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ADDITIONAL REMARKS ON AUSTRALIAN GYRINIDAE

By GEORG OCHS,

HANOVER

Through the kindness of Mr. A. N. Burns, to whom I wish to express my appreciation, I had the opportunity of examining the Gyrinidae of the National Museum of Victoria. The study of this interesting material led to the discovery of a remarkable new species of the genus *Macrogyrus* from Central Australia, which will be described. Moreover, I am enabled to give a detailed description of the nearly legendary *Macrogyrus venator* Boisd., which was represented in the collection by several specimens from Wessel Island, proving its affinity with the Australian fauna and removing the doubts alleged heretofore. Besides new records concerning already known species, I am adding remarks supplementary to my paper on Australian Gyrinidae published in 1949 (Rec. Aust. Mus. 22 (2); 171-199).

Gyrinus convexiusculus Macleay.

New South Wales: (ex coll. C. French); Croydon Park (H. Davidson); Sydney.
Northern Territory: Darwin.

Only a few examples from each locality; those from Darwin evidently smaller in size than the specimens from New South Wales.

Aulonogyrus strigosus (Fabr.).

Victoria: near Melbourne, Eltham 2.ii.1918 (H. Pottinger, F. E. Wilson); Merrie Creek 2.iv.1925 (Frauckner, ex coll. J. G. Dixon);
Bacchus Marsh 18.viii.1954 (A. Neboiss); Parwan 20.i.1916 (J. G. Dixon);
Fernshaw; Western District;
Melton 15.ix.1918 (C. E. Cole); Warburton; Healesville 14.i.1918 (R. T. Kelly).
New South Wales: Sydney (J. J. Walker), Manar?
Queensland: Brisbane.
Northern Territory: Alexandria 26.vi.1903 (Billinghurst).
South Australia:

This species has been recently recorded by Dr. Brinck from Norfolk Island.

Macrogyrus darlingtoni Ochs.

Queensland: Cairns district (A. M. Lea).

Macrogyrus oblongus oblongus (Boisd.).

New South Wales: Sydney, June 1917 (G. H. Hardy), 31.iii.1918 (C. E. Cole); Narrabeen, December 1945 (B. B. Given); Blue Mountains, October 1901.

Macrogyrus oblongus opacior Blackb.

(Mentioned erroneously as *M. oblongus latior* on page 182, line 1 of my paper of 1949.)

Victoria: Mt. Macedon 1.iii.1893; near Melbourne; Plenty River; Mordialloc (a specimen of the latter series holds an anterior leg of *Dineutus neohollandicus* ♂ between its mandibles); East Gippsland, Brodribb River, 30.iv.1919; North Gippsland (H. W. Davey).

The small series from Mt. Macedon contains five specimens, one of which is labelled *M. opacior* Blackburn, from which I believe that they may be regarded as paratypes. Although not rufinotie as the types of Blackburn, some of the specimens are strongly dulled, but the interior longitudinal striae on the elytra are still visible and the striolae are normal. As a rule the apices of the elytra are more strongly sinuate than in *M. oblongus oblongus*, but less deeply so than in *M. rivularis*. The anterior tibiae are horizontally truncate in the female with the outer apical angle nearly rectangular; in the male the apex is obliquely cut off, the outer angle obtuse and slightly acuminate. In the normal form the apex is more obliquely truncate in both sexes and the outer angle less acute. The aedeagus of the male is similar to that of the normal form.

Macrogyrus oblongus latior (Clark).

New South Wales: Richmond River.

Queensland: ex coll. C. French.

Macrogyrus rivularis (Clark).

Victoria: Mason's Falls, Kinglake 10.x.1954 (A. Neboiss); Ferny Creek, Fern Tree Gully 20.i.1936 (J. E. Dixon); Melbourne, 9.iii.1918 (C. E. Cole); Beaconsfield district (J. E. Dixon); Running Creek, Kerrie (J. E. Dixon); Dandenong Creek, Bayswater (J. E. Dixon); Snowy River, 10.iv.1947 (Nat. Mus. party); Moggs Creek, January 1940 (A. Butcher); Timboon 2.iii.1908 (Kershaw); Gippsland, December 1892; South Gippsland (ex coll. C. French); East Gippsland, Glenville (per Dr. Leach).
New South Wales: Jenolan Caves 12.i.1921 (American Museum of Natural History).

Generally more shining above than *M. oblongus* and its subspecies, inner portion of truncature more concave, truncature of the anterior tibiae with a strong depression outside near the base of tarsi.

