

New or little known Australian Carabidae in the Frey Museum (Col.)

by B. P. Moore (Canberra)

The present report covers a consignment of Australian carabids recently submitted to me for naming by the Frey Museum. The bulk of the material sent had been collected by Mr. H. Demarz in the extreme northern and northwestern portions of the Continent—regions still relatively inaccessible to the general collector and therefore not at well documented from the entomological point of view. I have therefore thought it worthwhile to include Mr. Demarz's data from these areas for previously known species, so far as I have been able to identify them, in addition to the descriptions of interesting new forms which the consignment contained. The following notes thus supplement those published by Dr. Straneo^{*} in an earlier issue of this journal. In presenting them, I would like to thank Dr. Frey for the opportunity to study this material and for allowing me to retain duplicates and paratypes for my collection.

^{*}) Ent. Arb. Mus. Frey, 11, 1960, pp. 416–423.

Scaritinae

Carenum devastator Cast.—W. Australia: Perth City Beach (ix. 57); Darling Range, near Armadale (vi. 57).

This species was apparently unknown to Sloane^{*} and I have never seen it identified in a collection. I now refer to it two specimens of a large, all-black *Carenum*, of the "scaritoides-group", which agree well with the original description, so far as it goes, differing only by their somewhat smaller size. The dimensions are: length 28–30 mm., max. width 8–9 mm., whereas the length of *devastator* (type locality, Swan River, W. A.) is given by Castelnau^{**} as 16½ lines (= 35 mm.). However, such a variation is well within the range known for other members of the group. As thus identified, *devastator*, is very close to *scaritoides* Westw., with which it shares all the 'systematic' characters used by Sloane^{*} to define the group. It may however be distinguished from Westwood's well-known and widely distributed species by virtue of its larger size, much broader form, oval rather than cylindrical elytra and irregularly rugose rather than striate mandibles.

^{*}) Proc. Linn. Soc. New South Wales, 25, 1900, pp. 361–388.

^{**}) Notes on Australian Coleoptera, Melbourne, 1868, p. 51.

Carenum batesi Masters (*planipenne* Bates)—Northwest Australia: Shaw River (vi. 55).

Conopterum pertenuae Sloane—Northwest Australia: Shaw River (vi. 55).

Clivina marginata Putz.—Northern Territory: Katherine (xii. 57), a pair of immature specimens.

Broscinae

Brythisternum macleayi Sloane—Northern Territory: Beswick, Mainoro (i. 58), Katherine (xii. 57), thirteen specimens, apparently all females.

Parroa noctis Sloane—Northwest Australia: Three Springs (ix. 57).

Gnathoxys obscurus Reiche—Western Australia: Perth (x. 54) and Armadale (vi. 57) districts.

Gnathoxys sulcicollis Sloane—Western Australia: Southern Cross (vii. 59).

Promecoderus albaniensis Cast.—Western Australia: Perth (xii. 54), Pemberton (xii. 54), Hamelin Bay (i. 54).

Promecoderus distinctus Sloane—Western Australia: New Norcia (x. 53).

Promecoderus dyschirioides Guer.—Western Australia: Northam (vii. 53).

Promecoderus scauroides Cast.—Western Australia: Perth (xii. 53).

Bembidiinae

Tachys buprestoides Sloane—Northern Territory: Beswick (i. 58).

Tachys doddi Sloane—Northern Territory: Humpty Doo (xii. 57).

Tachys iaspideus Sloane—South Queensland: Southport (G. Frey, i. 57).

Tachys similis Blackb.—Western Australia: Perth dist. (ix. 53–xii. 54).

