Genus	Vol. 5(3): 153-159	Wrocław, 30 X 1994

New synonyms in the *Cassidinae* (*Coleoptera*: *Chrysomelidae*)

LECH BOROWIEC
Zoological Institute, University of Wrocław, Sienkiewicza 21, 50-335 Wrocław, Poland

ABSTRACT. The following new synonyms are proposed: *Notosacantha vogeli* (WEISE, 1903) (= *Hoplionota costulata* SPAETH, 1913), *Notosacantha kohlschuetteri* (WEISE, 1903) (= *Hoplionota wellmani* WEISE, 1908), *Aspidimorpha deusta* (FABRICIUS, 1775) (= *Sindia schwalleri* MEDVEDEV, 1993), *Cassida diomma* BOISDUVAL, 1835 (= *Cassida lawrencei* BOROWIEC, 1990), *Cassida murraea* LINAEUS, 1767 (= *Cassida pseudomurraea* GRUEV, 1978), *Cassida luxuriosa* SPAETH, 1940 (= *Cassida cruenta* SHAW, 1961), *Cassida andreinii* SPAETH, 1933 (= *Cassida torrida* SPAETH, 1939), *Cassida quinaria* (CHEN et ZIA, 1964) (= *Cassida quinqueasteriza* MEDVEDEV et EROSHKINA, 1988), *Chridopsis trizonata* (FAIRMAIRE, 1904) (= *Chridopsis cupula* SPAETH, 1926). A new name *Cassida tsaratanana* is proposed for *Cassida alticola* BOROWIEC, 1988 not *Cassida* (*Lordicassis*) *alticola* CHEN et ZIA, 1984. The genus *Eremocassis* SPAETH, 1926 is synonymized with the subgenus *Tylocentra* REITTER, 1926 of the genus *Cassida* L. *Seminabathea* BOROWIEC, 1994 is a junior objective synonym of *Nabathaea* SPAETH, 1911. A new genus *Neonabathaea* is proposed for *Nabathaea* sensu BOROWIEC, 1994 not SPAETH, 1911. For *Hoplionota costulata* SPAETH, 1913 and *Hoplionota kohlschuetteri* WEISE, 1903 lectotypes are designated.

Notosacantha vogeli (WEISE, 1903)

Hoplionota Vogeli WEISE, 1903: 220.
Hoplionota costulata SPAETH, 1913: 465 **n. syn.**

WEISE (1903) described *Hoplionota vogeli* from Tanzania, SPAETH (1913) described *Hoplionota costulata* from S Zaire. In his catalogue of the world *Cassidinae* SPAETH (1914) treated *H. costulata* as a variety of *H. vogeli*, but in the review of African species of the genus *Hoplionota* (SPAETH, 1931) he restored its species rank.

I have examined the holotype of *Hoplionota vogeli* preserved in Berlin Museum, and three syntypes of *H. costulata* preserved in Tervuren Museum. In my opinion all are conspecific and *H. costulata* SPAETH, 1913 is a junior synonym of *H. vogeli* WEISE, 1903. Syntypes of *H. costulata* are slightly paler coloured, especially explanate margin of elytra is pale reddish, with transverse reddish spot in the middle, while the holotype of *H. vogeli* is uniformly dark reddish. I have examined also 9 other specimens from various parts of southern Zaire and they represent all intermediate colour forms between pale coloured *H. costulata* and darker *H. vogeli*.

Because SPAETH did not designate holotype for *H. costulata*, I designate a specimen lebelled "*H. costulata* m. Typus SPAETH det." as lectotype, and two other specimens labelled "*H. costulata* m. cotypus SPAETH det." as paralectotypes.

Notosacantha kohlschuetteri (WEISE, 1903)

Hoplionota Kohlschütteri WEISE, 1903: 219.
Hoplionota Wellmani WEISE, 1908: 203 **n. syn.**

WEISE (1903) described *Hoplionota kohlschuetteri* from Deutsche-Ost-Afrika (= Tanzania), and in 1908 a related *Hoplionota wellmani* from Angola.

