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THE GENERIC CLASSIFICATION OF THE NEGASTRIINAE (Coleoptera : Elateridae)

By Jeffrey N. L. Stibick[1]

Abstract: The subfamily Negastriinae is discussed and comprehensively arranged along modern lines. Twenty genera are listed, 5 of them new. The new genera are *Neohypdonus* (type-species *Cryptohypnus gentilis* LeConte), *Madadicus* (type-species *Elater dermestoides* Herbst), *Thurana* (type-species *Cryptohypnus scitus* Candèze), *Paradonus* (type-species *Elater pectoralis* Say), *Optitarynus* (type-species *Cryptohypnus fulvus* Candèze). A key is provided to the genera, and a description, affinities, original reference, and representive species from each faunal area given for each genus.

Since the publication of Nakane & Kishii's 1956 paper establishing the Negastriinae, there has been no work of a comprehensive nature on this group. Indeed, it has remained almost unknown and little recognized or ignored, despite very strong and increasing evidence that the Negastriinae bear little relationship to the Hypnoidinae with which they were associated in a confusing admixture of genera and subgenera. Leseigneur, in his paper, Revision des *Zorochrus* Europeens, *Bull. Soc. Linn. de Lyon*, 1970, **39**(1) : 19-44, has clearly delimited the subfamilies and provided keys to the European genera of each. North American scientists distinguish only the genera *Negastrius* and *Oedostethus*. This view is untenable unless *Negastrius* is synonymized under *Oedostethus*, for their viewpoint of *Negastrius* is so broad (including *Zorochrus*, *Neohypdonus*, *Fleutiauxellus*, *Migiwa*, *Paradonus*, and *Negastrius*) that it assuredly encompasses *Oedostethus femoralis* (type-species).

In 1965 I began a study of the Hypnoidinae which culminated in an as yet unpublished manuscript of this group for the World. This work effectively separated the Hypnoidinae, the Negastriinae, and a number of miscellaneous genera and species properly in other subfamilies. The Negastriinae comprise 15 recognized genera (5 more are added in this document).

The purpose of this paper is to establish a framework for the study of the Negastriinae and to make the characteristics and limitations of the various genera better understood. It should be remarked that the classification is by no means complete. There are many undescribed species. In my work on N. American negastrids there seem to be no less than 39 new species in addition to the 24 recognized species. Elsewhere, only the European fauna is well known. World-wide, about 261 species and more than 65 subspecies or varieties have been described. Possibly another 200-300 more species remain to be discovered ; but most of these should fall into the existing genera.

Despite the confusion surrounding the taxonomy of these beetles, they are surprisingly easy to recognize. The following characters should separate the Negastriinae : pronotum oval, never cordate ; claws simple and feebly toothed, or flanged, without

1. Entomologist, Department of Agriculture, Stock and Fisheries, Konedobu, Papua, Territory of Papua and New Guinea.

basal setae ; prosternal process elongate ; mesepimeron and mesepisternum cut off from mesocoxae by meso- and metasternum ; prosternum usually wider in middle and prosternal sutures arcuate (some exceptions).

The accompanying key is a highly modified revision of an earlier unpublished one. Paramount among the changes are the inclusion of 5 new genera. *Hypdonus*, under my earlier scheme, was a dumping ground for too many diverse groups, including *Zorochrus* in part (Melscheimeri Group), *Neohypdonus*, *Paradonus*, and *Optitarynus*. To bring the classification into line, it was necessary to reorganise *Zorochrus* along lines long established by European taxonomists, and establish the aforementioned new genera. *Hypdonus* then becomes a well-defined Asian group, as does *Paradonus* (Americas) and *Optitarynus* (Africa). *Neohypdonus* comprises the remaining species, these still quite diverse and containing many undescribed forms. *Madadicus* comes from the old *Monadicus* and *Thurana* from an Asian form which would have to (untenably) be placed with *Yukoana*. The resulting rearrangement has also permitted me to devise a more satisfactory key. The large and very variable genus *Zorochrus* may still provide some trouble, but a check with genera following it in the key should enable the user to correct himself.

Generic key to the Negastriinae

1. Prosternal sutures partly or perfectly obliterated ; when only partly obliterated, 3rd and 4th tarsal segments lamellate 2
   Prosternal sutures conspicuous ; 3rd and 4th tarsal segments lobed at best 4
2 (1). Third and 4th segments of tarsae lamellate 3
   All segments of tarsae simple ..... **Arhaphes**
3 (2). Elytra striate ..... **Hemirrhaphes**
   Elytra nonstriate ..... **Neoarhaphes**
4 (1). Nasal space divided by prominent vertical carina from frontal carina to labrum ..... **Optitarynus**
   Nasal space without such carina, at best frontal carina bent down towards labrum ... 5
5 (4). Elytra completely or partly striate 8
   Elytra without any striae 6
6 (5). Carina of hind angles very short, scarcely longer than the hind angles ..... **Paradonus**
   Carina of hind angles extending to anterior edge of pronotum 7
7 (6). Scutellum visibly wider than long ..... **Yukoana**
   Scutellum longer than wide ..... **Quasimus**
8 (5). Carina of hind angles extending to anterior edge of pronotum 9
   Carina of hind angles effaced before apex or completely absent 11
9 (8). Fouth tarsal segment lamellate ; pronotum highly convex, sculptured, and extended over the head ..... **Monadicus**
   Fourth tarsal segment simple ; pronotum flat, smooth, restricted behind head 10
10 (9). Prosternal sutures straight, single, and closed ; prosternum parallel-sided ..... **Tropihypnus**
   Prosternal sutures arcuate, double, open in front ; prosternum wider in middle ... **Thurana**
11 (8). Fourth tarsal segment lobed 12
   Fourth tarsal segment simple, at most adorned with setae 14
12(11). Pronotum smooth, shiny ; prosternal sutures wide and broad, sharply angulate near middle ..... **Hypdonus**
   Pronotum granulate, opaque ; prosternal sutures narrow, arcuate but not angulate ... 13
13(12). Anterior border of pronotum more or less arcuate over head ..... **Madadicus**

Anterior border of pronotum not arcuate over head ..... **Proquasimus**

14(11). With coarse granules, tubercules, or prominences on pronotum, pronotum usually convex and more or less arcuate over head, but if flat and simply rugose or smooth, then usually with anterior 1/2 more rugose than posterior 1/2 or with excavate double prosternal sutures* 15

Without coarse granules, tubercules, or prominences on pronotum, pronotum more or less flat to convex, not protruding over head ; shiny, simply rugose, or strigate ; prosternal sutures single, not excavate 16

15(14). Propleuron without groove for reception of antennae ..... **Zorochrus**

Propleuron with groove for reception of antennae ..... **Pronegastrius**

16(13). Third antennal segment about 2 × length of 2nd ..... **Fleutiauxellus**

Third antennal segment subequal to or slightly longer than 2nd 17

17(16). Claws simple or with basal tooth at best 18

Claws with abrupt sharp flange from mid-point to base ..... **Oedostethus**

18(17). Pronotum usually shiny from base to apex, rarely microreticulate or feebly rugose, but then 2nd antennal segment is subequal to 3rd and body is more or less depressed and rounded posteriorly ..... **Neohypdonus**

Pronotum rugose or strigate 19

19(18). Body depressed, rounded posteriorly ; antennae reaching beyond pronotum, 2nd antennal segment shorter than 3rd ..... **Migiwa**

Body more or less convex and attenuate posteriorly ; antennae shorter than pronotum, 2nd antennal segment subequal to 3rd; pronotum usually deeply rugose and roughly strigate ..... **Negastrius**

The classification that follows is based on the presumed natural affinities of the genera. However, they may be grouped as below :

1 { a { *Neohypdonus*, *Hypdonus*, *Migiwa* ; b { *Oedostethus*, *Fleutiauxellus*

2 - *Negastrius*

3 { a { *Zorochrus*, *Madadicus*, *Proquasimus*, *Pronegastrius* ; b - *Monadicus*

4 - *Tropihypnus*

5 { *Thurana*, *Quasimus*, *Yukoana*

6 - *Paradonus*

7 - *Optitarynus*

8 { *Hemirrhaphes*, *Neoarhaphes*, *Arhaphes*

The number of species listed under each genus refers only to *full* species and not to the sometimes numerous subspecies and varieties. Where appropriate, reference is made to some of the many undescribed species known to me.

