Genus	Vol. 3(3): 121-184	Wrocław, 15 IX 1992

A review of the tribe *Aspidomorphini* of the Australian Region and Papuan Subregion (*Coleoptera*: *Chrysomelidae*: *Cassidinae*)

LECH BOROWIEC

Zoological Institute, University of Wrocław, Sienkiewicza 21, 50-335 Wrocław

ABSTRACT. Australian and Papuan species of the genera *Aspidimorpha* (15 spp.) and *Laccoptera* (1 sp.) are reviewed. *Aspidimorpha maffinbayensis* and *A. angoramensis*, both from New Guinea, are described as new to the science, and *Neoaspidimorpha* new subgenus is proposed for *A. septemcostata* WAGEN. The following new synonyms are proposed: *Aspidimorpha aurata* MONTROUZIER, 1855 (= *Aspidomorpha socia* BOHEMAN, 1856, = *A. opima* BOHEMAN, 1862, = *A. socia staudingeri* SPAETH, 1903, = *A. socia staudingeri* var. *flavovariegata* SPAETH, 1903, = *A. socia yulensis* SPAETH, 1903), *A. australasiae* (BOISDUVAL, 1835) (= *Cassida guerini* BOISDUVAL, 1835, = *A. australasiae ramifera* SPAETH, 1903, = *A. australasiae ramifera* var. *subdivisa* SPAETH, 1903, = *A. australasiae flyensis* SPAETH, 1903), *A. deusta* (FABRICIUS, 1775) (= *Cassida nigrodorsata* BOHEMAN, 1856), *A. interrupta* (FABRICIUS, 1775) (= *A. badeni* WAGENER, 1877, = *A. planipennis* BLACKBURN, 1896), *A. maculatissima* (BOHEMAN, 1856) (= *Cassida macleayi* BOHEMAN, 1856, = *C. tetrica* BOHEMAN, 1856, = *A. maculatissima* ssp. *tamifera* SPAETH, 1915), *A. novaeguineensis* (BOISDUVAL, 1835) (= *A. flavodorsata* WAGENER, 1881, = *A. quinqueguttata* WEISE, 1899, = *A. novaeguineensis quinqueguttata* var. *meraukensis* SPAETH, 1909), *A. punctum* (FABRICIUS, 1801) (= *A. punctum* var. *gibbosula* SPAETH, 1903, = *A. punctum* var. *lunifera* SPAETH, 1903, = *A. punctum* var. *diabolica* SPAETH, 1903, = *A. punctum munda* var. *submunda* SPAETH, 1909), *A. quadriradiata* BOHEMAN, 1854 (= *A. lauta* BLACKBURN, 1896); *A. denticollis* SPAETH, 1932 (= *Dianaspis bifoveolata* CHEN et ZIA, 1984), *Orphonodella* SPAETH, 1902 (= *Indocassis* SPAETH, 1952, = *Eulaccoptera* HINCKS, 1952)

INTRODUCTION

This is the fourth paper concerning the revision of the Australopapuan *Cassidinae*. The previous papers dealt with revisions of the genera *Cassida*, *Emdenia*, *Austropsecadia* and *Lorentzocassis* (BOROWIEC, 1990, 1991 a, b).

The Australopapuan species of the tribe *Aspidomorphini* belong to two genera - *Aspidimorpha* Hope and *Laccoptera* BOHEMAN. They have never been revised. The first three species - *A. deusta*, *A. interrupta* and *A. miliaris* - were described by FABRICIUS (1775) in the genus *Cassida* L. In 1801, WEBER described *A. adhaerens* (as *Cassida*) and

FABRICIUS described *A. punctum* (also as *Cassida*). Several species were described by BOISDUVAL (1835) in his monograph of the entomofauna of the Pacific Region. Before the monograph of the World *Cassidinae* published by BOHEMAN (1854, 1855, 1856, 1862) three species had been described by BLANCHARD (1853). BOHEMAN recorded most of the above species and described 12 more. At the same time MONTROUZIER (1855) described another two species, and till the end of 19th century five species were described by WAGENER (1881, 1887), two by BLACKBURN (1896), one by WEISE (1899 b), and one by SPAETH (1898). An important work on Papuan species was published by SPAETH (1903). He described 10 new taxa of species rank, discussed previously known species, and proposed some new synonyms. After this work, only two new taxa were added (SPAETH, 1909). In addition to above mentioned papers only a few faunistic works were published on Australopapuan region (SPAETH, 1906, 1913, 1915, 1919, 1932 a, KIMOTO et al., 1984, HAWKESWOOD, 1988). The bionomics was studied in detail only for two species - *A. adhaerens* by SIMON THOMAS (1964), and *A. maculatissima* by HAWKESWOOD (1982). SIMON THOMAS (1964) studied also genetics of colour aberrations of *A. adhaerens*, and established synonymy of its infraspecific forms.

STUDY AREA AND MATERIALS

Like in my paper on the genus *Cassida* L. (BOROWIEC, 1990), the Australopapuan Region comprises Australia and adjacent islands, New Guinea and adjacent islands, Solomon Is. and New Caledonia. The islands west of Australia and New Guinea (Timor, Molukkas etc.) have been excluded because their cassids have no connections with Australian fauna, and are more related to the Oriental fauna or have endemic species.

I had no possibility to study the types of all revieved taxa, and part of synonyms were adopted from SPAETH's papers (1903, 1914). I have examined specimens from the following institutions and private collections (names of curators in brackets):

ANIC - Australian National Insect Collection (J. F. LAWRENCE),
BM - Bishop Museum, Honolulu (G. A. SAMUELSON),
BMNH - British Museum, Natural History, London (R. J. ALDRIDGE),
CAS - California Academy of Sciences, San Francisco (D. KAVANAUGH),
HNHM - Hungarian Natural History Museum, Budapest (O. MERKL),
IRSN - Institut Royal des Sciences Naturelles de Belgique, Bruxelles (L. BAERT),
ITZ - Instituut voor Taxonomische Zoologie, University of Amsterdam, Amsterdam (B. BRUGGE),
IZPAS - Institute of Zoology, Polish Academy of Sciences, Warsaw (S. A. ŚLIPINSKI),
LB - author's coll.,
LU - Zoological Museum, Lund University, Lund (R. DANIELSSON),
MCSNV - Museo Civico di Storia Naturale, Verona (M. DACCORDI),
MCZ - Museum of Comparative Zoology, Harvard University, Cambridge (A. NEWTON),
MHNG - Muséum d'Histoire Naturelle, Genève (I. LÖBL),
MLM - Macleay Museum, Sydney (D. S. (WOODY) HORNING),
MM - Manchester Museum, Manchester (C. JOHNSON),

NMP - Narodni Muzeum, Prague (S. BILY),
PMNH - Peabody Myseum, Yale University, New Haven (D. FURTH),
QM - Queensland Museum, Brisbane (G. MONTEITH and J. SEDLACEK),
SAM - South Australian Museum, Adelaide (E. MATTHEWS),
USNM - United States National Museum, Washington (R. WHITE)
VRB - coll. V. R. BEJSAK, Sydney,
YK - coll. Y. KOMIYA, Tokyo,
ZSM - Zoologische Staatssammlung, München (G. SCHERER).

Acknowledgements. I would like to express my sincere thanks to all the curators mentioned above for the loan of the specimens. I am also grateful to B. J. ALDRIDGE (British Museum), and C. JOHNSON (Manchester Museum) for their help during my stay in London and Manchester.

SYSTEMATICS

The tribe *Aspidomorphini* includes genera of Old World cassids with tarsal claws pectinate on inner or both inner and outer margin. This apomorphic character occurs also in New World genera of *Microctenochira* group of the tribe *Charidotini*, but no doubt it is an evolutionary parallelism. In most of specialized genera of the tribe *Cassidinae* tarsal claws are micropectinate, but the pecten is small and poorly developed and it may not be easily seen under high stereoscopic magnification (see discussion on micropecten in RILEY, 1986). According to RILEY (1986) New World genera with pectinate claws represent only the highest degree of development of claw pecten and he synonymized the tribe *Charidotini* with the tribe *Cassidini*. In my opinion, the tribe *Aspidomorphini* represents only the most specialized lines within Old World cassids with pectinate claws; it is probably artificial group, and species of *Aspidimorpha* and *Laccoptera* generic groups developed independently from different ancestors. This problem needs a further study based on all taxa of Old World, and in this paper the tribe *Aspidomorphini* is treated in its traditional sense.

KEY TO THE GENERA

1. Anterior part of clypeus convex, forms a distinct angulation. Puncturation of elytra strong on whole surface of disc ..... *Laccoptera*.
-. Clypeus without anterior angulation, flat. Puncturation of elytra usually fine or gradually smaller posterad, occasionally elytra with costae ..... *Aspidimorpha*.

Aspidimorpha HOPE, 1840

Aspidimorpha HOPE, 1840: 158 (type species: *Cassida miliaris* FABRICIUS, 1775).
Aspidomorpha [!] AGASSIZ, 1846: 16.
Iphinoe SPAETH, 1898: 540 (type species: *Iphinoë ganglbaueri* SPAETH, 1898), homonym.
Spethia BERG, 1899: 79 (type species: *Iphinoë ganglbaueri* SPAETH, 1898), subgenus.
Weiseocassis SPAETH, 1932 b: 3 (type species: *Aspidomorpha prasina* WEISE, 1899), subgenus.

Megaspidomorpha SPAETH, 1943: 48 (type species: *Cassida chlorotica* OLIVIER, 1808), subgenus.
Dianaspis CHEN et ZIA, 1984: 80 (type species: *Aspidomorpha denticollis* SPAETH, 1932 = *Dianaspis bifoveolata* CHEN et ZIA, 1984 n. syn), subgenus, n. status.
Neoaspidimorpha n. subgen. (type species: *Aspidomorpha septemcostata* WAGENER, 1881).
Excluded subgenus: *Conchyloctenia* SPAETH, 1902 (listed as subgenus by SEENO and WILCOX, 1982. In my opinion it is a distinct genus close to *Aspidimorpha*).

The description of this large and very heterogenous taxon is based only on the Australopapuan species.

Moderately large to large cassids, body length 7-16 mm. Body varying from oval, parallesided to almost circular, depressed, or regularly convex to gibbous or with conical postscutellar tubercle. Pronotum ellipsoidal with broadly rounded sides, occasionally pronotal sides subangulate to angulate; the maximum width of pronotum in most species in the middle, occasionally at base of pronotum. Pronotal disc distinctly bordered from explanate margin, regularly convex, without gibbosities, unpunctured, glabrous. Explanate margin of pronotum broad, steeply declivous to horizontal, sometimes forms a shallow gutter, unpunctured, with honeycomb structure. Base of elytra wider than pronotum, humeral angles varying from rounded to acute, distinctly projecting anterad. Puncturation of disc in most species fine and scarce, regular, punctures gradually smaller posterad, sometimes puncturation larger, especially on sides on disc, in one of the species elytra with longitudinal carinae. Marginal row distinct. Explanate margin of elytra broad, steeply declivous to horizontal, sometimes forms a shallow gutter, unpunctured, with honeycomb structure. Head with large eyes, clypeus flat, broad, its anterior edge not elevated, lateral grooves fine, no median grooves or frontoclypeal sulci, often in anterior part of clypeus oval to round depression. Surface of clypeus unpunctured. Labrum without median keel, with anterior emargination. Prosternum with short collar, without lateral emargination. No antennal grooves. Prosternal process broad, with strongly expanded, rhomboidal apex, without longitudinal canaliculation. Surface of prosternal process usually without sculpture or distinct punctures. Antennae moderately long, segment 3 at least 1.5 times longer than 2, segments 8-10 usually longer than wide. Six basal segments glabrous and slim, five distal dull and stouter. Legs unmodified, tibiae without external longitudinal channel. Tarsi usually broad, last segment not or only slightly longer than the third, only in one species it is distinctly longer than the third segment and reaching behind marginal setae. Claws pectinate on both external and internal margin.

KEY TO THE SPECIES

1. Each elytron with three longitudinal costae (fig. 1). Last segment of tarsi distinctly longer than the third, reaching behind marginal setae (fig. 105) .... *A. septemcostata.*
-. Elytra without costae. Last segment of tarsi as long as or slightly longer than the third, not reaching behind marginal setae (fig. 106) ..... 2.
2. Pronotum with dark spots (figs. 10-19, 22-27, 35-39) ..... 3.
-. Pronotum immaculate ..... 7.

3. Each elytron with three large, pale, round to oval spots (figs. 10-12). New Caledonia only ..... *A. convolvuli.*
-. Each elytron without large, pale, round spots (figs. 13-19, 22-27, 35-39). Species outside New Caledonia ..... 4.
4. Scutellum black or brown ..... 5.
-. Scutellum yellow ..... 6.
5. Basal part of explanate margin of elytra usually yellow. Elytral suture in anterior third with black or brown spots (figs. 22-26), occasionally whole elytral disc black (fig. 27). Australia only ..... *A. maculatissima.*
-. Basal part of explanate margin of elytra black. Elytral suture in anterior third without dark spots (figs. 35-39), elytral disc never uniformly black. Solomon Is. only ..... *A. adhaerens* ssp. *salomonina.*
6. Humeral angles strongly acute, distinctly emarginate behind the angle. Pronotal spot large, distance between spots smaller than half width of each spot, sometimes spots coalescent (figs. 13-15) ..... *A. anogoramensis.*
-. Humeral angles angulate but not emarginate behind the angle. Pronotal spots small, distance between spots usually as large as or larger than width of each spot (figs. 16-19) ..... *A. deusta.*
7. Elytral disc depressed or regularly convex with no postscutellar gibbosity or tubercle (figs. 110-112,124-128) ..... 8.
-. Elytral disc with more or less developed postscutellar gibbosity (figs. 113, 116-119, 121-122), or with conical postscutellar tubercle (figs. 114-115, 120) ..... 11.
8. Humeral angles angulate. Elytra with dark triangular spot behind scutellum, or anterior half of disc black (figs. 20-21). Rare form with immaculate pronotum ... . *A. deusta.*
-. Humeral angles obtuse. Elytra without spots behind scutellum, sometimes with spots at sides of scutellum (figs. 42-45) ..... 9.
9. Small species: length below 8 mm. Elytra in sutural half of disc usually with 5-7 regular, round spots (figs. 6, 7)..... *A. westwoodi.*
-. Large species: length above 9.5 mm. Elytra variable coloured but in sutural part of disc usually without regular round spots (figs. 40-45, 55-56) ..... 10.
10. Humeral spot of explanate margin of elytra always present, extending to anterior margin of elytra. Elytra less rounded on sides (figs. 55-57). Australia only .... *A. interrupta.*
-. Humeral spot of explanate margin of elytra, if present, not extending to anterior margin of elytra. Elytra more rounded on sides (figs. 40-45). Species outside Australia ..... *A. miliaris.*
11. Elytra with conical postscutellar tubercle (figs. 115, 120) ..... 12.
-. Elytra without conical postscutellar tubercle, with more or less developed gibbosity or obtuse tubercle (figs. 113-114, 116-119, 121-122) ..... 13.
12. Elytral puncturation large and strong, at sides of elytral disc intervals as wide as puncture diameter. Postscutellar tubercle never with dark spots. Elytral pattern usually with black, explanate margin always with dark spots (figs. 58-63) .... *A. novaeguineensis.*

-. Elytral puncturation fine, at sides of elytral disc intervals distinctly wider than puncture diameter. Postscutellar tubercle in posterior half often with dark spots. Elytral spots usually brown or reddish, rarely black, explanate margin often without spots (figs. 67-78) ..... *A. aurata.*

13. Scutellum black ..... *A. adhaerens.*
-. Scutellum yellow ..... 14.
14. Sutural part of explanate margin of elytra black (figs. 46-54) ..... *A. punctum.*
-. Sutural part of explanate margin of elytra yellow (figs. 8-9, 64-90) ..... 15.
15. Elytral disc uniformly black, only lateral fold and extreme apex yellowish. Explanate margin yellow (figs. 8-9). Puncturation strong, two sutural rows distinct on whole length. Disc above lateral fold with deep depression .... *A. maffinbayensis.*
-. Elytral disc with variable pattern, only occasionally black (figs. 64-90). Explanate margin often with dark spots. Disc above lateral fold without depression ..... 16.
16. Explanate margin of elytra subhorizontal, external margin forms a shallow gutter. Humeral angles more angulate. Puncturation of lateral part of disc stronger. Elytral pattern brown, rather constant, explanate margin always with spots (figs. 64-66). North Australia only ..... *A. quadriradiata.*
-. Explanate margin of elytra more declivous, external margin usually horizontal and does not form a gutter. Humeral angles less angulate. Puncturation of lateral part of disc fine. Elytral pattern variable, reddish to black, explanate margin often without spots (figs. 67-90). Papuan Subregion, one species rare in North Australia ..... 17.
17. Usually larger and stouter (fig. 129). Postscutellar gibbosity often larger (fig. 121). Form from Solomon Is., probably not sympatric with the next species .... *A. aurata.*
-. Usually smaller and slimmer (fig. 129). Postscutellar gibbosity smaller (fig. 119). Wide spread and common in New Guinea, rare in North Australia, probably does not occur in Solomon Is. (except introduced specimens) ..... *A. australasiae.*

Australopapuan species of the genus *Aspidimorpha* are rather uniform in their general structure and belong to the nominotypical subgenus, except *A. septemcostata* WAGEN. which posesses several unique structures and, in my opinion, belongs to a different subgenus:

Neoaspidimorpha n. subgen.

Body oval, almost parallelsided. Pronotum with subangulate to angulate sides. Each elytron with three longitudinal costae and strong puncturation (fig. 1), area between third costa and submarginal row of punctures irregularly punctate. Clypeus very broad, about twice wider than long (fig. 99). Last segment of tarsi distinctly longer than the third, extending behind marginal setae of third segment (fig. 105). Inner margin of claws with row of teeth equal in size (fig. 102).

Type species: *Aspidomorpha septemcostata* WAGENER, 1881.

Remarks. It is a distinct subgenus with no close relatives in any zoogeographical region. At first glance it is more similar to Afrotropical genus *Conchyloctenia* (with one species in India) but it differs in a distinctly convex clypeus while in *A. sepetmcostata* the clypeus is flat, like in all other species of *Aspidimorpha*. No species of *Conchyloctenia* have costate elytra. Probably *A. septemcostata* represents a Tertiary Australian relict, while other species from Australia and Papuan Subregion are closely related to Oriental species and probably originated from immigrants from the Oriental Region.

Aspidimorpha septemcostata WAGENER, 1881

(figs. 1, 4-5, 99, 102, 105, 108, 128, 136)

Aspidomorpha septemcostata WAGENER, 1881: 49; SPAETH, 1903 a: 137; 1914: 72; 1915: 235.

DESCRIPTION

Length 8.3-9.3 mm, width 6.0-7.0 mm, length of pronotum 2.5-2.9 mm, width of pronotum 4.7-5.7 mm. Body oval, parallelsided (fig. 1).

Pronotum uniformly yellow, occasionally with V-shaped brown spot in front of scutellum. Scutellum yellow. Elytra yellow with dark pattern: suture and first interval, area between third costa and submarginal row except humerus and extreme apex, humeral and posterolateral spot of explanate margin black with metallic blue tint. Dark pattern often occupies also anterior part of second interval and posterior half of fourth interval. Explanate margin always with sutural spot (figs. 4-5). Antennae with only two basal segments yellow, remainder more or less infuscate to black. Tarsi brownish to black. Ventral surface yellow.

Pronotum 1.85-1.95 times wider than long, with maximum width distinctly behind the middle, sides subangulate to angulate. Pronotal disc at base often with oblique impressions, impunctate, glabrous, shiny.

Base of elytra distinctly wider than pronotum. Explanate margin horizontal, forms a gutter, glabrous, shiny. Elytral disc depressed (fig. 128), with no principal and lateral depressions. Intervals 3, 5, 7 strongly costate, also sutural interval convex, and usually posterior half of area between third costa and submarginal row with longitudinal elevation. Puncturation of elytra strong, rows 1-4 regular but intervals 2 and 4 usually with several additional punctures. Rows 5 and 6 partly or completely disordered, and area between third costa and submarginal row irregularly punctate. Punctures large and dense, almost touching each other and surface appearing rugose. Submarginal and marginal rows regular. Explanate margin in the broadest part about twice narrower than witdh of elytron, forms a shallow gutter. Surface glabrous, shiny, sometimes with indistinct transverse folds. Humeral angles obtuse of about 90°. Apex of elytral epipleura unpubescent.

Head broad, clypeus about twice wider than long, with anterior margins slightly elevated, in apical half with shallow depression (fig. 99). Labrum narrow, emarginate

to 1/3 length. Eyes moderately large, gena distinct, about as long as length of third antennal segment. Antennae stout, length ratio of antennal segments: 100:50:85:67:67: 57:67:50:50:50:100, segment 3 only 1.7 times longer than 2 (fig. 108). Prosternal collar slightly longer than in other species, prosternal process in the middle deeply impressed, apex often with longitudinal folds.

Tarsi slim, last segment elongated, extending distinctly behind marginal setae of third segment (fig. 105). Claw pecten moderately long, extending to half length of claw, all teeth about equal in length (fig. 102).

Remarks. Very distinct species. See remarks in description of the subgenus.

MATERIAL EXAMINED

AUSTRALIA: Austral., 1 (holotype of *Aspidomorpha septemcostata* WAGENER, MM); N. Queensland, Mareeba, 3 (ZSM); N. Terr., Katherine, 17 IV 1962, 1, L. F. B. COMMON (ANIC); N. Terr., McArthur River, 14 km SW of Cape Crawford, 11 IV 1976, 1, J. E. FEEHAN (ANIC); NW Australia, 2 (MLM); Queensland, Pajinga near Charters Towers, 17 X 1904, 1, Mrs BLACK (ANIC); Queensland, 1 (MLM).

Aspidimorpha s. str.

Aspidimorpha adhaerens adhaerens WEBER, 1801

(figs. 28-34, 113, 136)

Cassida adhaerens WEBER, 1801: 51; FABRICIUS, 1801: 400; BOISDUVAL, 1835: 539.
Aspidomorpha adhaerens: BLANCHARD, 1853: 318; BOHEMAN, 1854: 264; SPAETH, 1903 a: 138, 1906: 37; 1914:70; SIMON THOMAS, 1964: 167-264; KIMOTO et al., 1984: 55.
Cassida testudinaria MONTROUZIER, 1855: 67; BOHEMAN, 1856: 206.
Aspidomorpha testudinaria: BOHEMAN, 1862: 273.
Aspidomorpha adhaerens testudinaria: SPAETH, 1903 a: 138; 1906: 37; 1914: 70; 1926: 307.
Aspidomorpha phyllis BOHEMAN, 1862: 274; SPAETH, 1903 a: 139; 1914: 70.

DESCRIPTION

Length 9.6-12.1 mm, width 7.7-10.5 mm, length of pronotum 2.9-3.5 mm, width of pronotum 5.1-6.9 mm. Body stout, apex of elytra in females slightly angulate, in males rounded.

It forms 6 different colour forms, their genetics was studied in detail by SIMON THOMAS (1964). Pronotum always uniformly yellow. Scutellum black. Elytra with black pattern (figs. 28-34). In the palest form only humeral and posterolateral spot of explanate margin, posterior fourth of suture, spot on humerus and spot near the posterolateral spot of explanate margin black (fig. 28). In the darkest form, almost whole elytral disc, except M-shaped spot on postscutellar tubercle, humeral, posterolateral and sutural spots of explanate margin black. In intermediate forms spots on humerus, in posterior fourth of suture and at base of posterolateral spot of explanate margin coalescent (figs. 31). In the other two forms elytral disc is similar as in the palest form, but explanate margin with

black whole external margin, or with black band between humeral, posterolateral and sutural spot, but with extreme margin yellow (figs. 32-33). Between these six colour forms there are many intermediates but general pattern of each form is rather constant. Last two antennal segments black. Ventrites and legs uniformly yellow.

Pronotum 1.7-2.0 times wider than long, with maximum width in the middle, sides rounded. Disc moderately convex, glabrous shiny. Explanate margin almost horizontal but does not form a gutter, glabrous, shiny.

Base of elytra distinctly wider than pronotum. Disc with angulate postscutellar tubercle, outline behind apex of the tubercle straight (fig. 113). Principal depression shallow, in some specimens hardly marked. Puncturation regular, moderately large, rows of punctures distinct on whole length of disc or only on extreme apex obsolete. Intervals flat, in sutural part about 3-4 times wider than punctures, on sides of disc about as wide as punctures. Marginal and submarginal rows with punctures only slightly larger than in rows of sides of disc. Explanate margin very broad, in males in the broadest part about as wide as elytron, in females about 0.8 times as wide as elytron, steeply declivous, does not form a gutter. Surface glabrous, shiny. Humeral angles rounded. Apex of elytral epipleura in males unpubescent, in females with scarce, erect hair.

Clypeus 1.2 times wider than long, glabrous, shiny, in apical half with shallow, oval depression. Labrum broad, emarginate to 1/4 length. Eyes large, gena obsolete. Antennae slim, length ratio of antennal segments: 100:45:150:85:80:65:70: 70:70:80:135, segment 3 about 3.3 times longer than 2. Prosternal collar moderately long, prosternal process only slightly depressed in the middle, apex very broad, without microsculpture.

Tarsi broad, last segment only slightly longer than the third but not reaching behind marginal setae of third segment. Inner pecten of claws moderately long, with four teeth, the longest reaching to 1/3 length of claw; outer pecten with only two teeth, the longest about reaching to 1/4 length of claw.

Remarks. It is a distinct species with no close relatives. Black scutellum distinguishes it from other Papuan species, except *A. maculatissima* and *A. convolvuli*, but these differ distinctly in their body structure and pattern, especially in maculate pronotum.

MATERIAL EXAMINED

AUSTRALIA: Queensland, Clump Point, XII 1948, 1, J. O. CAMPBELL (MCSNV), XI 1950, 1, J. SEDLACEK (QM).

INDONESIA WEST IRIAN: Aru Is., Wakan, 1873, 1, O. BECCARI (IZPAS); Biak Airport, 19-24 V 1959, 4, T. C. MAA (BM), Dafo, 50 km W of Hollandia, 120 m, 12 XI 1961, 4, S. QUATE (BM); Ifar, Cyclops Mts., 300-500 m, 23-25 VI 1962, 11, J. SEDLACEK (BM); Little Kei, 1, H. KÜHN (MCZ);.

PAPUA NEW GUINEA: Admirality Is., 19 II 1944, 26, P. T. RIHARD (USNM); 50 km E of Bogia, 18-22 II 1979, 1, J. SEDLACEK (QM); Bubia near Lae, 9 I 1982, 1, Y. KOMIYA (YK); Bulolo, 15 I-14 II 1979, 1, 13 II-13 III, 1979, 1, J. SEDLACEK (QM); Bukana, 35 mi E of Lae, 26 XII 1972, 1, 40 mi E of Lae, 26 XII 1972, 1, K. W. STRÖDER

(MHNG); Bulolo, Morobe Prov., 680 m, 2 II 1969, 5, J. SEDLACEK (BM), 25 XII 1981, 1, Y. KOMIYA (YK); Bupu R., Sitium Vill., 19 km NE of Lae, 15 IV-15 V 1970, 3, N. R. SPENCER (BM); Dogura, 8 III 1956, 2, 31 I 1957, 1, 31 I 1958, 3, 1 II 1958, 1, 7 IV 1958, 7, E. L. CASSIDY (CAS); Finisterre Range, Saidor, Sibog Vill., 27 V-5 VI 1958, 5, W. W. BRANDT (BM); Huon Pen., Finschafen, 15 V 1944, 46, E. S. Ross, 16 XI 1969, 45, 20 XI 1969, 4, J. E. TOBLER (CAS); Huon Pen., 1 mls N of Finschafen, 16 XI 1969, 22, J. E. TOBLER (CAS); Huon Pen., Pindiu, 870-1300 m, 21-22 IV 1963, 1, J. SEDLACEK (BM); near Kainantu, Onerunka, II 1979, 1 (MHNG); Kalalo, 750 m, 20-30 VIII 1966, 20, G. A. SAMUELSON (BM); Kar Kar Is., Kuruk, Bagiai Crater Trail, 4, S. L. KRAUSS (BM); Lae, 27 V 1956, 2, E. J. FORD Jr. (BM); Lae, Singuawa R., 80 m, 1 IV 1966, 8, G. LIPPERT (BM), 11 IV 1966, 3, P. SHANAHAN (BM); Lakona, 50 km N of Finschafen, 22 I 1973, 1, K. W. STRÖDER (MHNG); Madang Distr., Manumbo, 2 (SAM); Misima Is., 4, H. K. BARTLETT (SAM); Morobe Distr., Busu Riv., 16 km E of Lae, 29 X 1969, 4, J. E. TOBLER (CAS); Morobe, near Kaiapit, Xi 1978, 3, XII 1978, 29, IV 1979, 5 (MHNG); Morobe Distr., Lae, 13 XI 1969, 1, J. E. TOBLER (CAS); New Britain, Gazelle Pen., Upper Warangoi, Araburn, 250 m, 28 X 1962, 1, J. SEDLACEK (BM); Misima Is., 20 I 1982, 2, J. SEDLACEK (QM); New Britain, Gloucester, 28 XI 1944, 1, C. H. SPILZER (CAS); New Britain, Jacquinot Bay, 1 XII 1969, 10, J. E. TOBLER (CAS); New Britain, Pomio, 9 VII 1979, 4, J. D. BOURNE (MHNG); New Ireland, Namatanai, 23 VII 1979, 1, J. D. BOURNE (MHNG); New Ireland, Schleinitz Mt., Lelet Plateau, X 1959, 1, W. W. BRANDT (BM); New Ireland, 5 (MLM); Popondetta, 25 m, V 1966, 1, P. SHANAHAN (BM); Sattelberg, 1 (IZPAS); Sepik, Maprik Area, 160 m, 28 VIII 1957, from *Ipomea*, 1, E. HARDY (BM); Sum-Sum, 64 km N of Wau, 15 II 1963, 17, H. W. CLISSOLD (BM); Wau, Morobe Distr., 900 m, 6 VIII 1963, 1, H. CLISSOLD (BM); Woodlark Is., 2, G. FILOT (IRSN); Woodlark I., Moina, 1, MONTROUZIER (syntype of *Aspidomorpha testudinaria* MONTR.); Zenang-Lae, 800 m, 12 XI 1967, 1, G. OTAWETTO (BM).