I have examined syntype of *H. kohlschuetteri* designated here as lectotype (with blue label "D. O. Afr., KOHLSCHÜTTER" and white label with WEISE's handwritting "*Hoplionota Kohlschütteri* m."), and holotype of *Hoplionota wellmani* (with blue label "Angola, WELLMAN" and white label with Weise's handwriting "*Hoplionota Wellmani* m."), both preserved in Berlin Museum, and 10 other specimens from S Zaire labelled by F. SPAETH or S. SHAW as *N. wellmanni* or *N. kohlschuetteri*, preserved in Tervuren Museum and in my collection. In my opinion specimens from Angola and Tanzania represent only extreme forms of a widespread and variable species. Specimens from Zaire vary from stout, strongly converging posterad, similar to the lectotype of *H. kohlschuetteri*, to slim, almost parallelsided, similar to the holotype of *H. wellmani*. Lectotype of *H. kohlschuetteri* differs distinctly only in body colour, with elytral disc and margins of pronotum and elytra dark brown to blackish, while all other specimens are rather uniformly testaceous, but I have observed the tendency to melanism also in other Afrotropical species (*N. alberti* Sp., *N. leplaei* Sp., *N. schoutedeni* Sp.).

Aspidimorpha deusta (FABRICIUS, 1775)

Cassida deusta FABRICIUS, 1775: 89.
Sindia schwalleri MEDVEDEV in MEDVEDEV and ZAITSEV, 1993: 41 **n. syn.**

Cassida deusta FABRICIUS, 1775 was described from Nova Hollandia (=Australia). Actually it belongs to the large and heterogenous genus *Aspidimorpha*. It was recently redescribed by BOROWIEC (1992). *Sindia schwalleri* MEDVEDEV, 1993 was described

from the Philippines, based on 10 specimens collected on cultivated batatas (*Convolvulaceae*: *Ipomea batatas*).

I have examined two syntypes of *Cassida deusta* preserved in BANK's collection in the British Museum (Natural History), and three paratypes of *Sindia schwalleri* preserved in Museum für Naturkunde, Stuttgart. Without doubt, *Sindia schwalleri* is a junior synonym of *Aspidimorpha deusta*. The species originates from northern Australia. It was introduced and established in New Guinea, Indonesia and Philippines. I have examined several hundred specimens from various parts of insular Asia. In Java it is one of the most common species of the genus.

Based on larval characters MEDVEDEV (1993) placed this species in the genus *Sindia* WEISE, with three other species - *clathrata* (FABRICIUS, 1798) (type species of the genus), *foveolata* (BOHEMAN, 1856), and *sedecimmaculata* (BOHEMAN, 1856). He overlooked that SPAETH (1936) described another species in the genus - *Sindia jawalagiriana*, and SPAETH in HINCKS (1952) transferred *Cassida foveolata* BOHEMAN to the subgenus *Indocassis* of the genus *Laccoptera*. In my opinion, the genus *Sindia* WEISE must be reduced to the subgenus of the genus *Laccoptera* BOHEMAN, 1855, and comprises only type species - *Sindia clathrata* (F.). I transferred (BOROWIEC, 1992) *C. foveolata* BOH. and *S. jawalagiriana* SPAETH to the subgenus *Orphonodella* SPAETH, 1902 with many species from tropical Africa. *Cassida sedecimmaculata* BOHEMAN belongs to an unnamed subgenus of the genus *Laccoptera*. The larval characters described by MEDVEDEV as characteristic of the genera *Aspidimorpha*, *Laccoptera*, *Sindiola* and *Sindia* based on description of a few species.The tribe *Aspidimorphini* comprises more than 230 species in the whole Old World tropics, and it is premature to divide it into genera based on larval description of only a few (exclusively Oriental) species.

Cassida diomma BOISDUVAL, 1835

Cassida diomma BOISDUVAL, 1835: 540.
Cassida lawrencei BOROWIEC, 1990: 15 **n. syn.**

Cassida diomma BOISDUVAL, 1835 is a common Papuan and Australian species, redescribed recently by me (BOROWIEC, 1990). In the same work I described *C. lawrencei* from three specimens collected in N Australia. Recently, I have examined a large material from Northern Australia with mixed series of *C. diomma* and *C. lawrencei* collected in the same places. Based on this material, I came to the conclusion that *C. lawrencei* represents only an extreme pale form of *C. diomma*. Typical *C. diomma* have elytra with dark pattern and yellow scultpure (see figures in BOROWIEC, 1990: 43). The reduction of this pattern is correlated with the reduction of sculpture. Completely yellow specimens described as *C. lawrencei* have quite reduced elytral scultpure. They are more similar to another Australian species - *Cassida aureola* (SPAETH) than to variegate specimens of *C. diomma*. For distinctive characters see BOROWIEC (1990).

