

Some Elaterid Beetles from Australia and New Guinea

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Through the courtesy of E. C. Zimmerman, there has recently been submitted for study a collection of some 400 Elateridae from the United States National Museum. These were collected by Mr. Borys Malkin while on duty with the armed forces in Australia and Dutch New Guinea during the early months of 1945.

Two groups of elaterids are notably developed in Australia: the *Adelocera-Compsolacon* complex (with 109 described species) and the genus *Conoderus* (with 131 species from Australia). Probably more remain to be described, especially from the less well-collected regions in the northern and western parts of the continent. The same remarks are true in less degree for *Cardiophorus* and *Platynychus*. A number of species already described are probably present in this collection, but owing to the difficulty of their study the present writer is reluctant in many cases to make specific determinations until he has access to the scattered type material, or at least to more extensive named collections. Therefore nearly one-third of the Malkin collection has been set aside for later study, and discussion here is confined to identifications in which the writer feels a reasonable confidence.

Types of material described here have been deposited in the U. S. National Museum. The illustrations were prepared by James T. Yamamoto of the H.S.P.A. Experiment Station staff.

***Agrypnus mastersi* Macleay**

One specimen, Sir Graham Moore Is., West Australia, Feb. 20.

***Agrypnus resectus* Candèze**

Two specimens, Hollandia, Dutch New Guinea, April and June.

***Adelocera socia* (Candèze)**

One specimen, Darwin, No. Territory, Australia, March 19.

***Compsolacon gracilis* (Candèze)**

Thirty-six specimens, Hollandia, April. According to R. J. A. W. Lever (in correspondence), in the Solomons the larvae of this species are a pest of peanut plants.

***Compsolacon gracilis* var. *specularis* nov.**

This differs from typical *gracilis* as follows: Slightly behind the middle of the disc of the pronotum, on either side, each separated from the nearer lateral

margin by a distance slightly less than its own diameter, are two, more or less round, glistening areas, coalescent along the median line of the disc, and slightly raised above the surrounding surface. Under higher magnification these smooth areas reveal extremely fine punctulations, but the general effect as ordinarily seen is shiny and impunctate.

U. S. N. M. No. 58272.

Described from a holotype female, Hollandia, Dutch New Guinea, April; and five paratypes (all probably females) with the same locality label and date. The general pronotal punctuation of the variety *specularis* is somewhat finer than in typical *gracilis*, being like that described by Schwarz for the synonymous *gracilentus*. The median area of the penultimate abdominal sternite is impunctate, as in *gracilis*. In the absence of males it is impossible at this time to compare the aedeagus of *specularis* with that of *gracilis* concurrently taken in abundance in the same locality.

Compsolacon lateralis (Schwarz)

Nine specimens, Townsville, Queensland, Australia, Feb. 5. According to McDougall (33rd Ann. Rpt. Bur. Sugar Expt. Stas., Queensland: 66, 1933) the larvae occur in sugarcane soils, but are not a serious pest of that crop. The adults are most numerous toward the end of the wet season.

Compsolacon semivestitus (Elston)

One specimen, Townsville, Queensland (one of the type localities), Feb. 5. It agrees well with Elston's description, but the sides of the prothorax are distinctly crenulate, especially on the basal half, a character not mentioned in the original description.

Alaus infumatus Candèze

One male, Hollandia, Dutch New Guinea, April.

Alaus obliquus Candèze

One female, Hollandia, April.

Pseudotetralobus australasiae (Gory)

One male, Anjo Peninsula, West Australia, Feb. 15.

Simodactylus pembertonii Van Zwaluwenburg

Four specimens, Hollandia, April. Comparison of these specimens shows close agreement with the holotype female from the vicinity of Rabaul, New Britain, in the type collection of the H.S.P.A. Experiment Station, Honolulu. Its capture in New Guinea marks an extension of its known range.

Conoderus corniculatus (Candèze)

Two specimens, Hollandia, April.

Conoderus cristatus (Candèze)

One specimen, Hollandia, April.

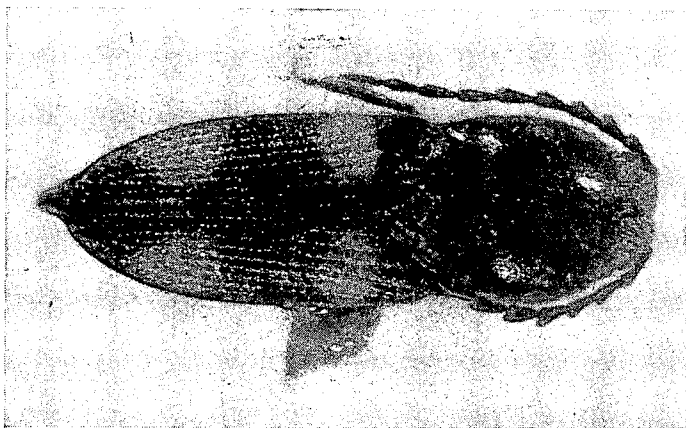


Figure 1. *Cardiophorus elevatus* n. sp.