Aspidimorpha adhaerens salomonina SPAETH, 1919

(figs. 35-39, 134)

Aspidomorpha adhaerens subsp. *salomonina* SPAETH, 1919: 196; SIMON THOMAS, 1964: 256.

DESCRIPTION

Length 8.9-11.3 mm, width 8.0-9.6 mm, length of pronotum 3.0-3.5 mm, width of pronotum 5.6-6.5 mm.

Similar to nominotypical subspecies. *A. adhaerens solomonina* differs in the following characters: Pronotal disc with black spot of different shape and size (figs. 35-39). Elytral disc with posthumeral spot always coalescent with posterolateral spot. In this subspecies dark forms predominate, with elytral disc mostly black with only yellow elongate spot behind scutellum between suture and third row of punctures, extending to 2/3 length of disc, and yellow lateral fold. Spots of explanate margin usually larger than in nominotypical subspecies. Yellow parts of disc deeper yellow coloured than in

nominate form, sometimes with orange to reddish margin. The colour pattern is less variable than in specimens from New Guinea.

Remarks. Because in specimens from Solomon Is. elytral pattern is rarther costant and thus coloured forms occur only in this archipelago I maintained subspecies status for these populations.

MATERIAL EXAMINED

PAPUA NEW GUINEA: Solomon Is., Bougainville, bush E of Buin, 30 XII 1969, 2, J. E. TOBLER (CAS); Bougainville, Mutahi, 700 m, 18 km SE of Tinputz, 1-7 III 1968, 2, R. STRAATMAN (BM).

SOLOMON IS.: Florida Is., X 1966, 1, M. J. DE KOSTER (ITZ); Guadalcanal, Lunga Riv., 5 VI 1960, 2, J. SCHENK (1 MCZ, 1 CAS); Guadalcanal, Suta, 500-1200 m, 27 VI 1956, 1, 28 VI 1956, 1, J. L. GRESSITT (BM); "Molukken? KANNEGIETER", Solomon Is., 4 (syntypes of *Aspidomorpha adhaerens* ssp. *salomonina* SPAETH, MM).

Aspidimorpha angoramensis n. sp.

(figs. 2, 13-15, 125, 141)

DESCRIPTION

Length 7.7-8.9 mm, width 6.4-6.6 mm, length of pronotum 2.6-2.9 mm, width of pronotum 4.45-4.9 mm. Body oval (fig. 2).

Pronotum yellow, disc with two large black spots in the middle, in one specimen spots coalescent basally, in other two specimens distance between spots smaller than ¼ width of spot (figs. 13-15). Scutellum yellow. Elytra yellow with black pattern. In the palest form disc with elongate spot behind scutellum, round spot at humeral callus, transverse spot behind humerus, transverse band in 3/5 length of elytra, and with black apical fourth of suture and first interval; explanate margin with humeral, posterolateral and sutural spots. In the darkest form elytral disc mostly black with yellow round spot at corners of scutellum, irregular yellow spot in front of principal impression, M-shaped yellow spot in postscutellar area, yellow lateral fold and transverse spot in ¾ length of disc betwenn rows 1-5, also extreme apex of disc except sutural part yellow; explanate margin with very broad spots, median yellow window as long as length of posterolateral spot. In intermediate form transverse band is coalescent with posthumeral spot. Antennal segment 7 brownish, segments 8-11 black. Metasternum with transverse black spot in front of hind margin and sternites brownish to black in the middle.

Pronotum about 1.7 times wider than long, with maximum width in the middle, sides broadly rounded. Disc moderately convex, glabrous, shiny. Explanate margin steeply declivous, glabrous, shiny.

Base of elytra distinctly wider than pronotum. Disc regularly convex (fig. 125), with large and deep principal impression. Puncturation regular, moderately large, in posterior half of disc gradually smaller but distinct on whole length of disc. Intervals flat

or in yellow parts of elytra, especially in anterior half, slightly convex, in sutural half of disc 3-5 times wider than punctures, in lateral half 1.5-2.0 times wider than punctures. Submarginal row in front of lateral fold with strong punctures, behind the fold with very small punctures; marginal row distinct, broadly interrupted by humeral and lateral folds. Explanate margin narrow, about 0.35 times as wide as width of elytron, steeply declivous, with extreme margin horizontal. Humeral angles acute, margin behind angle deeply emarginate. Apex of elytral epipleura unpubescent.

Clypeus 1.3 times wider than long, flat, without depression. Labrum narrow, emarginate to 1/3 length. Eyes large, gena obsolete. Antennae stout, length ratio of antennal segments: 100:40:86:60:66:40:50:47:47:47:83; segment 3 about 2.1 times longer than 2. Prosternal collar short, prosternal process in the middle flat, apical part strongly enlarged, depressed in the middle.

Tarsi broad, last segment slightly longer than the third. Inner pecten of claw with 4 teeth, the largest extending to 2/5 length of claw; outer pecten with 3(2) very short teeth, about twice shorter than teeth of inner pecten.

Named after the type locality.

Remarks. It is close to *A. deusta* only. Both species form a natural group with elytra regularly convex, pronotum with two spots, explanate margin with sutural spot, and humeral angles acute. *A. angoramensis* differs in body more rounded on sides, larger pronotal spot, narrower pronotum, humeral angles more acute with deeper emargination behind angle. In all forms of *A. deusta* ventrites are uniformly yellow.

MATERIAL EXAMINED

PAPUA NEW GUINEA: holotype and two paratypes: New Guinea (NE), Angoram, 13-16 VIII 1969, (NO. NGA-U.11.), leg. Dr J. BALOGH (holotype and paratype in HNHM, one paratype in LB).

Aspidimorpha aurata (MONTROUZIER, 1855)

(figs. 3, 67-78, 120-121, 129, 137)

Cassida aurata MONTROUZIER, 1855: 67; BOHEMAN, 1856: 206.
Aspidomorpha aurata: SPAETH, 1914: 72 (as syn. of *A. socia* BOH.).
Aspidomorpha socia BOHEMAN, 1856: 114, SPAETH, 1903 a: 144; 1906: 38; 1913: 448; 1914: 72; 1932 a: 137; KIMOTO et al., 1984: 55, **n. syn.**
Aspidomorpha socia nigrolimbata SPAETH, 1903 a: 144, 1914: 72, **n. syn.**
Aspidomorpha socia Staudingeri SPAETH, 1903 a: 144; 1906: 38; 1914: 72, **n. syn.**
Aspidomorpha socia Staudingeri var. *flavovariegata* SPAETH, 1903 a: 144; 1906: 38; 1914: 72, **n. syn.**
Aspidomorpha socia yulensis SPAETH, 1903 a: 144; 1914: 72, **n. syn.**
Aspidomorpha opima BOHEMAN, 1862: 275; SPAETH, 1914: 71, **n. syn.**

DESCRIPTION

Length 7.5-10.7 mm (specimens above 9 mm predominate), width 6.7-9.7 mm, length of pronotum 2.5-3.7 mm, width of pronotum 4.9-7.0 mm. Body almost circular.

Extremely variable species (figs. 67-78). Pronotum and scutellum always yellow. In the palest form elytral disc yellow, explanate margin of elytra with reddish humeral and posterolateral spots. In the darkest form elytral disc black with yellow postscutellar tubercle, lateral fold, and 2-3 small spots along suture behind postscutellar tubercle; explanate margin of elytra with black humeral and posterolateral spots. Common is form with elytral disc yellow with reddish, brownish or black reticulate pattern; explanate margin of elytra with or without spots, humeral spot often with yellow anterior margin. In this species spots of explanate margin have never been connected. Sutural apex always without spot. Last antennal segment infuscate to black, segment 10 yellow or infuscate. Ventrites always yellow.

Pronotum about twice wider than long, with maximum width slightly behind middle, sides rounded. Disc moderately convex, glabrous, shiny. Explanate margin steeply declivous, does not form a gutter, surface glabrous, shiny.

Base of elytra distinctly wider than pronotum. Disc in populations outside Solomon Is. with conical postscutellar tubercle (fig. 120), its top angulate. In populations from Solomon Is. postscutellar tubercle low and top of the tubercle obtuse (fig. 121). Principal impression small but deep, no lateral impression. Puncturation of elytra regular, fine, in posterior half of disc gradually smaller, in apex obsolete. Submarginal row distinct only in front of lateral fold, behind the fold fine to obsolete. Marginal row distinct. Intervals flat, in sutural part of disc several times wider than punctures, on sides of disc 2-3 times wider than punctures. Explanate margin 0.8-1.0 times as wide as width of disc of elytron, steeply declivous, extreme margin horizontal, surface glabrous, shiny. Humeral angles rounded, margin behind angle convex. Apex of elytral epipleura with scarce erect hairs but in dried specimens hairs are often broken.

Clypeus about 1.3-1.4 times wider than long, apex with or without small impression. Labrum broad, emarginate to 1/4 length. Eyes large, gena obsolete. Antennae slim, length ratio of antennal segments: 100:43:114:74:57:40:46:46:49:46:86, segment 3 about 2.7 times longer than 2. Prosternal collar moderately long, prosternal process broad, flat.

Tarsi broad, last segment slightly longer than the third, inner pecten of claws with 3(4) teeth, the largest extending to 1/3 length of claw; outer pecten with 2(3) teeth about as long as 2/3 length of inner pecten.

Remarks. It is similar to *A. australasiae* and *A. quadriradiata* - see discussion under *A. australasiae*. Besides *A. convolvuli* it is the only species known from New Caledonia. I have examined only two specimens from this island, one preserved in IRSN is probably a holotype of *A. opima* described from New Caledonia by Boheman, the second specimen from my collection is labelled only generally New Caledonia with no other data. Both specimens have large postscutellar tubercle and are more similar to specimens from New Guinea than to specimens from Solomon Is. In my opinion this species was introduced to New Caledonia or both specimens was mislabelled. In recent materials I have no specimens of *A. aurata* outside New Guinea and Solomon Is.

MATERIAL EXAMINED

INDONESIA WEST IRIAN: Genjam, 40 km W of Hollandia, 1-10 III 1960, wild *Ipomea*, 1, T. C. MAA (BM); Ifar, Cyclops Mts., 300-500 m, 23-25 VI 1962, 1, 400-800 m, 7-9 IX 1962, 1, J. SEDLACEK (BM); Hollandia Area, W Sentani, Cyclops Mts., 150-250 m, 18 VI 1959, 1, T. C. MAA (BM); Japen Is., SSE Sumberbaba, Dawai R., 28 X 1962, 2, H. HOLTTMANN (BM); Nabire, S. Geelvink Bay, 0-30 m, 2-9 VII 1962, 2, J. L. GRESSITT, 1-4 IX 1962, 1, J. SEDLACEK (BM); Tayapura, 16 VIII 1979, 1, M. KUBOTA (YK); Wandamen baai, V 1945, 2, D. L. LEIKER (ITZ).

NEW CALEDONIA: Nouvelle Caledonie, 1, ex coll. BONNEUIL, "*opima* BOH." (probably type of *Aspidomorpha opima* BOH.); New Caledonia, 1 (LB).

PAPUA NEW GUINEA: Adelberg Mts., Wanuma, 800-1000 m, 24 X 1958, 1, J. L. GRESSITT (BM); Balimo, 7 VIII 1964, 1, H. CLISSOLD (BM); Bisianumu, E of Port Moresby, 500 m, 24 IX 1955, 1, J. L. GRESSITT (BM); Bismarck Arch., New Britain, Talassea, Narunageru, 22 XI 1969, 2, J. E. TOBLER (CAS); Bismarck Arch., New Ireland, Kaselok, 16 km S of Kavieng, 17 XII 1969, 1, J. E. TOBLER (CAS); Boana Mission, Huon Pen., 900 m, 4-5 IX 1956, 1, E. J. FORD jr. (BM); Bongu, 1, F. SCHNEIDER (CAS); Brown R., 30 VIII 1959, 1, T. C. MAA (BM), 23 X 1960, 2, J. L. GRESSITT (BM); 12-23 X 1968, 1, T. MENA (BM); Bukana, 40 mi E of Lae, 26 XII 1972, 1, K. W. STRÖDER (MHNG); Bulolo, 30 V 1971, 1, R. E. PARROT (MCSNV); Bupu R., Sitium Vill., 19 km NE of Lae, 15 IV-15 V 1970, 2, N. R. SPENCER (BM); Busu R., E of Lae, 100 m, 16 IX 1955, 4, J. L. GRESSITT (BM); Cape Killerton, 17-20 X 1963, 1, P. SHANAHAN (BM); Cape Rodney, 4 XI 1960, 1, L. and M. GRESSITT (BM); Daradae, near Javarere, Musgrove R., 4 X 1958, 2, J. L. GRESSITT (BM); Daradae Pl'n, 500 m, 80 km N of Port Moresby, 4 IX 1959, 2, T. C. MAA (BM); Daru Is., 3 m, 25 VII 1964, 1, H. CLISSOLD (BM); Didmann's Ck. near Lae, 21-22 III 1963, 1, J. SEDLACEK (BM); Dobodura, III-VI 1944, 1, DARLINGTON (MCZ); Dogura, 4 VII 1951, 1, E. L. CASSIDY (CAS); Dreikikir, Sepik Distr., 350 m, 23 VI 1961, 1, J. L. and M. GRESSITT (BM); Dtsch. Neu Guinea, 5, coll. STAUDINGER (syntypes of *A. socia* ssp. *staudingeri* SPAETH, MM); Feramin, 1450 m, 21 VIII 1963, 3, R. STRAATMAN (BM); Finch Haven, Waveo, 4, L. WAGNER (SAM); Finschafen, 16 IV 1944, 1, 21 IV 1944, 1, 15 V 1944, 6, E. S. ROSS (CAS), 10-80 m, 11 IV 1963, 1, 12 IV 1963, 8, 16 IV 1963, 3, J. SEDLACEK (BM); Finisterre Range, Saidor, Gabumi, 11 VI-1 VII 1958, 1, W. W. BRANDT (BM); Fly R., Kiunga, VIII 1969, 1, J. and M. SEDLACEK (BM); Ft Algnan, 1 VIII 1897, 1, A. S. MEEK (MCZ); Garaina, 4-16 I 1968, 27, J. and M. SEDLACEK (BM), 20 XI-17 XII 1969, 3, A. B. MIRZA (BM); Gewak, Salawaket Range, 1530 m, 7 IX 1956, 1, E. J. FORD Jr. (BM); Green R./Sepik R. Junction, 24 VI 1963, 1, R. STRAATMAN (BM); Hudewa, 1, L. WAGNER (SAM); Huon Pen., 1 mls N of Finschafen, 16 XI 1969, 2, J. E. TOBLER (CAS); Ialibu, 2600 m, 8-14 IV 1968, 1, J. L. GRESSITT and T. C. MAA (BM); Kaiapit, XII 1978, 1 (MHNG); Kalalo, 750 m, 20-30 VIII 1966, 4, G. A. SAMUELSON (BM); Kapagere, near Rigo, 14-19 V 1957, 1, C. D. MICHENER (BM); Kiungu, Fly R., 23-25 VII 1957, 1, 26-28 X 1957, 2, W. W. BRANDT (BM); Kokoda, 400 m, 22 III 1956, 1, J. L. GRESSITT (BM), 14-16 XI 1965, 1, J. SEDLACEK (BM); Kuper Ra, 25 km SE Salamana, 23-26 I 1969, 2, J. SEDLACEK (BM); Lae, 24 V 1968, 2, 2 VI 1969, 1, J.

SEDLACEK (BM), 22 X 1970, 1, R. E. PARROT (MCSNV), sea level, 4 VII 1961, J. and J. H. SEDLACEK (BM); Lae, Zenang Road, 200 m, 19 XII 1978-14 I 1979, 1, J. SEDLACEK (QM); near Lae, Morobe prov., 8 I 1982, 1, Y. KOMIYA (YK); 50 km S of Lae, 200 m, 1 II 1968, 1, P. COLMAN (BM); Madang Distr., Wanuma, VIII 1968, 2, N. L. KRAUSE (BM); Maffin Bay, 8 VI 1944, 1, 10 VI 1944, 1, 18 VI 1944, 1, E. S. ROSS (CAS); Mamai Pl'n, near Port Glasgow, 5 II 1965, 1, R. STRAATMAN (BM); Markham R., 50 m, 20-25 I 1962, 2, 23 I 1966, 1, J. SEDLACEK (BM); Milne Bay, 14-23 II 1969, 3, J. SEDLACEK (BM); Moorhead, 18 m, 6 VII 1964, 8, H. CLISSOLD (BM); Morobe Distr., Busu Riv., 16 km E of Lae, 31 X 1969, 28, J. E. TOBLER (CAS); Moroka, X 1895, 1, ANTHONY (MCZ); Mt Missim, 980 m, 20 VII 1969, 1, J. L. GRESSITT (BM); Muming, 600 m, 9-10 III 1962, 1, J. SEDLACEK (BM); Musgrave R., Astrolabe, 280 m, 29 II 1964, 2, J. SEDLACEK (BM); New Britain, Gazelle Pen., 16 km N of Gaulin, 300 m, 29 X 1962, 2, J. SEDLACEK (BM); New Britain, Gazelle Pen., Upper Warangoi, Illugi, 230 m, 12-15 XII 1962, 1, J. SEDLACEK (BM); New Britain, Palmalmal, 15 VII 1979, 2, J. D. BOURNE (MHNG); N. Guinea, 1 (syntype of *A. socia* ssp. *nigrolimbata* SPAETH, MM); New Ireland, 50 km of Kavieng, 50-130 m, 2 VII 1959, 1, J. L. GRESSITT (BM); New Ireland, Kaudan, 1 I 1960, 3, W. W. BRANDT (BM); New Ireland, N. Mecklenburg, 1 (IZPAS); New Ireland, Schleinitz Mts., Lelet Plateau, X 1959, 1, W. W. BRANDT (BM); Oibada, near Mamai Estate, 30 I 1965, 1, R. STRAATMAN (BM); Olsobip, 400-600 m, VIII 1969, 25, J. SEDLACEK (BM); Owen Stanley Range, Goilala, Loloipa, 975 m, 16-25 XI 1957, 3, 11-20 XII 1957, 2, W. W. BRANDT (BM); Ower's C. near Goldie R., Central Prov., 17 I 1982, 1, Y. KOMIYA (YK); Pindiu, 20 IV 1963, 7, J. SEDLACEK (BM); Popondetta, 60 m, 3-4 IX 1963, 3, J. SEDLACEK, 23 IX 1963, 1, P. SHANAHAN (BM); Redscar Bay, 2, LIX (MCZ); Rouna, 300-500 m, XI 1968, 1, N. L. KRAUSS (BM); Samarai, 5 VI 1939, 1, R. G. WIND (CAS); Sepik, Ambunti, 50 m, 10 V 1963, 2, R. STRAATMAN (BM); Sepik, Angoram, 20-30 m, 14-16 VIII 1969, 3, J. L. GRESSITT (BM); Sepik, Maprin, 26 VIII 1957, 1, D. E. HARDY (BM); Sepik, Wewak, 26 VI 1961, 1, J. L. and M. GRESSITT (BM); Solomon Is., Bougainville, Buin, 1 VI 1956, J. L. GRESSITT (BM), 30 XII 1969, 3, 31 XII 1969, 18, 11 I 1970, 14, J. E. TOBLER (CAS); Solomon Is., Bougainville, bush E of Buin, 30 XII 1969, 23, 1 I 1970, 3, 2 I 1970, 5, 4 I 1970, 10, J. E. TOBLER (CAS); Solomon Is., Bougainville, Kieta, 17 II 1968, 1, R. STRAATMAN (BM); Solomon Is., Bougainville, Kieta Distr., Buka, Hanahan, 21-27 XII 1969, 25, J. E. TOBLER (CAS); Solomon Is., Mt. Balbi, 2000-2400 m, 1-7 III 1968, 2, R. STRAATMAN (BM); Solomon Is., Bougainville, Mutahi, 700 m, 1-7 III 1968, 7, R. STRAATMAN (BM); Solomon Is., Bougainville, Togerao, 15-21 IV 1968, 10, R. STRAATMAN (BM); Solomon Is., Bougainville, Waitabuna, 6 VI 1956, 2, E. J. FORD Jr. (BM); Solomon Is., Buka, Gagan, 40 m, 15 VI 1956, 1, J. L. GRESSITT (BM); Stephansort, 10 (4 syntypes of *A. socia* ssp. *staudingeri* SPAETH and 5 syntypes of *A. socia* ssp. *staudingeri* var. *flavovariegata* SPAETH, MM, 1 IZPAS); Tapini, 1000 m, 9-12 VII 1968, 6, T. MENA (BM); Torricelli Mts., Mobitei, 750 m, 28 II-4 III 1959, 1, W. W. BRANDT (BM); Torricelli Mts., Mokai Vill., 750 m, 1-23 I 1959, 1, W. W. BRANDT (BM); Tsenga, Upper Jimmi Vall., 1200 m, 15 VII 1955, 2, J. L. GRESSITT (BM); Tuwep, Salawaket Range, 1350 m, 8 IX 1956, 1, E. J. FORD jr. (BM); Umboi

Is., Semo to Avelkom, 470-600 m, 25 II 1967, 1, G. A. SAMUELSON (BM); Vauapa R., 29 II 1964, 3, J. SEDLACEK (BM); Wanapa, X 1990, 1, J. SEDLACEK (QM); Wau, Bulolo R., 900-1100 m, 25 IX 1965, 1, J. and M. SEDLACEK, 700 m, 29 VIII 1969, 1, Y. H. HIRASHIMA (BM), 26 IX 1969, 3, 6 XI 1969, 2, J. SEDLACEK (BM); Wau, Kujeru, 1500 m, 27 IX 1969, 3, A. B. MIRZA (BM); Wau, Mt Missim, 1050 m, 10 VII 1962, 1, 7 I 1963, 2, J. SEDLACEK (BM), 1200-1800 m, 8 XII 1963, 1, H. CLISSOLD (BM); Woodlark Is., III-IV 1897, 1, A. S. MEEK (MCZ); Woodlark I., Marua, Kulumadau Hill, 28-30 I 1957, 1, 25 II 1957, 2, 4-9 III 1957, 2, 16-22 IV 1957, 1, W. W. BRANDT (BM); Wum, Upper Jimmi Vall., 840 m, 16 VII 1955, 2, J. L. GRESSITT (BM); Yule Is., IV 1876, 6, L. M. ALBERTIS (syntypes of *A. socia* ssp. *yulensis* SPAETH, MM), Yule Is., 6 (4 MLM, 2 IRSN); Zenag-Lae, 400 m, 28 I 1964, 1, 17 I 1965, 3, J. SEDLACEK (BM), 200 m, 13 II 1968, 4, P. COLMAN (BM).

SOLOMON IS.: Florida, Tulagi, 1, W. M. MANN (MCZ); Florida, 1, H. P. CHANDLER (CAS); Gizo, New Georgia Group, 20 I 1970, 2, J. E. TOBLER (CAS); Guadalcanal, 1, C. H. FOGGITT (CAS); Guadalcanal, Lunga Riv. Bridge, 12 VII 1960, 1, J. SCHENK (MCSNV); Guadalcanal, Nalimbu Riv., 5 VI 1960, 1, J. SCHENK (MCZ); Guadalcanal, Sutakiki R., 300 m, 28 VI 1956, 1, J. L. GRESSITT (BM); Guadalcanal, Tanaru R., I 1945, 2, G. E. BOHART (CAS); Malaita, Kolombangara, Ringi Cove, 23-24 km up Main road, 14 I 1970, 3, J. E. TOBLER (CAS); Auki, 1, W. M. MANN (MCZ); Malaita, Auki, 24 I 1970, 5, J. E. TOBLER (CAS); Rendova, Hopongo, 12 IX 1967, 3, E. SCHEFFLER (PMNH); Rondoya, 1, W. M. MANN (MCZ); Vella Lavella, 12-20 X 1943, 4, 20 XI-13 XII 1943, 1, P. D. HURD (CAS).

Aspidimorpha australasiae (BOISDUVAL, 1835)

(figs. 79-90, 100, 103, 106, 109, 117-119, 129, 133)

Cassida australasiae BOISDUVAL, 1835: 537.
Aspidomorpha australasiae: BOHEMAN, 1854: 308; SPAETH, 1903 a: 147; 1906: 37; 1913: 447; 1914: 70; 1932 a: 137; MAULIK, 1916: 584.
Cassida Guerini BOISDUVAL, 1835: 538; BOHEMAN, 1855: 528, **n. syn.**
Aspidomorpha (?) *Guerini*: SPAETH, 1903 a: 148.
Aspidomorpha australasiae var. *Guerini*: SPAETH, 1906: 37; 1914: 70.
Aspidomorpha Douei BOHEMAN, 1856: 110; SPAETH, 1903 a: 148 (as syn.).
Aspidomorpha australasiae var. *Douei*: SPAETH, 1906: 37; 1914: 70.
Aspidomorpha Australasiae ramifera SPAETH, 1903 a: 148; 1909: 28; 1914: 70, **n. syn.**
Aspidomorpha Australasiae ramifera var. *subdivisa* SPAETH, 1903 a: 148; 1914: 70, **n. syn.**
Aspidimorpha Australasiae flyensis SPAETH, 1903 a: 148; 1913: 448; 1914: 70, **n. syn.**

DESCRIPTION

Length 7.2-9.5 mm (specimens below 9 mm predominate), width 6.1-8.7 mm, length of pronotum 2.5-3.3 mm, width of pronotum 4.5-6.2 mm. Body almost circular.

