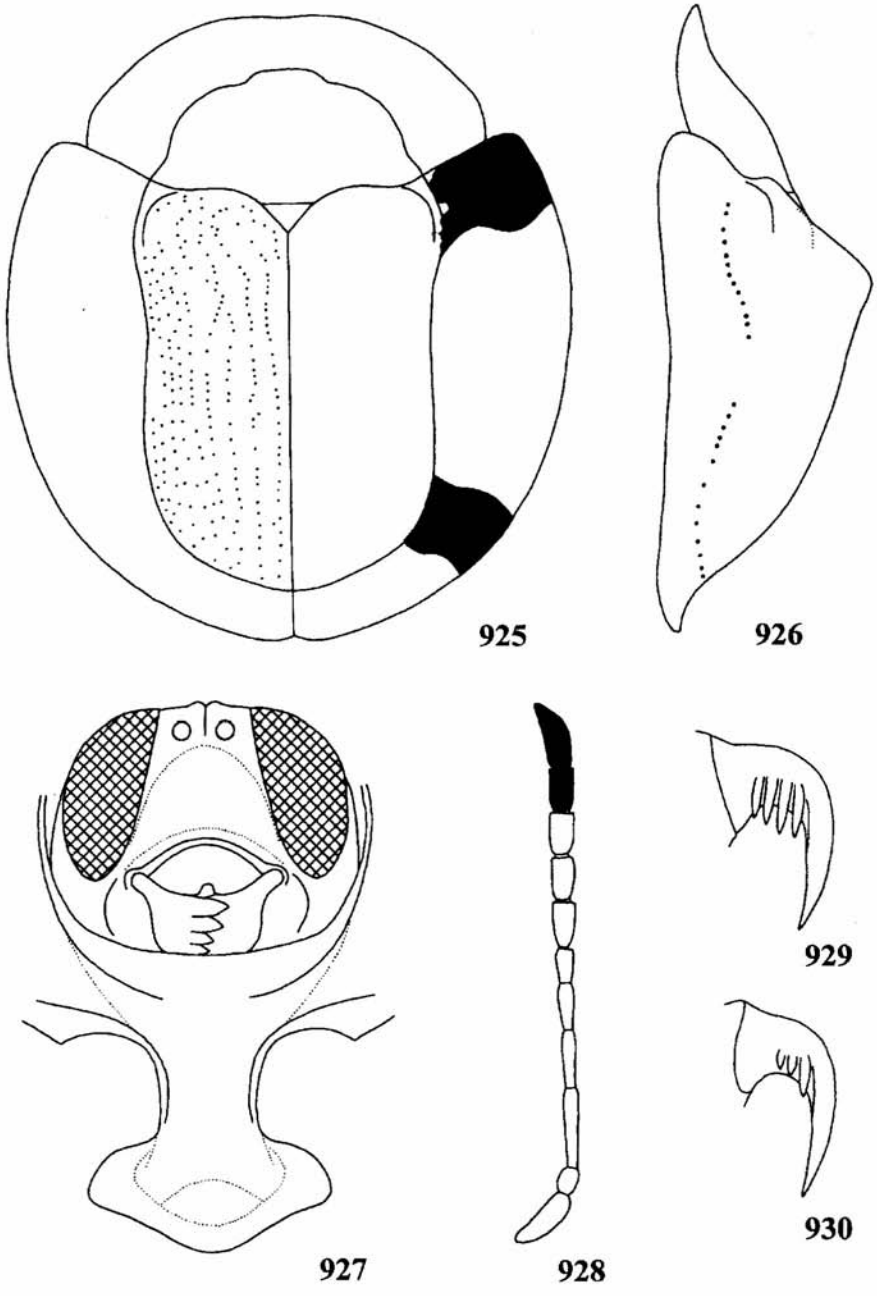
Description

Le: male: 8.8-9.8, female: 9.2-10.2 mm, Wi: male: 7.5-8.4 mm, female: 8.0-8.9 mm, Lp: male: 2.6-3.0 female: 2.8-3.1 mm, Wp: male: 5.5-6.2 mm, female: 6.1-6.5 mm, Ex: male: 1.7-2.0 mm, female: 1.9-2.1 mm, Wd: male: 3.9-4.1 mm, female: 4.2-4.7 mm. Le/Wi: male: 1.09-1.17, female: 1.11-1.17, Wi/Wp: male: 1.29-1.40, female: 1.31-1.39; Wp/Lp: male: 2.04-2.23, female: 2.03-2.18. Body almost circular (fig. 925).

Pronotum uniformly yellow to pale argillaceous. Elytra mostly yellow to argillaceous with a rather constant pattern (fig. 875-877). Disc yellow to argillaceous, usually with slightly darker yellow to yellow-reddish shade forms an oblique band from humerus to 2/3 elytral length and transverse band between ends of oblique bands, also top of postscutellar tubercle, suture and marginal intervals slightly darker yellow to reddish-yellow. In extreme cases marginal interval between spots of explanate margin pale brown to blackish. Punctures without darker centre. Explanate margin with moderate to broad, brownish, brownish-black to black humeral and posterolateral spots, without sutural spot. Humeral spot sometimes widened posterad, hammer-shaped. Sometimes humeral spots bicolour, in basal part with diagonal yellowish spot with apex dark brown to black. Occasionally humeral and posterolateral spots are pigmented only on underside of explanate margin, in extreme cases humeral spot is pigmented only on underside of explanate margin and posterolateral spot is almost completely reduced to small brownish spot on underside of explanate margin close to margin of disc. Pale margins of explanate margin of elytra not or slightly darker than pale ventral part of the explanate margin. Ventrites yellow, at most prosternum slightly infuscate. Antennae yellow, two last segments black, often also apex of segment 9 infuscate. Legs uniformly yellow.

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, with strong mirror brilliance, microreticulation invisible. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.

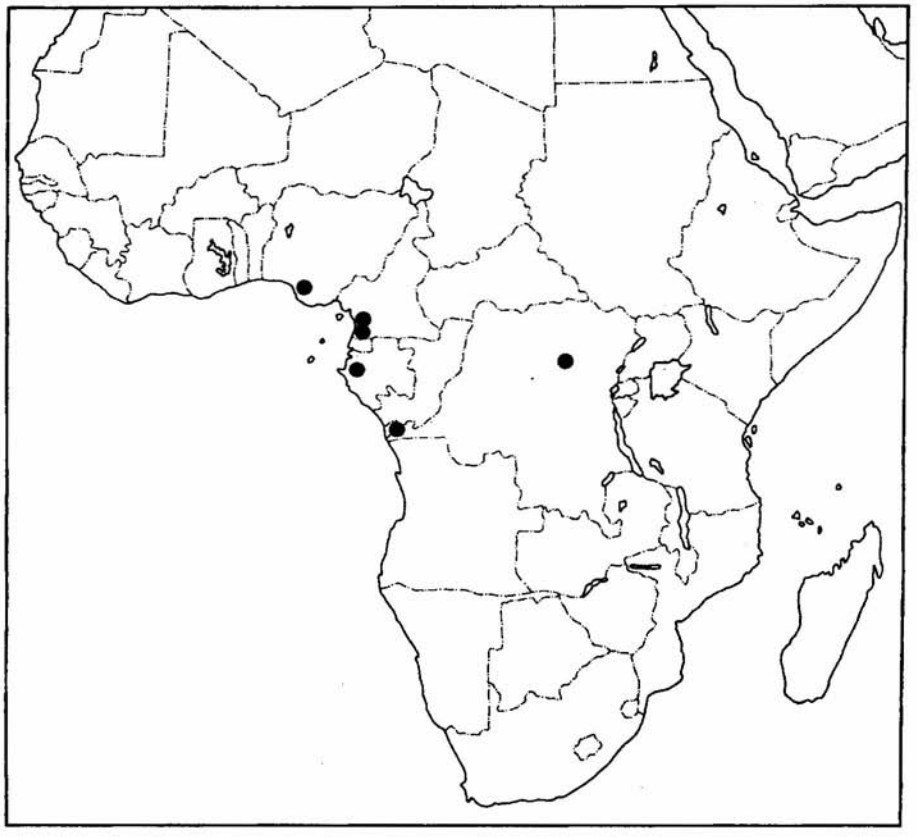
Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, with moderate, usually angulate postscutellar tubercle, profile concave behind the top of convexity (fig. 926), only in few specimens from Cameroon postscutellar tubercle is obtuse but profile behind top of tubercle is always concave. Discal surface with small but deep principal impression, very shallow scutellar impressions, without posterolateral impression, surface of lateral part of disc completely regular. Puncturation of disc moderate, regular, on slope c. twice finer than in anterior half of disc, in sutural half of disc at most thrice finer than in lateral part of disc.



925-930. *Aspidimorpha procax*: 925 - body in dorsal view, 926 - body in profile, 927 – head and prosternum, 928 – antenna, 929 – inner side of claw, 930 – outer side of claw

Scutellar row with 4-6 punctures. Punctures in rows moderately dense to dense, disposed regularly, distance between punctures two to four times larger than puncture diameter, in sutural row distance between punctures often equal to puncture diameter. Rows not impressed. Punctures in marginal row deep, thrice larger than in central rows. Intervals flat, in sutural half of disc four to five times, in lateral half c. thrice wider than rows, their surface smooth, with strong mirror brilliance, microreticulation invisible. Lateral fold of marginal interval low to moderate. Explanate margin very broad, subhorizontal to horizontal without tendency to form a gutter, impunctate, its surface smooth with strong mirror brilliance. Elytral epipleura in male bare, only extreme apex of margin close to suture with few long setae, in female extreme apex of elytral epipleura and margin of explanate margin close to suture with several long setae, in dried specimens the setae are often broken and epipleura appear bare.

Head moderately broad, clypeus c. 1.5 -1.6 times wider than long (fig. 927), glabrous, slightly elevated before antennal insertions, usually shallowly im-



931. Distribution of *Aspidimorpha procax*

pressed in the middle. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 928), extending to mid coxa, length ratio of antennal segments: 100:43:117:76:71:52:69:52:59:61:105.

Claws pectinate on both sides, inner pecten long, with four teeth extending c. to half length of claw (fig. 929), outer pecten with three teeth, first extending to 1/4-1/3 length of claw, remainder gradually smaller (fig. 930).

Sexual dimorphism indistinct. Male slightly stouter, with base of elytra slightly wider in relation to base of pronotum than in female, and elytral epipleura bare only with apex of explanate margin setose, in female both extreme apex of elytral epipleura and apex of explanate margin setose.

DISTRIBUTION

Nigeria, Cameroon. Gabon and Zaire.

REMARKS

It is a member of the *quadriramosa* group, the smallest in the group, only *A. sulfuripennis* has a similar size but differs in the presence of only humeral spots (in *procax* usually both humeral and posterolateral spots are distinct). The distinctly glabrous elytral surface and small puncturation place this species near to *A. fausta*, *A. incerta*, *A. sankuruensis* and *A. setosa*. *A. incerta* differs in obtuse postscutellar angulation (in *procax* usually conical, if top of the tubercle blunt then profile behind the top concave). *A. sankuruensis* differs in extremely short pecten of tarsal claws extending to 1/6 length of claw (1/4-1/3 in *procax*). *A. setosa* differs in antennae uniformly yellow or with only apex of the last segment infuscate (in *procax* at least two last segments black). *A. fausta* is the most similar but differs in larger size and longer pecten of tarsal claws extending to 2/5 length of claw.

MATERIAL EXAMINED

CAMEROON: Camerun, 1 (LB); Efulen, 1 (LB); Lolodorf, 7 II 1918, 1 (LB).

GABON: Gabun, 1 (LB).

NIGERIA: Sapoba, 26 I 1962, 1 (LB).

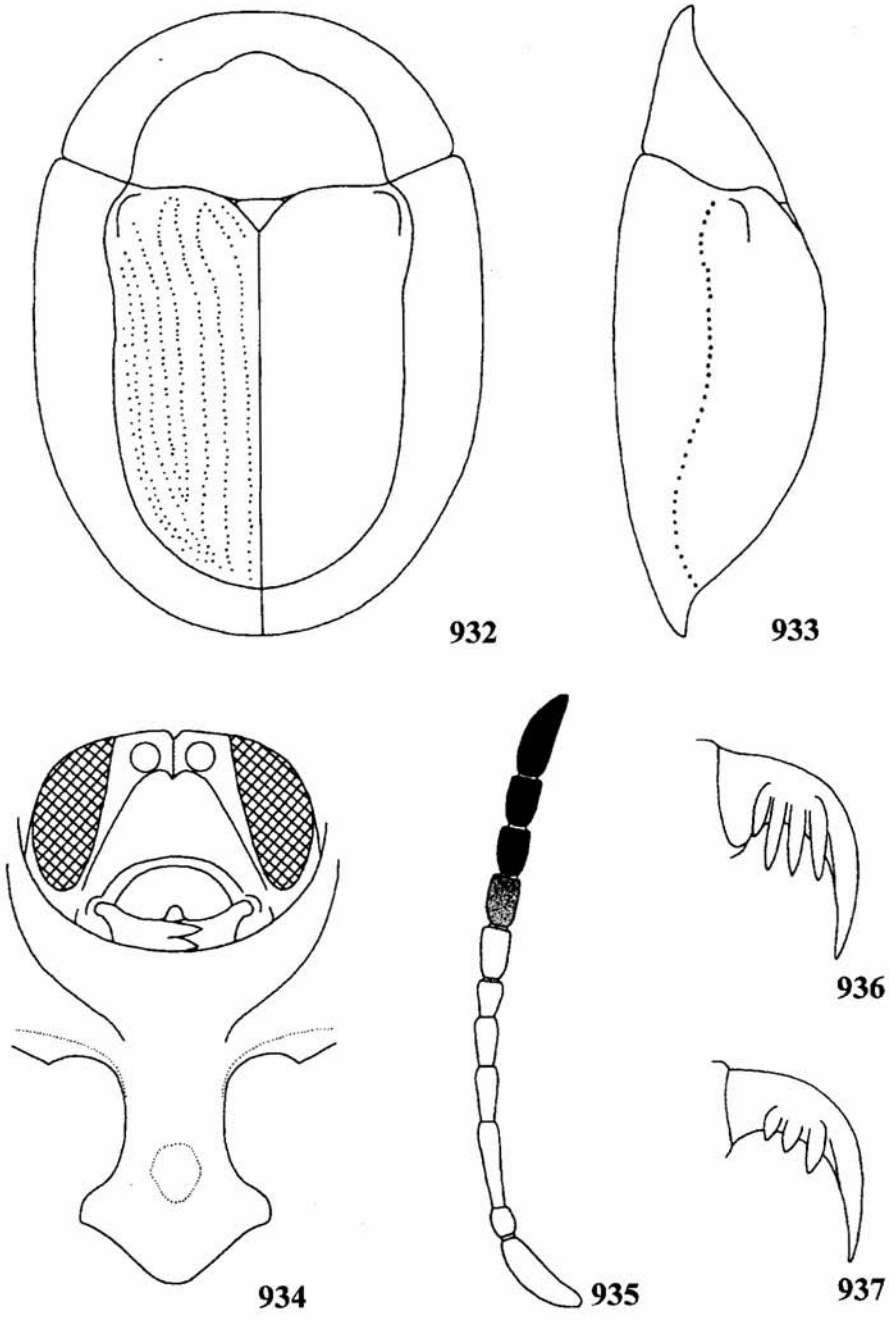
ZAIRE: Congo, 1, Don. DE CONTRERAS (syntype, IRSN); Mayumbe, 2, Don. DE CONTRERAS (IRSN); Stanleyville, Yangambi, 1 (LB), V 1959, 1, P. DESSART (MRAC).

Aspidimorpha (s. str.) *proszynskii* BOROWIEC, 1985

Aspidomorpha proszynskii BOROWIEC, 1985 a: 227 (HT in IZPAS, PT in ZMHU).

DESCRIPTION

Le: male: 9.8-10.0, female: 11.0 mm, Wi: male: 6.8-6.9 mm, female: 7.6 mm, Lp: male and female: 3.2-3.6 mm, Wp: male: 5.7-6.0 mm, female: 6.5 mm, Ex:

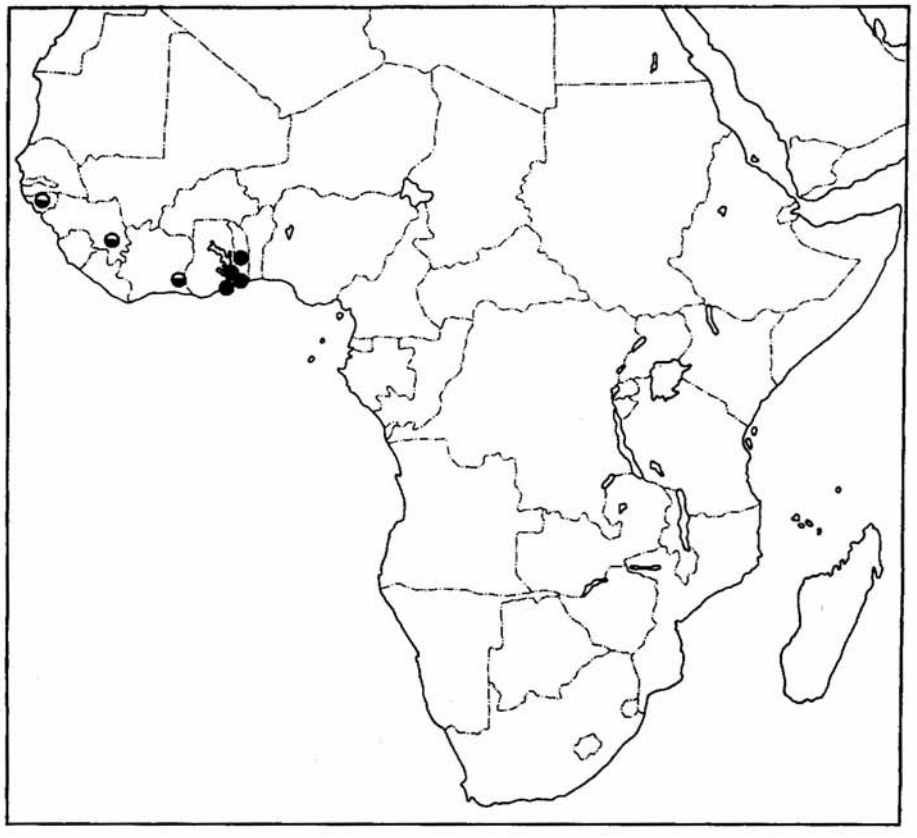


932-937. *Aspidimorpha proszynskii*: 932 - body in dorsal view, 933 - body in profile, 934 – head and prosternum, 935 – antenna, 936 – inner side of claw, 937 – outer side of claw

male: 1.4-1.5 mm, female: 1.5 mm, Wd: male: 4.3-4.5 mm, female: 4.7 mm. Le/Wi: male: 1.40-1.46, female: 1.40, Wi/Wp: male: 1.15-1.21, female: 1.17. Body oval (fig. 932).

Yellow, intervals 1, 5 and 7 on entire length, interval 8 to 3/4 length, and interval 6 to 1/5-1/4 length reddish. Rows of punctures indistinctly reddish marked. Head, prosternum, meso-, metasternum and abdomen except sides, and last four antennal segments blackish. Central part of clypeus, labrum, prosternal collar, central plate of mesosternum yellowish-brown to brown. Bases of profemora to 1/4 length brownish, meso- and metafemora completely yellow, or slightly infuscate in basal fourth or with incomplete brownish ring in 1/3 length.

Pronotum semicircular, with maximum Wi at base, hind angles subangulate, forming blunt angle of about 100°. Disc moderately convex, smooth, shiny, with very small microreticulation and extremely fine pricks. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.



938. Distribution of *Aspidimorpha proszynskii* (black circles) and *A. silfverbergi* (white above black circles)

Scutellum triangular, without sulci, microreticulate with 6-9 very small punctures. Base of elytra serrulate, only slightly wider than base of pronotum, elytral margins narrowly tucked up. Disc regularly convex, with no postscutellar gibbosity or tubercle (fig. 933), without principal and lateral impressions, row 4 in 1/4 length with shallow, narrow impression. Puncturation of disc regular, punctures in sutural half of disc finer than in lateral part. Scutellar row with 7-10 punctures. Punctures in rows dense, distance between punctures 0.8-1.5 times larger than puncture diameter. Punctures in marginal row c. two to three times larger than in central rows. Intervals 1-4 flat, 5-10 feebly convex, five times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin moderately declivous, impunctate, shiny, but its surface slightly irregular, with several short, transverse folds, especially in hind part. Margin of elytra narrowly but distinctly marginate. Apex of elytral epipleura in male bare, in female pubescent.

Head broad, clypeus c. 1.7-1.8 times wider than long (fig. 934), dull, distinctly elevated before antennal insertions, with distinct median impression. Antennae moderately elongate (fig. 935), extending to mid coxa, length ratio of antennal segments: 100:34:100:66:53:41:63:56:5659:97.

Claws pectinate on both sides, inner pecten with four to five long teeth extending to half length of claw, first three outer teeth equal in length, inner two slightly shorter (fig. 936). Outer pecten with two to three equal teeth c. 1.5 times shorter than inner pecten (fig. 937).

Sexual dimorphism distinct. Female with subacuminate apex of elytra and pubescent hind part of elytral epipleura.

DISTRIBUTION

West Africa: Ghana and Togo (fig. 938).

REMARKS

It belongs to the *palleago* species group. Broad, feebly declivous explanate margin of elytra, strong elytral puncturation and black four last antennal segments place this species close to *A. pallescens*, *A. palleago,* and *A. silfverbergi*. It differs from the first two species in reddish maculation of elytral intervals (in *A. pallescens* and *A. palleago* elytra are unicolour) and in almost entirely yellow mid- and hind femora with only brown incomplete rings (in *A. pallescens* and *A. palleago* femora are black to at least 1/3 length). *A. silfverbergi* is the most similar. It has a similar elytral maculation but differs in stouter body (in *A. silfverbergi* Le/Wi ratio in male = 1.35-1.36, in *A. proszynskii* = 1.40-1.46), more rounded elytral sides, slightly narrower clypeus and mid- and hind femora black to 1/3-1/2 length. *A. strigosa* and *A. mrogorensis* of this species group differ in more strongly declivous explanate margin of elytra and unicolour elytral intervals. *A. proszynskii* and *A. silfverbergi* have the northwesternmost distribution of all species of the *palleago* group and they are the only species distributed west of Nigeria.

MATERIAL EXAMINED

GHANA: Kpandu, 2 V 1973, 1 (LB); Legon n. Accra, Osudoku Mts., 15 IV 1964, 1, M. PRÓSZYŃSKA and J.PRÓSZYŃSKI (holotype, IZPAS).

TOGO: Bismarckburg, L. CONRADT (ZMHU); Lomé, III 1986, 1, WERNER (LB).

Aspidimorpha (s. str.) *quadriramosa* BOHEMAN, 1854

Aspidomorpha quadriramosa BOHEMAN, 1854: 305 (HT in NRS); 1856: 113; 1862: 273; WAGENER, 1880: 161; SPAETH, 1903: 177, 1916: 40; 1932 b: 10; SHAW, 1956 a: 594; 1961: 18; 1963: 460.

Aspidomorpha (*Aspidomorpha*) *quadriramosa*: SPAETH, 1914 b: 77.

Aspidomorpha quadriramosa ab. *congoana* SPAETH, 1932 b: 11 (ST in MRAC, MM); TIBERGHIEN, 1976: 179.

Aspidomorpha quadriramosa ab. *subdeplanata* SPAETH, 1932 b: 11 (ST in MM).

DESCRIPTION

Typical form

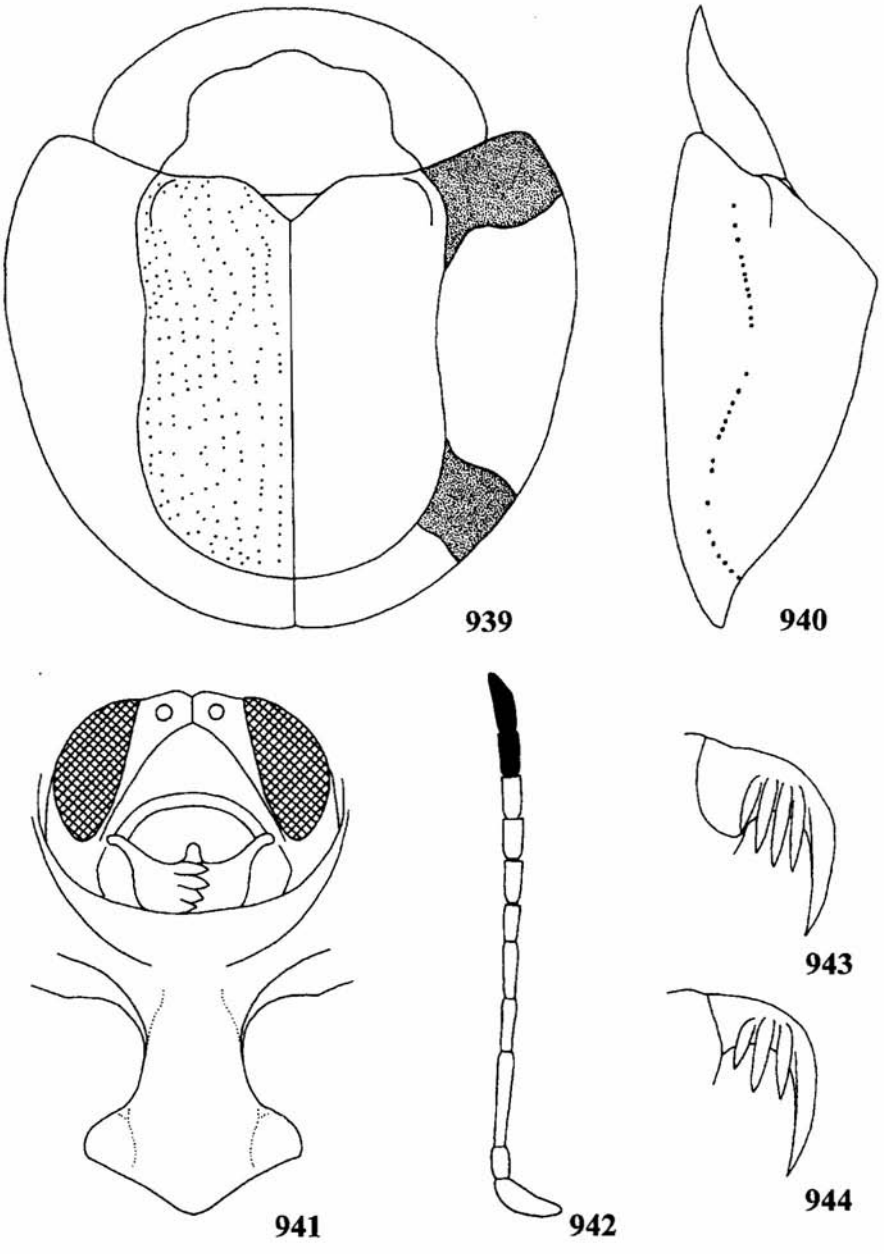
Le: male: 8.5-10.8, female: 9.2-10.5 mm, Wi: male: 7.6-9.6 mm, female: 8.0-9.4 mm, Lp: male: 2.6-3.3 female: 2.7-3.4 mm, Wp: male: 5.4-6.9 mm, female: 5.6-6.7 mm, Ex: male: 2.0-2.5 mm, female: 1.8-2.3 mm, Wd: male: 3.7-5.1 mm, female: 4.2-4.9 mm. Le/Wi: male: 1.07-1.13, female: 1.11-1.15, Wi/Wp: male: 1.39-1.44, female: 1.40-1.44; Wp/Lp: male: 1.97-2.09, female: 1.94-2.10.

Ab. *subdeplanata*

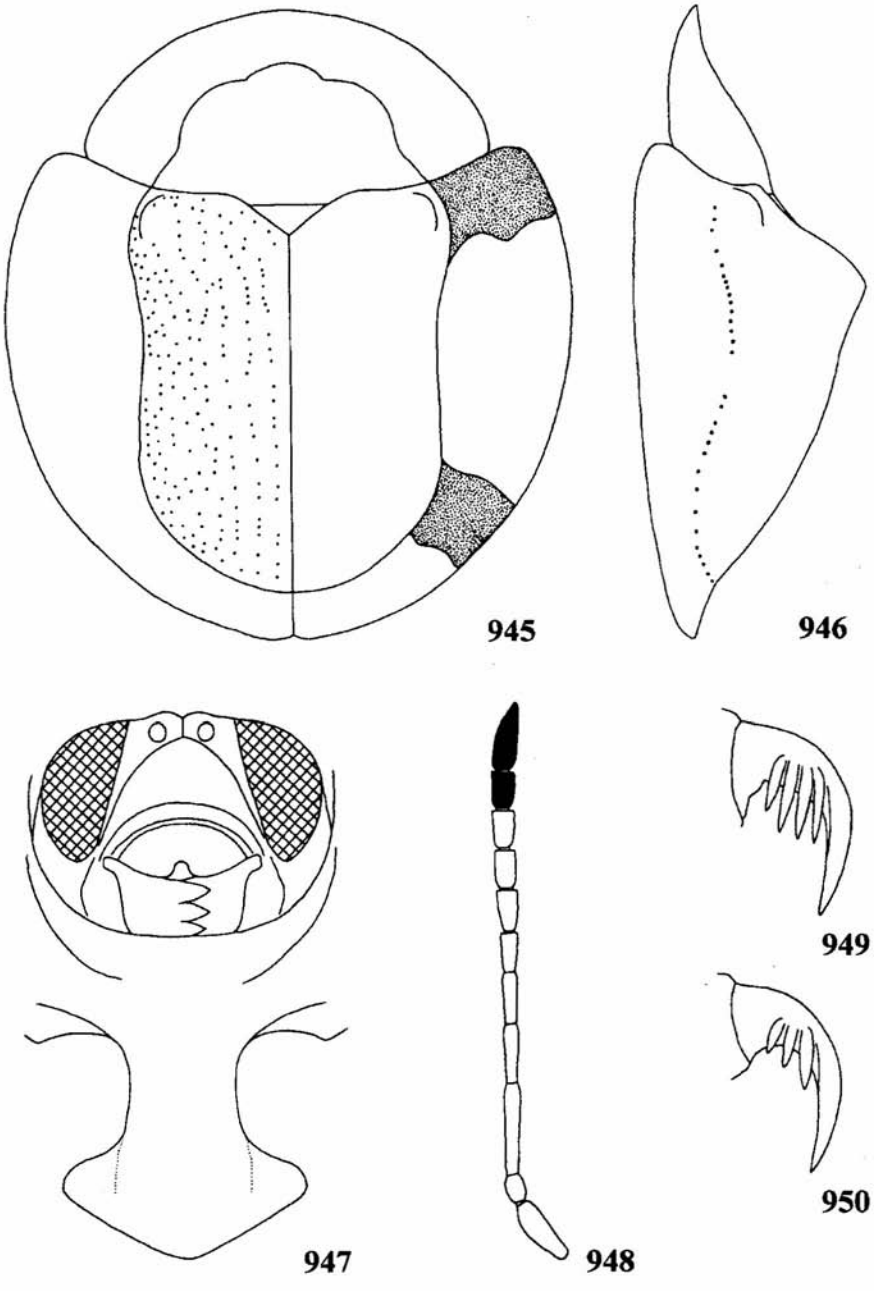
Le: male: 8.7-9.7, female: 10.5-11.0 mm, Wi: male: 7.9-8.7 mm, female: 9.0-9.7 mm, Lp: male: 2.8-3.2 female: 3.3-3.6 mm, Wp: male: 5.7-6.4 mm, female: 6.5-6.9 mm, Ex: male: 1.9-2.2 mm, female: 2.1-2.3 mm, Wd: male: 4.0-4.4 mm, female: 4.8-5.0 mm. Le/Wi: male: 1.06-1.11, female: 1.12-1.17, Wi/Wp: male: 1.36-1.44, female: 1.38-1.41; Wp/Lp: male: 1.97-2.04, female: 1.89-2.00.

Body in all forms almost circular (figs 939, 945).

Pronotum uniformly yellow to argillaceous. Elytra yellow to argillaceous with a rather constant pattern. Disc yellow to argillaceous, each puncture usually with darker, reddish, brown or blackish centre, explanate margin with argillaceous, reddish-brown to black, broad humeral and posterolateral spots, without sutural spot. Humeral spot usually widened apically, hammer-shaped. Sometimes punctures of disc close to spots of explanate margin with dark areola and marginal interval partly darker brown to blackish than submarginal one, but never forming lateral band like in related *A. honesta* or *A. sjoestedti*. Clypeus yellow. Ventrites vary form mostly yellow to mostly black, usually pro-, meso- and metathorax mostly brown to black except yellow lateral plates. Abdomen usually with brown to black spots in the middle, often mostly black except yellow margins and apex. Specimens with lower postscutellar tubercle (= *subdeplanata*) usually have ventrites mostly black except yellow lateral plates of thorax and margins of abdomen. Antennae yellow, two last segments black, except yellow underside of the apex of last segment. Legs including coxae yellow.



939-944. *Aspidimorpha quadriramosa*, typical form: 939 - body in dorsal view, 940 - body in profile, 941 – head and prosternum, 942 – antenna, 943 – inner side of claw, 944 – outer side of claw



945-950. *Aspidimorpha quadriramosa*, form *congoana*: 945 - body in dorsal view, 946 - body in profile, 947 – head and prosternum, 948 – antenna, 949 – inner side of claw, 950 – outer side of claw

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, subhorizontal, with tendency to form a gutter, its surface smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, much wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, three different forms were described: typical form with distinct but obtuse conical postscutellar tubercle, profile slightly concave behind the top of convexity (fig. 940), *congoana* form with conical postscutellar tubercle and profile distinctly concave behind the top of convexity (fig. 946), and *subdeplanata* form with disc only slightly gibbous in postscutellar area and profile straight or slightly convex behind the top of convexity (fig. 952). Populations are monomorphic but in the whole range some intermediates were observed between these forms. Discal surface with small but distinct principal impression, shallow scutellar impressions, without posterolateral impression, surface of lateral part of disc usually regular to slightly irregular. Puncturation of disc fine to moderate, regular, on slope slightly finer than in anterior half of disc, in sutural half of disc twice to thrice finer than in lateral part of disc. Scutellar row with 4-6 punctures. Punctures in rows moderately dense, disposed mostly regularly, only partly group 2-4 together, distance between punctures or their groups three to five times larger than puncture diameter. Rows not impressed. Punctures in marginal row deep, only twice larger than in central rows. Intervals flat, in sutural half of disc c. four times, in lateral half twice to thrice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low, sometimes indistinct. Explanate margin very broad, subhorizontal to horizontal with tendency to form a gutter, especially in males, impunctate, its surface smooth and glabrous. Elytral epipleura bare in both sexes.

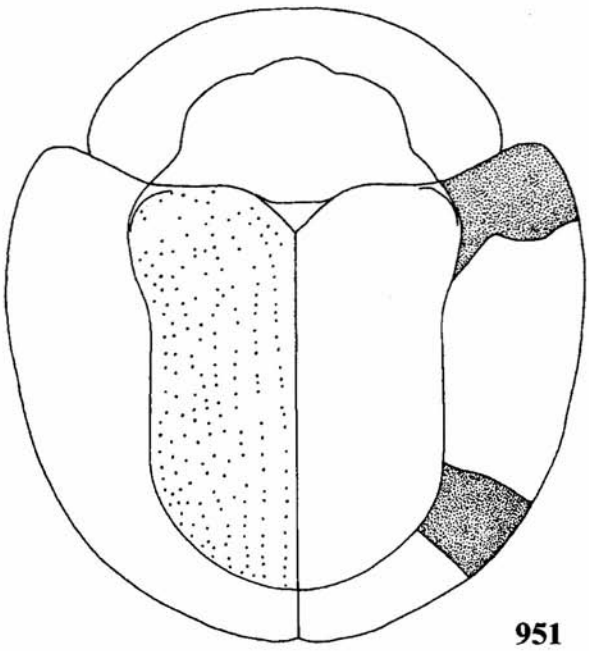
Head very broad, clypeus c. 1.7 -1.8 times wider than long (figs 941, 947, 953), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/3-1/4 length. Antennae moderately elongate (figs 942, 948, 954), extending to mid coxa, length ratio of antennal segments: 100:40:115:70:72:50:55:45:47:50:95.

Claws pectinate on both sides, inner pecten very long, with five teeth extending to c. 2/3 length of claw (figs 943, 949, 955), outer pecten with three teeth, first extending to half length of claw, remainder gradually smaller (figs 944, 950, 956).

Sexual dimorphism indistinct. Male slightly stouter, with base of elytra slightly wider in relation to base of pronotum than in female, with last antennal segment slightly longer than in female.

DISTRIBUTION

West and Central Africa east to Uganda (fig. 957).



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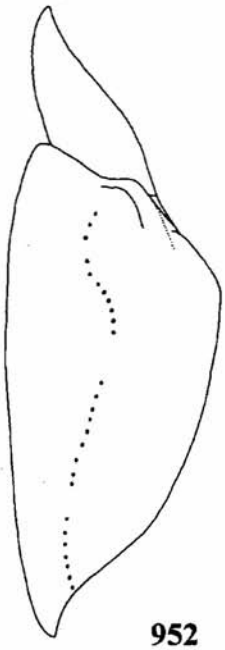

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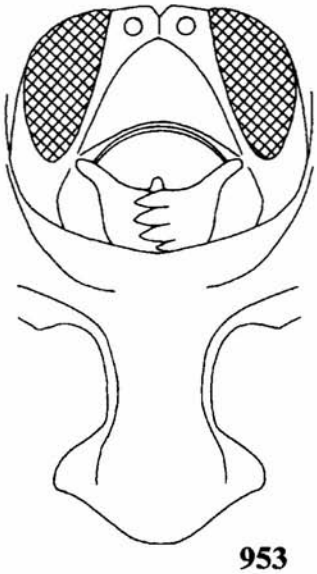

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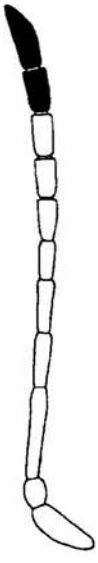

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951-956. *Aspidimorpha quadriramosa*, form *subdeplanata*: 951 - body in dorsal view, 952 - body in profile, 953 – head and prosternum, 954 – antenna, 955 – inner side of claw, 956 – outer side of claw

REMARKS

It is a member of the *quadriramosa* group, the most variable and the most common species of the group. It is at first glance easily distinguished by almost circular body and base of elytra distinctly wider than base of pronotum. Elytral pattern is quite constant but shape of postscutellar tubercle very variable, from very low like in species of the *isparetta* group to high, conical. Populations with large, conical postscutellar tubercle differs from other species of the *quadriramosa* group in characters mentioned above, specimens with only low postscutellar gibbosity (ab. *subdeplanata*) are similar to *A. isparetta*, *A. sjoestedti* and *A. honesta*. In last two species spots of explanate margin are black while in *A. quadriramosa* they are reddish. *A. isparetta* may have similar reddish spots and males of this species are very difficult to distinguish from *quadriramosa*. *A. isparetta* is usually slightly less convex with groundcolour of elytra rather pale yellow (in *A. quadriramosa* rusty-yellow) but this character is variable and some males are possible to identify only by comparison with series of properly determined specimens. Females of this form distinctly differ from *A. quadriramosa* in pubescent apex of epipleura (in females of *quadriramosa* epipleura are bare), and body outline not as regularly circular as in *quadriramosa*.

MATERIAL EXAMINED

CAMEROON: Barombi, 1, ZENNER (ZMHU); Batanga, V 1911, 1, A.J. GOOD (CMNH), III 1914, 2, IV 1914, 4, F.H. HOPE (CMNH); Bipindi, VIII-IX 1898, 2, G. ZENKER (ZMHU); Arr. Djoungolo, Villa Carde n. Myong, 28 VIII 1963, 2 (ZSM); Douala, 1, LENCSZ (MRAC), 1, J. CANTALOUBE (MRAC); Duala, 8 (IRSN); Edea, 1 (MRAC); Efulen, XI 1912, 2, III 1914, 1, VI 1914, 1, 4 VI 1914, 2, 17 VI 1914, 1, J.A. REIS (CMNH), 11 I 1918, 1, 21 IX 1920, 1, 3 I 1922, 1, VI 1922, 2, H.L. WEBER (CMNH); Jaunde, 4 V 1897, 1, v. CARNAP (IRSN), 20 III 1923, 1, 27 III 1923, 3, 12 IV 1923, 1 (CMNH), X 1923, 1 (IRSN), Jaunde-St., 13 (ZMHU); Joh.-Albrechtshöhe, 1 IX-31 X 1897, 9, L. CONRADT (ZMHU); Joko, 8 (syntypes of *A. quadriramosa* ab. *congoana*, 7 ZSM, 1 FMNH), 3 (HNHM), 10 (ZMHU), VII 1912, 1 (FMNH); Kamerunberg, Buëa, 1200 m, 3 I 1958, 1, H. KNORR (ZSM); Kribi, 3, CARRET (MRAC), 0-30 m, 18 III-31 III 1974, 1, M. KÜHBANDNER (ZSM); Lolodorf, 1, L. CONRADT (ZMHU), XII 1894-II 1895, 1, L. CONRADT (ZMHU), VI 1914, 2, 4 VI 1914, 2, 8 VI 1914, 2, 17 VI 1914, 2, 30 VI 1918, 1, J.A. REIS (CMNH), 4 XI 1914, 1, VI 1925, 1, A.I. GOOD (CMNH); Malende, Mt. Kamerun, XII 1957, 1, W. HARTWIG (MKB); Mont Balmayo, 4, BARGA (MRAC), 1, J. CANTALOUBE (MRAC), VI 1969, 1 (MRAC); Muëli, 600 m, 27 II 1958, 1, H. KNORR (ZSM); Mukonye farm, 2, R. RHODE (IRSN); Mundame, 1, R. ROHDE (FMNH); Mvaa, VII 1960, 1, VIII 1961, 1, CHASSOT (MRAC); Nanga Eboko, III-IV 1959, 2, LENCZY (HNHM); Nkolbisson, Dept. Nyong-Sanaga, X 1963, 4, L.G. SEGERS (MRAC); Nkolbisson, Yaounde-Bi, 18 II 1963, 2, 20 V 1963, 3, L. SEGERS (ZSM); Nkolnsimi r. Nsimi, 27 VIII 1963, 1 (ZSM); N'Kongosamba, 1, J.

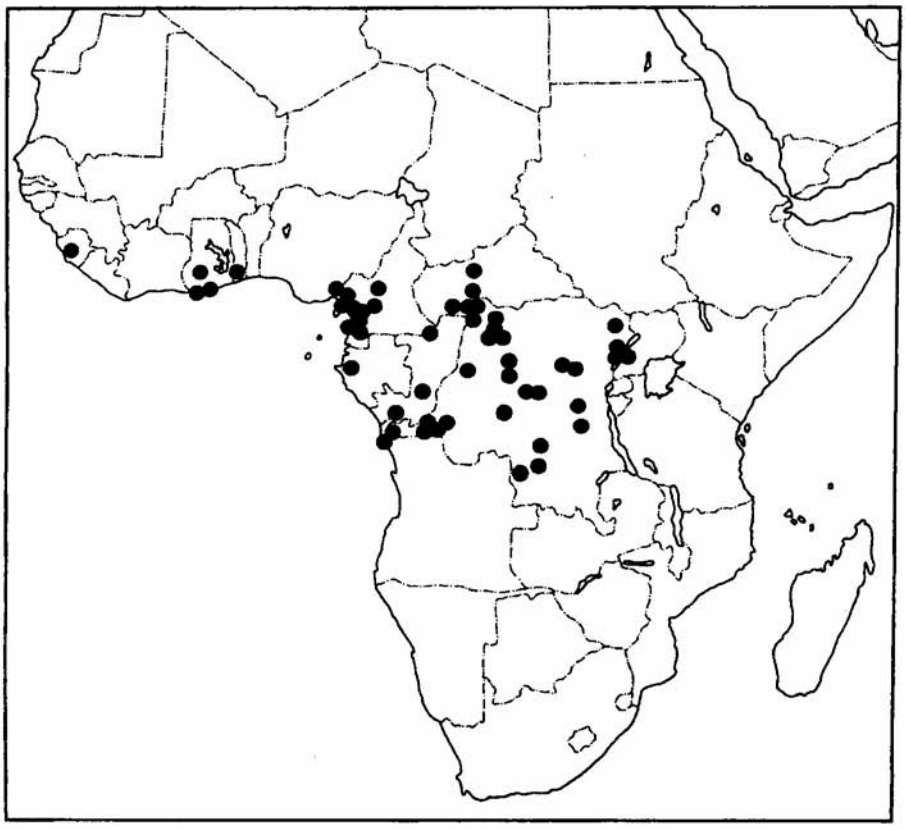
CANTALOUBE (MRAC); Nssanakang, 1, A. DIEHL (ZMHU); Okala, IV-V 1965, 2, J. POUGET (MRAC); Sardi n. Dengdeng, 1 IV 1914, 1, 3 IV 1914, 1, MILDBRAED (ZMHU).

GABON: Bas-Ogooué, 5 (IRSN); Gabon, 1 (IRSN); Ogové R., Kangvé, 66, A.C. GOOD (CMNH).

GHANA: Ashanti Reg., 28 IX 1971, 1, S. ENDRÖDY-YOUNGA (HNHM); Axim, 1, BESNARD (MRAC); Takoradi, 1, BESNARD (MRAC).

GUINEA: Guinea, 1, "GERM." (holotype of *Aspidomorpha quadriramosa*, NRS).

REPUBLIC OF CENTRAL AFRICA: Bangui, Oubanghi-Chari, 1968, 1 (MRAC); Boda, 3, P. CHARLERF (syntypes of *A. quadriramosa* ab. *congoana*, MM), 1, coll. DE BUYSSON (IRSN); Fort Crampel, 17 (IRSN), 1 (ER); Fort Sibut, 2 (IRSN); Fort Sibut, Oubanghi-Chari, 1968, 3 (MRAC).



957. Distribution of *Aspidimorpha quadriramosa*

REPUBLIC OF CONGO: Lefinie Res., Mbéokala forest, 8 I 1964, 1, 10 I 1964, 1, BALOGH and ZICSI (HNHM); Sibiti IRHO, 25 XI 1963, 1, S. ENDRÖDY-YOUNGA (HNHM).

SIERRA LEONE: Mayamba, 1, coll. LE MOULT (IRSN).

TOGO: Amedzowe (ZMHU); Misahöhe, III 1894, 1, IV 1894, 1, 22 VI-6 VII 1894, 1, E. BAUMANN (ZMHU).

UGANDA: Budongo Forest, 27-28 VII 1971, 1, H. GØNGET (ZMC).

ZAIRE: Albert Nat. Park, Ruwenzori, Mutawanga, 1000-1300 m, XI 1936-II 1937, 1, HACKARS (MRAC); Banana, 1, F. BUSSCHODTS (IRSN); Bas Congo, Kimwenza, I-IV 1956, 1, VAN EYEN (MRAC); Bas Congo, Mayidi, 1952, 1, VAN EYEN (MRAC); Binga, 5-12 III 1932, 1, H. J. BRÉDO (syntype of *A. quadriramosa* ab. *subdeplanata*, MM); Bukungu, 1949, 1, H. BOEL (MRAC); Equateur, Bokuma, VII 1952, 3 (MRAC); Haute Maringa, 1, L. MAIRESSE (IRSN); Ituri, Mont Hoyo, 1250 m, 5 X 1957, 1, E.S. ROSS and R.E. LEECH (CAS); Likimi-Bokapo, 16 VII 1927, 2, A. COLLART (IRSN); Itoka, X 1912, 1, MAYNÉ (syntype of *A. quadriramosa* ab. *subdeplanata*, MM); 45 mls E of Kama, 750 m, 16 VIII 1957, 1, E.S. ROSS and R.E. LEECH (CAS); Kangu, 1986, 1, J. MJ. PARMEUTIER (MRAC); Kasai, Dekese, 1959, 1, IX 1959, 1, F. FRANCOIS (MRAC); Kasongo, VIII-IX 1959, 1, L.G. BENOIT (MRAC); Kibali, Ituri, Kilomines, 11 II 1958, 1, C. SMOOR (MRAC); Kibali, Ituri, Lodjo, VIII 1939, 1, Mme LEPERSONNE (MRAC); Kwango, Terr. Kenge, Mosamba, 1 (MRAC); Libenge, 18 IX 1947, 1, 15 X 1947, 1, R. CREMER and M. NEUMAN (IRSN); Libenge, Mawuya, 11 XI 1947, 1, R. CREMER and M. NEUMAN (IRSN); Likimi-Diobe, 30 IX 1927, 1, A. COLLART (IRSN); Likimi-Mimbo, 8 X 1927, 1, A. COLLART (IRSN); Lisala, 29 VIII 1947, 2, R. CREMER and M.NEUMAN (IRSN); Lomani, Kaniama, 1931, 1, MASSART (syntype of *A. quadriramosa* ab. *congoana*, MM); Lubutu, 15 IX 1929, 1, A. COLLART (IRSN); Lukungu, 1, Ch. HAAS (IRSN); Lulua, Kapanga, I 1933, 1, OVERLAET (syntype of *A. quadriramosa* ab. *congoana*, MM); Mont Hoyo, Ituri, 1250 m, 5 X 1957, 1, E.S. ROSS and R.E. LEECH (CAS); Mpese, 28 VI 1937, 1, J. COOREMAN (IRSN); Reg. Thysville, Bas Congo, 1959-63, 2, R. MICHAUX (MRAC); Samlia falls, Riv. N'Gamie, 1890, 3, A. MOCQUERYS (IRSN); Sankuru, Gandajika, M'Pemba Zeo, 12 VI 1960, 1, R. MARÉCHAL (MRAC); Stanleyfalls, 3, MALFEYT (IRSN); Stanleyville, Yangambi, VIII 1959, 1, J. DECELLE (MRAC); Tsele, II 1925, 1, IX 1925, 1, A. COLLART (IRSN); Tshuapa, Etata, 1, ab. *subdeplanata* (ER), VII-VIII 1969, 6, IX-X 1969, 3, V 1970, 2, ab. *subdeplanata*, J. HAUWAERTS (MRAC); Tshuapa, Ikela, 1955, 10, 1956, 10, X 1956, 3, XI 1956, 2, all ab. *subdeplanata*, R.P. LOOTENS (MRAC), III-VI 1956, 3, R. DEGUIDE (MRAC); Uelleburg, VI-VIII 1908, 1, TESSMANN (ZMHU); Zongo, Mokoanghay, 1, L. TILKENS (IRSN).