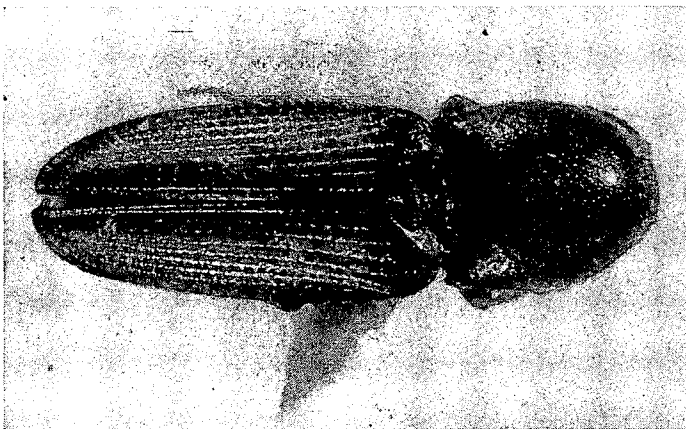


Figure 2. *Cardiophorus malkini* n. sp.

Conoderus fortis (Blackburn)

Four specimens, Anjo Peninsula, West Australia, Feb. 15; two, Sir Graham Moore Is., West Australia, Feb. 20; one, Darwin, No. Territory, March.

Conoderus umbraculatus (Candèze)

Seven specimens, Hollandia, April. Another specimen from Hollandia agrees well with the rest of the series, except that it has the pronotal punctation distinctly double, as in the subgenus *Heteroderes*.

Conoderus variegatus (Blackburn)

Four specimens, Darwin, No. Territory, March.

Conoderus vuilleti (Fleutiaux)

Sixteen specimens, Hollandia, April. This is the species described as *Monocrepidius flavobasalis* by Heller in 1914, a name preoccupied by *M. flavobasalis* Schwarz, 1907.

Conoderus (Heteroderes) carinatus (Blackburn)

Four specimens, Townsville, Queensland, Feb. 5; one, Darwin, No. Territory, March.

Melanoxanthus exiguus Van Zwaluwenburg

A specimen from Hollandia, April, agrees closely with the holotype male from Koitaki, New Guinea, in the type collection of the H.S.P.A. Experiment Station.

Cardiophorus elevatus n. sp. (Figure 1)

Convex; shiny, especially on pronotum. Generally black with following exceptions: (1) pronotum sometimes darkly rufous; (2) two yellowish areas on each elytron: one, on anterior third, rounded behind, generally transverse, extending from 2nd or 3rd stria mediad, to 9th laterad; the other, on posterior third, transverse, more or less round, lying between 2nd, 3rd or 4th stria and the 9th; (3) tarsi more or less rufous. Pubescence fine, short, whitish. Front flattened anteriorly; frontal margin obtusely subangulate at middle; punctation fine, fairly even. Antennae with 2nd segment small; 3rd similar to 4th and slightly shorter; 3rd to 10th subseriate; 11th slender, at least four times as long as wide; tip of 8th segment barely exceeding hind angle of prothorax in male (not quite attaining tip of hind angle in probable female).

Prothorax widest at about middle; about as long as wide; sides arcuate, slightly more sharply narrowed anteriorly than posteriorly; hind angles short, directed almost straight backward, without carina; position of basal sulci marked by long carina; punctation on dorsum, under moderate magnification, double, the larger round punctures evenly spaced with fine, smaller punctures between.

Scutellum flat, with slight rounded elevation on either side of middle; punctation fine.

Elytra across humeri wider than distance across hind angles of prothorax; sides narrowing to posterior three-fourths in male (to about middle in probable female), thence more rapidly to conjointly rounded apex; striae consisting of impressed round punctures; intervals convex basally, the 7th

interval markedly elevated posteriorly for part of the distance between hind margin of posterior maculation and apex of elytron.

Body beneath finely, sparsely and rather evenly punctate, with fine punctulations between. Tarsal claws simple. Length 3.0-3.6 mm.

U. S. N. M. No. 58273.

Described from a holotype male, Sir Graham Moore Island, West Australia, Feb. 20, 1945; twelve paratype males, same data, and, in addition, Anjo Peninsula, West Australia, Feb. 15; and two paratypes, thought to be females, Sir Graham Moore Island, Feb. 20.

