

STUDIES IN AUSTRALIAN ENTOMOLOGY.

NO. II.—SIX NEW SPECIES OF CARABIDÆ.

BY THOMAS G. SLOANE.

I lately received from Mr. C. French, Government Entomologist of Victoria, six species of Carabidæ belonging to the tribe Carenides; of these four came from the Fowler's Bay district of South Australia, two being new species, which I have named *Carenum vicinum*, and *C. lepidum*; the other two are *C. rugatum*, Blackburn, and *C. (Chariscapterus) opulens*, Sloane; of the latter there are two specimens, one of which has the elytra of a beautiful coppery purple. The two remaining species are from the McDonnell Ranges, in the centre of the continent, and are a new species of *Euryscaphus* (*E. titanus*), and a new *Carenum* (*C. habitans*) very distinct from anything I have previously seen.

EURYSCAPHUS TITANUS, n.sp.

Black, shining. Head large, subquadrate ($9\frac{1}{2} \times 12\frac{1}{4}$ * mm.); thick and heavy, the frontal sulci short, connected behind by a faint curved impression, parallel towards the front, then turning outwards in a broad curve; clypeus sloping backward from the labrum, with the usual setigerous puncture on each side in front of the out-turned frontal sulci; mandibles large, smooth towards the apex, transversely striate on the large internal teeth; eyes prominent, a short blunt tooth-like process projecting forwards and downwards below them; mentum short, lobes rounded externally to the inner point, the inner side almost square, the median tooth broad, triangular, keeled, with broad reflexed margins (epilobes), two deep foveæ on each side of the base

* This is the width without the eyes; the same remark applies to the measurements of the head in the other species described in this paper.

of the median tooth; labrum as usual in the genus. Antennæ as usual in the genus, strong, filiform, last article fusiform. Prothorax transversely subcordate (10×17 mm.), convex, almost parallel on the sides, broadly lobed behind, the anterior margin sinuate; the marginal border strongly reflexed, crenulate on the edge, flattened and roundly advanced at the anterior angles, very wide and vertical at the posterior angles, behind these thickened and but slightly upturned, more prominent on each side of the basal lobe than along the sinuosities before the lobe; the lobe rounded and margined; along the anterior margin a space of about $1\frac{1}{2}$ mm. marked with closely placed longitudinal striolæ; the median line distinctly marked, extending from the rugose part in front to the basal margin; the surface covered with minute scratches, these more apparent towards the sides, thus rendering the lateral parts less shiny than the disc; a lightly marked transverse line across the median line near the base, but the basal part of the prothorax not distinctly defined; two marginal punctures on each side, the basal one being behind the posterior angles. Elytra longer than broad (23×20 mm.), very convex, widest at about half the length, rounded on the sides, considerably narrowed to the humeral angles—these well marked and upturned (between them $13\frac{1}{2}$ mm.)—smooth (except for rows of fine punctures visible with a lens*), the base lightly and

* In regard to the rows of shallow punctures often noticed on the elytra in specimens of various species of the *Carenides*, I now attach no value to this feature for determining species. I have never taken any *Carenid* which showed these traces of puncturation on the elytra when captured; but observations made with specimens of *Carenum arenarium*, Sloane, *C. scaritioides*, Westw., *Eutoma loddonense*, Casteln., and *Carenidium lacustre*, Macl., have showed me that the result of a lengthened immersion in methylated spirits of wine is to bring out rows of punctures on the elytra of all these species, though naturally they are quite smooth. Specimens of these species which I kept for some months in spirits, on being taken out, all showed rows of shallow punctures on the elytra. Unfortunately, since noticing this I have never had any opportunity of collecting specimens of *Carenum* to further experiment with. Of course these remarks do not apply to *Laccopterum* or *Epilectus*. The same results happen in the genus *Promecoderus*.

broadly emarginate, with a single oblique row of punctures on each elytron; the lateral margins broad, lightly reflexed on the anterior half, but the upturned edge disappearing towards the apex; a row of fine punctures along the sides, these more closely placed on the anterior half. The anterior tibiae with two very strong external teeth, above which the exterior ridge has four tooth-like projections visible from above, the inferior ridge is closely serrate extending past the upper external tooth, the apical plate projects in a short tooth below the tarsus; the intermediate tibiae strong with a short acute tooth projecting outwards at the apex.