Macrogyrus reichei (Aubé).

Victoria: near Melbourne, Merrie Creek 2.iv.1925 (Frauckner, ex coll. Dixon); Studley Park; Gunbower; Eltham 2.ii.1918 (H. Pottinger); Grampians, November 1892; Bacchus Marsh, January 1907; Parwan 29.iv.1913 (Sedgewick); Warburton; Healesville 14.i.1918 (R. T. Kelly).

New South Wales:

South Australia:

Macrogyrus angustatus Rég.

Western Australia.

Macrogyrus angustatus metallescens Ochs.

Victoria: Parwan (J. E. Dixon).

It is noticeable that at this locality *M. angustatus metallescens* and *M. australis* occur side by side.

Macrogyrus australis (Brullé).

Victoria: Parwan (J. E. Dixon); Eltham (J. E. Dixon); Grampians, November 1892; Murray River (ex coll. C. French).

New South Wales: Sydney district (J.J.W.); Seven Hills (H. Davidson); Byron Bay, September 1909 (Deane, coll. Mouchamps).

Queensland: Bowen (A. Simson); Kuranda, January 1908 (R. W. Armitage).

South Australia: Wilpena Pond (H. M. Hale, Mus. Brussels).

The specimens from Murray River are of small size and very parallel, thus resembling somewhat *M. angustatus metallescens*. Examination of male genitalia proved, however, that it differs from true *M. australis*.

Macrogyrus (Tribologyrus) **gibbosus** n. sp.

Length 11.5 mm width 6 mm—Body oval, maximum of width behind the humeral region, more attenuated anteriorly than posteriorly, upper side strongly convex, humped, convexity still stronger in the male, highest point behind the scutellum, posterior declivity slightly concave in side view. Upper surface rather dull, disc of elytra shining, olive-coloured, with blue to violet reflections, labrum and clypeus aeneous, also the margins of the eyes, the longitudinal striae on elytra and the side margin of the latter. Under surface dark, metallic, natatorial legs rufous, mesosternum and metasternum vaulted, metasternal wings in form of an equilateral triangle, anal sternite narrowly sinuate apically in the male.

Labrum transverse, slightly prominent, anterior margin convex with bright hairs, upper surface strongly reticulate with round meshes and dispersed punctures, the latter more numerous and larger anteriorly and laterally, anterior portion darkly metallic. Anterior margin of clypeus nearly horizontal, posterior furrow slightly concave, upper surface strongly reticulate, with round meshes and dispersed fine punctures.

Head strongly reticulate with round meshes, moreover strongly wrinkled laterally before the eyes, between which there are fine transverse wrinkles, vertex with a fine reticulation consisting of slightly transverse meshes, interior margin of the eyes elevated, forming a straight plication in longitudinal sense, genae strongly reticulate with round meshes and deep longitudinal wrinkles, inferior margin broadly flattened and bent upwards, nearly semi-circular in dorsal view.

Anterior margin of pronotum strongly sinuate behind the eyes, with a crenulate elevated border, middle portion slightly convex, not bordered, posterior margin nearly horizontal, moderately sinuate on both sides; sides of pronotum oblique, convergent anteriorly, anterior angles protruding and pointed, posterior angles slightly prominent, rounded, lateral margin

flattened, broader anteriorly than posteriorly, with raised borders; upper surface with irregular fine wrinkles and dispersed shallow punctures, reticulation consisting of round meshes, more strongly impressed laterally than on the disc. Scutellum triangular, microsculpture consisting of round meshes. Reticulation on elytra more strongly impressed laterally than on the disc, lateral margin and longitudinal striae with round meshes, intervals and disc with elongate transverse meshes, slightly obliquely placed on the outer intervals; the meshes are accompanied by dispersed short scratches. Elytra exteriorly with three opaque longitudinal striae, the outer ones of which reach the epipleural angle; the innermost somewhat longer, narrower and separate, middle and outer striae united posteriorly, the latter joining the lateral margin basally, 4th striae very short and narrow, the inner ones hardly recognizable; outer intervals 1-3 convex, in the female more strongly so than in the male. Side margins of elytra flattened with raised borders, the broadest at the middle of length and posteriorly, where it joins an apical depression along the truncature. Inner portion of the latter horizontal and slightly concave, outer portion oblique and rather straight; epipleural angle shortly dentate, median angle in the male obtusangular, more acuminate in the female, sutural angles diminishing, slightly prominent and pointed.