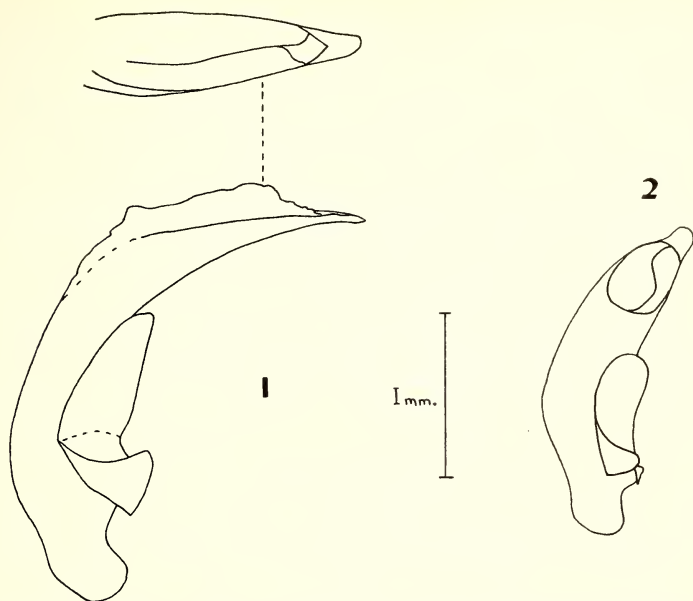
Pterostichinae

Delinius essingtoni Westw.—Northern Territory: Humpty Doo (xii. 57).

Notonomus obscurus sp. n. (Fig. 1)

Form rather slender, subparallel. Entirely black.

Head rather large, smooth; frontal impressions short; eyes small but rather prominent, inclosed behind; mandibles short and stout. Pronotum transverse, cordate, broadest before middle, at the site of the anterior marginal seta; apex and base approximately equal in width; sides narrowly margined, lightly rounded on front half, contracted and lightly sinuate to base; basal angles obtuse but wellmarked; anterior margin lightly emarginate, posterior margin undulate; posterior marginal seta situated on border at basal angle; basal impressions linear, rather deep; intercoxal process of prosternum not margined, broad in middle but slightly convex. Elytra elongate, subparallel, a little wider than the pronotum; apical curve sinuate on each side, with the apex of the inner plica unusually prominent; humeral



Figs. 1-2: Aedeagi of: 1, *Notonomus obscurus* sp. n.; 2, *Nototarus magnus* sp. n.

angles well-marked but not dentate; striae moderately impressed, simple; interstices convex in male, almost flat in female, the third bearing four setae (occasionally three on one side) and widened somewhat about the apical seta; tenth interstices well developed. Apex of abdomen sexsetose in female, bisetose in male. Legs short, especially the tarsi; basal segment of hind tarsi shorter than the two following combined; male anterior tarsi with the three basal segments dilatate and squamose beneath; onychium glabrous beneath in both sexes. Aedeagus slender and regularly curved; median lobe lacking an apical disc.

Length, 12.3–14.5 mm.; max. width, 3.8–5 mm.

Type male: Victoria, Mount Donna Buang (1200 m.), 2. ii. 59 (B. P. Moore) in the Australian National Insect Collection, Canberra. Paratypes: nine examples (both sexes), similar data (1958–60) at present in my collection; paratype male, Warburton, Vict., xii. 56–i. 57 (G. Frey) in the Frey Museum.

This new species is difficult to place in Sloane's^{*} system of species groups, owing to the intermediate form of the prosternal process which is neither fully rounded nor quite flat. However, if the latter choice is followed, *N. obscurus* falls quite naturally within the "*lateralis* group", which I be-

