

REVISION OF AUSTRALIAN *ENOCHRUS* THOMSON (COLEOPTERA: HYDROPHILIDAE)

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The Australian members of the hydrophilid genus *Enochrus* are revised and redescribed. A key to the fourteen species recognised is given. Six species are described as new: *E. aliciae*, *E. eubenangeei*, *E. isabellae*, *E. pseudoweiri*, *E. samae*, and *E. weiri*. The following synonymies are proposed: *E. mjobergi* Knisch, 1921 = *E. deserticola* (Blackburn, 1896); *E. andersoni* (Blackburn, 1896) = *E. eyrensis* (Blackburn, 1894); *E. persimilis* Régimbart, 1908 = *E. eyrensis* (Blackburn, 1894); *E. pullus* (Fauvel, 1883) = *E. esuriens* (Walker, 1858) and *E. artensis* (Fauvel, 1883) = *E. maculiceps* (MacLeay, 1873). The New Caledonian species *E. caledonicus* (Fauvel, 1883) is considered a synonym of *E. elongatus* (MacLeay, 1873).

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The hydrophilid genus *Enochrus* Thomson, 1859 is world wide in distribution (Hansen 1991). In Australia its members are the commonest and most widespread hydrophilids and occur in virtually all fresh water bodies from small stagnant pools to the banks of major rivers and lakes. Despite this prominence, their taxonomy is so bad that no species can be identified with any confidence. Thirteen species have been named and several others have been recorded as being present but until now no revision has been attempted.

Australian *Enochrus* are structurally very similar and difficult to separate. Apart from the aedeagi the only characters that I have found useful are size, the punctuation of the upper surface, the slope of the mesosternal keel, and the colour pattern of the head. The colour pattern of the head is often a reasonable indicator of species, whereas elytral and pronotal colour can vary from predominantly black to totally light reddish in the same species.

Within *Enochrus* six subgenera are recognised (Hansen 1990). Three of these occur in Australia: *Hydatotrephis* MacLeay, 1873 with one species; *Enochrus* Thomson, 1859 with one species; and *Methydrus* Rey, 1885 with 12 species.

At first sight *E. (H.) mastersi* is very similar to the distantly related *Limnoxenus zealandicus* Broun and is often confused with it in collections. Both are moderate sized (10–15 mm), shiny black and relatively common, particularly *L. zealandicus*. A closer inspection readily separates them: *L. zealandicus* has well defined punctate elytral striae and swimming hairs on the meso-

and meta-tibiae, both of which are absent in *E. (H.) mastersi*. Characters of the maxillary palpi and mesosternum also separate the two genera (Hansen 1990).

The one Australian *Enochrus* (*Enochrus*) species, *E. (E.) peregrinus* Knisch, 1922, is small and in general appearance resembles several Australian *Enochrus* (*Methydrus*) species. It is known from only one specimen labelled from Sydney, although there were three in the original collection. It may eventually prove to have been mis-labelled and not Australian.

The remaining 12 Australian species are all in the subgenus *Methydrus*. They are usually small (2–8 mm), oval, rather flat species, shiny with light-testaceous to black colouring with at least the area immediately in front of the eyes yellowish. Two species are larger and predominantly black, superficially resembling *E. (H.) mastersi*. *Chasmogenus nitescens* Fauvel resembles some *Enochrus* (*Methydrus*) species and is often confused with it in collections. Its small size (< 5 mm) and lack of yellowish areas in front of its eyes readily separate it from similar sized *Enochrus* – as well as many structural characters mentioned later under 'Systematics'.

One additional species, *Philhydrus marmoratus* W. MacLeay, 1873, has been included in *Enochrus* in the past but has been shown by Gentili, 1981 to belong in *Laccobius*.

For a full discussion of synonyms and subgenera of *Enochrus* see Hansen, 1991.

Despite their being ubiquitous in freshwater the biology of Australian *Enochrus* is poorly known.