Length 49, breadth 20 mm.

Hab.—McDonnell Ranges, Central Australia.

In size this species almost equals *E. Waterhousii*, Macl., from which it differs in its more elongate elytra, not bulged on the side as in that species, and not nearly so deeply excavate at the base.

A single specimen (♀).

CARENUM (CALLISCAPTERUS) HABITANS, n.sp.

Shining, elytra green, head, disc of prothorax, abdomen, and legs black, the prothorax widely margined with green, the under surface of the prothorax towards the sides, and the inflexed margins of the elytra also green. Head large, subquadrate ($5 \times 7\frac{1}{4}$ mm.), frontal sulci deep, converging in front, and turning sharply out in a linear form to the outer base of the mandibles, a deeply marked puncture on each side in front of their course behind the lateral teeth of the clypeus; the occiput marked with fine scratches; one supra-orbital puncture on each side. Prothorax very transverse, broader than the elytra* ($6\frac{1}{2} \times 10\frac{1}{2}$ mm.), rather convex, declivous behind, parallel on the sides, a little narrowed to the anterior angles, these wide, rounded

* The breadth of the prothorax as compared to the elytra varies in some species of *Carenum* (for instance, *Calliscapterus campestre*, Macl.); this difference I believe to be a sexual character.

and produced; the posterior angles rounded off; the base lobate and rounded; the marginal border wide and reflexed, widest at the posterior angles, continuous on the base; the median line light, ending behind in an arched transverse line, between the sinuosities on each side of the base, defining the basal part of the prothorax; a short longitudinal impression extending forward from each side of the basal lobe; the posterior declivous part of the prothorax transversely striolate; two marginal punctures on each side. Elytra oval (14×10 mm.), convex, marked with seven rows of distinct shallow punctures* and two discoidal punctures towards the apex, lightly rounded on the sides, and equally rounded in front and behind; the humeral angles prominent and upturned, the base emarginate between them, steeply declivous to the peduncle and marked with a double row of umbilicate punctures on each elytron, a row of evenly placed umbilicate punctures along the margins, every alternate one being larger; the lateral margins broad, especially towards the apex. Prosternum lightly excavate between the coxæ. The legs strong, the intermediate and posterior tibiæ thick and ciliate as in *C. odewahni*, only heavier; the anterior tibiæ tridentate externally, the exterior ridge with four projections above the large teeth, the inferior ridge strongly serrate to the apex of the tibiæ, the apical plate with a short tooth at the apex.

Length 29, breadth $10\frac{1}{2}$ mm.

Hab.—McDonnell Ranges, Central Australia.

A very distinct species; its affinity is to *Carenum* (*Calliscapterus*) *odewahni*, Casteln., but it differs *inter alia* in its elytra not being narrowed to the base, and in having only two, instead of three, prothoracic marginal punctures.

CARENUM LEPIDUM, n.sp.

Smooth, shining; elytra iridescent with the disc a deep blackish-purple changing to blue or green on the sides, the

* See note at page 1289.