Anterior femora only slightly attenuated apically, anterior tibiae short, straight, gradually broadened to apex, much broader in the male, horizontally truncate apically, exterior apical angle slightly prominent exteriorly, acuminate. Anterior tarsi of the female long, narrow, slightly attenuated towards the apex; those of the male shorter and dilated, but narrower than the tibiae, sub-parallel basally (segments 1-3) attenuated apically; underside of tarsi covered with suckers, the latter forming a round area basally comprising segment 1 and partly segment 2, ultimate segment smooth. Aedeagus as long as the lateral lobes, broader than the apical portion of the latter, basal portion subparallel, gradually narrowed in apical third, apex narrowly rounded, apical third depressed, upper side basally with a shallow groove; lateral lobes dilated in apical third, apex obliquely truncate, angles rounded.

Habitat: Central Australia, Talipatta Gorge 18.vii.1947 (C. W. Brazenor).

Holotype ♂ and allotype ♀ in the collection of the National Museum of Victoria, Melbourne.

Very near to *M. australis* which it resembles in many characters, the new species is, however, evidently larger and much more convex. In comparison with that of *M. australis*, the aedeagus of the male of the new species is longer, with the basal groove shorter and much more shallow.

Macrogyrus (Tribologyrus) venator (Boisduval).

Gyrinus venator Boisduval 1835, Fn. ent. Ocean pacif., Voy. *Astrolabe* 2:52.

Gyrinus venator Aubé 1838, Spec. Col. 6: 662.

Macrogyrus venator Régimbart 1882, Ann. Soc. ent. France (6) 2: 443, t.12 f.58, 58a.

Macrogyrus venator Régimbart 1884, Ann. Soc. ent. France 1883, (6) 3: 471.

Gyrinus venator Masters 1885, Proc. Linn. Soc. N.S. Wales 10: 598.

Macrogyrus venator Severin 1889, Ann. Soc. ent. Belg. 33: 158.

Macrogyrus venator Régimbart 1892, Ann. Soc. ent. France 1891, 60: 670, 740.

Macrogyrus venator Masters, 1896, Proc. Linn. Soc. N.S. Wales 21 (Supp.): 52 [698].

Macrogyrus venator Régimbart 1907, Ann. Soc. ent. France 76: 139.

Macrogyrus venator Ahlwarth 1910, Col. Cat. 21: 12.

Macrogyrus venator Mjöberg 1916, Ark. Zool. 10: 9.

Macrogyrus venator Ochs 1934, Mitt. schweiz. ent. Ges. 16: 101.

Macrogyrus (Tribologyrus) venator Ochs 1949, Rec. Aust. Mus. 22: 177.

Boisduval mentioned "New Holland" as the habitat of his *Gyrinus venator* and later authors recorded the species as living in Australia, apparently always in relation to the typical series. *M. venator* has almost no affinity with any other Australian species, and as it never appeared again in collections revised by me I had some doubts about its Australian origin, until, in the material communicated to me by the National Museum of Victoria, I sighted a small series from Wessel Island (C. Barrett, ex coll. F. E. Wilson), where the species seems to be confined. (The Wessel Islands are a small archipelago situated off the NE-corner of Arnhem Land, Northern Australia.) From these specimens I took the following description:

Size: ♂, 10-11.5 mm; ♀, 9.5-11 mm. Body oval, more evidently attenuated towards the apex in the female than in the male, strongly convex, maximum of convexity shortly behind the scutellum, anterior declivity convex, posterior declivity rather straight, beneath, strongly vaulted along median line. Upper surface shining, dull exteriorly, olive-green with violet to coppery reflections, vertex darker.

Labrum, clypeus and margins of the eyes brighter coloured, also the longitudinal striae on elytra and the side-margin of the latter; scutellum brassy. Under surface black, natatorial legs reddish, metasternal wings in the form of a nearly equilateral triangle, apical sternite in the male truncate apically, and slightly concave. Labrum transverse, slightly prominent, anterior margin convex with bright hairs, upper surface with strongly impressed round meshes and dispersed punctures. Microsculpture of clypeus nearly granulate, medially superficial with slightly elongate transverse meshes, punctures chiefly confined to the vicinity of the posterior margin, the latter and the anterior margin concave.

Head with irregular strong wrinkles, microsculpture consisting chiefly of round meshes, more transverse anteriorly in the middle, vertex with irregular elongate meshes, anterior portion of the head finely punctured between the eyes, with two shallow impressions; interior border of the eyes slightly acuminate, genae strongly sculptured, with round meshes and longitudinal wrinkles, under margin broadly flattened, elevately bordered.