Anderson (1976) described the larvae of *E. (M.) maculiceps* and *E. (M.) elongatus* and gave brief notes on their habitat and breeding. All species come readily to light and are often collected in large numbers in light traps, particularly in northern areas during the wet season from December to February. I know of no study of the ecology of any Australian species other than inclusion in general faunal lists of invertebrates collected in various water bodies.

The collections from which specimens were examined are listed under the following abbreviations:

AM	Australian Museum, Sydney
ANIC	Australian National Insect Collection
BM(NH)	Natural History Museum, London
IRSNB	Institut Royal des Sciences Naturelles de Belgique, Bruxelles
MNHN	Muséum National d'Histoire Naturelle, Paris
NMV	Museum of Victoria
NRS	Naturhistoriska Riksmuseet, Stockholm
NTM	Northern Territory Museum
QDPIM	Queensland Department of Primary Industries, Mareeba
QM	Queensland Museum, Brisbane
SAMA	South Australian Museum, Adelaide
UQIC	University of Queensland Insect Collection, Brisbane
WAM	Western Australian Museum, Perth.

SYSTEMATICS

Australian members of the genus *Enochrus* can be separated from other Australian Hydrophilids by the following combination of characters. Length 2–9 mm, oval, more flattened than convex; second segment of maxillary palpi more or less curved outwards, apical segment slightly asymmetrical with straighter inner face; without contiguous ventral keel but with variable keel on mesosternum; without swimming hairs on tibiae; without strongly marked striae on elytron; with systematic punctures (rows or fields of coarse setiferous punctures usually distinctly larger than others) on head and pronotum (masked in some *E. malabarensis*); in all but *E. mastersi* and *E. aliciae* at least the area immediately in front of eyes lighter (see also Hansen 1991).

The subgenus *Hydatotrephis* MacLeay can be

separated from Australian members of the subgenera *Enochrus* Thomson and *Methydrus* Rey as follows: mesosternal protuberance triangular, cone-shaped, abruptly truncated posteriorly which does not reach the front edge of mesocoxae (Fig. 19), sides of mesosternum evenly converging anteriorly, apical and penultimate segments of maxillary palpi subequal. *Enochrus* (*Methydrus*) have a more keel-like mesosternal process usually extending backwards between the mesocoxae (Figs 15–18; 20), the apical segment of the maxillary palpi shorter than penultimate and sides of mesosternum subparallel to strongly convex anteriorly. Apart from *E. (M.) aliciae* and *E. (M.) eubenangeei*, the Australian members of *E. (Methydrus)* are smaller (< 8 mm), often testaceous in colour, and have at least a lighter patch of colour in front of the eyes.

The aedeagus of *E. (H.) mastersi* differs from that of other Australian *Enochrus* (Fig. 14; Hansen 1990). In these there is a variably shaped basal ventral plate beyond which projects a thinner apical portion in all but *E. (M.) aliciae* which lacks this apical portion (Fig. 11). In *E. (H.) mastersi* the aedeagus is of more uniform construction with a smooth dorsal surface and the ventral surface consists of a broad open groove formed by infolding of the two sides.

There is one species, *E. (E.) peregrinus* Knisch, of the subgenus *Enochrus* in Australia. It is similar in looks to the smaller *Methydrus* species but is readily separated from them by the short stout maxillary palpi with approximately equal sized apical two segments and the diverging elytral suture lines.

By utilising the male genitalia species can be differentiated. However without these I have found it impossible to reliably separate all species, in particular *E. weiri* and *E. pseudoweiri* and the lighter colour phase of *E. deserticola* and *E. maculipes*. This is reflected in the keys and descriptions that follow. I have restricted my descriptions to the few characters that serve to differentiate the species and I have provided two keys, one utilising all available characters, the other characters other than the male genitalia.