The brief descriptions should help acquaint the user with the comparative characteristics of each genus. Descriptions of genitalia are omitted from this paper as their use at the generic level is not often helpful and sometimes confusing at the present state of knowledge of the Negastriinae.

ELATERIDAE

Negastriinae Kishii & Nakane, 1956, *Kontyû*, p. 202.

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* (If excavation vague or absent and prosternum separate from propleuron, evidence of a double prosternal suture still remains on propleuron where a wide smooth line represents the suture, this usually possessing short depressions or furrows along the middle which represent the old division between the 2 carina of the suture.)

NEGASTRIINAE

Genus **Neohypdonus** Stibick, new genus

16 spp., Europe, Middle East, China, Mongolia, Japan, N. America.

The curved, simple prosternal sutures, elytral striae, short carina of the hind angles, subequal 2nd and 3rd antennal segments, simple claws and tarsi serve to distinguish this genus. In general appearance somewhat varied, but many of the species resemble *Hypdonus*.

Description: Body feebly convex. Between 2-5 mm in length.

Head: Eyes proportionally normal; nasal space complete between antennae; antennae reaching slightly beyond pronotal hind angles, 2nd and 3rd antennal segments simple and subequal or 3rd slightly longer than 2nd, following segments feebly serrate, all segments covered with very short somewhat sparse yellow pile.

Thorax: Pronotum arcuate towards head and before hind angles, hind angles generally strong, stout or shortened, feeble (Perplexus Group) carina short, scarcely exceeding hind angles or sometimes a little longer; disc evenly convex, densely to sparsely punctate, sometimes with faint median ridge. Propleuron simple. Prosternum broad, widest in middle; anterior lobe feeble, broad, almost truncate, more or less covering mouthparts; prosternal sutures arcuate, single, simple. Tarsi simple, 1st segment 2 × as long as following 2, 3rd slightly shorter than 2nd, 4th shorter than 3rd, 5th as long as 3rd and 4th combined. Claws simple or with feeble lobe at base. Scutellum elongate, more or less suggestively triangulate. Elytra strongly striate, sometimes (Perplexus Group) striae more or less obsolete on sides.

Type-species: *Cryptohypnus gentilis* LeConte, 1866, *Proc. Amer. Philos. Soc.*, p. 389.

Discussion: This genus is still somewhat heterogenous and can be divided into a number of discrete groups. The nominate group may be recognized by the broad thick hind angles and broad flat inner side of the same. Species allied to *N. tumescens* (LeConte) form another group characterized by blunt, thick, rounded hind angles and a generally squat or fat body. A third and much more loosely organized group consists of *N. perplexus* (Horn) in which the hind angles are sharp and short, the pronotum is rather convex although the body is sometimes oblong, and the elytron is usually not strongly or completely striate. Representative species of *Neohypdonus* from the different faunal areas are *N. arcticus* (Candèze), Europe; *N. delicatulus* (Schwarz), Middle East: *N. bodoanus* (Reitter), China; *N. nitidulus* (Candèze), Japan; and *N. gentilis* (LeConte), N. America. There probably remain many undescribed species. At least 15 such species from N. America alone are personally known to me. The generic name was formed by adding the latin for new—neo to *Hypdonus—Neohypdonus*.

Genus **Hypdonus** Fleutiaux

Hypdonus Fleutiaux, 1928, (new category), *Bull. Soc. Ent. Fr.*, p. 149. 3 spp., Borneo, Philippines, Malaysia, China.

The curved and sharply angulate double prosternal sutures with a broad flat surface between carina, this slightly excavate anteriorly, will separate the genus. The lobed 4th tarsal segment and simply punctate pronotum are also important characters.

Description : Body feebly convex, 2-3 mm in average length.

Head: Eyes proportionally normal, nasal space complete between antennae ; antennae just exceeding pronotal hind angles, 2nd and 3rd antennal segments subequal or 2nd slightly longer than 3rd, following segments feebly serrate, all segments covered with long rather dense yellowish pile.

Thorax: Pronotum feebly arcuate towards head, straight on sides, hind angles strong, stout, and prominent, carina feebly divergent from apex of angle to halfway up pronotum ; disc evenly convex, moderately densely punctate. Propleuron simple. Prosternum broad, widest in middle ; anterior lobe very moderately produced, broad, arcuate, covering mouthparts ; prosternal sutures arcuate, sharply angulate behind middle, double, with a broad, flat smooth surface between carina becoming gradually canalicate at anterior end. First to 4th tarsal segments decreasing in length, 4th segment lobed, others simple, 5th segment almost as long as 1st. Claws feebly lobed at base. Scutellum elongate, more or less suggestively triangulate. Elytra with complete, moderately impressed striae.

Type-species : *Hypnoidus bakeri* Fleutiaux, 1914, *Philip. J. Sci.*, p. 446.

Discussion : Fleutiaux originally described this as a subgenus of *Quasimus*. The principal characters in the diagnosis and description readily show that this is not the case. My original intent had been to place all species of the now recognized genera *Neohypdonus*, *Paradonus*, and the Melscheimeri Group of *Zorochrus* with this genus. This was based in part on a reluctance to establish new genera and on the apparent variability of the prosternal sutures in *Zorochrus*, casting discredit on their value as a diagnostic character (see discussion under *Zorochrus*). As now recognized, *Hypdonus* is a compact, very well delimited Far Eastern genus. There are at least several undescribed species.

Genus **Migiwa** Kishii

Migiwa Kishii, 1966, *Bull. Heian High School*, p. 14. 5 spp., Mongolia, Japan, N. America.

A depressed and more or less opaque body, with simple, curved prosternal sutures, simply rugose pronotum with short carina of the hind angles, simple tarsi and claws, 2nd antennal segment shorter than 3rd, and antennae longer than pronotum ; all serve to separate this genus.

Description : Body slightly depressed, 3-5 mm in length.

Head: Eyes proportionally normal, nasal space complete between antennae ; antennae reaching slightly beyond pronotal hind angles, 2nd antennal segment slightly shorter than 3rd, 3rd as long as following segments, these feebly serrate, all segments covered with moderately short, somewhat dense, yellow pile.

Thorax: Pronotum arcuate towards head and sinuate before moderately produced hind angles, carina extending a little beyond base of hind angles, disc evenly convex and usually with median ridge, rather densely, evenly punctate and rugose. Propleuron simple. Prosternum broad, widest in middle ; anterior lobe broad, very feeble, practically truncate and exposing mouthparts ; prosternal sutures arcuate, simple, single. Tarsal segments simple, 1st nearly as long as next 2, 2nd and 3rd decreasing in length, 5th nearly as long as 1st. Claws slightly, rather obsoletely expanded at base. Scutellum oblong-oval, truncate in front. Elytra strongly, completely striate.

Type-species : *Negastrius niponicus* Kishii, 1957, *Akitû*, p. 73.

Discussion : This genus is a rather easily identified and uniform group whose closest affinities lie with *Neohypdonus* in some respects. Representative species are *M. hummeli* (Fleutiaux), Mongolia ; *M. niponicus* (Kishii), Japan ; and *M. striatulus* (LeConte), N. America. There are several undescribed species from N. America.