The most variable species (fig. 79-90). Pronotum and scutellum always yellow. Elytra with variable pattern. In the palest form elytral disc reddish with yellowish postscutellar tubercle and explanate margin of elytra without spots. In the darkest form elytral disc is black except yellow postscutellar tubercle and lateral fold, explanate

SEDLACEK (BM), 22 X 1970, 1, R. E. PARROT (MCSNV), sea level, 4 VII 1961, J. and J. H. SEDLACEK (BM); Lae, Zenang Road, 200 m, 19 XII 1978-14 I 1979, 1, J. SEDLACEK (QM); near Lae, Morobe prov., 8 I 1982, 1, Y. KOMIYA (YK); 50 km S of Lae, 200 m, 1 II 1968, 1, P. COLMAN (BM); Madang Distr., Wanuma, VIII 1968, 2, N. L. KRAUSE (BM); Maffin Bay, 8 VI 1944, 1, 10 VI 1944, 1, 18 VI 1944, 1, E. S. ROSS (CAS); Mamai Pl'n, near Port Glasgow, 5 II 1965, 1, R. STRAATMAN (BM); Markham R., 50 m, 20-25 I 1962, 2, 23 I 1966, 1, J. SEDLACEK (BM); Milne Bay, 14-23 II 1969, 3, J. SEDLACEK (BM); Moorhead, 18 m, 6 VII 1964, 8, H. CLISSOLD (BM); Morobe Distr., Busu Riv., 16 km E of Lae, 31 X 1969, 28, J. E. TOBLER (CAS); Moroka, X 1895, 1, ANTHONY (MCZ); Mt Missim, 980 m, 20 VII 1969, 1, J. L. GRESSITT (BM); Muming, 600 m, 9-10 III 1962, 1, J. SEDLACEK (BM); Musgrave R., Astrolabe, 280 m, 29 II 1964, 2, J. SEDLACEK (BM); New Britain, Gazelle Pen., 16 km N of Gaulin, 300 m, 29 X 1962, 2, J. SEDLACEK (BM); New Britain, Gazelle Pen., Upper Warangoi, Illugi, 230 m, 12-15 XII 1962, 1, J. SEDLACEK (BM); New Britain, Palmalmal, 15 VII 1979, 2, J. D. BOURNE (MHNG); N. Guinea, 1 (syntype of *A. socia* ssp. *nigrolimbata* SPAETH, MM); New Ireland, 50 km of Kavieng, 50-130 m, 2 VII 1959, 1, J. L. GRESSITT (BM); New Ireland, Kaudan, 1 I 1960, 3, W. W. BRANDT (BM); New Ireland, N. Mecklenburg, 1 (IZPAS); New Ireland, Schleinitz Mts., Lelet Plateau, X 1959, 1, W. W. BRANDT (BM); Oibada, near Mamai Estate, 30 I 1965, 1, R. STRAATMAN (BM); Olsobip, 400-600 m, VIII 1969, 25, J. SEDLACEK (BM); Owen Stanley Range, Goilala, Loloipa, 975 m, 16-25 XI 1957, 3, 11-20 XII 1957, 2, W. W. BRANDT (BM); Ower's C. near Goldie R., Central Prov., 17 I 1982, 1, Y. KOMIYA (YK); Pindiu, 20 IV 1963, 7, J. SEDLACEK (BM); Popondetta, 60 m, 3-4 IX 1963, 3, J. SEDLACEK, 23 IX 1963, 1, P. SHANAHAN (BM); Redscar Bay, 2, LIX (MCZ); Rouna, 300-500 m, XI 1968, 1, N. L. KRAUSS (BM); Samarai, 5 VI 1939, 1, R. G. WIND (CAS); Sepik, Ambunti, 50 m, 10 V 1963, 2, R. STRAATMAN (BM); Sepik, Angoram, 20-30 m, 14-16 VIII 1969, 3, J. L. GRESSITT (BM); Sepik, Maprin, 26 VIII 1957, 1, D. E. HARDY (BM); Sepik, Wewak, 26 VI 1961, 1, J. L. and M. GRESSITT (BM); Solomon Is., Bougainville, Buin, 1 VI 1956, J. L. GRESSITT (BM), 30 XII 1969, 3, 31 XII 1969, 18, 11 I 1970, 14, J. E. TOBLER (CAS); Solomon Is., Bougainville, bush E of Buin, 30 XII 1969, 23, 1 I 1970, 3, 2 I 1970, 5, 4 I 1970, 10, J. E. TOBLER (CAS); Solomon Is., Bougainville, Kieta, 17 II 1968, 1, R. STRAATMAN (BM); Solomon Is., Bougainville, Kieta Distr., Buka, Hanahan, 21-27 XII 1969, 25, J. E. TOBLER (CAS); Solomon Is., Mt. Balbi, 2000-2400 m, 1-7 III 1968, 2, R. STRAATMAN (BM); Solomon Is., Bougainville, Mutahi, 700 m, 1-7 III 1968, 7, R. STRAATMAN (BM); Solomon Is., Bougainville, Togerao, 15-21 IV 1968, 10, R. STRAATMAN (BM); Solomon Is., Bougainville, Waitabuna, 6 VI 1956, 2, E. J. FORD Jr. (BM); Solomon Is., Buka, Gagan, 40 m, 15 VI 1956, 1, J. L. GRESSITT (BM); Stephansort, 10 (4 syntypes of *A. socia* ssp. *staudingeri* SPAETH and 5 syntypes of *A. socia* ssp. *staudingeri* var. *flavovariegata* SPAETH, MM, 1 IZPAS); Tapini, 1000 m, 9-12 VII 1968, 6, T. MENA (BM); Torricelli Mts., Mobitei, 750 m, 28 II-4 III 1959, 1, W. W. BRANDT (BM); Torricelli Mts., Mokai Vill., 750 m, 1-23 I 1959, 1, W. W. BRANDT (BM); Tsenga, Upper Jimmi Vall., 1200 m, 15 VII 1955, 2, J. L. GRESSITT (BM); Tuwep, Salawaket Range, 1350 m, 8 IX 1956, 1, E. J. FORD jr. (BM); Umboi

Is., Semo to Avelkom, 470-600 m, 25 II 1967, 1, G. A. SAMUELSON (BM); Vauapa R., 29 II 1964, 3, J. SEDLACEK (BM); Wanapa, X 1990, 1, J. SEDLACEK (QM); Wau, Bulolo R., 900-1100 m, 25 IX 1965, 1, J. and M. SEDLACEK, 700 m, 29 VIII 1969, 1, Y. H. HIRASHIMA (BM), 26 IX 1969, 3, 6 XI 1969, 2, J. SEDLACEK (BM); Wau, Kujeru, 1500 m, 27 IX 1969, 3, A. B. MIRZA (BM); Wau, Mt Missim, 1050 m, 10 VII 1962, 1, 7 I 1963, 2, J. SEDLACEK (BM), 1200-1800 m, 8 XII 1963, 1, H. CLISSOLD (BM); Woodlark Is., III-IV 1897, 1, A. S. MEEK (MCZ); Woodlark I., Marua, Kulumadau Hill, 28-30 I 1957, 1, 25 II 1957, 2, 4-9 III 1957, 2, 16-22 IV 1957, 1, W. W. BRANDT (BM); Wum, Upper Jimmi Vall., 840 m, 16 VII 1955, 2, J. L. GRESSITT (BM); Yule Is., IV 1876, 6, L. M. ALBERTIS (syntypes of *A. socia* ssp. *yulensis* SPAETH, MM), Yule Is., 6 (4 MLM, 2 IRSN); Zenag-Lae, 400 m, 28 I 1964, 1, 17 I 1965, 3, J. SEDLACEK (BM), 200 m, 13 II 1968, 4, P. COLMAN (BM).

SOLOMON IS.: Florida, Tulagi, 1, W. M. MANN (MCZ); Florida, 1, H. P. CHANDLER (CAS); Gizo, New Georgia Group, 20 I 1970, 2, J. E. TOBLER (CAS); Guadalcanal, 1, C. H. FOGGITT (CAS); Guadalcanal, Lunga Riv. Bridge, 12 VII 1960, 1, J. SCHENK (MCSNV); Guadalcanal, Nalimbu Riv., 5 VI 1960, 1, J. SCHENK (MCZ); Guadalcanal, Sutakiki R., 300 m, 28 VI 1956, 1, J. L. GRESSITT (BM); Guadalcanal, Tanaru R., I 1945, 2, G. E. BOHART (CAS); Malaita, Kolombangara, Ringi Cove, 23-24 km up Main road, 14 I 1970, 3, J. E. TOBLER (CAS); Auki, 1, W. M. MANN (MCZ); Malaita, Auki, 24 I 1970, 5, J. E. TOBLER (CAS); Rendova, Hopongo, 12 IX 1967, 3, E. SCHEFFLER (PMNH); Rondoya, 1, W. M. MANN (MCZ); Vella Lavella, 12-20 X 1943, 4, 20 XI-13 XII 1943, 1, P. D. HURD (CAS).

Aspidimorpha australasiae (BOISDUVAL, 1835)

(figs. 79-90, 100, 103, 106, 109, 117-119, 129, 133)

Cassida australasiae BOISDUVAL, 1835: 537.
Aspidomorpha australasiae: BOHEMAN, 1854: 308; SPAETH, 1903 a: 147; 1906: 37; 1913: 447; 1914: 70; 1932 a: 137; MAULIK, 1916: 584.
Cassida Guerini BOISDUVAL, 1835: 538; BOHEMAN, 1855: 528, **n. syn.**
Aspidomorpha (?) *Guerini*: SPAETH, 1903 a: 148.
Aspidomorpha australasiae var. *Guerini*: SPAETH, 1906: 37; 1914: 70.
Aspidomorpha Douei BOHEMAN, 1856: 110; SPAETH, 1903 a: 148 (as syn.).
Aspidomorpha australasiae var. *Douei*: SPAETH, 1906: 37; 1914: 70.
Aspidomorpha Australasiae ramifera SPAETH, 1903 a: 148; 1909: 28; 1914: 70, **n. syn.**
Aspidomorpha Australasiae ramifera var. *subdivisa* SPAETH, 1903 a: 148; 1914: 70, **n. syn.**
Aspidimorpha Australasiae flyensis SPAETH, 1903 a: 148; 1913: 448; 1914: 70, **n. syn.**

DESCRIPTION

Length 7.2-9.5 mm (specimens below 9 mm predominate), width 6.1-8.7 mm, length of pronotum 2.5-3.3 mm, width of pronotum 4.5-6.2 mm. Body almost circular.

The most variable species (fig. 79-90). Pronotum and scutellum always yellow. Elytra with variable pattern. In the palest form elytral disc reddish with yellowish postscutellar tubercle and explanate margin of elytra without spots. In the darkest form elytral disc is black except yellow postscutellar tubercle and lateral fold, explanate

margin black except yellow window in the middle and yellow spot at sutural apex. A form with the following coloration is common: elytral disc black except yellow postscutellar tubercle, 1-3 small spots along suture, lateral fold and extreme apex of disc, explanate margin with black humeral and posterolateral spots. In some forms this pattern is reddish to brown. Also a form with elytral disc mostly yellow with brown or black pattern is common: spot at base of elytron, band from humerus to base of posterolateral spot of explanate margin forms an arch to the middle of disc, spot behind postscutellar tubercle and spot near sutural apex; these spots and band often partly coalescent, explanate margin with or without humeral and posterolateral spots. Between the forms described above there are all intermediates.

Pronotum 1.8-1.9 times wider than long, with maximum width slightly behind middle, sides rounded. Disc moderately convex, glabrous, shiny. Explanate margin steeply declivous, does not form a gutter, surface glabrous, shiny.

Base of elytra distinctly wider than pronotum. Elytral disc with more or less developed obtuse postscutellar tubercle (figs. 117-119). Body outline behind tubercle in some specimens almost straight in other distinctly concave. Principal impression small but deep, no lateral impression. Puncturation of elytra regular, fine, in posterior half of disc gradually smaller, in apex obsolete. Submarginal row distinct only in front of lateral fold, behind the fold fine to obsolete. Marginal row distinct. Intervals flat, in sutural part of disc several times wider than punctures, on sides of disc 2-3 times wider than punctures. Explanate margin 0.8-1.0 times as wide as width of disc of elytron, steeply declivous, extreme margin horizontal, surface glabrous, shiny. Humeral angles rounded, margin behind angle convex. Apex of elytral epipleura with scarce erect hairs but in dried specimens hairs are often broken.

Clypeus about 1.3-1.4 times wider than long, apex with or without small impression. Labrum broad, emarginate to 1/4 length. Eyes large, gena obsolete (fig. 100). Antennae slim, length ratio of antennal segments: 100:43:97:63:60:37:51: 46:51:46:83, segment 3 about 2.3 times longer than 2 (fig. 109). Prosternal collar moderately long, prosternal process broad, flat.

Tarsi broad, last segment slightly longer than the third (fig. 106), inner pecten of claws with 3(4) teeth, the largest extending to 1/3 length of claw (fig. 103); outer pecten with 2(3) teeth about as long as 2/3 length of inner pecten.

Remarks

With *A. aurata* and *A. quadriradiata* it forms natural group of species with elytral disc with postscutellar tubercle and explanate margin of elytra without sutural spot. Because of great variability of each species they are difficult to distinguish, and some specimens are impossible to identify unambiguosly. *A. quadriradiata* is the least variable and with the most local distribution - see remarks under description of this species. *A. aurata* and *A. australasiae* are extremely similar and partly sympatric. It is a rule that specimens of both species in area of sympatric distribution are more different than specimens from allopatric distribution area. They are sympatric in New Guinea, New

Britain and New Ireland and adjacent islands; in North Australia only *A. australasiae* occurs and in Solomon Is. and New Caledonia only *A. aurata*. Specimens of *A. aurata* from New Guinea, New Britain and New Ireland usually differ distinctly from specimens of *A. australasiae* from the same locality in postscutellar tubercle larger, more angulate (fig. 120); they are generally larger and stouter (fig. 129). In populations of *A. aurata* from Solomon Is. postscutellar tubercle is low and obtuse (fig. 121), similar as in specimens of *A. aurata* from New Guinea (fig. 118). These populations of *A. aurata* differ only in generally larger body, but small specimens are impossible to distinguish from *A. australasiae*. In this case only geographic criterion is available. I have examined only a few specimens of true *A. australasiae* from Solomon Is., without doubt introduced to gardens in port towns. On the other hand several specimens of *A. australasiae* from Australia and south New Guinea have postscutellar tubercle moderately large and subangulate, and large specimens of these populations are very similar to *A. aurata* (fig. 117). They are possible to distinguish only by comparsion with series of properly determined specimens of both species.

MATERIAL EXAMINED

AUSTRALIA: N. Queensland, Gordon's Mine Area, Iron Range, 12-18 II 1976, 1, G. B. MONTEITH (QM); N. Queensland, Iron Range, Cape York Pen., 1-4 V 1973, 1, G. B. MONTEITH (QM); N. Territ., Darwin, 6 VIII 1965, 1, P. CHRISTENSEN (QM); Queensland, Iron Range, 17 III 1984, 2, J. SEDLACEK (QM).

INDONESIA WEST IRIAN: Bokondini, 40 km N of Baliem V., 1300 m, 16-23 XI 1961, 2, S. and L. QUATE (BM); Central Mts., Mulik R., 10 km W of Archbold Lake, 1050 m, 25 X-5 XII 1961, 1, S. QUATE (BM); Nabire, S. Geelvink Bay, 0-30 m, 2-9 VII 1962, J. L. GRESSITT (BM), 5-50 m, 25 VIII-2 IX 1962, 1, H. HOLTMANN (BM); Oransbari, S of Manokwari, 10 II 1963, 1, R. STRAATMAN (BM); Takar, 1, FRUHSTORFER (IRSN); Wandamen baai, V 1945, 1, D. L. LEIKER (ITZ); Waris S of Hollandia, 450-500 m, 16-23 VIII 1959, 4, T. C. MAA (BM).

PAPUA NEW GUINEA: Adelbert Mts., Wanuma, 800-1000 m, 26 X 1958, 1, J. L. GRESSITT (BM); Aiyura, 1700-1800 m, 9 I 1965, 1, J. SEDLACEK (BM); Baindep, Salawaket Range, 1260 m, 16 IX 1956, 4, E. J. FORD Jr. (BM); Baindoang, Salawaket range, 1800 m, 15 IX 1956, 4, E. J. FORD Jr. (BM); Bena R., 1500-1600 m, 2-3 IX 1964, 3, M. SEDLACEK (BM); 50 km E of Bogia, 18-22 II 1979, 1, J. SEDLACEK (QM); Bubia, Markham, 19 IX 1955, 1, J. L. GRESSITT (BM); Bulema R., 64 km N of Lae, 30 m, 29 IV 1963, 2, J. SEDLACEK (BM); Bulldog Road, 680 m, 9 III 1962, 1, J. SEDLACEK (BM); Bulolo, 19-24 VIII 1956, 6, E. J. FORD Jr. (BM), 29 VIII 1956, 2, PALM (BM), 14 XI 1961, 4, 2 II 1969, 12, 8 V 1969, 5, 24 XI 1969, 2, J. SEDLACEK (BM), airport, 7 X 1969, 1, J. E. TOBLER (CAS), 13 II-13 III 1979, 2, J. SEDLACEK (QM); Bupu R., Sitium Vall., 19 km NE of Lae, 15 V 1970, 4, N. R. SPENCER (BM); Busu R., 60 km E of Lae, 20 m, 13 I-10 II 1979, 1, J. SEDLACEK (QM); Cape Killerton, 17-20 X 1963, 1, P. SHANAHAN (BM); Cromwell Geb., 2 (IZPAS); Daradae Pl'n., 500 m, 80 km N of Port Moresby, 6 IX 1959, 1, T. C. MAA (BM); Daru Is., 3 m, 8 III 1964, 1, 20 VII 1964, 5, 22 VII

1964, 2, H. CLISSOLD (BM); Dobodura, III-VI 1944, 1, DARLINGTON (MCZ); Dreikikir, Sepik Distr., 350 m, 23 VI 1961, 1, J. L. GRESSITT (BM); Eliptamin Vall., 1665-2530 m, 23-30 VI 1959, 1, W. W. BRANDT (BM); Feramin, 1450 m, 21 VIII 1963, 4, R. STRAATMAN (BM), VIII 1971, 1, A. R. MIRZA (BM); Finisterre Range, Saidor, Klambar, 22-29 VII 1958, 4, W. W. BRANDT (BM); Finschafen, 16 IV 1944, 3, 17 IV 1944, 1, 20 IV 1944, 2, 21 IV 1944, 1, 26 IV 1944, 2, E. S. Ross, 19 XI 1969, 15, J. E. TOBLER (CAS), 12 IV 1963, 6, 14-16 IV 1963, 14, J. SEDLACEK (BM); 1 mls N of Finschafen, 16 XI 1969, 37, J. E. TOBLER (CAS); Fly Riv., Kiunga, VIII 1969, 1, J. SEDLACEK (BM); Garaina, 20 XI-17 XII 1969, 1, A. B. MIRZA (BM); Green R./Sepik R. junction, 200 m, 22 VI 1963, 1, R. STRAATMAN (BM); Huon Pen., Boana Mission, 4-5 IX 1956, 2, E. J. FORD Jr. (BM); Huon Pen., Pindiu, 800-880 m, 17 IV 1963, 6, 20 IV 1963, 5, J. SEDLACEK (BM); Huon Pen., Tobo-Salembeng, 26 IV 1963, 1', J. SEDLACEK (BM); Huon Pen., Zengaren, 1200 m, 28 IV 1963, 1, E. J. FORD Jr. (BM); Jimmi V., 27 XII-26 I 1979, 1, J. SEDLACEK (QM); near Kainantu, Onerunka, II 1979, 1, 17 III 1979, 1, 17 V 1979, 1, VI 1979, 4, 28 VIII 1979, 1 (MHNG); Kalalo, 750 m, 20-30 VIII 1966, 23, G. A. SAMUELSON (BM); Kar Kar Is., Naman, 0-200 m, 9 VIII 1968, 1, N. L. KRAUSS (BM); Karimui, SD of Goroka, 1000 m, 3-7 VI 1961, 2, J. L. and M. GRESSITT (BM); Kassem Pass, 510 m, 18 VII 1963, 1, J. SEDLACEK (BM); , 1430 m, 4 IX 1964, J. and M. SEDLACEK (BM), 1400 m, 11 I 1965, 1, L. TORREVILLUS (BM); Keparra-Sengi, near Kokoda, 27-28 III 1956, 4, J. L. GRESSITT (BM); Kokoda, 22-28 III 1956, 2, 28-29 III 1956, 1, J. L. GRESSITT (BM), 400 m, 17-19 XI 1965, 7, J. and M. SEDLACEK (BM), 20 XI 1965, 2, J. SEDLACEK (BM); Kumur, Upper Jimmi V., 1000 m, 13 VII 1955, 1, J. L. GRESSITT (BM); Kuper Ra, 25-28 I 1969, 1, J. SEDLACEK (BM); Lae, 4 VII 1961, 4, 6 II 1969, 1, J. SEDLACEK (BM), 20 I 1962, G. MONTEITH (BM); Lae, Singuawa R., 30 m, 11 IV 1966, 7, P. SHANAHAN (BM); Lakona, 13 I 1973, 1, K. W. STRÖDER (MHNG); L. Kopiago, 1300 m, 3 II 1979, 1, J. SEDLACEK (QM); Lambaep, Salawaket Range, 900 m, 19 IX 1956, 2, E. J. FORD Jr. (BM); Madang, 17 II 1979, 1, J. SEDLACEK (QM); Madang Distr., Wanuma, 600-720 m, VIII 1968, 4 (BM); Mamai Plt'n, near Port Glasgow, 20 I 1965, 1, P. SHANAHAN (BM), 60 m, 3-17 II 1965, 6, R. STRAATMAN (BM); Markham Riv., 50 m, 20-25 I 1962, 2, J. SEDLACEK (BM); Milne Bay, VII 1939, 6, R. G. WIND (CAS), VII 1943, 6, WIND, XII 1943, 8, DARLINGTON (MCZ), 16-23 II 1969, 12 (BM); Moorhead, 14 VII 1964, 2, H. CLISSOLD (BM); Morobe Distr., Busu Riv., 16 km E of Lae, 31 X 1969, 12, 5 XI 1969, 5, J. E. TOBLER (CAS); Morobe, near Kaiapit, XII 1978, 10, 17 II 1979, 1, IV 1979, 5 (MHNG); Morobe Distr., Mindik, 1200-1600 m, IX 1968, 2, N. L. KRAUSS (BM); Morobe distr., Ulap, 800-1100 m, IX 1968, 4, N. C. KRAUSS (BM); Mt. Kainde, 1900 m, 13 II-12 III 1979, 1, J. SEDLACEK (QM); Mt. Lamington, 1300-1500 ft, 6, C. T. MCNAMARA (SAM); Mt. Shlingol, 15 II 1974, 1, J. SEDLACEK (QM); Mt. Shungoi, Rari, 1250 m, 1 VI 1967, from *Ipomea*, 1, J. L. GRESSITT (BM); Murua, near Kerema, 5-25 m, 22 XII 1964, 1, J. SEDLACEK (BM); New Britain, Gazelle Pen., Baininga, St. Paul's, 350 m, 9 IX 1965, 1, J. L. GRESSITT (BM); New Britain, Gazelle Pen., Mt. Sinewit, 900 m, 5-14 XI 1962, 2, J. SEDLACEK (BM); New Britain, Gazelle Pen., Upper Warangoi, Illugi, 230 m, 8-15 XII 1962, 8, J. SEDLACEK (BM); New Britain, Jacquinot Bay, 1 XII 1969, 1, J. E. TOBLER (CAS); New

Britain, Olaipun, 800 m, VIII 1979, 2, R. Emery (MHNG); New Britain, Pomio, 9 II 1979, 1, J. D. Bourne (MHNG); N. Guinea, Dilo, VI-VII 1890, 1, Loria (syntype of *Aspidomorpha australasiae* var. *subdivisa* Spaeth, MM); N. Guinea, Fly River, 1876-77, 4, L. M. Albertis (2 syntypes of *A. australasiae* ssp. *ramifera* Spaeth and 2 syntypes of *A. australasiae* ssp. *flyensis* Spaeth, MM); N. Guinea Mer., 1, L. Loria (syntype of *A. australasiae* ssp. *ramifera* Spaeth, MM); N. Guinea, Milne Bai, 3 (syntypes of *A. australasiae* var. *subdivisa* Spaeth, MM); N. Guinea, Ramoi, II 1875, 1, Beccari (syntype of *A. australasiae* ssp. *ramifera* Spaeth, MM); N. Guinea S. E., XI 1893, 1, Loria (syntype of *A. australasiae* ssp. *ramifera* Spaeth, MM); N. Guinea S. E., Paumomu Riv., IX-XII 1892, 2, Loria (syntypes of *A. australasiae* var. *subdivisa* Spaeth, MM); Northern Distr., Buka Bara, 23 IX 1963, 2, P. Shanahan (BM); Okapa, 1900 m, 3 VI 1967, 1, G. A. Samuelson (BM); Olsobip, Fly R., 600 m, VIII 1969, 1, J. and M. Sedlacek (BM); Oransbari, S of Manokwari, 10 II 1963, 1, R. Straatman (BM); Oro Bay, XI 1943-II 1944, 4, J. Helfer (BM); Owen Stanley Range, Goilala, Bome, 1950 m, 1-15 IV 1958, 1, W. W. Brandt (BM); Owen Stanley Range, Goilala, Loloipa, 1-15 II 1958, 1, W. W. Brandt (BM); Owen Stanley Range, Goilala, Tapini, 16-25 XI 1957, 1, W. W. Brandt (BM); Popondetta, 1-4 IX 1963, 5, J. Sedlacek (BM), VI 1966, 2, Shanahan and Lippert (BM); Popondetta, Jumbora, 23 X 1963, 1, P. Shanahan (BM); Redscar Bay, 1, Lix (MCZ); Sakalang, Salawaket, 10 IX 1956, 1, E. J. Ford Jr. (BM); Samarai, 5 VI 1939, 1, R. G. Wind (CAS); Sepalakambang, Salawaket Range, 1920 m, 12 IX 1956, 2, 15 IX 1956, 4, E. J. Ford Jr. (BM); Sogeri, 600 m, 27 X-3 XI 1968, 1, T. Mena (BM); Solomon Is., Bougainville, Buin, 10 I 1970, 1, J. E. Tobler (CAS); Stephansort, 1, C. v. Hagen (IZPAS); Torricelli Mts., Mobitei, 750 m, 5-15 III 1959, 2, W. W. Brandt (BM); Torricelli Mts., Sugoitei, 900 m, 24 I-5 II 1959, 3, W. W. Brandt (BM); Tsengu, Upper Jimmi V., 14 VII 1955, 2, J. L. Gressitt (BM); Upper Vatut R., 24 km W of Bulolo, 760 m, 5-6 III 1963, 1, J. Sedlacek (BM); Vanapa Riv., 29 II 1964, 6, J. Sedlacek (BM); Wampit V., near Gurakor Vill., 950 m, 7 VII 1957, 1, D. E. Hardy (BM); Wau, 1200m, Morobe Pr., 20 XII 1981, Y. Komiya (YK); Wau, 900-1100 m, 29 VIII 1961, 2, 1150 m, 12 IX 1961, 1, 1250 m, 3 V 1963, 1, 29-30 IX 1963, 10, 25 IX 1965, 1, 1200 m, 13-20 VIII 1971, 3, J. Sedlacek (BM), 1200 m, 24 X 1963, 2, H. Clissold (BM), VII 1968, 3, N. C. Krauss (BM), 4 X 1969, 4, J. E. Tobler (CAS); Wau, Big Wau Ck., XII 1965, 4, P. Shanahan (BM); Wau, Kaisenik, 1000 m, 19 IV 1965, 1, J. and M. Sedlacek (BM); Wau, Mt. Missim, 8 XII 1963, 1, H. Clissold (BM), 950-1300 m, XII 1965, 1, J. Sedlacek (BM); Western Distr., Ruka, 9 VII 1964, 8, 12 VIII 1964, 1, H. Clissold (BM); W. Distr., Oriomo Govt. Stat., 27 X 1960, 1, J. L. Gressitt (BM); W. Distr. tala, 13 VII 1964, 1, H. W. Clissold (BM); Wewak, Sepik Distr., 30 m, 26 VI 1961, 1, J. L. and M. Gressitt (BM); W Lae, Oomsis Ck., 4 IX 1963, 1, T. Schoener (MCZ); Wum, Upper Jimmi V., 17 VII 1955, 1, J. L. Gressitt (BM); Zenang-Lae, 200 m, 15 I 1965, 1, 28 I 1969, 2, J. Sedlacek (BM), 13 II 1968, 5, P. Colman (BM).

Aspidimorpha convolvuli (BOHEMAN, 1862)

(figs. 10-12, 126, 133)

Coptocycla convolvuli BOHEMAN, 1862: 431.
Aspidomorpha convolvuli: PERRIS, 1864: 215.

DESCRIPTION

Length 6.0-7.6 mm, width 5.3-6.3 mm, length of pronotum 2.0-2.5 mm, width of pronotum 3.7-4.5 mm. Body short-oval with broadly rounded sides.

Pronotum yellow, disc with large trapezial basal brown or black spot; the spot usually with median narrow yellow line. Scutellum brown to black. Elytra with constant brown to black pattern. Disc mostly dark with three large round spots along sutural half of disc, yellow spot in front of humerus, yellow spot in the middle of marginal interval, and yellow extreme apex of disc (figs. 10-12). Explanate margin with short dark humeral spot, extending at most to half width of explanate margin, and with small dark posterolateral spot extending to 1/3-1/2 half of explanate margin; in two examined specimens posterolateral spot absent. Apical part of suture without spot. Prosternum brown to black, also margins of metasternum more or less infuscate. Last two or three antennal segments infuscate.