Cassida murraea LINNAEUS, 1767

Cassida murraea LINNAEUS, 1767: 575.
Cassida pseudomurraea GRUEV, 1978: 171 **n. syn.**

GRUEV (1978) described *Cassida pseudomurraea* from a single specimen collected in Yugoslavia (Herzegovina, Plasa-planina). I have examined the holotype preserved in Budapest Museum and, in my opinion, it represents a teratological specimen of well known *Cassida murraea* L. It was probably infected by a parasite during pupation, or deformed while abandoning pupal theca. I observed similar deformations of the body and male genitalia in some other species of Polish *Cassida* as a result of inappropriate trophic conditions.

Cassida luxuriosa SPAETH, 1940

Cassida luxuriosa SPAETH, 1940: 263.
Cassida cruenta SHAW, 1961: 28 **n. syn.**

SPAETH (1940) described *Cassida luxuriosa* from Zaire (Lulua near Tshibamba), and SHAW (1961) described *Cassida cruenta* also from Zaire (Lufwa). I have examined holotypes of both *C. luxuriosa* and *C. cruenta* preserved in Tervuren Museum and they are conspecific. *C. cruenta* differs only in the elytral pattern which forms a solid rhomboidal figure in apical half of elytral disc, while in *C. luxuriosa* the figure is split into several spots.

Cassida andreinii SPAETH, 1933

Cassida andreinii SPAETH, 1933: 48.
Cassida (Cassidulella) torrrida SPAETH, 1939: 20 **n. syn.**

SPAETH (1933) described *Cassida andreinii* from Eritrea (Cheren), and in 1939 described *Cassida torrida* from Zambia (Lukanga). I have examined the holotype of *C. andreinii* preserved in Firenze Museum and the holotype of *C. torrida* preserved in the British Museum (Natural History) and they are conspecific. The specimen described as *C. torrida* differs only in the presence of two small reddish spots on each elytron while the type of *C. andreinii* has immaculate elytra. The species is widespread in Africa, I have a specimen collected in Nigeria. The species does not belong to the subgenus *Cassidulella* but is close to *C. viridipennis* group.

Cassida quinaria (CHEN et ZIA, 1964)

Taiwania (s. str.) quinaria CHEN et ZIA, 1964: 128.
Cassida (T.) quinqueasteriza MEDVEDEV et EROSHKINA, 1988: 133 **n. syn.**

CHEN and ZIA (1964) described *Cassida quinaria* (under synonymic generic name *Taiwania*) from S China (Yunnan) and MEDVEDEV and EROSHKINA (1988) described *Cassida quinqueasteriza* from Vietnam. I have examined the holotype of *C. quinaria* preserved in Academia Sinica (Beijing) and the paratype of *C. quinqueasteriza* from my collection and they are conspecific, with no differences in body colour and shape. Thus *C. quinqueasteriza* is a junior synonym of *C. quinaria*.

Cassida tsaratanana nom. nov.

Cassida alticola BOROWIEC, 1988: 548, not *Cassida* (*Lordicassis*) *alticola* CHEN et ZIA, 1984: 383.

CHEN and ZIA (1984) described *Cassida* (*Lordicassis*) *alticola* from W China, BOROWIEC (1988) described *Cassida alticola* from Madagascar. I have proposed a new name *Cassida tsaratanana* for *Cassida alticola* BOROWIEC not CHEN et ZIA. The name is derived from the type locality, Mt. Tsaratanana in Madagascar.

Chridopsis trizonata (FAIRMAIRE, 1904) n. comb.

Coptocycla trizonata FAIRMAIRE, 1904: 276.
Chiridopsis cupula SPAETH, 1926: 91 **n. syn.**

FAIRMAIRE (1904) described *Coptocycla trizonata* from Madagascar. I have examined the holotype preserved in Paris Museum and it belongs to the genus *Chiridopsis*. SPAETH (1926) described *Chiridopsis cupula* from Malacca. I have examined its holotype preserved in Manchester Museum and it is conspecific with *Ch. trizonata*. I have examined two other specimens of this species from Madagascar and it is probably endemic to this island. The description of *Ch. cupula* was probably based on a mislabelled specimen.