Genus **Oedostethus** LeConte

Oedostethus LeConte, 1853, *Trans. Amer. Philos. Soc.*, p. 489. 4 spp., Europe, N. Africa, Middle Asia, N. America.

The curved simple prosternal sutures, short carina of the hind angles, subequal 2nd and 3rd antennal segments, simply punctured pronotum, and basal flange of the claws will separate this genus.

Description : Body feebly convex, 3-5 mm average length.

Head : Eyes proportionally normal, nasal space complete between antennae (very narrow in middle) ; antennae reaching slightly beyond pronotal hind angles, 2nd antennal segment slightly shorter than 3rd, 3rd as long as following segments, these also feebly serrate, all segments covered with moderately short, somewhat dense yellow pile.

Thorax : Pronotum arcuate towards head and sinuate before hind angles, hind angles moderately produced, divergent, carina extending a little beyond base of hind angles ; disc evenly convex, smooth, and moderately punctate. Propleuron simple. Prosternum broad, widest in anterior 1/2 ; anterior lobe broad, very feeble, nearly truncate, mouthparts partly exposed ; prosternal sutures feebly arcuate, simple, single. Tarsal segments simple, 1st to 4th very gradually decreasing in length, 5th elongate, as long as 3rd and 4th together. Claws with abruptly expanded flange from midpoint to base, this sharply angulate at terminal point of expansion. Scutellum elongate, nearly triangulate. Elytra striate, sometimes obsoletely so on sides.

Type-species : *Oedostethus femoralis* LeConte, 1853, *Trans. Amer. Philos. Soc.*, p. 489.

Discussion : This genus is not, as previously thought, endemic to N. America, but a Holarctic group probably of Asian origins which is represented in N. America by only one species. It is chiefly the subequal antennal segments and unusual angulate expansion or flange of the claws which separate the group from *Fleutiauxellus* ; otherwise they seem quite similar. Leseigneur apparently overlooked this genus in his work (see introduction). Representative species are : Europe, *O. tenuicornis* (Germar) ; N. Africa, *O. tenuicornis* (Germar) ; Middle Asia, *O. quadrinaevus* (Reitter) ; and N. America, *O. femoralis* LeConte. There may perhaps remain a few undescribed species from Asia.

Genus **Fleutiauxellus** Mequignon

Fleutiauxellus Mequignon, 1930, *Bull. Soc. Ent. Fr.*, p. 95. 13 spp., Europe, Siberia, Japan, N. America.

Aplotarsus Curtis, 1854, *Trans. Ent. Soc. Lond.* III, p. 15. (Name Preoccupied).

Curtisius Miwa, 1934, *Rep. Dep. Agric. Gov. Res. Inst. Formosa*, 65, p. 277. (Isogenotypic).

The somewhat depressed body, curved, simple prosternal sutures, simply punctured sometimes feebly rugose pronotum, short carina of the pronotal hind angles, and very

short 2nd antennal segment serve to identify this genus.

Description : Body somewhat flattened, depressed, 2–6 mm in length.

Head: Eyes proportionally normal, nasal space complete but almost obsolete in middle; antennae variable in length but usually reaching 2 or 3 segments beyond pronotal hind angles, sometimes reaching halfway down elytra, rarely shorter than pronotum, 2nd antennal segment only 1/2 as long as 3rd at best, 3rd as long as succeeding segments, these filiform to feebly serrate, all segments covered with short, moderately dense yellow pile.

Thorax: Pronotum arcuate towards head and sinuate before hind angles, hind angles moderately produced, sometimes divergent, carina extending somewhat beyond base of hind angles; disc evenly convex, smooth (sometimes feebly rugose), and densely punctate, punctures, however, rather small or minute. Propleuron simple. Prosternum broad, widest in middle; anterior lobe broad, feeble, nearly truncate and partly exposing mouthparts; prosternal sutures arcuate, simple, single. Tarsal segments simple, 1st to 4th decreasing in length, 5th segment as long as 3rd and 4th together. Claws simple or with feeble basal tooth. Scutellum elongate, more or less suggestively triangulate. Elytra completely, deeply striate.

Type-species: *Hypnoidus maritimus* Curtis, 1840, p. 277.

Discussion : This genus has really been one of our most poorly defined and confused groups, in part due to publications using the junior synonym *Curtisius*. Representative species from different areas are : Europe, *F. maritimus* (Curtis) ; Siberia, *F. aerarius* (Reitter) ; Japan, *F. cruciatus* (Candèze) ; and N. America, *F. manki* (Fall). About 4 undescribed species from N. America are known to me.

This genus is additionally confused because European and other workers have repeatedly placed species properly in *Oedostethus* here ; this partly due to a misunderstanding about the terms "flange" and "tooth." A tooth is a sharp, usually pointed projection, a flange is a projecting rim or edge.

Genus **Negastrius** Thompson

Negastrius Thompson, 1859, *Skand. Col.*, p. 106. 15 spp., N. America, Europe.

Readily identified by the comparatively convex body, attenuate elytra, short antennae, curved and simple prosternal sutures, and rugose pronotum.

Description : Body convex, more or less attenuate posteriorly, suggestively so anteriorly. 3–5 mm average length.

Head: Eyes proportionally normal, nasal space complete between antennae but almost obsolete in middle; antennae short, not reaching apex of hind angles, 2nd and 3rd segments subequal, following segments slightly longer and feebly serrate, all segments covered with short nearly dense yellow pile.

Thorax: Pronotum gradually arcuate towards head, feebly if at all sinuate before hind angles; hind angles moderately produced, rather stout, straight, carina variable from a little beyond base of hind angles to 3/4 length of pronotum ; disc evenly convex, surface rough, rugose, and more or less opaque, densely punctate. Propleuron simple. Prosternum broad, widest in middle; anterior lobe prominent, covering mouthparts, narrower than prosternum and abruptly truncate; prosternal sutures feebly arcuate, simple, single. Tarsal segments simple, 1st to 4th gradually decreasing in length, 5th as long as 3rd and 4th together. Claws simple, feebly expanded at base. Scutellum oblong, rather shield-shaped. Elytra strongly, completely striate.

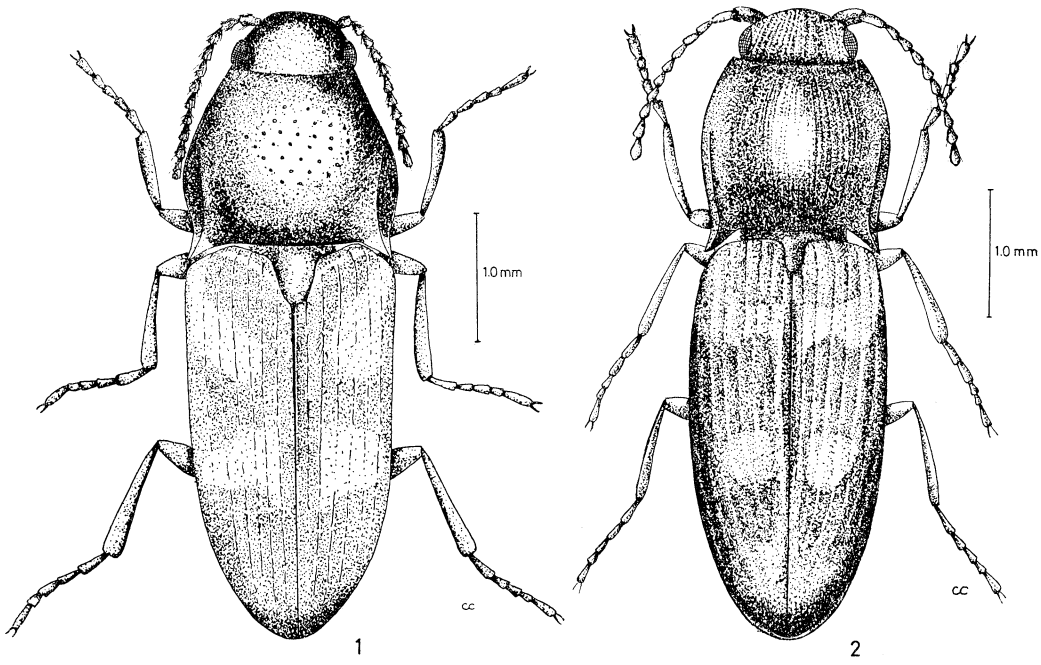


Fig. 1-2. *Neohypdonus gentilis* (LeConte), type-species, dorsal view; 2, *Negastrius pulchellus* (Linnaeus), type-species, dorsal view.