lateral margins (and inflexed underpart of elytra) of a bright copper colour, prothorax having the disc deep black with wide fiery copper margins, head and underparts shining black. Head subquadrate ($2\frac{1}{2} \times 2\frac{3}{4}$ mm.); the frontal sulci almost parallel, a little wider behind; the lateral teeth of the clypeus very prominent, a deeply impressed puncture behind them on each side; the preocular processes prominent; the eyes hardly projecting beyond the sides of the head; one supra-orbital puncture above each eye. Prothorax transverse ($3\frac{1}{2} \times 5$ mm.), rather convex, truncate in front between the anterior angles—these a little advanced—, very lightly rounded on the sides, broadest just before the posterior angles; the marginal border wide, reflexed, widest at the posterior angles, sinuate on each side between the posterior angles and the base; the base shortly lobate, very lightly emarginate; the median line finely impressed, not reaching the border behind; the basal part of the prothorax not crossed or defined by a transverse line; two marginal punctures on each side. Elytra lævigata, elongate, very little wider than the prothorax ($9 \times 5\frac{1}{2}$ mm.), convex, with two discoidal punctures towards the apex; the sides subparallel, widest at about half the length, a little narrowed to the base, the base truncate, the humeral angles strongly marked and upturned; the lateral margins not wide, within them a row of closely set punctures. Prosternum hardly impressed between the coxæ, and obliquely narrowed behind. Anterior tibiæ tridentate; the exterior ridge with two projections above the large teeth, inferior ridge consisting of five short projections, the apical plate toothed at the apex; intermediate tibiæ strongly serrate, and with an acute spine at the apex externally.

Length 16, breadth $5\frac{1}{2}$ mm.

Hab.—Fowler's Bay district.

A very distinct species; its affinity is evidently to *Carenum* (*Chariscapterus*) *opulens*, Sloane, but it is very different in its parallel and elongate form. The "inferior ridge" of the anterior tibiæ with strong tooth-like projections, is of a different form to

what I have seen in any Carenid before. Two specimens; one shows a single strong puncture on the declivous part of the base of each elytron, the other has no punctures on the base.

CARENUM VICINUM, n.sp.

Elytra of a dark blue, almost black in the middle, but becoming a fine purple towards the sides, the margins cæruleous, the prothorax black with a violet margin, head, legs, and underparts of prothorax and abdomen black. Head subquadrate ($4\frac{1}{2} \times 5\frac{3}{4}$ mm.), frontal sulci almost parallel, a little sinuate, diverging in front as usual, an obsolete transverse impression behind them; the preocular processes prominent; the eyes not prominent, one supra-orbital puncture above each eye. Prothorax transverse ($5\frac{1}{4} \times 8$ mm.), rather convex, broadest at the posterior angles, rounded and a little narrowed to the anterior angles, these very slightly produced; the posterior angles rounded off; the margin sharply sinuate on each side of the base, thus giving it a shortly lobate appearance; the lobe very gently rounded and emarginate in the middle; the marginal border wide, sinuate behind, and widened to form a conspicuous angle on each side of the basal lobe; the median line lightly impressed, its course crossed by very fine transverse striolæ; the basal part of the prothorax not defined by a transverse line; only two marginal punctures discernible on each side, one near the anterior angle, the other at the posterior angle. Elytra lævigata, ovate, a very little broader than the prothorax ($11\frac{1}{2} \times 8\frac{1}{4}$ mm.), gently rounded on the sides, very slightly narrowed to the base; the humeral angles well marked and upturned, the base truncate and steeply declivous between them; the marginal border narrow and reflexed, a row of fine punctures within it; on each elytron a large discoidal puncture towards the apex, and a few punctures in a single row on the base. Anterior tibiæ bidentate externally, the exterior ridge with four projections above the large teeth, inferior ridge serrate, reaching the apex of the tibiæ, the apical plate with a sharp projecting spur at the apex.

Length 24, breadth $8\frac{1}{4}$ mm.

Hab.—Fowler's Bay district.

A single specimen. This species is very closely allied to *C. planipenne*, Macl., but differs in its colour showing no trace of green; in the shape of the elytra, which are not so flat, and also differ in not being emarginate and gently declivous between the shoulders, and in being much narrower and more sharply rounded behind. The shape of the prothorax is the same in both species, though a little more convex in *C. vicinum*; I can find no trace of more than two marginal punctures on each side, while in *C. planipenne* there are three; *C. vicinum* has only one supra-orbital puncture on each side of the head while *C. planipenne* has two.

NOTONOMUS ARTHURI, n.sp.