Pronotum about 1.8 times wider than long, with maximum width in the middle. Disc moderately convex, glabrous, shiny. Explanate margin steeply declivous, does not form a gutter, surface glabrous, shiny.

Base of elytra distinctly wider than pronotum. Disc regularly convex (fig. 126), without or with small, shallow principal depression. Puncturation regular, extremely fine, in apical half of disc hardly marked or obsolete. Submarginal row with only 5-7 punctures behind humerus, marginal row distinct. Intervals flat, many times wider than punctures. Explanate margin steeply declivous, glabrous, shiny. Humeral angles rounded, margin behind angle not emarginate. Apex of elytral epipleura with scarce erect hairs.

Clypeus about as wide as long, with small apical impression. Labrum broad, emarginate to 1/4 length. Eyes large, gena obsolete. Antennae slim, length ratio of antennal segments: 100:44:95:72:68:44:48:44:48:48:96; segment 3 about 2.2 times longer than 2. Prosternal collar moderately long, prosternal process broad, flat or only slightly impressed in the middle, apex strongly expanded.

Tarsi broad, last segment only slightly longer than the third. Inner pecten of claws with 4 teeth, short, the longest tooth extending to 1/4-1/3 length of claw; outer pecten with two extremely short teeth, about thrice shorter than in inner pecten.

Remarks. It is a distinct species with no close relatives in Australopapuan region. See discussion under *A. westwoodi*. It is the only species of *Cassidinae* endemic to New Caledonia. Only *A. aurata* was recorded also from this island (described as *A. opima*) but this species is common rather in northern part of Papuan Subregion.

MATERIAL EXAMINED

NEW CALEDONIA: Nouvelle Calédonie, Kanala, 3, rec. MONTROUZIER, ex coll. FAUVEL (syntypes of *Aspidomorpha convolvuli* BOH., IRSN); N. Caled., 3 (2 MM, 1 LB); N. Caledonien, 1 (IZPAS).

Aspidimorpha deusta (FABRICIUS, 1775)

(figs. 16-21, 124, 132)

Cassida deusta FABRICIUS, 1775: 89; 1781: 109; 1787: 63; 1792: 297; 1801: 396; LINNAEUS in GMELIN, 1787: 1636; OLIVIER, 1790: 382; 1808: 954; HERBST, 1799: 334; BOISDUVAL, 1835: 543; BOHEMAN, 1854: 333.
Aspidomorpha deusta: SPAETH, 1903 a: 137; 1914: 70; 1915: 235; HAWKESWOOD, 1988: 107.
Cassida collina BOISDUVAL, 1835: 541; SPAETH, 1914: 71 (as syn.).
Cassida angulifera BLANCHARD, 1853: 324; SPAETH, 1914: 71 (as syn.).
Cassida nigrodorsata BOHEMAN, 1856: 119; 1862: 293, **n. syn.**
Aspidomorpha deusta ssp. *nigrodorsata*: SPAETH, 1914: 71.

DESCRIPTION

Length 7.8-10.0 mm, width 5.6-7.4 mm, length of pronotum 2.5-3.0 mm, width of pronotum 4.5-5.8 mm. Body almost parallesided.

Pronotum yellow, disc with two small, round, black spots, distance between spots always larger than width of spot. Sometimes pronotum immaculate (figs. 20-21). Elytra in the most common colour form yellow with several small black spots: elongate behind scutellum, three along suture, round on humerus, transverse behind humerus, three along middle of each elytron, and one irregular at base of posterolateral spot of explanate margin; explanate margin with humeral, posterolateral and sutural spots. The shape and size of spots vary in specimens from the same locality but general pattern is rather constant (figs. 16-17). Occasionally spots are partly reduced, or are partly coalescent, in extreme forms elytral disc is almost uniformly yellow or completely black (figs. 18-21). Humeral spot of explanate margin is often reduced to narrow line along anterior margin. Antennal segments 7 brown, segments 8-10 black. Ventrites always yellow.

Pronotum 1.8-1.9 times wider than long, with maximum width in the middle, sides rounded. Disc moderately convex, glabrous, shiny. Explanate margin steeply declivous, does not form a gutter, surface glabrous, shiny.

Base of elytra distinctly wider than pronotum. Disc regularly convex (fig. 124), with large and deep principal impression. Puncturation regular, moderately large, in posterior half of disc gradually smaller but distinct on whole length of disc. Intervals flat or in yellow parts of elytra, especially in anterior half, slightly convex, in sutural half of disc 3-5 times wider than punctures, in lateral half 1.5-2.0 times wider than punctures. Intervals 3 and 5 often more elevated than the neighbouring ones. Submarginal row in front of lateral fold with strong punctures, behind the fold with small punctures; marginal row distinct, broadly interrupted by humeral and lateral folds. Explanate margin narrow, about 0.35 times as wide as width of elytron, steeply declivous, with

extreme margin horizontal. Humeral angles acute, margin behind angle slightly emarginate. Apex of elytral epipleura unpubescent.

Clypeus 1.4 times wider than long, flat, or with very shallow depression. Labrum narrow emarginate to 1/4 length. Eyes large, gena obsolete. Antennae stout, length ratio of antennal segments: 100:46:83:67:53:50:53:43:43:43:90; segment 3 about 1.8 times longer than 2. Prosternal collar short, prosternal process broad, flat or slightly impressed in the middle, apex moderately enlarged.

Tarsi broad, last segment only slightly longer than the third. Inner pecten of claws with 4 teeth, short, extending only to 1/5-1/4 length of claw; outer pecten with 2(3) teeth, extremely short, only slightly reaching behind ventral margin of claw.

Remarks. It is a distinct species, related only to *A. angoramensis*. See discussion under *A. angoramensis*. Beside *A. miliaris* and *A. adhaerens* it is a species with areal extending behind Australopapuan Region. It is common in Java and adjacent islands, but it was probably introduced to Indonesia and established, because in collections specimens from Java from before Second World War are lacking.

MATERIAL EXAMINED

AUSTRALIA: Cairns, 6 IX 1952, 1, J. SEDLACEK (CAS), Cairns, 3 (2 SAM, 1 QM); Cape Crenville, 20 (MLM), Cape York, Coen Distr., 2 (1SAM, 1 QM); Cape York, 3 (MLM); Dunk Id., VIII 1920, 1, C. L. FARRETT (ANIC); Darwin, 12 VIII, 1, J. SEDLACEK (QM); New South Wales, Greta, 1951, 1, J. SEDLACEK (CAS); New South Wales, Dorrigo, XI 1955, 2, J. SEDLACEK (QM); N. Queensland, Bamaga, I 1984, 1, J. SEDLACEK (QM); N. Queensland, Hibboard Point, Weipa, 5-8 II 1975, 1, G. MONTEITH (QM); N. Queensland, Port Douglas, 9 VII 1971, 2, Z. LIEPA (ANIC); N. Queensland, Somerset, Cape York, 16-17 IV 1973, 1, G. B. MONTEITH (QM), Somerset, I 1875, 1, D'ALBERTIS (IRSN); N. Queensland, 1, CARDWELL (MCZ); Northern Territory. 1 (SAM); Palm Is., 1, T. BANCROFT (QM); Port Darwin, 2 (MLM); Port Denison, 1 (MLM); Port Essington, 1 (holotype of *Cassida nigrodorsata* BOHEMAN, BMNH); Queensland, Airstrip on Badu Is., Torres Str., 18 VII 1977, 3, G. MONTEITH (QM); Queensland, Bowen, 1, A. SIMSON (SAM); Queensland, Cairns, 6 IX 1952, 1, J. SEDLACEK (QM); Queensland, Clump Pt., XI 1950, 1, J. SEDLACEK (QM); Queensland, Halftide near Mackay, 7 I 1965, 2, E. C. DAHMS (QM); Queensland, Normantown, III 1982, 1, J. SEDLACEK (QM); Queensland, Peebly Beach, 18 I 1965, 1, E. C. DAHMS (QM); Queensland, Port Douglas, 16 I 1965, 1, E. C. DAHMS (QM); Queensland, Townsville, 28 I 1965, 2, E. C. DAHMS (QM), 23 I 1981, 1, T. J. HAWKESWOOD (ANIC); Queensland, Yeppoon, 19-22 XII 1969, 5, M. A. EVANS (MCZ); Yorkey's Knob, NEQ, 18 I 1965, 2, E. C. DAHMS (QM); .

INDONESIA: West Irian, Sorong, 13 II 1960, 15, from *Ipomea pescaprae*, R. T. SIMON-THOMAS (ITZ); Sorong-wai, 12 II 1960, 100, R. T. SIMON-THOMAS (ITZ).

PAPUA NEW GUINEA: Dumpu, 200 m, 22 I-16 II 1979, 1, J. SEDLACEK (QM); Saruwaged Mts., 200 m, 22-26 I 1979, 1, J. SEDLACEK (QM).

convex. Apex of elytral epipleura in male unpubescent in female with scarce erect hair but in dried specimens hair usually broken.

Clypeus about 1.3 times wider than long, apex usually with oval impression. Labrum broad, emarginate to 1/4 length. Eyes large, gena obsolete. Antennae slim, length ratio of antennal segments: 100:32:120:66:58:37:45:39:39:39:84, segment 3 about 3.7 times longer than 2. Prosternal collar moderately long, prosternal process broad, flat or with shallow impression in the middle, strongly expanded apically.

Tarsi broad, last segment slightly longer than the third, inner pecten of claw with 3(4) teeth, the largest extending to 1/4 length of claw; outer pecten with two very short teeth, only slightly extending behind ventral margin of claw.

Remarks. It is similarly coloured to *A. punctum* but it differs in elytral disc with postscutellar gibbosity (regularly convex in *A. interrupta*). *A. punctum* is smaller, the largest specimens have body length to 10 mm. Similarly coloured aberrations of *A. australasiae*, *A. aurata* and *A. novaeguineensis* distincty differ in elytral disc with more or less developed postscutellar tubercle.

MATERIAL EXAMINED

AUSTRALIA: Austral., 1 (holotype of *Aspidomorpha badeni* WAGENER, MM); Cape York, 1, H. ELGNER (SAM), 1, THOMS. (IZPAS); Endevaour R., 7 (3 MLM, 5 SAM); Moa I., Torres Straits, 1, J. W. SCHOMBERG (SAM); Neu S. Wales, 1898, 2, PLASON (syntypes of *A. plasoni* SPAETH, MM); Nov. Holl. Queensl., 1, BANKS coll. (holotype of *Cassida interrupta* FABRICIUS, BMNH); N. QU. T., 1 (holotype of *A. planipennis* BLACKBURN, BMNH); N. Queensland, 11 (1 MCZ, 10 CAS); N. Queensland, Bamaga, XII 1983, 1, J. SEDLACEK (QM); N. S. W., 3 (syntypes of *A. plasoni* SPAETH, MM); Queensland, 5 (2 MCZ, 3 MLM); Queensland, 3 (1 paratype of *A. planipennis* BLACKBURN, SAM); Queensland, Cape York, 2 (MLM); Queensland, Cleveland Bay, 1 (MLM); Queensland, Cooktown, 21 IV-13 V 1896, 1 (MCZ); Queensland, Somerset, 1 (SAM); Queensland, Stewart R., 2, W. D. DODD (SAM).

Aspidimorpha maculatissima (BOHEMAN, 1856)

(figs. 22-27, 112, 131)

Cassida maculatissima BOHEMAN, 1856: 117; 1862: 288.
Aspidomorpha maculatissima: SPAETH, 1903 a: 137; 1914: 71; HAWKESWOOD, 1982: 92-101; 1988: 108.
Cassida Mac Leayi BOHEMAN, 1856: 117; 1862: 287.
Aspidomorpha Mac Leayi: SPAETH, 1903 a: 137; 1914: 71, **n. syn.**
Cassida tetrica BOHEMAN, 1856: 117; 1862: 286, **n. syn.**
Aspidomorpha tetrica: SPAETH, 1914: 72 (gen. dubium).
Aspidomorpha maculatissima ssp. *tamifera* SPAETH, 1915: 235, **n. syn.**

DESCRIPTION

Length 8.5-10.5 mm, width 7.0-8.5 mm, length of pronotum 2.8-3.4 mm, width of pronotum 4.8-6.0 mm. Body short-oval.

Pronotum yellow with black pattern. In the commonest form pronotum with black cross in the middle, black spot on each base of explanate margin, and black band along pronotal base (fig. 25). In the palest form pattern is reduced to Y-shaped brown spot in the middle and brown spot on ech side of base of disc (fig. 22). In the darkest form pronotum black except yellow anterior part of explanate margin (fig. 27). Between the three patterns many intermediate forms occur. Elytra in the most common form yellow with irregular black reticulation as in figs. 24-25. Explanate margin with humeral, posterolateral and sutural spots. Humeral spot removed from anterior margin, so between margin and the spot occurs yellow, transverse spot. In the palest form elytral pattern reduced to several brown spots, only partly coalescent, and spots of explanate margin brown, narrow. In the darkest form elytra uniformly black. Pale brown and uniformly black forms are rare, of 45 examined specimens only 5 belong to these aberrations. Ventrites in pale forms uniformly yellow, in common spotted form prosternum black, metasternum with black inner and posterior part and yellowish to brown anterolateral part, sternites in the middle black with yellowish posterior margin. The degree of melanism of ventral part is not correlated with degree of melanism of dorsal part and specimens with completely black elytra may have ventrites mostly yellow.

Pronotum 1.7-1.8 times wider than long with maximum width in the middle, sides broadly rounded. Disc moderately convex, glabrous, shiny. Explanate margin steeply declivous to subhorizontal, does not form a gutter, surface glabrous, shiny.

Base of elytra distinctly wider than pronotum. Disc regularly convex (fig. 112), with large and deep principal impression. Yellow pattern of disc slightly convex, especially in anterior half of disc. Elytral rows regular, punctures moderately large and distinct on whole elytral length, submarginal and marginal rows distinct. Intervals slightly convex, in sutural half of disc 4-5 times wider than punctures, on sides not or only slightly wider than punctures. Explanate margin 0.4-0.5 times as wide as width of elytron, steeply declivous, only extreme margin horizontal or forms a narrow, shallow gutter. Humeral angles subangulate, margin behind angle straight. Apex of elytral epipleura unpubescent.

Clypeus 1.4 times wider than long, flat or with indistinct median, longitudinal impressed line, or with apical oval impression. Labrum shallowly emarginate to 1/5 length. Eyes large, gena obsolete. Antennae stout, length ratio of antennal segments: 100:40:100:83:83:47:60:43:43:43:87; segment 3 about 2.5 times longer than 2. Prosternal collar moderately long, prosternal process broad, broadly impressed in apical half, apex strongly enlarged.

Tarsi broad, last segment only slightly longer than the third, inner pecten of claws with 4(5) teeth, the largest extending to 1/3-1/2 length of claw; outer pecten with 2(3) extremely short teeth, the largest only slightly extending behind ventral margin of claw.

Remarks. It is a distinct species with no close relatives. It differs from all species in maculate explanate margin of pronotum. Pale specimens with explanate margin of pronotum immaculate at first glance are similar to *A. quadriradiata* but the latter differs in elytral disc gibbous in profile (regularly convex in *A. maculatissima*).

MATERIAL EXAMINED

AUSTRALIA: Australia, 1 (holotype of *Cassida macleayi* BOHEMAN, BMNH); Bancroft, 1 (QM); Cairns, XII 1948, 5, J. O. CAMPBELL (MCSNV); Coen, 10 I 1906, 1 (holotype of *Aspidomorpha maculatissima* ssp. *tamifera* SPAETH, MM); Lizard I., 2 (IZPAS); Magnetic Is., 14 III 1926, 1 (QM), 16 II 1947, 3, S. R. BROCK (ANIC); N. H. Cape, 1 (holotype of *C. maculatissima* Boheman, BMNH); N. Queensland, 1, CARDWELL (MCZ); N. Territory, 5 (SAM), 1, J. P. TEPPER (QM); N. Territ., W. Alligator Mouth, 22-24 VII 1979, 1, G. MONTEITH and D. COOK (QM); Queenslanmd, Cape York, 7 (IRSN); Queensland, Palm Is., X 1978, 1, J. SEDLACEK (QM); Witsundayls near Geary, I 1934, 2 (QM); Pt. Denison, 8 (5 MLM, 3 IRSN); no data (Australia after original description), 1 (holotype of *C. tetrica* BOHEMAN, BMNH).

Aspidimorpha maffinbayensis n. sp.

(figs. 8-9, 114)

DESCRIPTION

Length 9.2-10.4 mm, width 8.7-9.3 mm, length of pronotum 3.1-3.3 mm, width of pronotum 5.9-6.4 mm. Body almost circular.

Pronotum yellow or disc with two brownish spots in front of scutellum. Scutellum yellow. Elytral disc black except yellow lateral fold, suture in front of postscutellar tubercle, and extreme apex of disc (figs. 8-9). Explanate margin and ventrites yellow. Last antennal segment infuscate to black.

Pronotum 1.9 times wider than long, with maximum width in the middle, sides broadly rounded. Disc moderately convex, glabrous, shiny. Explanate margin subhorizontal, does not form a gutter, surface glabrous, shiny.

Base of elytra distinctly wider than pronotum. Disc with conical postscutellar tubercle (fig. 114), principal impression large and deep, in front of lateral fold shallow lateral impression. Puncturation of disc regular, in anterior half of disc moderately large, in posterior half gradually smaller but distinct on whole length of disc. Intervals flat, interval 3 behind postscutellar tubercle slightly convex, in sutural half of disc intervals 3-4 times wider than punctures, on sides about as wide as to twice wider than punctures. Marginal and submarginal rows distinct. Explanate margin of elytra about as wide as width of elytron, steeply declivous to subhorizontal, does not form a gutter. Humeral angles rounded, margin behind angle convex. Apex of elytral epipleura with scarce, erect hair.

Clypeus 1.2 times wider than long, flat, apex with small impression. Labrum broad, emarginate to 1/4 length. Eyes large, gena obsolete. Antennae slim, length ratio of antennal segments: 100:34:112:66:63:44:47:47:47:47:81, segment 3 about 3.3 times longer than 2. Prosternal collar moderately elongate, prosternal process broad, flat, strongly expanded apically.

Tarsi broad, last segment only slightly longer than the third, inner pecten of claws

with 4(3) teeth, the largest extending to 1/4-1/3 length of claw; outer pecten with 2(3) teeth about twice shorter than in inner pecten.

Remarks. At first glance it is very similar to forms of *A. aurata* and *A. australasiae* with mostly black elytra. *A. aurata* differs in smaller elytral puncturation, third interval flat, disc with no lateral impression, and explanate margin usually maculate. *A. australasiae* differs in smaller body (usually below 9 mm), lower postscutellar tubercle with obtuse apex, fine elytral puncturation, third interval flat, sides of disc without impression. *A. novaeguineensis* differs in large postscutellar tubercle with strongly angulate apex and maculate explanate margin of elytra. Dark form of *A. punctum* differs distinctly in lower postscutellar tubercle and explanate margin of elytra at least with sutural spot. Other species differ in regularly convex body and\or explanate margin of elytra with spots.

MATERIAL EXAMINED

INDONESIA WEST IRIAN: holotype, Maffin Bay [1°57'S 138°51'E], Dutch N. Guinea, X.8.44, E.S. Ross Coll. (CAS); paratype, Maffin Bay, Dutch N. Guinea, X.9.44, Ross and SKINNER Collectors (CAS); paratype, the same locality, 6-X-44, E.S. Ross (LB).

Aspidimorpha miliaris (FABRICIUS, 1775)

(figs. 40-45, 110, 139)

Cassida miliaris FABRICIUS, 1775: 91; 1781: 111; 1787: 64; 1792: 300; 1801: 400; LINNAEUS in GMELIN, 1787: 1640; OLIVIER, 1790: 385; 1808: 943; HERBST, 1799: 312.

Aspidomorpha miliaris: BOHEMAN, 1854: 261; SPAETH, 1903 a: 138. Synonymies of Oriental forms see SPAETH, 1914: 69.

DESCRIPTION

Length 9.6-15.8 mm (usually above 12 mm), width 9.0-15.8 mm, length of pronotum 3.1-4.7 mm, width of pronotum 5.4-9.1 mm. Males distinctly stouter than females.

Pronotum and scutellum always yellow. Elytral disc varying from uniformly yellow to mostly black (figs. 40-45). Often disc with several black small round spots: at side of scutellum, on humerus, 2-3 spots along intervals 4-5 or/and 5/6, behind lateral fold, at base of posterolateral spot of explanate margin of elytra. Common is also a form with spot only on humerus, on with spot on humerus and at side of scutellum. Sometimes there is a spot in 1/3 length of second interval. Explanate margin of elytra with black anterior margin, in the palest form without spots, but usually with humeral, posterolateral and sutural spots. Humeral spot not extending to anterior margin of elytra, often divided into two spots - round at base of humeral callus and transverse in external half of explanate margin. Posterolateral and sutural spots often partly reduced. Last 3-5 antennal segments infuscate to black. Ventrites usually yellow, but sometimes partly black.

Pronotum 1.7-1.9 times wider than long, with maximum width in basal 1/3 length, sides rounded. Disc moderately convex, glabrous, shiny. Explanate margin subhorizontal, does not form a gutter, surface glabrous, shiny.

Base of elytra distinctly wider than pronotum. Elytral disc regularly convex, with top of convexity in postscutellar area (fig. 110). Puncturation of elytra fine to moderately large, usually regular, intervals 2 and 3 with numerous additional punctures. Punctures in posterior half of disc gradually smaller but distinct on whole length of disc. Submarginal and marginal rows distinct. Intervals flat, second interval distinctly wider than the neighbouring ones, 4-5 times wider than punctures, intervals 3-7 about 2-3 times wider than punctures, interval 8 distinctly wider than 7, about 4 times wider than punctures. Explanate margin of elytra in female about 0.8 times as wide as width of disc of elytron, in male as wide as or slightly wider than width of disc of elytron, steeply declivous, in male extreme margin subhorizontal, surface glabrous, shiny. Humeral angles broadly rounded. Apex of elytral epipleura unpubescent.

Clypeus about 1.5 times wider than long, slightly convex, usually without apical impression. Labrum broad, emarginate to 1/5 length. Eyes large, gena obsolete. Antennae slim, length ratio of antennal segments: 100:38:108:75:63:43:75: 55:63: 58:112, segment 3 about 2.8 times longer than 2. Prosternal collar moderately long, prosternal process moderately broad, strongly expanded apically, depressed or with shallow impression in the middle.

Tarsi broad, last segment longer than the third but not extending behind marginal setae of the third segment. Inner pecten of claw with 4-5 teeth, long, extending to 1/3-2/5 length of claw; outer pecten on fore leg with 2, on mid and hind legs with 3 teeth, the largest about twice shorter than teeth of inner pecten.

Remarks. A widely distributed species, known from whole Oriental Region and New Guinea. In various part of its distribution it forms various local aberrations. In New Guinea forms predominate with slimmer body, elytral pattern mostly or completely reduced, and ventrites uniformly yellow. The large body, regularly convex elytral disc, rounded sides of elytra distinguish it from all other species from Australopapuan region. It is the only Oriental element of the subfamily *Cassidinae* encroaching the Papuan Subregion.

MATERIAL EXAMINED

PAPUA NEW GUINEA: Bema, 5 mi Kaintiba, 29 IX 1972, 1, K. W. STRÖDER (MHNG); Bisianumu, E of Port Moresby, 500 m, 8 VI 1955, 1, J. L. GRESSITT (BM); Middle Fly Riv., 250-300 m, VII 1928, 1, PEMBERTON (BM); Moresby, X 1956, 1, J. SEDLACEK (QM); Moroka, 3500 ft, X 1895, 9, ANTHONY (MCZ); Mt Alexander to Mt Nisbet, I 1896, 3, ANTHONY (MCZ); Mt Lamington, 1300-1500 ft, 1, C. T. MCNAMARA (SAM); Mt Victoria, 2 (MCZ); Owen Stanley Range, Goilala, Loloipa, 25 XI-10 XII 1957, 11, 11-20 XII 1957, 14, 16-30 I 1958, 11, 1-15 II 1958, 1, W. W. BRANDT (BM); Owen Stanley range, Goilala, Tapini, 16-25 XI 1957, 8, W. W. BRANDT (BM), III 1978, 1, J. SEDLACEK (QM); Port Moresby, Bisiatabu, 2, W. N. LOCK (SAM); Rouna, XI 1968,

4, N. L. KRAUSS (BM); Sogeri, X 1956, 1, J. SEDLACEK (QM); Torricelli Mts., Wantipi Vill., 30 XI-8 XII 1958, 1, W. W. BRANDT (BM).

Aspidimorpha novaeguineensis (BOISDUVAL, 1835)

(figs. 58-63, 115, 140)

Cassida novaeguineensis BOISDUVAL, 1835: 537.
Aspidomorpha novaeguineensis BOHEMAN, 1854: 307; SPAETH, 1903 a: 140; 1906: 37; 1909: 28; 1913: 447; 1914: 71; 1932 a: 137.
Aspidomorpha astrolabiana BLANCHARD, 1853: 319; SPAETH, 1903 a: 140 (as syn.).
Aspidomorpha lateramosa WAGENER, 1881: 48.
Aspidomorpha novaeguineensis ab. *lateramosa*: SPAETH, 1903 a: 140.
Aspidomorpha flavodorsata WAGENER, 1881: 48; SPAETH, 1903 a: 143; 1914: 71, **n. syn.**
Aspidomorpha 5-guttata WEISE, 1899 b: 271.
Aspidomorpha novaeguineensis quinque-guttata: SPAETH, 1903 a: 141; 1909: 28; 1913: 447; 1917: 71.
Aspidomorpha novaeguineensis 5-guttata var. *meraukensis* SPAETH, 1909: 28; 1914: 71 (as subvar.), **n. syn.**

DESCRIPTION

Length 9.2-12.4 mm, width 8.4-10.5 mm, length of pronotum 3.0-3.7 mm, width of pronotum 5.6-7.2 mm. Body subtriangular.

Pronotum and scutellum always yellow. Elytral disc in the most common form black except yellow postscutellar tubercle and lateral fold; explanate margin of elytra with broad humeral and posterolateral and narrow sutural spot (fig. 60). In some forms yellow spot on postscutellar tubercle and lateral fold more or less coalescent, sometimes disc only with black humeral spots and band in apical third of disc. Humeral, posterolateral and sutural spots of explanate margin of elytra often connected by more or less broad band along lateral margin of elytra, and enclosed yellow window in the middle and near apex of explanate margin. In the darkest form elytra are black with only small spot on postscutellar tubercle and small window at base of lateral fold yellow. In rare specimens elytral pattern is reddish brown. This species forms also an extremely rare pale form with elytra mostly yellow and with brownish to black spot at humerus, and humeral, posterolateral and sutural spots of explanate margin of elytra; the humeral spot is in this case reduced to external part of explanate margin. The last two antennal segments infuscate to black. Ventrites always yellow.

Pronotum 1.5-1.9 times longer than wide, with maximum width slightly behind middle, sides rounded. Disc moderately convex, glabrous, shiny. Explanate margin subhorizontal, does not form a gutter, surface glabrous, shiny.

Base of elytra distinctly wider than pronotum. Elytral disc with large conical postscutellar tubercle (fig. 115). principal impression small but deep. Puncturation of disc regular, moderately large, in posterior half of disc gradually smaller but distinct on whole length of disc. Intervals flat, in sutural half of disc about 4 times wider than punctures, on sides about twice narrower than punctures. Marginal and submarginal rows distinct. Explanate margin of elytra 0.8-1.0 times as wide as width of elytron,

steeply declivous, extreme margin horizontal or forms a shallow gutter; surface glabrous, shiny. Humeral angles broadly rounded, margin behind angle convex. Apex of elytral epipleura with scarce, erect hairs but in dried specimens hairs are often broken.

Clypeus about 1.5 times wider than long, apex with small impression. Labrum broad, emarginate to 1/3 length. Eyes large, gena obsolete. Antennae slim, length ratio of antennal segments: 100:38:103:65:58:40:40:40:45:48:93, segment 3 about 2.7 times longer than 2. Prosternal collar moderately long, prosternal process broad, flat with long hair.