Type-species: *Elater pulchellus* Linnaeus, 1758, *Syst. Nat.*, p. 656.

Discussion: General facies alone separate what is really a comparatively isolated and readily distinguishable small group of negastrids. It is unfortunate that they have been confused for so long with many other unrelated genera, placing formidable obstacles in the way of their study. Some species are quite variable and have a number of subspecies and varieties. Representative species include: Europe, *N. puchellus* (Linnaeus); and N. America, *N. ornatus* (LeConte). There are at least 3 undescribed species from N. America, otherwise the genus is well known.

Genus **Zorochrus** Thompson

Zorochrus Thompson, 1858, *Skand. Col.*, p. 106. 86 spp., Europe, Africa, Madagascar, Asia, Indonesia, Japan, N. America, C. America.

The usually excavate and double prosternal sutures, often granulate, generally convex and arched pronotum, simple propleuron and tarsi serve to distinguish this genus.

Description: Body moderately to greatly convex, squat in shape. 2-5 mm average length.

Head: Eyes proportionally normal, nasal space complete between antennae though narrow in middle; antennae slightly shorter than to slightly longer than pronotum, 2nd and 3rd segments subequal, following segments slightly longer, almost filiform to feebly serrate, all segments covered with short, somewhat sparse yellow pile.

Thorax: Pronotum gradually arcuate towards head, otherwise straight or rarely feebly sinuate before hind angles ; hind angles moderately produced, stout and more or less broad and straight, carina obsolete to 3/4 length of pronotum ; disc evenly convex to arched in the middle, sometimes greatly arched and projecting over head, surface generally rugose anteriorly, smooth posteriorly (sometimes entirely smooth) and usually adorned with granules, tubercules and similar structures, these generally concentrated anteriorly and towards the middle, punctation usually dense, comparatively minute. Propleuron simple, sometimes granulate or rugose. Prosternum broad, widest in middle ; anterior lobe prominent covering mouthparts, scarcely narrower than prosternum and somewhat truncate ; prosternal sutures arcuate, broad, and double, generally excavate the length of prosternum with a microreticulate uneven surface between carina, this sometimes connecting an elevated propleuron with a lower prosternum, *or* absent, in which case propleuron may be fused to prosternum or free, but then traces of double suture usually remain along propleuron and anterior edge often excavate. Tarsal segments simple, 1st to 4th segments decreasing in length, 5th about as long as 3rd and 4th together. Claws simple. Scutellum broad, generally oval-triangulate. Elytra completely, moderately to strongly striate.

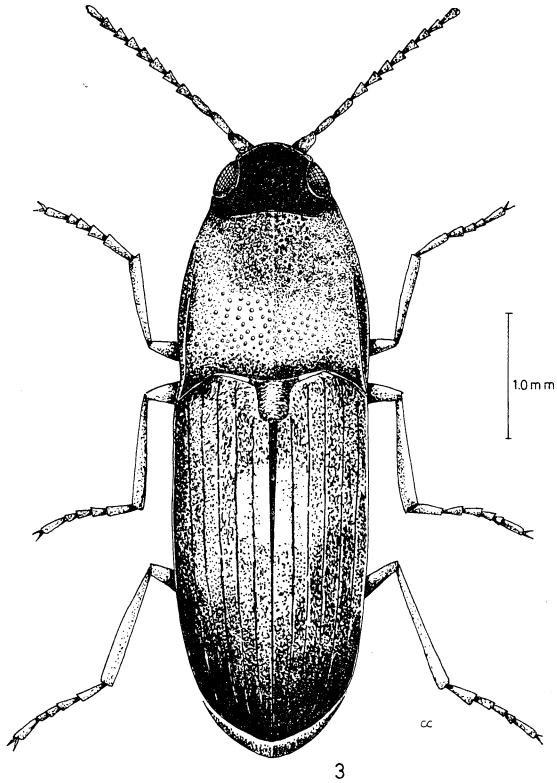
Type-species : *Elater dermestoides* Herbst, 1806, *Käfer* 10 : 85.

Discussion: Many species in this genus exhibit sexual dimorphism in the form of tubercules on the 1st or 1st 2 ventral abdominal segments or on the expanded anterior tibiae of the ♂. Some ♀♀ have a small pubescent spot at the middle of the 2nd ventral abdominal segment.

Two very variable characters, the shape and adornment of the pronotum and the appearance of the prosternal sutures, have caused untoward confusion in the literature, leading various authors, including me, to disregard the taxonomic significance inherent in these features. This leads, unfortunately, to the apparent random lumping of the species in various genera or subgenera, depending upon the authority being consulted. It must be pointed out that both features can be extremely variable in the same species, for example, *Z. dermestoides*. Three other genera, *Madadicus*, *Proquasimus*, and *Pronegastrius* also possess these features, without, however, the variability found in *Zorochrus*. European authors have continued to have faith in their identity and definition of the genus, and, after a study of many *Zorochrus* species and the subfamily, I believe them to be fully justified. The key has been designed to surmount certain exceptional cases which vary from the normal in one or more key characters, but couplet 13 is still troublesome for such specimens, which are, happily, seldom encountered. This genus is by far the largest negastrid group. Those species without elaborate pronotal structures and accompanying expansion may be regarded as belonging to the Melsheimeri Group of Horn (1891), *Trans. Amer. Ent. Soc.*, p. 18, which have the prosternal sutures grooved, plus *C. dispersus* Horn. Recently it was suggested that *Zorochrus* be devided into various subgenera, but at present Leseigneur's recent revision divides the European species into 3 groups ; the 1st consisting of those species without a pronotal carina on the hind angles, the 2nd as in Horn's Melsheimeri Group, and the 3rd with normally convex pronotum and elytra.

Representative species include : Europe, *Z. dermestoides* (Herbst) ; Africa, *Z. villiusi* (Melsheimer) ; Madagascar, *Z. lesnei* (Fleutiaux) ; Asia, *Z. aequicollis* (Reitter) ; Indonesia, *Z. flavopictus* (Heller) ; Japan, *Z. albipilis* (Candèze) ; N. America, *Z. caurinus* (Horn) ; and C. America, *Z. canescens* (Candèze).

The genus is now well known in Europe, the USSR (part), and Japan, but other



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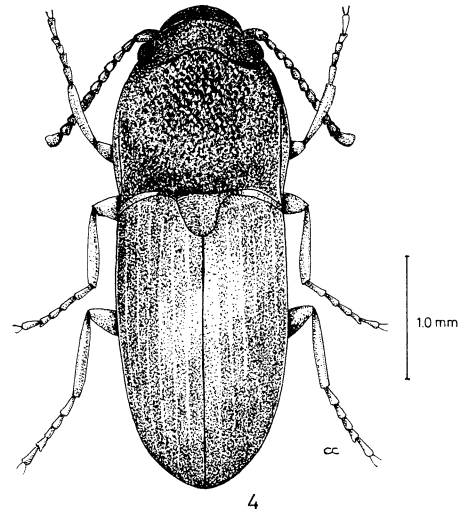

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Fig. 3-4. *Zorochrus dermestoides* (Herbst), type-species, dorsal view; 4, *Madadicus alluandi* (Fleutiaux), type-species, dorsal view.

areas are in need of considerable study. There are a number of undescribed species; several are from N. America, others from New Guinea, Africa and Indonesia.