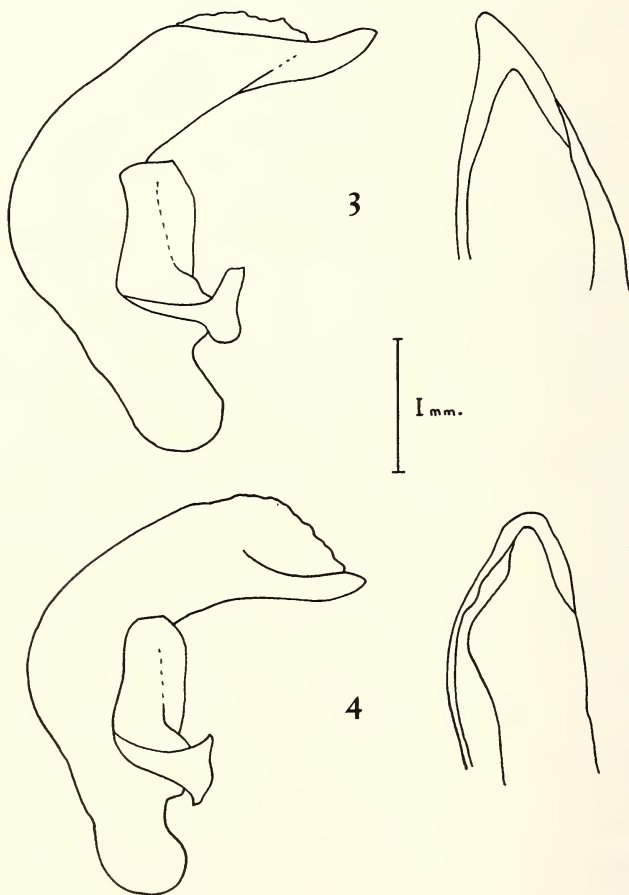
^{*}) Proc. Linn Soc. New South Wales, 38, 1913, pp. 401–499.

lieve to be its true position. In the field, it could easily be passed over as a black specimen of *N. dyscoloides* Mots., with which it occurs, but under a lens, the short hind tarsi readily distinguish it. Within the "lateralis group" it may be identified, inter alia, by the pointed posterior pronotal angles and by the unusually prominent inner plica to the elytral apices.

Sarticus (*Coronacanthus*) *sulcatus* Macl.—Northern Territory: Humpty Doo, Katherine, Berry Springs, Beswick (xii. 57–i. 58).

Sarticus (*Coronacanthus*) *obsolescens* sp. n. (Fig. 4)

Convex, elongate. Upper surface smooth, more or less metallic, green or purple, varying to almost black; under surface black.



Figs. 3–4: Aedeagi of *Sarticus* (*Coronacanthus*) spp.: 3, *S. sulcatus* Macl.; 4, *S. obsolescens* sp. n.

Head of average size, almost smooth; frontal furrows obsolescent; mandibles short. Pronotum quadrate or slightly transverse, wider at apex than at base; sides regularly curved, the anterior angles acute and subprominent, the posterior angles roundly effaced; marginal channel narrow on front half, widening and reflexed posteriorly, where it merges with the basal fovea; median line well-marked, deepened near base. Elytra elongate-oval, convex, fused along suture; a short scutellary stria present on the first interval; first stria strongly impressed, minutely crenulate, the other striae obsolete or nearly so, the third represented by three discal pores, the fifth by a line of three pores near apex; marginal pores well developed, forming an almost continuous series; humeral angles rounded, scarcely apparent. Apex of abdomen bisetose in male, quadrisetose in female; aedeagus stout, the median lobe short, lacking an apical disc.

Length, 17.5–19 mm.; max. width, 4.7–5.8 mm.

Type male: Northern Territory, Beswick, i. 58 (H. Demarz), in the Frey Museum. Paratypes: sixteen examples (both sexes), same data, in the Frey Museum and in my collection.

A further eight specimens from Mainoro, some seventy kilometres northeast of Beswick, taken during the same expedition, also belong to this species but with these, the second, third, fourth and fifth elytral striae are indicated, at least near base, by lines of punctiform impressions. These specimens seem to represent a distinct population which I shall name **substriatus** **ssp. n.** Type and four paratypes in the Frey Museum; three paratypes in my collection.