Aspidimorpha (s. str.) *quinquefasciata* (FABRICIUS, 1801)

Cassida quinquefasciata FABRICIUS, 1801: 401 (HT in ZMK); KLUG, 1835: 47; ZIMSEN, 1964: 91.
Aspidomorpha quinquefasciata: BOHEMAN, 1854: 250, 1856: 105, 1862: 256; HAROLD, 1879: 215; MAULIK, 1916: 585 (misidentification); HINCKS, 1962: 245 (incl. fig.); BOROWIEC, 1985 a: 234.
Aspidomorpha (Aspidomorpha) quinquefasciata: SPAETH, 1914 b: 77.
Cassida pectoralis OLIVIER, 1808: 960 (type in ?); BOHEMAN, 1856: 105 (as possible syn. of *quinquefasciata*).
Aspidomorpha principalis SPAETH, 1932 b: 8 (ST in MM, MCSNG).

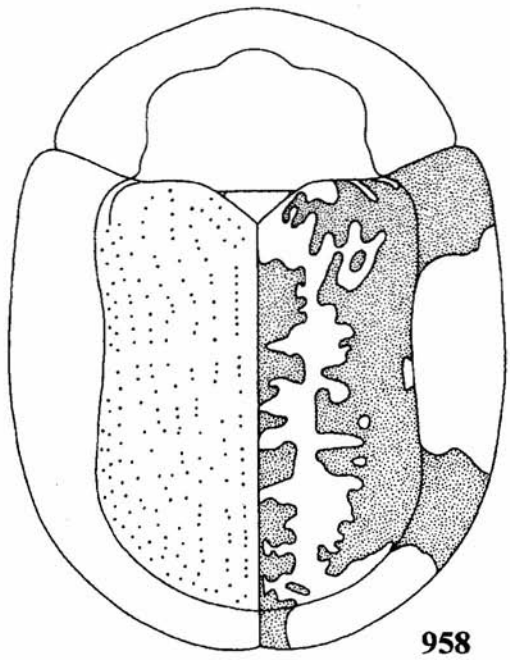
DESCRIPTION

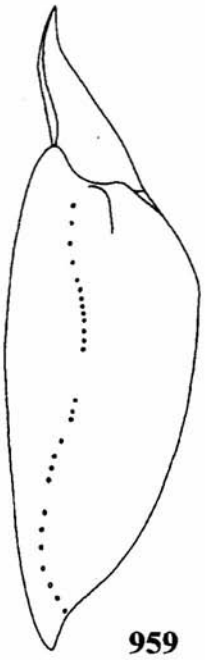
Le: male: 7.1-9.9, female: 8.2-10.2 mm, Wi: male: 5.8-7.8 mm, female: 6.1-8.0 mm, Lp: male: 2.3-3.0 female: 2.7-3.3 mm, Wp: male: 4.7-6.1 mm, female: 5.2-6.5 mm, Ex: male and female: 1.2-1.8 mm, Wd: male: 3.3-4.6 mm, female: 3.9-4.8 mm. Le/Wi: male: 1.14-1.27, female: 1.24-1.38, Wi/Wp: male: 1.22-1.35, female: 1.18-1.34; Wp/Lp: male: 1.89-2.08, female: 1.91-1.97. Body short-oval to oval (fig. 958).

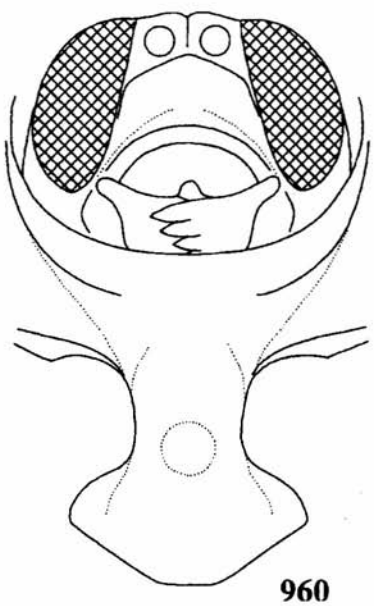
Pronotum uniformly yellow. Elytra yellow with variable pattern (figs 964-969), punctures usually with darker centre. Disc with reddish-brown, brown to black pattern in form of irregular spots of various shape and size along suture and irregular spots along each side of disc, the spots on sides often partly or mostly coalescent and forming irregular bands, in extremely dark form almost whole disc is brown to black except small yellow spots close to scutellar corners and in the middle of first elytral interval, all intermediate forms have been observed. Explanate margin with moderately broad to broad reddish-brown to black humeral, posterolateral and sutural spots, occasionally humeral spots is visible only on underside of explanate margin. Humeral spot not widened posterad. In form from Principe Is. (= *principalis*) humeral spot is reduced to short diagonal spot on underside of explanate margin and posterolateral spot is reduced to small spot close to margin of explanate margin. Margin of explanate margin of elytra usually slightly darker yellow than ventral part of the explanate margin. Clypeus yellow, never infuscate basally. Ventrites vary from uniformly yellow to partly black, usually only prosternum and central part of metasternum black, abdomen usually completely yellow, occasionally sternites infuscate in the middle. Legs yellow, including coxae. Antennae mostly yellow, two last antennal segments black except yellow ventral side of apex of the last segment, segment 10 sometimes paler, brown.

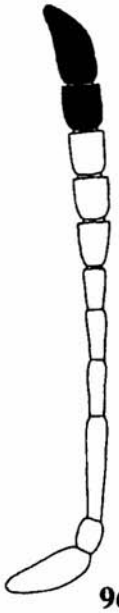
Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle of about 90°. Disc moderately convex, smooth, shiny, with very small microeticulation. Explanate margin distinctly bordered from disc, almost horizontal in anterior part with tendency to form a shallow gutter, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, slightly to moderately wider than base of pronotum, elytral margins



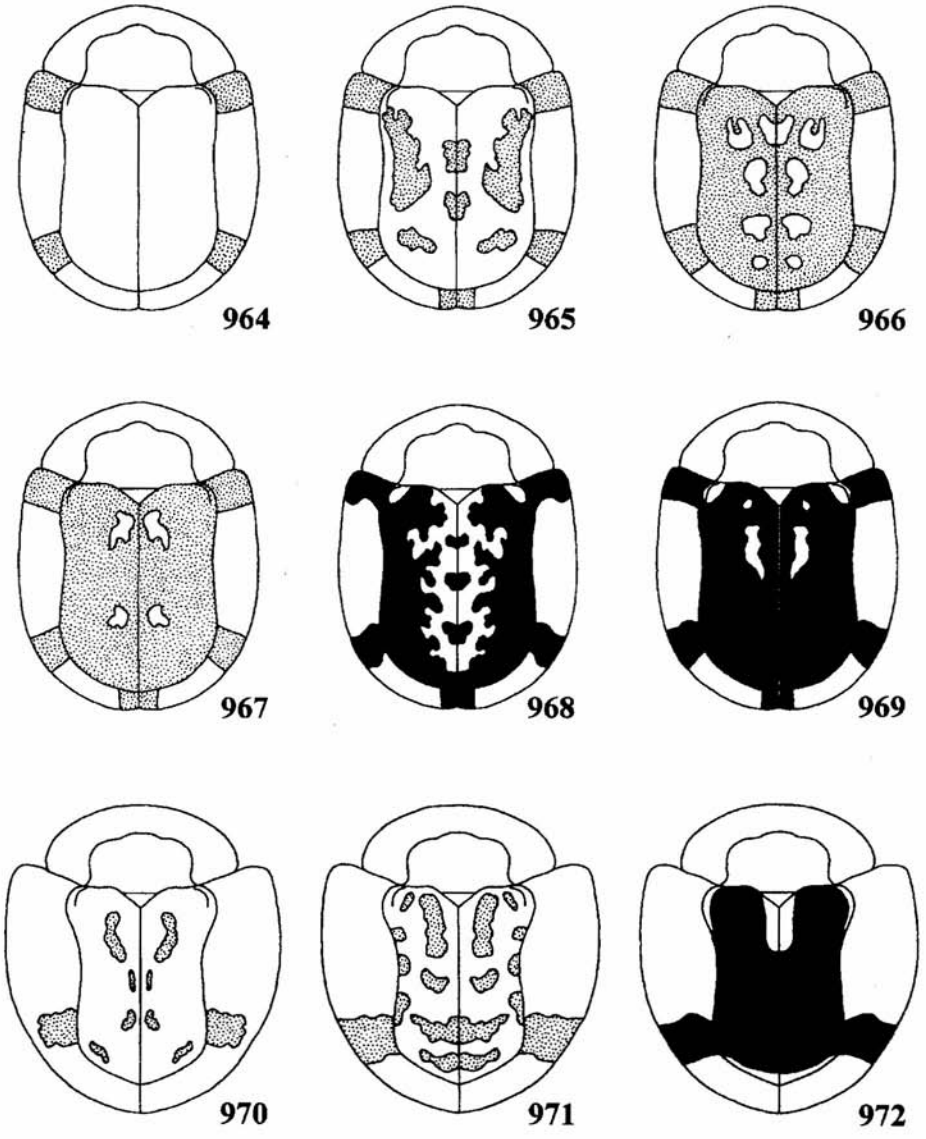






958-963. *Aspidimorpha quinquefasciata*: 958 - body in dorsal view, 959 - body in profile, 960 – head and prosternum, 961 – antenna, 962 – inner side of claw, 963 – outer side of claw

simple. Disc regularly convex with top of convexity in postscutellar point (fig. 959), without or with small and shallow principal impression, without lateral impressions, surface of lateral part of disc regular to slightly irregular. Puncturation of disc mostly regular, punctures very fine to fine, on slope not or only slightly smaller than in anterior half of disc, in sutural half of disc c. twice smaller than in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows moder-



964-972. Variation of dorsal maculation: 964-969 - *Aspidimorpha quinquefasciata*, 970-972 - *A. semiramosa*

ately dense to dense, disposed mostly regularly, only partly grouped in 2-4, distance between punctures in groups c. as large as to twice larger than puncture diameter, between groups three to seven times larger than puncture diameter. Marginal row deep, its punctures c. twice larger than in submarginal row. Intervals flat, in sutural half of disc five to six times wider than rows, on sides only twice wider than rows, their surface mostly smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low but broad. Explanate margin broad, subhorizontal, usually without tendency to form a shallow gutter, impunctate, smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.6-1.7 times wider than long (fig. 960), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 961), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:45:127:65:67:45:65:57:63:57:115.

Claws pectinate on both sides, inner pecten with four long teeth extending to half length of claw (fig. 962). Outer pecten with two to three short teeth, extending to 1/4-1/3 length of claw (fig. 963).

Sexual dimorphism indistinct. Males slightly stouter than females.

HOST PLANT

Convolvulaceae: *Merremia hederacea*, *Ipomoea eriocarpa* (E. OBERMAIER, pers. comm.).

DISTRIBUTION

Most records from West Africa, east to NE Zaire. Records from SE Zaire, Zambia, Madagascar and Reunion based probably on introduced specimens (fig. 973).

REMARKS

It belongs to the *cincta* group. *A. quinquefasciata*, *A. cincta*, *A. katangana*, *A. astraea* and *A. gruevi* are very similar and difficult to distinguish; correct identification is possible in comparison with series of properly identified specimens. They are partly separated geographically and may represent only geographic or local forms of the same, widespread and variable species but this hypothesis needs verification based on field studies. *A. quinquefasciata* is the stoutest species with the most rounded elytral sides. Like *A. katangana* it has a very variable pattern, while in *A. astraea*, *A. cincta* and *A. gruevi* it is rather constant. *A. katangana* has more eastern, *A. astraea* more southern, and *A. gruevi* more eastern distribution, only *A. cincta* is sympatric. *A. quinquefasciata* is more dimorphic, males are distinctly stouter than females while in *A. cincta* both sexes are similar. *A. gruevi* is also very similar but it is slightly smaller and slimmer, more regularly convex, with usually narrower spots of explanate margin of elytra. See also remarks under the related species.

MATERIAL EXAMINED

BENIN: Dahomey, 1, SCHNEIDER, 1 (ZMHU), 2 (ZMHU).

CAMEROON: Neu-Kamerun, 1, TESSMANN (ZMHU).

CAP VERDE IS.: Cap Verde, 1 (ZMHU); Praia, 1, H. KING (MCZC).

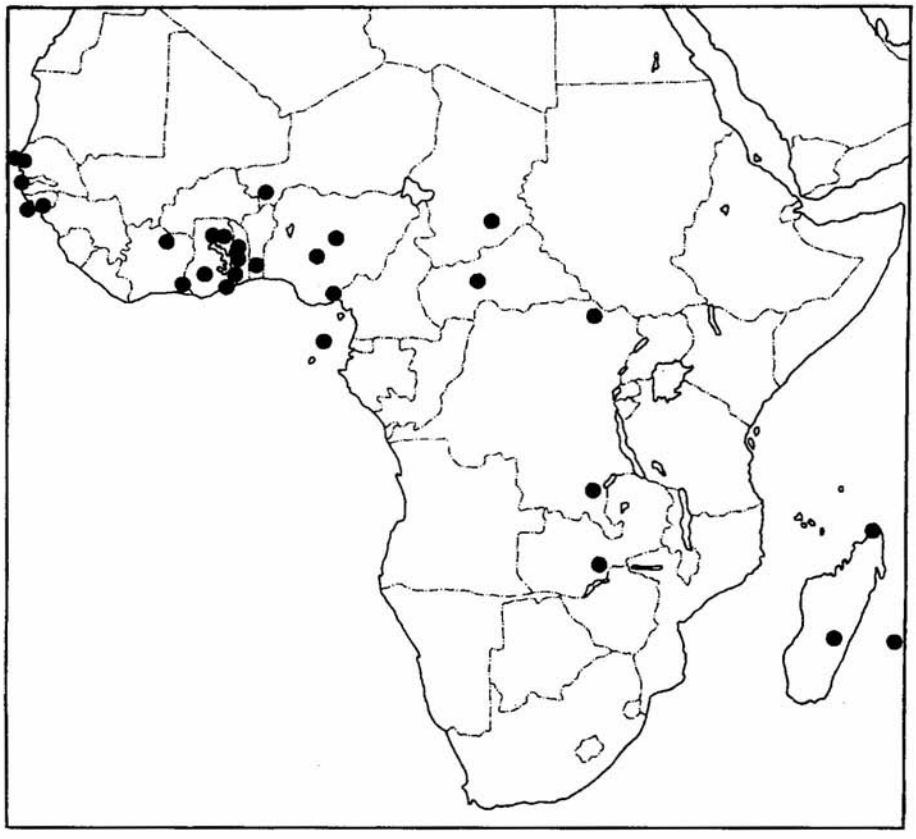
CHAD: N'Djamena, 29 VIII 1978, 1, G. G. SCHULTEN (ITZ).

GABON: Gabun, 2, WILL. (ZMHU).

GAMBIA: Bathurst, I 1968, 12, T. PALM (LU); Brikama, 22 XI 1984, 1, T. PALM (LU).

GHANA: Accra, 1-20 VII 1982, 4, M. HAUSER (TM); Ashanti, 1 (ZMHU); Kumbungu, XII 1974, 1, M. RICE (ER); Northern Reg., Tamale, 11 III 1970, 1, 15-31 I 1972, 2, S. ENDRÖDY-YOUNGA (HNHM); Volta Reg., Abuadi, 60 km S of Ho, 8 XII 1970, 1, S. ENDRÖDY-YOUNGA (HNHM).

GUINEA BISSAU: Bubaque, VI 1956, 1, XI 1957, 1, XII 1958, 14, BENASSI (10 OSU, 6 PMNH); Catió, 1955, 1, ANDREOLETTI (OSU); Suzana, XII 1953, 2, VIII 1954, 1, VI 1958, 1, VIII 1958, 19, X-XI 1954, 3, ANDREOLETTI (18 OSU, 8 PMNH).



973. Distribution of *Aspidimorpha quinquefasciata*

IVORY COAST: Comoé Nat. Park, VI 1994, 4, on *Ipomoea* sp., E. OBERMAIER (EO); Ferkessedougou, XII 1956, 1, Ch.B. BEAL (CAS).

MADAGASCAR: Ambodivoangy, VII 1961, 1, J. VADON (MRAC); Madagascar, Amber Geb., 1 (ZMHU); Madagascar, 1, STAUD. (ZMHU), 3 (ZMHU).

NIGER: Niger, 1, Boxue (ZMHU); Niger, 1, BENN. (ZMHU).

NIGERIA: Jos, 1967, 3, E. Bot Gwong (MRAC, LB), VI 1977, 1 (MS); 10 mls NW of Jos, 1225 m, 14 IX 1966, 1, E.S. ROSS and R.E. LEECH (CAS); Oban Hills, Awsambo, 17 XI 1985, 1, J. WOJTUSIAK (WOJTUSIAK).

PRINCIPE IS.: Poca, Inf. Henrique, 200-300 m, II 1901, 5, L. FEA (syntypes of *A. principalis*, MM); Principe Is., 19 XI 1932, 1, U.H. Tams (BMNH); Sao Thomé, 3, coll. LABOISSIERE (IRSN).

REPUBLIC OF CENTRAL AFRICA: Fort Crampel, 3 (IRSN, LB).

REUNION: Reunion, 6 (IRSN); Zenta, 1903, 1, R. v. SKERL (NMW).

SENEGAL: Bambey, 27 VIII 1953, 1, A. VILLIERS (IFAN); Dakar, 4 (SD), 6 IX 1916, 2 (CMNH), VIII 1949, 1, A. VILLIERS (IFAN), 14 IX 1956, 1, H. KNORR (SMNS); Senegal, 6 (ZMHU), 10 (IRSN); Thiés Senegal, Aufang VIII 1908, 1, RIGGENBACH (ZMHU); Yène, 28 VII 1953, 1, A. VILLIERS (IFAN).

TOGO: Hinterland, Mangu, 1, DÖRING (ZMHU); Hinterland, Weg nach Salaga, 1, DÖRING (ZMHU); Hinterland, Yendi, I 1895, 2, DÖRING (ZMHU), 1, THIERRY (ZMHU); Kete-Kratji, XI-XII 1900, 1, MISCHLICH (ZMHU); Mangu, I 1902, 1, THIERRY (ZMHU); Piya, 18-22 V 1963, 14, Y. SCHACH (MRAC, LB).

ZAIRE: 17 mls of Sampwe, 1000 m, 21 I 1958, 1, E.S. ROSS and R.E. LEECH (CAS); Uele, 1, coll. CSIKI (HNHM); Uele, fl. Duru, III 1927, 2, F.S. PATRIZI (MCSNG).

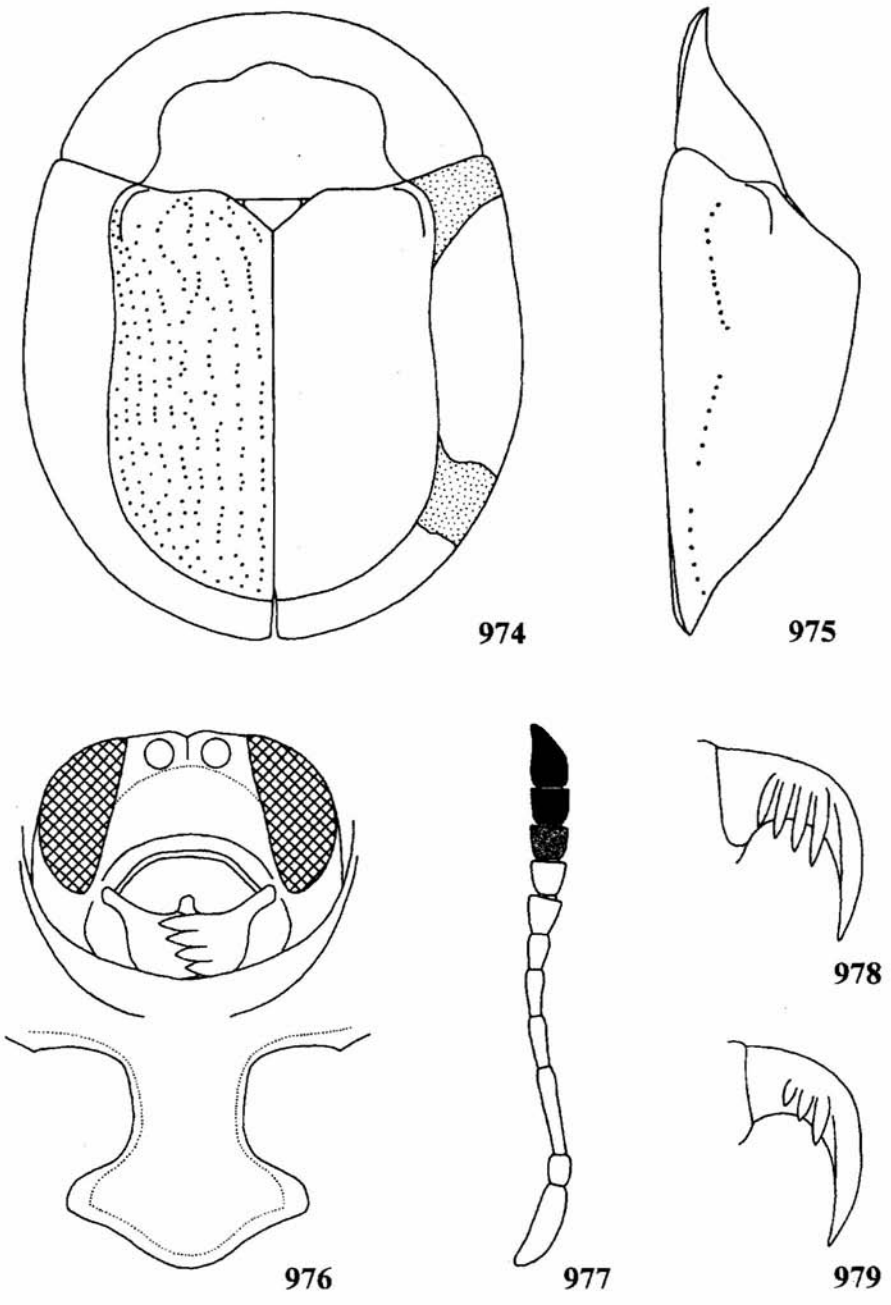
Aspidimorpha (s. str.) *reflexa* SPAETH, 1917

Aspidomorpha reflexa SPAETH, 1917: 427 (ST in MM).
Aspidimorpha reflexa BOROWIEC, 1995 b: 370.

DESCRIPTION

Le: male and female: 9.4-9.9 mm, Wi: male and female: 7.5-7.9 mm, Lp: male and female: 3.0-3.2 mm, Wp: male and female: 6.3-6.5 mm, Ex: male and female: 1.3-1.5 mm, Wd: male and female: 4.8-5.0 mm; Le/Wi ratio: male and female: 1.24-1.31, Wi/Wp: male and female: 1.17-1.22, Wp/Lp: male and female: 2.03-2.10. Body oval (fig. 974).

Pronotum yellow, disc slightly darker, argillaceous. Elytral disc yellow, argillaceous to reddish-brown, punctures with slightly darker centre. Explanate margin yellow, upperside with argillaceous, underside with reddish-brown, moderately broad humeral, posterolateral and very narrow sutural spots. Humeral spot never widened posterad. Margins of explanate margin slightly darker yellow than ventral half of explanate margin. Clypeus yellow. Pro-, meso- and metasternum black, except yellow sides and lateral plates, abdomen yellow, sometimes



974-979. *Aspidimorpha reflexa*: 974 - body in dorsal view, 975 - body in profile, 976 – head and prosternum, 977 – antenna, 978 – inner side of claw, 979 – outer side of claw

sternites in the middle with indistinct, brown spots. Occasionally thorax mostly yellow, only apex of prosternum and central part of metasternum with indistinct brown spots. Legs, including coxae, uniformly yellow. Antennae mostly yellow, three last antennal segments black except yellow ventral side of apex of the last segment, often segment 9 paler than two last segments but never uniformly yellow.

Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle of about 90-95°. Disc moderately convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, almost horizontal, in anterior part with tendency to form a shallow gutter, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, not or only slightly wider than base of pronotum, elytral margins simple. Disc unevenly convex, gibbous in postscutellar point, top of gibbosity blunt, profile behind the top of gibbosity slightly concave (fig. 975). Discal surface with small and shallow principal impression, without lateral impressions, surface of whole disc irregular, with folds, rows impressed. Puncturation of disc mostly regular, but sometimes appears slightly irregular, punctures fine to moderate, on slope slightly smaller than in anterior half of disc, in sutural half of disc two to three times smaller than in lateral part of disc. Scutellar row with 4-8 punctures. Punctures in rows moderately dense to dense, disposed mostly irregularly, partly grouped in 2-5, distance between punctures in groups c. as large as to thrice larger than puncture diameter, between groups three to five times longer than puncture diameter. Marginal row deep, its punctures c. thrice larger than in submarginal row. Intervals slightly convex, uneven, usually slightly more convex than even, in sutural half of disc four to five times wider than rows, on sides c. twice to thrice wider than rows, their surface mostly smooth, shiny, with very small microreticulation. Lateral fold of explanate margin convex but narrow. Explanate margin moderately broad, moderately declivous, margins almost horizontal with tendency to form a shallow gutter, impunctate, smooth and shiny. Elytral epipleura bare in both sexes.

Head very broad, clypeus 1.9-2.0 times wider than long (fig. 976), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/4 length. Antennae short, extending to mesocoxae (fig. 977), length ratio of antennal segments: 100:35:105:60:50: 35:40:38:36:39:80.

Claws pectinate on both sides, inner pecten with four long teeth extending to half length of claw (fig. 978). Outer pecten with three teeth, extending to 1/4 length of claw (fig. 979).

Sexual dimorphism indistinct. Males slightly stouter than females.

DISTRIBUTION

Zimbabwe, Namibia, Botswana and South Africa (fig. 980).

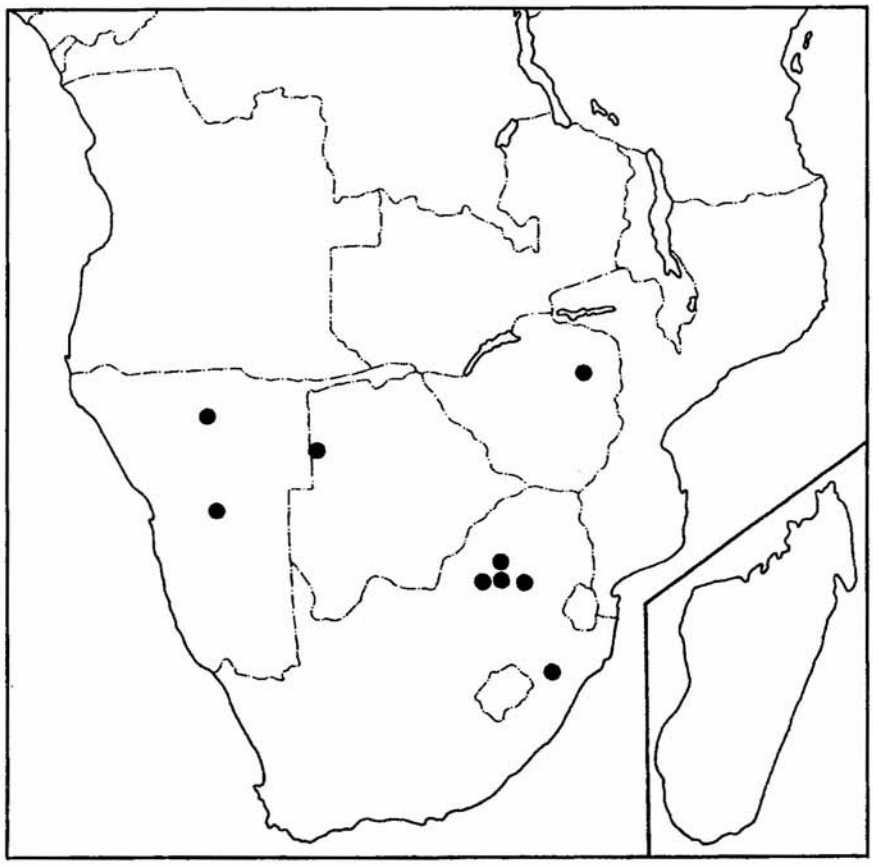
REMARKS

It is the only member of the *reflexa* group. It is intermediate between elongate and depressed species of the *cincta* group and elevated and more circular species of the *isparetta* group. It differs from species of the *cincta* group in more convex elytral disc, stronger, partly irregular elytral puncturation and surface of disc wrinkled, sometimes appearing rugose. It differs from similarly elevated species of the *isparetta* group in more oval body. No species of the *isparetta* group is as strongly punctate as *A. reflexa*.

MATERIAL EXAMINED

BOTSWANA: Aha Mts., 20 IX 1961, 1, HAACKE (TM); Nathane, 10 I 1975, 1, P. HOUSE (NMM).

NAMIBIA: Abachaus, IX 1943, 1 (LB); Windhoek, XI 1978, 1, A.S. SCHMIDT-DUMONT (WM), 28 I 1989, 4, W. ZIMMERMANN (WM); Windhoek, Richtfontein, 7-31 I 1978, 1 (WM).



980. Distribution of *Aspidimorpha reflexa*

SOUTH AFRICA: Natal, 1 (LB); Natal, Buru, 1 (TM); Natal, Weenen, 1 (syntype, MM), 1, G. H. BURN (ITZ); Natal, Weenen, XII 1900, 1, C. FULLER (TM); Pienaars Riv., 1898, 1, v. JUTRZENCKA (TM); Pretoria, 12 I 1914, 1, H.V. Niekerk (TM); Rustenburg, 7 IX 1909, 1 (LB); Transvaal, 1, Dr. HOLUB (syntype, MM); Transvaal, Middelburg, 5000 ft., 28 I 1969, 1 (LB).

ZIMBABWE: Salisbury, XII 1950, 1 (LB).

Aspidimorpha (s. str.) *rubroornata* n. sp.

ETYMOLOGY

Named after purple red elytral pattern.

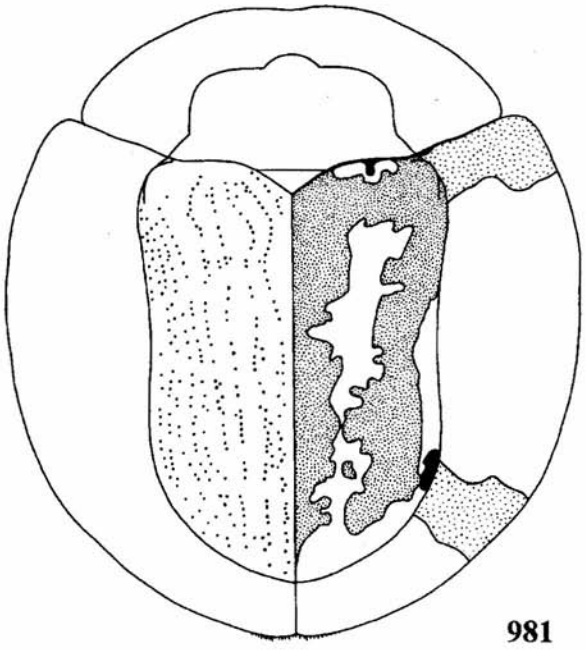
DESCRIPTION

Le: male: 13.0, female:15.4 mm, Wi: male: 12.4 mm, female: 14.0-14.2 mm, Lp: male: 4.1 female: 4.3-4.5 mm, Wp: male: 9.4 mm, female: 9.8-10.1 mm, Ex: male: 3.5 mm, female: 3.8 mm, Wd: male: 6.0 mm, female: 7.0 mm. Le/Wi: male: 1.05, female: 1.08-1.10, Wi/Wp: male: 1.32, female: 1.39-1.45; Wp/Lp: male: 2.29, female: 2.24-2.28. Body almost circular (fig. 981).

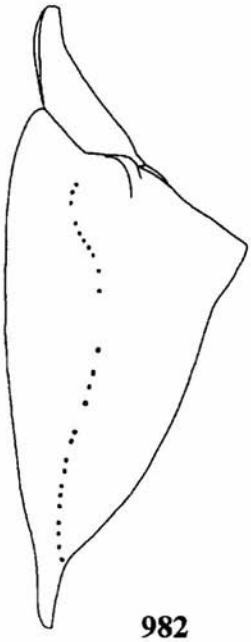
Pronotum uniformly yellow. Elytral disc mostly reddish to reddish brown, with yellow, irregular and slightly convex band along the middle and yellow marginal interval from lateral fold the apex of elytron. In the darkest specimens reddish occupies almost whole disc with only yellow spots on sides of tubercle and narrow, irregular line along posterior half of the middle and yellow apical third of marginal interval. Explanate margin yellow, on underside with moderately broad to broad, reddish brown to blackish humeral and posterolateral spots. Humeral spot sometimes widened posterad and posterolateral spot widened anterad. In dried specimens surface of explanate margin is often not transparent and spots are not visible from above. Margin of explanate margin darker yellow than its central part. Clypeus and ventrites uniformly yellow. Antennae yellow with two last segments black, except ventral side of apex of the last segment. Legs uniformly yellow.

Pronotum narrowly ellyptical, with maximum width almost at base, hind angles form an angle of 80-85°. Disc moderately convex, smooth, glabrous, with very small microreticulaton. Explanate margin indistinctly bordered from disc, subhorizontal, in anterior part with tendency to form a gutter, its surface smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not or slightly impressed in the middle. Base of elytra serrulate, moderately wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, with very large, conical postscutellar tubercle, top of the tubercle sharp, profile behind the tubercle deeply concave (fig. 982). Discal surface appears slightly irregular, yellow spots slightly more convex than reddish groundcolour, intervals with few folds, but never appear rugose like in related species, principal impression absent or shallow. Puncturation of disc moderate, mostly regular, only in posterior half of two sutural rows sometimes partly irregular, rows more or less impressed,



981



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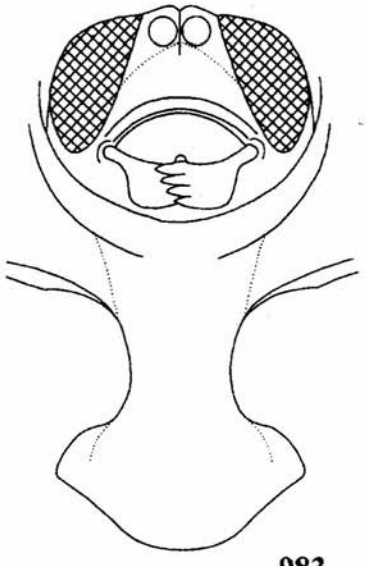


983

984

985

986

981-986. *Aspidimorpha rubroornata*: 981 - body in dorsal view, 982 - body in profile, 983 – head and prosternum, 984 – antenna, 985 – inner side of claw, 986 – outer side of claw

punctures on slope c. twice smaller than in anterior half of disc, in sutural half of disc c. twice to thrice smaller than in lateral part of disc. Scutellar row with 6-8 punctures. Punctures in rows moderately dense to dense, disposed mostly regularly, but sometimes folds separate groups of 2-5 punctures, distance between punctures in groups as large as to twice larger than puncture diameter. Punctures in marginal row distinctly larger than in submarginal rows, especially punctures at base of humeral callus very large and deep. Intervals in sutural half of disc slightly convex, three to four times wider than rows, in lateral part of disc mostly flat, as wide as to slightly wider than rows. Lateral fold of marginal interval broad and strongly convex. Explanate margin extremely broad, almost horizontal without tendency to form a gutter, impunctate, its surface smooth and glabrous. Apex of elytral epipleura pubescent in both sexes, in female hairs dense and long, in male sparser.

Head moderately broad, clypeus 1.5 -1.6 times wider than long (fig. 983), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/6-1/5 length. Antennae moderate (fig. 984), length ratio of antennal segments: 100:35:125:70:68:50:80:63:75:70:105.

Claws pectinate on both sides, but both pectens extremely short, the shortest in the genus *Aspidimorpha*, inner pecten with four teeth (fig. 985), outer pecten with two teeth, not extending beyond the margin of claw (fig. 986).

Sexual dimorphism indistinct. Male stouter and more rounded, with slightly more horizontal explanate margin of elytra.

REMARKS

It belongs to the *pontifex* group. The colouration of elytral disc in *A. rubroornata* is unique. Besides *A. pontifex* it is one of the largest members of the nominotypical subgenus. *A. pontifex* differs in unicolour elytral disc and more irregular, rugose elytral puncturation. Pecten of tarsal claw in *A. rubroornata* is the shortest in the genus *Aspidimorpha*, teeth of the pecten not extending beyond the margin of claw and at first glance claws appear simple.

MATERIAL EXAMINED

MADAGASCAR: holotype male: Fampanambo, I 1961, 1 (LB), paratypes: the same data, 2 (LB).

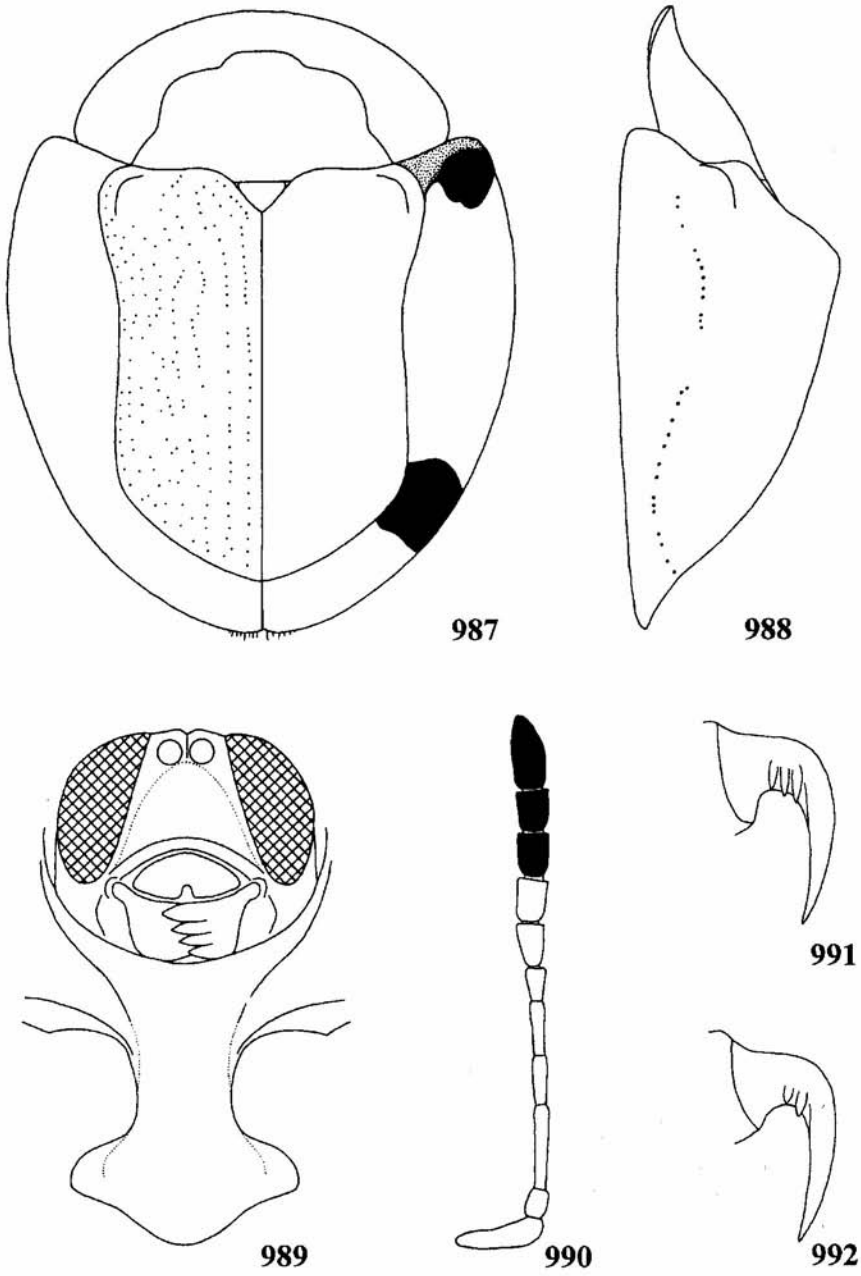
Aspidimorpha (s. str.) *sankuruensis* n. sp.

ETYMOLOGY

Named after its type locality, Sankuru in Zaire.

DESCRIPTION

Le: female: 10.6-10.7 mm, Wi: female: 8.6-8.7 mm, Lp: female: 3.3 mm, Wp: female: 6.4-6.7 mm, Ex: female: 1.9-2.0 mm, Wd: female: 5.1-5.2 mm; Le/Wi



987-992. *Aspidimorpha sankuruensis*: 987 - body in dorsal view, 988 - body in profile, 989 – head and prosternum, 990 – antenna, 991 – inner side of claw, 992 – outer side of claw

ratio: female: 1.23, Wi/Wp: female: 1.28-1.36, Wp/Lp: female: 1.94-2.03. Body oval (fig. 987).

Pronotum uniformly yellow to argillaceous. Elytra uniformly yellow to argillaceous, punctures without darker centre or with only slightly darker argillaceous areole, explanate margin with small, brown humeral spot in the middle of humeral area not extending to lateral margin or marginal interval of elytra, and moderately broad posterolateral spots extending to both lateral margin and marginal row of elytra, no sutural spot. Apex of posterolateral spot not widened anterad. Clypeus yellow. Thorax mostly black, except partly yellow lateral plates. Abdomen mostly black, with yellowish lateral margins and posterior margin of each sternite. Antennae yellow, with three last segments deep black Legs yellow, coxae mostly brown to black.

Pronotum narrowly ellyptical, with maximum width almost at base, hind angles form an angle of 95-100°. Disc moderately convex, smooth, with mirror brilliance, with very small microreticulaton. Explanate margin distinctly bordered from disc, subhorizontal, in anterior part with tendency to form a gutter, its surface smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, much wider than base of pronotum, humeri rounded, elytral margins simple, sides less rounded than in related species of the *fausta* group, apex of elytra slightly acuminate. Disc unevenly convex, with moderate postscutellar tubercle, top of the tubercle blunt, profile behind the tubercle slightly concave (fig. 988). Discal surface with small but deep principal impression, indistinct scutellar and posterolateral impressions, also area behind the tubercle shallowly impressed, surface of lateral part of disc slightly irregular. Puncturation of disc moderate to coarse, rows mostly impressed, regular, punctures on slope distinctly sparser and finer than in anterior half of disc, in sutural half of disc c. twice smaller than in lateral part of disc. Scutellar row with 5-7 punctures. Punctures in rows moderately dense, disposed mostly regularly, distance between punctures as large as to four times larger than puncture diameter, in two sutural rows punctures slightly denser. Punctures in marginal row c. thrice larger than in submarginal rows. Intervals slightly convex, in sutural half of disc c. thrice, on sides twice wider than rows, their surface smooth, with mirror brilliance. Lateral fold of marginal interval broad and convex. Explanate margin moderately broad, subhorizontal without tendency to form a gutter, impunctate, its surface smooth and glabrous. Apex of elytral epipleura in female with sparse but very long erect hairs, apical margin of elytra with several short, erect hairs.

Head moderately broad, clypeus 1.5 -1.6 times wider than long (fig. 989), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 990), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:41:123:73:68:43:64:50:55:55:105.

Prosternal collar short, prosternal process strongly expanded apically, not or shallowly impressed in the middle, pubescent, surface of apex smooth and glabrous.

Claws pectinate on both sides, inner pecten very short, with three teeth only slightly extending behind margin of the claw (fig. 991), outer pecten with two teeth, only slightly shorter than teeth of the inner pecten (fig. 992).

Male unknown.

DISTRIBUTION

Zaire.

REMARKS

It belongs to the *quadriramosa* group. *A. collarti*, *A. levissima* and *A. sankuruensis* are easily distinguished by extremely short pecten of tarsal claws extending at most to 1/6 length of claw (at least to 1/4 in other species of the group). *A. collarti* distinctly differs in strong, partly irregular elytral puncturation and deeply impressed rows, and slightly dull elytral surface (in *sankuruensis* rows are more regular and less impressed, intervals smooth with mirror brilliance). *A. levissima* has a similar, very glabrous elytral surface and black last three antennal segments but differs in immaculate explanate margin of elytra and smaller, not impressed puncturation.

MATERIAL EXAMINED

ZAIRE: paratype: Belg. Congo, 1 (LB); holotype: Beni Bendi, Sankuru, I/95, 1, I. CLOETENS (IRSN).

Aspidimorpha (s. str.) *sassii* n. sp.

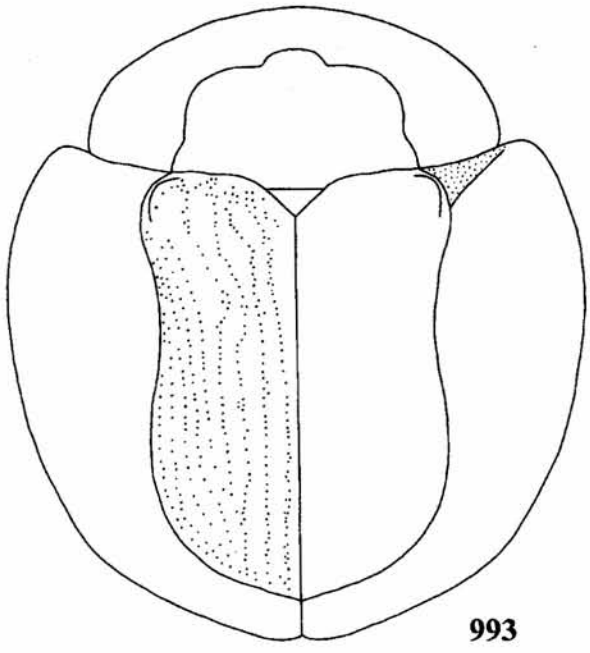
ETYMOLOGY

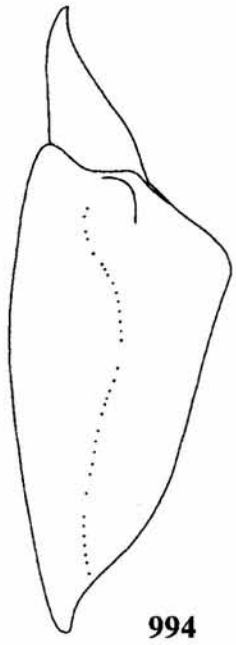
Dedicated to D. SASSI who sent me the new species to decsription.

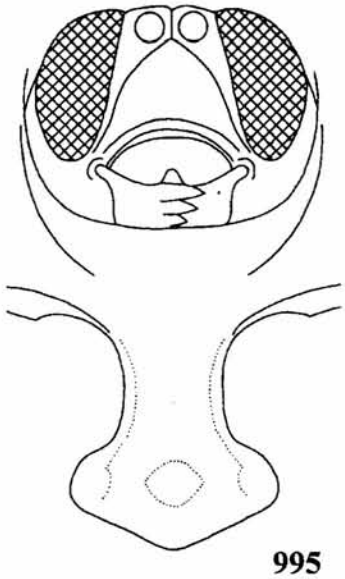
DESCRIPTION

Le: male: 11.7-12.4, female: 13.0-13.6 mm, Wi: male: 10.6-11.5 mm, female: 11.2-12.2 mm, Lp: male: 3.7-3.9 female: 4.0-4.1 mm, Wp: male: 7.8-8.3 mm, female: 8.1-8.5 mm, Ex: male: 2.9-3.2 mm, female: 2.6-3.2 mm, Wd: male: 5.3-5.5 mm, female: 5.7-6.2 mm. Le/Wi: male: 1.07-1.10, female: 1.11-1.16, Wi/Wp: male: 1.34-1.44, female: 1.37-1.46; Wp/Lp: male: 2.05-2.18, female: 2.03-2.07. Body almost circular (fig. 993).