In none of the descriptions of other Australian *Cardiophorus* is mention made of the prominent elevation toward the apex, of any of the elytral intervals; in this particular then, *elevatus* is unlike any other described Australian species except the following (*malkini*). As in several other species from the southern continent, the lateral margins of the prothorax are incomplete anteriorly. The lateral lobes of the aedeagus are simple, but widen shortly below the apex, at which point they become robust and (in ventral aspect) appear to be bipartite, with an apparent longitudinal suture.

***Cardiophorus malkini* n. sp. (Figure 2)**

Rather robust, convex; moderately shiny. Black with following exceptions: (1) a luteous longitudinal vitta on each elytron, occupying five intervals and failing to attain the sutural and lateral margins, the anterior margin (by about the width of the vitta), and the apex (narrowly); (2) basal antennal segment sometimes dark reddish; and (3) tibiae and tarsi (sometimes the trochanters also) reddish brown.

Front convex; punctation finely double, the larger punctures shallowly umbilicate under moderate magnification. Antennae feebly serrate; exceeding hind angle of prothorax by about one segment (male) or slightly less (female); 2nd segment small; 3rd one and one-half times as long as 2nd, and about two-thirds as long as 4th; similar to 4th in shape, but narrower; segments 4-10 progressively lengthening; 11th subequal to 10th.

Prothorax slightly longer than wide; sides gently arcuate, more strongly narrowed anteriorly than posteriorly; hind angles short, directed straight backward, not carinate. Pronotum convex; punctation double, as on front; shallowly impressed medianly behind; notch of basal sulci inconspicuous, marked by long, anteriorly divergent sutures.

Elytra across base wider than distance across hind angles of prothorax; sides narrowed to beyond middle (male) or to about middle (female), thence more strongly to conjointly rounded apex. Striae with deep, round punctures; intervals convex, the 7th prominent apically, where it becomes almost carinate. Apical portion of elytron generally flat as far laterad as the elevated 7th interval; sharply declivous beyond.

Body beneath convex; punctation subumbilicate on thoracic sternites with fine punctulations between; finer, but similarly mixed punctation on abdominal sternites. Claws simple.

Length 2.6-3.0 mm.

U. S. N. M. No. 58274.

Described from a holotype male, an allotype female, and 16 paratypes, all from Sir Graham Moore Island, West Australia, February 20, 1945.

In color pattern this species appears unlike any other described Australian species. The elevated terminal portion of the 7th elytral interval should distinguish the species from all its Australian congeners except the preceding (*elevatus*). As in that species the lateral margins of the prothorax are incomplete. The lateral lobes of the aedeagus are simple and slender. I take pleasure in naming this species after its collector, Mr. Borys Malkin.

Platynychus papuensis (Candèze)

One specimen, Hollandia, Dutch New Guinea, April.

Neodiploconus aequalis (Candèze)

Two specimens, Hollandia, April.

Neodiploconus ruficollis (Schwarz)

One specimen, Hollandia, April.

Melanotus albertisi Candèze

Twenty-five specimens, Hollandia, April.

Hapatesus hirtellus Candèze

Sixteen specimens, Hollandia, April.

Neotrichophorus erubescens (Candèze)

One specimen, Hollandia, April.

Patricia genus novum

Convex; robust.

Head directed perpendicularly downward; front margined; labrum transverse. Mandibles prominent, falciform. Terminal segment of maxillary palpus vaguely truncate; that of labial palpus, spindle-shaped. Antennae long, 11-segmented, strongly serrate; 2nd segment minute; 11th subappendiculate.

Prothorax without trace of lateral carina; pleurosternal sutures fine, closed. Sides of mesosternal cavity precipitous and very narrow, usually concealed by the normal position of the mesocoxae.

Scutellum cordiform.

Elytra coarsely punctate.

Legs fossorial. Hind coxal plates strongly narrowed externally, the width across the basal third exceeding half the entire length of the plate. Mesocoxae well separated. Trochanters of hind legs greatly developed, those of fore and middle legs less so. Femora robust, particularly on hind legs. Tibiae flattened, dilated apically, especially on hind legs. Tarsi and claws simple.

This physodactyline genus most closely approaches, according to Schwarz's key (Genera Insectorum, fasc. 46 [Elateridae]: 310, 1907) the African *Margogastrius* Schwarz, but differs from it in having the antennae elongate, and the sides of the mesosternal cavity very narrow on the outer, visible portions, not flattened. *Patricia*, like *Antoligostethus* Blackburn, has the head directed perpendicularly downward; however, in *Patricia* the mesocoxae are not contiguous, and the sides of the prothorax are not margined.

Nullarborica Blackburn has the mesocoxae separated as in *Patricia*, but has the head directed obliquely forward, and has the sides of the prothorax margined.

The type of *Patricia* is *Patricia australica*, described below from Sir Graham Moore Island, West Australia, and from the nearby mainland of northwest Australia.