This new species, with its subspecies, is obviously closely related to *S. sulcatus*, with which it doubtless shares a common ancestry. Indeed, it is possible that all three forms represent subspecies of a single polymorphic species but the question of their status could be settled only by an on-the-spot investigation of their ecology and distribution. Meanwhile, I prefer to maintain two species on the following grounds: 1), that *obsolescens* and *substriatus* are more closely related to each other (the aedeagi are indistinguishable) than is either to *sulcatus*; 2), *obsolescens* and *sulcatus* are apparently sympatric in the Beswick area. The three forms may be separated as follows: –

- 1 The first, third and fourth elytral striae sulcate (others absent); humeri rounded but subprominent; apex of aedeagus pointed, projecting well beyond the orifice of the internal sac (Fig. 3) *sulcatus*
- Only the first stria sulcate (others absent or obsolescent); humeri almost effaced; form more elongate; apex of aedeagus short and blunt (Fig. 4) 2

- 2 The second, third, fourth and fifth striae indicated by rows of punctures, at least near base *substriatus*
 — The second, fourth and fifth striae obsolete or nearly so, the third represented by three discal pores *obsolescens*

Rhytisternus bovilis Blackb.—Northern Territory: Darwin dist. (iii. 58).

Rhytisternus solidus Sloane—Northern Territory: Mainoro (i. 58).

Simodontus leai Sloane—Western Australia: Perth (ix. 53).

Notagonum submetallicum White (*Platynus marginicollis* Macl.)—Western Australia: Perth (ix. 53).

Licininae

Dicrochile goryi Boisd.—Western Australia: Perth (xii. 53).

Harpalinae

Amblystomus quadriguttatus Mots. (*guttatus* Bates)—Northern Territory: Beswick (i. 58).

Gnathaphanus impressipennis Cast.—Northwest Australia: Cockatoo Island (x. 55).

Gnathaphanus philippensis Chevr. (*laeviceps* Macl.)—Northern Territory: Beswick (i. 58).

Hypharpax assimilis Macl.—Northern Territory: Mainoro (i. 58); Northwest Australia: Derby (x. 55).

This species was first described as an *Haplaner* but it cannot remain in that genus because the mentum is toothed and the labial palpi are pluri-setose. The short hind tarsi indicate an affinity with *Hypharpax*, although the absence of a scutellary striole distinguishes it (and *puncticollis* Macl.) from typical members of this genus.

Hypharpax queenslandicus Csiki (*mandibularis* Cast.)—Northern Territory: Berry Springs (xii. 57), Beswick, Humpty Doo (i. 58); Northwest Australia: Cockatoo Island (x. 55), Kenwick (i. 57).

Phorticosomus nuytsi Cast.—Northern Territory: Katherine (xii. 57).

Lecanomerus flavocinctus Blackb.—Western Australia: Perth dist., Pemberton (xii. 54).

Anoplogenus marginatus Macl.—Northern Territory: Humpty Doo (xii. 57).

"*Haplaner marginatus* Macl." possesses all characters necessary to place it in *Anoplogenus*, which genus must thus be added to the Australian list. The species is indeed very close to *cyanescens* Hope (China and Japan), but it differs by virtue of its less rounded pronotal hind angles and the distinctive apex to the aedeagus. I have not, however, been able to compare it with other oriental species. Csiki, in the Junk Catalogue, placed Macleay's

species under *Nemaglossa* Sol., giving it the new name *macleayi* which seems unnecessary.

***Pachytrachelus* (*Batoscelis*) *oblongus* Dej.**—Northern Territory: Humpty Doo (xii. 57).

The consignment contained many harpalines belonging to the genera *Diaphoromerus*, *Hypharpax*, *Phorticosomus*, etc. but the determination of these must await a general revision of the Australian members of this difficult subfamily.