Tarsi broad, last segment slightly longer than the third, inner pecten of claw with 4(3) teeth, the largest extending to 1/3 length of claw; outer pecten with 3(2) teeth, long, about as long as 2/3 length of inner pecten.

Remarks. The large conical postscutellar tubercle distinguishes it from most species of Australopapuan region except large specimens of *A. aurata*, but the latter differs in explanate margin of elytra without sutural spot. Pale form was described as *A. flavodorsata* and recorded hitherto only from Aru Is. and Yule Is. but I examined specimens of this form also from New Guinea, and in my opinion it is only a rare aberration of *A. novaeguineensis*.

MATERIAL EXAMINED

INDONESIA WEST IRIAN: Aimau, 16 X 1939, 2, R. G. WIND (CAS); Merauke, 1904, 8, KOCH (syntypes of *Aspidomorpha novaeguineensis* var. *meraukensis* SPAETH, MM); Nabire, S. Geelvink Bay, 10-40 m, 1-4 IX 1962, 1, 5-50 m, 25 VIII-2 IX 1962, 1, J. SEDLACEK (BM); Takar, 1, FRUHSTORFER (IRSN); Wasian, 10 IX 1939, 13, R. G. WIND (CAS).

PAPUA NOVA GUINEA: Astrolabe Bay, 1 (IRSN); Brown R., 12-23 X 1968, 1, T. MENA (BM); Brown R., II 1974, 1, J. SEDLACEK (QM); Hawkeswood Is., 3 m, 25 VII 1964, 3, H. CLISSOLD (BM); Daru, S of Fly Riv., VII 1941, 12, R. G. WIND (CAS); Fly R., Kiunga, 35 m, 8-10 VIII 1957, 1, 9-14 X 1957, 3, W. W. BRANDT, VIII 1969, 6, J. and M. SEDLACEK (BM); Fly R., Olsobip, 400-600 m, VIII 1969, 13, J. and M. SEDLACEK (BM); Kura, 9 m, 12 VIII 1964, 1, H. CLISSOLD (BM); Maffin Bay, V 1944, 1, 10 VI 1944, 1, 21 VI 1944, 1, 11 IX 1944, 1, 8 X 1944, 2, 10 X 1944, 1, E. S. ROSS (CAS); Mamai Pln., 20-100 m, I 1965, 1, P. SHANAHAN (BM); Mamai Pln., near Port Glasgow, 26 I 1965, 1, 5 II 1965, 1, R. STRAATMAN (BM); Moorhead, 18 m, 6 VII 1964, 1, 14 VII 1964, 1, H. CLISSOLD (BM); Murua, near Kerema, 5-25 m, 22 XII 1964, 1, J. SEDLACEK (BM); New Guinea, 1 (SAM); Nov. Guin., 2 (holotype of *A. flavodorsta* WAGENER and holotype of *A. lateramosa* WAGENER, MM); Oibuda near Mamai Estate, 30 I 1965, 1, R. STRAATMAN (BM); 25 mls of Port Moresby, VI 1928, 2, PEMBERTON (BM); Ruka, 9 VIII 1965, 1, H. CLISSOLD (BM); Samarai, 5 VI 1939, 3, R. G. WIND (CAS), III 1981, 1, J. SEDLACEK (QM); Wanapa, X 1956, 1, J. SEDLACEK (QM).

Aspidimorpha punctum (FABRICIUS, 1801)

(figs. 46-54, 122, 134)

Cassida punctum FABRICIUS, 1801: 404; OLIVIER, 1808: 954; GUÉRIN-MENEVILLE, 1844: 150; BOISDUVAL, 1835: 541.
Aspidomorpha punctum: BLANCHARD, 1853: 320; SPAETH, 1903 a: 151; 1906: 37; 1909: 28; 1914: 72; MAULIK, 1916: 584; KIMOTO et al., 1984: 55.
Aspidomorpha divisa BOISDUVAL, 1835: 540; BOHEMAN, 1854: 281; SPAETH, 1903 a: 152 (as syn.).
Aspidomorpha punctum var. *divisa*: SPAETH, 1914: 72.
Aspidomorpha ramulopicta WAGENER, 1877: 63; SPAETH, 1903 a: 153 (as syn.); 1915: 235.
Aspidomorpha punctum ssp. *ramulopicta*: SPAETH, 1914: 72.
Aspidomorpha munda WEISE, 1899: 271; SPAETH, 1903 a: 153 (as syn.).
Aspidomorpha punctum munda: SPAETH, 1909: 29.
Aspidomorpha punctum var. *munda*: SPAETH, 1914: 72.
Aspidomorpha punctum munda var. *submunda* SPAETH, 1909: 29; 1913: 448, **n. syn.**
Aspidomorpha punctum ab. *submunda*: SPAETH, 1914: 72.
Aspidomorpha punctum var. *gibbosula* SPAETH, 1903 a: 152; 1906: 37, **n. syn.**
Aspidomorpha punctum gibbosula: SPAETH, 1909: 29.
Aspidomorpha punctum ab. *gibbosula*: SPAETH, 1914: 72.
Aspidomorpha punctum var. *lunifera* SPAETH, 1903 a: 153; 1906: 37, **n. syn.**
Aspidomorpha punctum lunifera: SPAETH, 1909: 29.
Aspidomorpha punctum ab. *lunifera*: SPAETH, 1914: 72.
Aspidomorpha punctum var. *diabolica* SPAETH, 1903 a: 153, **n. syn.**
Aspidomorpha punctum ab. *diabolica*: SPAETH, 1914: 72.

DESCRIPTION

Length 7.0-10.0 mm, width 5.9-8.0 mm, length of pronotum 2.3-3.1 mm, width of pronotum 4.3-5.7 mm. Body short-oval.

Extremely variable species (figs. 46-54). Pronotum and scutellum always yellow. Elytra with black pattern. In the palest form elytral disc with small spot at corner of scutellum, small spot behind postscutellar gibbosity, and elongate spot behind humerus, explanate margin with narrow humeral, posterolateral and sutural spots. Humeral spot often with yellow centre. In the darkest form whole elytra black. The most common form has elytral disc with spot at corners of scutellum, round spot behind postscutellar gibbosity, elongate spot behind humerus, irregular spot at base of posterolateral spot of explanate margin, 2-3 small spots along suture, and elongate spot on sutural apex; explanate margin with broad humeral and posterolateral, and narrow sutural spot. Also a form is common with large humeral spot of disc coalescent with humeral spot of explanate margin, broad transverse band in apical 1/3 length of elytra and with sutural spot, but without spots behind postscutellar gibbosity. Spots of explanate margin often coalescent along margin closing yellow window, black sometimes occupies whole elytral disc and explanate margin except yellow window. In rare forms spots of explanate margin are reduced and only sutural apex is narrowly pigmented. Elytral disc in these forms has various pattern similar as in forms with spotted explanate margin. Last two antennal segments infuscate to black. Ventrites always yellow.

Pronotum 1.8-1.9 times wider than long, with maximum width slightly behind middle, sides rounded. Disc moderately convex, glabrous, shiny. Explanate margin

steeply declivous to subhorizontal, does not form a gutter, surface glabrous, shiny.

Base of elytra distinctly wider than pronotum. Pronotal disc slightly gibbous in postscutellar area but does not form a distinct tubercle (fig. 122). Principal impression small but deep. Puncturation of disc regular, in anterior half of disc moderately large, in posterior half gradually smaller in apical third of disc obsolete. Intervals flat, in sutural half of disc about thrice wider than punctures, on sides of disc as wide as to twice wider than punctures. Explanate margin 0.6-1.0 as wide as width of elytron, steeply declivous, only extreme margin horizontal. Humeral angles rounded, margin behind angle convex. Apex of elytral epipleura in male unpubescent, in female with scarce erect hair.

Clypeus 1.2-1.3 times wider than long, apex with round to oval impression. Labrum broad, emarginate to 1/4 length. Eyes large, gena obsolete. Antennae slim, length ratio of antennal segments: 100:40:106:73:70:47:63:50:60:60:110, segment 3 about 1.7 times longer than 2. Prosternal collar moderately long, prosternal process broad, flat, or with shallow impression in the middle.

Tarsi broad, last segment only slightly longer than the third, inner pecten of claw with 4 teeth, short, the largest extending to 1/4 length of claw; outer pecten with 2(3) teeth, extremely short, extending only slightly behind ventral margin of claw.

Remarks. At first glance it is more similar to *A. interrupta*, but the latter differs in generally larger body and regularly convex elytral disc (slightly gibbous in *A. punctum*). *A. aurata* and *A. australasiae* differ distinctly in explanate margin lacking sutural spot. A form of *A. australasiae* with completely black explanate margin of elytra is similar to *A. punctum* but it differs in lower postscutellar gibbosity (in *A. australasiae* postscutellar gibbosity is higher forms, obtuse cone). *A. novaeguineensis* is often similarly coloured to dark forms of *A. punctum* but has body larger and conical postscutellar tubercle.

MATERIAL EXAMINED

AUSTRALIA: Brisbane, 1, CASTELN. HAAG (syntype of *Aspidomorpha ramulopicta* WAGENER, MM); Brisbane, 1 (syntype of *A. ramulopicta* WAGENER, MM); Cairns, 3, E. ALLEN (SAM), 5 (MLM), VII 1890, 1, C. J. WILD (QM); ; Cape Grenville, 1 (MLM); Cape York, 2, H. EIGNER (QM), XII 1983, 1, J. SEDLACEK (QM); Dunk Is., VIII 1927, 2, H. HACKER (QM); Endeavour R., 1 (SAM); Mulgrave R., 1 (MLM); N. Queensland, Badu Is., Torres Str., 17 II 1984, 1, J. SEDLACEK (QM); N. Queensland, Lockerbie Area, Cape York, 13-27 IV 1973, 2, G. B. MONTEITH (QM), 3 km E of Lockerbie, Cape York, 30 I-4 II 1975, 1, G. B. MONTEITH (QM); N. Queensland, Murray Is., Torres Str., 26 II 1984, 1, J. SEDLACEK (QM); N Queensland, Prince of Wales Is., 17 II 1939, 2, R. G. WIND (CAS); N.S.W., Dorrigo, XI 1951, 1, J. SEDLACEK (QM); Queensland, Mt. Webb Nat. Park, 50 km N of Cooktown, 11-14 VII 1976, 1, G. B. MONTEITH (QM).

INDONESIA WEST IRIAN: Aru Is., Wokam, 1873, 2, O. BECCARI (1 IRSN, 1 IZPAS); Biak Is., 1 VII 1962, 1, J. L. GRESSITT (BM); Bokondini, 40 km N of Baliem Val., 1300 m, 5-11 XI 1961, 1, S. and L. QUATE (BM); Hottendla, 8 X 1961, 1, O. DEN

Hoed (ITZ); Ifar, Cyclops Mts., 450-500 m, 7 IX 1962, 1, J. Sedlacek (BM); Liki Is., near Sarmi, 20 VIII 1944, 4, E. S. Ross (CAS); Nabire, S. Geelvink Bay, 0-30 m, 2-9 VII 1962, 2, J. Sedlacek, 5-50 m, 25 VIII-2 IX 1962, 10, H. Holtmann, 1-4 IX 1962, 3, J. Sedlacek (BM); Maffin Bay, V 1944, 4, 4 VI 1944, 12, 18 VI 1944, 3, 2 VII 1944, 2, 4 X 1944, 2, 9 X 1944, 3, E. S. Ross (CAS); N. Guinea, Merauke, 1904, 17, Koch (syntypes of *A. punctum* var. *submunda* Spaeth, MM); River Tor, 4 km E of Hol Maffen, 4 VII 1959, 2, T. C. Maa (BM).

PAPUA NEW GUINEA: Br. N. Guinea, Aroa fl., 1901, 1 (syntype of *A. punctum* var. *submunda* Spaeth, MM); Brown Riv., 5 m, 23 X 1960, 1, J. L. Gressitt (BM), 1974, 1, J. Sedlacek (QM), 13 XII 1981, 1, Y. Komiya (YK); Buna Bay, 5, C. T. McNamara (SAM); Cape Killerton, 17-20 X 1963, 1, P. Shanahan (BM); Central Mts., Mulik R., 10 km W Archbold Lake, 1050 m, 25 XI-3 XII 1961, 1, L. Quate (BM); Daradae near Javarere, Musgrove R., 3 X 1958, 1, J. L. Gressitt (BM); Daru Is., 3 m, 22 VII 1964, 1, H. Clissold (BM); Daru, mouth of Fly Riv., VII 1941, 1, R. G. Wind (CAS); Dogura, 8 III 1956, 1 (CAS); Finschafen, 8 VI 1944, 2, E. S. Ross (CAS); Fly R., Kiunga, 5-7 VIII 1957, 1, W. W. Brandt, 35 m, VIII 1969, 25, J. and M. Sedlacek (BM); Fly R., Olsobip, 400-600 m, VIII 1969, 8, J. and M. Sedlacek (BM); Hagentown, 1650 m, 30 V 1966, 1, J. L. Gressitt (BM); Hood Pt., 1946, 1, A. H. Mallery (BM); Kapagere near Rigo, 14-19 V 1959, 1, C. D. Michener (BM); Karimui, S of Goroka, 1000 m, 7 VI 1961, 1, J. L. and M. Gressitt (BM); Kiunga, 1979, 1, J. Sedlacek (QM); Koibuga, 1500 m, 3 VII 1963, 1, H. Clissold (BM); Koitakinumu, 3 IV 1918, 1, J. T. Zimmer (BM); Kougel R., 1250 m, 20 I-8 II 1979, 1, J. Sedlacek (QM); Kura, 15 VIII 1964, 6, H. Clissold (BM); Laloki, Central Distr., 8 VII 1963, from *Ipomea batatas*, 3, L. Smee (BM); L. Kopiago, 1300 m, 3 II 1979, 1, J. Sedlacek (QM); Mamai Pltn., E of Port Glasgow, 150 m, 9 II 1965, 1, R. Straatman (BM); Merauke, 1 (syntype of *A. punctum* var. *submunda* Spaeth, IZPAS); Milne Bay, 1, Staud. (syntype of *A. punctum* var. *gibbosula* Spaeth, MM); Milne Bay, VII 1939, 2, Wind (1 MCZ, 1 CAS); Moorhead, 18 m, 6 VII 1964, 4, H. Clissold (BM); Morobe Distr., Morobe, 25 m, 18-19 IV 1974, 1, R. Sakomdaro (BM); Murua near Kerema, 5-25 m, 12 XII 1964, 3, J. Sedlacek (BM), II 1974, 1, J. Sedlacek (QM); Murua Agric. Stat., 6 V 1959, 1, Szent-Ivany (BM); Normanby I., Wakaiuna, Sewa bay, 1-10 XII 1956, 1, W. W. Brandt (BM); Nova Guinea, 1 (syntype of *A. punctum* var. *gibbosula* Spaeth, MM); N. Guinea Mer., Rigo, Luglio 1889, 5, Loria (syntypes of *A. punctum* var. *lunifera* Spaeth, MM); N. Guinea S. E., Haveri, VII-XII 1893, 1, Loria (syntype of *A. punctum* var. *diabolica* Spaeth, MM); N. Guinea S. E., Ighibirei, VII-VIII 1890, 1, Loria (syntype of *A. punctum* var. *diabolica* Spaeth, MM); N. Guniea S. E., Paumomu riv., IX-XII 1892, 1, Loria (syntype of *A. punctum* var. *submunda* Spaeth, MM); Oriomo R., 3 m, 1 VIII 1962, 1, 5 VIII 1964, 3, H. Clissold (BM); Ower's C. near Goldie R., 17 I 1982, 1, Y. Komiya (YK); Popondetta, 25 m, VI 1966, 1, Shanahan-Lippert (BM); Port Moresby to Brown R., 30 m, 29 X-1 XI 1965, 6, J. Sedlacek (BM); Purari Riv., Orio, 7 X 1967, 6, F. Parker (MCZ); Roon, 2, Fruhstorfer (syntypes of *A. punctum* ssp. *gibbosula* Spaeth, MM); Ruka, 9 m, 12 VIII 1964, 5, 9 VIII 1965, 9, H. Clissold (BM); Samarai, 5 VI 1939, 4, R. G. Wind (CAS);

Sogeri, 27 X-3 XI 1968, 1, T. MENA (BM); Sogeri Distr., Central Prov., 12 XII 1981, 2, Y. KOMIYA (YK); Telefomin, 1600 m, 14 VI 1971, 1, A. B. MIRZA (BM); Waigani, Pt. Moresby, 16 I 1982, 2, Y. KOMIYA (YK); Weam, 14 VI 1964, 1, H. CLISSOLD (BM); Wanapa R., X 1956, 1, J. SEDLACEK (QM); Western Distr., 2 VIII 1964, 1, H. CLISSOLD (BM); Western Distr., Oriomo R., 3 m, 6 VIII 1964, 1, H. CLISSOLD (BM); Yule Is., 3 (MLM).

Aspidimorpha quadriradiata BOHEMAN, 1854

(figs. 64-66, 116, 135)

Aspidomorpha quadriradiata BOHEMAN, 1854: 300; SPAETH, 1914: 72; 1926: 310.
Aspidomorpha stictica BOHEMAN, 1854: 294; SPAETH, 1914: 78; 1926: 310 (as syn. of *A. quadriradiata* BOH.).
Aspidomorpha lauta BLACKBURN, 1896: 108; SPAETH, 1914: 71, **n. syn.**

DESCRIPTION

Length 8.7-10.1 mm, width 7.8-8.4 mm, length of pronotum 2.9-3.4 mm, width of pronotum 5.7-6.2 mm. Body short-oval to almost circular.

Pronotum and scutellum yellow. Elytra yellow with reddish-brown to brown pattern (figs. 64-66). In the palest form elytral disc with reddish spot behind postscutellar tubercle, elongate spots behind humerus, small 5-6 spots along margin of disc, and 3-4 small spots along suture. Explanate margin with reddish humeral and posterolateral spots. In the darkest form almost whole disc brownish except triangular yellow spot at base of elytra, yellow lateral fold and four irregular spots behind postscutellar tubercle. Sometimes whole disc reddish-brown with slightly paler postscutellar area. Antennae, sutural apex and ventrites always yellow. Between aberrations described above several intermediate forms occur.

Pronotum 1.8-2.0 times wider than long, with maximum width slightly behind middle, sides rounded. Disc moderately convex, glabrous, shiny. Explanate margin broad, subhorizontal, glabrous, shiny.

Base of elytra distinctly wider than pronotum. Disc convex with angulate postscutellar tubercle (fig. 116). Outline of disc behind scutellum slightly concave. Principal depression small but distinct, with 3-4 punctures, no lateral depression. Puncturation of elytra regular, in anterior half of disc moderately large, in posterior half gradually smaller, in apex partly obsolete. Inervals flat, in sutural half of disc 3-4 times wider than punctures, in marginal half of disc as wide as to twice wider than punctures. Marginal and submarginal rows with punctures about twice larger than in rows on side of disc. Explanate margin broad, 0.7-0.9 times as wide as width of elytron, in external half horizontal, forms a shallow gutter. Surface glabrous, shiny. Humeral angles subangulate, margin of elytra always slightly emarginate behind humeral angle. Apex of elytral epipleura in male unpubescent, in female with scarce erect hairs, but in dried specimens hairs are often broken.

Clypeus about as long as wide, in apical half slightly convex, and top of convexity with elongate depression. Surface glabrous, shiny. Labrum emarginate to 1/4 length.

Eyes large, gena obsolete. Antennae slim, length ratio of antennal segments: 100:47:117:60:53:37:50:40:47:50:100, segment 3 about 2.5 times longer than 2. Prosternal collar moderately long, prosternal process broad, in the middle only slightly impressed, strongly expanded apically.

Tarsi broad, last segment slightly longer than the third, inner pecten of claw with 4 teeth, the longest extending to 1/4-1/3 length of claw. Outer pecten with 2 (occasionally 3) teeth, slightly shorter than in inner pecten.

Remarks. With *A. aurata* and *A. australasiae* it forms a natural group of species with immaculate pronotum, yellow scutellum and sutural apex, elytral disc with postscutellar tubercle, without lateral depression. These three species are extremely variable in elytral pattern and shape of elytral tubercle, and some forms are very difficult to distinguish. *A. quadriradiata* is the least variable, with elytral pattern never black and explanate margin always with spots (in *A. aurata* and *A. australasiae* often there are dark forms with black elytral pattern or forms without spots on explanate margin). Postscutellar tubercle is higher and more in angulate *A. quadriradiata* than in *A. australasiae*, but it is lower and less angulate than in specimens of *A. aurata* from New Guinea. *A. australasiae* is generally smaller than both *A. quadriradiata* and *A. aurata*. The best character that distinguishes *A. quadriradiata* from both its relatives is subangulate humeral angles with slightly emarginate elytral margin behind angle, and explanate margin of elytra in external half forming a shallow gutter, while in *A. aurata* and *A. australasiae* humeral angles are broadly rounded with margin behind angle not emarginate, and explanate margin of elytra in external half horizontal but not forming a distinct gutter. *A. quadriradiata* and *A. aurata* are separated geographically because *A. quadriradiata* is North Australian endemic, while *A. aurata* does not occur in Australia but is common in whole Papuan Subregion. *A. australasiae* is rare in North Australia and sympatric with *A. quadriradiata*, but Australian forms of *A. australasiae* are rather easily distinguished from *A. quadriradiata* by smaller size and very low postscutellar tubercle.

MATERIAL EXAMINED

AUSTRALIA: N. Queensland, 1 (MLM); N. Territory, 1 (paratype of *Aspidomorpha lauta* BLACKBURN, SAM); N. Terr., Darwin, 1 (CAS), Darwin, 1, G. F. HILL (SAM), III 1970, 1, J. SEDLACEK (QM); Port Darwin, 6 (MLM); N.T., Roper R., 1, N. B. TINDALE (SAM); Queensland, Normantown, 3, Ch. FRENCH (MM).

Aspidimorpha westwoodi BOHEMAN, 1854

(figs. 6-7, 127, 137)

Aspidomorpha Westwoodi BOHEMAN, 1854: 254; 1862: 258; SPAETH, 1903 a: 158; 1914: 72.

DESCRIPTION

Length 6.4-7.5 mm, width 5.1-6.2 mm, length of pronotum 2.2-2.4 mm, width of pronotum 4.3-4.8 mm. Body short-oval.

Pronotum yellow. Elytra with constant brown to black pattern: round spots at sides of scutellum, round to cordiform spot on suture in postscutellar area of equal size with scutellar spots, round spot in 2-3 length of intervals 2-3 (3.5) slightly to twice smaller than scutellar and postscutellar spots, round to transverse spot between intervals 2-3 (4) near apex of disc, band along margin of disc between bases of humeral and posterolateral spots of explanate margin, the band often coalesacent with apical spots; inner margin of lateral band in the middle prolonged to yellow area between postscutellar and preapical spots, outer margin with yellow spot on lateral fold; explanate margin with humeral, posterolateral and sutural spots; sutural spot often extended to extreme apex of sutural part of disc (figs. 6-7). The last 5 antennal segments partly or completely black or brownish. Ventrites uniformly yellow.

Pronotum about twice wider than long, with maximum width in 1/3 length from base, sides rounded but partly hidden by humera. Pronotal disc moderately convex, glabrous, shiny. Explanate margin subhorizontal to horizontal, in some specimens in anterior part or on sides it forms a shallow gutter; surface glabrous, shiny.

Base of elytra wider than pronotum. Disc regularly convex with no gibbosities, tubercles or depressions (fig. 127). Puncturation regular, fine, in apical third of disc rows partly or completely obsolete. Punctures in lateral rows not longer than in the sutural. Submarginal row with very fine punctures as in other parts of disc, partly obsolete, marginal row distinct, with moderately large punctures. Intervals flat, many times wider than punctures. Explanate margin 0.6-0.7 times as wide as width of elytron, forms a shallow gutter, surface glabrous, shiny. Humeral angles rounded, margin behind angle not emarginate. Apex of elytral epipleura unpubescent.

Clypeus 1.4 times wider than long, flat, or with indistinct impression in the middle. Labrum slim, emarginate to 1/4 length. Eyes large, gena obsolete. Antennae slim, length ratio of antennal segments: 100:44:100:64:64:40:56:56:56:56:100. Segment 3 about 2.3 times longer than 2. Prosternal collar moderately long, prosternal process broad, only slightly impressed in the middle, strongly expanded apically.

Tarsi broad, last segment only slightly longer than the third. Inner pecten of claws large, with 3 (4) teeth, the largest extending to 1/3-1/2 length of claw; outer pecten with two teeth about twice smaller than in inner pecten.

Remarks. It is a distinct species. Small body, constant elytral pattern, pronotum with maximum width in front of base, elytral disc regularly convex distinguish it from all other Australopapuan species. Only *A. convolvuli* has a similar body size but it differs in maculate pronotum, infuscate prosternum, different elytral pattern, and short claw pecten. Both species are geographically separated - *A. westwoodi* is an Australian endemic while *A. convolvuli* is known only from New Caledonia.

MATERIAL EXAMINED

AUSTRALIA: Brisbane, 1 V, 1, J. SEDLACEK (QM); Clarence R., 1 (SAM); NQ Townsville, 1, G. F. HILL (SAM); N Territory, 1 (SAM); Port Denison, 1 (MLM); Queensland, Brisbane, 20 V 1930, 1 (QM), 2 (CAS), 1936, J. MAURITZEN, 1 (LU);

Queensland, Brisbane, Brookfield, 22 I 1985, 1, V. R. Bejsak (VRB); N. Pine Res., 13 XII 1926, 1, H. Hacker (QM); Queensland, Bowen, 1, A. Simon (SAM); Queensland, Dawson Riv., 2 (MLM); Queensland, Gayndah, 4 (2 IZPAS, 2 MLM); Queensland, Mogill near Brisbane, 1-5 II 1961, 1, J. L. Gressitt (BM); Queensland, Normantown, 1, Ch. French (MM); Queensland, Mt. Tambourine, 3, 1863, 1, G. Wild (QM).

Laccoptera Boheman, 1855

Laccoptera Boheman, 1855: 55 (type species: *Laccoptera excavata* Boheman, 1855).
Patrisma Fairmaire, 1891: 272 (type species: *Laccoptera murrayi* Boheman, 1862), subgenus.
Asphalesia Weise, 1899 b: 246 (type species: *Asphalesia confragosa* Weise, 1899), subgenus.
Orphonoda Weise, 1899 b: 247 (type species: *Laccoptera cancellata* Boheman, 1855), subgenus.
Orphonodella Spaeth, 1902: 20 (type species: *Cassida abyssinica* Boheman, 1856), subgenus.
Sindiola Spaeth, 1903 b: 111 (type species: *Sindiola parallelipennis* Spaeth, 1903), subgenus.
Orphonodina Spaeth, 1932 b: 229 (type species: *Laccoptera distans* Spaeth, 1902), subgenus.
Indocassis Spaeth in Hincks, 1952: 345 (type species: *Cassida foveolata* Boheman, 1856), **n. syn.** of *Orphonodella*.
Laccopteroidea Spaeth in Hincks, 1952: 345 (type species: *Cassida tredecimpunctata* Fabricius, 1801), subgenus.
Eulaccoptera Hincks, 1952: 337 (type species: *Cassida corrugata* Sahlberg, 1823), **n. syn.** of *Orphonodella*.

Moderately large to large cassids, body length 6-13 mm. Body varying from elongate, parallelsided to subtriangular, regularly convex or gibbous or with conical postscutellar tubercle. Pronotum ellipsoidal to subtrapezial, usually with rounded sides. Pronotal disc distinctly bordered from explanate margin, surface varying from glabrous, shiny to strongly rugose. Explanate margin of pronotum steeply declivous to subhorizontal, glabrous to rugose, with or without honeycomb structure. Base of elytra more or less wider than pronotum, humeral angles subangulate to rounded. Puncturation always strong, surface often with tubercles, folds etc., in most species appearing rugose. Explanate margin more or less declivous, with or without honeycomb structure, surface usually with punctures, often rugose. Head with large eyes, clypeus more or less convex, with triangular central area, in apical part with more or less developed tubercle, sometimes margins of the triangle sharply carinate. Labrum transverse, emarginate, without longitudinal carinae. Prosternal collar usually long, often with angulate sides, prosternal process moderately broad and moderately expanded apically, often with longitudinal canaliculation. Venter of pronotum with no antennal groove. Antennae long, segment 3 always longer than 2. Six basal segments glabrous and slim, five distal dull and stouter. Legs unmodified. Tarsi broad, last segment usually only slightly longer than the third. Claws with large inner pecten, and usually obsolete outer pecten (in the subgenus *Sindiola* outer pecten is well developed).