Genus **Madadicus** Stibick, new genus

10 spp., Madagascar, S. America.

This new genus is readily separated by its granulate, convex, and arcuate pronotum, carina of hind angles reaching half-way up pronotum, and lobed 4th tarsal segment. In appearance much like *Monadicus*, but lacking the complete carina of the hind angles and deeply, almost confluently tuberculate and punctate pronotum of the latter.

Description: Body moderately strongly convex, rather oval in shape, 1.9-4 mm average length.

Head: Eyes proportionally normal, nasal space complete but very narrow, almost obsolete in middle; antennae variable, somewhat shorter than to somewhat longer than pronotum, 2nd and 3rd segments subequal, following segments slightly longer, feebly serrate, all segments densely to sparsely covered with minute to short yellow pile.

Thorax: Pronotum gradually arcuate towards head, otherwise straight or moderately sinuate before hind angles; hind angles moderately produced, either stout, straight, or broad and slim

and divergent. Carina extending to either just beyond hind angles or halfway length of pronotum ; disc arched in the middle, more or less projecting over head, surface rugose, adorned with granules, tubercules or similar structures, these concentrated anteriorly and towards the middle, punctation dense. Propleuron simple, sometimes rugose. Prosternum broad, widest in middle ; anterior lobe prominent, covering mouthparts, broad, slightly narrower than prosternum and somewhat truncate, feebly tuberculate ; prosternal sutures arcuate, broad, double, excavate at least anteriorly. Tarsal segment 4 lobed, others simple, 1st to 4th segments decreasing in length, 5th segment longer than 3rd and 4th together. Claws simple or toothed at base. Scutellum broadly triangulate, sometimes nearly shield-shaped. Elytra completely, rather strongly striate.

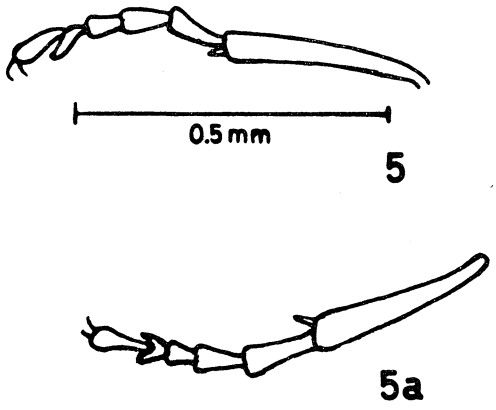

Fig. 5-5a. 5, *Proquasimus micros* (Fairmaire), type-species, side view of left middle tibia and tarsi ; 5a, *P. micros*, dorsal view of left middle tibia and tarsi.

Type-species : *Monadicus alluandi* Fleutiaux, 1932, *Soc. Ent. France, Livre du Centenaire*, p. 193.

Discussion : A genus erected to contain certain species previously placed in *Monadicus*, but which show such obvious differences and close relationships to *Zorochrus* as to make their separation desirable. The one South American species is itself comparatively distinct and is responsible for the ambiguities in the description. Representative species are : Madagascar, *M. alluandi* and varieties (Fleutiaux) ; S. America, *M. quadrinotatus* (Steinheil). Several undescribed species are known to me from South America. The generic name was formed by adding Mada=no special connotation + — dicus which was borrowed from *Monadicus*.

Genus **Proquasimus** Fleutiaux

Proquasimus Fleutiaux, 1932, *Soc. Ent. France, Livre de Centenaire*, p. 191. 1 sp., *P. micros* (Fairmaire), Madagascar.

The granulate, nonarcuate pronotum, lobed 4th tarsal segment and the carina of the hind angles which are obsolete before pronotal apex, serve to identify this genus.

Description : Oblong, subelongate.

Head : Nearly flat.

Thorax : Pronotum somewhat longer than wide, feebly arcuate towards head, sinuate on the sides, anterior border not arcuate over the head, disc granulate in the middle, punctate on the sides, carina of hind angles effaced before reaching anterior border of pronotum. Prosternal sutures arcuate, narrowly excavate. 4th tarsal segment broadly lobed, other segments simple. 1st to 4th gradually decreasing in length, 5th about the length of preceding 2 combined (fig. 5, 5a). Elytra striate.

Type-species : *Cryptohypnus micros* Fairmaire, 1903, *Ann. Soc. Ent. Fr.*, p. 204.

Discussion : There were no specimens available for examination. However, Mrs Cleide Costa of the Zoology Museum of the University of São Paulo very kindly examined the type (monotype) while on a visit to the National Natural History Museum, Paris, France, and forwarded drawings of the middle tibia and tarsi. The description above is taken from the original and modified accordingly. As only the type specimen (♂) is known, the label data are given here : "Madag. Perrior" ; "*Cryptohypnus micros* Fm. Madg."; "*Proquasimus* n. g. *micros* Fairm. 1931 Fleutiaux det".

The excavate prosternal sutures, granulate pronotum and lobed 4th tarsal segment are sufficient to associate this monobasic group with *Zorochrus* and allies while the 4th and 5th tarsi seem to justify generic separation. Certain resemblances to *Quasimus* apparently led Fleutiaux to call this group *Pro+quasimus* and he briefly discussed distinguishing characters of the 2 groups.

Genus **Pronegastrius** Ôhira

Pronegastrius Ôhira, 1963, (new category) *Kontyû*, p. 274. 1 sp., *P. humeralis* (Candèze), Japan.

The lateral groove on the propleuron for the reception of the antennae is uniquely diagnostic. In general facies it is otherwise similar to *Zorochrus*.

Description : Body somewhat flattened, depressed. 1.5-2 mm in length.

Head: Eyes proportionally normal, nasal space complete, somewhat narrow in middle ; antennae slightly shorter than pronotum, 2nd to 5th segments subequal, filiform, following segments somewhat broader, all segments covered with moderately dense short yellow pile.

Thorax: Pronotum gradually arcuate towards head, otherwise straight, hind angles moderately produced, rather broad and stout, carina extending somewhat beyond base of hind angles ; disc arched in middle, very feebly produced overhead, surface rugose, adorned with granules concentrated anteriorly and towards the middle, punctation dense. Propleuron very deeply grooved, groove deep, narrow, and delimited anteriorly ; posteriorly shallow, broad, indistinct and ending about middle of propleuron. Prosternum broad, widest in middle ; anterior lobe prominent, covering mouthparts, nearly as broad as prosternum, somewhat truncate ; prosternal sutures arcuate, broad, double, excavate anteriorly. Tarsal segments simple, 1st to 4th segments decreasing in length, 5th slightly longer than 3rd and 4th combined. Claws simple. Scutellum broadly triangulate. Elytra strongly, completely striate.

Type-species : *Cryptohypnus humeralis* Candèze, 1873, *Mem. Soc. Sci. Liege*, p. 13.

Discussion : Previously described as a subgenus of *Negastrius*, but with general facies, pronotum, and prosternal sutures much closer to *Zorochrus* and allies. The depressed body and unusual propleuron prevent me from putting this genus in *Zorochrus*.

Genus **Monadicus** Candèze

Monadicus Candèze, 1860, *Monogr. Élat.* 3 : 52. 9 spp., S. America.

The tuberculate, granulate, highly convex, arcuate pronotum and the carina of the hind angles which run the length of the pronotum, will separate this genus.