Pronotum uniformly pale yellow. Elytra uniformly pale, occasionally submarginal row in anterior part infuscate and explanate margin with small brown spot at base of humerus. Punctures without darker centre. Clypeus yellow. Ventrites uniformly yellow. Legs, including coxae, uniformly yellow. Antennae mostly yellow, two last antennal segments black except yellow ventral side of apex of the last segment.







993-998. *Aspidimorpha sassii*: 993 - body in dorsal view, 994 - body in profile, 995 – head and prosternum, 996 – antenna, 997 – inner side of claw, 998 – outer side of claw

Pronotum narrowly ellyptical to semicircular, with maximum width at base, hind angles subangulate, forming blunt angle of about 85-90°. Disc moderately convex, smooth, shiny or slightly dull, with very small microreticulation. Explanate margin distinctly bordered from disc, almost horizontal, smooth, shiny.

Scutellum triangular, without or with transverse sulcus or impression. Base of elytra serrulate, moderately wider than base of pronotum, elytral margins simple or narrowly marginate. Disc unevenly convex with distinct postscutellar angulation, top of angulation more or less obtuse, profile behind the tubercle more or less concave (fig. 994). Principal impression shallow but distinct, postscutellar impressions well marked, no lateral impression, surface of lateral part of disc completely regular. Puncturation of disc mostly regular, but third row has tendency to irregularity, on fourth interval usually few additional punctures. Punctures fine, only on sides moderate, on slope slightly to twice smaller than in anterior half of disc, in sutural half of disc twice to thrice smaller than in sides of disc. Scutellar row with 3-6 punctures. Punctures in rows moderately dense to dense, disposed regularly, distance between punctures as large as to thrice larger than puncture diameter, on slope punctures sparser distributed than in anterior part of disc. Marginal row shallow, its punctures not or only slightly larger than in submarginal row. Intervals flat, in sutural half of disc five to seven times wider than rows, on sides twice to thrice wider than rows, their surface mostly smooth, slightly dull to shiny, with distinct microreticulation. Explanate margin very broad, moderately declivous to almost horizontal, without tendency to form a shallow gutter, impunctate. Apex of elytral epipleura bare in male, densely pubescent in female.

Head moderately broad, clypeus 1.6-1.7 times wider than long (fig. 995), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 996), extending to 1/5 length of metasternum, length ratio of antennal segments: 100:50:155:95:85:65:90:76:78:77:140.

Claws pectinate on both sides, inner pecten with four to five very long teeth extending to 1/2-3/5 length of claw (fig. 997). Outer pecten with three short teeth (the innermost tooth sometimes obsolete), extending to 1/6-1/5 length of claw (fig. 998).

Sexual dimorphism distinct. Males stouter than females, with apex of elytra evenly rounded (subacuminate in female) and bare apex of elytral epipleura (pubescent in female).

DISTRIBUTION

Kenya.

REMARKS

It is close to *A. biguttata* especially to its uniformly pale form described as *A. candens*. *A. sassii* is larger, more rounded, with larger postscutellar tubercle, and always yellow ventrites (in *A. biguttata* ventrites are usually partly black, forms with uniformly pale thorax are extremely rare).

MATERIAL EXAMINED

KENYA: holotype: Sagala Reg., near Voi, XI 1992, 1, I. WERNER (DS); paratypes: Sagala Hills, XII 1993, 7, WERNER (DS, LB).

Aspidimorpha (s. str.) *semiramosa* WAGENER, 1880

Aspidomorpha semiramosa WAGENER, 1880: 162 (HT in MM); SPAETH, 1932 b: 4; 1934: 385.
Aspidomorpha (*Aspidomorpha*) *semiramosa*: SPAETH, 1914 b: 77.

DESCRIPTION

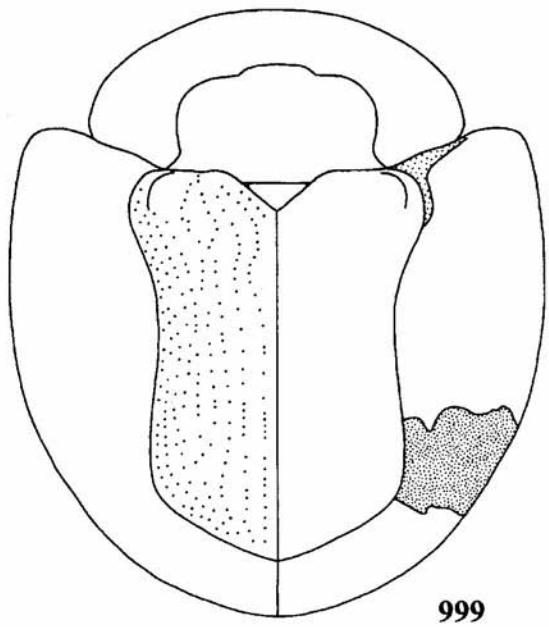
Le: male and female: 7.8-8.8 mm, Wi: male and female: 6.7-8.1 mm, Lp: male and female: 2.4-2.8 mm, Wp: male and female: 4.9-5.6 mm, Ex: male and female: 1.9-2.4 mm, Wd: male and female: 3.0-3.4 mm; Le/Wi ratio: male and female: 1.09-1.16, Wi/Wp: male and female: 1.37-1.45, Wp/Lp: male and female: 1.88-2.13. Body almost circular (fig. 999)

Pronotum uniformly yellow. Elytral disc varies from almost uniformly yellow to completely brown (figs 970-972), in the palest form only elytral punctures infuscate, in the darkest form only extreme apex of disc yellow. In common form disc mostly brown with yellow, elongate spot between scutellum and top of postscutellar tubercle, yellow base of humerus and yellow middle of marginal interval. Intermediate forms have at least dark punctures of disc and irregular brown spots at base of postscutellar tubercle, along suture and sides of disc. Explanate margin with no humeral spot. Scutellum yellow. Ventrites uniformly yellow. Antennae uniformly yellow, or apex of last segment infuscate.

Pronotum ellyptical, with maximum width in 3/5 length, sides narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulaton. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, sometimes impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri subangulate, elytral margins simple. Disc with large, conical postscutellar tubercle (fig. 1000). Principal impressions shallow. Puncturation of disc fine, regular, on slope distinctly finer than in anterior half of disc, in sutural half of disc finer than in lateral part of disc. Scutellar row with 2-5 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-4, distance between punctures or their groups two to four times larger than puncture diameter. Rows not impressed, surface of disc regular. Punctures in marginal row deep, c. four to five times larger than punctures in central rows. Intervals flat, in sutural half five, in lateral half three to four times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, moderately declivous, impunctate, its surface smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.5 times wider than long (fig. 1001), glabrous, slightly elevated before antennal insertions, without or with shallow



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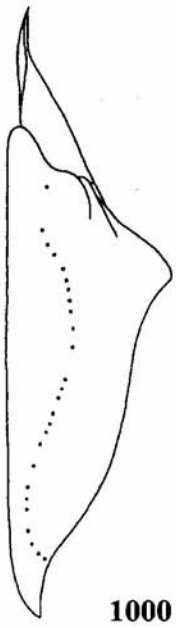

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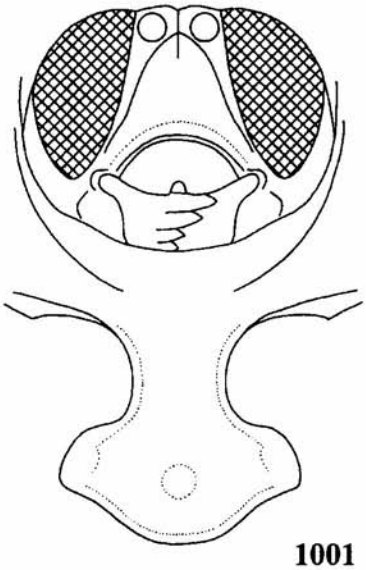

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1002

1003

1004

999-1004. *Aspidimorpha semiramosa*: 999 - body in dorsal view, 1000 - body in profile, 1001 – head and prosternum, 1002 – antenna, 1003 – inner side of claw, 1004 – outer side of claw

median impression. Labrum emarginate to 1/3 length. Antennae moderately elongate (fig. 1002), extending 1/3 length of metasternum, length ratio of antennal segments: 100:44:112:64:60:40:70:52:48:52:84.

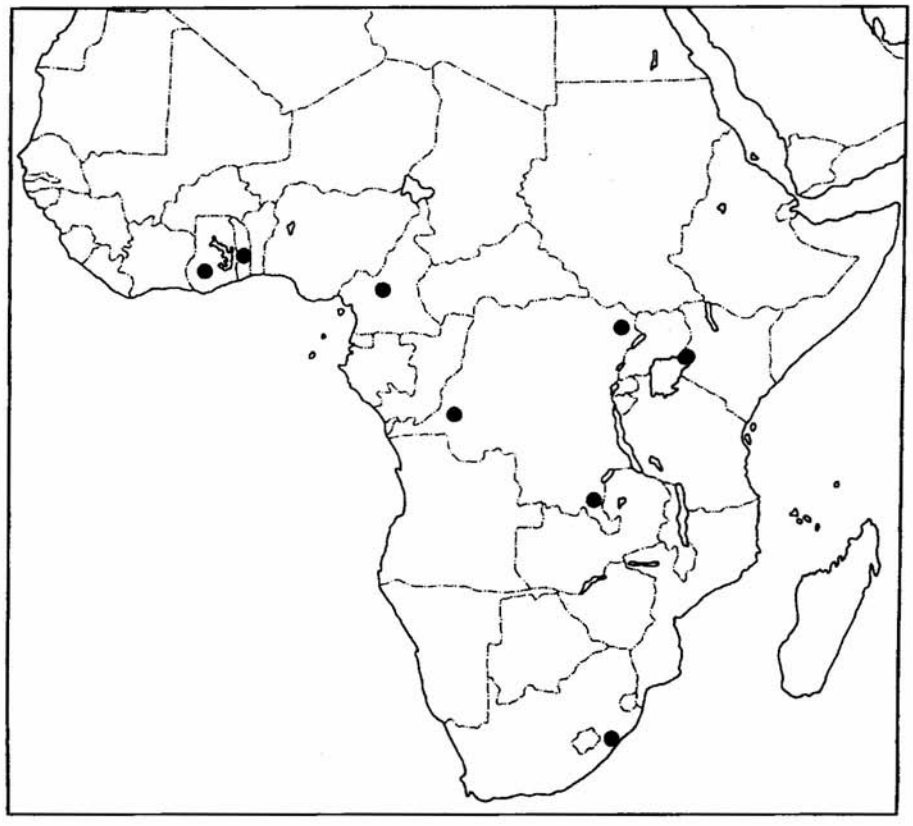
Prosternal collar very short, prosternal process strongly expanded apically, shallowly impressed in the middle.

Claws pectinate on both sides, inner pecten moderately long, with three teeth extending to 1/4-1/3 length of claw, two external teeth equal in length, internal c. twice shorter (fig. 1003). Outer pecten with two teeth, c. 1.5 times shorter than in inner pecten (fig. 1004).

Sexual dimorphism indistinct. Male slightly stouter, with last antennal segment slightly longer than in female.

DISTRIBUTION

Known from several localities scattered in almost whole Africa south of Sahara (fig. 1005).



1005. Distribution of *Aspidimorpha semiramosa*

REMARKS

It belongs to the *mutata* species group. It is a small to moderately large species, with moderately large but sharp, conical postscutellar tubercle. A similar postscutellar tubercle occurs also in *A. dilecta*, *A. togoensis*, *A. vernicata*, *A. laevigata*, *A. obtusangula*, *A. muehlei*, *A. splendidula*, *A. submutata* and *A. obuduensis*. *A. semiramosa* differs from all these species, like from most Afrotropical members of the nominotypical subgenus, in the presence of only posterolateral spots on explanate margin of elytra.

MATERIAL EXAMINED

CAMEROON: Joko, VII 1912, 1 (LB).

GHANA: Asente Akem (Aschantis), 2, JUNOD (MRAC).

KENYA: Nassisi Hills, 20 mls N Mumias, 1 (LB).

TOGO: Bismarckburg, 1, CONRADT (ZMHU).

ZAIRE: Haut Uele, Watsa, 1922, 2, L. BURGEON (MRAC); Kapiri, IX 1912, 1, Miss. Agric. (MRAC); Ngowa, 1 (LB).

VARIA: Old Calabar, 1 (NRS); no locality, 1 (holotype, MM).

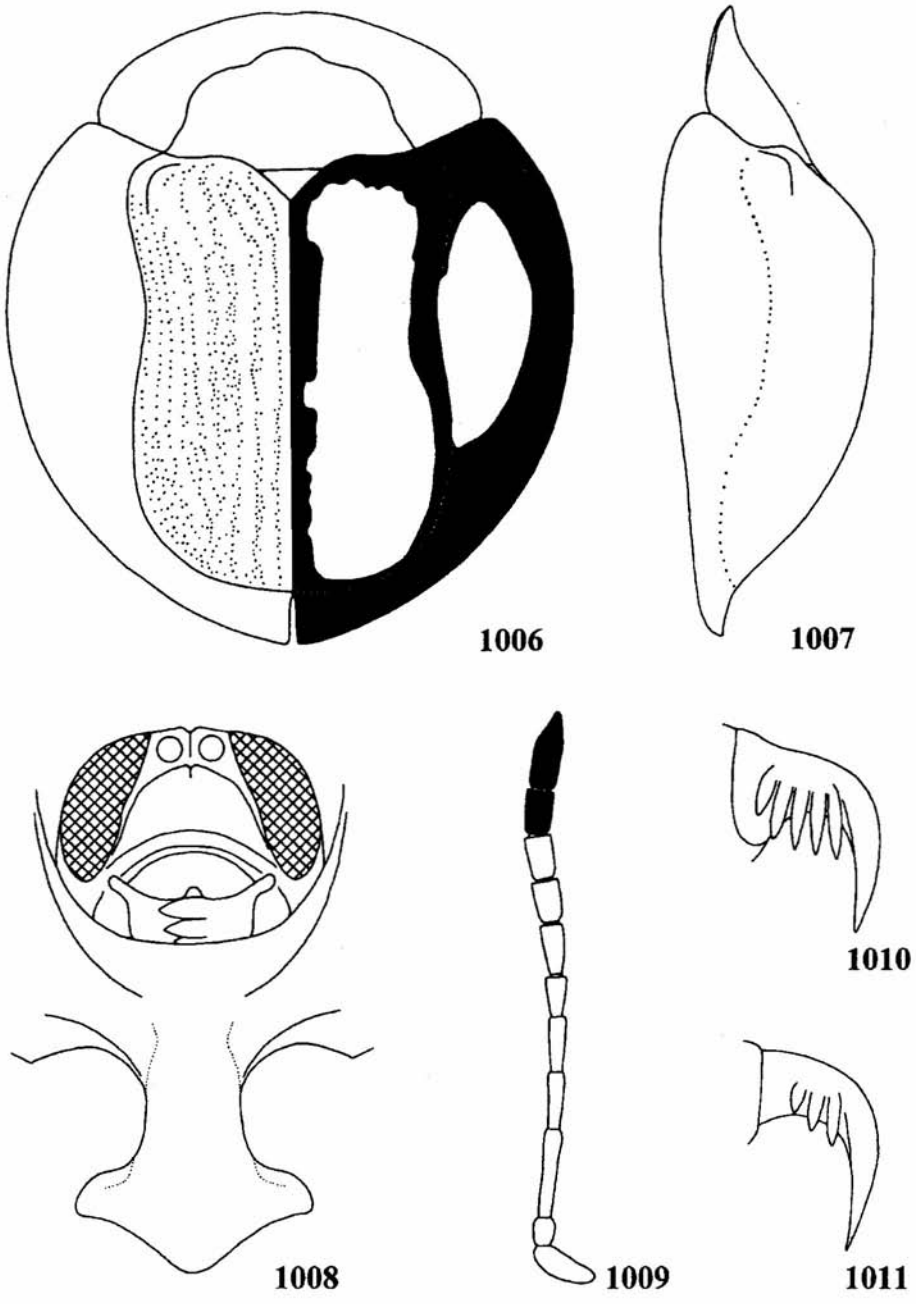
Aspidimorpha (s. str.) *sessarum* SPAETH, 1911

Aspidomorpha sessarum SPAETH, 1911: 267 (LT and PLT in MM), 1916: 41.
Aspidomorpha (*Aspidomorpha*) *sessarum*: SPAETH, 1914 b: 78.
Aspidomorpha castaneidorsis SPAETH, 1912 a: 125 (LT and PLT in MRAC, MM), **n. syn.**.
Aspidomorpha (*Aspidomorpha*) *castaneidorsis*: SPAETH, 1914 b: 73.
Aspidomorpha Graueri SPAETH, 1916: 42 (ST in NMW, MM), **n. syn.**

DESCRIPTION

Le: male: 11.2-12.1, female: 12.3-13.9 mm, Wi: male: 10.0-11.0 mm, female: 10.3-11.9 mm, Lp: male: 3.4-3.5 female: 3.2-3.7 mm, Wp: male: 6.8-7.7 mm, female: 7.1-8.2 mm, Ex: male: 2.4-2.7 mm, female: 2.4-2.9 mm, Wd: male: 5.2-5.6 mm, female: 5.6-6.3 mm. Le/Wi: male: 1.09-1.12, female: 1.13-1.23, Wi/Wp: male: 1.42-1.47, female: 1.41-1.49; Wp/Lp: male: 2.00-2.14, female: 2.11-2.28. Body short-oval to almost circular (fig. 1006).

Pronotum uniformly yellow, occasionally disc reddish-yellow. Elytral disc in typically coloured specimens mostly yellow with black basal margin, two to three marginal intervals, and one to two sutural intervals, lateral band in the middle not expanded (fig. 379). The pattern is constant and varies only in expansions of lateral and sutural bands. Explanate margin usually black with large, yellow "window". Often area close to apex of the slope also yellow, in extreme cases posterior fourth of explanate margin yellow, except black sutural spot (=*graueri*). Specimens with pale parts of elytra reddish-yellow were described as *A. castaneidorsis*. Clypeus yellow. Pro-, meso and metathorax usually black except yellow lateral plates. Abdomen usually mostly black with yellow sides and posterior margins of each sternite, occasionally abdomen mostly to com-

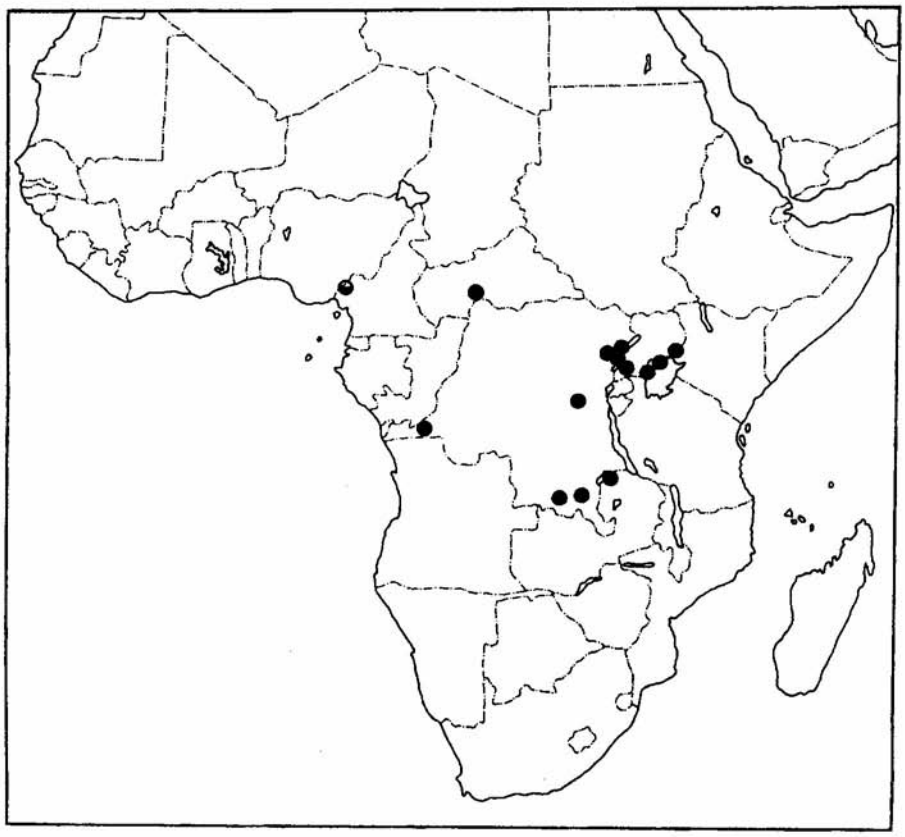


1006-1011. *Aspidimorpha sessarum*: 1006 - body in dorsal view, 1007 - body in profile, 1008 – head and prosternum, 1009 – antenna, 1010 – inner side of claw, 1011 – outer side of claw

pletely yellow. Legs yellow, coxae often partly infuscate to black. Antennae mostly yellow, two last antennal segments black except yellow ventral side of apex of the last segment, occasionally segments 9 and 8 more or less infuscate, in extreme cases segment 9 only slightly paler than 10.

Pronotum narrowly ellyptical, with maximum width at base, hind angles subangulate, forming blunt angle of about 90-95°. Disc moderately convex, smooth, shiny or, especially in forms from western Africa, slightly dull, with very small microreticulation. Explanate margin distinctly bordered from disc, almost horizontal, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, moderately to distinctly wider than base of pronotum, elytral margins simple. Disc regularly convex (fig. 1007), with shallow postscutellar impressions, so that it appears slightly gibbous in postscutellar point, principal impression obsolete or barely marked, without lateral impressions, surface of lateral part of disc completely regular. Puncturation of disc mostly regular, but rows have



1012. Distriburtion of *Aspidimorpha sessarum* (black circles) and *A. sjoestedti* (white above black circle)

tendency to irregularity, fourth interval usually with several irregular punctures, also interval 6 and 7 often with few additional punctures. Punctures fine, only on dark parts of sides moderate, on slope slightly smaller than in anterior half of disc, in sutural half of disc two to three times smaller than in dark parts of sides of disc. Scutellar row with 5-8 punctures. Punctures in rows moderately dense to dense, disposed regularly, distance between punctures in groups as large as to thrice larger than puncture diameter, on slope punctures sparser than in anterior part of disc. Marginal row shallow, its punctures not or only slightly larger than in submarginal row. Intervals flat, in sutural half of disc six to seven times wider than rows, on sides only c. thrice wider than rows, their surface mostly smooth, slightly dull to shiny, with small microreticulation. Explanate margin very broad, moderately declivous, without tendency to form a shallow gutter, impunctate, on pale parts smooth and shiny, on black parts with irregular transverse wrinkles, sometimes completely smooth. Apex of elytral epipleura bare in male, densely pubescent in female.

Head moderately broad, clypeus 1.5-1.6 times wider than long (fig. 1008), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 1009), extending to 1/5 length of metasternum, length ratio of antennal segments: 100:53:150:100:90:65:87:73:76:75:100.

Claws pectinate on both sides, inner pecten with five long teeth extending to 2/5-1/2 length of claw (fig. 1010). Outer pecten with three short teeth (the innermost tooth sometimes obsolete), extending only to 1/6-1/5 length of claw (fig. 1011).

Sexual dimorphism distinct. Males stouter than females, with apex of elytra evenly rounded (subacuminate in female) and bare apex of elytral epipleura (pubescent in female).

DISTRIBUTION

Republic of Central Africa, Zaire, Uganda and N Zambia (fig. 1012).

REMARKS

It belongs to the *bimaculata* group. It differs from typical form of *A. bimaculata* (without transverse black band) in yellow occupying almost whole elytral disc with only marginal intervals black and suture black on whole length (in *bimaculata* black along sides of disc often extending to submarginal rows but suture is black only in posterior half). Yellow "window" of explanate margin of elytra in *A. sessarum* is always longer, extending distinctly behind half length of explanate margin (in *bimaculata* only slightly extending behind half length of explanate margin). *A. bimaculata* ab. *cordigera* distinctly differs from *A. sessarum* in the presence of transverse black band. The third member of the group, *A. bertiae*, occurs only in Masdagascar and differs from *A. sessarum* in smaller size, more circular body, suture mostly yellow and black band along sides of disc, with irregular external margin extending often to submarginal rows.

MATERIAL EXAMINED

REPUBLIC OF CENTRAL AFRICA: Dar-Banda mér., Fort Sibut, 1 (LB).

UGANDA: Entebbe, 17-19 X 1911, 1, 1-4 VI 1912, 2, X 1912, 1, XI 1912, 1, XII 1912, 1, I 1913, 1, C.C. GOWDEY (BMNH); S L. George, 3200-3400 ft., 17-19 X 1911, 2, S.A. NEAVE (BMNH); Sesse Is., 2 (lectotype male and paralectotype female of *A. sessarum*, MM), 9 (FMNH); Torotoro, 30 III 1967, 1, F.K. MASSASAI (BMNH); Uganda, 5, PLASON (MM), 1 (IRSN).

ZAIRE: Albert Nat. Park, Foret Semliki, 900-1200 m, X-XI 1937, 1, HACKARS (MRAC); Albert Nat. Park, r. dr. Kabambewa, forêt O. Mwenda, 1100 m, 10 IV 1949, 1, J. DE WILDE (MRAC); Albert Nat. Park, riv. dr. Loule, 1100 m, 14 V 1949, 1, J. DE WILDE (MRAC); Albert Nat. Park, Massif Ruwenzori, riv. Bombi, affl. Butahu, 1820 m, 15 IX 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. park, Massif Ruwenzori, riv. Lume (moyenne), affl. Semliki, 1830 m, 29 VIII 56, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mont Hoyo, mont Segule, 1380 m, 2-4 VIII 1955, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mutsora, 1939, 1, HACKARS (MRAC); Albert Nat. Park, Plaine Semliki, 900-1100 m, IV-X 1937, 8, HACKARS (MRAC); Albert Nat. Park, Ruwenzori, Mutawanga, 1000-1300 m, XI 1936, 1, XI 1936-II 1937, 3, II-III 1937, 3, HACKARS (MRAC); Kapiri, 10 XI 1913, 1, L. CHARLIERS (MRAC); Albert Nat. Park, Secteur Nord, Bongeya, affl. Talya, 1310 m, 12 IV 1958, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Bumali, village près Mutawanga, 1300 m, 7 IX 1951, 2, R. CHRISTIAENS (MRAC); Albert Nat. Park, Secteur Nord, Butahu, affl. Semliki, 1360 m, 20 III 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Byangolo, affl. g. Djilube, 1320 m, 19 IX 1956, 2, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Lume (moyenne), 1420 m, 10 IX 1956, 2, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. May ya Moto, affl. g. Talya, 1100 m, 10 IX 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Molidi, piste watalinga, 1210 m, 18 IX 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Musinini, affl. Byangolo, 1160 m, 15 IV 1958, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Mutsora, station P.N.A., 1250 m, 23 I 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, village Nzega près Mutawanga, 1200 m, 14 VIII 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. g. Talya, affl. dr. Lume, 1100 m, 29 I 1957, 3, P. VANSCHUYTBROECK (MRAC); Katanga, Koni, VI 1949, 2, J. van Mol (MRAC); Kisantu, 3, P. GOOSSENS (lectotype of *A. castaneidorsis*, MRAC, paralectotypes of *A. castaneidorsis*, MM); Kisubili, 1907, 1 (ZSM); Lualaba, Kakunda, Mutaka, 1955, 1, Th. DE CATERS (MRAC); Lualaba, Kolwezi, XII 1957, 1, V. ALLARD (MRAC); Ukaika-Mawambi, 1911, 2, GRAUER (syntypes of *A. graueri*, MM).

ZAMBIA: Moero, Niunzu, 1 (MM).

Aspidimorpha (s. str.) *setosa* n. sp.

ETYMOLOGY

Named after long setae on apex of elytral margin.

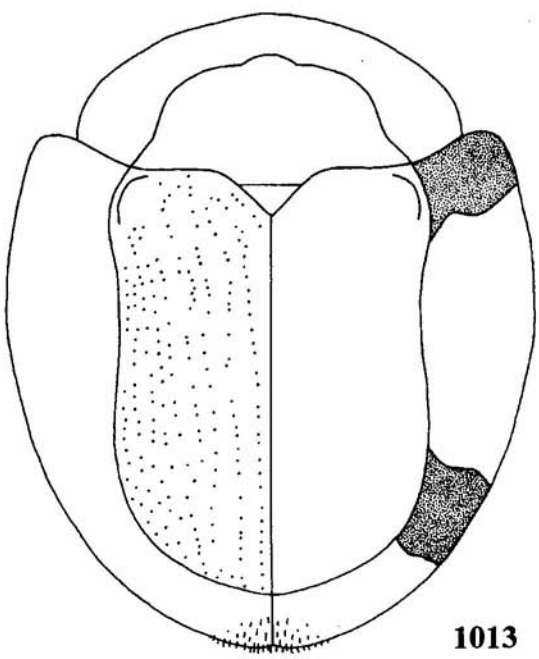
DESCRIPTION

Le: male: 9.6-10.2 mm, female: 10.1-11.0 mm, Wi: male: 8.3-8.9 mm, female: 8.6-9.4 mm, Lp: male: 3.1-3.2 mm, female: 3.2-3.4 mm, Wp: male: 6.3-6.5 mm, female: 6.4-6.8 mm, Ex: male: 2.1-2.2 mm, female: 2.1-2.4 mm, Wd: male: 4.6-4.8 mm, female: 4.8-5.3 mm; Le/Wi ratio: male: 1.15-1.16, female: 1.17-1.22, Wi/Wp: male: 1.32-1.37, female: 1.34-1.38, Wp/Lp: male: 2.03, female: 2.00. Body oval (fig. 1013).

Pronotum uniformly yellow to argillaceous. Elytra uniformly yellow to argillaceous, punctures usually with darker centre, explanate margin with moderately broad, on upperside pale brown, on underside dark brown to black humeral and posterolateral spots, no sutural spot. Apex of humeral spot not widened posterad, apex of posterolateral spot not widened anterad. Margin of explanate margin darker yellow than ventral half. Ventrites uniformly yellow. Antennae uniformly yellow, or only last segment partly infuscate. Legs completely yellow.

Pronotum ellyptical, with maximum width slightly in front of the base, hind angles forming an angle of 95-100°. Disc moderately convex, smooth, with mirror brilliance, with very small microreticulaton. Explanate margin distinctly bordered from disc, subhorizontal, in anterior part with tendency to form a gutter, its surface smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, much wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, with moderate postscutellar tubercle, top of the tubercle moderately angulate, profile behind the tubercle moderately concave (fig. 1014). Discal surface with small but deep principal impression, indistinct scutellar impressions, without posterolateral impression, surface of lateral part of disc completely regular. Puncturation of disc fine to moderate, rows not impressed, regular, punctures on slope distinctly sparser and smaller than in anterior half of disc, in sutural half of disc c. twice smaller than in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows moderately dense to dense, disposed mostly regularly, distance between punctures as large as to five times larger than puncture diameter, in two sutural rows slightly denser. Punctures in marginal row c. thrice larger than in submarginal rows. Intervals flat, in sutural half of disc c. five times, on sides three to four times wider than rows, their surface smooth, with mirror brilliance. Lateral fold of marginal interval broad and moderately convex. Explanate margin moderately broad, subhorizontal without tendency to form a gutter, impunctate, its surface smooth and glabrous. In female only extreme apex of elytral epipleura with moderately long, erect hairs but extreme margin of elytra with row of extremely



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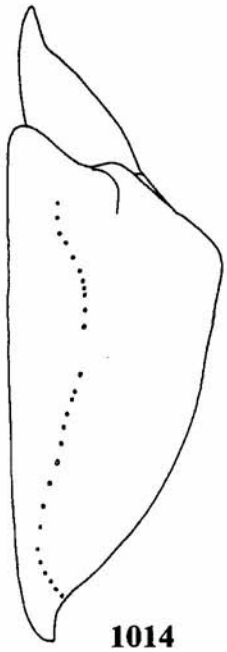

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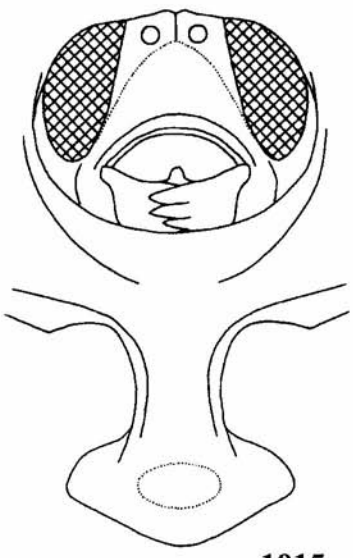


1015

1016

1017

1018

1013-1018. *Aspidimorpha setosa*: 1013 - body in dorsal view, 1014 - body in profile, 1015 – head and prosternum, 1016 – antenna, 1017 – inner side of claw, 1018 – outer side of claw

long erect setae, in male extreme apex of epipleura with very short hairs and margin of elytra with only few short setae apically (in dried specimens setae are mostly broken).

Head moderately broad, clypeus 1.6 -1.7 times wider than long (fig. 1015), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 1016), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:50:125:70:71:50:70:68:65:61:127.

Claws pectinate on both sides, inner pecten long, with five teeth extending to 2/5-1/2 length of claw (fig. 1017), outer pecten short with two to three teeth, extending to 1/6-1/5 length of claw (fig. 1018).

Sexual dimorphism moderate, male slightly smaller and stouter than female, with shorter apical setae of epipleura and elytral margin.

DISTRIBUTION

Equatorial Guinea, Republic of Central Africa, Republic of Congo and Zaire.

REMARKS

It is a member of *A. quadriramosa* group. Females of *A. setosa* distinctly differ from all species of the group in apical margin of elytra with very long, erect setae, it is also the only member of the group with antennae uniformly yellow or with only last segment slightly infuscate. The strongly glabrous elytral surface places this species close to *A. fausta*, but *A. setosa* is slimmer, with Le/Wi ratio in male 1.15-1.16 (in *fausta* 1.08-1.13), in female 1.17-1.22 (in *fausta* 1.07-1.17) and *A. fausta* has usually three last antennal segments partly or completely black. *A. levissima* has a similar body shape and also very glabrous dorsal surface but differs in explanate margin of elytra immaculate and extremely short pecten of tarsal claws. *A. incerta* differs in obtuse postscutellar tubercle. *A. sankuruensis* differs in black three last antennal segments and very short pecten of tarsal claws. *A. andrei* and *A. sulfuripennis* differ in absence of posterolateral spot of explanate margin of elytra. *A. collarti* and *A. tuberosa* differ in larger and more impressed elytral puncturation, *A. collarti* differs also in very short pecten of tarsal claws. *A. natalensis* differs in base of elytra slightly to moderately wider than base of pronotum and more southern distribution, and *A. quadriramosa* differs in more circular body outline.

MATERIAL EXAMINED

EQUATORIAL GUINEA: paratype: Span. Guinea, 1 (LB).

REPUBLIC OF CENTRAL AFRICA: paratype: Oubanghi-Chari: Fort Sibut, 1968, 1, ex. coll. BREUNING (MRAC).

REPUBLIC OF CONGO: paratype: Congo francais, Pangala, 1 (IRSN).

ZAIRE: holotype: Eala, XI 1936, 1 (MRAC); paratype: Sankuru, Djoka, 1 (LB).

Aspidimorpha (s. str.) *silfverbergi* Borowiec, 1985

Aspidomorpha silfverbergi Borowiec, 1985 a: 230 (HT in HU).

Description

Le: male and female: 9.8-12.0 mm, Wi: male and female: 7.2-8.3 mm, Lp: male and female: 3.5-3.7 mm, Wp: male and female: 6.5-7.4 mm, Ex: male: 1.7-1.9 mm, female: 2.0 mm, Wd: male: 4.7-4.9 mm, female 5.2 mm. Le/Wi: male: 1.35-36, female: 1.44, Wi/Wp: male: 1.18, female: 1.12. Body short-oval (fig. 1019).

Yellow, intervals 1, 5 and 7 on entire length, interval 8 to 3/4 length, and interval 6 to 1/5-1/4 length reddish. Rows of punctures indistinctly reddish marked. Head, prosternum, meso-, metasternum and abdomen except sides, and last four antennal segments blackish. Margin of prosternal collar and mesepimeron yellowish. Forefemora completely yellow or their bases to 1/4 length brownish or black, mid- and hindfemora black to 1/3-1/2 length.

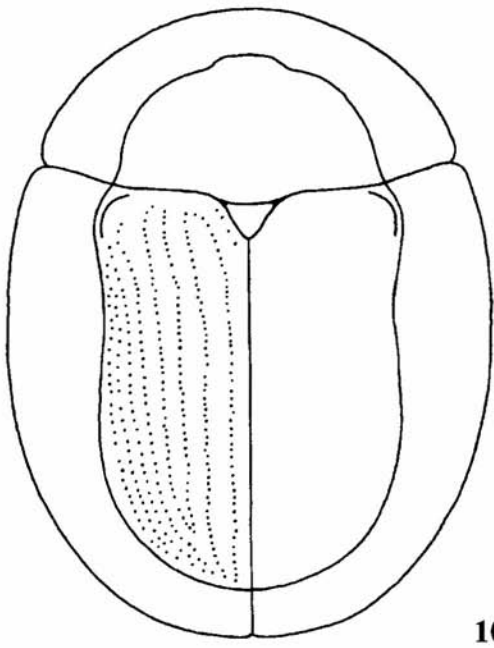
Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle of about 90°. Disc moderately convex, smooth, shiny, with very small microreticulation and extremely fine pricks. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, without sulci, microreticulate with 4-12 very small punctures. Base of elytra serrulate, only slightly wider than base of pronotum, elytral margins narrowly tucked up, apex regularly rounded. Disc regularly convex, with no postscutellar gibbosity or tubercle (fig. 1020), without principal and lateral impressions, row 4 sometimes with narrow, shallow impression in 1/4 length. Puncturation of disc regular, punctures in sutural half of disc smaller than in lateral part. Scutellar row with 6 punctures. Punctures in rows dense, distance between punctures 0.8-1.5 times larger than puncture diameter. Punctures in marginal row c. two to three times larger than in central rows. Intervals 1-4 flat, 5-10 feebly convex, five times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin moderately declivous, impunctate, shiny, but its surface slightly irregular, with several short, transverse folds, especially in hind part. Margin of elytra narrowly but distinctly marginate. Apex of elytral epipleura in male without hair.

Head broad, clypeus c. 1.6 times wider than long (fig. 1021), dull, distinctly elevated before antennal insertions, with distinct median impression. Antennae moderately elongate (fig. 1022), extending to mid coxa, length ratio of antennal segments: 100:33:100:60:54:48:64:58:60:60:106.

Claws pectinate on both sides, inner pecten with five long teeth extending to half length of claw, first fourth teeth equal in length, inner slightly shorter (fig. 1023). Outer pecten with two to three teeth c. 1.5 times shorter than inner pecten (fig. 1024).

Sexual dimorphism distinct, female slightly narrower than male, apex of elytral epipleura with long, erect hairs.



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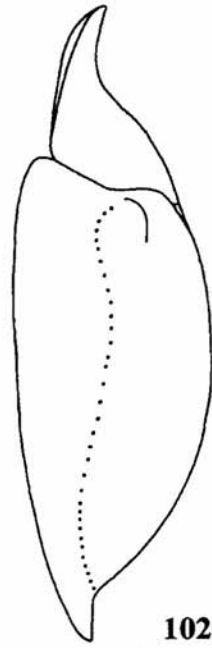
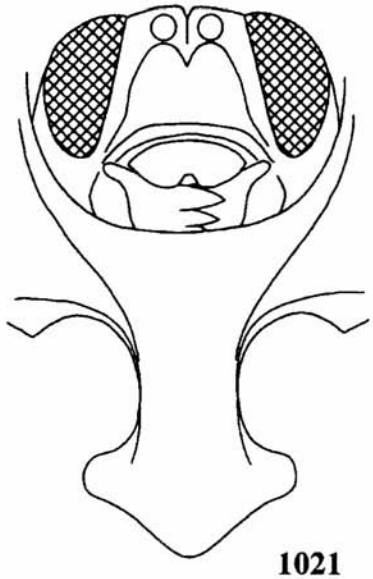


1020



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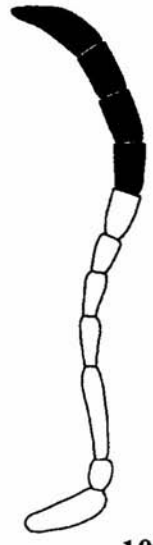

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1023

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1019-1024. *Aspidimorpha silfverbergi*: 1019 - body in dorsal view, 1020 - body in profile, 1021 – head and prosternum, 1022 – antenna, 1023 – inner side of claw, 1024 – outer side of claw

HOST PLANT

Convolvulaceae: *Ipomoea sepiaria* (E. OBERMAIER, letter inf.).

DISTRIBUTION

Guinea, Guinea Bissau and Ivory Coast (fig. 938).

REMARKS

It belongs to the *palleago* species group. Broad, feebly declivous explanate margin of elytra, strong elytral puncturation and black four last antennal segments place this species close to *A. pallescens* Sp., *A. palleago* Boh. and *A. proszynskii*. It differs from the first two species in reddish maculation of elytral intervals (in *A. pallescens* and *A. palleago* elytra are unicolour). *A. proszynskii* is the most similar. It has a similar elytral maculation but differs in slimmer body (in *A. silfverbergi* Le/Wi ratio in male = 1.35-1.36, female: 1.44, in *A. proszynskii* = male: 1.40-1.42, female: 1.46), less rounded elytral sides, slightly broader clypeus and mid and hind femora not black in basal third, at most with incomplete brown rings. *A. strigosa* and *A. mrogorensis* of this species group differ in more declivous explanate margin of elytra and unicolour elytral intervals. *A. silfverbergi* has the most northwestern distribution of all the species of the *palleago* group and next to *A. proszynskii*, is the only species distributed in northwest Africa.

MATERIAL EXAMINED

GUINEA: Beyla, 1 (LB).

GUINEA BISSAU: Bafata, I 1954, 1, BENASSI (PMNH).

IVORY COAST: Comoé Nat. Park, VI 1994, 1, on *Ipomoea aquatica* [*sepiaria*, correct ident.], E. OBERMAIER (EO); Foro Foro, 25-28 IX 1973, 1, R. LINNAVUORI (holotype, ZMUH).

VARIA: unlabelled, 1 (LB).

Aspidimorpha (s. str.) *sjoestedti* SPAETH, 1903

Aspidomorpha Sjöstedti SPAETH, 1903: 176 (T in NRS, PLT in NRS, MM), 1932 b: 12.
Aspidomorpha (*Aspidomorpha*) *Sjöstedti*: SPAETH, 1914 b: 78.

DESCRIPTION

Le: male: 11.2-12.9 mm, female: 12.3 mm, Wi: male: 10.7-11.7 mm, female: 10.8 mm, Lp: male: 3.6-3.9 mm, female: 3.8 mm, Wp: male: 7.1-7.8 mm, female: 7.2 mm, Ex: male: 2.7-2.9 mm, female: 2.6 mm, Wd: male: 5.1-6.0 mm, female: 5.6 mm; Le/Wi ratio: male: 1.03-1.10, female: 1.14, Wi/Wp: male: 1.50-1.51, female: 1.50, Wp/Lp: male: 1.97-2.00, female: 1.89. Body almost circular (fig. 1025).

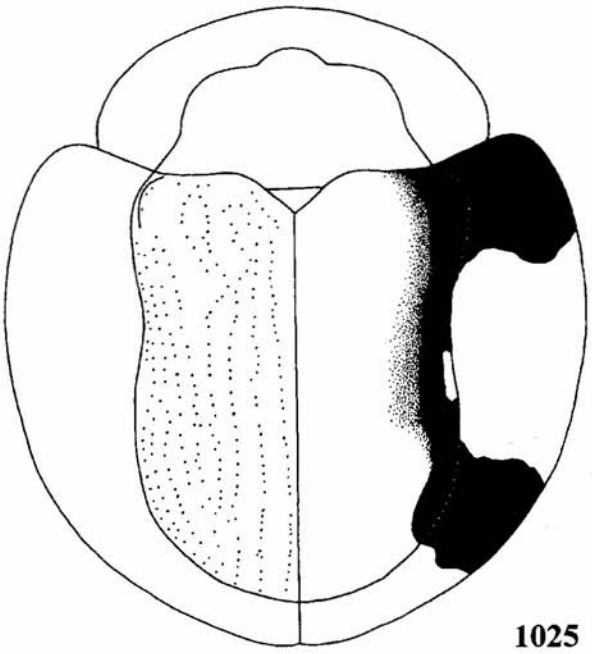
Pronotum uniformly argillaceous. Elytra argillaceous with a rather constant pattern. Disc argillaceous, on sides usually darker, reddish-argillaceous, punctures usually without darker centres, explanate margin with extremely broad, brownish-black to black humeral and posterolateral spots, without sutural spot. Humeral spot widened posterad, posterolateral spot widened anterad, both hammer-shaped. Marginal and submarginal intervals close to humeral and posterolateral spots and between the spots also dark brown to black, only lateral fold of marginal interval argillaceous. Pale margins of explanate margin of elytra slightly darker than pale ventral part of the explanate margin. Pro-, meso- and metasternum except lateral plates brown to black, abdomen usually mostly yellow with sternites in the middle with a pair of brown to black spots, often only last sternite with brown spots. Antennae yellow, two last segments black, except yellow underside of the apex of last segment. Legs yellow, fore- and midcoxae often partly or completely brown.

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulaton. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.

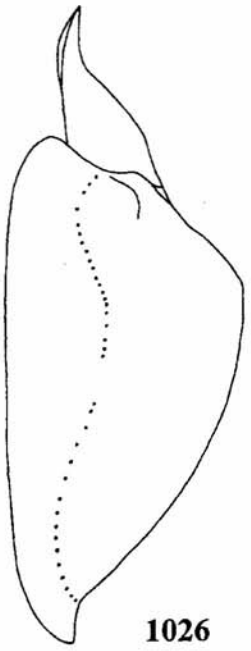
Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, much wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, with large but obtuse postscutellar gibbosity, profile slightly convex behind the top of convexity (fig. 1026), discal surface with small but distinct principal impression, shallow scutellar impressions, without posterolateral impression, surface of lateral part of disc usually regular. Puncturation of disc fine, regular, on slope c. twice finer than in anterior half of disc, in sutural half of disc at most thrice finer than in lateral part of disc. Scutellar row with 4-6 punctures. Punctures in rows moderately dense to dense, disposed mostly regularly, distance between punctures or their groups two to four times larger than puncture diameter. Rows not impressed. Punctures in marginal row deep, thrice larger than in central rows. Intervals flat, in sutural half of disc c. four times, in lateral half twice to thrice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low to moderate. Explanate margin very broad, subhorizontal to horizontal with tendency to form a gutter, especially in males, impunctate, its surface smooth and glabrous. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus c. 1.5 -1.6 times wider than long (fig. 1027), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/3-2/5 length. Antennae moderately elongate (fig. 1028), extending to mid coxa, length ratio of antennal segments: 100:40:155:95:90:60:80:60:70:75:120.

Claws pectinate on both sides, inner pecten long, with four teeth extending to c. half length of claw (fig. 1029), outer pecten with three teeth, first extending to 1/4-1/3 length of claw, remainder gradually smaller (fig. 1030).



1025



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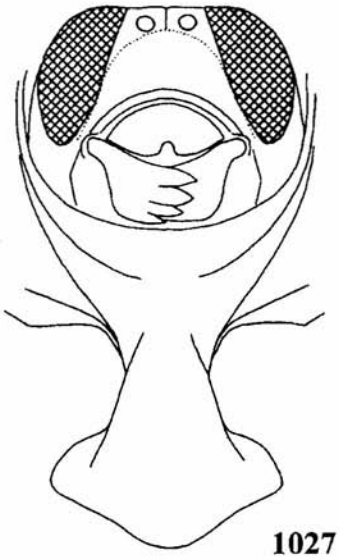

1027

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1025-1030. *Aspidimorpha sjoestedti*: 1025 - body in dorsal view, 1026 – body in profile, 1027 – head and prosternum, 1028 – antenna, 1029 – inner side of claw, 1030 – outer side of claw

Sexual dimorphism indistinct. Male slightly stouter, with base of elytra slightly wider in relation to base of pronotum than in female, with last antennal segment slightly longer than in female.

DISTRIBUTION

Cameroon (fig. 1012).