Tetragonoderinae

***Sarothrocrepis inquinatus* Erichs.**—Western Australia: Hamelin Bay (i. 54).

***Sarothrocrepis suavis* Blackb.**—Western Australia: Hamelin Bay (i. 54).

Lebiinae

***Agonochila biguttata* Chaud.**—Western Australia: Northam (vii-viii. 53).

***Agonochila chaudi* Sloane**—Western Australia: Pemberton (ii. 54).

***Agonochila fasciata* Sloane**—Western Australia: New Norcia (x. 53).

***Agonochila signata* sp. n.** (Fig. 5)

Small, depressed; labial palpi short; male mid-tarsi without adhesive vestiture. Dark piceous brown, the appendages, mouthparts, clypeus and margins of pronotum paler; margins and maculae of elytra testaceous.

Head strongly transverse, finely shagreened; eyes large, round and prominent. Pronotum sparsely setose, strongly transverse, cordate; base subtruncate, apex strongly emarginate; anterior angles prominent though not sharp; posterior angles roundly obtuse; sides strongly rounded on front two-thirds, contracted and lightly sinuate to base, the margins bisetose, one seta at the widest point, the other at the posterior angle. Elytra slightly longer than broad, widest at apical third, strongly setigeropunctate; striae lightly impressed; third intervals with a single pore near apex; apical truncature almost straight; pattern as indicated in the figure, the light and dark areas clearly defined, pale testaceous and brownish-black, respectively.

Length, 4.5–5.2 mm.; max. width, 2.2–2.5 mm.

Type and nine paratypes: Western Australia, Pemberton, viii. 26 (H. J. Carter), in the Australian National Insect Collection, Canberra. Paratypes: many examples taken in the same area by H. Demarz (xii. 54) and myself (viii. 59), in the Frey Museum, the British Museum and in my collection. Two of my paratypes are from Augusta.

This distinctive species is very plentiful under bark of "karri gums" (*Eucalyptus diversicolor*) in the Pemberton district and it is present in most Australian collections, although I have never seen it named. It belongs to the minority group of the genus, having the third elytral intervals with only

a single pore (most species have three or four) and I have been unable to reconcile its unusually constrasty pattern with that of any previously described species. This pattern is remarkably constant over the type series of fifty specimens, but in one example only, the prolongations of the humeral and apical pale maculae meet on the fourth intervals, thus dissecting the dark postmedian fascia. *A. fasciata* Sloane would appear to be the closest relative but here the anterior and posterior pronotal angles are more marked and the elytral pattern (Fig. 6) is entirely different.

Phloeocarabus nigricollis Macl.—Northwest Australia: Derby (x. 55).

Trigonothrops humeralis Macl.—Western Australia: Hamelin Bay (i. 54), Perth (x. 53).

Trigonothrops occidentalis Blackb.—Western Australia: New Norcia (x. 53).

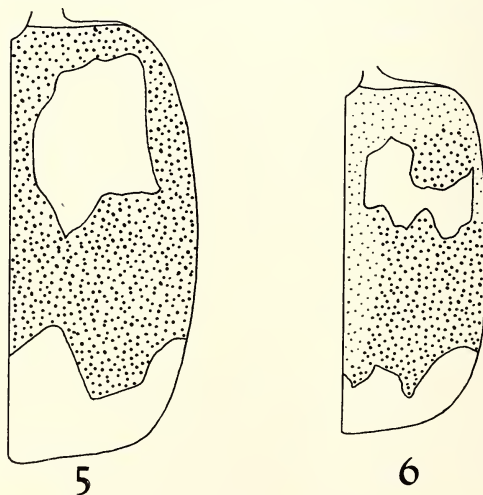
Trigonothrops pallidior Macl.—Northwest Australia: Derby (x. 55).

Nototarus chaudi Sloane—Western Australia: New Norcia (x. 53).

Nototarus magnus sp. n. (Figs. 2, 7)

Form depressed, the foreparts slender; hindbody pedunculate, apterous. Dull black, clypeus and mouthparts brownish.