Description : Body convex, squat and compact in shape. Length variable from 2 to 6 mm.

Head: Eyes proportionally normal, nasal space practically obsolete in middle between frontal carina and labrum; antennae about as long as pronotum, 2nd segment slightly longer than 3rd, succeeding segments about as long as 2nd and more or less feebly serrate, all segments covered with moderately short yellow pile.

Thorax: Pronotum sharply angulate towards head and sinuate before hind angles, hind angles moderately produced, broad and rather blunt, carina parallel to sides and extending all the way to anterior end of pronotum; disc broadly arched in middle, produced part-way over head, surface rugose, very densely adorned with tubercules and granules, especially so in middle and anteriorly, punctation dense. Propleuron rugose but otherwise simple. Prosternum broad, widest in middle; anterior lobe prominent but mouthparts still slightly exposed, as broad as prosternum, strongly arcuate; prosternal sutures arcuate, single, broad, sometimes partly obscured by punctation and anteriorly feebly excavate. 4th tarsal segment broadly lobed, other segments simple. 1st to 4th gradually decreasing in length, 5th about length of preceding 3 combined. Claws broad at base, but simple. Scutellum broadly triangulate. Elytra moderately striate, rather obsolete on sides.

Type-species: *Monadicus mobiliceps* Candèze, 1860, *Monogr. Élat.* **3**: 54.

Discussion : With this paper *Monadicus* is restricted to S. America, whose members form a monophylogenic grouping somewhat distinctly related to that formed by *Zorochrus* and allies. There are a few undescribed species from Brazil and Argentina.

Genus **Tropihypnus** Reitter

Tropihypnus Reitter, 1905, *Bestim. Tab.* **56**: 9. 10 spp., Asia.

Crypnoidus Fleutiaux, 1928, *Bull. Soc. Ent. Fr.*, p. 252. (Isogenotypic).

The presence of elytral striae, the carina of the hind angles complete the length of the pronotum, and the straight, single, and closed prosternal sutures serve to identify this genus.

Description: Body flattened (rarely convex), elongate and parallel-sided or attenuate on ends. Length between 4-6 mm.

Head: Eyes proportionally normal, nasal space complete between antennae; antennae reaching pronotal hind angles, 2nd segment generally shorter than 3rd, 3rd as long as succeeding segments, the latter feebly serrate, all segments covered with a rather dense, minute yellow pile.

Thorax: Pronotum strongly arcuate towards head and moderately sinuate before hind angles, hind angles moderately produced, rather broad but acute at ends, carina extending parallel to border all the way to anterior end of pronotum; disc almost flattened, very feebly produced in front, surface generally smooth, sometimes slightly rugose, punctation variable. Propleuron simple. Prosternum broad, widest near anterior lobe; this prominent, covering mouthparts, wide, scarcely narrower than prosternum, nearly truncate and somewhat thickened around edges; prosternal sutures straight, single, narrow. Tarsal segments simple, 1st to 4th segments gradually decreasing in length, 5th segment as long as 3rd and 4th together. Claws simple. Scutellum shield-shaped. Elytra completely and somewhat strongly striate.

Type-species: *Paracardiophorus bimargo* Reitter, 1896, p. 235.

Discussion : The genus has been recently revised and divided into a number of groups (Stibick 1968, *Ent. News*, p. 169 and ibid., 1969, p. 81). There still remain at least 4 undescribed species. This genus does not seem closely related to any of the other

genera, but has a very vague similarity to *Monadicus* in the form of parallel carinae of the hind angles.

Genus **Thurana** Stibick, new genus

2 spp., Java, Sumatra.

The small compact body, elytral striae, hind angles with carina running the length of the pronotum, and the arcuate, double, open prosternal sutures will identify this genus. Superficially, not unlike *Hypdonus.*

Description: Body somewhat convex, squat, and oval. 2 mm in length.

Head: Eyes proportionally normal, nasal space complete between antennae; antennae shorter than pronotum, 2nd and 3rd segments subequal, succeeding segments longer, moniliform, all segments covered with a rather dense, elongate yellow pile.

Thorax: Pronotum gradually arcuate towards head, otherwise straight on sides, hind angles moderately produced, broad and stout, carina gradually divergent from sides and extending the length of the pronotum; disc evenly convex, surface smooth, punctation only moderately dense. Propleuron broadly but very feebly depressed anteriorly, otherwise simple. Prosternum broad, widest in middle; anterior lobe somewhat narrower, moderately produced, mouthparts partly exposed, quite truncate; prosternal sutures arcuate, broad, double, feebly excavate anteriorly. Tarsal segments simple, 1st to 4th segments gradually decreasing in length, 5th segment as long as 3rd and 4th together. Claws simple. Scutellum broad, equillaterally triangulate. Elytra short, oval, completely but feebly striate.

Type-species: *Cryptohypnus scitus* Candèze, 1896, *Elat. Nouv.*, VI, p. 53.

Discussion: An unusual group which is somewhat distinct from *Yukoana* and *Quasimus.* The 2 included species *T. scita* (Candèze), Java; and *T. bellula* (Candèze), Sumatra are closely related. The generic name was formed by adding Thur=no special meaning+ana from *Yukoana.*

Genus **Quasimus** Gozis

Quasimus Gozis, 1886, Recher d. sp. typ. d. quel. ancien gen., p. 22. 31 spp., Europe, Asia, Indonesia, New Guinea, Japan.

The elongate scutellum, hind angles with carina running the length of the pronotum, and lack of elytral striae serve to distinguish this genus.

Description: Body elongate, slightly convex. Between 1.5-3 mm in length.

Head: Eyes proportionally normal, nasal space complete between antennae (somewhat narrow in middle); antennae just reaching pronotal hind angles, 2nd segment longer than 3rd, 4th about length of 2nd, it and succeeding segments feebly serrate to moniliform, all segments covered with a rather dense, elongate yellow pile.

Thorax: Pronotum very gradually arcuate towards head, straight or only very feebly sinuate before hind angles, hind angles strongly produced, very broad and stout but acute at tip, carina gradually divergent from sides and extending entire length of pronotum, sometimes rather faint; disc evenly convex, smooth, generally moderately densely punctate. Propleuron simple. Prosternum broad, widest in middle; anterior lobe feeble, almost truncate, mouthparts covered; prosternal sutures arcuate, very broad, double, and excavated anteriorly. Tarsal segments simple,

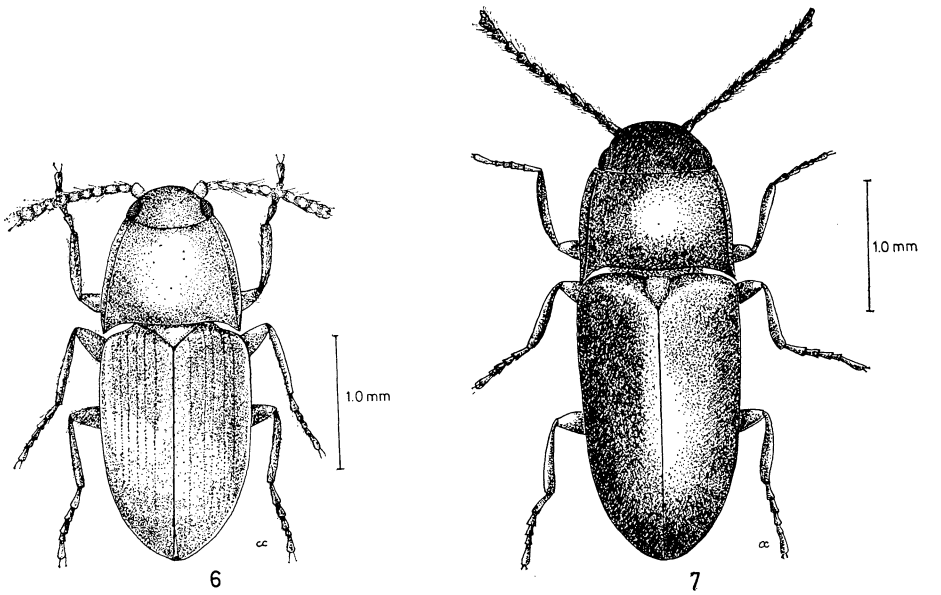

Fig. 6-7. 6, *Thurana scitus* (Candèze), type species, dorsal view ; 7, *Quasimus minutissimus* (Germar), type species, dorsal view.

save 4th which is very feebly lobed, 1st to 4th segments gradually decreasing in length, 5th about as long as 3rd and 4th together. Claws simple. Scutellum shield-shaped, elongate. Elytra elongate, without trace of striae.