This genus is distributed in whole Paleotropical Region with the centre of diversity in Afrotropical Region. Most Oriental and one Australopapuan species belong to the subgenus *Laccopteroidea*. They are rather uniform in general structure and dorsal maculation, and partly difficult to distinguish. Although the only Australopapuan

species - *L. impressa* - is endemic to this region, beyond doubt it is closely related to several Oriental species and represents alien Oriental element.

Laccoptera impressa (BLANCHARD, 1853)

(figs. 91-98, 101, 104, 107, 123, 138)

Aspidomorpha impressa BLANCHARD, 1853: 322.
Laccoptera impressa BOHEMAN, 1855: 72; SPAETH, 1903 a: 159; 1909: 29; 1914: 82; KIMOTO et al. 1984: 56.

DESCRIPTION

Length 7.8-9.0 mm, width 6.5-7.9 mm, length of pronotum 2.7-3.1 mm, width of pronotum 4.5-5.1 mm. Body short-oval (fig. 91).

Extremely variable species (figs. 92-97). In the palest form pronotal disc yellow with two small black spots in front of base, explanate margin immaculate. Elytral disc yellow with black spot in front of postscutellar gibbosity, spot behind humerus, spot in the middle of intervals 1-3, spot in 3/4 length of interval 1-3(4), spot in sutural apex, and two spots on explanate margin of pronotum - first at base of humeral callus, second in posterolateral area often occupies also marginal part of disc. In the darkest form whole dorsal part of body black except yellow scutellum and anterior margin of explanate margin of pronotum. The most common is intermediate form with spots of pronotal disc large, extending to base of pronotum, explanate margin of pronotum with black spot at each base, elytral spots large, and spots on explanate margin of elytra extending to lateral margin of elytra. Elytral spots are often connected, sometimes whole disc is black and explanate margin with large humeral and posterolateral spots. Specimens from Australia are usually paler coloured than those from New Guinea and adjacent islands. The last five antennal segments infuscate to black. Ventrites varying from uniformly yellow to mostly black, usually prosternum is yellow, meso- and metasternum mostly black, and abdomen in the middle black. The degree of melanism of ventral side is not correlated with degree of melanism of dorsal side and sometimes specimens with uniformly black dorsum have uniformly yellow ventrites.

Pronotum 1.6-1.7 times wider than long, with maximum width in the middle, sides broadly rounded. Pronotal disc moderately convex, glabrous, shiny. Explanate margin of pronotum steeply declivous, glabrous, shiny.

Base of elytra distinctly wider than pronotum. Disc slightly gibbous in profile (fig. 123), with deep postscutellar impressions and strong H-shaped postscutellar elevation. Third interval convex, costate, also fifth interval more convex than the neighbouring ones. Postscutellar impressions bordered by distinct elevation. Elytral puncturation large, regular, only in postscutellar impression punctures irregular and sometimes on sides of disc rows are disordered by irregular folds. Submarginal and marginal row distinct. Explanate margin of elytra steeply declivous, about 0.5-0.6 as wide as width of disc of elytron. Surface shallowly punctate and gently wrinkled. Humeral angles rounded. Apex of elytral epipleura unpubescent.

Clypeus 1.6-1.7 times wider than long, apical tubercle prominent. Labrum broad, emarginate to 1/5 length. Eyes large, gena obsolete (fig. 98). Antennae slim (fig. 107), length ratio of antennal segments: 100:34:80:71:71:57:60:60:71:71:129(male) 110(female). Prosternal collar long, on sides not angulate, prosternal process broad, deeply impressed in the middle, moderately expanded apically, without special sculpture.

Tarsi broad, last segment only slightly longer than the third (fig. 104), inner pecten of claw with three teeth, short, extending to 1/6-1/5 length of claw (fig. 101), outer pecten obsolete, visible only under large (at least 50x) magnification of stereomicroscope.

Remarks. It belongs to subgenus *Laccopteroidea* which includes most Oriental species with obsolete outer pecten of claws. *L. impressa* is the only species of this subgenus occurring in Australopapuan region close to *L. sutteri* HINCKS from Sumba and Flores, *L. permodica* (BOHEMAN) from Timor and Wetter Is., *L. sculpturata* BOHEMAN from Celebes, *L. sedecimnotata* BOHEMAN from Sunda Is. (I have examined one specimen of this species introduced to Cairns in North Australia) and *L. fallax* WEISE from Tenimber Is. *L. permodica*, *L. sutteri* and *L. sedecimnotata* differ in partly granulate pronotal disc, *L. sculpturata* differs in punctate pronotal disc and strongly punctate explanate margin of elytra, and *L. fallax* differs in rugose explanate margin of elytra.

MATERIAL EXAMINED

AUSTRALIA: Barrow Is., 1 (MLM); Gordonvale, 1923, 1, W. C. DORMER (QM); Pt. Denison, 5 (MLM); Queensland, Cairns, 2, J. SEDLACEK (CAS), 2, J. A. ANDERSON (QM), I 1949, 2 (ANIC); Queensland, Clump Point, 1 X 1951, 1, 15 X 1951, 2, J. O. CAMPBELL (MCSNV), 1952, 1, J. SEDLACEK (QM); Queensland, Cooktown, 1939, 15, J. L. ERBEN (NMP); Queensland, Kuranda, 1951, 1, J. SEDLACEK (CAS); Queensland, Prince of Wales Is., 17 II 1939, 18, R. G. WIND (CAS); Queensland, Rockhampton, 2 (MLM); Thursday Is., 9 XII 1976, 1 (ANIC), Thursday Is., Detroit de Torres, 1892, 1, P. HARTZER (MHNG).

INDONESIA WEST IRIAN: Dafo, 50 km W of Hollandia, 120 m, 12 XI 1961, 1, S. QUATE (BM).

PAPUA NEW GUINEA: Astrolabe Bay, Stephansort, 1900, 1, BIRÓ (NMP); Bongu, 1, F. SCHNEIDER (CAS); Bulolo R., 680 m, 2 II 1969, 3, J. SEDLACEK (BM), 13 II-13 III 1979, 1, J. SEDLACEK (QM); Daru Is., 20 VII 1964, 2, 22 VII 1964, 2, H. W. CLISSOLD (BM); Dumpu, 200 m, 22 I-16 II 1979, 1, J. SEDLACEK (QM); Finisterre range, Saidor, Gabumi Vill., 24-30 VI 1958, 1, W. W. BRANDT (BM); Garaina, 15 I 1968, 3, G. A. SAMUELSON (BM), 20 XI-17 XII 1969, 4, 10-30 VIII 1970, 2, A. B. MIRZA (BM); Huon Pen., Finschafen, 19 XI 1969, 1, J. E. TOBLER (CAS); Huon Pen., Laleng, 800-1200 m, 24 IV 1963, 1, J. SEDLACEK (BM); Jumbora, 60 m, 26 X 1963, 1 (BM); Kaiapit, XII 1978, 1 (MHNG); Kalalo, 20-30 VIII 1966, 4, G. A. SAMUELSON (BM); Kar Kar Is., Marangis, 4 VIII 1968, 1, N. L. KRAUSS (BM); Kar Kar Is., Namau, 0-200 m, 9 VIII 1968, 1, N.L. KRAUSS (BM); Kougel R., 1250 m, 20 I-8 II 1979, 3, J. SEDLACEK (QM); Lae, 400', 30 VIII 1963, rain forest, 1, T. SCHOENER (MCZ); Lae, Busu R., 16

IV 1969, 1, J. SEDLACEK (BM); Lae, Singuawa Riv., 1 IV 1966, 1, G. LIPPERT (BM); Lae-Zenang Road, 19 XII-14 I 1979, 1, J. SEDLACEK (QM); Laloki, 1910, 7, F. MUIR (BM); Madang Distr., Wanuma, 600-720 m, VIII 1968, 1, N. L. KRAUSS (BM); Maprik, 150 m, 29 XII-17 I 1960, 1, T. C. MAA (BM); May River, 6 VI 1963, 1, R. STRAATMAN (BM); Milne Bay, XII 1943, 3, DARLINGTON (MCZ), 14-28 II 1969, 1, J. and M. SEDLACEK (BM); Mt. Missim, 980-1100 m, 14 VIII 1964, 1, J. SEDLACEK (BM) Northern Distr., Buka Bara, 23 IX 1963, 1, P. SHANAHAN (BM); Owen Stanley Range, Goilala, Loloipa, 25 XI-10 XII 1957, 2, 11-20 XII 1957, 2, 21-31 XII 1957, 3, 1-15 I 1958, 2, 1-15 II 1958, 1, W. W. BRANDT (BM); Ownen Stanley Range, Goilala, Tapini, 975 m, 16-25 XI 1957, 1, W. W. BRANDT (BM); Rigo, VII 1889, 1, L. LORIA (NMP); Popondetta, 60 m, 3-4 IX 1963, 2, J. SEDLACEK (BM); Port Moresby, X 1956, 1, J. SEDLACEK (QM); Samarai, 5 VI 1939, 3, R. G. WIND (CAS); Stephansort, 1, C. v. HAGEN (IZPAS); Sum-Sum, 64 km N of Wau, 15 II 1963, 1, H. W. CLISSOLD (BM); Torricelli Mts., Nengian Vill., 17-24 XI 1958, 3, W. W. BRANDT (BM); Torricelli Mts., Sugoitei Vill., 900 m, 6-9 II 1959, 1, W. W. BRANDT (BM); Torricelli Mts., Wantipi Vill., 30 XI-8 XII 1958, 1 ex., W. W. BRANDT (BM); Watut, 900-1900 m, X 1959, 1, A. B. MIRZA (BM); Waveo, 5, L. WAGNER (SAM); Wau, Morobe Distr., 900 m, 26 VIII 1963, 2, H. CLISSOLD (BM), 1200 m, 29 IX-30 XI 1963, 1, J. SEDLACEK (BM); W. Highland, Baiyer R., 1150 m, 19 X 1958, 1, J. L. GRESSITT (BM); Yule Is., 2 (MLM).

NEW GUINEA: Nouvelle Guinee, 2 (NMP).

REFERENCES

AGASSIZ, J. L. R., 1846. Nomenclator zoologicus. Index universalis ... Soloduri.

BERG, F. G. C., 1899. Substitucion de nombres genericos, III. Comun. Mus. Nac. Buenos Aires, 1(3): 77-80.

BLACKBURN, T., 1896. Notes on Australian Coleoptera with descriptions of new species. Trans. Proc. R. Soc. South Australia, **20**: 35-109.

BLANCHARD, C. E., 1853. Description des insectes. Voyage au Pole Sud..., Zool., vol. **4**. Paris.

BOHEMAN, C. H., 1854. Monographia Cassididarum, **2**. Holmiae.

BOHEMAN, C. H., 1855. Monogarphia Cassididarum, **3**. Holmiae.

BOHEMAN, C. H., 1856. Catalogue of Coleopterous Insects in the Collection of the British Museum, Part IX, Cassididae. London.

BOHEMAN, C. H., 1862. Monographia Cassididarum, **4**. Holmiae.

BOISDUVAL, J. B. A., 1835. Voyage de découvertes de l'Astrolabe..., Faune entomologique de l'Océan Pacifique..., Paris.

BOROWIEC, L., 1990. A review of the genus *Cassida* L. of the Australian Region and Papuan Subregion (*Coleoptera, Chrysomelidae, Cassidinae*). Genus, **1**: 1-51.

BOROWIEC, L., 1991 a. On the genera *Emdenia* SPAETH, 1915 and *Austropsecadia* HINCKS, 1950 (*Coleoptera*: *Chrysomelidae*: *Cassidinae*). Genus, **2**: 1-10.

BOROWIEC, L., 1991 b. On the genus *Lorentzocassis* SPAETH, 1913 (*Coleoptera*: *Chrysomelidae*: *Cassidinae*). Genus, **2**: 11-17.

CHEN, S., ZIA, Y., 1984. A new genus and species of *Cassidinae* from Yunnan (*Coleoptera*: *Hispidae*). Entomotaxonomia, **6**: 79-82.

FABRICIUS, J. Ch., 1775. Systema Entomologiae, sistens Insectorum classes, ordines, genera, species, adiectis synonymis, locis, descriptionibus, observationibus. Flensburgi et Lipsiae.

FABRICIUS, J. Ch., 1781. Species Insectorum eorum differentias specificas, synonyma auctorum, loca natalia, metamorphosin adiectis observationibus, descriptionibus. I. Hamburgi et Kilonii.

FABRICIUS, J. Ch., 1787. Mantissa Insectorum sistens eorum species nuper detectas adiectis characteribus genericis, differentiis specificis, emendationibus, observationibus. I. Hafniae.

FABRICIUS, J. Ch., 1792. Entomologia Systematica emendata et aucta. Secundum classes, ordines, genera, species adiectis synonymis, locis, observationibus, descriptionibus. I. Hafniae.

FABRICIUS, J. Ch., 1801. Systema Eleutheratorum secundum ordines, genera, species adiectis synonymis, locis, observationibus, descriptionibus. I. Kiliae.

FAIRMAIRE, L., 1891. Notes sur quelques coléoptères de l'Afrique intertropicale. Ann. Soc. Ent. Fr., **60**: 231-274.

GUÉRIN-MENEVILLE, F. E., 1844. Iconographie de regen animal de G. CUVIER..., vol. **7**, insectes. Paris.

HAWKESWOOD, T. J., 1982. Notes on the life history of *Aspidomorpha maculatissima* (*Coleoptera*: *Chrysomelidae*: *Cassidinae*) at Townsville, North Queensland. Vic. Nat., **99**: 92-101.

HAWKESWOOD, T. J., 1988. A survey of the leaf beetles (*Coleoptera*: *Chrysomelidae*) from the Townsville district, northern Queensland, Australia. G. It. Ent., **4**: 93-112.

HERBST, J. F. W., 1799. Natursystem aller bekannten in- und ausländischen Insekten, als eine Fortsetzung der von Büffonschen Naturgeschichte. Der Käfer achter Theil. Berlin.

HINCKS, W. D., 1952. The genera of the *Cassidinae* (*Coleoptera*: *Chrysomelidae*). Trans. R. Entomol. Soc. Lond., **103**: 327-358.

HOPE, F. W., 1840. Coleopterists' Manual, part 3. London.

KIMOTO, S., ISMAY, J. W., SAMUELSON, G. A., 1984. Distribution of Chrysomelid pests associated with certain agricultural plants in Papua New Guinea (*Coleoptera*). Esakia, **21**: 49-57.

LINNAEUS, C., 1787

MAULIK, S., 1916. On Cryptostome beetles in the Cambridge University Museum of Zoology. Proc. Zool. Soc. Lond., **1916**: 567-589.

MONTROUZIER, X., 1855. Essai sur la faune de l'Ile de Woodlark ou Moiou. Ann. Sci. Phys. Nat. Agric. Industr. Lyon, (2) 7 (1): 1-114.

OLIVIER, A. G., 1790. Encyclopédie Méthodique. Histoire Naturelle. Insectes. Tome cinquième. Paris.

OLIVIER, A. G., 1808. Entomologie, ou histoire naturelle des Insectes, avec leur caractères génériques et spécifiques, leur description, leur synonymie, et leur figure enluminée. Coléoptères, vol. **VI**. Paris.

PERRIS, 1864

RILEY, E. G., 1986. Review of the tortoise beetle genera of the tribe *Cassidini* occuring in America North of Mexico (*Coleoptera*: *Chrysomelidae*: *Cassidinae*). J. New York Entomol. Soc., **94**: 98-114.

SEENO, T. N., WILCOX, J. A., 1982. Leaf beetle genera (*Coleoptera*: *Chrysomelidae*). Entomography, 1: 1-221.

SIMON THOMAS, R. T., 1964. Some aspects of life history, genetics, distribution, and taxonomy of *Aspidomorpha adhaerens* (WEBER, 1801) (*Cassidinae*, *Coleoptera*). Tijdschr. Entomol., **107**: 167-264.

SPAETH, F., 1898 b. Beschreibung einiger neuer Cassididen nebst synonymischen Bemerkungen. II. Verh. Zool.-Bot. Ges. Wien, **48**: 537-543.

SPAETH, F., 1902. Beitrag zur Kenntnis der in das Subgenus "*Orphonoda*" gehörigen *Laccoptera*-Arten (*Cassididae*). Termeszetr. Füzetek, **25**: 20-25.

SPAETH, F., 1903 a. Zusammenstellung der bisher von Neu-Guinea bekannt gewordenen Cassiden mit besonderer Berücksichtigung der Sammlungen des Ungarischen National-Museums und des Museo Civico von Genua. Ann. Mus. Nat. Hung., 1: 109-160.

SPAETH, F., 1903 b. Eine neue Casside aus Birma. Entom. Tidskr., **24**: 111-112.

SPAETH, F., 1906. *Cassididae*. In: Résultats de l'expedition scientifique Néerlandaise à la Nouvelle-Guinée en 1903, sous les auspices de Arthur WICHMANN. Nova Guinea, **5**, 1: 37-38.

SPAETH, F., 1909. *Cassididae*. In: Résultats de l'Expedition scientifique néerlandaise à la Nouvelle-Guinée en 1907 sous les auspices du Dr. H. LORENTZ. Nova Guinea, **9**: 27-29.

SPAETH, F., 1913. *Cassididae*. Résultats de l'Expédition Scientifique Néerlandaise a la Nouvelle-Guinée. Nova Guinea, **9**, 3: 447-452.

SPAETH, F., 1914. *Chrysomelidae*: 16. *Cassidinae*. In: W. JUNK, S. SCHENKLING, Coleopterorum Catalogus, Pars 62, Berlin, 182 pp.

SPAETH, F., 1915. Ueber einige australische Cassidinen (*Col.*). Entomol. Mitt., **4**: 235-240.

SPAETH, F., 1919. Neue *Cassidinae* aus der Sammlung von Dr. K. BRANCSIK, dem Ungarischen National-Museum und meiner Sammlung. Ann. Mus. Nat. Hung., **17**: 184-204.

SPAETH, F., 1926. Fauna Buruana. *Coleoptera*, Subfam. *Cassidinae*. Treubia, **7**: 307-310.

SPAETH, F., 1932a. Cassidinae. In Résultats scientifiques du voyage aux Indes orientales néerlandaises de LL. AA. RR. le prince et la princesse Léopold de Belgique. Mem. Mus. Hist. Nat. Belg., **4**: 135-137.

SPAETH, F., 1932 b. Neue Beiträge zur Kenntnis der Afrikanischen Cassidinen (*Col. Chrys.*). Rev. Zool. Bot. Afr., **22**: 2-22, 227-241.

SPAETH, F., 1943. *Cassidinae* (*Coleoptera Phytophaga*) Familie *Chrysomelidae*. In: Explor. Parc Nat. Albert Miss. DE WITTE (1933-1935), fasc. **43**: 47-62.

WAGENER, B., 1881. *Cassididae*. Mitt. Münch. Ent. Ver., **1**: 17-85.

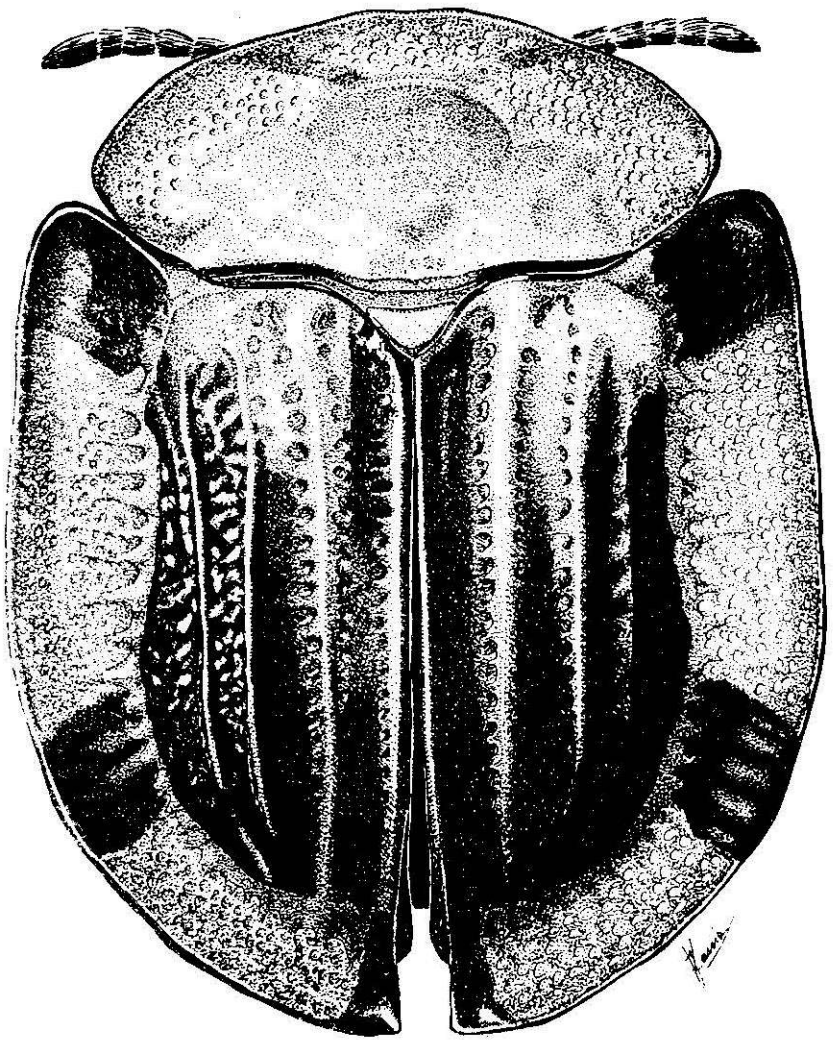
WAGENER, 1887. *Cassididae*. Mitt. Münch. Ent. Ver., **5**:

WEBER, F., 1801. Observationes entomologicae, ... , Kiliae.

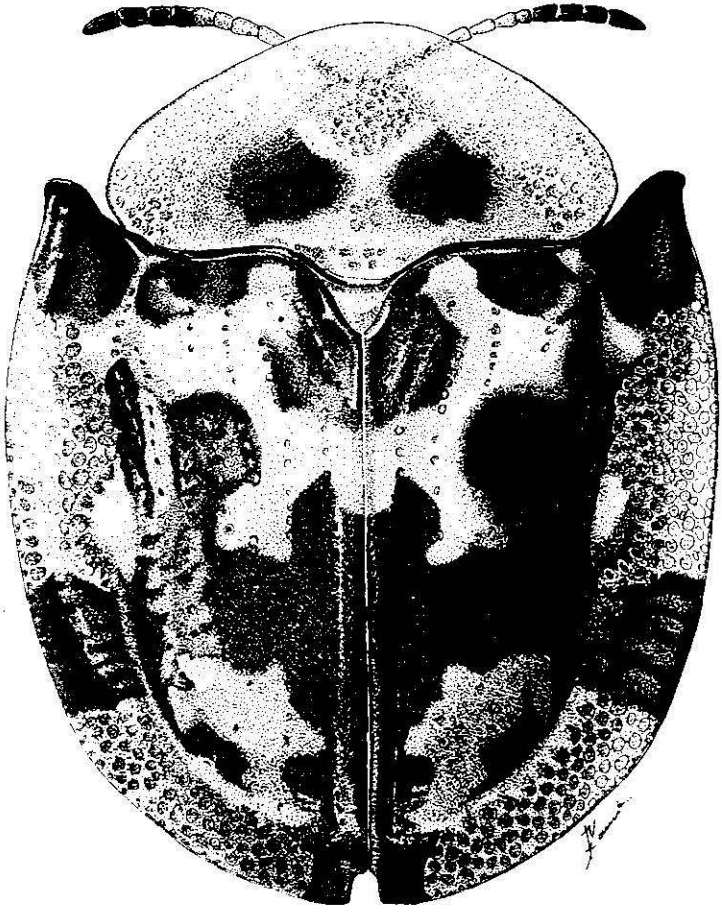
WEISE, J., 1899 a. Cassidinen und Hispinen aus Deutsch-Ost-Afrika. Archiv F. Naturges., **65**: 241-267.

WEISE, J., 1899 b. Einige neue Cassidinen-Gattungen und Arten. Archiv F. Naturges., **65**: 268-273.

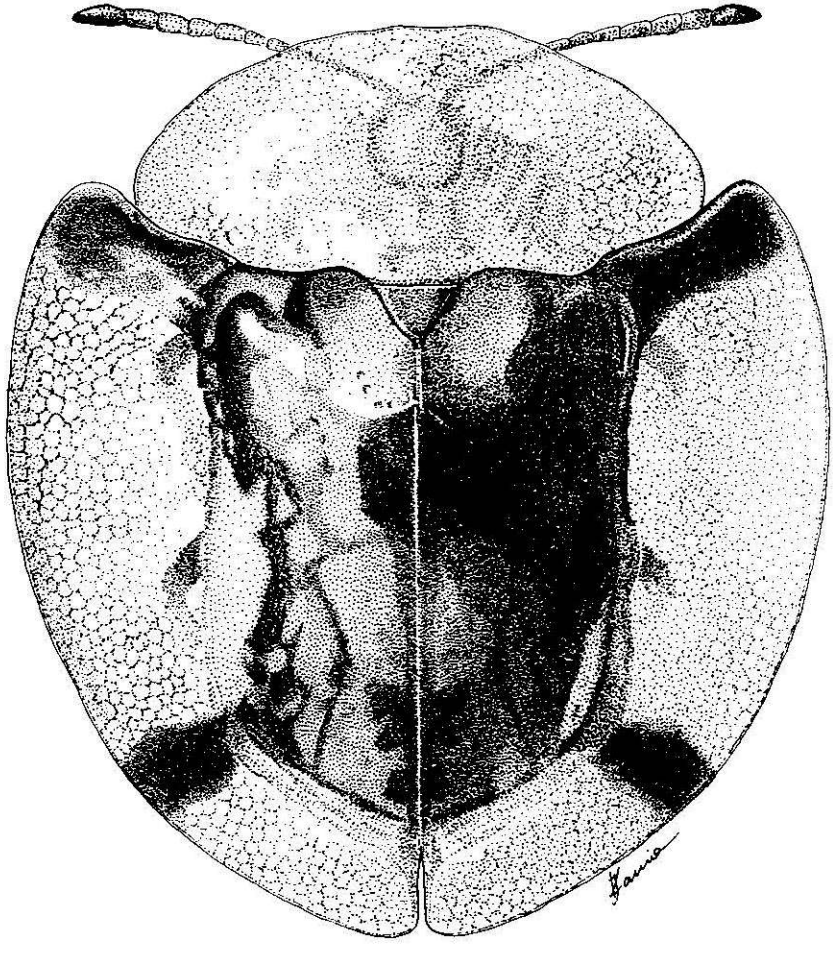
WEISE, J., 1923. Chrysomeliden und Coccinelliden aus Queensland. Results of Dr. E. MJÖBERG's Swedish Scientific Expedition to Australia 1910-1913. Ark. F. Zool., **15**, 12: 1-150.