The three genera of the elaterid subfamily Physodactylinae now known from Australia may be separated by the following key:

- A Sides of prothorax margined.....B
- Sides of prothorax not margined*Patricia* gen. nov.
- B Mesocoxae contiguous; head perpendicular.....*Antilogostethus* Blackburn.
- Mesocoxae separated; head oblique.....*Nullarborica* Blackburn.

***Patricia australica* n. sp. (Figures 3 and 4)**

Robust, shiny, convex; black, with mouthparts, coxae, tips of tibiae and the tarsi completely, dark rufous. Pubescence fine, long, semi-erect, ashy white; short and dense on scutellum.

Front nearly flat anteriorly, frontal margin arcuate; coarsely, evenly punctate. Antennae exceeding half the body length, tip of 8th segment slightly exceeding hind angle of prothorax; strongly serrate from 3rd segment; 2nd minute; 3rd triangular, as long as wide, subequal to 4th; 3rd to 10th progressively lengthening, 10th twice as long as wide; 11th five times as long as wide, subappendiculate on apical fifth.

Prothorax without lateral margin; about as long as wide; dorsum convex, sides precipitous, basal declivity abrupt, base widely flattened and nearly impunctate; elsewhere the dorsum has coarse, evenly spaced punctation with a few smaller punctures between. Sides evenly rounded from posterior two-thirds to anterior angles; hind angles short, produced nearly straight backward, not carinate.

Scutellum cordiform; conspicuously covered with dense, fine, white pubescence.

Elytra wider across base than distance across hind angles of prothorax; sides narrowed to posterior two-thirds, thence more rapidly to conjointly rounded apex; striae consisting of rows of coarse, round punctures which, on posterior third, obliterate all trace of interstrial intervals; toward the apex the strial punctures become fenestrate; interstrial intervals convex anteriorly.

Body beneath strongly convex; thickly covered with longer pubescence than above. Pleurosternal sutures fine, nearly straight. Mucro prominent between fore coxae, bent abruptly upward behind; mesosternal cavity inclined, its sides narrow, usually hidden by normal position of mesocoxae. Punctuation on prosternum coarse, sparse; on abdominal sternites shallow, widely spaced with a few finer punctures between. Tibiae widened apically, particularly on posterior pair; anterior pair terminating in a broad, elongate spur. Tarsi simple, narrow, first segment on hind pair wider than succeeding ones. Claws simple.

Length 5.00-5.25 mm.; width about 2.0 mm.

U. S. N. M. No. 58275.

Described from a holotype male, Sir Graham Moore Island, West Australia, February 20, 1945; four paratypes (three males and one probable male), same data; and one probable male paratype, Anjo Peninsula, West Australia, February 15, 1945.

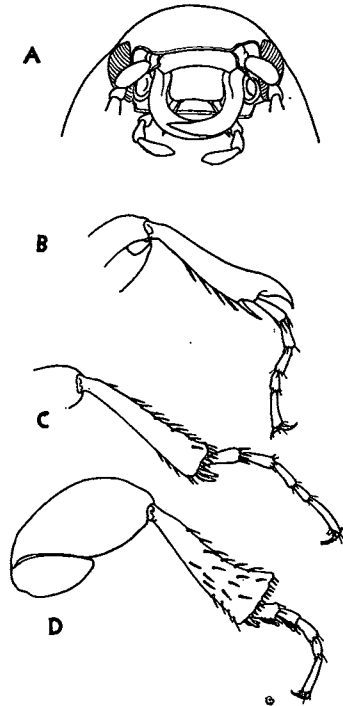
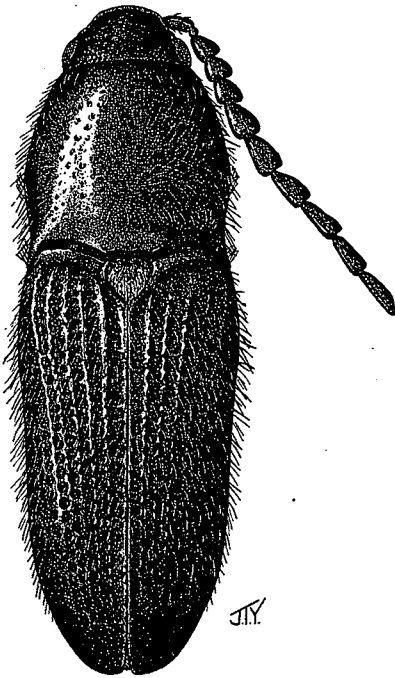


Figure 3 (left). *Patricia australica* genus et sp. nov.

Figure 4 (right). *Patricia australica* n. sp.
A. View of head; B. fore leg; C. middle leg; D. hind leg.