Type-species : *Cryptohypnus minutissimus* Germar, 1817, *Faun. Ins. Eur.*, p. 6, 8.

Discussion : This is one of the larger groups, with one subgenus (*Miquasus*) Kishii, 1959, *Bull. Heian High School*, p. 9. The nominate subgenus has a ring-like carination on the scutellum and comparatively heavy punctation, while (*Miquasus*) has only a flat scutellum and minute, sparse punctation. Representative species include : Europe, *Q. minutissimus* (Germar) ; Asia, *Q. parallelus* (Schwarz) ; Indonesia, *Q. ovalis* (Candèze) ; New Guinea, *Q. divisus* (Van Zwaluwenburg) ; and Japan, *Q. luteipes* (Candèze), type species of (*Miquasus*).

Genus **Yukoana** Kishii

Yukoana Kishii, 1959, *Bull. Heian High School*, p. 7. 8 spp., Europe, Eastern Africa, Far East.

The wide scutellum, hind angles with carina running the length of the pronotum, and lack of elytral striae serve to distinguish this genus.

Description : Body oblong oval to elongate and parallel sided, slightly depressed to moderately convex.

Head : Eyes proportionally normal, nasal space complete between antennae (narrow in middle) ; antennae barely reaching pronotal hind angles, 2nd and 3rd subequal (variable), following seg-

ments slightly longer and feebly serrate to practically moniliform, all segments covered with moderately dense, short yellow pile.

Thorax: Pronotum very gradually arcuate towards head, obsoletely to moderately sinuate before hind angles, hind angles very moderately produced, straight, and acute, carina strongly divergent from sides and extending entire length of pronotum, sometimes rather faint; disc evenly convex, vague median groove sometimes present, surface smooth, punctation generally fine, density variable. Propleuron simple. Prosternum broad, widest in middle; anterior lobe feeble, broad, almost truncate, covering mouthparts; prosternal sutures arcuate, broad, double, and excavated anteriorly. Tarsal segments simple, save 4th which is very feebly lobed, 1st to 4th segments gradually decreasing in length, 5th about as long as 3rd and 4th together. Claws simple. Scutellum broad, transversely oval. Elytra oval to elongate, without trace of striae.

Type-species: *Cryptohypnus ellipticus* Candèze, 1873, *Mem. Soc. Liege*, f: 14.

Discussion: Probably a derivative of *Quasimus* and largely restricted to the Far East. There probably are more undescribed species from Middle Asia and Indonesia. Representative species include: Europe, *Y. liliputana* (Germar); E. Africa, *Y. liliputana* (Germar); and Far East, *Y. elliptica* (Candèze).

Genus **Paradonus** Stibick, new genus

21 spp., N. America, C. America, S. America, Africa (?).

The general facies is characteristic; body somewhat flattened, hind angles typically short, stubby, with short carina, prosternal sutures curved and simple, elytra without striae. Not like any of the other genera.

Description: Body somewhat flattened, elongate, .9-4 mm in length.

Head: Eyes proportionally normal, nasal space complete between antennae; antennae slightly shorter than pronotum, 2nd and 3rd segments subequal, following segments longer and feebly serrate, sometimes seemingly filiform, all segments covered with somewhat dense, short yellow pile.

Thorax: Pronotum arcuate towards head, sinuate before hind angles, hind angles feebly produced, acute, and usually divergent, carina barely exceeding base of hind angles; disc evenly rugose. Propleuron simple. Prosternum broad, widest in middle; anterior lobe moderately narrowed and produced, somewhat truncate, mouthparts covered; prosternal sutures arcuate, simple. Tarsal segments simple, 1st to 4th segments gradually decreasing in length, 5th longer than last 2 together. Claws simple. Scutellum shield-shaped. Elytra without trace of striae.

Type-species: *Elater pectoralis* Say, 1836, *Trans. Amer. Philos. Soc.*, p. 173.

Discussion: This group contains some of the smallest elaters known. Rather homogeneous in general appearance, although the ♂♂ of some species possess a small densely punctured and pubescent spot in the center of the prosternum. Doubtfully included is the African species *Monadicus gagates* Fleutiaux. This species has the crucial characters called for (save that the hind angles are a little long, the prosternal sutures are straighter, and the body quite convex), but probably is only a close relative. More will have to be known about the African fauna before further can be profitably said.

Paradonus is of ancient origin and one Florissant fossil *Cryptohypnus hesperus* Wickham (Miocene) (USA) is known to me. Present day examples are: N. America, *P. pectoralis* (Say); C. America, *P. tetraspilotus* (Champion); and S. America, *P. atomus*

(Candèze). There are at least 16 undescribed species, most from N. America. The generic name was formed by adding *Para*-beside+*donus* (taken from *Hypdonus*). However, the relationship between *Paradonus* and *Hypdonus* is remote. This genus is apparently an isolated complex whose affinities at this time are rather uncertain.

Genus **Optitarynus** Stibick, new genus

1 sp., *O. fulvus* (Candèze), Ethiopia.

The carinately divided nasal space is uniquely diagnostic. The nearly truncate prosternum, enlarged eyes, and straight prosternal sutures are also characteristic of the genus, though not uniquely so.

Description : Body elongate, flattened. Approximately 3 mm in length.

Head: Eyes greatly enlarged, produced, nasal space wide, divided in middle by prominent vertical carina from frontal margin to labrum ; antennae reaching tip of pronotal hind angles, 2nd segment short, moniliform, following segments 2× as long, 3rd to 10th segments subequal, strongly triangulate, last segment oblong, all segments covered with sparse, minute yellow pile.

Thorax: Pronotum gradually arcuate towards head, more strongly sinuate before hind angles, hind angles moderately produced, carina extending halfway length of pronotum ; disc flattened with feebly impressed groove at base, surface smooth, punctation dense. Propleuron simple. Prosternum broad, widest anteriorly ; anterior lobe practically obsolete, almost truncate, exposing mouthparts ; prosternal sutures straight, simple, single. Tarsal segments simple, 1st nearly as long as others put together, 2nd as long as 3rd and 4th together, 3rd short, 4th minute, 5th as long as 3rd and 4th together. Claws simple. Scutellum elongate, triangulate. Elytra with very faint traces of striae, especially near suture.