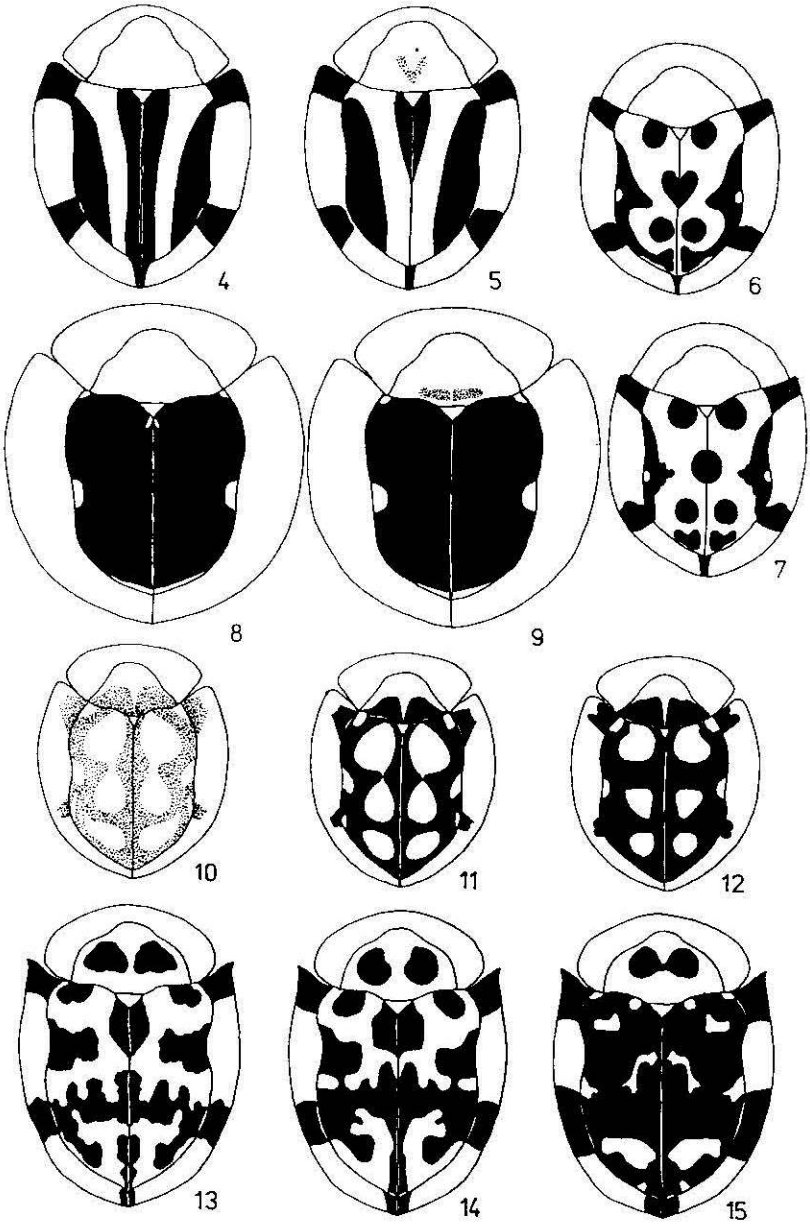
1. *Aspidimorpha septemcostata*



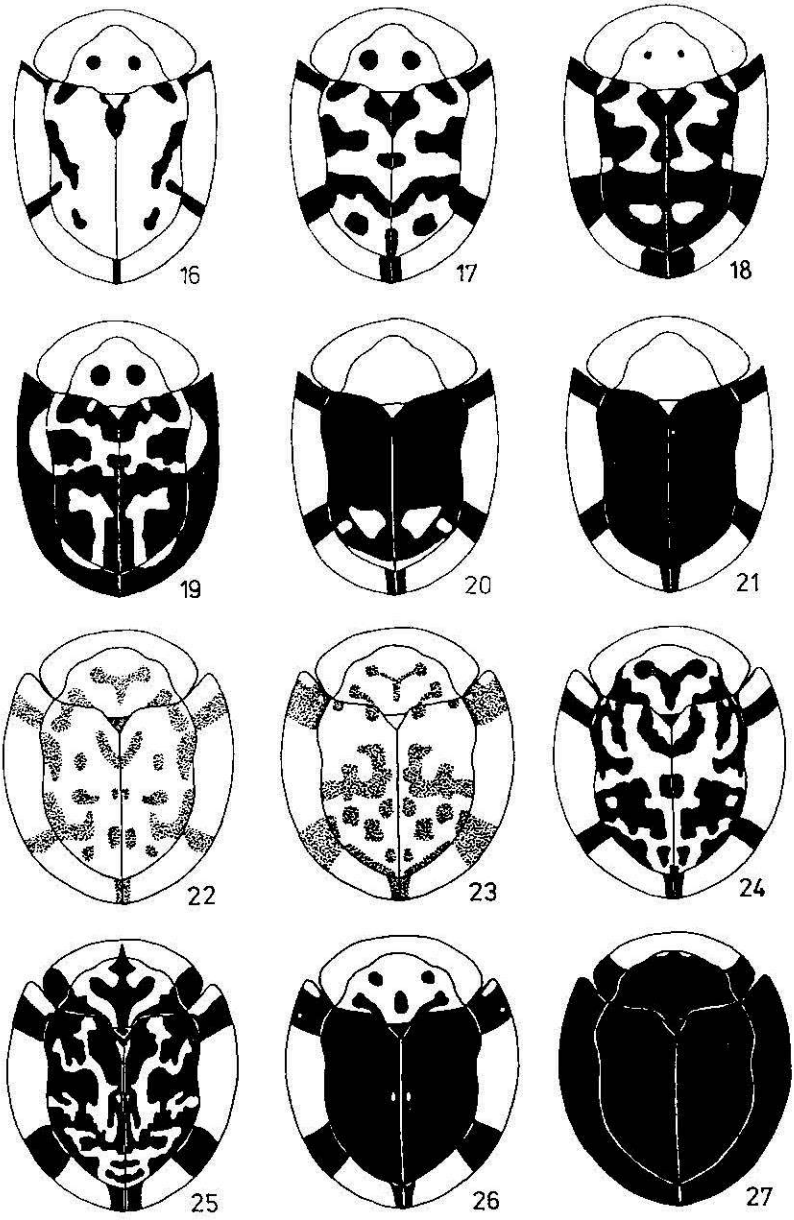
2. *Aspidimorpha angoramensis*



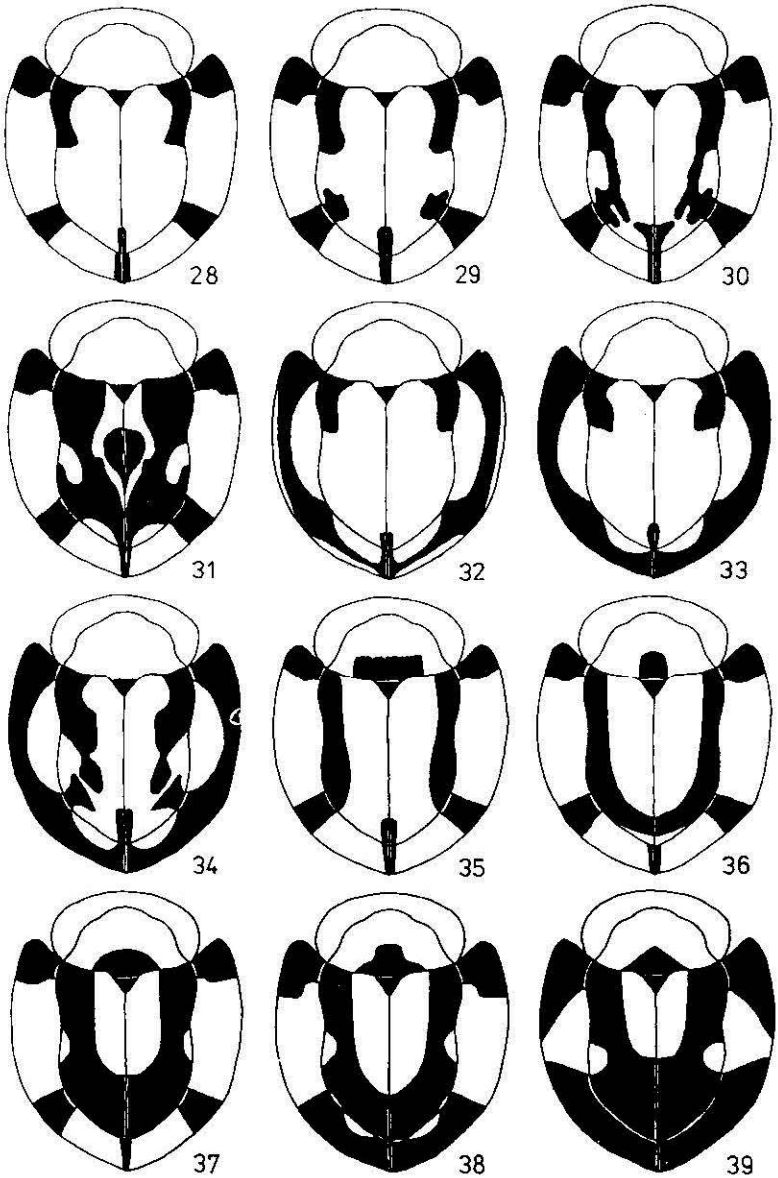
3. *Aspidimorpha aurata*



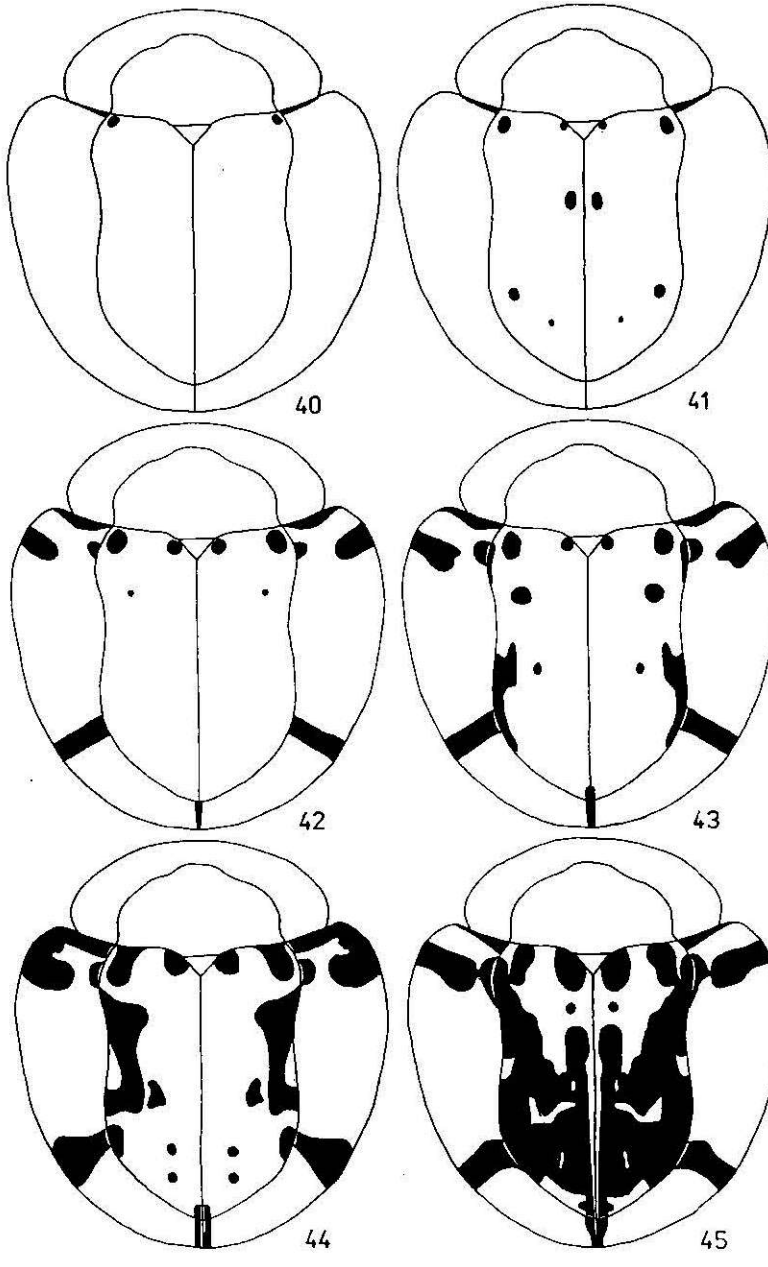
4-15. Dorsal pattern: 4-5 - *Aspidimorpha septemcostata*, 6-7 - *A. westwoodi*, 8-9 - *A. maffinbayensis*, 10-12 - *A. convolvuli*, 13-15 - *A. angoramensis*



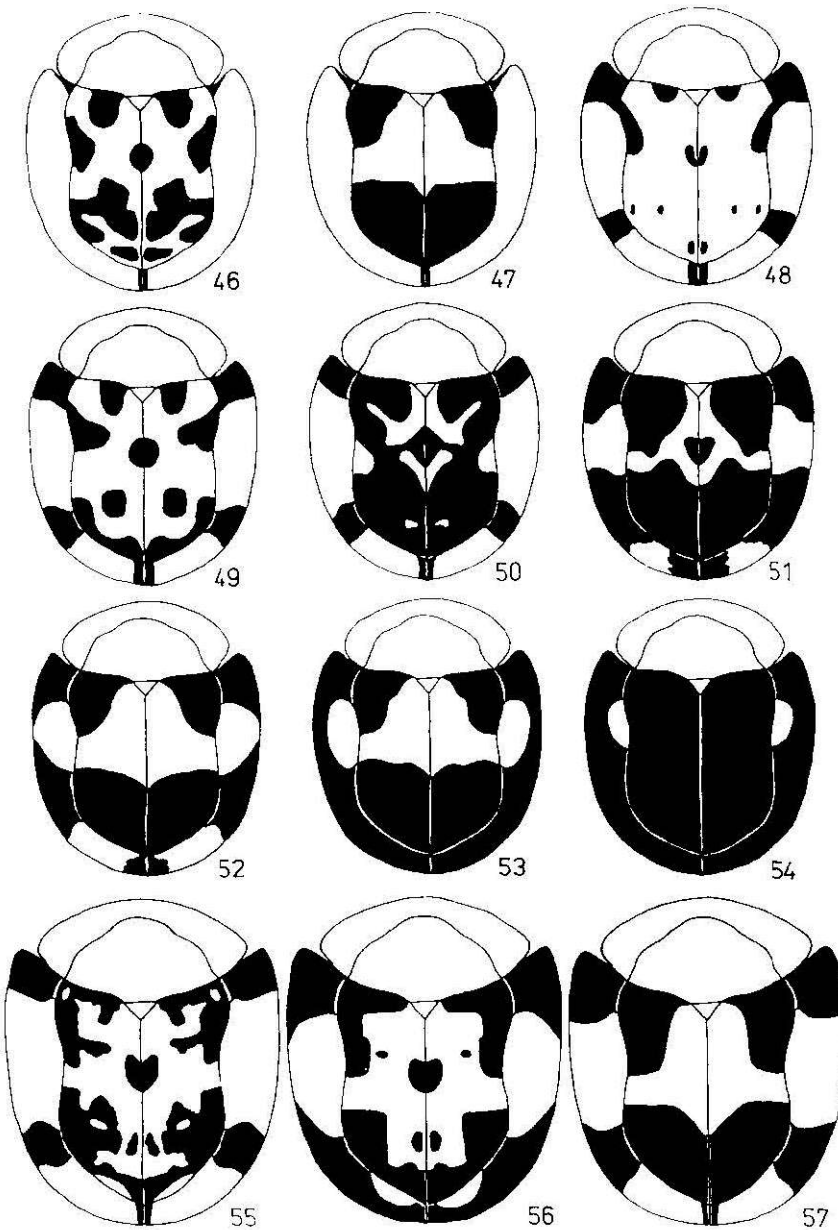
16-27. Dorsal pattern: 16-21 - *Aspidimorpha deusta*, 22-27 - *A. maculatissima*



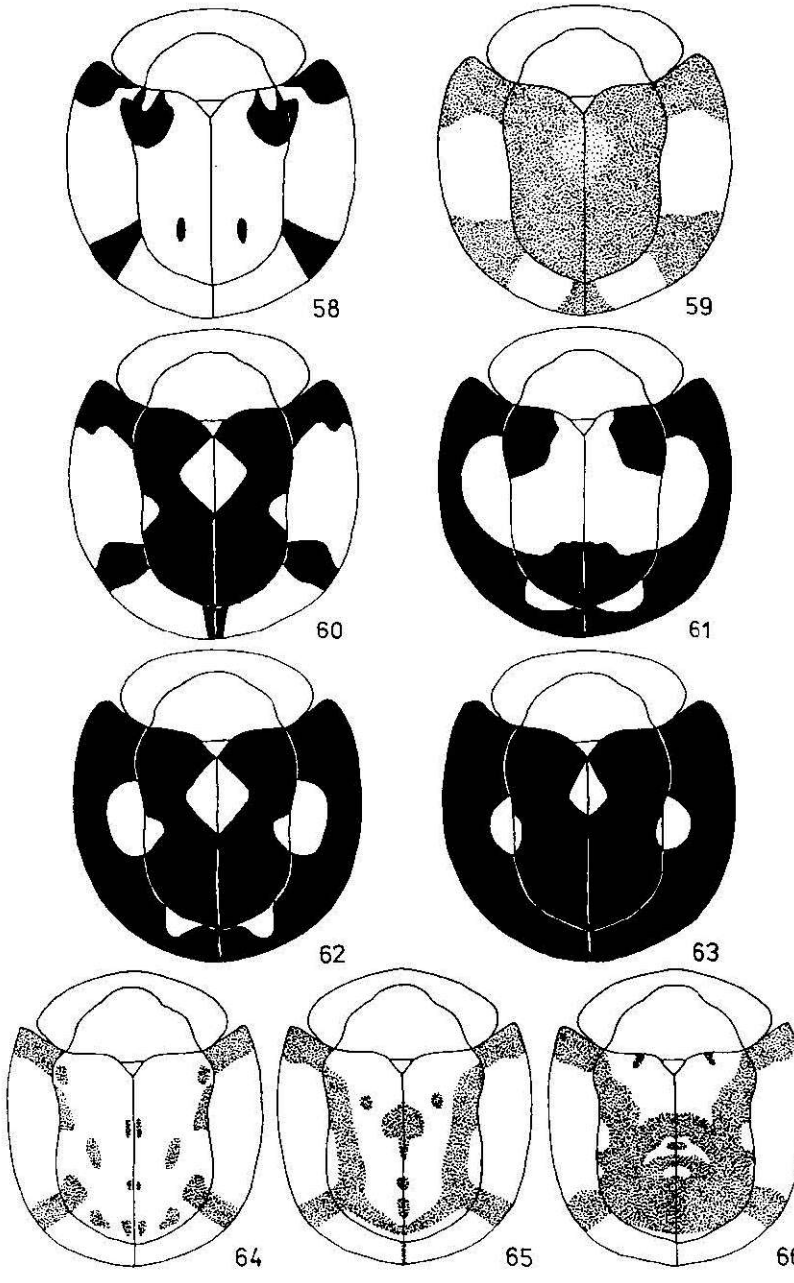
28-39. Dorsal pattern: 28-34 - *Aspidimorpha adhaerens adhaerens*, 35-39 - *A. adhaerens salomonina*



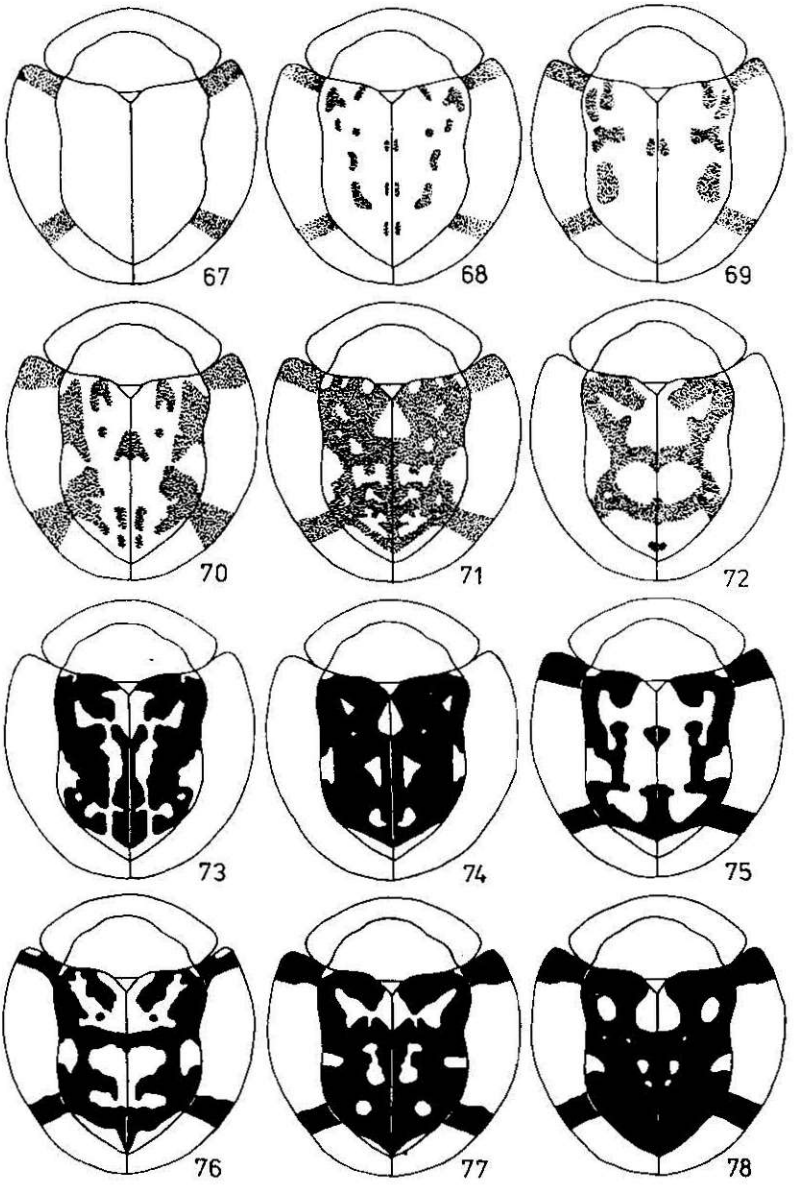
40-45. Dorsal pattern of *Aspidimorpha miliaris*



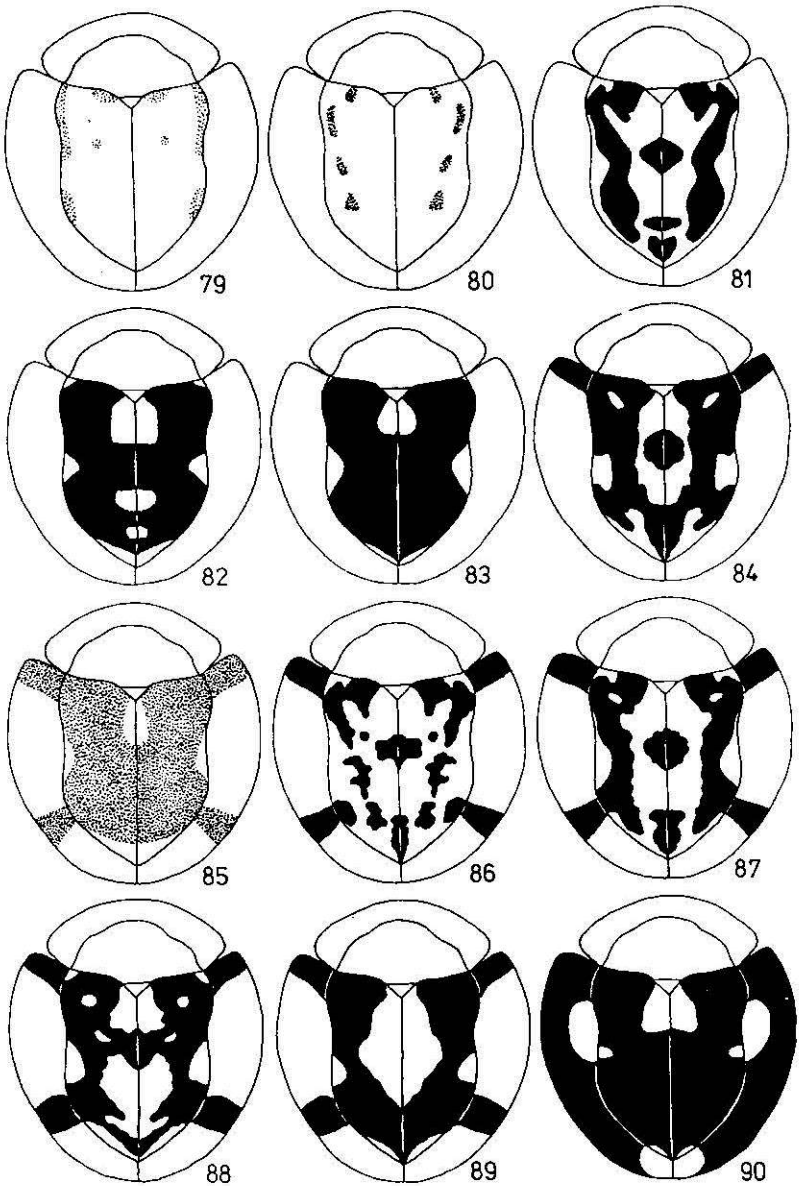
46-57. Dorsal pattern: 46-54 - *Aspidimorpha punctum*, 55-57 - *A. interrupta*



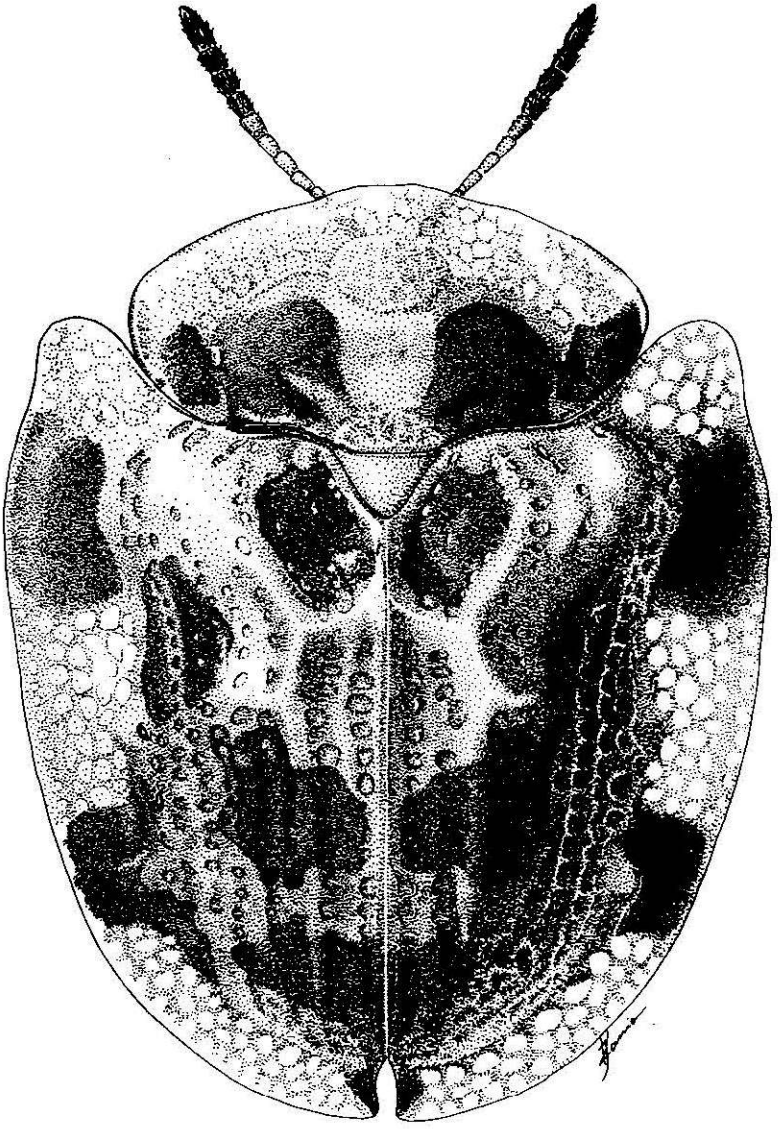
58-66. Dorsal pattern: 58-63 - *Aspidimorpha novaeguineensis*, 64-66 - *A. quadriradiata*



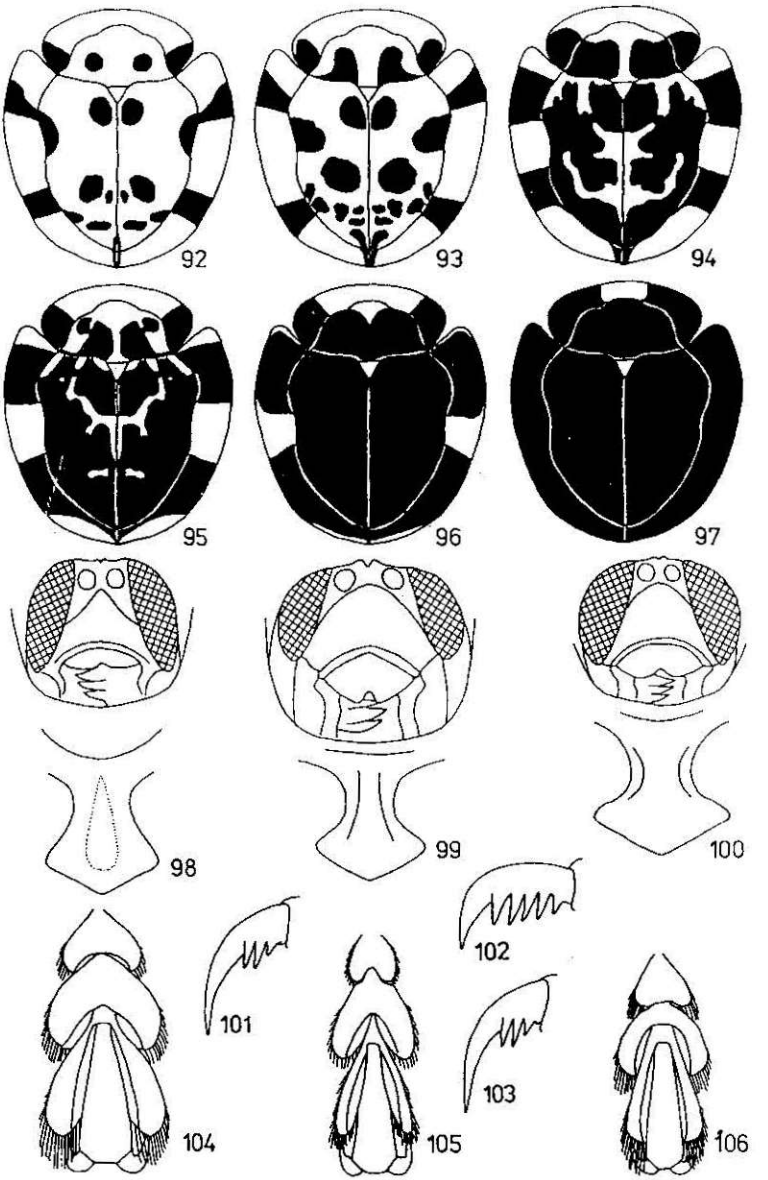
67-78. Dorsal pattern of *Aspidimorpha aurata*