REMARKS

It is the largest member of the *isparetta* group. The very constant elytral pattern and bare female epipleura place this species close to *A. honesta*, but in *A. sjoestedti* ground colour of elytral disc is usually argillaceous while in *A. honesta* it is yellow. Explanate margin of elytra in *A. sjoestedti* has no sutural spot, while in *A. honesta* it is usually distinct. Large specimens of *A. isparetta* with black humeral and sutural spots (*schoenherri* form) extending to marginal intervals of disc are at first glance very similar to *A. sjoestedti* but they usually have also sutural spot (always absent in *sjoestedti*). Females of *A. isparetta* distinctly differ in pubescent apex of elytral epipleura. The last species of the group, *A. tecta* and *A. icterica*, distinctly differ in smaller size and spots of explanate margin usually not black. *A. sjoestedti* has the smallest range of all the species of the group, limited to few localities in Cameroon.

MATERIAL EXAMINED

CAMEROON: Bascho, 1 (LB); Camerun, 3, SJÖSTEDT (lectotype and two paralectotypes, present designation, lectotype and one paralectotype in NRS, one paralectotype in MM), 1 (LB); Kamerun, 4 (MM, LB).

Aspidimorpha (s. str.) *splendidula* SPAETH, 1961

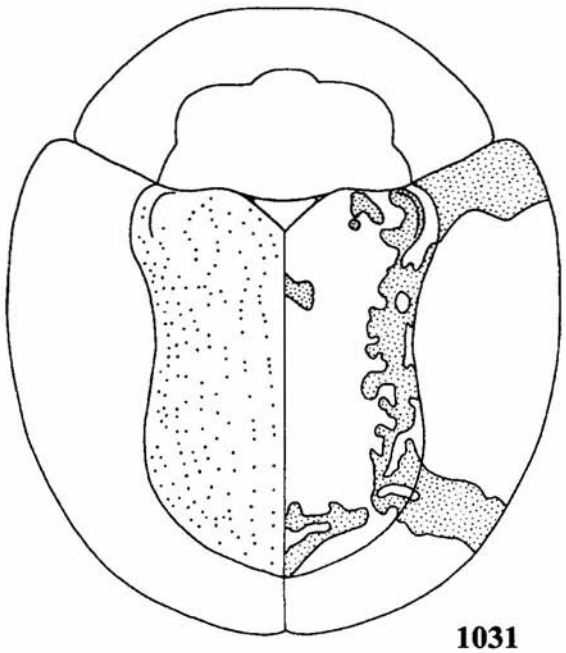
Aspidomorpha splendidula SPAETH in SHAW, 1961: 19 (HT in MRAC, PT in MM).

DESCRIPTION

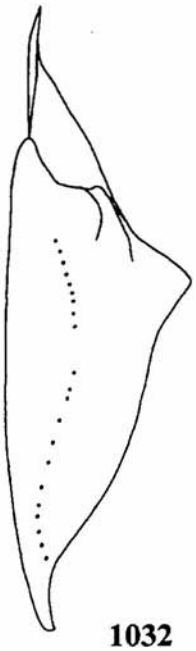
Le: male and female: 7.6 mm, Wi: male and female: 6.7-6.8 mm, Lp: male and female: 2.5 mm, Wp: male and female: 5.1 mm, Ex: male and female: 1.8 mm, Wd: male and female: 3.1 mm; Le/Wi ratio: male and female: 1.12-1.13, Wi/Wp: male and female: 1.31-1.33, Wp/Lp: male and female: 2.04. Body short-oval (fig. 1031)

Pronotum uniformly yellow. Elytra yellow with reddish-brown humeral and posterolateral spots, punctures of elytral disc and lateral margins of postscutellar tubercle marked with reddish-brown, usually along elytral row 7 irregular reddish brown band. Scutellum yellow. Ventrites uniformly yellow. Antennae yellow, last segment, except ventral part of apex, and apical half of segment 10 black.

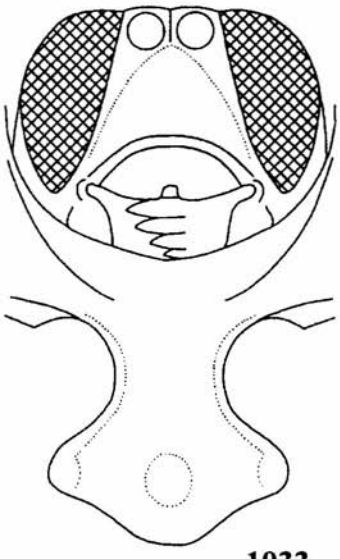
Pronotum broadly ellyptical, with maximum width in 3/5 length, sides angulate. Disc slightly convex, smooth, shiny, with very small microreticulaton. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.



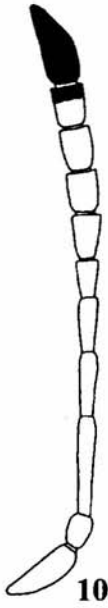
1031



1032



1033



1034

1035

1036

1031-1036. *Aspidimorpha splendidula*: 1031 - body in dorsal view, 1032 - body in profile, 1033 – head and prosternum, 1034 – antenna, 1035 – inner side of claw, 1036 – outer side of claw

Scutellum triangular, impunctate, without transverse sulcus, sometimes impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri rounded, elytral margins simple. Disc with large, sharp, conical postscutellar tubercle (fig. 1032). Puncturation of disc fine, regular, on slope distinctly finer than in anterior half of disc, in sutural half of disc finer than in lateral part of disc. Scutellar row with 5-6 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-4, distance between punctures or their groups two to four times larger than puncture diameter. Rows not impressed, surface of disc regular. Punctures in marginal row deep, c. three to four times larger than in central rows. Intervals flat, in sutural half three to four, in lateral half 1.5-2.0 times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, subhorizontal, forms a shallow gutter, impunctate, its surface smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus c. 1.5 times wider than long (fig. 1033), glabrous, slightly elevated before antennal insertions, without median impression. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 1034), extending to mid coxa, length ratio of antennal segments: 100:44:124:80:72:48:56:52:56:56:112.

Claws pectinate on both sides, inner pecten long, with three teeth extending to half length of claw, two external teeth equal in length, internal slightly shorter (fig. 1035). Outer pecten with two teeth, c. twice shorter than in inner pecten (fig. 1036).

Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

SE Zaire (fig. 1052).

REMARKS

It belongs to the *mutata* group. *A. splendidula* and *A. vernicata* are the only species of the group with both humeral and posterolateral spots (but *A. vernicata* has also an aberration with reduced posterolateral spot). Both species are separated geographically, *A. vernicata* is known only from Madagascar while *A. splendidula* is known from only few specimens collected in SE Zaire. Puncturation of elytra, especially on sides of disc in *A. splendidula* is slightly coarser and more impressed than in *A. vernicata*, and explanate margin of elytra of *A. splendidula* has a more evident tendency to form a shallow gutter.

MATERIAL EXAMINED

ZAIRE: Kapiri, IX 1912, 1, Miss. Agric. (paratype, MM); Ngowa, 1 (LB); Sankuru, M'Pemba Zeo (Gandajika), 1 (LB); Upemba Nat. Park, Kankunda, 1300 m, 22-24 XI 1947, miss. DE WITTE (holotype, MRAC).

Aspidimorpha (s. str.) *sternalis* WEISE, 1896

Aspidomorpha sternalis WEISE, 1895: 400 (nomen nudum); 1896: 20 (HT in ZMHU); KOLBE, 1898: 344; SPAETH, 1906: 401, 1917: 425; 1932 b: 7; SHAW, 1961: 20; BOROWIEC, 1985 a: 235.
Aspidomorpha (*Aspidomorpha*) *sternalis*: SPAETH, 1914 b: 78.
Aspidomorpha sternalis ab. *exsucta* SPAETH, 1917: 425 (ST in MM).
Aspidomorpha sternalis ab. *bifenestralis* SPAETH, 1932 b: 8 (ST in MM, ZSM).

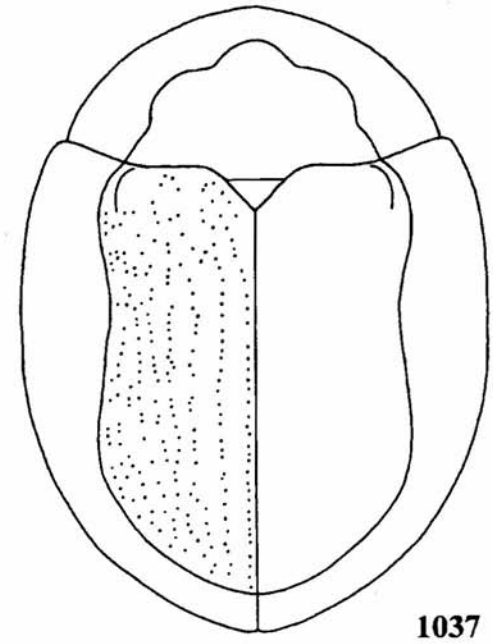
DESCRIPTION

Le: male: 9.4-9.9 mm, female: 10.5-11.9 mm, Wi: male: 7.3-7.4 mm, female: 7.6-8.4 mm, Lp: male: 3.1-3.2 mm, female: 3.2-3.7 mm, Wp: male: 6.1-6.3 mm, female: 6.3-7.2 mm, Ex: male: 1.3-1.4 mm, female: 1.3-1.5 mm, Wd: male: 4.4-4.8 mm, female: 5.1-5.4 mm; Le/Wi ratio: male: 1.27-1.36, female: 1.38-1.42, Wi/Wp: male: 1.16-1.21, female: 1.17-1.21, Wp/Lp: male: 1.97-2.03, female: 1.85-2.03. Body elongate-oval, almost parallelsided (fig. 1037).

Pronotum uniformly yellow. Elytra uniformly yellow or with variable pattern (figs 1045-1048). Disc in the palest form uniformly yellow, punctures without darker centre. Often disc with reddish-brown to brown pattern in form of irregular spots of various shape and size along suture and irregular spots along each side of disc, the spots on sides often partly or mostly coalescent and forming irregular bands, in another common form the pattern is similar but black, in extremely dark form almost whole disc is black except small yellow spots close to scutellar corners and in the middle of first elytral interval. Between described above forms usually have no intermediate forms. Explanate margin in the palest form uniformly yellow, but usually with moderately broad reddish-brown to black humeral, posterolateral and sutural spots, occasionally the spots are visible only on underside of explanate margin. Humeral spot only occasionally widened posterad, hammer-shaped. Clypeus partly yellow, always with black basal corners, sometimes only apex of clypeus yellow. Ventrites in all forms mostly black, usually only lateral plates of thorax, and sides and apex of abdomen yellow, occasionally black on abdomen is reduced to two large spots in the middle of each sternite. Legs yellow, coxae partly to completely black. Antennae mostly yellow, two last antennal segments black except yellow ventral side of apex of the last segment.

Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle of about 85-90°. Disc moderately convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, almost horizontal in anterior part with tendency to form a shallow gutter, smooth, shiny.

Scutellum triangular, without or with transverse sulcus or impression. Base of elytra serrulate, not or only slightly wider than base of pronotum, elytral margins simple. Disc slightly depressed (fig. 1038), without or with small and shallow principal impression, without lateral impressions, surface of lateral part of disc regular to slightly irregular. Puncturation of disc mostly regular, punctures very fine to fine, on slope not or only slightly smaller than in anterior half of



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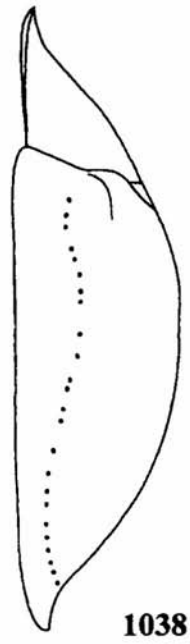

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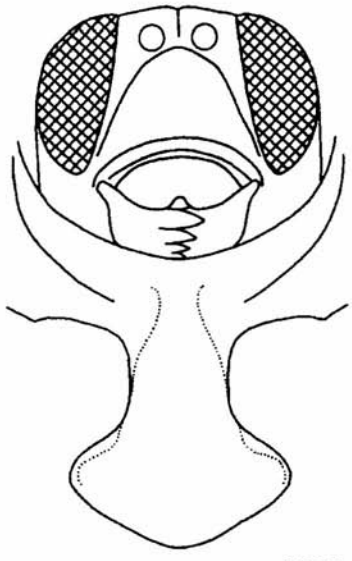

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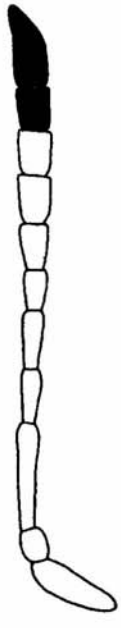


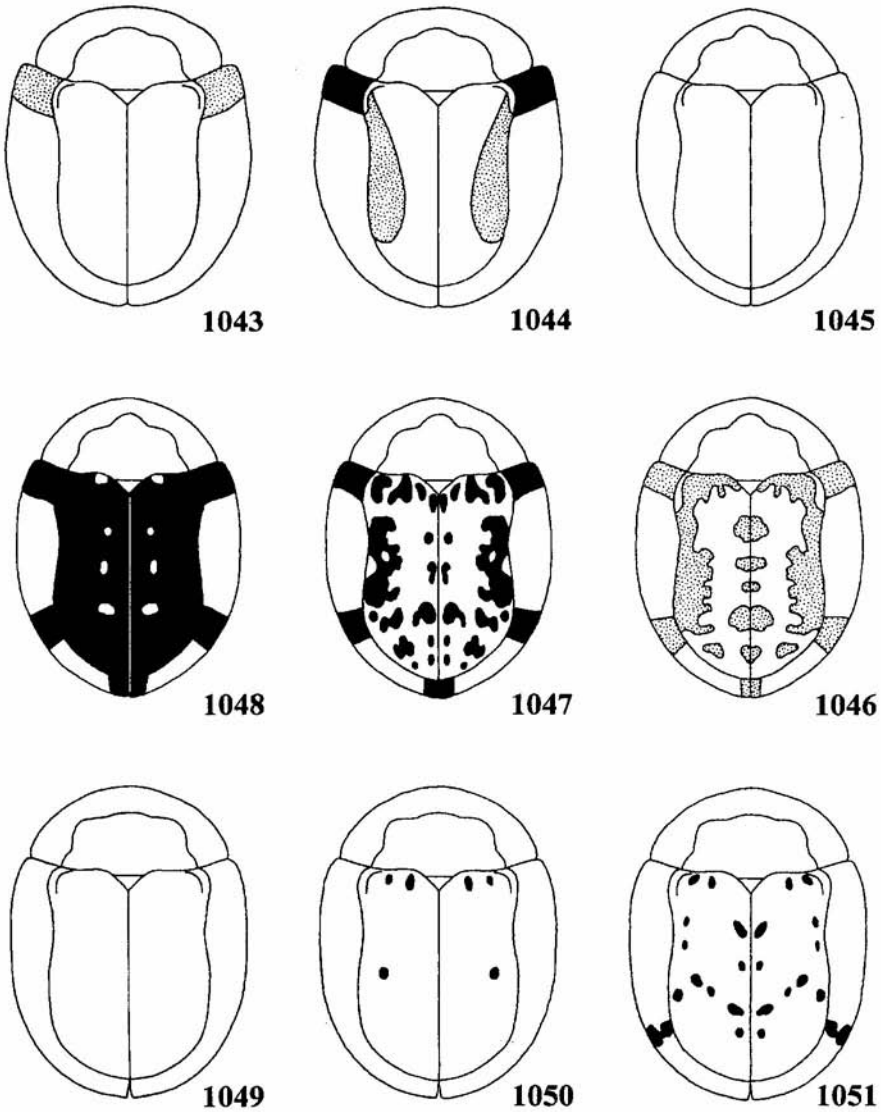
1040

1041

1042

1037-1042. *Aspidimorpha sternalis*: 1037 - body in dorsal view, 1038 - body in profile, 1039 – head and prosternum, 1040 – antenna, 1041 – inner side of claw, 1042 – outer side of claw

disc, in sutural half of disc three to four times smaller than in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows moderately dense to dense, disposed mostly regularly, only partly grouped in 2-4, distance between punctures in groups c. as large as to twice large than puncture diameter, between groups three to five times larger than puncture diameter. Marginal row deep, its punctures c. twice larger than in submarginal row. Intervals flat, in sutural half of



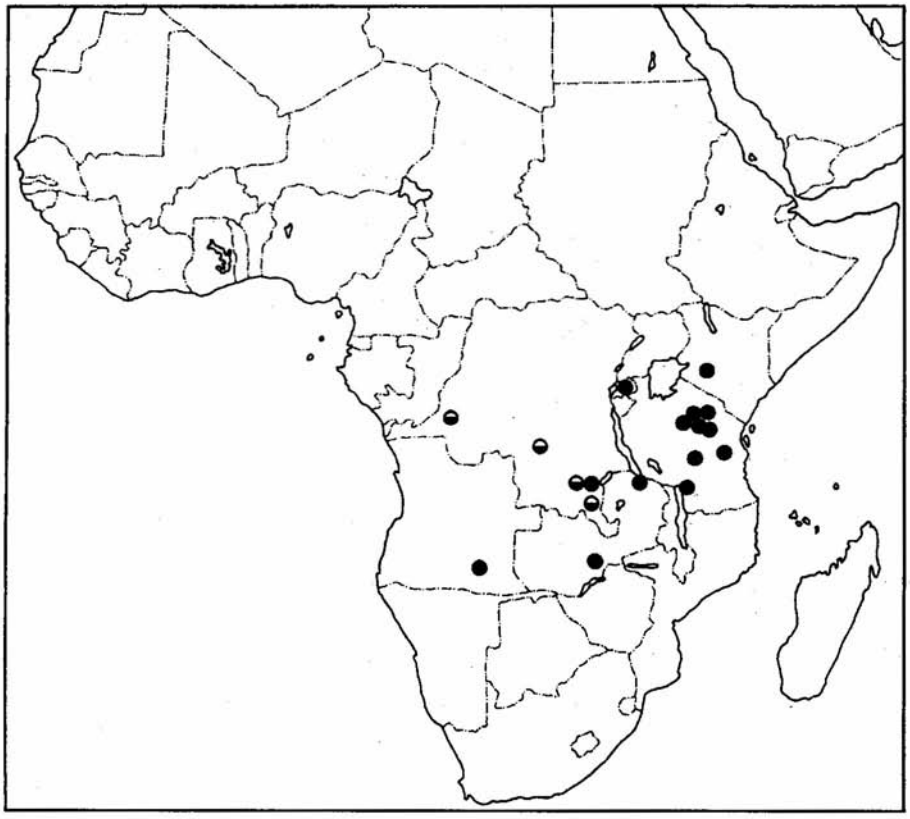
1043-1051. Variation of dorsal maculation: 1043-1044 - *Aspidimorpha andrei*, 1045-1048 - *A. sternalis*, 1049-1051 - *A. astraea*

disc four to five times wider than rows, on sides only twice wider than rows, their surface mostly smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low but broad. Explanate margin broad, subhorizontal, with tendency to form a shallow gutter, impunctate, smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.6-1.7 times wider than long (fig. 1039), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 1040), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:45:125:65:64:45:65:57:63:57:100.

Claws pectinate on both sides, inner pecten with four long teeth extending to half length of claw (fig. 1041). Outer pecten with two to three short teeth, extending to 1/4 length of claw (fig. 1042).

Sexual dimorphism indistinct. Males slightly stouter than females.



1052. Distribution of *Aspidimorpha splendidula* (white above black circles) and *A. sternalis* (black circles)

DISTRIBUTION

Kenya, Rwanda, Tanzania, S Zaire, Zambia and Angola (fig. 1052).

REMARKS

It belongs to the *cincta* group. It is well defined by ventrites mostly black, including black basal corners of clypeus. Dark form of *A. katangana* with three longitudinal irregular black bands on elytral disc is very similar to the similarly coloured form of *A. sternalis* but in *A. katangana* abdomen is always yellow. *A. astraea* differs from yhe pale form of *A. sternalis* in mostly yellow ventrites, *A. cincta* differs in yellow clypeus and abdomen usually mostly yellow, *A. gruevi* differs in smaller size and mostly yellow ventrites and *A. wahlbergi* in very small body size and strongly depressed elytral disc. *A. quinquefasciata* is similar in variable elytral pattern but differs in stouter body with more rounded sides (Le/Wi ratio in male 1.14-1.27, in *sternalis* 1.27-1.36, in female 1.24-1.38, in *sternalis* 1.38-1.42).

MATERIAL EXAMINED

ANGOLA: Angola, 1 (syntype of *A. sternalis* ab. *bifenestralis*, ZSM); Bailunda, 6 (1 syntype of *A. sternalis* ab. *bifenestralis*, ZSM, 5 ZMHU).

KENYA: Nakuro, XI 1910, 1, KALTWINKEL (NMS).

RWANDA: Ruanda, 1, KÄSEBERG (holotype of *A. sternalis*, ZMHU).

TANZANIA: Gurui Mts., Irangi, X 1893, 1, O. NEUMANN (ZMHU); Iringa, 31 I 1981, 1, J. MORAVEC (MS); Kondoa, Irangi, I 1912, 3 (MM); Lindi, III 1903, 1 (FMNH); NW Massai, Sossian-Ngoroine, I 1894, 1, O. NEUMANN (ZMHU); Njassasee, 1 (syntype of *A. sternalis* ab. *exsucta*); Nyassa-See, Ubena-Langenburg, 5 (ZMHU); Tanganika, 7 (syntypes of *A. sternalis* ab. *exsucta*, MM); Uhehe-Iringa, I-III 1893, 22, Götze (ZMHU); Uhehe-Iringa, Mgololo, III 1899, 3 (ZMHU); Uluguru Mts., Kinola, 1500-1750 m, 6-13 VI 1971, 1, Miss. Mts Uluguru (MRAC); Uluguru Mts., Morning Side, Toelo, 1450 m, 21-29 VI 1979, 1, Miss. Mts Uluguru (MRAC); Umbugwe, 2 (ZMHU); Yambi (Irambu), Issansuland, 13 V 1935, 1, KOHL-LARSEN (MM)..

ZAIRE: Upemba Nat. Park, Mukana, 1810 m, 15-19 I 1948, 1, Miss. DE WITTE (MRAC).

ZAMBIA: Abercorn, XI 1943, 3, 15 XII 1943, 1, H.J. BRÉDO (IRSN).

Aspidimorpha (s. str.) *strigosa* (GORHAM, 1892)

Cassida strigosa GORHAM in GORHAM and GAHAN, 1892: 95 (TE in BMNH).

Aspidomorpha strigosa: SPAETH, 1905: 111; 1916: 41, 1917: 423; 1924: 281; 1925: 2; 1929: 158; 1932 b: 4; 1943: 50; WEISE, 1912: 159; SHAW, 1961: 20; 1963: 460; 1968 b: 781; 1972: 66; BOROWIEC, 1986: 796.

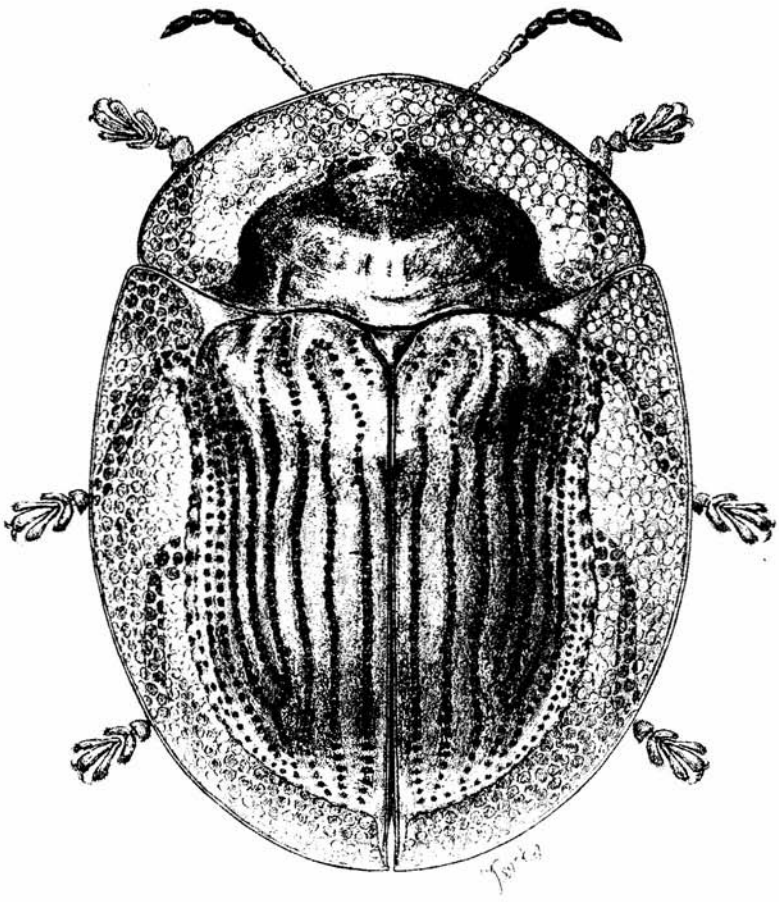
Aspidomorpha (Aspidomorpha) strigosa: SPAETH, 1914 b: 78.

Aspidomorpha Götzeni WEISE, 1895: 400 (type in ?); SPAETH, 1914 b: 78 (as syn. of *strigosa*).

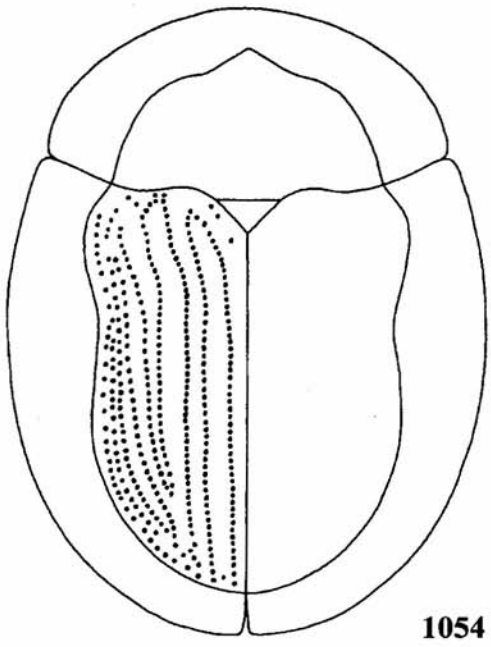
Aspidomorpha pilifera WEISE, 1896: 17 (LT and PLT in ZMHU); SPAETH, 1905: 111 (as syn. of *strigosa*); BOROWIEC, 1987: 414.

DESCRIPTION

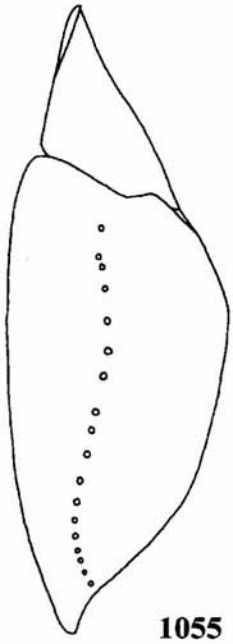
Le: male: 7.7-9.1 mm, female: 9.2-10.8 mm, Wi: male: 5.7-6.9 mm, female: 6.2-7.4 mm, Lp: male: 2.6-3.2 mm, female: 3.2-3.6 mm, Wp: male: 4.6-5.5 mm, female: 5.3-6.1 mm, Ex: male and female: 1.2-1.6 mm, Wd: male: 3.8-4.4 mm, female: 4.3-4.9 mm. Le/Wi: male: 1.29-1.41, female: 1.45-1.52, Wi/Wp: male: 1.16-1.25, female: 1.17-1.21; Wp/Lp: male 1.72-1.83, female: 1.64-1.79. Body oval (figs 1053, 1054))



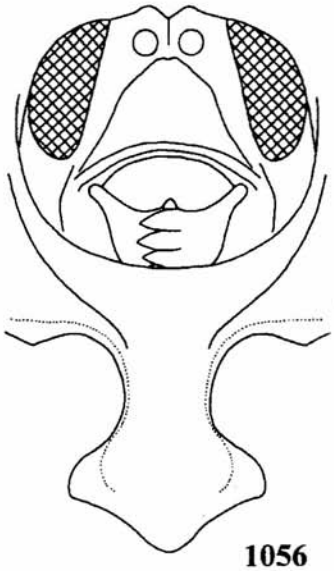
1053. *Aspidimorpha strigosa*, habitus (by J. ŚWIĘTOJAŃSKA)



1054



1055



1056

1057

1058

1059

1054-1059. *Aspidimorpha strigosa*: 1054 - body in dorsal view, 1055 - body in profile, 1056 – head and prosternum, 1057 – antenna, 1058 – inner side of claw, 1059 – outer side of claw

Yellow, rows of punctures distinctly reddish marked. Clypeus usually mostly yellow, with only corners black, occasionally black with yellowish centre. Prosternum, meso-, metasternum except lateral plates, and abdomen except sides black, sometimes lateral plates partly black. Coxae and trochanters brownish to black, femora to 1/3-1/2 length black. Specimens from northern part of the distribution range and from mountains have legs more darkened than specimens from southern part of the range. Two to four last antennal segments infuscate to black, apex of segment 11 yellowish.

Pronotum semicircular, with maximum Wi at base, hind angles subangulate but more rounded than in other species of the *palleago* group, forming blunt angle of about 90-100°. Disc moderately convex, smooth, shiny, with very small microreticulation and extremely fine pricks. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, often with transverse sulcus, microreticulate, impunctate. Base of elytra serrulate, only slightly wider than base of pronotum, elytral margins simple. Disc regularly convex, with no postscutellar gibbosity or tubercle (fig. 1055), without principal and lateral impressions, row 4 in 1/4 length with very shallow, narrow impression. Puncturation of disc regular, punctures in sutural half of disc only slightly smaller than in lateral part. Scutellar row with 7-9 punctures. Rows impressed, punctures in rows dense, distance between punctures 0.8-1.5 times larger than puncture diameter. Punctures in marginal row c. two to three times larger than in central rows. Intervals flat to feebly convex, five times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin strongly declivous, impunctate, shiny, its surface less irregular than in other species of the *palleago* group, in apical part with indistinct transverse folds. Margin of elytra simple, does not form a gutter. Apex of elytral epipleura in both sexes with hairs, in male occupying apical 1/6, in female 1/4 length of epipleuron.

Head broad, clypeus c. 1.8-1.9 times wider than long (fig. 1056), dull, distinctly elevated before antennal insertions, with shallow median impression. Antennae moderately elongate (fig. 1057), extending to mid coxa, length ratio of antennal segments: 100:37:107:70:63:63:67:57:63:63:107.

Claws pectinate on both sides, inner pecten with five long teeth extending to 1/2-2/3 length of claw, three outer teeth equal in length, two inner slightly shorter (fig. 1058). Outer pecten with three teeth c. 1.5 times shorter than inner pecten, inner tooth distinctly shorter than two outer (fig. 1059).

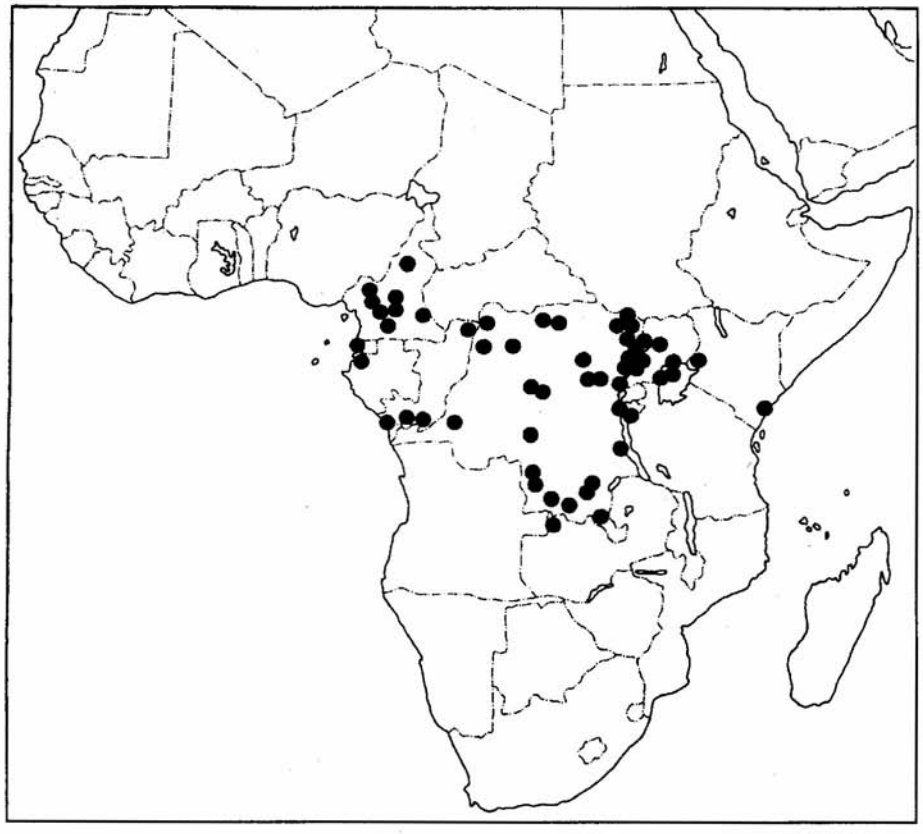
Sexual dimorphism distinct. Female with slimmer body, subacuminate apex of elytra and coarsely pubescent hind part of elytral epipleura.

DISTRIBUTION

Central Africa from Cameroon to Zambia, east to W Kenya and Uganda, also relict locality in SE Kenya (fig. 1060).

REMARKS

It belongs to the *palleago* species group. The smallest species of the group. Moderately broad, strongly declivous explanate margin of elytra place this species close to *A. mrogorensis*. It differs in simple elytral margin (in *A. mrogorensis* elytral margin is narrowly but distinctly marginate) and elytral punctures marked with deep red (in *A. mrogorensis* not or indistinctly marked with reddish). *A. mrogorensis* has almost entirely yellow mid and hind femora, with at least extreme base blackish, while in *A. strigosa* femora are usually to 1/4-1/2 length brown to black or with brown ring. *A. proszynskii* and *A. silfverbergi* differ in elytral intervals partly reddish. *A. pallescens* and *A. palleago* differ in broader body, elytral punctures not marked with red and explanate margin of elytra less declivous and more explanate, forming a gutter. *A. strigosa* is the only species of the *palleago* group with apex of elytral epipleura densely pubescent in both sexes.



1060. Distribution of *Aspidimorpha strigosa*

MATERIAL EXAMINED

BURUNDI: Bujumbura, 27 I 1984, 1, H. MÜHLE (MD); Bururi, 1, R.P. GIRAUDIN (MRAC); Cibitoke, II 1989, 1, C.J.M. BERGER (RB); Plaine de la Ruzizi, 2, S. N'Dani (MRAC).

CAMEROON: Adamana, 1, W. EDLINGER (ZMHU), 4, STAUDINGER (ZMHU); Bamum, I 1911, 1, X 1911, 1 (HNHM); Efulen, XII 1910, 1, J.A. REIS (CMNH); Ekok, 4, (ZMHU); Gasa n. Baturi, 3, NAUMANN (ZMHU); Jaunde, 1, ZENKER (ZMHU), III 1895, 1, ZENKER (ZMHU), X 1914, 1, TESSMANN (ZMHU), 31 III 1923, 1, (CMNH); Joko, 10 (ZMHU), 1 (FMNH), 7 (HNHM); Arr. Okala, Etud. r. Méfou, 17 II 1963, 1 (ZSM).

EQUATORIAL GUINEA: Bata, 1, P. BASILIO (MRAC).

GABON: Libreville, 1 (SD).

KENYA: Kakamega Forest, 4 IV 1981, 1, J. KRIKKEN et al. (NNML); Malindi, Gedi Forest, V 1973, 2, H. GØNGET (ZMC); M'laba Forest, 1660 m, 2 II 1979, 1, T. PALM (LU).

REPUBLIC OF CONGO: N'sesse, Loango, 1 (SD) ; Ubangi, 6-7 III 1913, 1, V. RAMSAY (ZMHU); Voka, XII 1977, 1, G. ONORE (SZ).

UGANDA: Acholi Ranch, 19 XI 1973, 3, H. GØNGET (ZMC); Budongo Forest, 27-28 VIII 1971, 1, V 1972, 1, 12-17 XI 1972, 1, H. GØNGET (ZMC); Entebbe, XI 1912, 1, C.C. GOWDEY (BMNH); Fort Portal, 15 km E Sebitoli, 1400 m, 23 XI-5 XII 1994, 2, M. SNIZEK (MS); 150-200 mls W of Kambove, 3500-4500 ft., 15 X 1907, 1 (BMNH); Kampala, Tank Hill, 1300 m, 20 VI 1970, 1, H. GØNGET (ZMC); Kasese, 600 m, 13-19 XI 1994, 1, M. SNIZEK (MS); Kibale Forest, 17 II 1973, 1, 19 II 1973, 1, H. GØNGET (ZMC); Masindi Distr., Budongo Forest n. Songo, 1°45'N, 31°35'E, 11-20 VII 1995, 1, T. WAGNER (TW); Ruwenjari Mts., Alihunga, 19 IX 1939, 1, A. LOVERIDGE (MCZC); Sesse Is., 1 (FMNH); between Seziwa and Kampala, 3500-3750 ft., 27-31 VIII 1911, 2, S.A. NEAVE (BMNH).

ZAIRE: Abok-Mahagi, 8 III 1929, 2, A. COLLART (IRSN); Albert Nat. Park, Kiboga, S. Bishoke, 2400 m, 16-19 II 1935, 2, G.F. DE WITTE (IRSN); Albert Nat. Park, Lac N'Goma, 1460 m, 19 VI 1935, 1, H. DAMAS (MRAC); Albert Nat. Park, Mont Hoyo, Bombuo, 1200 m, 9-12 VII 1955, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mont Hoyo, Issehe ad Bombuo, 1200 m, 18 VII 1955, 1, 26 VII 1955, 2, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mont Hoyo, grotte Kabambi, 1 VIII 1955, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mont Hoyo, gr. Kwama-Kwama, , 4 VIII 1955, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mont Hoyo, grotte Yolohafiri, 1030 m, 12-17 VII 1955, 2, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mutsora, 1939, 9, HACKARS (MRAC); Albert Nat. Park, Ruwenzori, Kalonge, 2210 m, 25-27 VII 1952, 2, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Ruwenzori, Kalonge, Kamusonge ad Butahu, 1900 m, 8 I 1954, 1, H. Synave (MRAC); Albert Nat. Park, Ruwenzori, Mutawanga, 1000-1300 m, II-III 1937, 17, HACKARS (MRAC); Albert Nat. Park, Plaine Semliki, 900-1100 m, IV-X 1937, 3, HACKARS (MRAC); Albert Nat. Park, Secteur Nord, Lesse, Semliki, 695 m, 9 VII 1957, 3, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Massif Ruwenzori, Bomboka, 1650 m, 22 X 1952, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Massif Ruwenzori, Gongobotsi n. Kyandolire, 1750 m, 27 X

1952, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Massif Ruwenzori, Kyalema, 1900 m, 13 IV 1953, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Massif Ruwenzori, Kyandolire, 1700 m, 24 X 1952, 7, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Massif Ruwenzori, Kyandolire, Bwisonge af. Butahu, 1780 m, 14 X 1952, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, May ya Moto, Talya, 1180 m, 9 V 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Moyenne-Lume, Semliki, 1250 m, 14 III 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Mulingo, Baniangala, 1350 m, 9 VII 1954, 1, P. VANSCHUYTBROECK (MRAC); W Albert, Kibissibili, Ituri, 8 IX 1891, 1, STUHLMANN (ZMHU); W Albert, Mawambi, IV 1908, 2 (ZMHU); between S Albert L. and Edward L., Migere, Butumbi, 6 V 1891, 1, STUHLMANN (ZMHU); Albertville, 7 XI 1946, 1, Miss. Tanganika (IRSN); Bambesa, 11 IX 1937, 1, X 1937, 1, J.M. VRIJDAGH (IRSN); Biruwe-Buhunde, 17 IX 1929, 9, A. COLLART (IRSN); Buhunde-Matenda, 21 IX 1929, 1, A. COLLART (IRSN); Bulegga, 1, KAESEBERG (lectotype of *A. pilifera*, present designation, ZMHU); Bunia, 1939, 1, F. F. MARISTES (MRAC); Congo, 1, STAUDING. (paralectotype of *A. pilifera*, ZMHU); Doedoe, 20 VI 1924, 1, LAAN (ITZ); N Edward L., Ruwenzori Vall., 8 II 1908, 1 (ZMHU); Elisabethville, 1957-58, 1, Ch. SEYDEL (MRAC); Equateur, Bokuma, VII 1952, 2, R.P. LOOTENS (MRAC); Faradje, Gaduma-Mala, 12 III 1930, 2, A. COLLART (IRSN); Haute Maringa, 1894-96, 1, L. MAIRESSE (IRSN); Ibembo, 1, DE SMET (IRSN); Kafora, Irsak-Lwiro, 24 II 1967, 2 (SMNS); Katanga, Kolwezi, XI 1962, 1, V. ALLARD (MRAC); Kibali, Ituri, Kilomines, IV-V 1957, 2, C. SMOOR (MRAC); Kituri, 1 X 1929, 1, A. COLLART (IRSN); Kivu, Beni, 18 VI 1953, 1, J. VERBEKE (IRSN); Kivu, Butembo, IX-X 1965, 1, P. CÉLIS (MRAC); Kivu, Bwito, 1700 m, IX 1934, 1, L. MARLIER (MRAC); Kivu, Irangi, 27 I 1967, 1, Dr. JILLY (SMNS), 25 V 1985, 2, H. MÜHLE (MD); Kivu, Kinolu, 22 X 1957, 2, M. EURILLON (MRAC); Kivu, Lwiro, 10 I 1967, 2, Dr. JILLY (SMNS); Kivu, Masisi, 4, A. COLLART (IRSN); Kwango-Ngowa, 3 II 1938, 1, J. MERTENS (IRSN); Libenge, Mission Mawuya, 23 X 1947, 1, R. CREMER and M. NEUMAN (IRSN); Lubutu, 8 X 1929, 1, A. COLLART (IRSN); Lubutu-Masue, 11 IX 1929, 3, 27 IX 1929, 2, A. COLLART (IRSN); Lubutu-Obongena, 7 IX 1929, 3, A. COLLART (IRSN); Luluabourg, 1, P. JANSSENS (IRSN); Lulua, Kapanga, VII 1932, 1, IX 1932, 1, II 1933, 2, 4 XI 1933, 1, G. F. OVERLAET (MRAC); Lulua, Tshibamba, III 1933, 1, F.G. OVERLAET (MRAC); Lupweshi, XII 1937, 1, F.G. OVERLAET (IRSN); Mambasa, 29 XII 1946, 1, Mus. Copenh. Exp. (ZMC); Masua-Lubutu, 9 IX 1929, 2, A. COLLART (IRSN); Ozeguru-Nizo, 14 III 1929, 1, A. COLLART (IRSN); W Ruwenzori, Beni, I 1908, 2 (ZMHU); Sandoa, XI 1931, 1, F.G. OVERLAET (MRAC); Stanleyville, 31 V 1929, 1, A. COLLART (IRSN); Stanleyville, Lokilo, 1954, 1, SAUSSUS (MRAC); Tshuapa, Bamanya, XII 1961, 1, XI 1964, 1, 1968, 1, P. HULSTAERT (MRAC); Tshuapa, Etata, V 1970, 1, J. HAUWAERTS (MRAC); Tshuapa, Ikela, 1955, 2, 1956, 8, X 1956, 3, XI 1956, 7, R.P. LOETENS (MRAC); Uele, Bambesa, 1937-38, 2, J. VRYDAGH (MRAC); Uele, Gangalana-Bodio, X 1956, 1, M. POLL (MRAC); Upemba Nat. Park, Lusinga, 1760 m, 11 IV 1947, 1, G. F. DE WITTE (MRAC).

ZAMBIA: Mwinilunga, Zambezi Rapids, 24 I 1965, 1 (NMM).

Aspidimorpha (s. str.) *submutata* WEISE, 1899

Aspidomorpha submutata WEISE, 1899a 256 (ST in ZMHU); SPAETH, 1909: 279; 1912 b: 506; 1916: 41; 1924: 289; 1932 b: 4; 1934: 383; SHAW, 1961: 20; 1968 b: 781; 1972: 66; BOROWIEC, 1985 a: 234.
Aspidomorpha (Aspidomorpha) submutata: SPAETH, 1914 b: 78.
Aspidomorpha debilis SPAETH, 1934: 385 (ST in MM); SHAW, 1956 b: 260; 1963: 456, **n. syn.**

DESCRIPTION

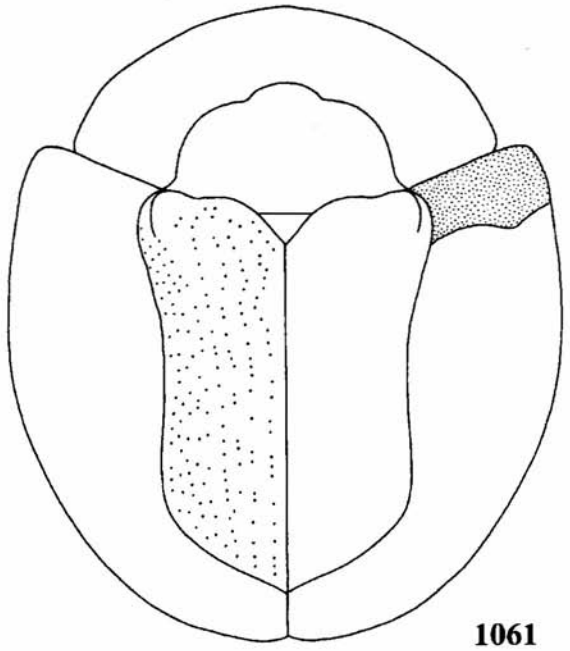
Le: male and female: 6.9-9.0 mm, Wi: male and female: 6.1-8.2 mm, Lp: male and female: 2.5-3.0 mm, Wp: male and female: 4.6-5.8 mm, Ex: male and female: 1.8-2.3 mm, Wd: male and female: 2.7-3.5 mm; Le/Wi ratio: male and female: 1.08-1.16, Wi/Wp: male and female: 1.31-1.41, Wp/Lp: male and female: 1.84-2.08. Body almost circular (fig. 1061)

Pronotum uniformly pale yellow to yellow. Elytra pale yellow to yellow with yellowish-brown humeral spot (figs 819-821). Punctures of elytral disc often marked with brown. Sometimes disc yellowish-brown with darker brown marked with yellow large spot in basal 1/3 length, occasionally base of disc mostly brownish black with several small yellow spots. Often apex of postscutellar tubercle and sutural interval in 3/4 length with small brown spot. Submarginal interval often darker yellowish to yellowish brown. Scutellum yellow. Ventrites uniformly yellow. Antennae yellow, only last segment, except yellow ventral part of apex black, occasionally apex of segment 10 also black.

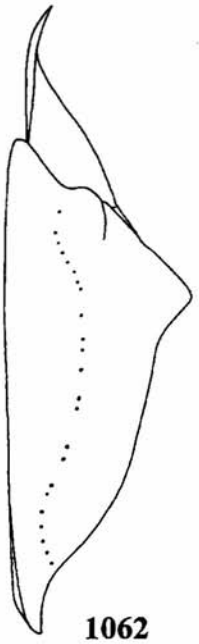
Pronotum broadly ellyptical, with maximum width in 3/5 length, sides narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulaton. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, sometimes impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri subrounded, elytral margins simple. Disc with large, sharp, conical postscutellar tubercle (fig. 1062). Principal impression small and shallow, no posterolateral impression. Puncturation of disc fine, regular, on slope distinctly finer than in anterior half of disc, sometimes hardly marked, in sutural half of disc finer than in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-4, distance between punctures or their groups two to five times larger than puncture diameter. Rows not impressed, surface of disc regular. Punctures in marginal row deep, c. three to four times larger than in central rows. Intervals flat, in sutural half four to five, in lateral half 1.5-2.0 times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, subhorizontal, forming a very shallow gutter, impunctate, its surface smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus c. 1.4-1.5 times wider than long (fig. 1063), glabrous, slightly elevated before antennal insertions, without median impression. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig.



1061



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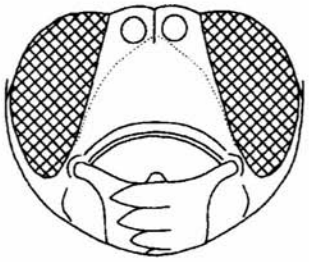

1063

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1065

1066

1061-1066. *Aspidimorpha submutata*: 1061 - body in dorsal view, 1062 - body in profile, 1063 – head and prosternum, 1064 – antenna, 1065 – inner side of claw, 1066 – outer side of claw

1064), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:43:120:66:60:43:53:50:50:47:87.

Claws pectinate on both sides, inner pecten long, with four teeth, first two extending to 2/5 length of claw, two internal gradually shorter (fig. 1065). Outer pecten with two teeth, c. twice shorter than in inner pecten (fig. 1066).

Sexual dimorphism indistinct. Male slightly stouter, with last antennal segment slightly longer than in female.