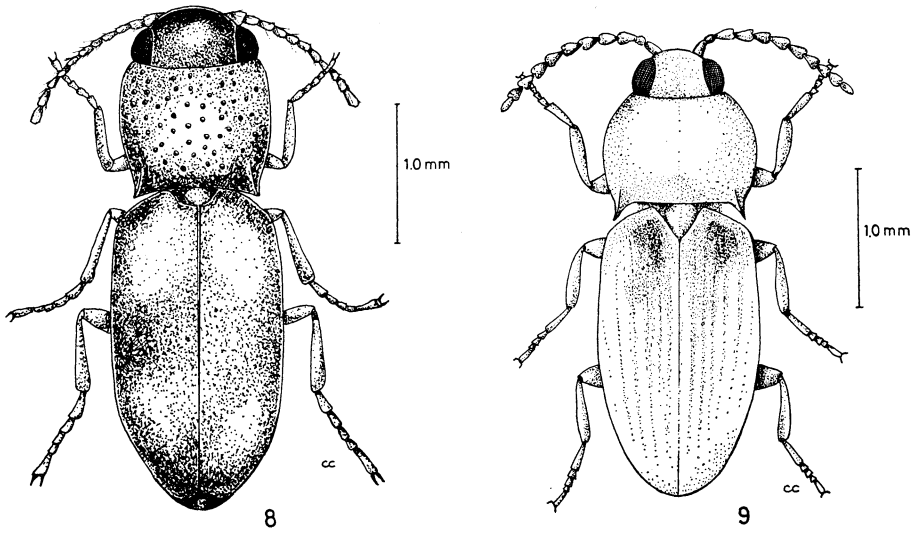

Fig. 8-9. *Paradonus pectoralis* (Say), type-species, dorsal view ; 9, *Optitarynus fulvus* (Candèze), type-species, dorsal view.

Type-species: *Cryptohypnus fulvus* Candèze, *Elat. Nouv.* II, p. 33.

Discussion: The genus is erected to contain a single very unusual species. It possesses all the essential features of a negastrid beetle, but shows only the remotest relationship to any of the other species and seems to be a highly specialised, aberrant form. The name is formed from the Greek optikos+tarynus=no intended meaning.

Genus **Hemirrhaphes** Candèze

Hemirrhaphes Candèze, 1878, *Elat. Nouv.* II, p. 32. 8 spp., Africa, Madagascar, Asia, Indonesia.

The partly obliterated prosternal sutures, lobed 3rd and 4th tarsi, and striate elytra separate this genus.

Description: Body elongate, parallel-sided, somewhat convex. 2-4.5 mm average length.

Head: Eyes a little larger than normal, nasal space complete but narrow between antennae; antennae a little longer than pronotum, 2nd segment shorter than 3rd, 3rd subequal in size and shape to feebly serrate succeeding segments, all segments covered with slightly dense, somewhat elongate yellow pile.

Thorax: Pronotum very feebly, gradually arcuate towards head and scarcely to moderately sinuate before hind angles, hind angles strongly, very acutely produced, not at all to moderately divergent, carina parallel along outer margin to base of hind angles then immediately divergent inwards towards median line of pronotum; disc evenly convex, rarely with median groove, surface generally rugose, densely, almost coarsely punctate, propleuron simple. Prosternum broad, widest in middle; with prominent, abruptly narrowed anterior lobe covering mouthparts, this truncate, generally thickened around edges; prosternal sutures partly obliterated. Tarsal segments 3rd and 4th lamellate, others simple, 1st to 4th segments gradually decreasing in length, 5th segment about as long as preceeding 3. Claws feebly expanded at base. Scutellum somewhat broadly triangulate with blunt point. Elytra strongly, completely striate.

Type-species: *Hemirrhaphes notabilis* Candèze, *Elat. Nouv.* II, p. 32.

Discussion: A small, little known homogeneous group of subtropical species close to *Arhaphes*. Representative species include: Africa, *H. pallidus* Candèze; Madagascar, *H. madagascariensis* Fleutiaux; Asia, *H. notabilis* Candèze; and Indonesia, *H. ferrugineus* Candèze.

Genus **Neoarhaphes** Costa

Neoarhaphes Costa, 1966, *Papéis Avulsos*, p. 261. 3. spp., C. America, S. America.

Identified by the combination of lamellate 3rd and 4th tarsi, nonstriate elytra, and absence of prosternal sutures.

Description: Body elongate, parallel-sided, somewhat convex. About 2-5 mm in length.

Head: Eyes moderately to greatly enlarged, nasal space narrow, practically obsolete in middle between frontal carina and labrum; antennae slightly longer than pronotum, 2nd and 3rd segments subequal, following segments slightly longer, feebly serrate to filiform, all segments covered with a moderately dense, short yellow pile.

Thorax: Pronotum feebly arcuate towards head and moderately sinuate before hind angles, hind angles moderately to strongly produced, acute, and somewhat divergent, weak carina parallel to outside margin, scarcely extending beyond base of hind angles; disc evenly convex, with strongly impressed groove at base extending up to anterior edge of pronotum, surface smooth, rather densely punctate. Propleuron simple. Prosternum broad, widest in middle; anterior lobe prominent, covering mouthparts, abruptly narrower than prosternum, truncate, generally thickened around edges; prosternal sutures absent. 3rd and 4th tarsal segments lamellate, others simple, 1st to 4th gradually decreasing in length, 5th as long as preceding 3 combined. Claws somewhat expanded at base. Scutellum broadly triangulate with blunt point. Elytra without striae.

Type-species: *Neoarhaphes brasiliensis* Costa, 1966, *Papéis Avulsos*, p. 264.

Discussion: For the time being *Monadicus nanus* Candèze, 1894, *Elat. Nouv.*, p. 44, must be placed with *Neoarhaphes*. It most certainly does not belong in *Monadicus*. I doubt that it should be placed in *Neoarhaphes* either, but this is the closest relative known to me and enough features (i.e., lamellate tarsi, nonstriate elytra) are shared in common to make the association workable. A thorough study of related genera (*Hemirrhaphes*, *Arhaphes*) and an extensive study of the still little known and undescribed S. American fauna are needed. It should be remarked that *nanus* has faint prosternal sutures and its physical differences were not incorporated in the generic description. It possesses, however, the prominent outthrust prosternum characteristic of the *Arhaphes* grouping. The 2 properly placed species are : C. America, *N. americanus* (Champion) ; and S. America, *N. brasiliensis* (Costa).

Genus **Arhaphes** Candèze

Arhaphes Candèze, 1860, *Monogr. Élat.*, p. 98. 14 spp., Africa, Asia, Ceylon, Indonesia.
Arrhaphes Candèze, 1891, Cat. Élat., p. 120.
Pharotarsus Motschulsky, 1861, *Bull. Soc. Nat. Moscou*, p. 119. (Isogenotypic).

The obliterated prosternal sutures and simple tarsi serve to separate this genus.

Description: Body elongate, parallel-sided, somewhat convex. 3-5 mm average length.

Head: Eyes proportionally normal, nasal space complete but narrow between antennae: antennae somewhat longer than pronotum, 2nd segment shorter than 3rd, 3rd subequal in size and shape to feebly serrate succeeding segments, all segments covered with slightly dense, somewhat elongate yellow pile.

Thorax: Pronotum very feebly, gradually arcuate towards head and scarcely, if at all, sinuate before hind angles, hind angles strongly, very acutely produced, very feebly if at all divergent, carina parallel along outer margin to base of hind angles then immediately divergent inwards towards median line of pronotum; disc evenly convex, with or without feeble median groove, surface smooth, moderately punctate. Propleuron simple. Prosternum broad, widest in middle; with prominent abruptly narrowed anterior lobe covering mouthparts, this truncate, generally thickened around edges; prosternal sutures absent. Tarsal segments simple. 1st to 4th segments gradually decreasing in length, 5th segment about as long as preceding 3. Claws feebly expanded at base. Scutellum somewhat broadly triangulate with blunt point. Elytra strongly, completely striate.

Type-species: *Arhaphes diptychus* Candèze, 1860, Mono. Élat., p. 99.

Discussion: A rather homogeneous subtropical group of which very little is known.

Representative species include : Africa, *A. granulatus* Candèze ; Asia, *A. luteipes* Candèze ; Ceylon, *A. diptychus* Candèze ; and Indonesia, *A. gestrol* Candèze.

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