Anterior margin of pronotum moderately sinuate and edged behind the eyes, medially nearly horizontal, not bordered, posterior margin nearly horizontal, side margins oblique, convergent anteriorly, narrowly flattened and with raised edges, anterior angle strongly protruding; upper surface of pronotum irregularly wrinkled, reticulate, round meshes more strongly impressed laterally than on the disc, the latter finely punctured, near the base there is a roundish impression showing a fine reticulation of transverse meshes. Scutellum triangular, covered with round meshes.

Elytra with strongly impressed round meshes on the sides, disc with superficial meshes and fine punctures, meshes somewhat elongate and transverse towards the apex near the suture, scratches scarcely visible in apical half. Elytra laterally with three shallow opaque longitudinal striae reaching nearly to the epipleural angle, the innermost one of which is narrow and separate, the median stria joins the outer one at the base and unites with it apically, the outer stria is joined to the side margin at the humeral region, inner striae visible only as meandering lines, all intervals even, the inner ones covered with dispersed transverse fine wrinkles. Side margin of elytra flattened and with raised edges, narrow at the base, broadened and nearly parallel posteriorly, inner portion of truncature horizontal, outer portion oblique, epipleural angle shortly dentate, median angle triangular, sutural angles diminishing, slightly prominent.

Anterior femora more strongly attenuated apically in the male than in the female. Anterior tibiae curved inwards and broadened towards the apex, more noticeably so in the male, exterior apical angle slightly prominent. Anterior tarsi subparallel and slightly attenuated towards the apex in the female, but moderately broadened in the male and narrower than the apex of the tibiae, underside covered with suckers, forming a rounded area on segment 1, the base of the latter smooth. Aedeagus robust, flat, shorter and broader than the lateral lobes, basal portion subparallel, apical third gradually attenuated, tip rounded (in a ♂ of small size the apex is more broadly truncate), based two-thirds of the upper side superficially channelled, underside with a deep broad longitudinal furrow reaching nearly to the apex; lateral lobes moderately broadened towards the apex, the latter rounded.

Probably there are some related species to the group of *M. blanchardi* from New Guinea with regard to the shape of the anterior tibiae.

***Macrogyrus elongatus laevis* Ochs.**

Queensland: Claudie River, January 1914 (T.A.K.).

***Macrogyrus howitti* (Clark).**

Victoria: Eltham.

Queensland: ex coll. C. French.

Tasmania: Hobart 22.i.1918 (C. E. Cole); Georgetown, March 1895; Georgetown (ex coll. Plason, Mus. Vienna).

In some of the specimens the internal striae on the elytra are more evident than normally and the intervals more convex; in the specimens from Georgetown the middle of the truncature is slightly angular.

***Macrogyrus striolatus* (Guérin).**

New South Wales: Chichester, Blue Gum Knob; Leura 1910 (Deane).

In the males of this species there exists a very remarkable sexual character, the prosternum being anteriorly broadly expanded and transversely truncate, with the exterior angles of the truncature acuminate and slightly bent downwards.

Dineutus australis (Fabricius).

Queensland: Cairns (ex coll. C. French); N. Queensland (identified by A. M. Lea).

Central Australia: Coll. Horn Exp., pres. July 1897 (Finke).

North Australia: Darwin (G. F. Hill).

Dineutus neohollandicus Ochs.

Queensland.

As mentioned above, a specimen of *M. oblongus opacior* from Mordialloc holds an anterior leg of *D. neohollandicus* ♂ in its mandibles, which seems to prove that the latter species occurs also in Victoria. Hitherto it was chiefly known from Northern Australia and from Queensland, but in the Dresden Museum there is a specimen which is labelled "Victoria", a record which formerly seemed doubtful.

A detailed description of *D. neohollandicus*, accompanied by several figures, is given by Dr. Mouchamps in 1949 (*Bull. Ann. Soc. ent. Belg.* 85: 241, pl.2, f.3; pl.3, f.2; pl.4, f.9). Having had the opportunity of studying one of the specimens from Adelaide River, in the British Museum, mentioned by Régimbart as *D. neoguineensis* in 1907, Mouchamps states that it differs from *D. neohollandicus* which confirms my opinion that in Australia the latter species only, occurs.

The zoogeography of *D. neohollandicus* and other Australian species is discussed by Dr. Brinck in 1952 (*Lunds Univ. Arsskr.*, N.F. Avd. 2, 49: 3-6). His opinions in the matter are very contrary to those expressed in my paper of 1949 but not convincing in all respects.