HOST PLANT

Convolvulaceae: *Ipomoea batatas*, *I. cairica*, *I. ficifolia*, *I. obscura*, *I. wightii*, *Merremia tuberosa* (HERON & BOROWIEC 1997); *Ipomoea batatas*, *Merremia hederacea* (E. OBERMAIER, letter inf.).

BIONOMICS AND IMMATURE STAGES (after H. HERON, letter inf.)

Ootheca: on underside of leaf. Varies from 2x3 to 3x4 mm (0.5 mm high) and is of a straw-white colour. Hosts two ova. The hinged upper covering somewhat smaller than lower membrane. Ends are flared and bluntly truncated. An oval depression runs at least part of the length of the covering membrane and fine lateral ridging is present. Lowermost membranes appear folded and concave with only the central section attached to the leaf. Creamy-white ova measure 2x1 mm. Two ova per ootheca.

5th instar larva: on underside of leaves. Very pale greenish-white to straw-white with red-brown lunules on pronotal disc. Lateral spines of almost equal length (circa 1mm) and of same colour. Only dried exuviae retained in supra-anal process; appearing neat and pagoda-like. Size: 6x3 mm (7x5 with lateral spines). Solitary.

Pupa: Pronotal disc colourless and transparent with sparse very tiny spinules: 20, concentrated anterolaterally. The first two appear more stout. Explanate margin vitreous glabrous and gutter-like with fine lines radiating from pronotal disc. Posterior corners and posterior of explanate margin brown, speckled with black. A narrow pale brown band follows either side of the medial depression to the anterior edge of the explanate margin. Pronotal disc greenish translucent milky-white with chevron-shaped speckled brown marking, joined at posterior end of pronotum and extending three-quarters of the way to the explanate margin along the median line. Brownish markings present over developing elytra. Abdomen translucent whitish with a caramel-brown band along the spiracle zone and all segments bordered with brown. Lateral leaf-like scales colourless, transparent, with brown terminal spine. The terminal spines are oriented anteriorly for first leaf-like scale, thereafter progressively oriented laterally until scale 5 which curves posterolaterally. Supra-anal process brown. Found on the underside of the leaf.

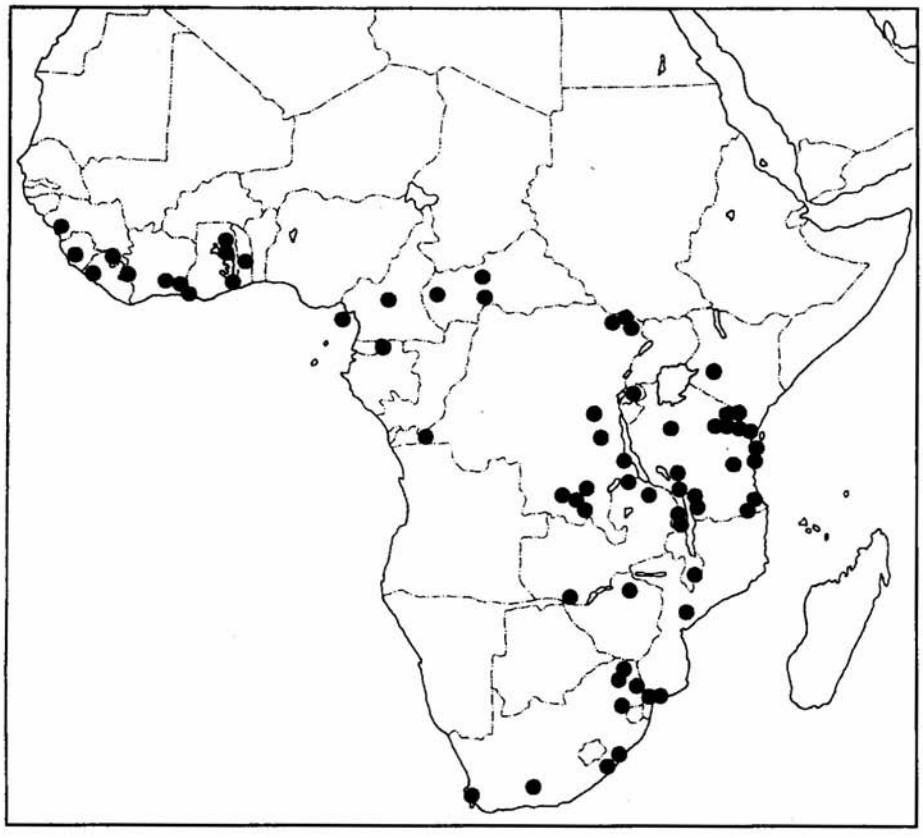
Predators and parasitoids: 5th instar larva taken by larva of a carabid beetle. An imago was taken by an assassin bug (*Reduviidae*).

DISTRIBUTION

Widespread in almost whole Africa south of Sahara except its southwestern part (fig. 1067).

REMARKS

It belongs to the *mutata* species group. It is small to moderately large species, with moderately large but sharp, conical postscutellar tubercle. A similar postscutellar tubercle occurs also in *A. dilecta*, *A. togoensis*, *A. vernicata*, *A. laevigata*, *A. obtusangula*, *A. muehlei*, *A. splendidula* and *A. semiramosa*. *A. dilecta* and *A. togoensis* differ in lacking humeral spots; *A. vernicata* differs in the presence of usually both humeral and posterolateral spots, smaller body and distribution (exclusively Madagascar, *submutata* only in continental Africa); *A. muehlei* differs in black pronotal disc (in *submutata* mostly yellow), almost uniformly black elytral disc (in *submutata* at least with black spots in basal part of



1067. Distribution of *Aspidimorpha submutata*

elytral disc) and larger body; *A. splendidula* differs in the presence of both humeral and posterolateral spots (in *submutata* only humeral spots) and smaller body; *A. semiramosa* differs in the presence only posterolateral spots (in *submutata* no posterolateral spots). *A. mutata* is very similar but differs in obtuse postscutellar tubercle. Large specimens of *A. submutata*, with length 8-9 mm are very similar to small specimens of *A. laevigata* but in the latter species groundcolour of elytra is usually darker, argillaceous to reddish (in *submutata* yellow), and ventral pecten of claws shorter, extending to 1/5-1/4 length of claw (2/5 in *submutata*). *A. obtusangula* is distinctly larger with darker groundcolour of elytra. *A. obuduensis* differs in mostly black elytral disc and largely black explanate margin of elytra with large yellow window. Rare form of *A. submutata* with reduced humeral spot is very similar to small specimens of *A. dilecta*, but *A. submutata* has slightly longer pecten of tarsal claws extending to 2/5 length of claw (in *A. dilecta* 1/3); also large specimens of *A. togoensis* are similar to this form of *A. submutata*, but they differ in uniformly yellow antennae (in *A. submutata* last segment is mostly black) and shorter pecten of tarsal claws extending at most to 1/3 length of claw.

MATERIAL EXAMINED

CAMEROON: Joko, 2 (ZMHU), 1 (HNHM), 1 (IRSN); Malende-Banga, 125 m, 5-20 XII 1957, 1, H. KNORR (SMNS).

EQUATORIAL GUINEA: Fernando Poo, Santa Isabel, 12 III 1909, 1, L. CONRADT (ZMHU).

GABON: Ntem, 1907, 1, COTTES (MNHN).

GHANA: Akuse, 1885, 1, MOHR (SMN); 7 km N of Jeji, 4-8 I 1969, 1, B. ENTZ (HNHM); Tamale, 200 m, 6 VIII 1965, 1, S. ENDRÖDY-YOUNGA (HNHM).

GUINEA: Guinea, 2 (ZMC); Nzerekore, 1920, 1, P. CHABANAUD (MNHN).

IVORY COAST: Adzopé, IX 1948, 1 (MHNG); Comoé Nat. Park, VI 1994, 1, on *Ipomoea* sp., E. OBERMAIER (EO); Dimbokro, 10 (IRSN); Haut Cavally, Danane, 8, I. BONNAURE (MNHN); Thai-Park, VI 1995, 1, on *Ipomoea batatas*, E. OBERMAIER (EO).

KENYA: Nakuru, XII 1904, 1, Ch. ALLUAUD (MNHN); Ramisi, XI 1911, 1, ALLUAUD & JEANNEL (MNHN); Taveta, 750 m, III 1912, 1, ALLUAUD & JEANNEL (MNHN).

LIBERIA: Monrovia, 1899, 1, DELAFOSSE (MNHN).

MALAWI: Chintheche, 15 XII 1977, 1, R. JOCQUÉ (MRAC); Nyassaland, Mlanje, 19 XII 1912, 1, S.A. NEAVE (BMNH); Rhumphi Distr.: 6 km SE Mwazisi, 2-3 XII 1986, 1, E. HOLM and E. MARAIS (WM).

MOZAMBIQUE: Chupanga, 1, Tavares (ZMHU); Delagoa Bai, Monteiro, 1 (ZMHU); Rikatala, 1 (ZMHU).

REPUBLIC OF CENTRAL AFRICA: Fort Crampel, 2 (IRSN); Fort Sibut, 2 (IRSN); Uam, Bosum, 10 V 1914, 4, 21-31 V 1914, 3, TESSMANN (ZMHU).

RWANDA: Rusumo, Ibanda, Makera, X 1993, 1 ex. *Teclea nobilis* (*Rutaceae*), T. WAGNER (TW).

SIERRA LEONE: Sierra Leone, 1 (ITZ).

SOUTH AFRICA: Cape Town, 1, P. REINECK (ZMHU); Krüger Nat. Park, Olifants Camp, 26 XI 1966, 1 (TM); Natal, 1 (syntype of *A. debilis*, MM), 1 (IRSN); Natal, Durban, 1 (syntype of *A. debilis*, MM), III 1888, 1 (CTM), 12 VIII 1906, 1, 11 VI 1907, 1, 20 X 1906, 2, G.F. LEIGH (TM); Natal, Durban, Umbilo, 4 X 1919, 1, A. L. BEVIS (DNSM); Natal, Umtavuna Nat. Res., 14 XI 1979, 1, E. PINKEY (NMM); Three Sisters, 13 III 1911, 1, A.J. Janse (TM); Transvaal, Barberton, IV 1911, 2, H. EDWARDS (CTM); N Transvaal, Ha Tschewasse, 1, BARTELS (ZMHU); Transvaal, Mp'home, 3, M. KNOTHE (ZMHU); Transvaal, vic. Tzaneen, VIII 1986, 1 (ER); Transvaal, Zoutpansberg, 3 (ZMHU).

TANZANIA: Arusha, 12-19 II 1989, 1, BASSI and SCARAMOZZINO (MCSNV); Arusha-Ju, XI 1905, 1, KATONA (HNHM); Dar-es-Salaam, 5 (ZMHU); Kiroka, 1725 m, 27-31 V 1971, 1, Miss. Mts Uluguru (MRAC); Lindi-Massasi, 14 IV 1897, 1, FÜLLEBORN (ZMHU); Mto-ja-Kifaru, 1, KATONA (HNHM); Moschi, 1 (ZMHU), 1, MERKER (ZMHU); Nguelo, 10 (IRSN); Njam-Njam, Semnio, 1, BOHNDORFF (ZMHU); N Nyassa-See, Konde, XI 1899, 1, FÜLLEBORN (ZMHU); Nyassa-See, Langenburg, XII 1898-I 1899, 1, FÜLLEBORN (ZMHU), IV 1899, 1, Goetze (ZMHU); Songea, Litembo, 1500 m, 20 IX 1952, 1, LINDEMANN and PAVLITZKI (ZSM); Tanganyika Bez., 1 (ZMHU); Upangwa, V 1912, 1, KUNDEL (ZMHU); O Usambara, I 1903, 1 (ZMHU); W Usambara, VI 1903, 3 (ZMHU); Usambara, Derema, 1, CONRADT (ZMHU); N Usambara, Mlalo, 1, HOLST (ZMHU); Usambara, Lutindi, 1 (ZMC); Uzungwe Mts., Mwanihana Forest above Senje, 1000 m, 1 VIII 1981, 1, M. STOLTZE and N. SCHARFF (ZMC); Zanzibar Is., Kizimbani, 26 V 1980, 2, G. G. SCHULTEN (ITZ).

TOGO: Bismarckburg, 25 IX-12 XI 1892, 2, L. CONRADT (ZMHU).

ZAIRE: Faradje, Male, 10 IV 1930, 1, A. COLLART (IRSN); Haut Katanga, Panda, 9 II 1929, 1, J. ROMIEUX (MHNG); Jadotville, Mwera, XII 1956-V 1957, 1, R.P. DE CATERS (MRAC); Katanga, Kinda, 1 (FMNH); Lualaba, Kakanda, Mutaka, III-VI 1954, 1, Th. DE CATERS (MRAC); Maniema, Kasongo, VIII-IX 1959, 1, P.L. BENOIT (MRAC); Maniema, Kindu, 1917, 1, L. BURGEON (MNHN); Mpala, 1 (IRSN); Samlia Fall, Riv. N'Gamie, 1, A. MOCQUERYS (IRSN); Thysville, Bas-Congo, 1959-63, 1, R. MICHAUX (MRAC); Uele, fl. Duru, III 1927, 2, F.S. PATRIZI (MCSNG).

ZAMBIA: Abercorn, 12 I 1947, 1, W. EICHLER (IZPAS); Kaputa, 8 II 1944, 1, H.J. BRÉDO (IRSN).

ZIMBABWE: Sinoa, V 1973, 1, M. DAVIES (NMM).

VARIA: Old Calabar, 1 (IRSN).

Aspidimorpha (s. str.) *sulfuripennis* SPAETH, 1932

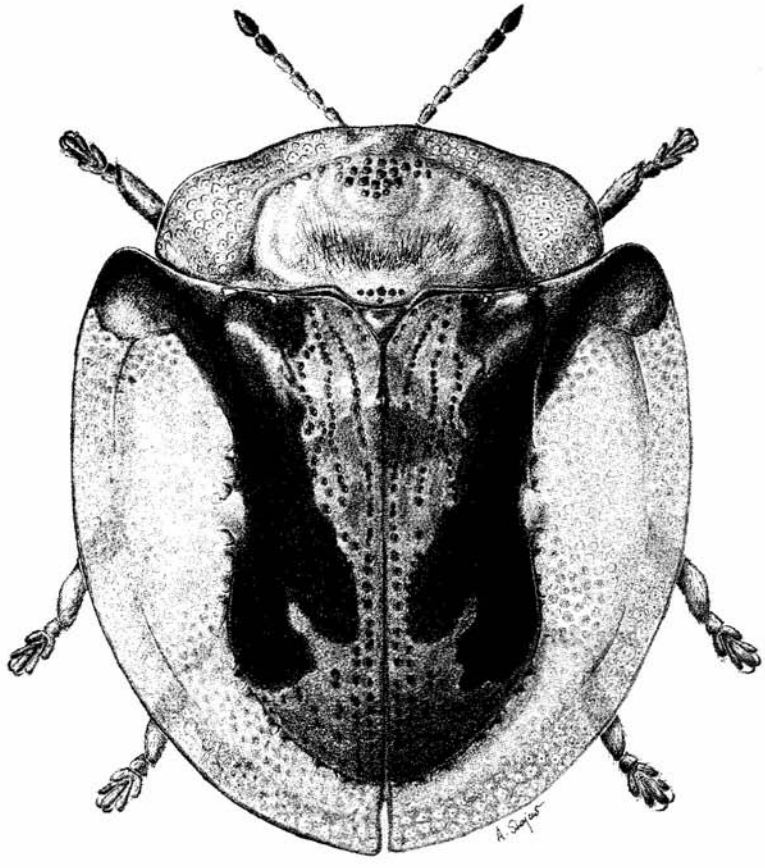
Aspidomorpha sulfuripennis SPAETH, 1932 b: 16 (ST in MRAC, MM).

DESCRIPTION

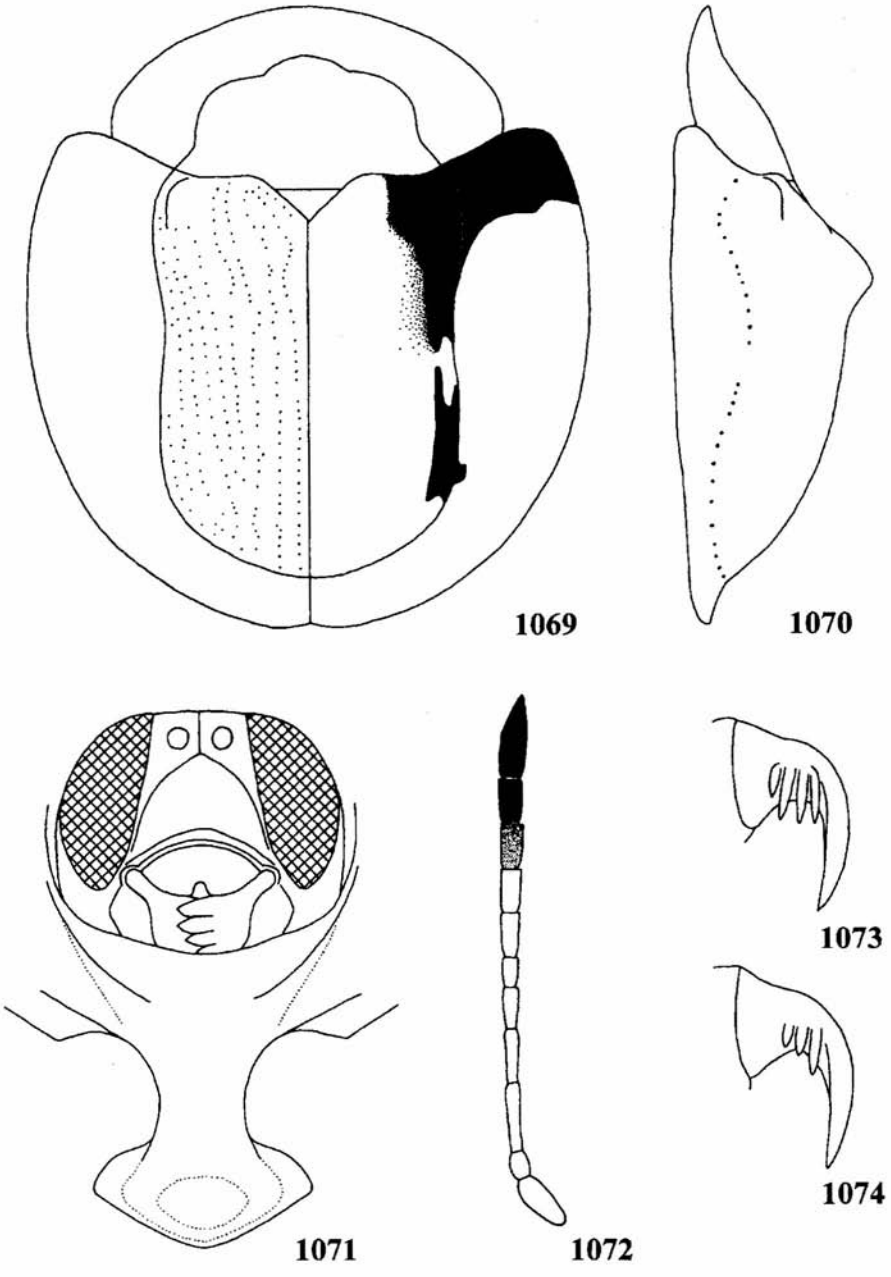
Le: male: 8.6-9.2 mm, female: 8.7-10.2 mm, Wi: male: 7.6-8.5 mm, female: 7.6-8.9 mm, Lp: male: 2.5-2.9 mm, female: 2.6-3.2 mm, Wp: male: 5.5-6.0 mm,

female: 5.5-6.7 mm, Ex: male: 1.8-2.2 mm, female: 1.9-2.2 mm, Wd: male: 3.9-4.3 mm, female: 4.0-4.9 mm; Le/Wi ratio: male: 1.08-1.13, female: 1.14-1.15, Wi/Wp: male: 1.38-1.42, female: 1.33-1.38, Wp/Lp: male: 2.17-2.20, female: 2.09-2.12. Body almost circular (figs 1068, 1069).

Pronotum uniformly yellow. Elytral disc yellow with brown to black band along sides occupying humerus, three to four intervals in posthumeral part and two to three intervals behind the lateral fold of marginal interval, the border between internal margin of band and disc indistinct, in pale form band extending



1068. *Aspidimorpha sulfuripennis*, habitus (by A. Stojczew)



1069-1074. *Aspidimorpha sulfuripennis*: 1069 - body in dorsal view, 1070 - body in profile, 1071 – head and prosternum, 1072 – antenna, 1073 – inner side of claw, 1074 – outer side of claw

only to half length of lateral intervals, in the darkest form almost whole 2/3 of lateral part of elytron brown to black (figs 1147-1149). Lateral fold of marginal interval always yellow. Sometimes punctures have slightly darker centre. Explanate margin with brown to black humeral spot, without posterolateral and sutural spots, only one of the examined specimens has in posterolateral area a small brown spot close to marginal row connecting with lateral band of disc. Scutellum yellow. Ventrites uniformly yellow. Antennae yellow, two last segments, except ventral part of apex of last segment, black; segment 9 always partly infuscate.

Pronotum broadly ellyptical, with maximum width in 3/5 length, sides narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulaton. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri rounded, elytral margins simple. Disc with moderately large, conical postscutellar tubercle (fig. 1070), and small but distinct principal impressions. Puncturation of disc fine, regular, on slope distinctly finer than in anterior half of disc, in sutural half of disc finer than in lateral part of disc. Scutellar row with 4-6 punctures. Punctures in rows moderately dense, disposed regularly, distance between punctures 1.5-3.0 times larger than puncture diameter. Rows not impressed, surface of disc regular. Punctures in marginal row deep, c. four to five times larger than in central rows. Intervals flat, in sutural half four to five, in lateral half three to four times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, moderately declivous to subhorizontal, impunctate, its surface smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.55 times wider than long (fig. 1071), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 1072), extending to half length of metasternum, length ratio of antennal segments: 100:50:133:100:88:62:78:72:82:80:138.

Claws pectinate on both sides, inner pecten moderate, with three to four teeth extending to 1/3 length of claw, external the largest, remainder gradually smaller (fig. 1073). Outer pecten with two teeth, c. thrice shorter than in inner pecten (fig. 1074).

Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

Cameroon and Zaire (fig. 1075).

REMARKS

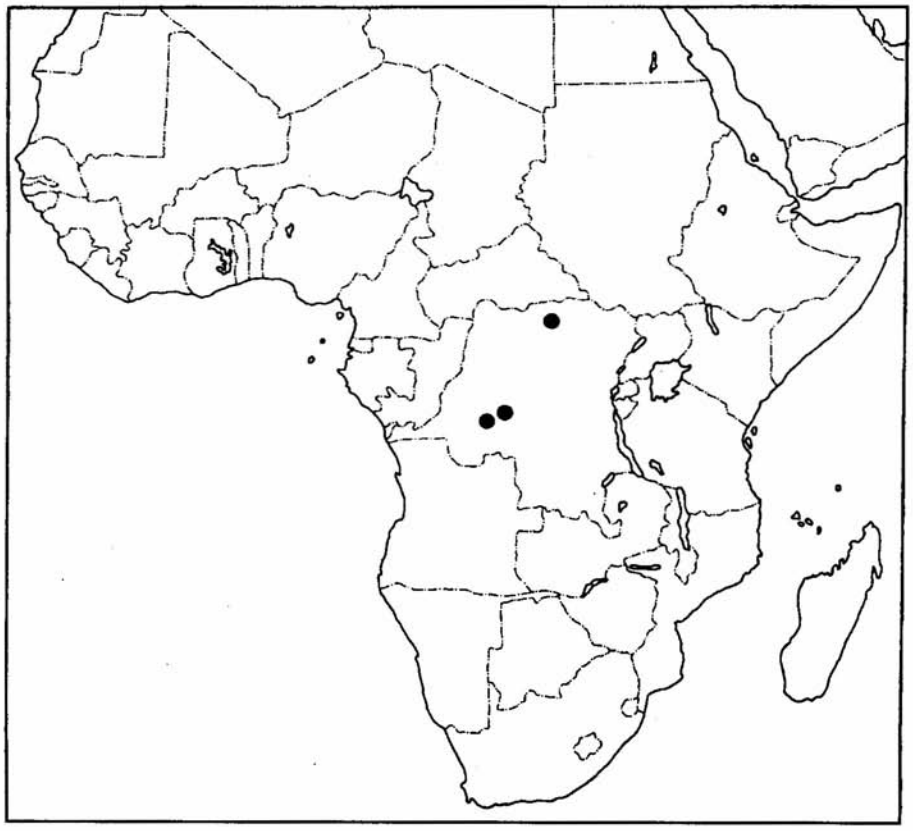
It is a member of the *quadriramosa* group. *A. sulfuripennis* and *A. andrei* are the only species of the group with only humeral spots combined with sharp,

conical postscutellar tubercle; only a very rare form of *A. procax* with reduced posterolateral spots is similar. *A. andrei* is larger with length above 10.1 mm (in *sulfuripennis* below 10.1 mm), slimmer, and females have pubescent apex of elytral epipleura (in *sulfuripennis* bare in both sexes). *A. procax* differs in black spots on humerus never extending beyond lateral fold of marginal interval (in *A. sulfuripennis* always extending beyond lateral fold of marginal interval) and antennal segment 9 uniformly yellow or only with slightly infuscate apex (in *sulfuripennis* segment 9 is usually black or with only base yellowish).

MATERIAL EXAMINED

CAMEROON: Neu-Kamerun, 1 (LB).

ZAIRE: Bambesa, 1 (LB); Bumbuli, I-IV 1915, 1, R. MAYNÉ (syntype, MRAC); Kasai, Ipamu, 1922, 1, P. VANDERIJST (syntype, MRAC); Ukami-Mawambi, 1911, 1, GRAUER (LB).



1075. Distribution of *Aspidimorpha sulfuripennis*

Aspidimorpha (s. str.) *tanganikana* SPAETH, 1916

Aspidomorpha tanganikana SPAETH, 1916: 44 (ST in MM); 1929: 159; 1934: 382; 1943: 51; SHAW, 1955: 234.
Aspidomorpha tanganikana var. *sucula* SPAETH, 1916: 45 (ST in MM).
Aspidomorpha tanganikana ab. *sucula*: SPAETH, 1934: 382.

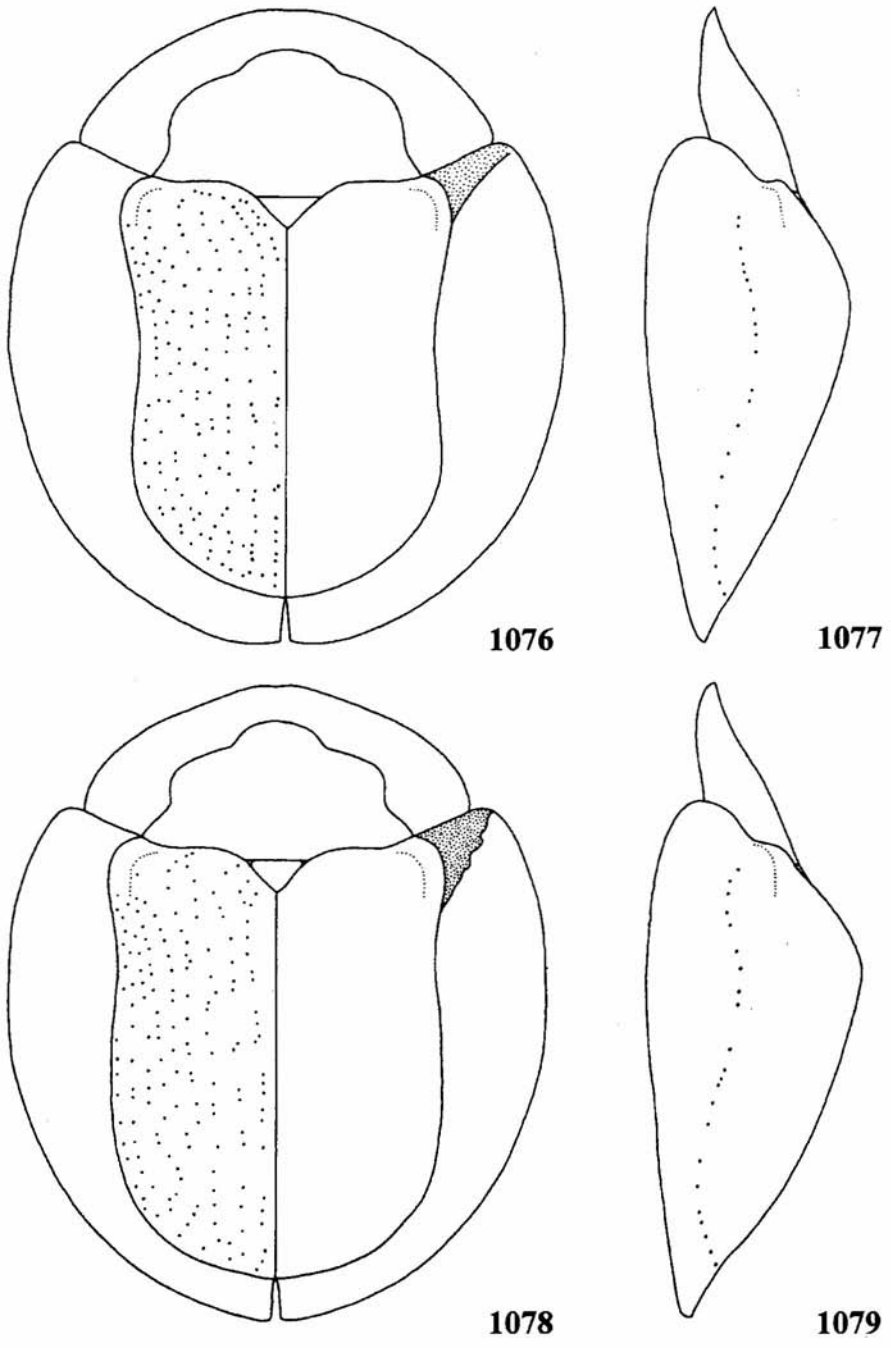
DESCRIPTION

Le: male: 6.5-8.6 mm, female: 8.8-9.5 mm, Wi: male: 5.9-8.0 mm, female: 7.6-8.2 mm, Lp: male: 2.1-2.6 mm, female: 2.7-2.9 mm, Wp: male: 4.2-5.5 mm, female: 5.4-5.9 mm, Ex: male: 1.3-2.1 mm, female: 1.7-2.0 mm, Wd: male: 3.1-4.0 mm, female: 4.0-4.4 mm; Le/Wi ratio: male: 1.08-1.16, female: 1.14-1.20, Wi/Wp: male: 1.31-1.45, female: 1.39-1.41, Wp/Lp: male: 1.96-2.12, female: 2.00-2.07. Body short-oval to almost circular (figs 1076, 1078).

Pronotum uniformly yellow. Elytra yellow with rather constant pattern (figs 783-785). Disc yellow-green to yellow, uniform, each puncture with darker, reddish to almost black centre, upperside of explanate margin of the same colour as disc, upperside usually with diagonal reddish-brown to brown humeral and posterolateral spots, without sutural spot. Often posterolateral spots are completely reduced and humeral spots shortened (= *sucula*), occasionally underside of explanate margin immaculate. Clypeus yellow, basal corners often brown to black. Ventrites, except lateral plates of thorax and margins and apex of abdomen, black. Antennae yellow, usually two last segments mostly brown to black, occasionally segment 9 slightly infuscate. Legs yellow, fore- and midcoxae often partly or completely blackish.

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulaton. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, moderately wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, angulate in postscutellar point, straight to slightly convex behind the top of convexity (figs 1077, 1079), with small but distinct principal impression, very shallow scutellar impressions, and barely marked posterolateral impressions, surface of lateral part of disc usually not or slightly irregular. Puncturation of disc very fine, regular, on slope not finer than in anterior half of disc, in sutural half of disc only slightly finer than in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-5, distance between punctures or their groups three to six times larger than puncture diameter. Rows not impressed. Punctures in marginal row shallow, only slightly larger than in central rows. Intervals flat, in sutural half five to six times, in lateral half thrice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low to completely reduced. Explanate margin broad, moderately declivous, does not form a gutter, impunctate, its surface smooth and shiny. Elytral epipleura bare in both sexes.



1076-1079. *Aspidimorpha tanganikana*: 1076, 1078 - body in dorsal view, 1077, 1079 - body in profile: 1076-10771 - male, 1078-1079 - female

Head broad, clypeus c. 1.6 -1.7 times wider than long (fig. 1080), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4-1/3 length. Antennae moderately elongate (fig. 1081), extending to mid coxa, length ratio of antennal segments: 100:44:130: 81:78:63:75:69:68:70:112.

Claws pectinate on both sides, inner pecten very long, with four teeth extending to c. 2/5-3/4 length of claw (1082), outer pecten with three teeth, first extending to half length of claw, remainder gradually smaller (1083).

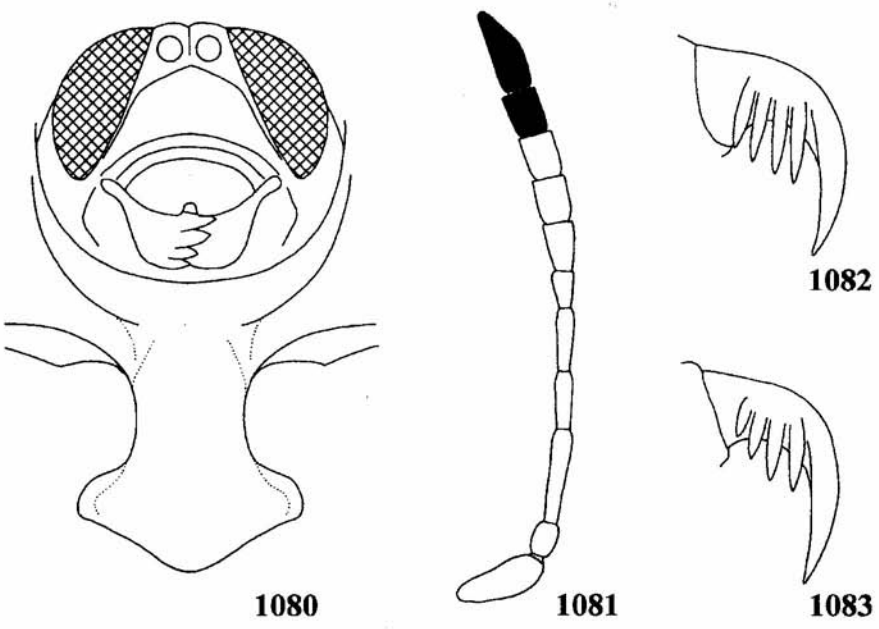
Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

Mountain and submountain regions of Kenya, Uganda, Burundi, Rwanda, E Zaire and Tanzania (fig. 1084).

REMARKS

It is the smallest and the least angulate member of the *tanganikana* group. *A. hyalina* and *A. mirabilis* distinctly differ in high and sharp elytral angulation. *A. montanella* is the most similar. *A. montanella* is slightly stouter, with base of elytra more distinctly wider than base of pronotum than in *tanganikana.* Sides of elytra in posterior third in *A. montanella* are more rounded and then more



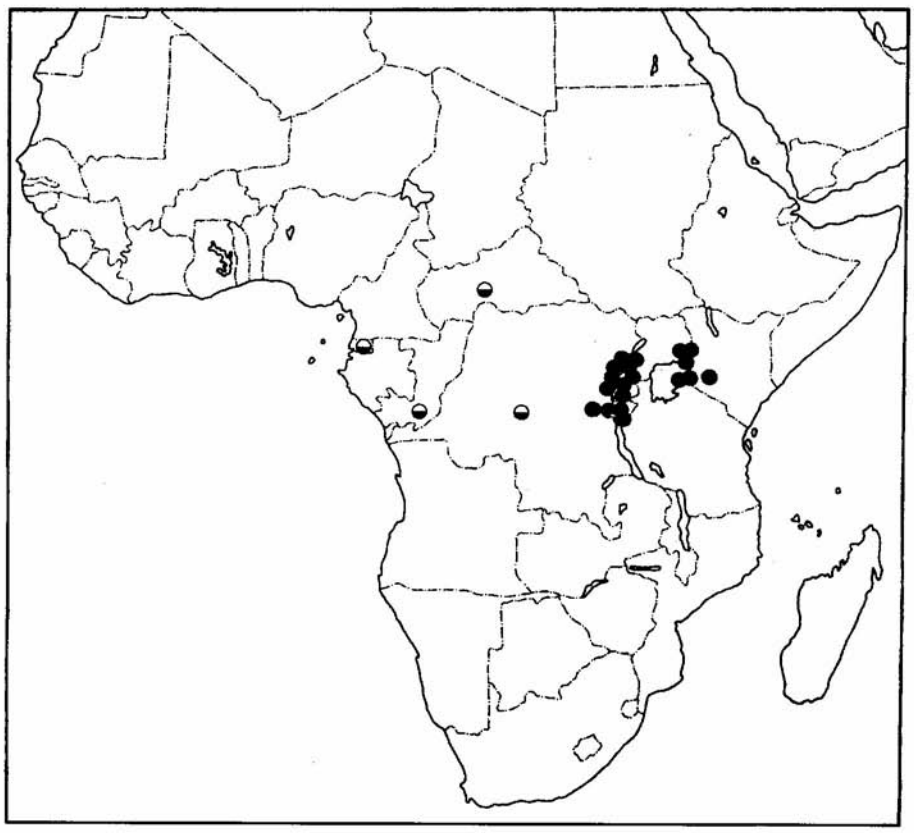
1080-1083. *Aspidimorpha tanganikana*: 1080 – head and prosternum, 1081 – antenna, 1082 – inner side claw, 1083 – outer side of claw

converging than in *A. tanganikana*, thus elytra appear less regularly circular. Elytral convexity in *montanella* is more prominent but more obtuse than in *tanganikana*, and appears rather gibbous while in *tanganikana* it appears rather angulate.

MATERIAL EXAMINED

BURUNDI: Bujumbura, Quartier Zeimet, 4 IX 1976, 1, F.C. ROEST (NNML); Bururi, 1800-2000 m, 5-12 III 1953, 1, P. BASILEWSKY (MRAC); Plaine de la Ruzizi, IV 1966, 1, S. N'Dani (MRAC).

KENYA: Kakamega Forest, 1630 m, 27 I 1979, 3, T. PALM (LU), 1800 m, swept, 30 I 1992, 1, O. MERKL and G. VÁRKONYI (HNHM); Karungu, 2400 m, 27 X 1973, 1, H. GØNGET (ZMC); Kikuyu, Escarp., Kijabe to Limoru, 6800-7400 ft., 6-10 III 1911, 1, S.A. NEAVE (BMNH); Monianku, Kisii, 10 I 1978, 1, 20 II 1978, 1, 1 VII 1978, 1, 30 X 1978, 1, J.W. WASKEVICH (PMNH); Mt. Elgon, 2010 m, 22 I 1979, 1, T. PALM (LU); Yale R., S edge of Kagumga Forest, 4800-5300 ft., 21-28 V 1911, 1, S.A. NEAVE (BMNH).



1084. Distribution of *Aspidimorpha setosa* (white above black circles) and *A. tanganikana* (black circles)

RWANDA: Cyangugu Prov., Nyakabuye, 1-15 V 1983, 8, 17-19 III 1985, 1, 10-25 IV 1984, 2, 7 I 1986, 2, H. MÜHLE (MD); Forêt Nyungwé, 9 XI 1985, 1, R. JOCQUÉ (MRAC); Gihinga, Ruhengeri, 1800-2000 m, XI 1951, 1, A.E. BERTRAND (MRAC); Katumba, 1500-1800 m, XI 1951, 1, A.E. BERTRAND (MRAC); Kinazi, 1600 m, terr. Nyanza, 5-8 I 1953, 1, P. BASILEWSKY (MRAC); Lac Gaudo, 2400 m, IV-V 1935,1, G.F. DE WITTE (IRSN); Ninda, Ruhengeri, 2150 m, IX 1934, 1, G.F. DE WITTE (IRSN); Nyakabuye, 20 km SO Cyangugu, 13-17 XII 1985, 1, H. MÜHLE (ZMC); Nyungwe, Pindura, 2300 m, X 1993, 2, T. WAGNER (TW); Ruhengeri, 1900 m, 27 I 1953, 2, P. BASILEWSKY (MRAC); Rwankeri, 2200 m, IV-V 1935, 1, V 1935, 1, DE WITTE (MRAC); Rubona, 1966, 2, X 1966, 1 (MRAC); Rwankuba, Kisenyi, 2200 m, 23 VIII 1953, 1, A.E. BERTRAND (MRAC).

UGANDA: Ankole, XI 1919, 1, LOVERIDGE (MCZC); Fort Portal, 15 km E Sebitoli, 1400 m, 23 XI-5 XII 1994, 12, M. SNIZEK (MS, LB); Impenetrable Forest, 2200 m, 28 X 1973, 1, H. GØNGET (ZMC); Kasese, 600 m, 13-19 XI 1994, 3, M. SNIZEK (MS, LB); Kibale Forest, 18 II 1973, 1, H. GØNGET (ZMC), 19 I 1985, 1, 14 II 1985, 1, 23 III 1985, 1, 14 V 1985, 1, M. NUMMELIN (ZMUH); Kibale Forest, Toro Distr., 4 III 1973, 1, H. GØNGET (ZMC); Mt. Kokanjero, SW of Elgon, 6400 ft., 7-9 VIII 1911, 2, S.A. NEAVE (BMNH); Mpanga Forest, Toro, 4800 ft., 13-23 XI 1911, 1, S.A. NEAVE (BMNH); Toro Distr., Ft. Portal, Kibale Forest, V-IX 1992, 2 (JM).

ZAIRE: Albert Nat. Park, Kamande, 925 m, 21 XI 1935, 1, Miss. H. DAMAS (MRAC); Albert Nat. Park, Lac Luculu, 1700 m, 15 VIII 1935, 1, Miss. H. DAMAS (MRAC); Albert Nat. Park, Rumangabo, riv. Bugombwa, 9 IV 1945, 1, G.F. DE WITTE (MRAC); Albert Nat. Park, Rutshuru, 15-25 IX 1933, 1, 20-24 VI 1934, 1, XII 1934, 1, 1-6 VI 1935, 1, G.F. DE WITTE (IRSN); Albert Nat. Park, Rwindi, 1000 m, 20-24 XI 1934, 1, G.F. DE WITTE (IRSN); Albert Nat. Park, Terr. Uvira, Itombe, Kambekulu, 2450 m, VI 1955, 1, N. LELEUP (MRAC); Kivu, IX-X 1925, 1, S.A.R. Prince LEOPOLD (MRAC); Kivu, Kabare, 1954, 1, R.S. SAINTE FARMILLE (MRAC); Kivu, Terr. Lubero, Bukristu, 2000 m, IX 1954, 1, M.J. CÉLIS (MRAC); Kivu, Terr. Lubero, Mulo, 1960 m, VI-VII 1953, 1, M.J. CÉLIS (MRAC); Kivu, Luvungi, 1 XI 1932, 1, XII 1932, 1, L. BURGEON (MRAC); Kivu, Lwiro, VII 1965, 1, 10 XI 1966, 2, 13 XII 1966, 1, 10 I 1967, 3, 12 I 1967, 1, 25 I 1967, 1, Dr. JILLY (SMNS); Kivu, Masisi, 6, A. COLLART (IRSN); Kivu, Mulungu, III 1958, 1, J. HECQ (MRAC); Kivu, Nyamunyunye, Mulungu, 1959-60, 2, J. HECQ (MRAC); Kivu, Nyashomba, 2000-2500 m, XII 1951, 1, A.E. BERTRAND (MRAC); Kivu, Rutshuru, X 1932, 1, L. VAN ROECHOUDT (MRAC); Kivu, Tshibinda, VI-VII 1932, 2, VAN ROEKHONDT (IRSN); Mt. Tshiabiremi, 1933, 1, Prince LEOPOLD (IRSN); Ruwenzori, Mutawanga, 1000-1300 m, II-III 1937, 1, HACKARS (MRAC); NW Tanganika, 1910, 3, GRAUER (syntypes of *A. tanganikana*, MM); Urw. d. Randberg NW Tanganika S., 1800-2200 m, 1, GRAUER (syntype of *A. tanganikana* var. *sucula*, MM); Wimbi, 18 XII 1946, 1, Mus. Cop. Exp. (ZMC).

Aspidimorpha (s. str.) *tecta* BOHEMAN, 1854

Aspidomorpha tecta BOHEMAN, 1854: 276 (LT in NRS), 1856: 109, 1862: 264; KARSCH, 1882: 400 (probbaly misidentification); MUIR and SHARP, 1904: 6, 10 (ootheca, larva, pupa); SPAETH, 1922 b: 998 (probably misidentification); 1924: 283 (probably misidentification); MAULIK, 1916: 584; SHAW, 1956 a: 262; 1963: 456; BOROWIEC, 1986: 797.
Aspidomorpha (Aspidomorpha) tecta: SPAETH, 1914 b: 78.
Aspidomorpha silacea BOHEMAN, 1854: 277 (LT in NRS), 1856: 109, 1862: 265; WAGENER, 1880: 161; KARSCH, 1882: 400 (probably misidentification); BOROWIEC, 1986: 797 (as syn.).
Aspidomorpha tecta-silacea: WEISE, 1910: 451.
Aspidomorpha (Aspidomorpha) tecta var. *silacea* SPAETH, 1914 b: 78.
Aspidomorpha tecta ssp. *silacea*: SPAETH, 1924: 283 (probably misidentification).
Aspidomorpha tecta ab. *silacea*: SHAW, 1956 a: 262.

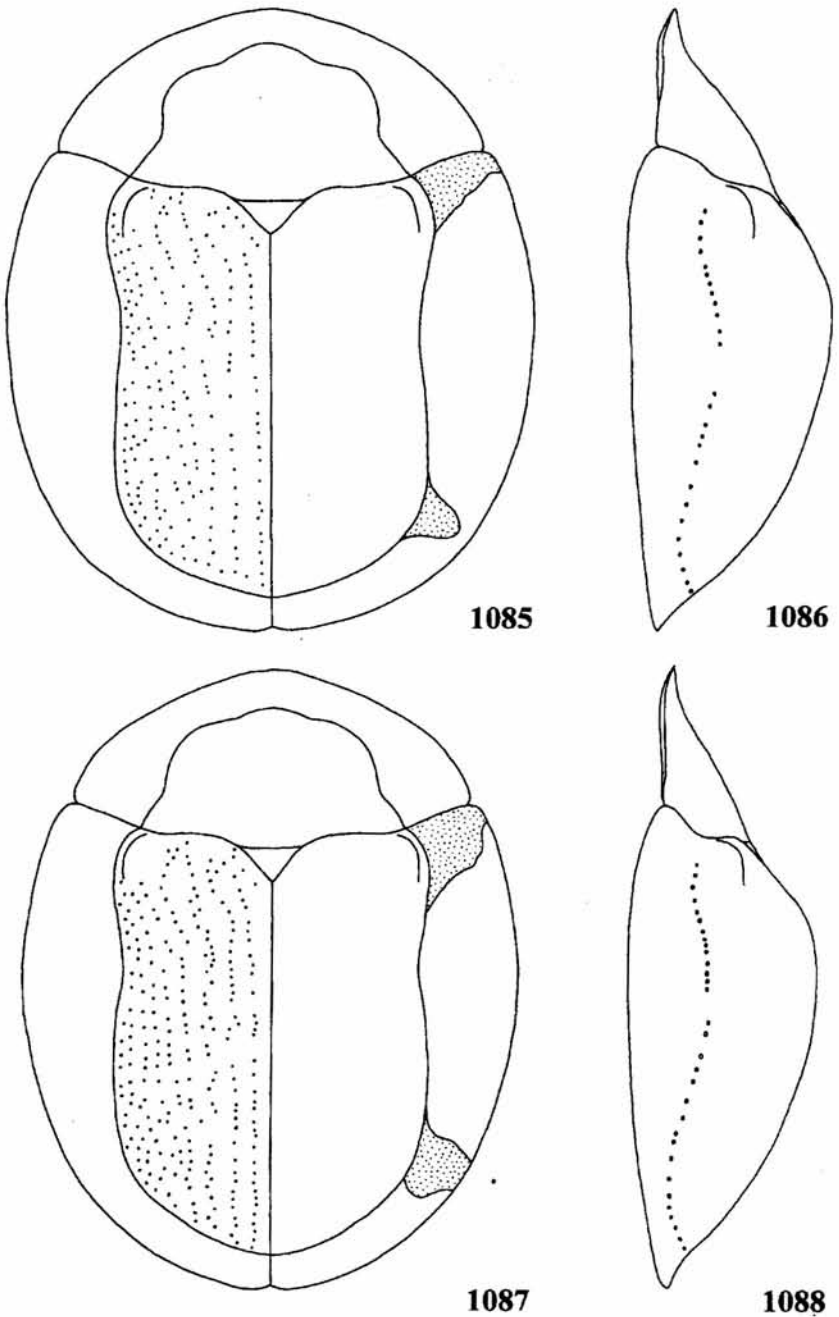
DESCRIPTION

Le: male: 7.6-8.9 mm, female: 7.9-10.2 mm, Wi: male: 6.2-8.0 mm, female: 6.2-8.4 mm, Lp: male: 2.4-3.0 mm, female: 2.8-3.1 mm, Wp: male: 4.9-6.1 mm, female: 5.3-6.8 mm, Ex: male: 1.3-1.9 mm, female: 1.1-1.7 mm, Wd: male: 3.7-4.4 mm, female: 3.9-5.0 mm; Le/Wi ratio: male: 1.09-1.23, female: 1.21-1.35, Wi/Wp: male: 1.23-1.35, female: 1.18-1.26, Wp/Lp: male: 2.03-2.14, female: 1.86-2.19. Body oval (figs 1085, 1087).