♀. Elytra of a metallic green or purple, head, prothorax, and underparts black. Head smooth, with the frontal impressions well marked; a light transverse impression on each side behind the posterior supra-orbital puncture; the eyes prominent, inclosed behind. Prothorax a little broader than long ($4\frac{3}{4} \times 5\frac{1}{2}$ mm.)—in one specimen the measurements almost equal—slightly rounded on the sides and a little narrowed to the base; the posterior angles rounded; the base widely and very slightly emarginate between the lateral impressions, these narrow and reaching the basal margin; the marginal border reaching behind the lateral impressions on each side of the base; the posterior marginal punctures placed before the angles of the base, and inside the marginal border; the median line distinct, not reaching either margin. Elytra oval (12×7 mm.), not convex, a little narrower to the base, rounded on the sides, broadest at about half the length, sinuate behind, dehiscent at the apex, striate; the interstices flat (9th stria and interstice as usual), 3rd with three impressed punctures; the border of the base almost straight; the humeral angles not marked. The segments of the abdomen smooth as usual. The prosternum not excavate between the coxæ.

Length 20, breadth 7 mm.

Hab.—Mt. Wilson, Blue Mountains, N.S.W.

This species comes near *N. variicollis*, Chaud., but has the basal angles of the prothorax more rounded. Three specimens, all ♀, taken by Mr. A. Sidney Olliff (to whom I have dedicated it) at Mt. Wilson. The type is in the Australian Museum.

NOTONOMUS LATERALIS, n.sp.

♂. Black, shining. Head smooth, rather broad; clypeus with a setigerous puncture on each side, the clypeal suture distinct, ending on each side in the frontal impressions, these lightly marked and linear; eyes not prominent, inclosed behind; the vertex hardly at all transversely impressed behind the posterior supra-orbital puncture. Prothorax subquadrate, slightly broader than long ($4\frac{1}{4} \times 5$ mm.), lightly rounded on the sides, hardly at all narrowed to the base, the posterior angles rounded off; the base widely emarginate between the lateral impressions, these short and not reaching the basal margin; the marginal border reflexed on the sides, reaching as far as the inner side of the lateral impressions on each side of the base; the posterior marginal punctures in the lateral border at the basal angles. Elytra parallel (10×6 mm.), truncate at the base, rather flat on the disc, the sides and apex declivous, broadly rounded and hardly at all sinuate behind, dehiscent at the apex, strongly striate, the 9th stria very wide and hardly bifurcate behind, the abbreviated stria short and oblique; the interstices convex towards the apex, 2nd, 4th, and 6th narrowed behind, 9th marked throughout its course by umbilicate punctures, these closer (but not confluent) towards the apex, 3rd of each elytron with three punctures (all on the posterior half), of these two deeply impressed on the declivous part near the apex, the other four forming a square just behind the middle of the elytra; the lateral margin wide, the border being more decided behind; the border of the base is arched, not toothed though slightly raised at the humeral angles. The three last segments of the abdomen

with a deep transverse impression on each side. The posterior tarsi with the articles shorter and thicker than usual in the genus.

♀.—Having the elytra completely flattened on the hinder part of the disc, and almost vertical on the sides and apex; the wide smooth space within the marginal border (representing the 9th stria) wider than in the ♂.

Length ♂ $17\frac{1}{2}$, breadth 6 mm.

Hab.—Mt. Wilson, Blue Mountains, N.S.W.

A very distinct species differing from all other species of *Noto-*
nomus I have seen in having distinct and deep lateral impressions on the segments of the abdomen, and in the wide smooth space within the marginal border of the elytra; also in the flattened elytra with vertical sides and apex in the ♀.

Three specimens taken by Mr. A. Sidney Olliff.

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BY J. DOUGLAS OGILBY, F.L.S.

* *Note.*—The four papers read under the above titles have already been published in the *Records of the Australian Museum*, Vol. I. No. 1 (March, 1890).



Sloane, T G. 1890. "Studies in Australian entomology. No. II. Six new species of Carabidae." *Proceedings of the Linnean Society of New South Wales* 4, 1288–1296. <https://doi.org/10.5962/bhl.part.15086>.

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