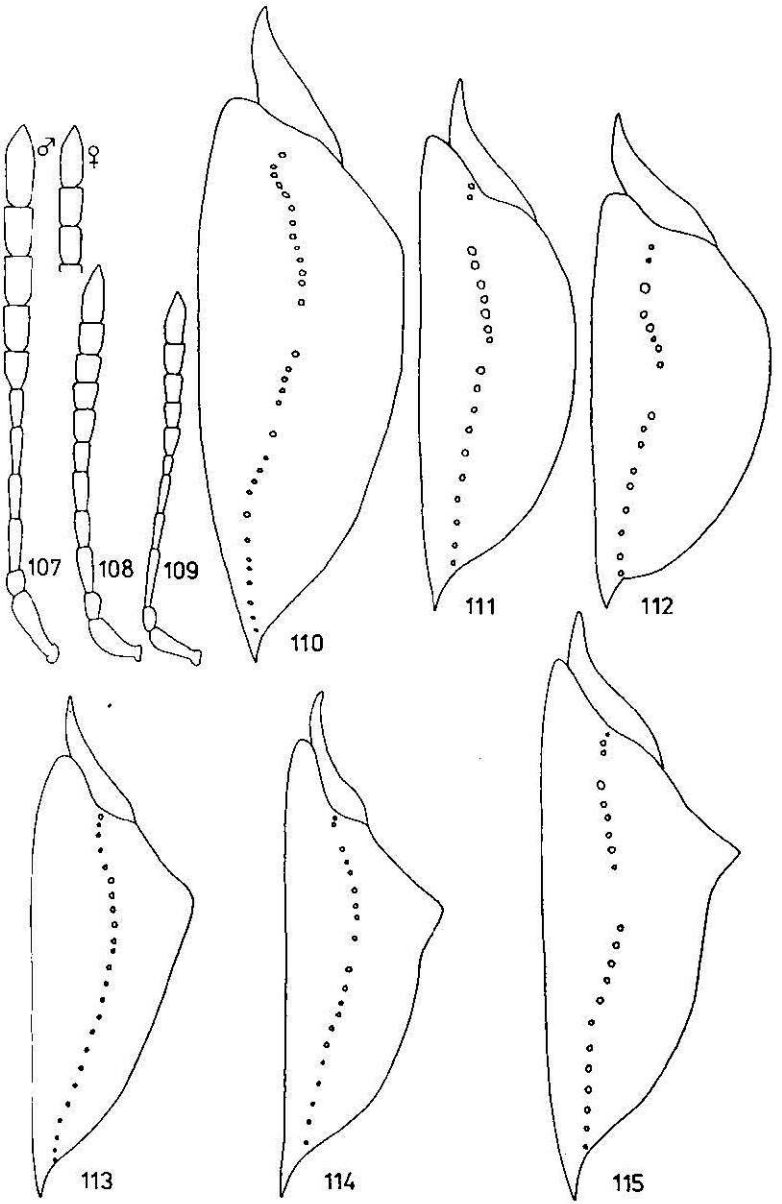
79-90. Dorsal pattern of *Aspidimorpha australasiae*



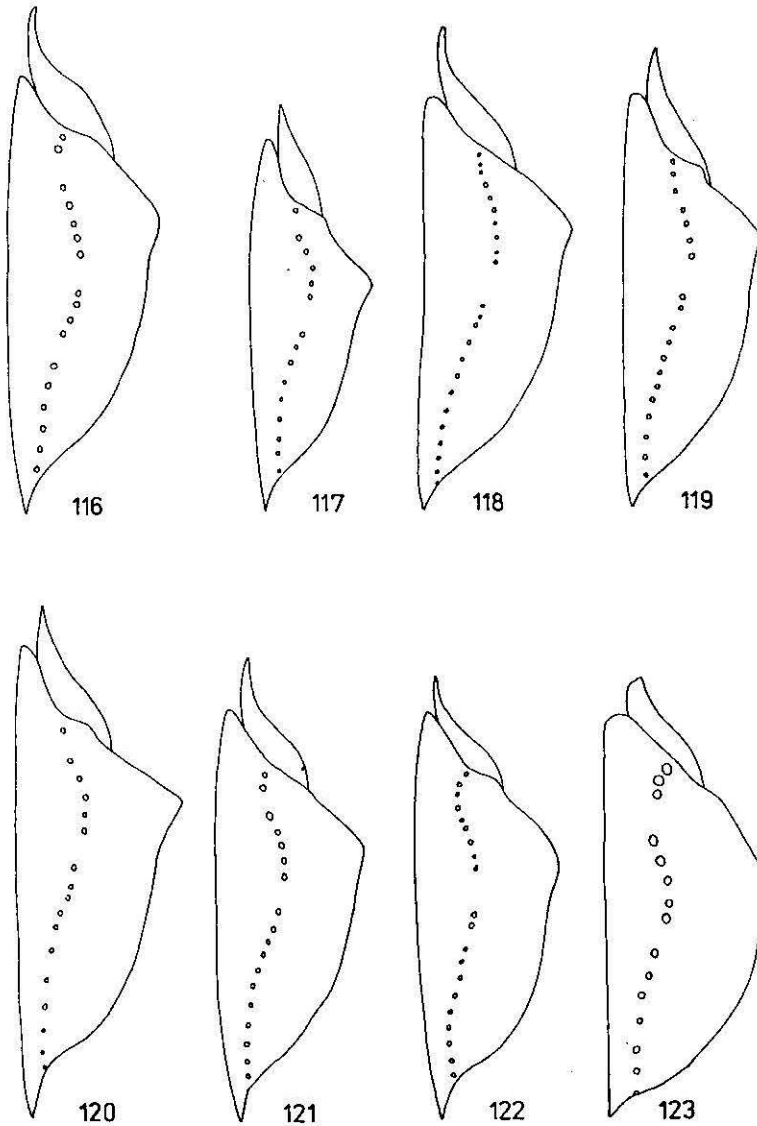
91. *Laccoptera impressa*



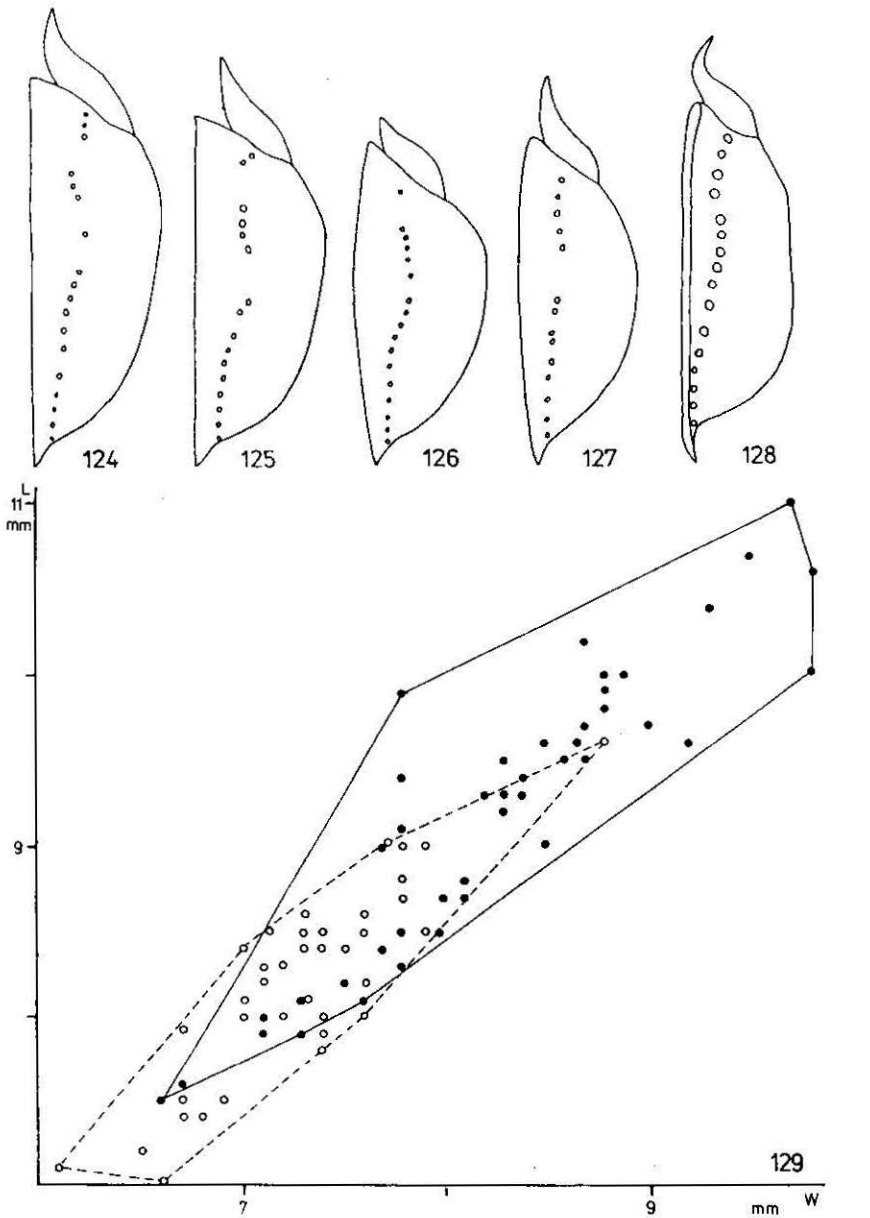
92-97. Dorsal pattern; 98-100. Head and prosternum; 101-103. Inner margin of tarsal claw; 104-106. Tarsus: 92-98, 101, 104 - *Laccoptera impressa*, 99, 102, 105 - *Aspidimorpha septemcostata*, 100, 103, 106 - *A. australasiae*



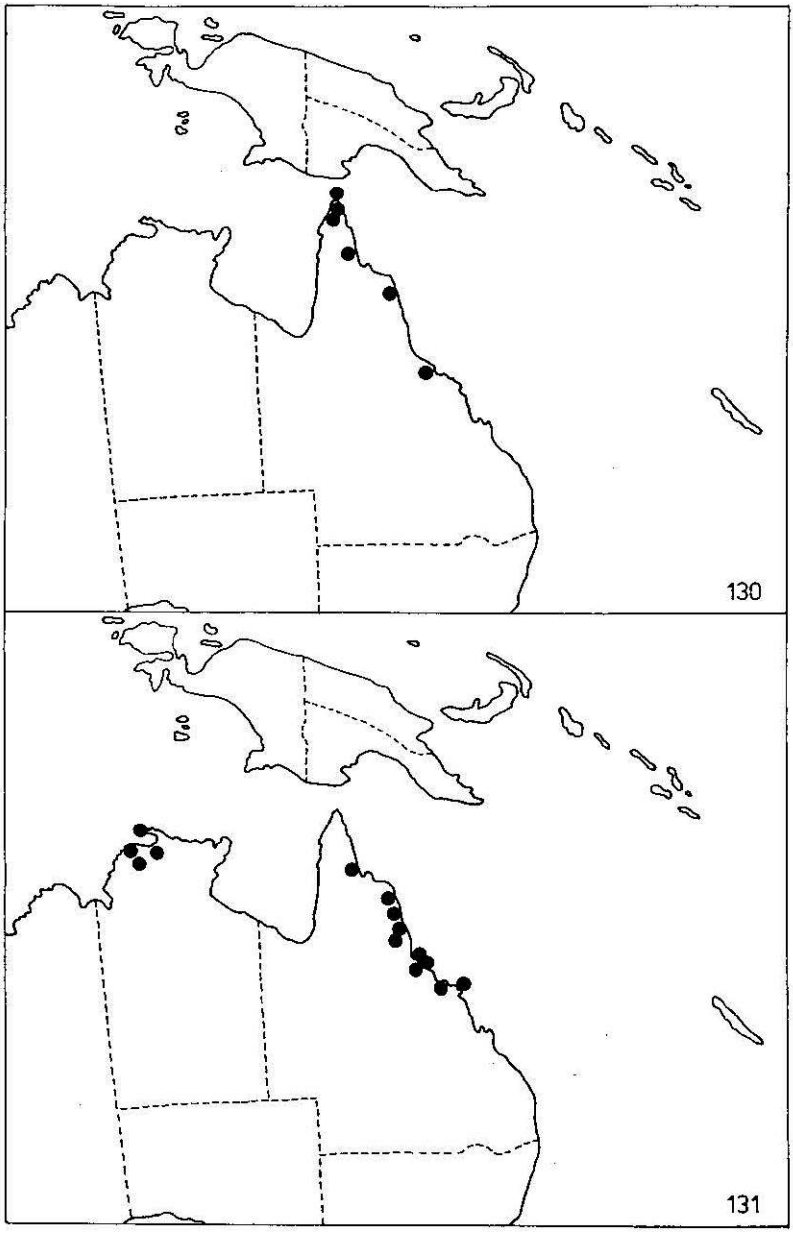
107-109. Antenna; 110-115. Body in profile: 107 - *Laccoptera impressa*, 108 - *Aspidimorpha septemcostata*, 109 - *A. australasiae*, 110 - *A. miliaris*, 111 - *A. interrupta*, 112 - *A. maculatissima*, 113 - *A. adhaerens*, 114 - *A. maffinbayensis*, 115 - *A. novaeguineensis*



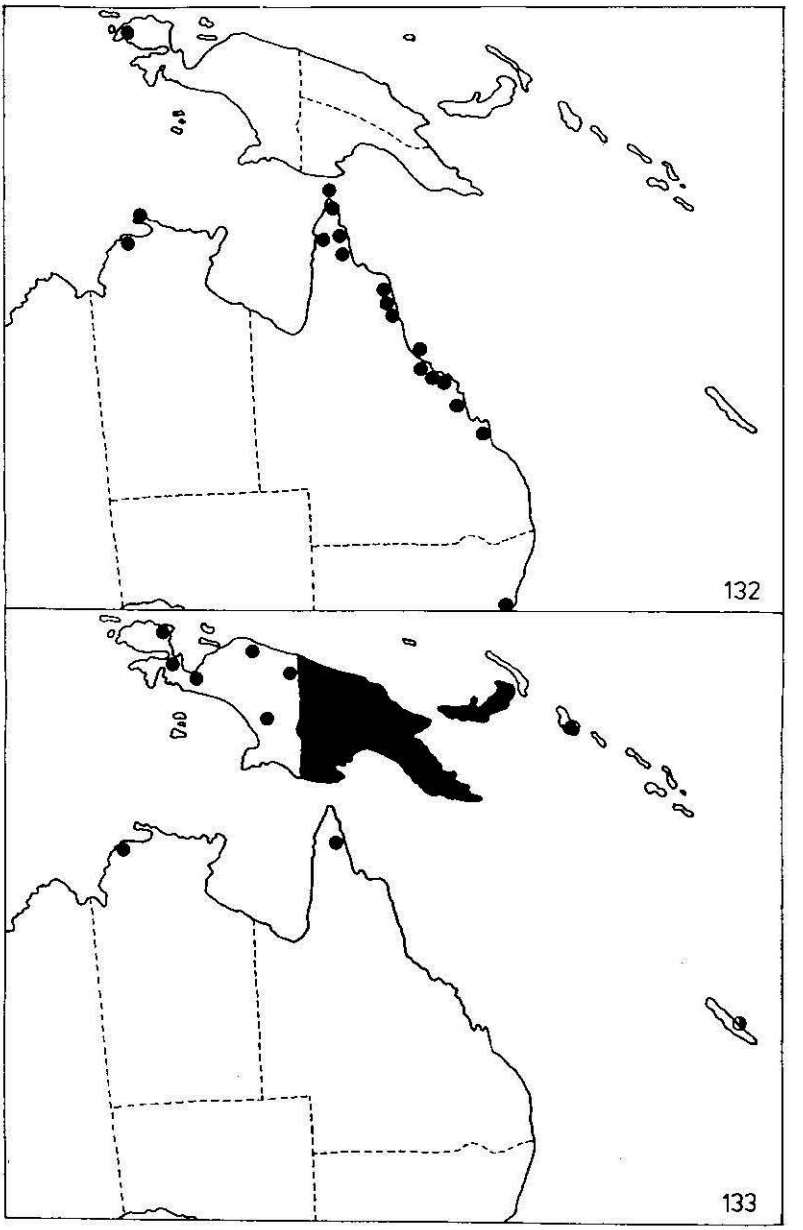
116-123. Body in profile: 116 - *Aspidimorpha quadriradiata*, 117-119 - *A. australasiae*, 120-121 - *A. aurata*, 122 - *A. punctum*, 123 - *Laccoptera impressa*



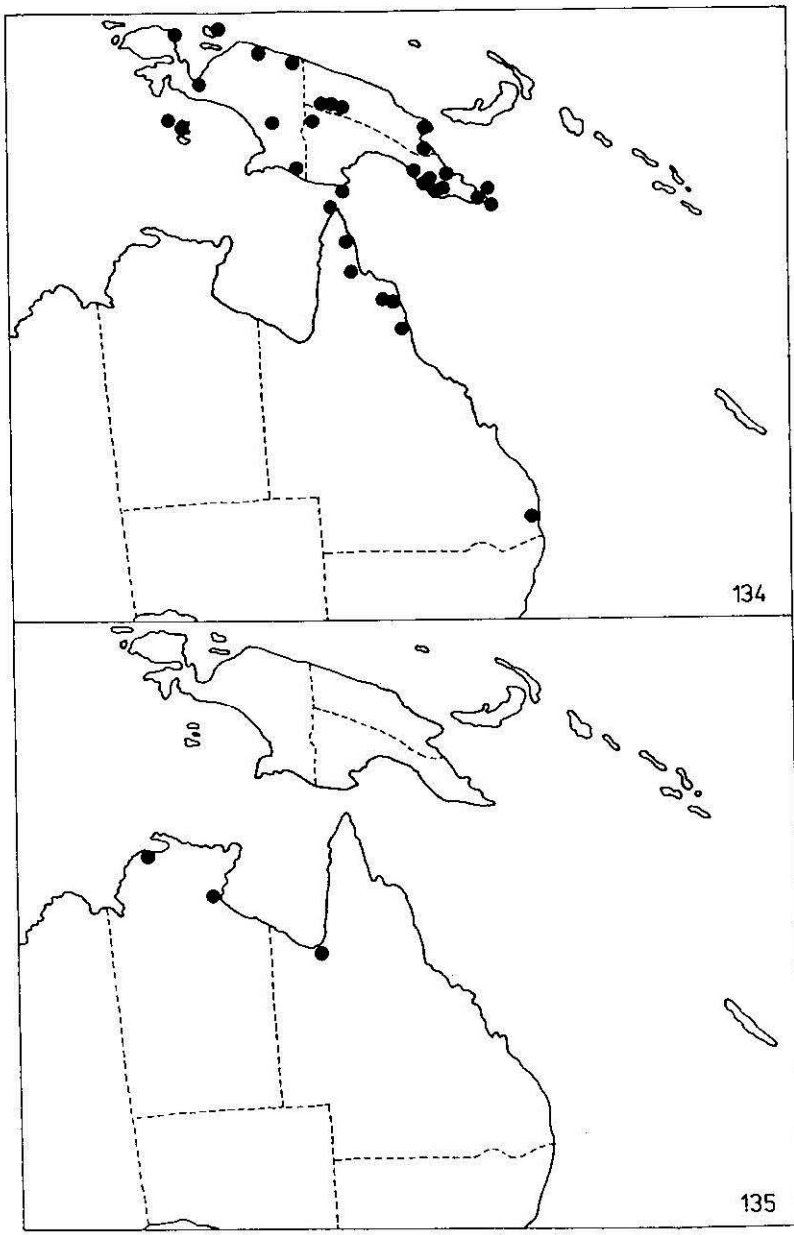
124-128. Body in profile: 124 - *Aspidimorpha deusta*, 125 - *A. angoramensis*, 126 - *A. convolvuli*, 127 - *A. westwoodi*, 128 - *A. septemcostata*; 129 - Scatter diagram of body length (L) and width (W) in *Aspidimorpha aurata* (black circles) and *A. australasiae* (white circles)



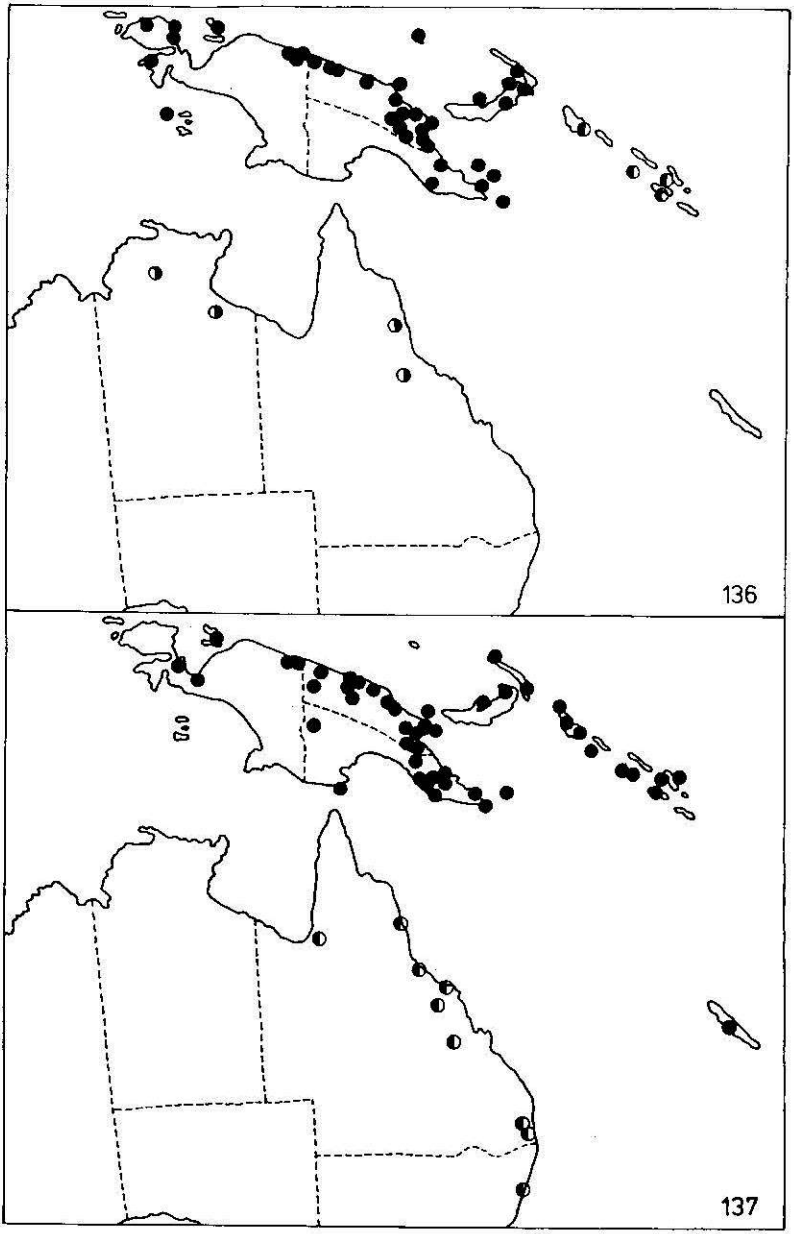
130-131. Distribution: 130 - *Aspidimorpha interrupta*, 131 - *A. maculatissima*



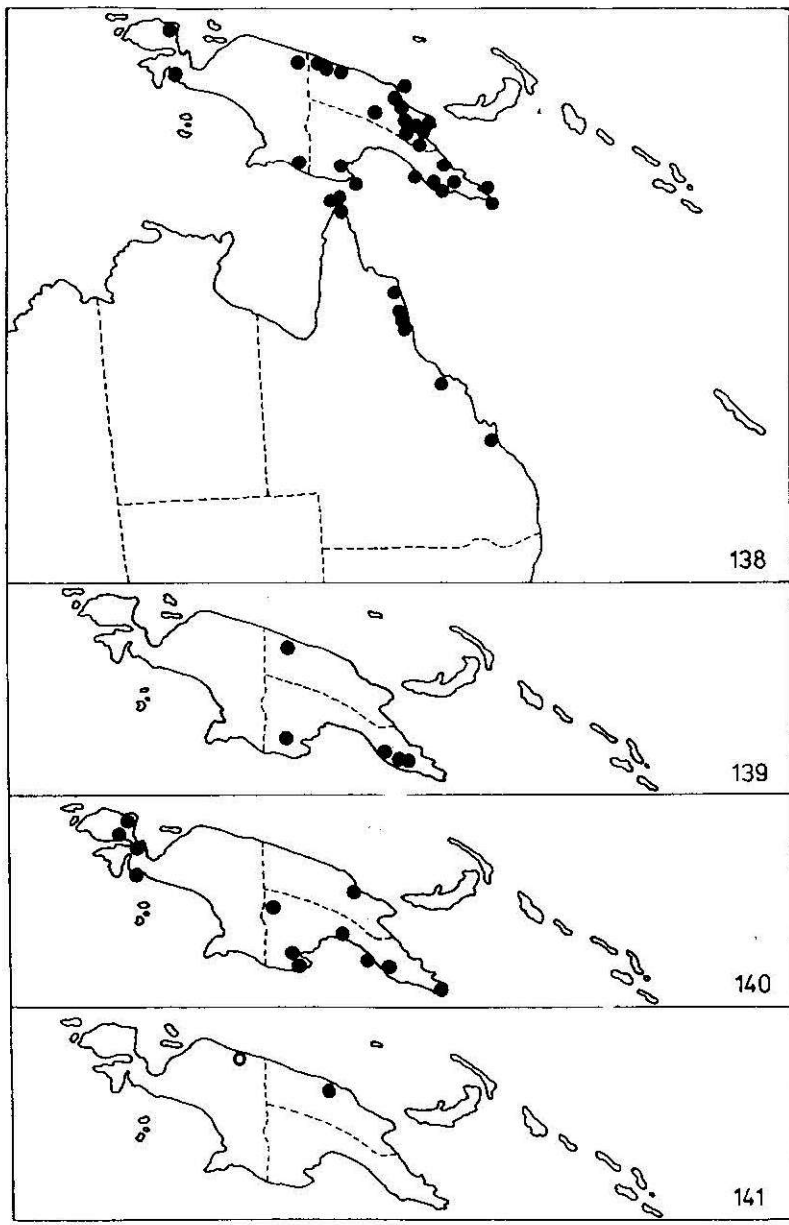
132-133. Distribution: 132 - *Aspidimorpha deusta*, 133 - *A. australasiae* (black area and black circles) and *A. convolvuli* (white and black circle)



134-135. Distribution: 134 - *Aspidimorpha punctum*, 135 - *A. quadriradiata*



136-137. Distribution: 136 - *Aspidimorpha adhaerens adhaerens* (black circles), *A. adhaerens salomonina* (black and white circles) and *A. septemcostata* (white and black circles), 137 - *A. aurata* (black circles) and *A. westwoodi* (black and white circles)



138-141. Distribution: 138 - *Laccoptera impressa*, 139 - *Aspidimorpha miliaris*, 140 - *A. novaeguineensis*, 141 - *A. angoramensis* (black circle) and *A. maffinbayensis* (white circle)