Pronotum uniformly yellow. Elytra mostly yellow with rather constant pattern (figs 1131-1133). Disc yellow to argillaceous, each puncture often with darker, reddish or brown centre. In rare dark specimens disc on sides with brown marble pattern, in extreme cases whole disc with reddish-brown to brown marble pattern, spots on sides partly to completely coalescent, forming a band. Explanate margin yellow, with medium-sized, on upperside argillaceous, on underside brown humeral and posterolateral spots, without sutural spot. Only in the darkest specimens spots on upperside of explanate margin brown, often spots are partly to completely reduced (=*silacea*). Margins of explanate margin slightly darker yellow than ventral half of explanate margin. Humeral spot never widened posterad. Clypeus yellow. Pro- meso- and metasternum usually brown to black, except yellow lateral plates, occasionally uniformly yellow. Abdomen mostly yellow, usually each sternite with two brown to black spots in the middle, occasionally abdomen uniformly yellow. Legs, including coxae, uniformly yellow. Antennae mostly yellow, usually only last antennal segment black except yellow ventral side of apex, often segment 10 partly infuscate to black, occasionally two last segments black.

Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle of about 90-95°. Disc moderately convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, almost horizontal, smooth, shiny.

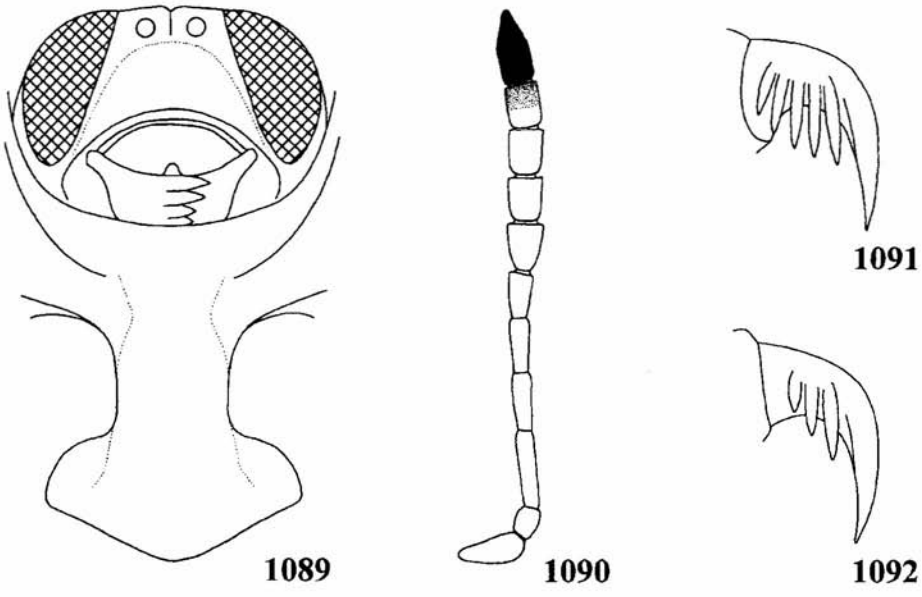
Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, not or only slightly wider than base of pronotum, elytral margins simple. Disc unevenly convex, moderately gibbous in postscutellar point, gibbosity blunt, especially in females (figs 1086, 1088). Discal surface with small and



1085-1088. *Aspidimorpha tecta*: 1085, 1087 - body in dorsal view, 1086, 1088 - body in profile: 1085-1086 - male, 1087-1088 - female

shallow principal impression, without lateral impressions, surface of lateral part of disc usually regular or only slightly irregular. Puncturation of disc mostly regular, punctures fine to moderate, on slope slightly smaller than in anterior half of disc, in sutural half of disc two to three times smaller than in lateral part of disc. Scutellar row with 3-7 punctures. Punctures in rows moderately dense to dense, disposed mostly regularly, partly grouped in 2-4, distance between punctures in groups c. as wide as to thrice larger than puncture diameter, between groups three to five times larger than puncture diameter. Marginal row deep, its punctures not larger than in submarginal row. Intervals flat, in sutural half of disc four to five times wider than rows, on sides c. twice to thrice wider than rows, their surface mostly smooth, shiny, with very small microreticulation. Lateral fold of explanate margin low and narrow. Explanate margin moderately broad, moderately declivous, without tendency to form a shallow gutter, impunctate, smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.6-1.7 times wider than long (fig. 1089), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 1090), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:41:123:71:70:53:65:59:64:59:115.



1089-1092. *Aspidimorpha tecta*: 1089 – head and prosternum, 1090 – antenna, 1091 – inner side of claw, 1092– outer side of claw

Claws pectinate on both sides, inner pecten with four to five very long teeth extending to 1/2-2/3 length of claw (fig. 1091). Outer pecten with three teeth, extending to 1/3-2/5 length of claw (fig. 1092).

Sexual dimorphism indistinct. Males slightly stouter than females.

HOST PLANT

Convolvulaceae: *Hewittia sublobata*, *Barbatus edulis* (adults), *Ipomoea ficifolia* (adults) (Muir & Sharp, 1904; H. HERON, letter inf.)

DISTRIBUTION

Namibia and South Africa (fig. 1093).

REMARKS

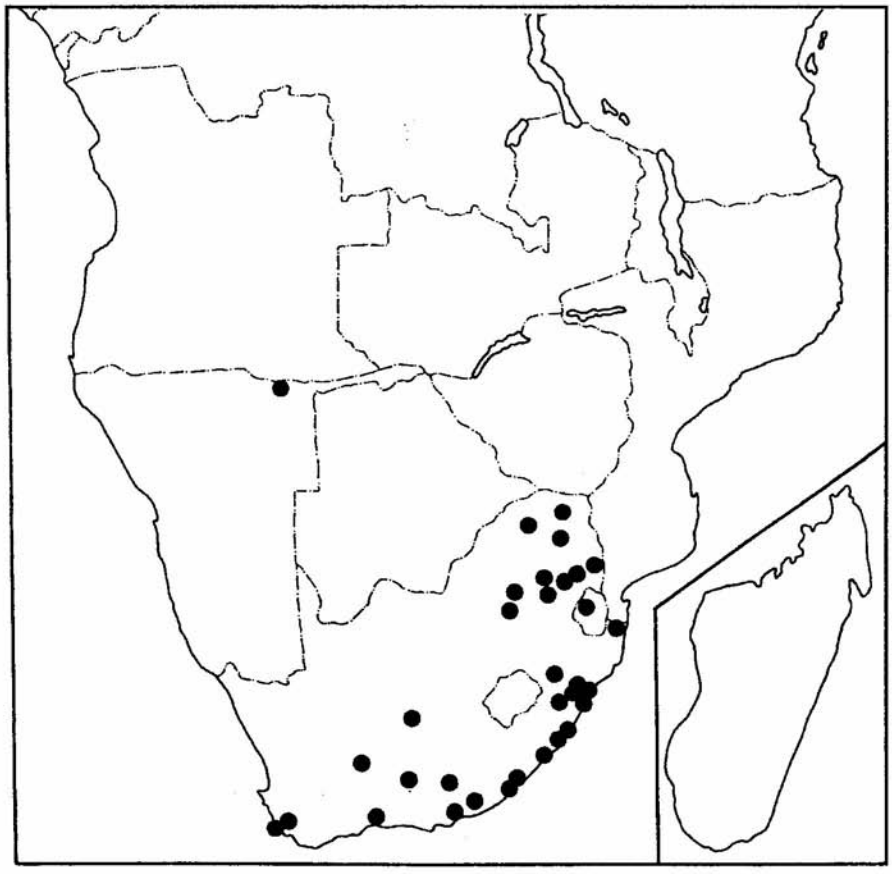
It belongs to the *isparetta* group. It is the only member of the group occurring exclusively in South Africa, more elongate and with more convex elytral disc than in other species of the group. At first glance it is the most similar to *A. icterica*, especially males are difficult to distinguish. *A. tecta* is usually less and more regularly convex than *A. icterica*, females distinctly differ in bare apex of elytral epipleura (in *icterica* pubescent). Both species are sympatric only in coastal part of Natal, *A. icterica* is more common in eastern Africa while *A. tecta* is widespread in whole South Africa, with one record from Namibia.

MATERIAL EXAMINED

NAMIBIA: Rundu, 6-11 XII 1995, 1, M. SNIZEK (MS).

SOUTH AFRICA: Beacon Bay, E London, 20 III 1976, 1, R.E. PARROT (CNCI); Beaufort Dist., I 1961, 1, TIDBURY (TM); Boum Bay, E London, 1 II 1976, 1, 15 II 1976, 2, R.E. PARROT (CNCI); Cambridge, E London, 13 II 1976, 2, R.E. PARROT (CNCI); Cap, 4 (IRSN), 4 (FMNH); Capland, 1 (ZMHU); Cap, Alogo Bay, 22 I 1896, 1, Dr. BRAUNS (TM); Cap B. esp., 6 (IRSN); Cape Prov., 1933, 4, D. GAARKEUKEN (ITZ); Cape Prov., Bloukrans-Pass, Vargrivier, 14-16 X 1994, 1, R. DANIELSSON (LU); Cape Prov, Cape Flats, Mowbray, 15 XII 1949, 7, R.A. MAAS GEESTERANUS (NNML); Cape Prov., Harkerville Forest Res., Knysna, 9-10 XI 1972, 4, VAN REENEN (TM); Cape Prov., E. London, 16 II 1919, 2, H.K. MUNRO (TM), 1923, 5, R. ELLENBERGER (MNHN), 15 II 1974, 1, W. W. MIDDLEKAUFF (CAS); Cape Prov., Grahamstown, 8 XII 1977, 2, S. ENDRÖDI (HNHM); Cape Prov., Heuningnes Riv., 1 (MM); Cape Prov., Somerset East, X 1930, 1, R.F. TURNER (BMNH); Cape Prov., Trappes Vall., XI 1924, 1, 1925, 1, H. CRONWRIGHT (TM); Gonubie, E London, 4 I 1976, 1, 14 I 1976, 1, 28 II 1976, 1, R.E. PARROT (CNCI); Johannesburg, 14 IV 1898, 1 (TM); Johannesburg, Bedford Ridge, 10 II 1954, 1, A.L. CAPENER (MM); Johannesburg, Rivonia, 15 XI 1985, 1, S. ENDRÖDI (TM); Kapstadt, 29 X-2 XI 1991, 10, U. GÖLLNER (ZMHU); Lagoon, E London, 4 II 1976, 1, R.E. PARROT (CNCI); Maritzburg, 1904, 11, PAULUS (TM); Nahoon, E London, 12 I 1976, 1, 17 I 1976, 1, 19 I 1976, 1, R.E. PARROT (CNCI); Natal, 2 (IRSN), 5 (FMNH), 1904, 6, G. PAULUS (TM); 9 X 1897, 1 (TM), 2 III 1904, 1 (TM); Natal, Durban, 3, P. REINECK (ITZ), 22 (ZMHU), 1,

MJÖBERG (LU), 28 XI 1906, 2, 4 IX 1906, 1, 23 IX 1906, 1, 26 IX 1906, 1, 3 XII 1906, 6, G.F. LEIGH (TM); Natal, Indaleni, 1, W. HUNT (MRAC); Natal, Indaleni, Distr. Richmond, XI 1956, 1 (MRAC); Natal, Pietermaritzburg, 16 I 1915, 1, G. KOBROW (TM), 25-30 X 1970, 1, H. and M. TOWNES (CMN); Natal, Pinetown, 2, G.H. BURN (ZMHU); Natal, Pt. Shepstone, I 1913, 1, K. BARNARD (CTM); Natal, Richmond, XII 1954, 1 (MRAC); Natal, Salt Rock, 25-28 XI 1984, 2, C. BELLAMY and D. HOLTMAN (ER); Natal, Southbroom, III 1955, 1, 9 IV 1956, 2, 5 VII 1956, 2 (MRAC); Natal, Weenen, 2, H.P. THOMASSET (BMNH); Oranje, 1, HEGHE (ZMHU); Port Saint Johns, 24-30 XI 1956, 1, R.M. MARTIN (TM); TM, 5 II 1906, 1, L. SWIERSTRA (TM), 9 II 1906, 1, 14 II 1906, 1 (TM), 10 IV 1971, 1, L. VARI (TM); Pt. Nat., 1, "I. VAHLB." (lectotype of *Aspidomorpha tecta*, present designation, NRS), Pt. Nat., 1, "I. VAHLB." (lectotype of *Aspidomorpha silacea*, present designation, NRS); Stellenbosch, 28 I 1944, 1, J. J. LE ROUX (CTM); Three Sisters, 5 III 1911, 1, A.J. JANSE (TM); Tongaat, 1909, 2, H.C. BURNUP (TM); Transkei, Dwesa Forest, 11 XII 1979, 5, S. ENDRÖDY-



1093. Distribution of *Aspidimorpha tecta*

YOUNGA (TM); Transkei, Port St John, 29 I 1976, 1, R.E. PARROT (CNCI); Transkei, Port St Johns, Silaka, 30 XI 1987, 3, S. ENDRÖDI (TM); Transvaal, 1, FRUHSTORFER (IRSN); Transvaal, Blydepoort, 20 XI 1981, 1, J. KLAPPERICH (MCSNG); Transvaal, Duiwelskloof, XII 1986, 2, K. WERNER (MD); Transvaal, Groblersdal, 7 XII 1981, 1, M. SCHRENDER (TM); Transvaal, Johannesburg, 8 IX 1929, 1, L. CIPRIANI (MZUF); Transvaal, Kruger Nat. Park, Skukuza, 30 XI-3 XII 1984, 1, H. and A. HOWDEN (CMN); Transvaal, Lydenburg, 3, F. WILMS (ZMHU); Transvaal, Mac Mac, Pilgrim's Rest, 24 X 1983, 1, S. LOUW (BM); Transvaal, Malta Forest, 21 km W Trichardtsdal, 23 XII 1985, 1, H. and A. HOWDEN (CMN); Transvaal, Middelburg, 5000 ft., 28 I 1969, 1, R. SIMON-THOMAS (ITZ); Transvaal, Pretoria, 4600 ft., 25 I-5 III 1969, 1, R. SIMON-THOMAS (ITZ); Transvaal, Pretoria, Lynnwood, 30 X 1994, 3, R. DANIELSSON (LU); Transvaal, Subie, VIII 1962, 1, T.A. DE BEER (TM); N Transvaal, Zoutpansberg Mts., 1 (ZMHU), 800 m, 1 (FMNH), Mp'home, 1, M. KNOTHE (ZMHU), 1415 m, Outlock Est, 6 XII 1978, 1 (NMM); Vredehoek, C. Town, 20 II 1985, 1, M. MACPHERSON (CTM); Waterberg, 1898-99, 1, v. JUTRZENCKA (TM); Woodbush Forest, Debegeni Waterfall, XII 1965, 1, L. SCHULZE (TM); W Zoutpansberg, XII1910, 1, HEZKE (TM); Zoutpansberg, Entabeni, XI 1931, 4, G. v. SON (TM); C Zululand, 24-26 X 1938, 1, D. L. UYTTENBOGAART (ITZ); Zululand, Maputa, 5 XI 1955, 1 (MRAC).

SWAZILAND: Isoka, 22 XI 1956, 1 (MRAC); Mbabane, Highveld, 10 III 1979, 1, G. G. SCHULTEN (ITZ).

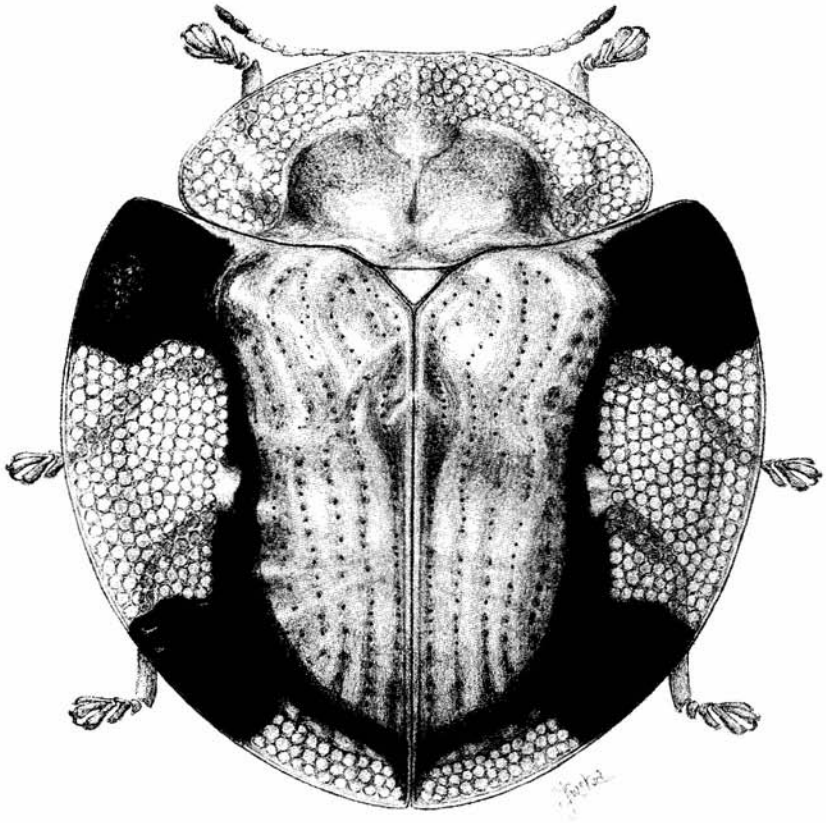
Aspidimorpha (s. str.) *togata* THOMSON, 1858

Aspidomorpha togata THOMSON, 1858: 227 (type in ?); BOHEMAN, 1862: 272; GORHAM in GORHAM and GAHAN, 1892: 94; SPAETH, 1903: 177, 1914 b: 40; 1916: 40, 1932 b: 12; WEISE, 1912: 159; SHAW, 1961: 20; 1963: 460; 1968 b: 782; 1972: 67; BOROWIEC, 1986: 801.
Aspidomorpha (*Aspidomorpha*) *togata*: SPAETH, 1914 b: 78.
Aspidomorpha togata ssp. *inbrachiata* SPAETH, 1916: 42 (ST in MM), **n. syn.**
Aspidomorpha togata ssp. *ruwensorica* var. *inbrachiata*: SPAETH, 1924: 184.
Aspidomorpha togata ssp. *ruwenzorica* var. *inbrachiata* ab. *segregata* SPAETH, 1924: 284 (ST in MM); SHAW, 1963: 460, **n. syn.**
Aspidomorpha togata segregata: SPAETH, 1932 b: 12.
Aspidomorpha togata ssp. *ruwenzorica* ab. *pinguis*: SPAETH, 1924: 284; SHAW, 1955: 235, 1963: 460.
Aspidomorpha togata togata ab. *praevisa* SPAETH, 1924: 284 (ST in MM).
Aspidomorpha togata praevisa: SPAETH, 1932 b: 12.
Aspidomorpha togata ab. *ruwenzorica* WEISE, 1912: 159 (type in ?), **n. syn.**
Aspidomorpha (*Aspidomorpha*) *togata* ab. *ruwensorica* [sic]: SPAETH, 1914 b: 78.
Aspidomorpha togata ruwenzorica: SPAETH, 1916: 41, 43, 1932 b: 12.
Aspidomorpha togata ssp. *ruwenzorica*: SPAETH,. 1924: 284.
Aspidomorpha castula BOHEMAN, 1862: 271 (TE in ?MNHN); SPAETH, 1903: 177 (as syn. of *togata*).
Aspidomorpha sellata WEISE, 1896: 21 (ST in ZMHU); SPAETH, 1903: 177; 1914 b: 40; 1916: 43.
Aspidomorpha (*Aspidomorpha*) *sellata*: SPAETH, 1914 b: 77.
Aspidomorpha togata togata var. *sellata*: SPAETH, 1924: 284.
Aspidomorpha togata ab. *sellata*: SHAW, 1956 b: 594.
Aspidomorpha sellata intersepta SPAETH, 1916: 43 (type in ?).
Aspidomorpha togata ssp. *ruwensorica* var. *intersepta*: SPAETH, 1924: 284.
Aspidomorpha togata togata var. *sellata* ab. *camerunensis* SPAETH, 1924: 284 (ST in MM).
Aspidomorpha tetraspilota KOLBE, 1896: 91, 1898: 343 (TE in ?ZMHU, incl. fig.), **n. syn.**

Aspidomorpha (Aspidomorpha) tetraspilota: SPAETH, 1914 b: 78.
Aspidomorpha imbrex SPAETH, 1916: 43 (ST in MM).
Aspidomorpha imbrex ssp. *inexculta* SPAETH, 1916: 43 (ST in MM); 1929: 159, **n. syn.**
Aspidomorpha imbrex var. *inexculta*: SPAETH, 1916: 41.
Aspidomorpha imbrex inexulta [sic]: SPAETH, 1924: 284.
Aspidomorpha togata inexculta: SPAETH, 1932 b: 12.
Aspidomorpha imbrex ssp. *ugandina* SPAETH, 1916: 44 (ST in MM), 1924: 284.
Aspidomorpha togata imbrex: SPAETH, 1932 b: 12.
Aspidomorpha togata ugandina: SPAETH, 1932 b: 12.

DESCRIPTION

Le: male: 9.5-10.3, female: 9.6-12.3 mm, Wi: male: 8.8-10.1 mm, female: 8.4-11.5 mm, Lp: male: 2.9-3.3 female: 2.8-3.8 mm, Wp: male: 6.0-6.7 mm, female: 5.9-7.9 mm, Ex: male: 2.2-2.8 mm, female: 2.1-3.0 mm, Wd: male: 4.4-



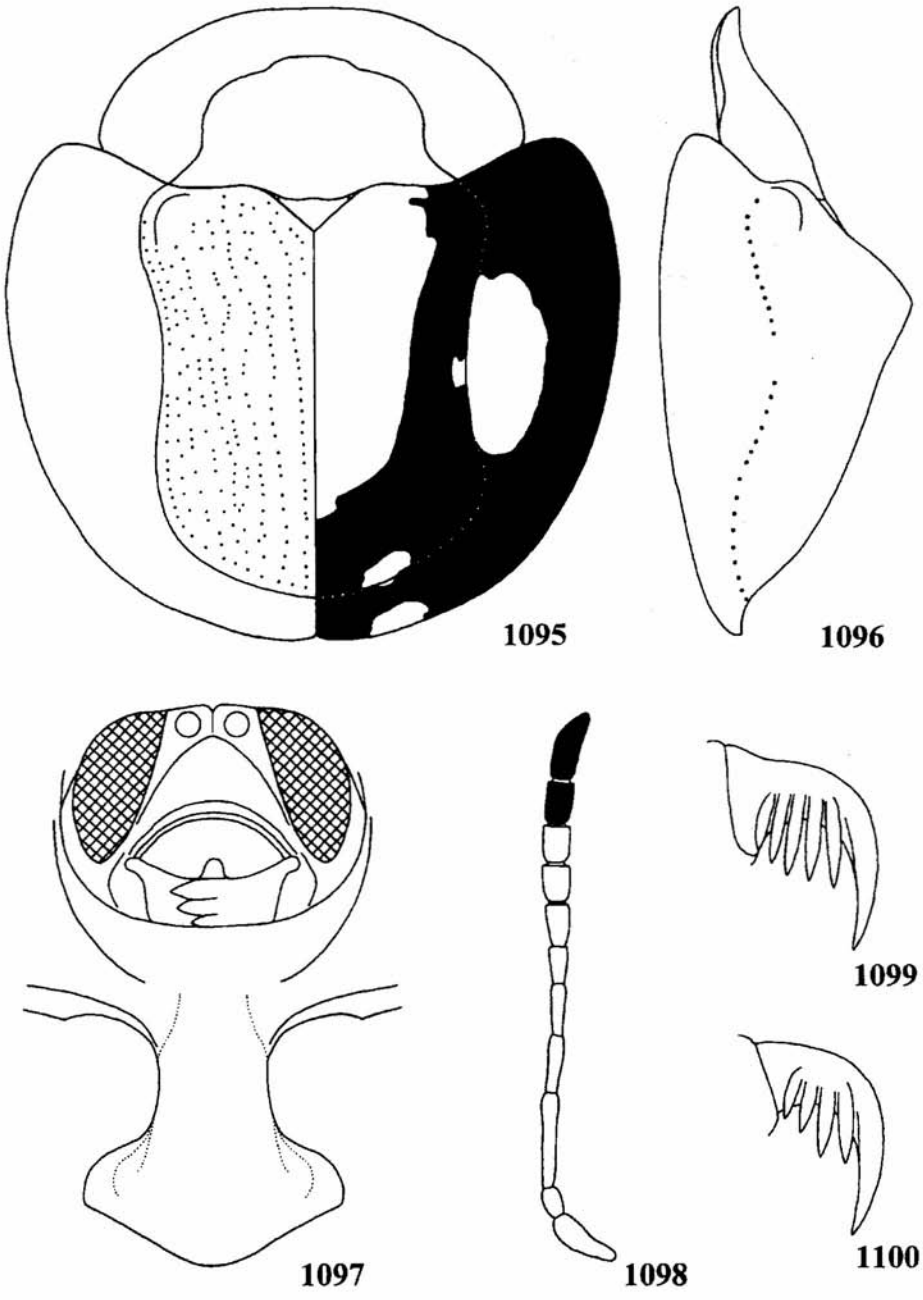
1094. *Aspidimorpha togata*, habitus (by J. ŚWIĘTOJAŃSKA)

4.8 mm, female: 4.4-5.8 mm. Le/Wi: male: 1.02-1.08, female: 1.02-1.14, Wi/Wp: male: 1.46-1.55, female: 1.42-1.55; Wp/Lp: male: 1.94-2.10, female: 1.91-2.14. Body circular (fig. 1095).

Extremely variable species with several geographic and infraspecific forms (figs 1101-1109). Pronotum in forms with mostly yellow or brown elytra yellow, sometimes disc darker yellow to argillaceous, in forms with elytral disc brown and black, pronotal disc mostly brown, in forms with black elytral disc pronotal disc mostly to completely black. Explanate margin of pronotum in all forms yellow. Elytral disc variable: yellow with marginal intervals partly brown to black and punctures with dark centre, or yellow with broad brown to black band along side and brown to black spot on postscutellar tubercle, or uniformly brown, or mostly chocolate brown with black band along sides and black apex, or mostly black with chocolate brown postscutellar tubercle area, or uniformly black except yellow lateral fold of marginal interval. Explanate margin also variable: uniformly yellow, or with short, diagonal, brown to black humeral spot, or with brown to black humeral, posterolateral and sutural spots, or black with large yellow "window" and yellow spot at apex, or black with moderate yellow "window". Humeral spot usually widened posterad and posterolateral spot widened anterad. Clypeus yellow. Pro-, meso-, and metathorax black except yellow sides. Abdomen usually completely yellow, or only basal sternites in the middle with small, indistinct brown spots. Legs, including coxae, uniformly yellow, or metacoxae partly infuscate. Antennae mostly yellow, two last antennal segments brown to black except yellow ventral side of apex of the last segment, sometimes segment 10 only slightly infuscate or completely yellow.

Pronotum ellyptical to almost semicircular, with maximum width slightly behind the middle, sides rounded, hind angles barely marked. Disc moderately convex, smooth, shiny. Explanate margin distinctly bordered from disc, almost horizontal, in anterior part with tendency to form a shallow gutter, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, much wider than base of pronotum, elytral margins simple. Disc unevenly convex with moderate postscutellar tubercle, top of tubercle varies from obtuse to angulate, profile behind tubercle straight to slightly concave (fig. 1096). Principal impression small but distinct, postscutellar impressions well marked, usually without lateral impression, surface of lateral part of disc in specimens from lowlands usually almost regular, in specimens from highlands slightly irregular, in mountain specimens distinctly irregular, in extreme cases whole surface of disc irregular. Puncturation of disc completely regular, punctures fine to moderate, on slope slightly smaller than in anterior half of disc, in sutural half of disc two to three times smaller than on sides of disc. Rows only in specimens with regular surface not impressed, usually slightly impressed, in mountain forms sometimes strongly impressed. Scutellar row with 4-7 punctures. Punctures in rows moderately dense to sparse, only in forms with regular surface disposed regularly, often grouped in 2-5, especially in forms with irregular



1095-1100. *Aspidimorpha togata*: 1095 - body in dorsal view, 1096 - body in profile, 1097 – head and prosternum, 1098 – antenna, 1099 – inner side of claw, 1100 – outer side of claw

surface groups bordered by irregular folds, distance between punctures in rows and within the groups twice to thrice, between groups three to five times larger than puncture diameter (in some populations punctures in central rows are sparser, with distance four to five times larger than puncture diameter), on slope punctures usually not sparser distributed than in anterior part of disc, but in some populations with regular surface punctures are extremely fine and on slope barely marked. Marginal row shallow, its punctures twice to thrice larger than in submarginal row. Intervals flat to slightly convex, in sutural half of disc four to seven times wider than rows, on sides two to four times wider than rows, their surface mostly smooth, shiny, with indistinct microreticulation. In specimens with irregular disc surface intervals narrower than in specimens with regular surface. Explanate margin very broad, moderately declivous to almost horizontal, but without tendency to form a shallow gutter, impunctate, in all forms smooth and shiny. Apex of elytral epipleura bare in both sexes.

Head broad, clypeus 1.7-1.9 times wider than long (fig. 1097), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 1098), extending to 1/4 length of metasternum, length ratio of antennal segments: 100:45:130:85:81:56:62:57:60:62:110.

Claws pectinate on both sides, inner pecten with four very long teeth extending to 1/2-3/5 length of claw (fig. 1099). Outer pecten with two to three teeth, extending to 1/4-1/3 length of claw (fig. 1100).

Sexual dimorphism indistinct. Males usually smaller and stouter than females.

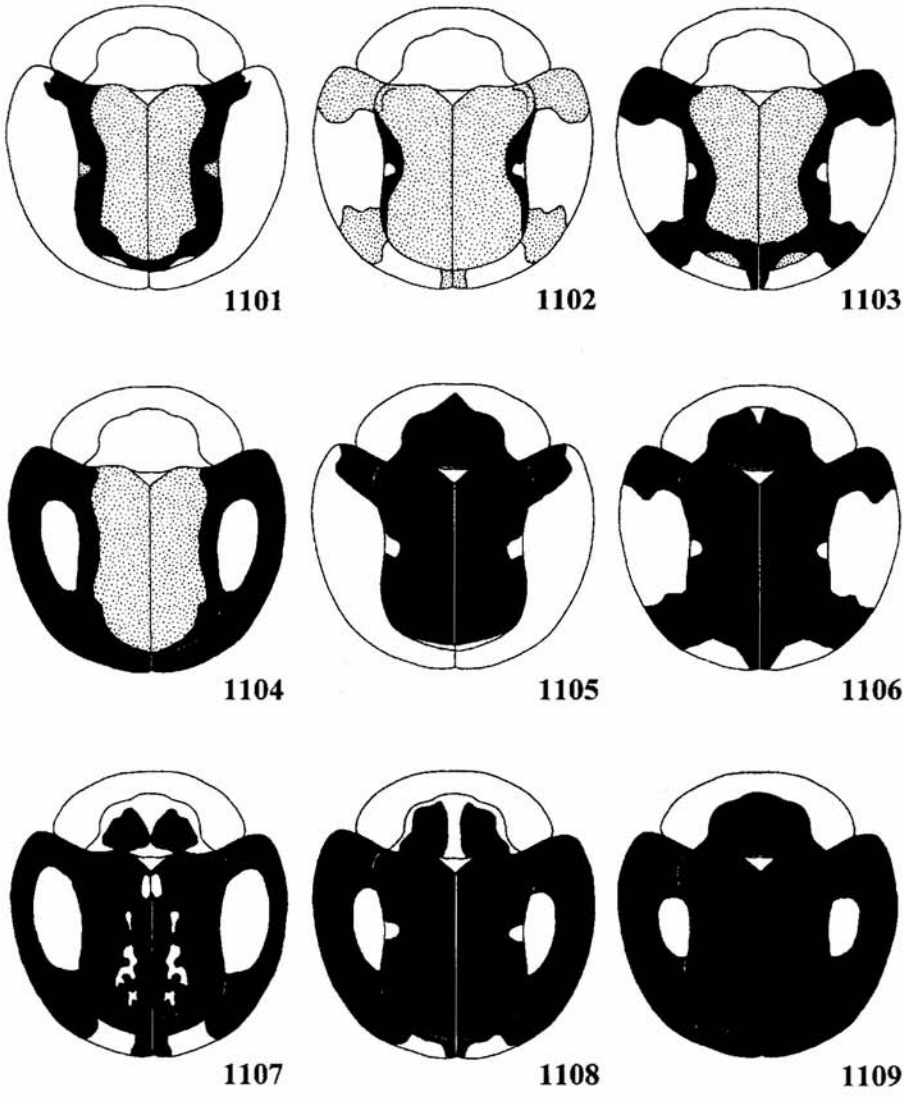
DISTRIBUTION

West and Central Africa east to Uganda and Burundi, in western Africa on relict forest localities or introduced (fig. 1110).

REMARKS

It belongs to the *biguttata* group. This species is very variable and forms many colour and structural forms, especially in mountains. Forms with black or maculate pronotal disc are well distinguished. Forms with partly reduced spots of explanate margin differ from most species of the genus in strong elytral puncturation, high elytral elevation, combined with long pecten of tarsal claws, only small specimens of the form with humeral spot are similar to *A. muehlei* but the latter species differs in broad humeral spot (in *togata* diagonal), three last segments black (in *togata* one to two segments) and short pecten of tarsal claw extending only to 1/4 length of claw (in *togata* at least to half length). Specimens of *A. togata* with low postscutellar tubercle and mostly brown elytral disc are similar to *A. biguttata*, but it differs in finer elytral puncturation, base of elytra only slightly wider than base of pronotum (in *togata* distinctly wdier than base of pronotum) and pubescent apex of female epipleura (in *togata* bare in both sexes).

A special problem is distinguishing typical form of *A. togata* (with chocolate brown elytral disc) from *A. fenestrata.* Both species are probably separated geographically, *A. fenestrata* is exclusively western African species east to Nigeria while *A. togata* occurs in central Africa west to Nigeria but it is known from a few specimens from Senegal, Ghana and Ivory Coast (probably introduced or relict). Postscutellar tuber-



1101-1109 - *Aspidimorpha togata*, variation of dorsal maculation

cle in *A.fenestrata* is higher and sharper than in *A. togata*, surface of disc almost regular while in *togata* sides of disc are slightly irregular.

MATERIAL EXAMINED

BURUNDI: Bururi, 2000 m, 21 I 1986, 1, H. MÜHLE (MD).

CAMEROON: Bare, 800 m, 6 XI 1912, 1, v. ROTHKIRCH (ZMHU); Batanga, II 1911, 1, A.I. GOOD (CMNH), III 1914, 7, IV 1914, 18, F.H. HOPE (CMNH); Bipindi, X-XI 1896, 3, ZENKER (ZMHU); Dchang, 2, v. ROTHKIRCH (syntypes of *A. togata* ab. *camerunensis*, MM); arr. Djoungolo, Mékombou-r., Osongoué, 7 III 1963, 1 (ZSM); arr. Djoungolo, Villa Carde n. Nyong, 28 VIII 1963, 2 (ZSM); Douala, 1, J. CANTALOUBE (MRAC), 1939, 4, A. VILLIERS (MNHN); Doume, 1930, 1, M. CAZAL (MNHN); Duala, 20 (IRSN), 20-27 V 1936, 2, VAN ZWALUWENBURG (USNM); Edea, 6 III 1922, 2, 12 V 1922, 2, J.A. REIS (CMNH); Efulen, 19 I 1918, 1, 15 X 1920, 1, 21 III 1921, 1, I 1921, 2, 23 IV 1921, 1, XI 1921, 1, VI 1922, 1, H.L. WEBER (CMNH); Jaunde, V 1897, 3, v. CARNAP (FMNH); X 1923, 5 (IRSN), Jaunde-St., 23, ZENKER (ZMHU), 4 V 1897, 3, v. CARNAP (IRSN); 28 V-4 VI 1936, 1, VAN ZWALUWENBURG (USNM); Johann-Albrechtshöhe, 30 VIII-14 IX 1898, 1, CONRADT (ZMHU); Joko, 11 (7 syntypes of *A. togata* ab. *praevisa*, 4 syntypes of *A. togata* ab. *camerunensis*, MM), 15 (ZSM), 6 (HNHM), VII 1912, 2 (FMNH); Kamerunberg, 5 km S Muëli, 560 m, 30 I 1958, 2, H. KNORR (ZSM); Kribi, 8, CARRET (MRAC), 18-31 III 1974, 5, M. KÜHNBANDNER (ZSM); Lolodorf, 1939, 3, A. VILLIERS (MNHN), 7 II 1918, 1, J.A. REIS (CMNH), III 1925, 1, A.I. GOOD (CMNH); Longji, 1, H. PUSCHEN (ZMHU); Makak, 500 m, 1939, 2, A. VILLIERS (MNHN); Malende, Mt. Kamerun, XII 1957, 1, W. HARTWIG (MKB); Maleteke Riv., between Banga and Malende, 125 m, 15 XII 1957, 1, H. KNORR (ZSM); Mt. Balmayo, 1, BARGA (MRAC); Mueli, Mt.Kamerun, II 1958, 1, W. HARTWIG (MKB); Mundame, 1, R. ROHDE (FMNH); Nanga Eboko, VII-X 1959, 1, LENCZY (HNHM); Nkolbisson, Dept. Nyong-Sanaga, IX 1963, 16, X 1963, 7, L.G. SEGERS (MRAC); Nkolbisson, Yaounde-Bi, 24 II 1963, 1, 25 II 1963, 1, 29 II 1963, 2, 20 V 1963, 1, 15 X 1963, 3, L. SEGERS (ZSM); Obala, Nkometou-r., Nkoa, 11 VIII 1963, 1, L. SEGERS (ZSM); Okala, IV-V 1965, 4, J. POUGET (MRAC); Okola, Ebougsi-r., Mbanize, 17 IX 1963, 1, L. SEGERS (ZSM); Okola, Mva, 5 IX 1963, 1 (ZSM); Ototomo, I 1963, 1 (ZSM); Pipinde, 4, ZENKER (ZMHU); Victoria, 1 (ZMHU); Yaunde, 1950, 1 (MRAC).

EQUATORIAL GUINEA: Benito, 1885, 1, Guiral (MNHN), 1, L. REUTLINGER (CMNH), 1, M. MAINDRON (MNHN).

GABON: Bas-Ogooué, 6, LE MOULT (IRSN); Gabon, 1 (syntype of *A. castula*, BRS); Gabun, 1 (syntype of *A. castula*, BMNH); Haut Ivindo, affl. Ogooue, 1906, 1, J. GRAVOT (MNHN); Kangvé, Ogové R., 5, A.C. GOOD (CMNH); entre Lambarene et la mer, 1901, 3, E. HAUG (MNHN); Libreville, 5 (SD); env. Libreville, V 1915, 1, G. BABAULT (MNHN); Ntem, 1907, 36, COTTES (MNHN); Ogove R., 19, A.C. GOOD (CMNH).

GHANA: Takoradi, 2, BESNARD (MRAC).

IVORY COAST: Dimbokro, 2 (IRSN).

KENYA: Kakamega Forest Reserve, 1800 m, swept, 30 I 1992, 1, O. MERKL and G. Várkonyi (HNHM); Yala Riv. n. Kisumu, X 1915, 1, G. BABAULT (MM); Yala R., sedge of Kakumga Forest, 4800-5200 ft., 21-28 V 1911, 1, S.A. NEAVE (BMNH); Yala Riv. n. Kisumu, IX 1916, 1, X 1916, 2, G. BABAULT (MNHN).

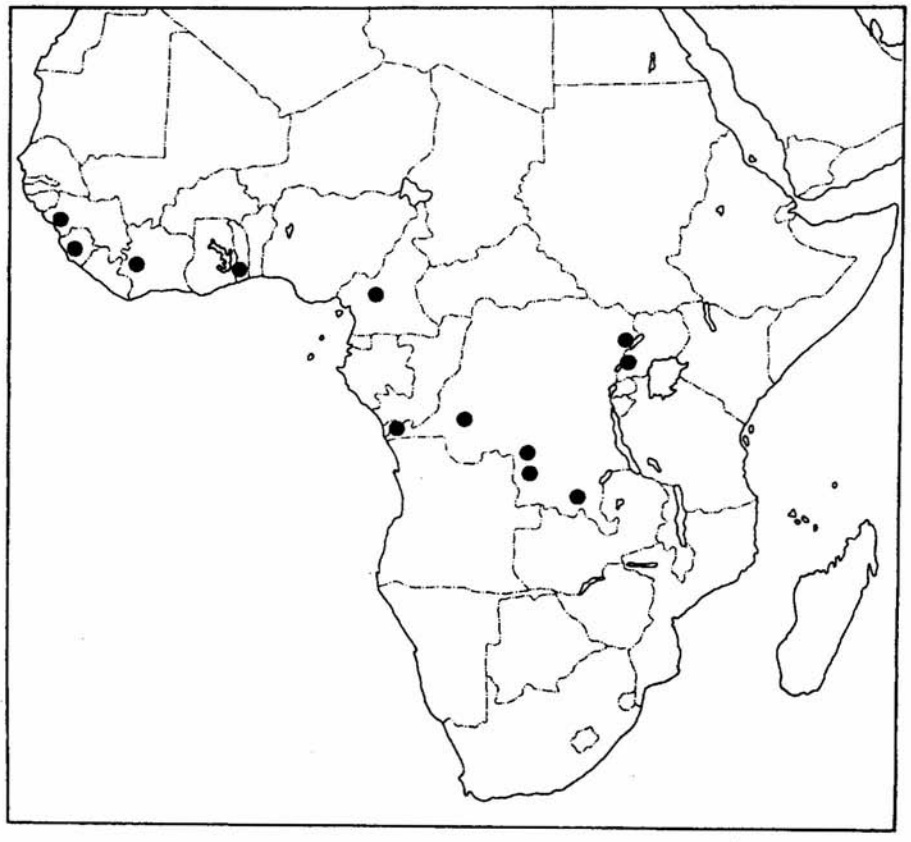
NIGERIA: Anambra State, Nsukka, 2 VI 1986, 2, J. WOJTUSIAK (JW); Oban Hills, Awsambo, Cross River State, 17 XI 1965, 1, J. WOJTUSIAK (JW).

REPUBLIC OF CENTRAL AFRICA: Boda, 1914, 1, P. CHARLEVE (MNHN); Fort Crampel, 56 (IRSN), 1 (ER); Fort Sibut, Oubanghi-Chari, 8 (IRSN); La Maboké, M'Baiki, X 1964, 1, M. PAVAN (MZSNV); M'Baiki, 1919, 1, FIDAD (MNHN); Nola, 1 (IRSN).

REPUBLIC OF CONGO: Haut Sangha, IX 1908, 1, J. KERANDEL (MNHN); Mongoumba, 1 (IRSN).

SENEGAL: Palmarin, XI 1960, 1, CHASSOT (MHNG).

UGANDA: Britisch Uganda, 4, GRAUER (2 syntypes of *A. imbrex*, 2 syntypes of *A. imbrex* ssp. *ugandina*, MM); Bwamba Forest, 2500 ft., III 1948, 1, J.G. WILLIAMS (USNM); Bwamda, VII 1944, 1, VAN SOMEREN (BMNH); Daro Forest, Toro, 4800 ft.,



1110. Distribution of *Aspidimorpha togata*

25-29 X 1911, 1, S.A. NEAVE (BMNH); S L. George, 3200-3400 ft., 17-19 X 1911, 1, S.A. NEAVE (BMNH); Entebe, env., 8-13 XII 1994, 1, M. SNIZEK (MS); Fort Portal, 15 km E Sebitoli, 1400 m, 23 XI-5 XII 1994, 5, M. SNIZEK (MS, LB); Mabira Forest, Chagwe, 3500-3800 ft., 16-25 VII 1911, 1, S.A. NEAVE (BMNH); between Mitiana and Entebbe, 3800 ft., 9-11, I 1912, 1, S.A. NEAVE (BMNH); Mpanga Forest, Toro, 4800 ft., 13-23 XI 1911, 1, S.A. NEAVE (BMNH); Semliki Plains, 2100-2900 ft., 8-9 XI 1911, 1, S.A. NEAVE (BMNH); Semliki Vall., Buamba Forest, 2300-2800 ft., 3-7 XI 1911, 2, S.A. NEAVE (BMNH); between Seziwa R. and Kampala, 3500-3750 ft., 27-31 VIII 1911, 1, S.A. NEAVE (BMNH); Tero Forest, SE Buddu, 3800 ft., 26-30 IX 1911, 1, S.A. NEAVE (BMNH).

ZAIRE: Albert Nat. Park, Massif Ruwenzori, riv. Bombi, affl. Butahu, 1820 m, 15 IX 1956, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Massif Ruwenzori, riv. Butahu, affl. Semliki, 2185 m, 17 VI 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Massif Ruwenzori, Kalonge, riv. Katauleko, aff. Butahu, 2180 m, 28-29 VII 1952, 1, P. VANSCHUYTBROECK and J. KEKENBOSCH (MRAC); Albert Nat. Park, Mont Hoyo, riv. Kofuhola, affl. Kalakala, 1285 m, 25 VII-10 VIII 1955, 2, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Mutsora, 1939, 23, HACKARS (MRAC); Albert Nat. Park, Nzenga, Vall. Butahu, 900 mm, 15 VII 1948, 1, J. DE WILDE (MRAC); Albert Nat. Park, Plaine Semliki, 900-1100 m, IV-X 1937, 5, X-XI 1937, 2, HACKARS (MRAC); Albert Nat. Park, W Ruwenzori, 1200-1500 m, III 1937, 3, HACKARS (MRAC); Albert Nat. Park, Ruwenzori, Mutawanga, 1000-1300 m, XI 1936, 1, Xi 1936-II 1937, 2, II-III 1937, 14, IV-X 1937, 1, HACKARS (MRAC); Albert Nat. Park, Secteur Nord, Bumali, village près Mutawanga, 1250 m, 2 VIII 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Byangolo, affl. g. Djilube, 1320 m, 19 IX 1956, 3, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. Lutakira, affl. dr. semliki, 840 m, 17 X 1957, 2, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, riv. May ya moto, affl. g. Talya, 1100 m, 10 IX 1957, 2, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Mutsora, station P.N.A., 1250 m, 23 I 1957, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Secteur Nord, Ngokoi, affl., g. Talya, 1100 m, 23 IX 1957, 1, 29 V 1958, 1, P. VANSCHUYTBROECK (MRAC); Albert Nat. Park, Tungula R., Piste Mwenda, Katuka, 900-1000 m, II 1947, 1, 27 III 1947, 1, J. DE WITTE (MRAC); Bambesa, 19 V 1937, 1, 7 VI 1937, 1, 18 IX 1937, 1, 5 X 1937, 1, J.M. VRIJDAGH (IRSN); Beni, 1910, 1, GRAUER (MRAC); Beni n. Lesse, VII 1911, 3, Dr. MURTULA (syntype of *A. togata* ab. *segregata*, 2 syntypes of *A. togata* ssp. *inbrachiata*, MM); Beni Forest, X 1910, 5, GRAUER (2 syntypes of *A. togata* ab. *segregata*, 1 syntype of *A. togata* ab. *pinguis*, MM, 2 NMW); Beni, N Lago Kivu, XII 1990-I 1991, 1, F. GALLIZIA (RR); Beni n. Lesse, VII 1911, 5, MURTULA (MRAC); Faradje, Gaduma Mala, 13 III 1930, 1, A. COLLART (IRSN); Gombari, Up. Uelle R., III 1924, 2 (EGS); Ituri, Kilo, Mongbwalu, 4 VI 1930, 1 (MM); Kibombo, 2 II 1910, BEQUAERT (MRAC); Kivu, Beni, 18 VI 1953, 1, J. VERBEKE (IRSN); Kivu, Irangi, 800 m, 24 IV 1983, 1, H. MÜHLE (MD), 15 II 1986, 1, H. MÜHLE (Kippenberg); Kivu, Rutshuru, 26 III 1953, 1, J. VERBEKE (IRSN); Kivu, Vall. de la Ruzizi, Kanambo, III 1959, 2, L.G. BENOIT (MRAC); Kwesi n. Kilo, 10-19 IV 1911, 1, Dr. BAYER (MM); Libenge, 15 X 1947, 1, 17 X 1947, 1, R.