KEY TO AUSTRALIAN *ENOCHRUS* THOMSON 1859, NOT USING CHARACTERS OF THE MALE GENITALIA

1. — Maxillary palpi stout, first segment shorter than distance from front edge of eye to front of clypeus, apical segment subequal in length to penultimate 2
- Maxillary palpi more elongate, first segment

- longer than distance from front edge of eye to front margin of clypeus, apical segment about 2/3 length of penultimate (subgenus *Methyrus*) 3
2. — > 6.0 mm. Black. Sutural lines on elytra subparallel in anterior quarter
 *E. (Hydatotrephis) mastersi* (MacLeay)
 — < 5.0 mm. Dark testaceous. Sutural lines on elytra diverging noticeably in anterior quarter ..
 *E. (Enochrus) peregrinus* Knisch
3. — Large (>6 mm). Black (pronotum may be reddish at edges) 4
 — Small (< 6 mm). With at least the areas in front of eyes reddish-yellow 5
4. — Punctures towards sides of elytra well impressed, not much smaller than others
 *E. (M.) eubenangeei* sp. nov.
 — Punctures towards sides of elytra subobsolete, much smaller than those on disc
 *E. (M.) aliciae* sp. nov.
5. — Dorsal surface reddish-yellow, rear of head at most somewhat darker. Elytra moderately punctate, length > 4.0 mm, pro-, meso- and metac claws modified in male.
 *E. (M.) elongatus* (W. MacLeay)
 — Dorsal surface reddish-yellow to black, rear of head dark and much of rest of head in many species, males with only pro-claws modified 6
6. — Dorsal surface strongly punctured, punctures on elytra as strong or stronger than those on head, many punctures on elytra > half diameter of serial punctures which are often hard to trace. Front of head 1/3 or more black 7
 — Dorsal surface weakly punctured, punctures on elytra tend to be weaker than those on head, punctures on elytra < half size of serial punctures which are usually distinct 9
7. — Length > 3.5 mm. Black morphs present. Maxillary palpi with dark tips 8
 — Length < 4.0 mm. Black morphs not known. Maxillary palpi usually pale throughout
 *E. (E.) malabarensis* Régimbart
8. — Thinner outer portion of mesosternal keel well developed (Fig. 16). Front of head predominantly black
 *E. (M.) eyrensis* (Blackburn)
 — Thinner outer portion of mesosternal keel less developed (Fig. 15). Amount of black on front of head variable *E. (M.) samae* sp. nov.
9. — Length 2.2 mm – 2.6 mm. Mesosternal keel weakly developed (Fig. 18). Front of head > 2/3 black *E. (M.) esuriens* (Walker)
 — Length > 2.6 mm. Mesosternal keel well developed (Fig. 17) 10

10. — Larger (4.5–6 mm). Black, except region in front of eyes light. Elytral punctures small but usually well marked
 *E. (M.) isabellae* sp. nov.
 — Smaller (3–4.5 mm) *E. (M.) deserticola* complex (*E. (M.) deserticola* (Blackburn), *E. (M.) maculiceps* (W. MacLeay), *E. (M.) weiri* sp. nov. and *E. (M.) pseudoweiri* sp. nov.). (*E. (M.) deserticola* only species with black morphs and individuals > 4.2 mm long. *Enochrus weiri* and *E. pseudoweiri* always have pale palpi.)

KEY TO AUSTRALIAN *ENOCHRUS* INCORPORATING CHARACTERS OF THE MALE GENITALIA

1. — Maxillary palpi stout, pseudo first segment shorter than distance from front edge of eye to front of clypeus, apical and penultimate segments subequal in length 2
 — Maxillary palpi more elongate, pseudo first segment longer than distance from front edge of eye to front margin of clypeus, apical segment noticeably shorter than penultimate (subgenus *Methyrus*) 3
2. — > 6.0 mm. Black. Sutural lines on elytra subparallel in anterior quarter
 *E. (Hydatotrephis) mastersi* (MacLeay)
 — < 5.0 mm. Dark testaceous. Sutural lines on elytra noticeably diverging in anterior quarter ..
 *E. (Enochrus) peregrinus* Knisch
3. — Large (> 6.0 mm). Black (pronotum may be reddish at edges) 4
 — Small (< 6.0 mm). With at least the areas in front of eyes reddish-yellow 5
4. — Aedeagus broad reaching little beyond half length of parameres (Fig. 11). Parameres flat ..
 *E. (M.) aliciae* sp. nov.
 — Aedeagus with broad basal piece and long thin apical piece bending upwards and reaching nearly to end of parameres, which also bend upwards (Fig. 10)
 *E. (M.) eubenangeei* sp. nov.
5. — Tips of parameres hooked (c.g. Fig. 4) 6
 — Tips of parameres not hooked (e.g. Fig. 1) 9
6. — Dorsal surface reddish-yellow, rear of head at most somewhat darker. Aedeagus tip strongly crotch-shaped (Fig. 7). Pro-, meso- and metac claws modified in male
 *E. (M.) elongatus* (W. MacLeay)
 — Variably coloured but always with rear of head clearly darker than at least portions of front of head. Aedeagus with little or no dorsal/ventral expansion at tip, males with only proclaws modified 7