Cassida sgen. *Tylocentra* REITTER, 1926

Cassida sgen. *Tylocentra* REITTER in SPAETH and REITTER, 1926: 57.
Eremocassis SPAETH in SPAETH and REITTER, 1926: 15, **n. syn.**

REITTER in SPAETH and REITTER (1926) proposed a new subgenus *Tylocentra* of the genus *Cassida* for eight Palaearctic species distributed mostly in Middle Asia and eastern Mediterranean Region. In the same paper SPAETH (1926) proposed a new genus *Eremocassis* for *Cassida* (*Cassidula*) *weisei* JACOBSON, 1894 (= *Eremocassis transcaspica* SPAETH, 1926) from Middle Asia. HINCKS (1952) designated *Cassida turcmenica* WEISE, 1892 as type species of the subgenus *Tylocentra* REITTER.

In my opinion *Eremocassis weisei* (JACOBSON) is congeneric with *Cassida* (*Tylocentra*) *turcmenica* WEISE. It represents only a distinct species with body strongly convex but not angulate in profile and body outline not subtriangular. Larvae of both *C. turmenica* and *C. weisei* are very close and distinctly differ from larvae of other

species of the genus *Cassida* L (MEDVEDEV, MATYS, 1975; ZAJCEV, 1992). Based on the structure of the larva, MEDVEDEV (1982) proposed generic status for *Tylocentra*, but in my opinion it is inapproiopriate because adults posess all characters of the genus *Cassida* L. The structure of the larva of the subgenus *Tylocentra* is probably an effect of adaptation to subdesert habitats. I prefer the name *Tylocentra* because it was more frequently used in literature than the name *Eremocassis*.

Nabathaea SPAETH, 1911

Nabathaea SPAETH, 1911: 272.
Seminabathea BOROWIEC, 1994: 14, **n. syn.**

I proposed (BOROWIEC, 1994) a new genus *Seminabathea* for *Nabathaea pygmaea* SPAETH, 1911, but I overlooked that HINCKS (1952) had designated *Nabathaea pygmaea* as type species of the genus *Nabathaea* SPAETH, 1911. As a result, *Seminabathea* BOROWIEC, 1994 is an objective junior synonym of the genus *Nabathaea* SPAETH, 1911.

On the other hand, *Nabathaea* sensu BOROWIEC, 1994 (p. 15, *Nabathea* ! error typogr.) which includes only a single species - *Nabathaea arabica* SPAETH, 1911 is, in my opinion, not congeneric with *Nabathaea* SPAETH, 1911 and I propose a new genus for this species:

Neonabathaea BOROWIEC new genus

Type species: *Nabathaea arabica* SPAETH, 1911. Gender: feminine. The diagnose of the genus is published on p. 15 of the first volume of a monograph of Afrotropical *Cassidinae* (BOROWIEC, 1994).

ACKNOWLEDGEMENTS. I would like to express my sincere thanks to Dr. L. BARTOLOZZI (Museo Zoologico de "La Specola", Firenze), Dr. N. BERTI (Museum d'Histoire Naturelle, Paris), Dr. J. DECELLE and Dr. H. M. ANDRÉ (Musée Royal d'Afrique Centrale, Tervuren), Dr. F. HIEKE (Zoologisches Museum, Berlin), Dr. C. JOHNSON (Manchester Museum, Manchester), Dr. L.N. MEDVEDEV (Moscow) and Dr. W. SCHWALLER (Museum für Tierkunde, Stuttgart) for the loan of the specimens. I am also grateful to Dr. B.J. ALDRIDGE (British Museum, London), Dr. O. MERKL (Hungarian Natural History Museum, Budapest) and Dr. Yu PEIYU (Academia Sinica, Beijing) for their help during my stay in Beijing, Budapest and London.

REFERENCES

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

BOROWIEC, L., 1988. Ten new species of *Cassida* L. from Madagascar (*Coleoptera, Chrysomelidae, Cassidinae*). Pol. Pismo Entomol., **58**: 547-569.

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., 1992. A review of the tribe *Aspidomorphini* of the Australian Region and Papuan Subregion (*Coleoptera*: *Chrysomelidae*: *Cassidinae*). Genus, 3: 121-184.

BOROWIEC, L., 1994. A monograph of the Afrotropical *Cassidinae* (*Coleoptera*: *Chrysomelidae*). Part I. Introduction, morphology, key to the genera, and reviews of the tribes *Epistictinini*, *Basiprionotini* and *Aspidimorphini* (except the genus *Aspidimorpha*). Genus (suppl.), Biologica Silesiae, Wrocław, 276 pp.