CREMER and M. NEUMANN (IRSN); Libenge, Mawuya, 28 XI 1947, 1, R. CREMER and M. NEUMANN (IRSN); Lisalla, 29 VIII 1947, 4, R. CREMER and M. NEUMANN (IRSN); Lulua, Kapanga, XI 1932, 2, F.G. OVERLAET (MRAC); Luluabourg, 1, P. CALLEWAERT (MRAC); Maniema, Kindu, 1917, 1, L. BURGEON (MNHN); Moera Forest, 1910, 4, GRAUER (syntype of *A. togata* ab. *segregata*, 3 syntypes of *A. togata* ssp. *inbrachiata*, MM); Mpese, 11 IV 1937, 1, J. COOREMAN (IRSN); Mungubungu, IX-X 1936, 1, G. OVERLAET (IRSN); Oriente Prov., Bas Uele, Bambesa, 12 III 1958, 1 (FMNH); Poko-Nala-Rungu, 1912, 1, M'Hutereau (MRAC); Region des Lacs, 1, Dr. SAGONA (MM); Station de Gandajika, 1957, 1, P. DE FRANQUEN (MRAC); Stanleyville, III 1959, 1, R.H. CARCASSON (USNM); Uele, fl. Duru, III 1927, 2, F.S. PATRIZI (MCSNG); H Uele, Rte to Wamba, 29 XI 1956, 1 (FMNH); Usumburu, Rutshuru, 1, GRAUER (holotype of *A. imbrex* ssp. *inexculta*, MM).

Aspidimorpha (s. str.) *togoensis* WEISE, 1904

Aspidomorpha togoensis WEISE, 1904: 57 (HT in ZMHU).
Aspidomorpha (*Aspidomorpha*) *togoensis*: SPAETH, 1914 b: 78.

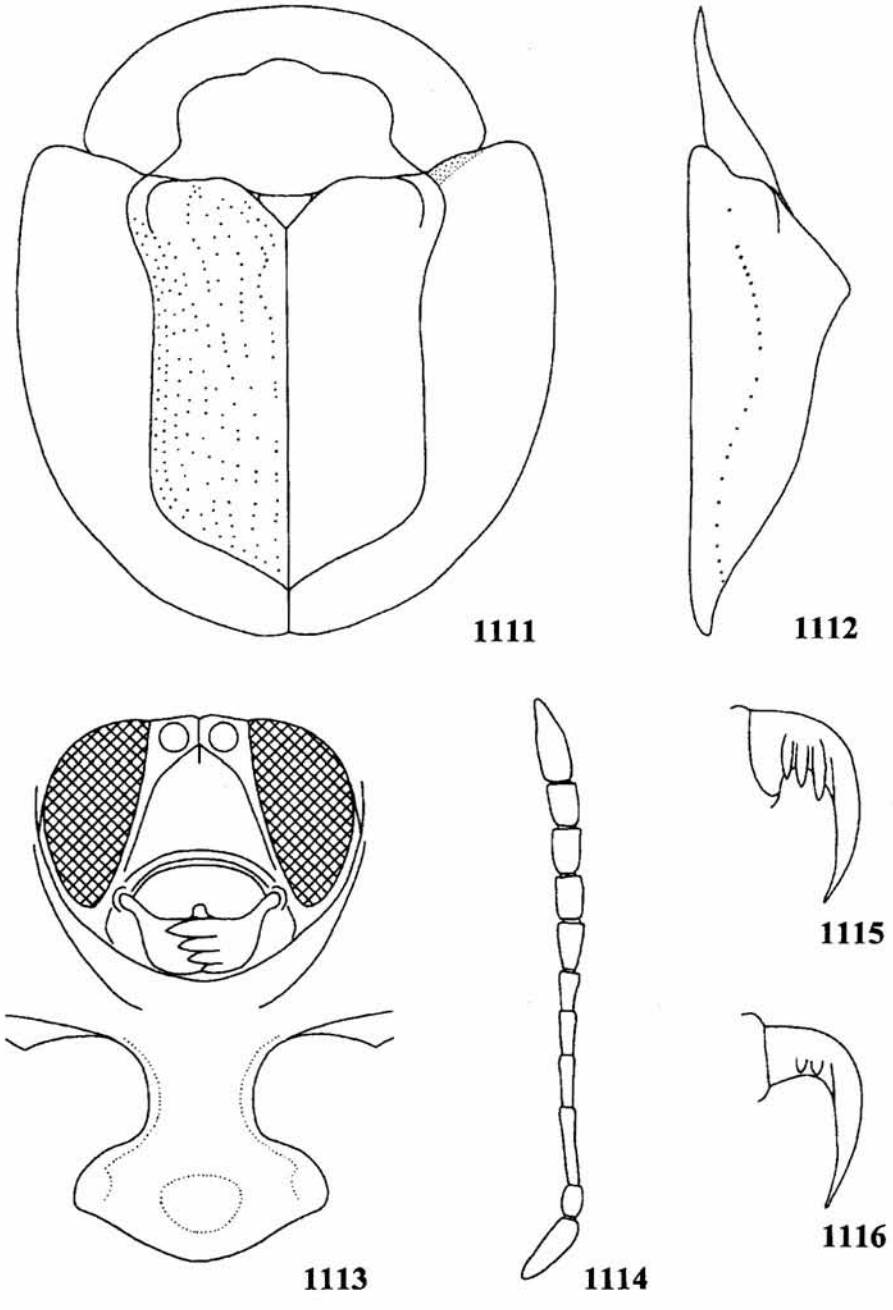
DESCRIPTION

Le: male and female: 7.3-8.0 mm, Wi: male and female: 6.2-6.8 mm, Lp: male and female: 2.3-2.7 mm, Wp: male and female: 4.5-5.0 mm, Ex: male and female: 1.6-1.8 mm, Wd: male and female: 2.9-3.3 mm; Le/Wi ratio: male and female: 1.12-1.20, Wi/Wp: male and female: 1.33-1.40, Wp/Lp: male and female: 1.85-1.96. Body short-oval (fig. 1111).

Pronotum uniformly pale yellow. Elytra usually uniformly pale yellow, elytral disc sometimes with small elongate spot at 2/3 length of suture, occasionally punctures in sutural rows infuscate, only one of the examined specimens has elytral disc mostly brown except yellow spot between scutellum and top of postscutellar tubercle, yellow base of humeri and yellow extreme apex of disc. Explanate margin with no humeral or posterolateral spot. Scutellum yellow. Ventrites uniformly yellow. Antennae uniformly yellow, last segment sometimes with infuscate apex.

Pronotum ellyptical, with maximum width in 3/5 length, sides narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulaton. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

Scutellum triangular, impunctate, without transverse sulcus, sometimes impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri subrounded, elytral margins simple. Disc with moderately large, conical postscutellar tubercle (fig. 1112). Principal impressions shallow, indistinct. Puncturation of disc very fine, regular, on slope distinctly finer than in anterior half of disc, hardly visible, in sutural half of disc finer than in lateral part of disc. Scutellar row with 2-5 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-4, distance between punctures or their

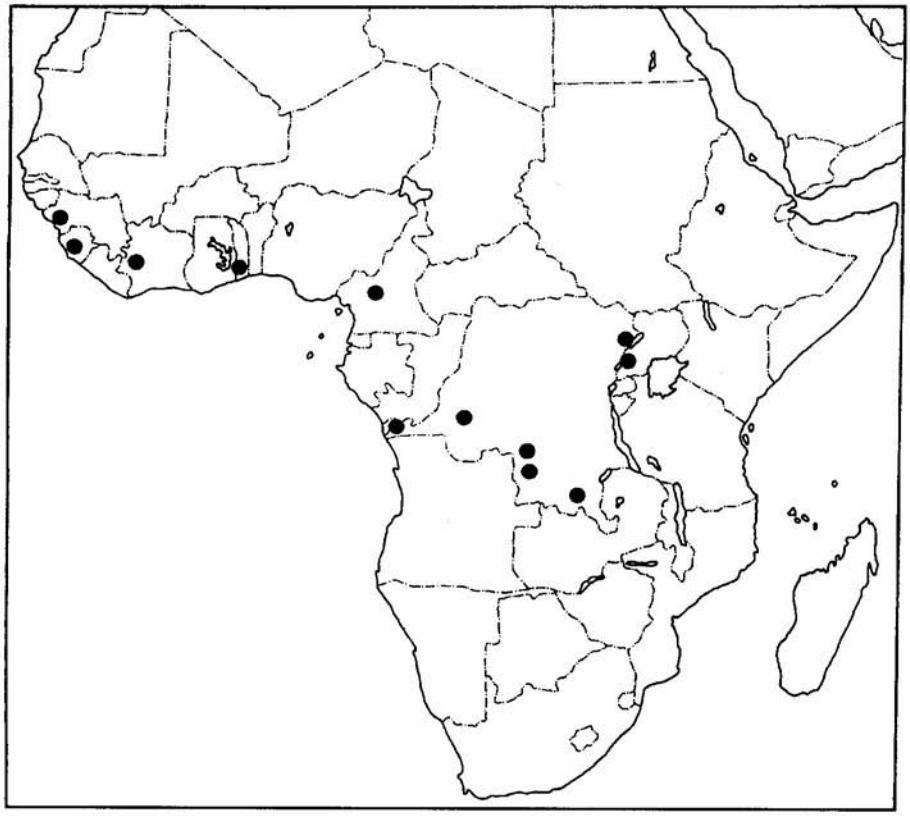


1111-1116. *Aspidimorpha togoensis*: 1095 - body in dorsal view, 1096 - body in profile, 1097 – head and prosternum, 1098 – antenna, 1099 – inner side of claw, 1100 – outer side of claw

groups two to four times larger than puncture diameter. Rows not impressed, surface of disc regular. Punctures in marginal row deep, c. four to five times larger than in central rows. Intervals flat, in sutural half five, in lateral half three to four times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, moderately declivous, impunctate, its surface smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.5 times wider than long (fig. 1113), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/3 length. Antennae moderately elongate (fig. 1114), extending to half length of metasternum, length ratio of antennal segments: 100:44:108:80:64:52:68:64:64:65:120.

Claws pectinate on both sides, inner pecten short, with three teeth extending to 1/4-1/3 length of claw, two external teeth equal in length, internal c. twice shorter (fig. 1115). Outer pecten with two teeth, c. twice shorter than in inner pecten (fig. 1116).



1117. Distribution of *Aspidimorpha togoensis*

Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

West and northern part of Central Africa, south to SE Zaire, east to Uganda (fig. 1117).

REMARKS

It belongs to the *mutata* species group. It is one of the smallest species of the group, but with distinct conical postscutellar tubercle. A similar postscutellar tubercle is present also in *A. laevigata*, *A. vernicata*, *A. submutata*, *A. obtusangula*, *A. muehlei*, *A. splendidula*, *A. semiramosa* and *A. dilecta*. The first seven species differ in the presence of spots on explanate margin of elytra (humeral, posterolateral, both). *A. togoensis*, like *A. dilecta*, has reduced spots of explanate margin. Both species have a pale yellow groundcolour of pronotum and elytra. *A. togoensis* is smaller (Le 7.3-8.0 mm, in *dilecta* 8.2-9.9), slightly slimmer, with slightly smaller postscutellar tubercle and usually uniformly yellow antennal segments (in *dilecta* usually last segment is black). Both species are mostly separated geographically, *A. dilecta* is more southern and eastern species (see figs 455 and 1117), only in SE Zaire both are sympatric. Very rare form of *A. submutata* with mostly reduced humeral spots is very similar to *A. togoensis* but has last antennal segment black (mostly to completely yellow in *togoensis*), this form of *A. submutata* was observed in regions outside the diistribution area of *A. togoensis*.

MATERIAL EXAMINED

CAMEROON: Joko, 1 (LB).
GUINEA: Guinea, 2 (ZMC).
IVORY COAST: Man, VIII 1948, 1 (LB).
SIERRA LEONE: Mayamba, 1 (LB).
TOGO: Amedzowe, 1 (holotype, ZMHU), 2 (ZMHU), 2 (LB).
UGANDA: Kasese, 600 m, 13-19 XI 1994, 1, M. SNIZEK (MS).
ZAIRE: Ituri, Bunia, 1938, 2, P. LEFÈVRE (MRAC); Jadotville, Numbi, V 1957, 1, Th. DE CATERS (MRAC); Kikwit, 1920, 1, P. VANDERIJST (MRAC); Lulua, Kabomba, XI 1937, 1, VANDERSTICHELE (MRAC); Lulua, Kapanga, XI 1932, 1, G.F. OVERLAET (MRAC); Lulua, R. Kunkinda, IX 1933, 1, F.G. OVERLAET (MRAC); Mayumbe, VII 1917, 1, R. MAYNÉ (MRAC); Uelé, Mam Kini, 16 VI 1914, 1, RODHAIN (MRAC);.

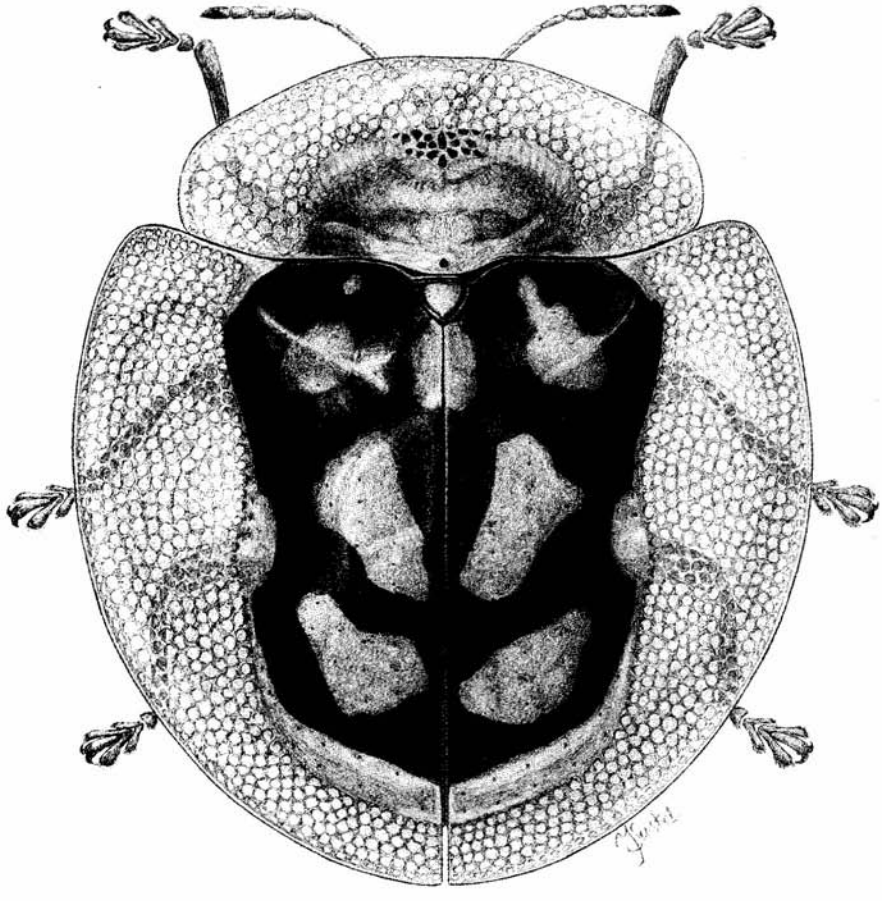
Aspidimorpha (s. str.) *tortuosa* BOHEMAN, 1862

Aspidomorpha tortuosa BOHEMAN, 1862: 257 (LT and PLT in NRS); SPAETH, 1903: 172; SHAW, 1956 b: 594; 1968 b: 782.
Aspidomorpha (*Aspidomorpha*) *tortuosa*: SPAETH, 1914 b: 78.

Aspidomorpha tortuosa ab. *ramigestans* SPAETH, 1916: 45 (ST in MM); SHAW, 1956 a: 594.
Aspidomorpha tortuosa var. *ramigestans*: SPAETH, 1916: 40.

DESCRIPTION

Le: male: 6.3-7.5 mm, female: 8.6-8.7 mm, Wi: male: 5.9-7.0 mm, female: 7.4-7.7 mm, Lp: male: 2.0-2.4 mm, female: 2.6-2.7 mm, Wp: male: 4.1-4.9 mm, female: 5.2-5.4 mm, Ex: male: 1.3-1.8 mm, female: 1.7-1.9 mm, Wd: male: 3.0-3.6 mm, female: 4.0-4.1 mm; Le/Wi ratio: male: 1.06-1.09, female: 1.12-1.16, Wi/Wp: male: 1.36-1.44, female: 1.42-1.43, Wp/Lp: male: 2.04-2.09, female: 1.93-2.08. Body almost circular (figs 1118, 1119).



1118. *Aspidimorpha tortuosa*, habitus (by J. ŚWIĘTOJAŃSKA)

Pronotum uniformly yellow. Elytra yellow with black, variable pattern (figs 1128-1130). In the palest specimens elytral disc mostly yellow with few spots: close to scutellum, at humerus and in anterior and posterior part of side. In common form black forms pattern as in fig. 1129, in the darkest form disc mostly black with 7-9 yellow spots of various shape and size. Explanate margin uniformly yellow or with moderately broad, black humeral spot (= *ramigestans*). Posterior margin of humeral spot usually irregular, bisinuate. Scutellum yellow, often with blackish margins or anterior corners. Margins of explanate margin not or slightly darker yellow than ventral half of the explanate margin. Clypeus and ventrites uniformly yellow. Legs, including coxae, uniformly yellow. Antennae mostly yellow, usually two last antennal segments black except yellow ventral side of apex of the last segment, often segment 10 partly or completely yellow, occasionally whole antennae yellow with only slightly infuscate apex of the last segment.

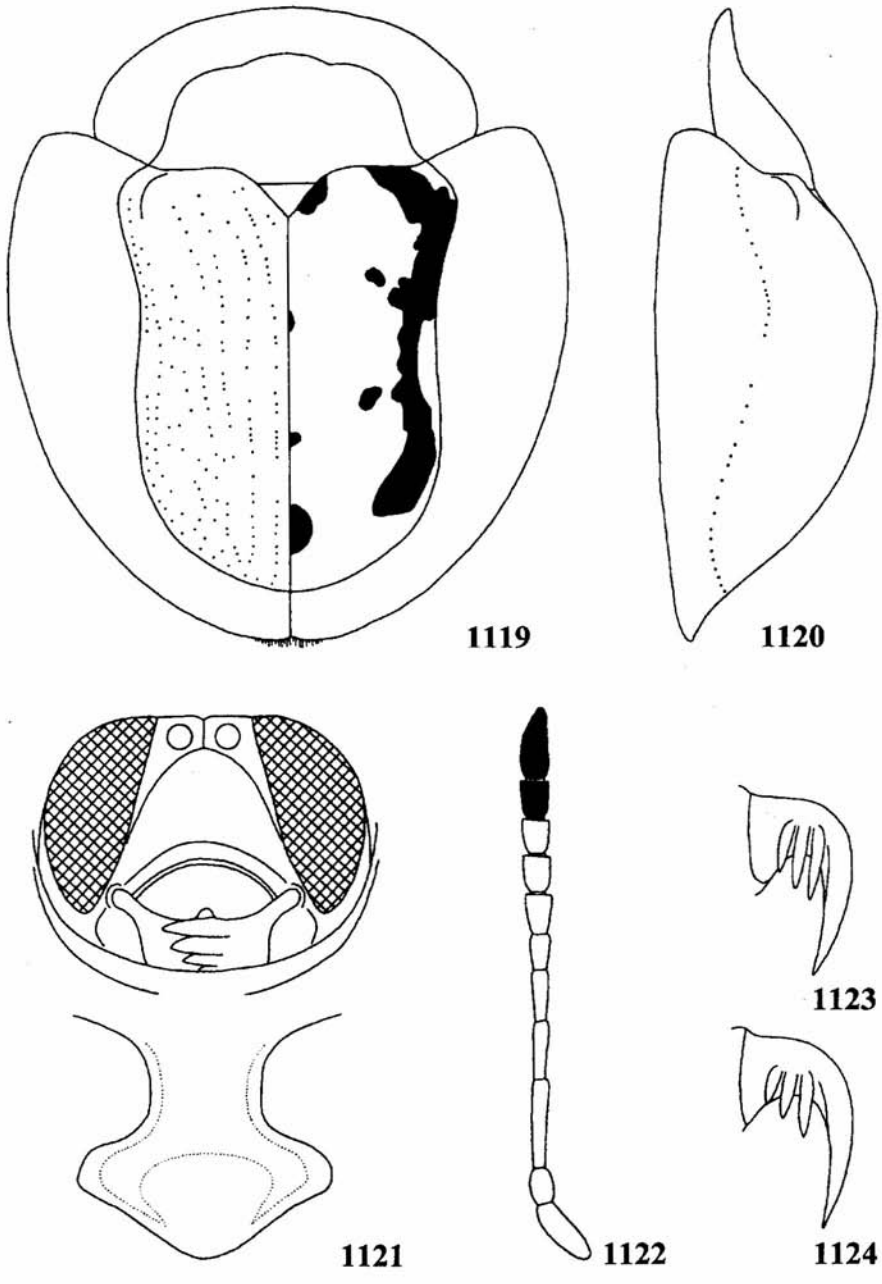
Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle of about 90-95°. Disc moderately convex, smooth, shiny, with very small microreticulation. Explanate margin distinctly bordered from disc, almost horizontal, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, much wider than base of pronotum, elytral margins simple. Disc evenly convex, with top of convexity in postscutellar point (fig. 1120). Discal surface with small and shallow principal impression, without lateral impressions, surface of lateral part of disc completely regular. Puncturation of disc mostly regular, punctures extremely fine to fine, on slope almost obsolete, in sutural half of disc c. twice smaller than in lateral part of disc. Scutellar row with 4-8 punctures. Punctures in rows moderately dense to dense, disposed regularly, distance between punctures three to six times larger than puncture diameter. Rows not impressed. Marginal row shallow, its punctures c. thrice larger than in submarginal row. Intervals flat, in sutural half of disc five to six times wider than rows, on sides c. twice to thrice wider than rows, their surface mostly smooth, shiny, with very small microreticulation. Lateral fold of explanate margin flat and usually broad. Explanate margin very broad, moderately declivous, margins almost horizontal but without tendency to form a shallow gutter, impunctate, smooth and shiny. Apex of elytral epipleura pubescent in both sexes.

Head moderately broad, clypeus 1.6-1.7 times wider than long (fig. 1121), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/6-1/5 length. Antennae moderately elongate (fig. 1122), extending to 1/4 length of metasternum, length ratio of antennal segments: 100:42:108:76:71:47:53:47:50:52:105.

Claws pectinate on both sides, inner pecten with four long teeth extending to 2/5-1/2 length of claw (fig. 1123). Outer pecten with two teeth, extending to 1/5-1/4 length of claw (fig. 1124).

Sexual dimorphism indistinct. Males slightly stouter than females.



1119-1124. *Aspidimorpha tortuosa*: 1119 - body in dorsal view, 1120 - body in profile, 1121 – head and prosternum, 1122 – antenna, 1123 – inner side of claw, 1124 – outer side of claw

DISTRIBUTION

Cameroon, Gabon, Republic of Congo and Zaire, record from Togo needs confirmation, probably based on introduced or mislabelled specimen (fig. 1134).

REMARKS

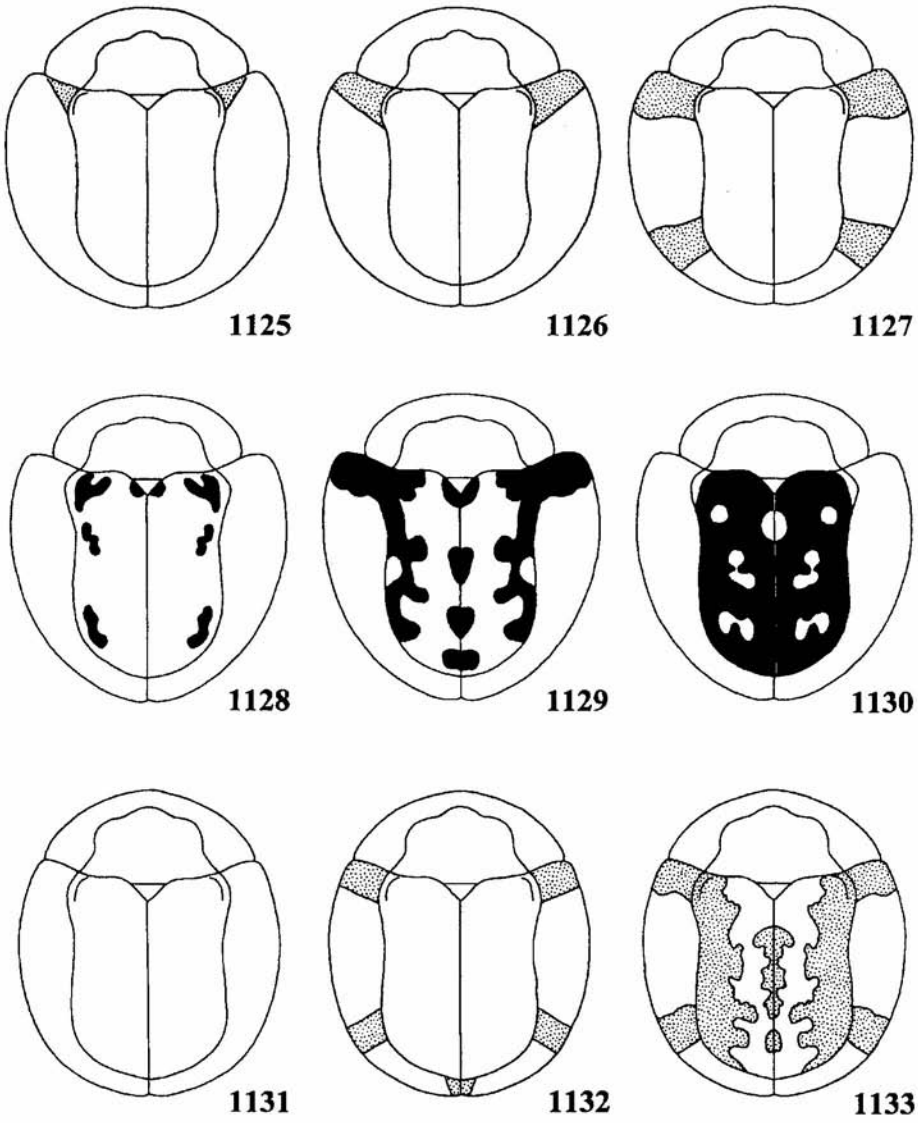
It is the only member of the *tortuosa* group. The regularly convex elytral disc combined with almost circular body, base of elytra distinctly wider than base of pronotum, ventrites always uniformly yellow and characteristic variable pattern (figs 1128-1130) are unique. Small males of *A. isparetta* with black pattern are at first glance similar but differ in elytral convexity less regular, with well marked postscutellar elavted part, pattern of disc never as geometrical as in *tortuosa*, surface less glabrous and ventrites often partly brown to black.

MATERIAL EXAMINED

CAMEROON: Batanga, 1 (MRAC), 2 (MNHN), III 1914, 1, IV 1914, 14, V 1914, 2, F.H. HOPE (CMNH); Batouri distr., 750 m, 1 V-6 VI 1935, 3 (BMNH); Bipindi, X-XII 1896, 3, ZENKER (ZMHU); Buea, 9-20 V 1949, 1, B. MALKIN (CAS); arr. Djoungolo, Mékoumbou-r., Osongoué, 7 VIII 1963, 1 (ZSM); arr. Djoungolo, Nkongzok, 11 II 1963 (ZSM); arr. Djoungolo, Villa Carde n. Nyong, 28 VIII 1963, 1 (ZSM); Douala, 1939, 1, LEPESME, PAULIAN & VILLIERS (MNHN); Doume, 1930, 1, M. LAZAL (MNHN); Dschang, 1400 m, XI 1912, 1, v. ROTHKIRCH (ZMHU), 1500 m, I 1924, 1, XI 1924, 1, CROMIER (MNHN); Edea, 1 (MRAC); Efulen, I 1911, 5, II 1911, 1, IX 1912, 5, X 1912, 5, XI 1912, 11, J.A. REIS (CMNH), II 1910, 1, 12 II 1910, 1, 8 I 1918, 1, 18 VI 1918, IV 1920, 2, VIII 1920, 1, VI 1922, 3, 3 VI 1922, 1, H.L. WEBER (CMNH); Ekok, 5 (IRSN); Elat, XII 1930, 1 (CMNH); Eseka, 1939, 1, LEPESME, PAULIAN & VILLIERS (MNHN); Jaunde, 21, ZENKER (ZMHU), VI-VII 1897, 2, ZENKER (ZMHU), 21 XII 1897, 1, CARNAP (ZMHU), 4 V 1897, 11 (IRSN), X 1923, 10 (IRSN), 20 III 1923, 1, 31 III 1923, 2 (CMNH); Kamerunberg, 2 (FMNH); Kribi, 6, CARRET (MRAC), 0-30 m, 18-31 III 1974, 5, M. KÜHBANDNER (ZSM); Lolodorf, 1, coll. LE MOULT (IRSN), 1939, 1, LEPESME, PAULIAN & VILLIERS (MNHN), III 1911, 1, XI 1913, 2, X 1922, 1, VI 1925, 1, A.I. GOOD (CMNH), 4 VI 1914, 1, V 1915, 1, J.A. REIS (CMNH); Longji, IX 1904, 1, H. PASCHEN (ZMHU); Mont Balmayo, 13, BARGA (MRAC), 6, J. CANTALOUBE (MRAC); Moundeck, 1939, 1, LEPESME, PAULIAN & VILLIERS (MNHN); Mueli, 560 m, 1 II 1958, 10, H. KNORR (SMNS), 600 m, II 1958, 33 (MKB, LB); 5 km S Muëli, 30 I 1958, 7, 21 II 1958, 5, H. KNORR (ZSM); Mukonye Farm, 1, R. RHODE (IRSN); Mundame, 2, R. ROHDE (FMNH); Nanga Eboko, VII-X 1959, 1, LENCZY (HNHM); Nkolbisson, Dept. Nyong-Sanaga, IX 1963, 14, L.G. SEGERS (MRAC); Nkolbisson, Yaounde-Bi, 16 II 1963, 1, 18 II 1963, 1, 20 V 1963, 5, L. SEGERS (ZSM); Obala, Nkometon-r., Nkoa, 11 VIII 1963, 3, L. SEGERS (ZSM); Okala, IV-V 1965, 2, J. POUGET (MRAC); Okola, Ebougsi-r., Mbanize, 19 VII 1963, 4, L. SEGERS (ZSM); Okola, Nkong-r., Yégué, 14 VIII 1963, 2, L. SEGERS (ZSM); Pipinde, 3, ZENKER (ZMHU); Sàa, Ebebda-r., Yanga, 18 VII 1963, 1, L. SEGERS (ZSM); Sappo near Buea, III 1951, 1, S. TITA (CAS); Sasse-Sappo, 20-31

I 1952, 1, S. TITA (CAS); Soppe, II 1912, 1, v. ROTHKIRCH (ZMHU); Victoria, 1 (FMNH), 1 (ZMHU); Victoria, Batoki, II 1954, 6, EISENTRAUT (SMNS); Victoria, Mabete, 1 VI 1949, 1, B. MALKIN (CAS).

GABON: Bassin de l'Ivindo, affl. de l'Ogooue, 1906, 1, J. GRAVOT (MNHN); Haut Ivindo, 1906, 3, J. GRAVOT (MNHN).



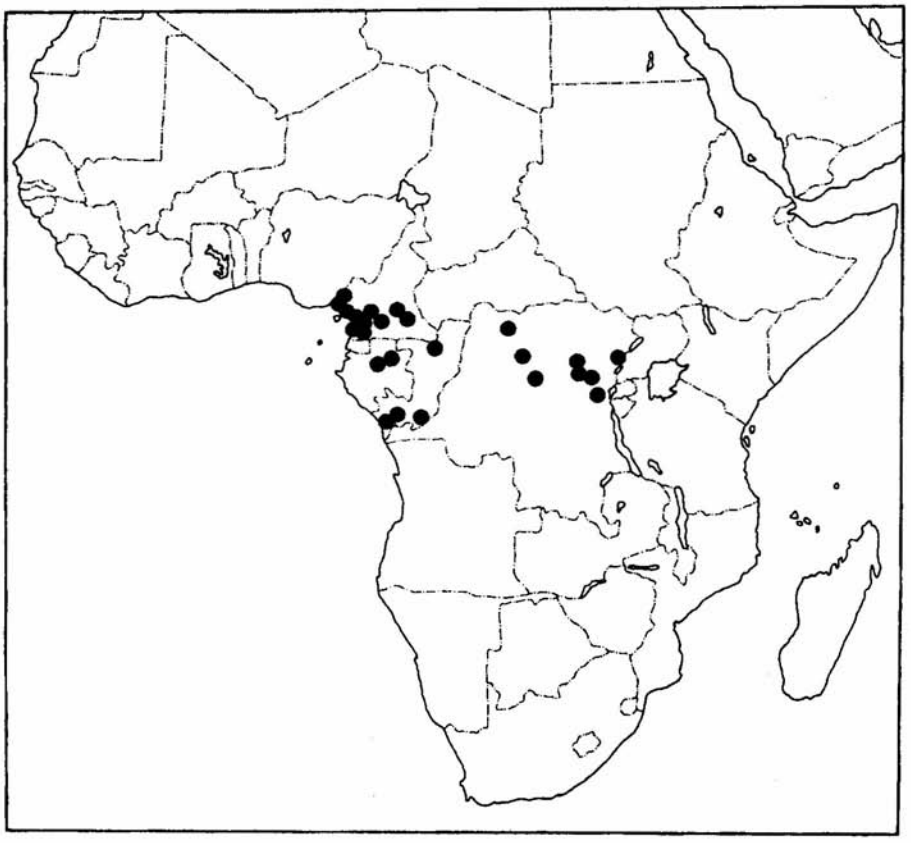
1125-1133. Variation of dorsal maculation, 1125-1127 - *Aspidimorpha uluguruensis*, 1128-1130 - *Aspidimorpha tortuosa*, 1131-1133 - *Aspidimorpha tecta*

REPUBLIC OF CONGO: Brazzaville, 1900, 1, P. BOURDARIE (MNHN); Ouesso Reg., Bassin N'goko-Sanga, 1906, 1, J. GRAVOT (MNHN).

TOGO: Togo, 1 (FMNH).

ZAIRE: Albert Nat. Park, Mont Hoyo, grotte Saga-Saga, 1160 m, 3 VIII 1955, 1, P. VANSCHUYTBROECK (MRAC); Buhunde-Sawasawa, 15 IX 1929, 1, A. COLLART (IRSN); Haute Maringa, 1, L. MAIRESSE (IRSN); Irangi, Luhoho Riv., 900 m, 10 IX 1957, 1, E.S. ROSS and R.E. LEECH (CAS); Kivu, Irangi, 1-2 II 1986, 1, H. MÜHLE (MD); Likimi, 12 VIII 1927, 1, A. COLLART (IRSN); Lubutu, Obongena, 7 IX 1929, 7, A. COLLART (IRSN); Luhango, VI 1936, 1, A. GONZE (IRSN); Masua-Lubutu, 26 IX 1929, 1, A. COLLART (IRSN); O'Kondo, Buhunde, 18 IX 1929, 1, A. COLLART (IRSN); Stanleyville, IX 1925, 1, J. GHESQUIÈRE (IRSN); Stanleyville, Ongoka, riv. Lowa, IV-IX 1952, 1, J. PANTOS (MRAC); Tshuapa, Ikela, 1955, 3, 1956, 1, IX 1956, 1, XI 1956, 1, R.P. LOOTENS (MRAC).

VARIA: Old Calabar, 3, "MURRAY" (lectotype and two paralectotypes of *tortuosa*, present designation, NRS).



1134. Distribution of *Aspidimorpha tortuosa*

Aspidimorpha (s. str.) *tuberosa* n. sp.

ETYMOLOGY

Latin "*tuberosus*" mean gibbous, tuberculate. Named after large postscutellar tubercle.

DESCRIPTION

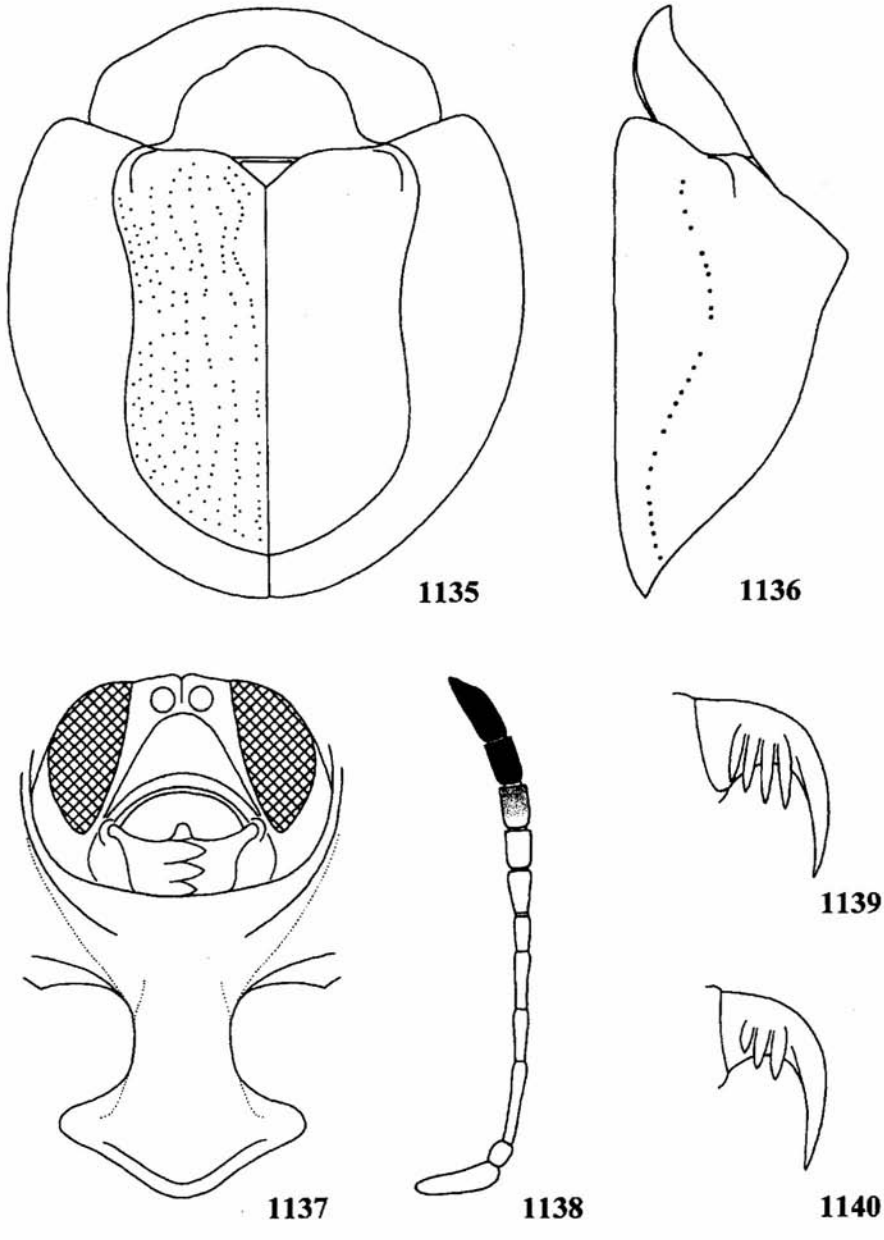
Le: female: 11.8-12.1 mm, Wi: female: 10.1-10.4 mm, Lp: female: 3.5-3.6 mm, Wp: female: 7.0 mm, Ex: female: 2.5-2.9 mm, Wd: female: 5.5 mm; Le/Wi ratio: female: 1.13-1.20, Wi/Wp: female: 1.44-1.49, Wp/Lp: female: 1.94-2.00. Body oval (fig. 1135).

Pronotum uniformly yellow. Elytral disc uniformly yellow, punctures with or without slightly darker areole, explanate margin uniformly yellow or with indistinct, argillaceous humeral and posterolateral spots. Margins of explanate margin usually distinctly darker yellow than internal part. Scutellum yellow to argillaceous. Clypeus yellow, pro- and mesosternum black, metasternum mostly black with sides and lateral plates yellow. Abdomen always yellow. Antennae yellow, two last segments black, except yellow ventral side of apex of last segment, apex of segment 9 infuscate.

Pronotum semicircular, with maximum width slightly in front of the base. Disc slightly convex, smooth, shiny, with very small microreticulaton. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.

Scutellum triangular, impunctate, with or without transverse sulcus. Base of elytra serrulate, distinctly wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, with large postscutellar tubercle, the top of angulation sharp, profile concave behind the top of angulation (fig. 1136). Disc with small but distinct principal impression, surface of lateral part of disc more or less irregular. Puncturation of disc coarse, on slope only slightly finer than in anterior half of disc, in sutural half of disc slightly finer than in lateral part of disc. Scutellar row with 6-7 punctures. Punctures in rows moderately dense to dense, disposed mostly regularly, distance between punctures as long as to twice larger than puncture diameter. Rows strongly impressed. Punctures in marginal row deep, twice larger than punctures in central rows. Intervals convex, in sutural half twice to thrice, in lateral half three to four times wider than rows, their surface smooth, with mirror brilliance. On sides of disc several transverse folds. Lateral fold of marginal interval low but broad. Explanate margin broad, moderately declivous, does not form a gutter, impunctate, its surface smooth and shiny. Apex of elytral epipleura in female with moderately long and sparse erect hairs (in holotype specimen they are mostly worn), also extreme apex of elytral margin with several short setae.

Head broad, clypeus c. 1.7 -1.8 times wider than long (fig. 1137), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 1138), extending to mid coxa, length ratio of antennal segments: 100:36:104:68:68: 48:64:56:64:64:100.



1135-1140. *Aspidimorpha tuberosa*: 1135 - body in dorsal view, 1136 - body in profile, 1137 – head and prosternum, 1138 – antenna, 1139 – inner side of claw, 1140 – outer side of claw

Claws pectinate on both sides, inner pecten long, with four teeth extending to c. half length of claw (fig. 1139), outer pecten with two teeth, first extending to 1/4 length of claw, the second twice smaller (fig. 1140).

Sexual dimorphism: only female specimens are known, probably male has elytral epipleura bare.

DISTRIBUTION

Zaire (fig. 1157).

REMARKS

It is a member of the *quadriramosa* group. It is easily distinguished from all species of the group by large body with quite constant pale pattern, combined with large, conical postscutellar tubercle, strong, impressed elytral puncturation, surface of elytra glabrous, and long pecten of tarsal claws extending to half length of claw. At first glance only *A. collarti* is similar but differs in obtuse postscutellar tubercle and very short pecten of tarsal claws extending only to 1/6 length of claw.

MATERIAL EXAMINED

ZAIRE: holotype: Beni Bendi, Sankuru, 1895, 1, CLOETENS (IRSN); paratype: Mpese, 21 VI 1937, 1 (LB).

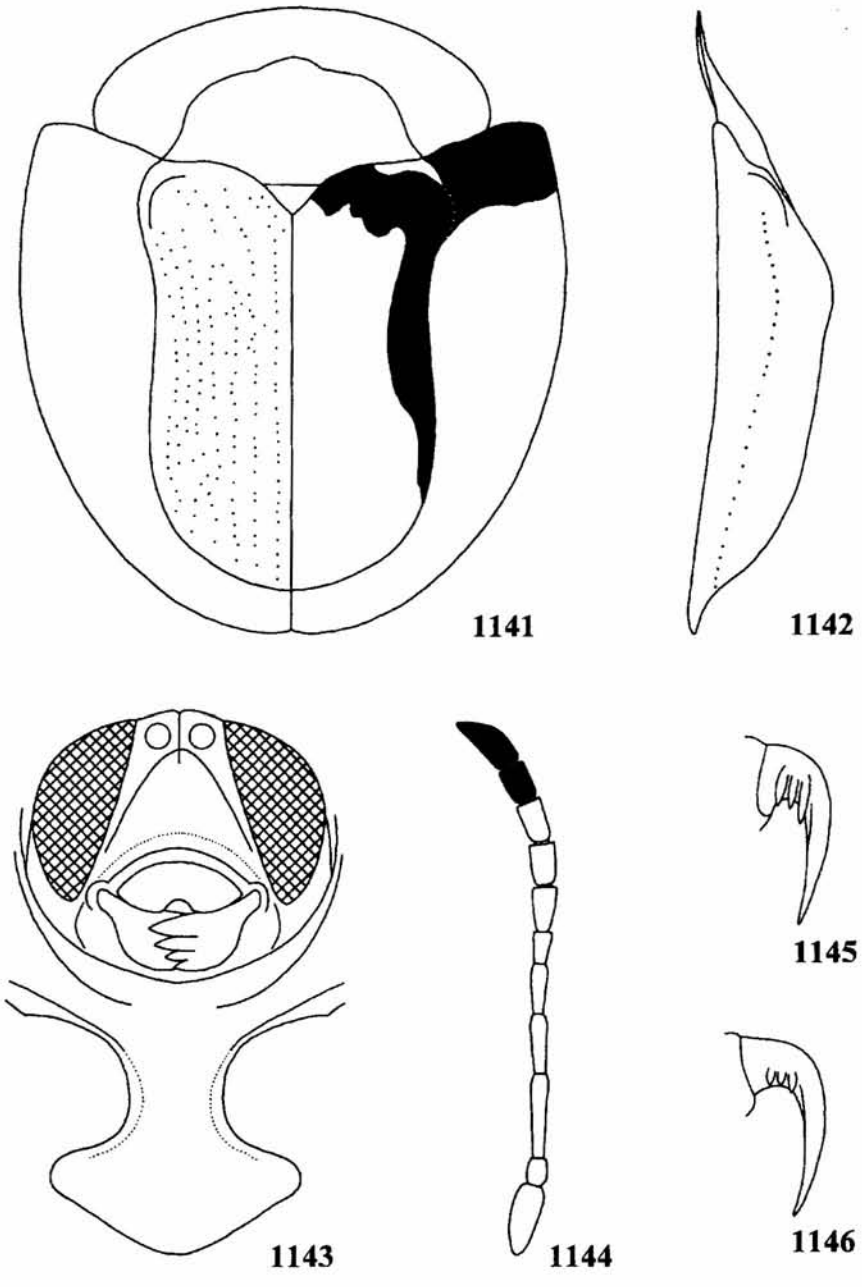
Aspidimorpha (s. str.) *uelensis* SPAETH, 1932

Aspidomorpha uelensis SPAETH, 1932 b: 17 (HT in MRAC), 1934: 386.
Aspidomorpha uelensis ab. *bambesana* SPAETH, 1940: 263 (LT in MRAC, PLT in MM).
Aspidomorpha uellensis [sic] ab. *bambesana*: SHAW, 1968 b: 782.
Aspidomorpha ituriensis SPAETH, 1934: 386 (HT in MM).

DESCRIPTION

Le: male and female: 8.2-10.5 mm, Wi: male and female: 7.6-9.1 mm, Lp: male and female: 2.6-3.4 mm, Wp: male and female: 5.4-6.6 mm, Ex: male and female: 1.9-2.2 mm, Wd: male and female: 3.7-4.8 mm; Le/Wi ratio: male and female: 1.04-1.15, Wi/Wp: male and female: 1.35-1.46, Wp/Lp: male and female: 1.94-2.23. Body almost circular (fig. 1141).