Head rather narrow (1.9 mm. across the eyes), depressed, scarcely swollen behind eyes; vertex punctate; eyes small, not prominent, slightly inclosed behind, distant from the pronotum; two supraorbital setae on each side, widely separated; paragenae very prominent; mentum edentate; labial palpi strongly securiform. Pronotum narrow (2×2.2 mm.), rugose, slightly elongate, broadest near middle, the apex and base equal in width; apex truncate,



Figs. 5-6: Elytral patterns of *Agonochila* spp.: 5, *A. signata* sp. n.; 6, *A. fasciata* Sloane.

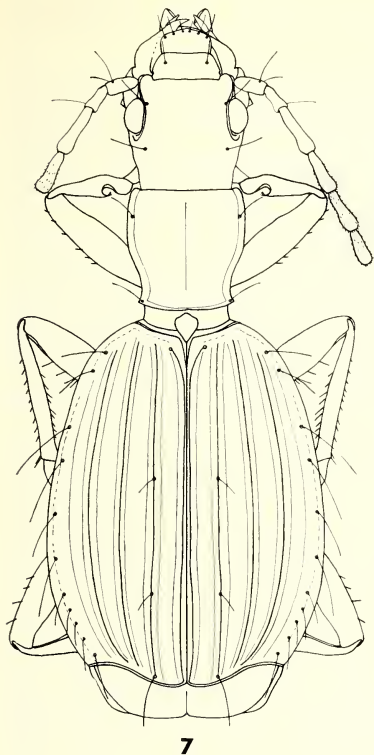


Fig. 7: *Nototarus magnus* sp. n.,
holotype male.

7

base lightly and regularly arcuate; sides lightly rounded on front three-quarters, then strongly sinuate to base; anterior angles rounded, slightly advanced; posterior angles acute and prominent; marginal channel broad, bisetose. Elytra elongate-oval, fused along suture, widest at hind third; humeri obsolete; apical truncature strongly sinuate; striae moderately impressed, the intervals convex, strongly punctate, the alternate intervals more elevated than the others and markedly costate; third intervals with three^o) discal setae and a fourth near apex; eighth interval wider than the seventh and ninth, closely punctate; marginal channel wide, punctate; prosternum and metepisterna punctate, the latter quadrate. Legs long and slender; male anterior tarsi narrow, the three basal segments biserially squamose beneath. Apex of male abdomen bisetose; aedeagus short, the orifice on the left side, the parameres conchoid.

Length 12.3 mm.; max. width, 4.6 mm.

^o) two now exist on the type but a minute pore at the basal quarter indicates a probable third.

Type male (unique): Northwest Australia, Shaw River, vi. 55 (H. Demarz) in the Frey Museum.

This very distinct species, the largest of the genus, can only be compared with *N. angusticollis* Sloane, which has the same characteristic build. However *angusticollis* (of which I have examined the type) is a much smaller insect (length 9–10 mm.), with the foreparts less elongate, the head proportionately smaller, the eyes more prominent, the posterior pronotal angles less prominent, the legs relatively short and the humeri more marked. Moreover, the elytral intervals in *angusticollis* are all equally convex but rounded, whereas in *magnus* the alternate intervals are raised above the others and are markedly costate. Unfortunately, I have been unable to compare the male genitalia of the two species, owing to the delapidated condition of Sloane's type.

Anomotarus crudelis Newm.—Northwest Australia: Shaw River (vi. 55); Western Australia: Northam (vii. 53).

The consignment contained a number of lebiines of the genera *Deme-trida*, *Philophloeus*, *Trigonothrops*, *Nototarus*, etc., which I have been unable to determine satisfactorily.

Pseudomorphinae

Adelotopus gyrinoides Hope—Western Australia: Rockingham (iv-vii. 54).

Silphomorpha dubia Cast.—Northern Territory: Mainoro (i. 58); New South Wales: Sydney dist. (Nikitin, 1960)

Sphallomorpha hydroporoides Westw.—Western Australia: Northam (viii. 53).

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