CHEN, S. H., ZIA, Y., 1964. New *Cassidinae* beetles from China. Acta Zootaxonom. Sinica, **1**: 122-138.

CHEN, S., ZIA, Y., 1984b. A new species of *Cassidinae* from Sichuan (*Coleoptera*: *Hispidae*). Acta Zool. Sinica, **30**: 383-384.

FABRICIUS, J. Ch., 1775. Systema Entomologiae, sistens Insectorum classes, ordines, genera, species, adiectis synonymis, locis, descriptionibus, observationibus. Flensburgi et Lipsiae, 32 + 832 pp.

GRUEV, B., 1978. Eine neue *Cassida*-Art aus Jugoslavien (*Coleoptera, Chrysomelidae*). Dtsch. Ent. Z., N.F., **25**: 171-172.

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

LINNAEUS, C., 1767. Systema Naturae per regna tria nature, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Editio duodecima, reformata. I, 2. Holmiae, 533-1327.

MEDVEDEV, L. N., 1982. Listoedy MNR. Opredelitel. Nauka, Moskwa, 1982: 303 pp.

MEDVEDEV, L. N., EROSHKINA, G. A., 1988 a. Revizya listoedov-shchitonosok (*Chrysomelidae, Cassidinae*) fauni Vietnama. In: Fauna i ekologia nasekomih Vietnama, Nauka, Moskwa, 1988: 105-142.

MEDVEDEV L. N., MATYS E. G., 1975. Neue palaarktische Schildkaferarten der Gattung *Cassida* L. (*Coleoptera, Chrysomelidae*). Deutsche Entomol. Zeitschr., N.F., **22**: 137-143.

MEDVEDEV, L. N., ZAITSEV, Y. M., 1993. Key to the genera of Oriental cassidine beetle larvae feeding on Ipomea with description of a new species of Sindia (*Coleoptera, Chrysomelidae*). Bonn. Zool. Beitr., **44**: 41-46.

SHAW, S., 1961. *Cassidinae* (*Coleoptera Chrysomelidae*). Explor. Parc Nat. Upemba - Miss. G. F. DE WITTE (1946-1949), fasc. 63 (2): 9-37.

SPAETH, F., 1911. Beschreibung neuer Cassididen nebst synonymischen Bemerkungen . VIII. Verh. Zool.-Bot. Ges. Wien, 61: 239-277.

SPAETH, F., 1913 . Studien über die Gattung *Hoplionota* HOPE und Beschreibung einer verwandten neuen Gattung. Verh. Zool.-Bot. Ges. Wien, 63: 381-534.

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

SPAETH, F., 1926. Mitteilungen ueber die Cassidinen des Prager Nationalmuseums (*Col. Chrysomelidae*). Sbornik Entomol. Odd. Mus. Praze, **4**: 81-96.

SPAETH, F., 1931. Neue Beiträge zur Kenntnis der afrikanischen Cassidinen. (*Col.Chrys.*). Rev. Zool. Bot. Afr., **21**: 100-112.

SPAETH, F., 1933. Una nuova Cassida dell Eritrea. Boll. Soc. Entomol. Ital., **65**: 48.

SPAETH, F., 1936. Neue Cassidinen und Hispinen (*Col.*) aus dem British Museum. Proc. R. Entomol. Soc. Lond., ser. B, **5**: 8-11.

SPAETH, F., 1939. Mitteilungen ueber Afrikanische Cassidinen. Rev. Zool. Bot. Afr., **33**: 18-21.

SPAETH, F., 1940. Mitteilunger über Afrikanische Cassidinen II. Rev. Zool. Bot. Afr., **33**: 262-264.

SPAETH, F., Reitter, E., 1926. Bestimmungs-Tabellen der europäischen Coleopteren. 95 Heft. Cassidinae der palaearktische Region. Troppau, 68 pp.

WEISE, J., 1903. Afrikanische Chrysomeliden. Archiv F. Naturges., **69**: 197-226.

WEISE, J., 1908. Chrysomeliden von Angola. Stettin. Entomol. Ztg., **69**: 200-205.

ZAJCEV, J. M., 1992. Preimaginal'niye stadii i osobennosti ekologii zhuka-listoeda *Eremocassis weisei* (*Coleoptera, Chrysomelidae*). Westnik Zool., 1992, **2**: 67-70.