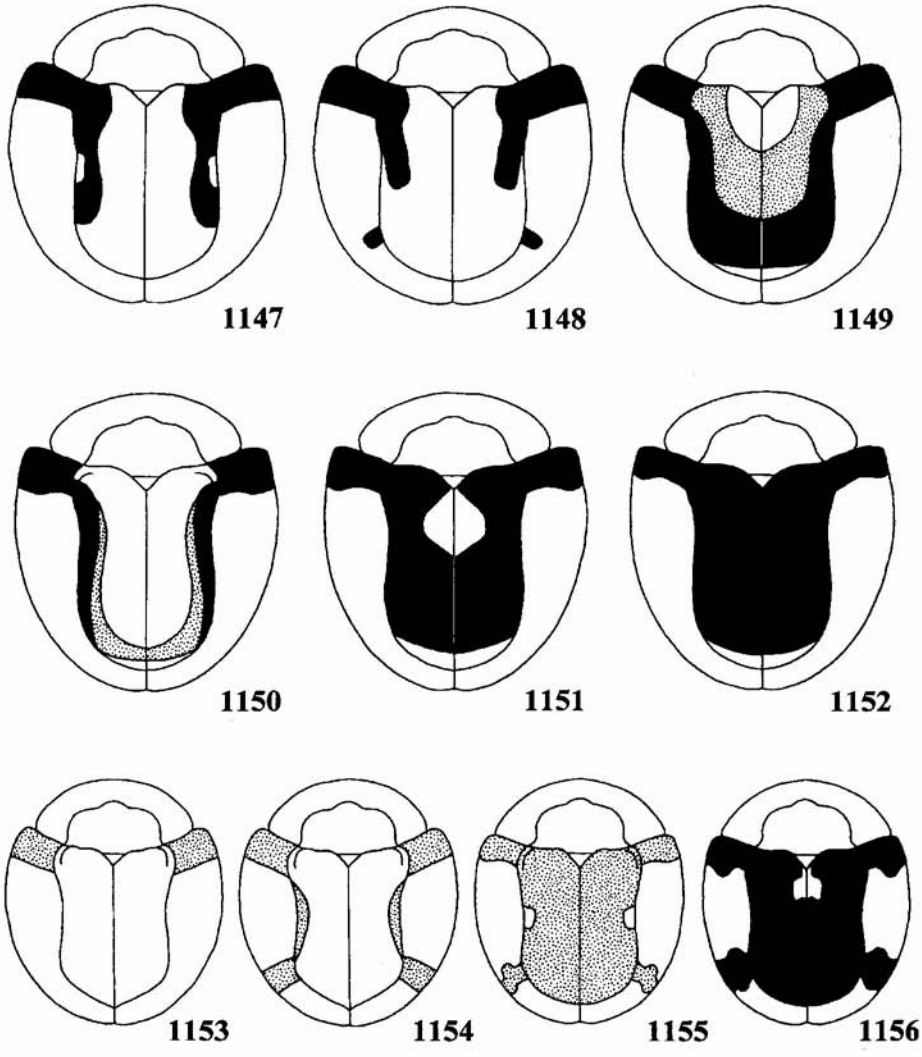
Very variable species. Pronotum uniformly yellow. Elytra yellow, in typical form whole elytral disc black and explanate margin except apex black with large yellow "window", but this form is very rare, more common is form with elytral disc mostly black and black humeral spot (= *ituriensis*), often black on disc forms large ring with yellow postscutellar tubercle and neighbouring area, but with black humeral spot (= *bambesana*). In the palest form disc is mostly yellow, only two submarginal intervals partly or completely black and explanate margin with black humeral spot (figs 1150-1152). Punctures of elytral disc often marked with



1141-1146. *Aspidimorpha uelensis*: 1141 - body in dorsal view, 1142 - body in profile, 1143 – head and prosternum, 1144 – antenna, 1145 – inner side of claw, 1146 – outer side of claw

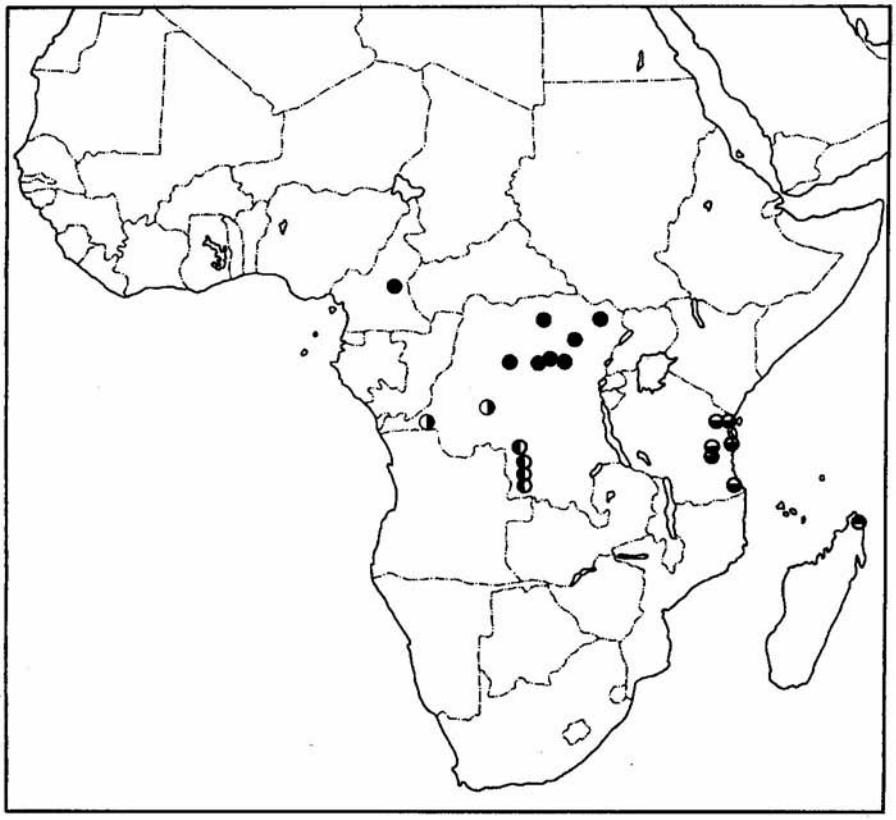
brown. Scutellum in all forms yellow. Ventrites uniformly yellow. Antennae yellow, usually with two last segments black, except yellow ventral part of apex of last segment, sometimes segment 10 partly or completely yellow.

Pronotum broadly ellyptical, with maximum width in 3/5 length, sides narrowly rounded. Disc slightly convex, smooth, shiny, with very small microreticulaton. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.



1147-1156. Variation of dorsal maculation, 1147-1149 - *Aspidimorpha sulfuripennis*, 1150-1152 - *A. uelensis*, 1153-11548 - *A. vernicata*, 1155-1156 - *A. wahlbergi*

Scutellum triangular, impunctate, without transverse sulcus, sometimes impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri subrounded, elytral margins simple. Disc with very low and obtuse postscutellar tubercle (fig. 1142). Principal impression very shallow, barely marked, no posterolateral impression. Puncturation of disc very fine, regular, on slope distinctly finer than in anterior half of disc, sometimes barely marked, in sutural half of disc finer than in lateral part of disc. Scutellar row with 3-6 punctures. Punctures in rows moderately dense, disposed irregularly, distance between punctures two to five times larger than puncture diameter. Rows not impressed, surface of disc regular. Punctures in marginal row deep, c. three to four times larger than in central rows. Intervals flat, in sutural half five to six, in lateral half 1.5-3.0 times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, subhorizontal, forms a very shallow gutter, impunctate, its surface smooth and shiny. Elytral epipleura bare in both sexes.



1157. Distribution of *Aspidimorpha orbifera* (black and white circles), *A. tuberosa* (white and black circles), *A. uelensis* (black circles), *A. uluguruensis* (white above black circles) and *A. undulatipennis* (black above white circle)

Head moderately broad, clypeus c. 1.3-1.4 times wider than long (fig. 1143), glabrous, slightly elevated before antennal insertions, without median impression. Labrum emarginate to 1/3 length. Antennae moderately elongate (fig. 1144), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:50:140:96:80:57:66:66:60:63:113.

Claws pectinate on both sides, inner pecten very short, with four teeth extending to 1/6 length of claw (fig. 1145). Outer pecten with two teeth, c. twice shorter than in inner pecten (fig. 1146).

Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

Cameroon and Zaire (fig. 1157).

REMARKS

It belongs to the *mutata* species group, a subgroup with low and obtuse postscutellar tubercle. The other species of the subgroup are *A. mutata*, *A. adjecta*, *A. atrodorsata* and *A. orbifera*. The first two species distinctly differ in smaller size, and especially in longer pecten of tarsal claw extending to 2/5 length of claw (1/6 in *uelensis*). *A. atrodorsata* differs in elytral disc mostly brownish-black (in *uelensis* never brownish-black), explanate margin of elytra without spots (in *uelensis* always with humeral spot) and smaller size. *A. orbifera* is the most similar, it has a similar size, very low postscutellar tubercle and very short pecten of tarsal claws. Pattern of elytral disc of *orbifera* is very similar to "*bambesana*" form of *A. uelensis*, but in all forms of *A. uelensis* explanate margin is maculate. Both species are also separated geographically, *A. orbifera* is more southern, recorded only from western parts of Shaba Province, while all localities of *A. uelensis* are north of the Zaire River (see fig. 1157).

MATERIAL EXAMINED

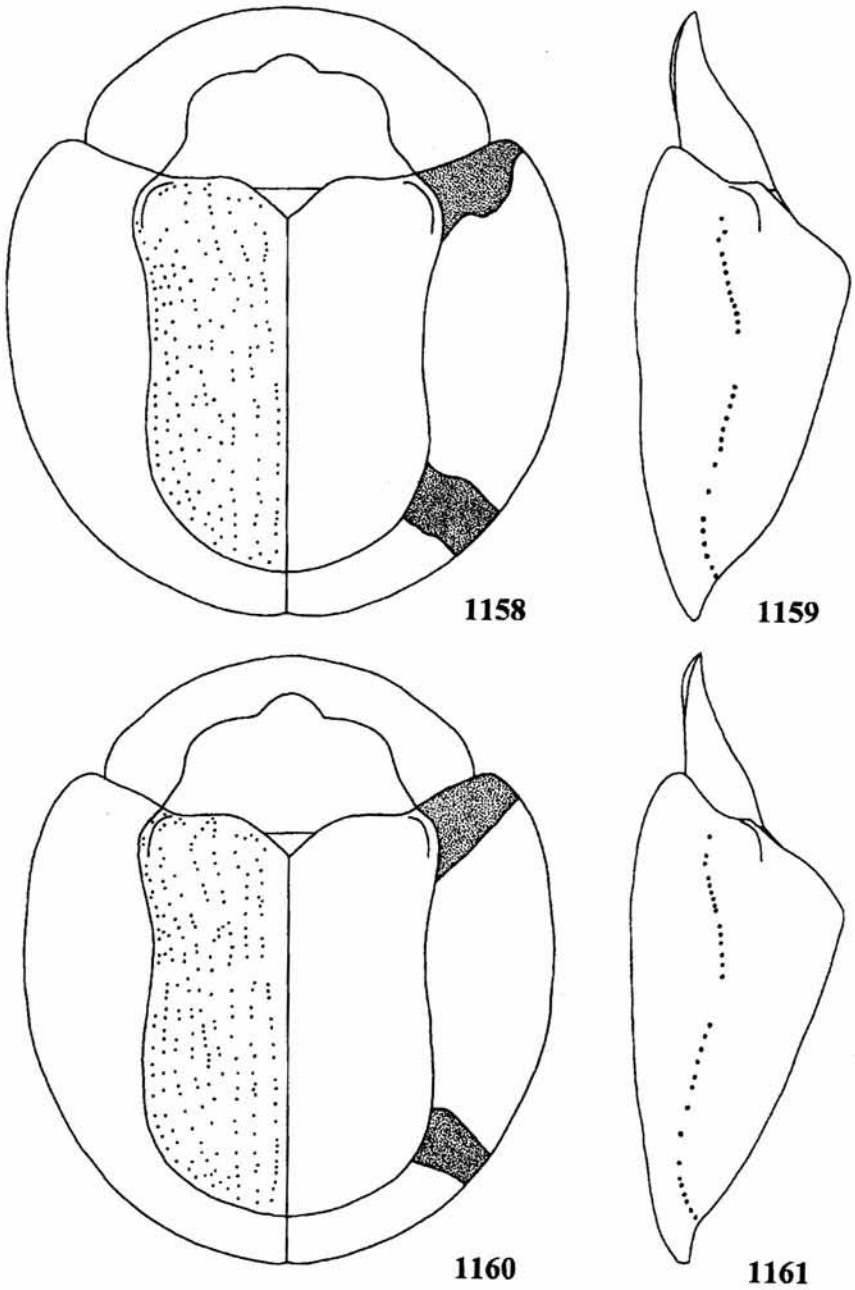
CAMEROON: Sardi n. Dengdeng, IV 1914, 2 (LB).

ZAIRE: Bambesa, 1 (paralectotype of *A. uelensis* ab. *bambesana*, MM), 26 VII 1937, 1, J. VRYDAGH (lectotype of *A. uelensis* ab. *bambesana*, MRAC); Haute Maringa, 1, L. MAJRESSE (IRSN); Haut-Uele, Moto, 1923, 1, L. BURGEON (holotype of *A. uelensis*, MRAC); Ituri, 1, Eldh. (holotype of *A. ituriensis*, MM); Lubutu-Kirundu, 3 (LB); Lulua, Kapanga, 10 XI 1932, 1, XII 1932, 2, I 1933, 1, VIII 1934, 1, F.G. OVERLAET (MRAC); Masua-Lubutu, 12 IX 1929, 1, A. COLLART (IRSN); Utike, 30 X 1929, 1 (LB).

Aspidimorpha (s. str.) *uluguruensis* n. sp.

ETYMOLOGY

Named after its type locality, Uluguru Mts in Tanzania.



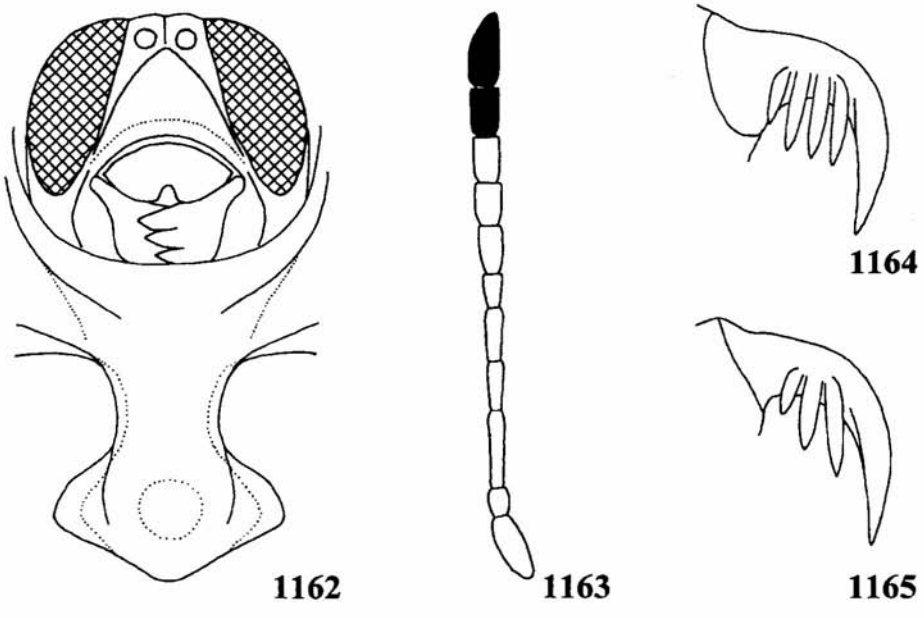
1158-1161. *Aspidimorpha uluguruensis*: 1158, 1160 - body in dorsal view, 1159, 1161 - body in profile: 1158-1159 - male, 1160-1161 - female

DESCRIPTION

Le: male: 9.0-9.6 mm, female: 10.2-11.3 mm, Wi: male: 8.2-8.8 mm, female: 8.6-10.2 mm, Lp: male: 3.0-3.1 mm, female: 3.2-3.5 mm, Wp: male: 6.2-6.3 mm, female: 6.3-7.1 mm, Ex: male: 2.1-2.2 mm, female: 1.9-2.4 mm, Wd: male: 4.2-4.3 mm, female: 4.7-5.2 mm; Le/Wi ratio: male: 1.09-1.10, female: 1.09-1.20, Wi/Wp: male: 1.30-1.42, female: 1.28-1.44, Wp/Lp: male: 2.00-2.07, female: 1.97-2.09. Body short-oval to almost circular (figs 1158, 1160).

Pronotum uniformly yellow. Elytra yellow with rather constant pattern. Disc yellow to argillaceous, each puncture with darker, reddish to brown centre, explanate margin with darker yellow to argillaceous moderately broad to broad humeral and posterolateral spots, without sutural spot. Margins of explanate margin usually slightly darker yellow than internal part. Occasionally posterolateral spots are reduced and humeral spots are diagonal. Scutellum yellow to argillaceous. Clypeus yellow, prosternum and mesosternum in the middle often brown to black, or only metasternum in the middle infuscate, or all ventrites yellow. Abdomen always yellow. Antennae yellow, usually two last segments mostly brown to black, occasionally segment 10 mostly yellow and only slightly infuscate apically. Legs including coxae yellow.

Pronotum semicircular, with maximum width almost at base. Disc slightly convex, smooth, shiny, with very small microreticulaton. Explanate margin distinctly bordered from disc, subhorizontal, smooth, shiny.



1162-1165. *Aspidimorpha uluguruensis*: 1162 – head and prosternum, 1163 – antenna, 1164 – inner side of claw, 1165 – outer side of claw

Scutellum triangular, impunctate, without transverse sulcus, sometimes with oblique impressions. Base of elytra serrulate, moderately wider than base of pronotum, humeri rounded, elytral margins simple. Disc unevenly convex, strongly angulate in postscutellar point, the top of angulation obtuse, profile usually slightly concave behind the top of angulation (figs 1159, 1161). Disc with small but distinct principal impression, very shallow scutellar impressions, but usually without posterolateral impression, surface of lateral part of disc usually slightly irregular. Puncturation of disc mostly fine, on sides moderate, regular, on slope slightly to twice finer than in anterior half of disc, in sutural half of disc c. thrice finer than in lateral part of disc. Scutellar row with 4-6 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-5, distance between punctures or their groups twice to thrice larger than puncture diameter. Rows not or slightly impressed. Punctures in marginal row deep, three to four times larger than in central rows. Intervals flat, in sutural half c. four times, in lateral half twice to thrice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral fold of marginal interval low to moderate. Explanate margin very broad, moderately declivous, does not form a gutter, impunctate, its surface smooth and shiny. Apex of elytral epipleura in male bare, in female densely pubescent.

Head broad, clypeus c. 1.7 -1.8 times wider than long (fig. 1162), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/3 length. Antennae moderately elongate (fig. 1163), extending to mid coxa, length ratio of antennal segments: 100:41:117:70:65: 48:61:56:52:56:100.

Claws pectinate on both sides, inner pecten very long, with four teeth extending to c. 2/5 length of claw (fig. 1164), outer pecten with three teeth, first extending to 2/5-1/2 length of claw, remainder gradually smaller (fig. 1165).

Sexual dimorphism distinct. Male slightly stouter with last antennal segment slightly longer than in female, and with bare apex of elytral epipleura, pubescent in female.

DISTRIBUTION

Mountain regions of Tanzania (fig. 1157).

REMARKS

It belongs to the *quadriramosa* group. It is well distinct in quite constant, pale elytral pattern, never with datrk brown or black. The elytral surface is less glabrous than in central African species of the *fausta* subgroup, only *congoana* form of *A. quadriramosa* and *A. natalensis* are similar but differ in postscutellar tubercle more conical and bare apex of female epipleura (in *uluguruensis* pubescent), *A. quadriramosa* differs also in base of elytra distinctly wider than base of pronotum (in *uluguruensis* only moderately wider); all are separated geographically. A special problem is distinguishing small males of *A. uluguruensis* from *A. infuscata* of the *dissentanea* group. In *A. infuscata* ventrites are always partly

black, in *uluguruensis* usually uniformly yellow. Elytral angulation in *A. uluguruensis* is slightly higher, with profile behind the top of convexity slightly concave, in *infuscata* straight. Females of both these species differ in pubescent apex of epipleura: pubescent in *uluguruensis*, bare in *infuscata*.

MATERIAL EXAMINED

TANZANIA: holotype: Mts. Uluguru, Kinola, for. transition, alt. 1500-1750 m, 6-13 VI 1971, 1, Mission Mts Uluguru, L. BERGER, N. LELEUP and J. DEBECKER (MRAC); paratypes: Afr. or. Bennigs., 2 (LB); Amani, 900 m, X-XII 1905, 2, Ch. SCHRÖDER (ZMHU, LB); Dar-es-Salaam, 1 (ZMHU); Dtsch. O. Afrika, 1 (FMNH); Kibateni, 10 VI 1904, 1 (ZMHU); Magila bis Korogwe, V 1893, 1, O. NEUMANN (ZMHU); Makonde, n. Mikindani, 22-26 XII 1910, 1, H. GROTE (LB); Mkulumusi, XII 1931, 1 (LB); Pugu, VIII 1911, 1 (ZMHU), III 1902, 1, HOLTZ (ZMHU); Uluguru Mts., Kimboza Forest, 250 m, 18 VII 1981, 1, M. STOLTZE and N. SCHARFF (ZMC); O Usambara, 1, E. FISCHER (ZMHU); Zanzibar, Marno, 1872, 2 (LB).

VARIA: paratypes: Afr. or., 3, BENIGS. (ZMHU).

Aspidimorpha (s. str.) *undulatipennis* SPAETH, 1911

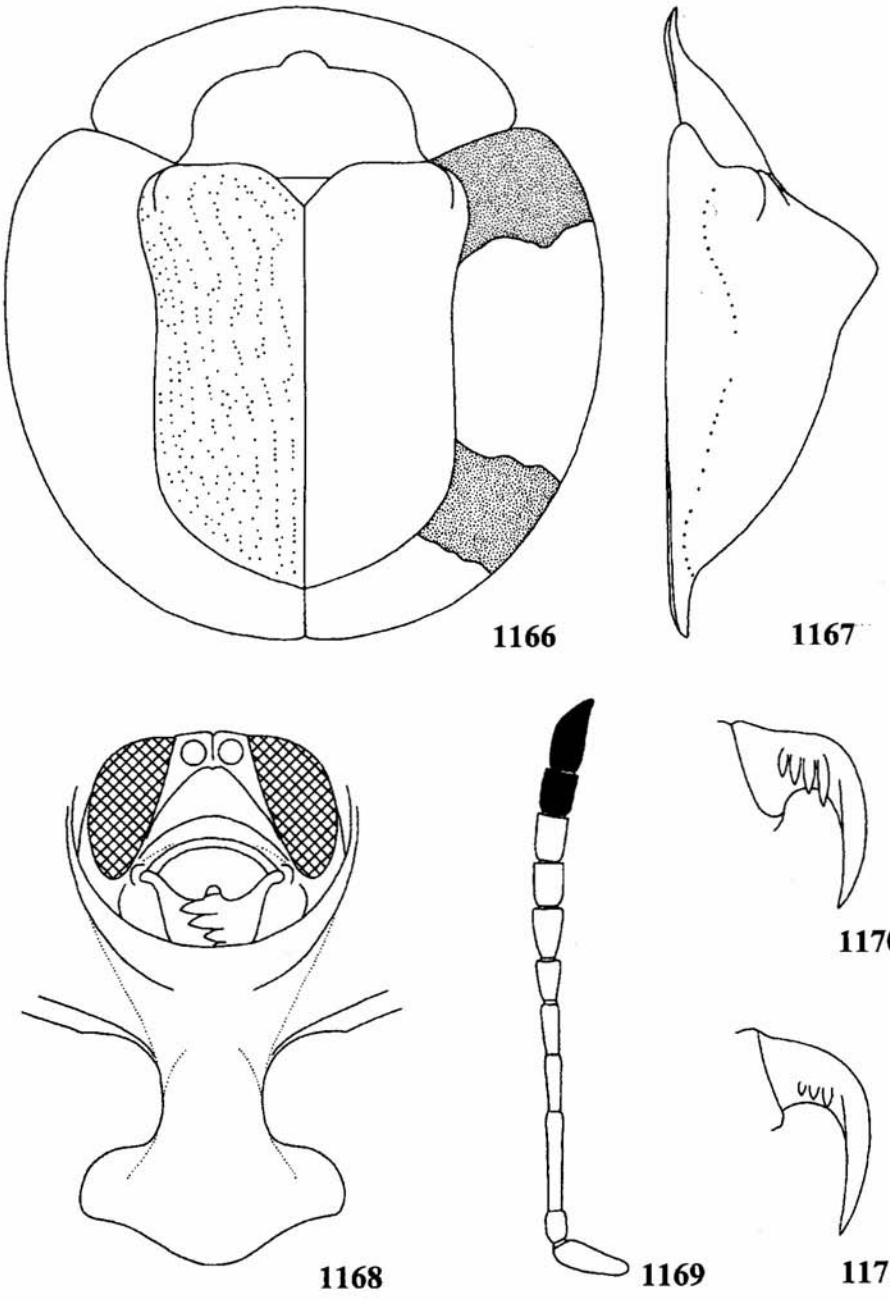
Aspidomorpha undulatipennis SPAETH, 1911: 264 (ST in MM, MNHN, MRAC, ZMHU); HINCKS, 1962: 246.
Aspidomorpha (*Aspidomorpha*) *undulatipennis*: SPAETH, 1914 b: 78.

DESCRIPTION

Le: male: 13.7-13.8, female: 11.6 mm, Wi: male: 12.8-12.9 mm, female: 10.8 mm, Lp: male: 4.0-4.1 female: 3.4 mm, Wp: male: 9.1-9.4 mm, female: 7.4 mm, Ex: male: 3.1-3.2 mm, female: 2.7 mm, Wd: male: 6.4-6.5 mm, female: 5.5 mm. Le/Wi: male: 1.06-1.08, female: 1.07, Wi/Wp: male: 1.37-1.41, female: 1.46; Wp/Lp: male: 2.28-2.29, female: 2.18. Body almost circular (fig. 1166).

Pronotum uniformly yellow, disc darker, argillaceous. Elytral disc uniformly argillaceous to brown. Explanate margin yellow, with broad, brown humeral and posterolateral spots. Humeral spot widened posterad. Margin of explanate margin darker yellow than central part of the explanate margin. Clypeus yellow to mostly black, in extreme cases only postantennal area yellow. Ventrites uniformly yellow or pro-, meso- and metathorax black except yellow sides and lateral plates. Antennae yellow with two last segments black, except ventral side of apex of the last segment. Legs uniformly yellow.

Pronotum narrowly ellyptical, with maximum width almost at base, hind angles form an angle of 85-90°. Disc moderately convex, smooth, glabrous, with very small microreticulaton. Explanate margin indistinctly to distinctly bordered from disc, subhorizontal, in anterior part with tendency to form a gutter, its surface smooth, shiny.



1166-1171. *Aspidimorpha undulatipennis*: 1166 - body in dorsal view, 1167 - body in profile, 1168 – head and prosternum, 1169 – antenna, 1170 – inner side of claw, 1171 – outer side of claw

Scutellum triangular, impunctate, without transverse sulcus, not impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri rounded, elytral margins simple to slightly marginate. Disc unevenly convex, with very large, conical postscutellar tubercle, top of the tubercle slightly obtuse, profile behind the tubercle deeply concave (fig. 1167). Discal surface completely irregular with numerous irregular folds, appears more or less rugose, principal impression disappearing among folds. Puncturation of disc fine to moderate, rows slightly impressed, punctures on slope c. twice smaller than in anterior half of disc, in sutural half of disc c. twice to thrice smaller than in lateral part of disc. Scutellar row with 5-7 punctures. Punctures in rows moderately dense to dense, disposed partly irregularly, grouped in 2-6, groups separated by folds, distance between punctures in groups twice to thrice larger than puncture diameter, only in sutural row slightly denser. Punctures in marginal row c. twice larger than in submarginal rows. Intervals slightly convex, in sutural half of disc three to five times, in lateral half of disc c. twice wider than rows, their surface smooth, slightly dull. Lateral fold of marginal interval narrow and moderately convex. Explanate margin extremely broad, almost horizontal with tendency to form a gutter, especially in males, impunctate, its surface slightly irregular, less glabrous than pronotum. Apex of elytral epipleura bare in male, sparsely pubescent in female.

Head moderately broad, clypeus 1.5 -1.6 times wider than long (fig. 1168), glabrous, slightly elevated before antennal insertions, usually shallowly impressed in the middle. Labrum emarginate to 1/4 length. Antennae moderate (fig. 1169), length ratio of antennal segments: 100:45:125:75:73:52:72:60:62:56:100.

Claws pectinate on both sides, inner pecten short, with four to five teeth extending to 1/6-1/5 length of claw (fig. 1170), in female pecten hardly marked, outer pecten with two teeth, in male only slightly extending behind the margin of claw (fig. 1171), in female almost visible.

Sexual dimorphism distinct. Males stouter and more rounded, with explanate margin of elytra more gutter-like, and bare apex of elytral epipleura.

DISTRIBUTION

Madagascar (fig. 1157).

REMARKS

It is a member of the *pontifex* group occurring only in Madagascar. The large body and wrinkled elytral disc place this species close only to *A. pontifex* and *A. rubroornata.* The latter species distinctly differs in yellow elytral relief on purple red groundcolour (in *undulatipennis* elytral disc unformly argillaceous to brown). *A. pontifex* is larger, with length usually above 13.8 mm (in female often above 14.5 mm) and elytral surface with mostly irregular rows of punctures, appearing rugose (in *undulatipennis* wrinkled but not rugose). Base of elytra is in *A. undulatipennis* is slightly wider than base of pronotum with well marked cleft

between pronotum and elytra, while in *pontifex* base of elytra is as wide as base of pronotum and body outline is almost regularly circular, without cleft between pronotum and elytra.

MATERIAL EXAMINED

MADAGASCAR: Diego Suarez, 6, coll. DONCKIER (syntypes, 5 MM, 1 NRS), 1 (syntype, ZMHU), 1 (syntype, MNHN), 1, JUNOD (syntype, MRAC); Madagascar, 1902, 1 (syntype, MM), 1 (LB).

Aspidimorpha (s. str.) *vernicata* FAIRMAIRE, 1901

Aspidomorpha vernicata FAIRMAIRE, 1901: 246 (ST in MNHN); WEISE, 1910: 480; SPAETH, 1932 b: 4; 1934: 385; HINCKS, 1962: 247.
Aspidomorpha (*Aspidomorpha*) *vernicata*: SPAETH, 1914 b: 78.
Aspidomorpha Nickerli SPAETH, 1905: 114 (ST in MM, ZMHU), **n. syn.**.
Aspidomorpha (*Aspidomorpha*) *vernicata* var. *Nickerli*: SPAETH, 1914 b: 78.
Aspidomorpha Nickerli var. *scitula* SPAETH, 1905: 114 (HT in MM), 1914 b: 78 (as syn. of *vernicata*).

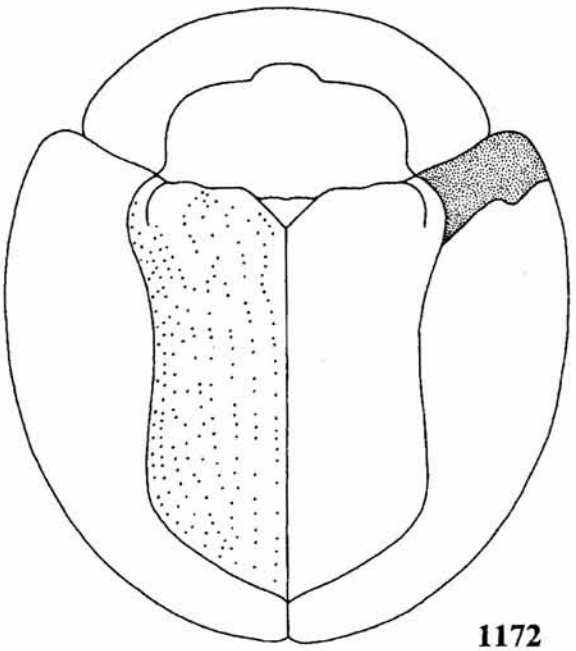
DESCRIPTION

Le: male and female: 7.1-8.7 mm, Wi: male and female: 6.2-7.4 mm, Lp: male and female: 2.2-2.8 mm, Wp: male and female: 4.6-5.6 mm, Ex: male and female: 1.6-1.9 mm, Wd: male and female: 2.9-3.5 mm; Le/Wi ratio: male and female: 1.13-1.18, Wi/Wp: male and female: 1.30-1.39, Wp/Lp: male and female: 1.96-2.13. Body short oval (fig. 1172)

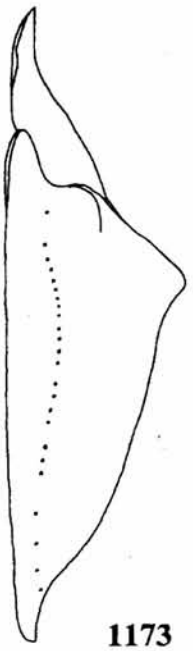
Pronotum uniformly yellow. Elytra yellow with reddish-brown humeral and posterolateral spots, posterolateral spot often obsolete (= *nickerli*), occasionally humeral spot is shortened extending for only half width of explanate margin of elytra (figs 1153-1154). Punctures of elytral disc often marked with brown. Often disc yellowish-brown with darker brown band along sides. Scutellum yellow. Ventrites uniformly yellow. Antennae yellow, two last segments, except ventral part of apex of last segment, black, sometimes base of segment 10 yellow.

Pronotum broadly ellyptical, with maximum width in 3/5 length, sides angulate. Disc slightly convex, smooth, shiny, with very small microreticulaton. Explanate margin indistinctly bordered from disc, flat, smooth, shiny.

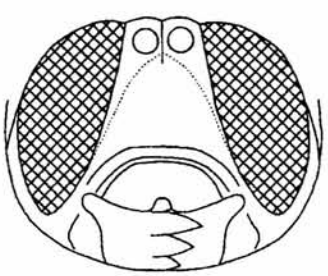
Scutellum triangular, impunctate, without transverse sulcus, sometimes impressed in the middle. Base of elytra serrulate, distinctly wider than base of pronotum, humeri rounded, elytral margins simple. Disc with large, sharp, conical postscutellar tubercle (fig. 1173). Principal impression small but distinct, no posterolateral impression. Puncturation of disc fine, regular, on slope distinctly finer than in anterior half of disc, sometimes barely marked, in sutural half of disc finer than in lateral part of disc. Scutellar row with 4-5 punctures. Punctures in rows moderately dense, disposed irregularly, partly grouped in 2-4, distance between punctures or their groups two to four times larger than puncture diam-

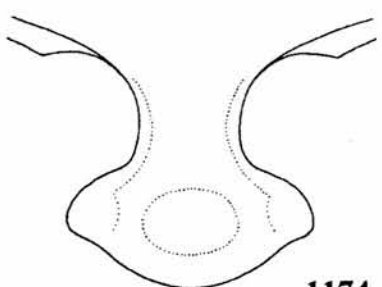


1172

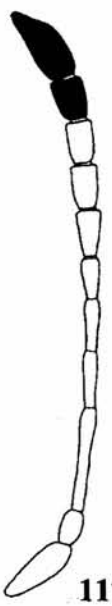


1173





1174



1175

1176

1177

1172-1177. *Aspidimorpha vernicata*: 1172 - body in dorsal view, 1173 - body in profile, 1174 – head and prosternum, 1175 – antenna, 1176 – inner side of claw, 1177 – outer side of claw

eter. Rows not impressed, surface of disc regular. Punctures in marginal row deep, c. three to four times larger than in central rows. Intervals flat, in sutural half four to five, in lateral half 1.5-2.0 times wider than rows, their surface smooth, shiny, with very small microreticulation. Explanate margin very broad, subhorizontal, forms a shallow gutter, impunctate, its surface smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus c. 1.1-1.2 times wider than long (fig. 1174), glabrous, slightly elevated before antennal insertions, without median impression. Labrum emarginate to 1/4 length. Antennae moderately elongate (fig. 1175), extending 1/3 length of metasternum, length ratio of antennal segments: 100:48:128:76:72:48: 68:60:64:60:100.

Claws pectinate on both sides, inner pecten moderately long, with three teeth, first extending to 1/3 length of claw, two internal gradually shorter (fig. 1176). Outer pecten with two teeth, c. twice shorter than in inner pecten (fig. 1177).

Sexual dimorphism indistinct. Male slightly stouter with last antennal segment slightly longer than in female.

DISTRIBUTION

Madagascar (fig. 1184).

REMARKS

It belongs to the *mutata* species group. It is one of the smallest species of the group, but with distinct conical postscutellar tubercle. A similar postscutellar tubercle occurs also in *A. laevigata*, *A. togoensis*, *A. submutata*, *A. obtusangula*, *A. muehlei*, *A. splendidula*, *A. semiramosa* and *A. dilecta*. *A. vernicata* is the only species of the group with range limited to Madagascar. It differs from most species of the group in the presence of usually both humeral and posterolateral spots of explanate margin of elytra. Only *A. splendidula* has similarly coloured elytra but differs in usually only last antennal segment black (in *vernicata* usually two last antennal segments are black) and longer pecten of tarsal claws, extending to half length of claw (in *vernicata* to 1/3 length of claw). Common form of *A. vernicata* with reduced posterolateral spot is very similar to *A. submutata* but the latter species has usually only last antennal segment black and slightly longer pecten of tarsal claws. *A. splendidula* and *A. submutata* are exclusively African species.

MATERIAL EXAMINED

MADAGASCAR: Cap de Ambre, 1, D. SCHNEIDER (syntype of *A. nickerli*, ZMHU); Diego Suarez, 1, (syntype of *A. nickerli*, MM), 1 (LB); Fampanambo, I 1961, 3, J. VADON (MRAC, LB) ; Foret de Fito, VI-VII 1897, 2 (MKB); Madagascar, 2, NICKERL (syntypes of *A. nickerli*, MM), 1, VOHEMAR (IRSN); Madagascar, 1902, 1 (holotype of *A. nickerli* var. *scitula*, MM); Maroantsetra, 1 (HNHM), 1 (LB), II 1919, 3, coll. LE MOULT (IRSN); Tamatave et foret Alahakato, I-VII 1888, 4 (MRAC, LB).

Aspidimorpha (s. str.) *wahlbergi* BOHEMAN, 1854

Aspidomorpha Wahlbergi BOHEMAN, 1854: 253 (HT in NRS); 1856: 105; 1862: 258.
Aspidomorpha (*Aspidomorpha*) *Wahlbergi*: SPAETH, 1914 b: 78.
Aspidomorpha nupta SPAETH, 1911: 266 (LT and PLT in MM), 1914 b: 76, **n. syn.**
Aspidomorpha (*Aspidomorpha*) *nupta*: SPAETH, 1914 b: 76.

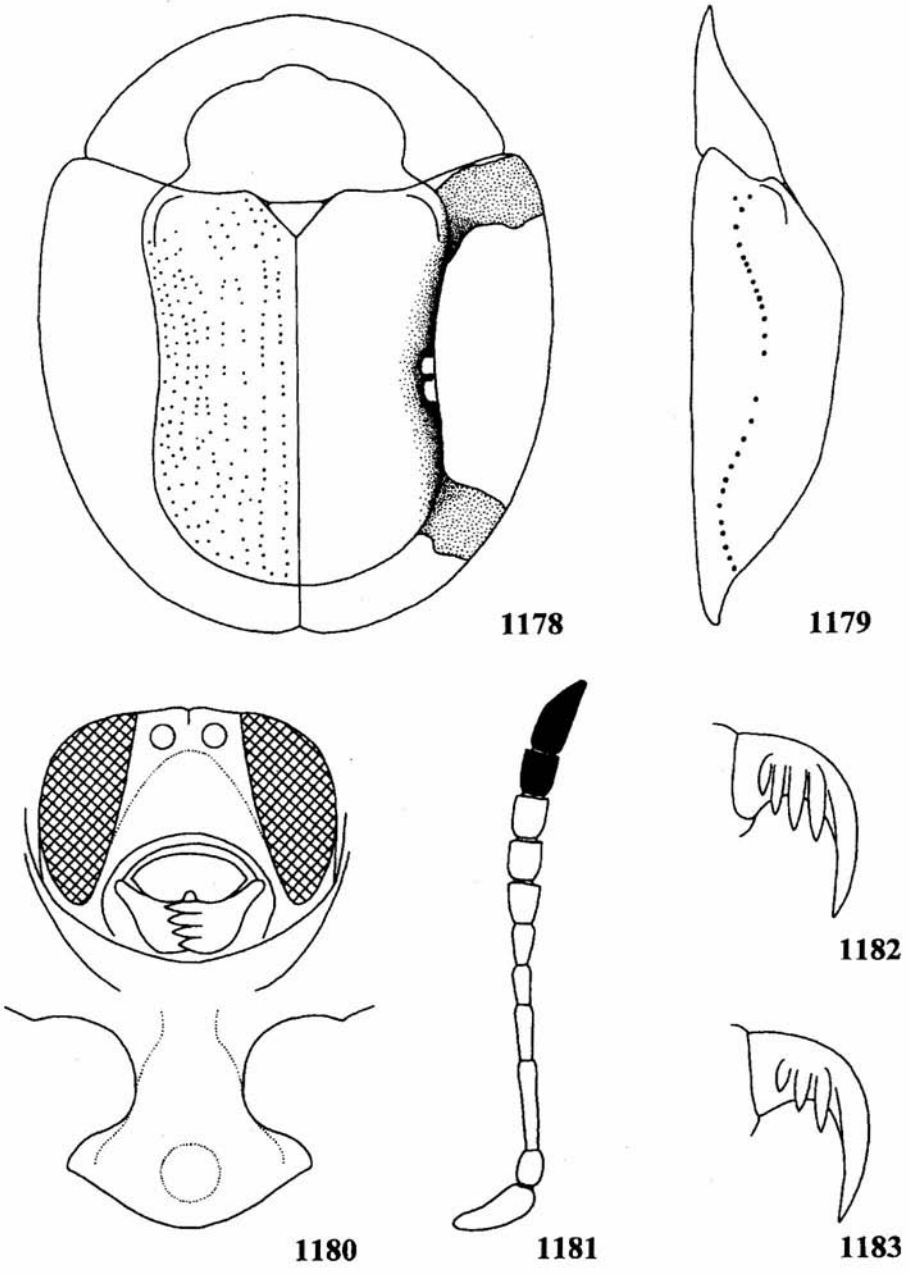
DESCRIPTION

Le: male and female: 6.8-7.3 mm, Wi: male and female: 5.5-6.1 mm, Lp: male and female: 2.1-2.3 mm, Wp: male and female: 4.5-4.9 mm, Ex: male and female: 1.4 mm, Wd: male and female: 2.9-3.2 mm, Le/Wi ratio: male and female: 1.20-1.24, Wi/Wp: male and female: 1.22-1.24, Wp/Lp: male and female: 2.13-2.14. Body short-oval (fig. 1178).

Pronotum uniformly yellow. Elytra with variable pattern (figs 1155-1156). Disc yellow to argillaceous, each puncture often with darker, reddish or brown centre and areole. In dark specimens disc with brown marble pattern, brown spots on sides and slope often coalescent and yellow is reduced to spot behind scutellum marked in postscutellar point by brown spot, in extreme cases almost whole disc reddish-brown, brown or black except yellow, small spot behind scutellum. Explanate margin yellow, with moderately broad to broad, argillaceous to brown humeral and posterolateral spots, always without sutural spot. Margins of explanate margin not darker yellow than ventral half of explanate margin. Humeral spot often widened posterad, hammer-shaped. Clypeus yellow. Ventrites uniformly yellow. Legs uniformly yellow. Antennae mostly yellow, two last antennal segments black except yellow ventral side of apex of the last segment black, base of segment 10 sometimes yellowish.

Pronotum semicircular, with maximum width at base, hind angles subangulate, forming blunt angle of about 90-95°. Disc depressed, smooth, shiny, with very small microreticulation. Explanate margin indistinctly bordered from disc, almost horizontal, smooth, shiny.

Scutellum triangular, without transverse sulcus or impression. Base of elytra serrulate, slightly to moderately wider than base of pronotum, elytral margins simple. Disc depressed (fig. 1179), the most depressed in the genus, with small and very shallow principal impression, without lateral impressions, surface of lateral part of disc regular. Puncturation of disc mostly regular, punctures extremely fine, only on sides fine, on slope barely marked, distinctly smaller than in anterior half of disc, in sutural half of disc two to three times smaller than in lateral part of disc. Scutellar row with 4-6 punctures. Punctures in rows moderately dense, disposed partly irregularly, grouped in 2-4, distance between punctures in groups c. twice to thrice larger than puncture diameter, between groups three to seven times larger than puncture diameter. Marginal row deep, its punctures not to slightly larger than in submarginal row. Intervals flat, in sutural half of disc four to six times wider than rows, on sides twice to thrice wider than rows, their surface smooth, shiny, with very small microreticulation. Lateral fold



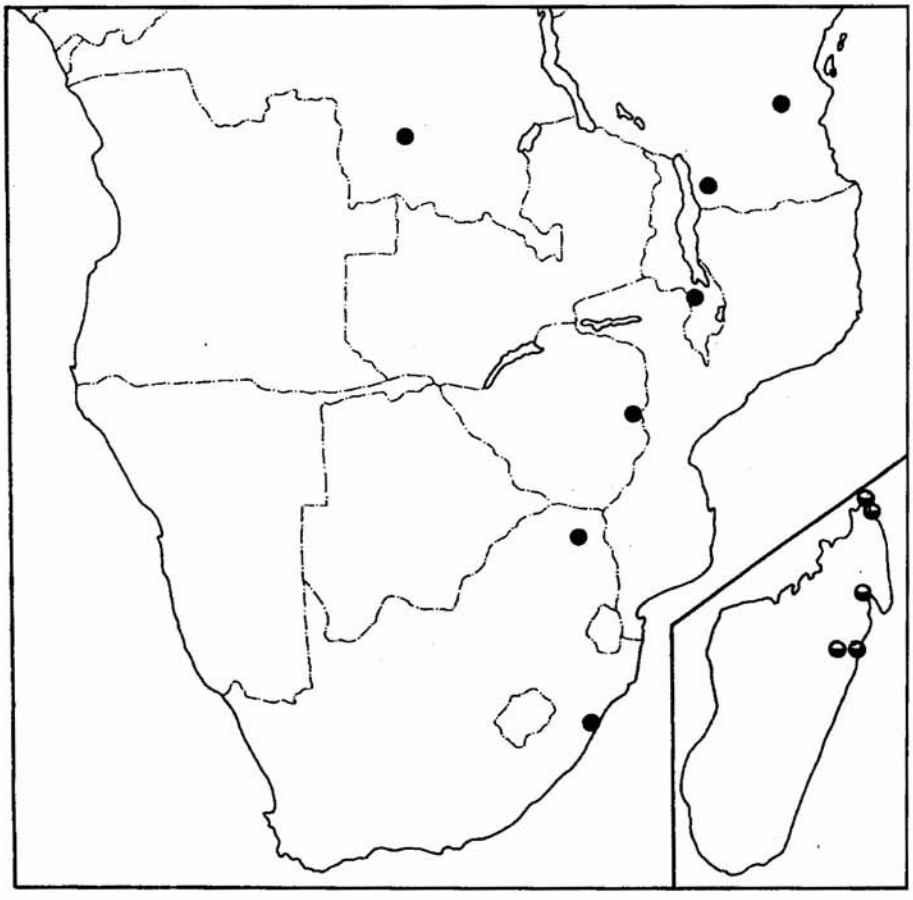
1178-1183. *Aspidimorpha wahlbergi*: 1178 - body in dorsal view, 1179 - body in profile, 1180 – head and prosternum, 1181 – antenna, 1182 – inner side of claw, 1183 – outer side of claw

of explanate margin low and narrow. Explanate margin broad, almost horizontal, with tendency to form a shallow gutter, impunctate, smooth and shiny. Elytral epipleura bare in both sexes.

Head moderately broad, clypeus 1.5-1.6 times wider than long (fig. 1180), glabrous, slightly elevated before antennal insertions, without or with shallow median impression. Labrum emarginate to 1/5-1/4 length. Antennae moderately elongate (fig. 1181), extending to 1/3 length of metasternum, length ratio of antennal segments: 100:53:127:73:66:53:63:57:53:62:120.

Claws pectinate on both sides, inner pecten with three very long teeth extending to 1/2-2/3 length of claw (fig. 1182). Outer pecten with two teeth, extending to 1/3-2/5 length of claw (fig. 1183).

Sexual dimorphism barely marked. Males slightly stouter than females.



1184. Distribution of *Aspidimorpha vernicata* (white above black circles) and *A. wahlbergi* (black circles)

DISTRIBUTION

S Zaire, Tanzania, Malawi, Zimbabwe and South Africa: Transvaal (fig. 1184).

REMARKS

It is the smallest and the most depressed species of the *cincta* group. The smallest specimens of *A. cincta* are similar but they have length always above 7.5 mm while in *A. wahlbergi* the largest specimens have length below 7.5 mm. Both species are separated geographically.

MATERIAL EXAMINED

MALAWI: 5 km W Golomoti, 22-23 I 1985, 1, C.L. BELLAMY (ER).

SOUTH AFRICA: Debegeni Waterfall, Woodbush Forest, XII 1965, 1, L. SCHULZE (TM); Pt. Nat., 1, "I. VAHLB." (holotype of *Aspidomorpha wahlbergi*, NRS); Port Natal, 1 (MM); Transvaal, 1 km N Mac-Mac, 24 X 1983, 3, C.L. BELLAMY (ER, LB); Zoutpansberg, 800 m, 1, REINECK (lectotype of *A. nupta*, MM).

TANZANIA: Kigonsera, 1 (ZSM), 1905, 1 (paralectotype of *A. nupta*, MM); Uluguru Mts., Teolo, VI 1981, 1 (LB).

ZAIRE: Katanga, Luembe, VIII-IX 1956, 1, Th. DE CATERS (MRAC).

ZIMBABWE: Umtali, Mashonaland, 1, G. MARSHALL (BMNH).

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