7. — Dorsal surface strongly punctured, many punctures on elytra > half size of serial punctures *E. (M.) eyrensis* (Blackburn)
 - Dorsal surface weakly punctured, punctures on elytra < half size of serial punctures 8
8. — Larger (4.5–6.0 mm). Black, except in front of eyes. Aedeagus shorter and apical portion broader (Fig. 6) *E. (M.) isabellae* sp. nov.
 - Smaller (3.0–4.0 mm). Pale morphs common. Aedeagus longer and apical portion thinner (Fig. 4) *E. (M.) deserticola* (Blackburn)
9. — Length <2.8 mm. Front of head $\geq 2/3$ black. Mesosternal keel weak (Fig. 18) *E. (M.) esuriens* (Walker)
 - Not as above 10
10. — Dorsal surface strongly punctured, punctures on elytra as strong as, or stronger than, those on head, many punctures on elytra > half diameter of serial punctures 11
 - Dorsal surface weakly punctured, punctures on elytra tend to be weaker than those on head, punctures on elytra < half size of serial punctures 12
11. — Larger (4.4–5.6 mm). Black morphs present. Aedeagus with moderate apical pad, inner edges of parameres sinuate (Fig. 9) *E. (M.) samae* sp. nov.
 - Smaller (<3.8 mm). No black morphs. Aedeagus narrow with, at most, a weak pad, inner edges of parameres straight (Fig. 12) *E. (M.) malabarensis* Régimbart
12. — Tips of parameres truncated or weakly bifid (Fig. 8) *E. (M.) weiri* sp. nov.
 - Tips of parameres rounded (Figs 1, 2, 3) 13
13. — Aedeagus moderately broad with slight to well-marked apical pad (Figs 1, 2) *E. (M.) maculiceps* (W. MacLeay)
 - Aedeagus narrow, sharply pointed, lacking apical pad (Fig. 3) *E. (M.) pseudoweiri* sp. nov.

DESCRIPTIONS

Subgenus *Enochrus*

Enochrus (Enochrus) peregrinus Knisch, 1922

Types

Lectotype: ♀ 'Sidney Mus. Godeffroy No. 10705, coll. Knisch, coll. d'Orchymont'; 'ex. col. Knisch, No. 5251438, coll. d'Orchymont';

'Knisch det. 1921, *Enochrus peregrinus* m'; 'Coll. A. Knisch, TYPUS', on red card, in IRSNB, herein designated.

Knisch (1922) mentioned three specimens (No. 10705) in the Hamburg Zoological Museum. I have been able to trace only one. He mentioned that one was labelled 'M. Régimbart det. 1905' and the others with 'Wehncke determ'. The surviving specimen, now in Brussels, lacks such a label but would otherwise appear to be part of the syntype series.

Description (number examined, 1)

Length 3.2 mm. Broadly oval. Elytra dark-testaceous, pronotum very slightly lighter, head black except for small indistinct testaceous patch along margin in front of each eye, maxillary palpi light-testaceous, tips darker. Punctures on head moderate, approaching size of eye facet, most separated from each other by at least puncture width. Systematic punctures rather sparse, about twice diameter of adjacent punctures. Pronotum rather weakly and sparsely punctured, serial punctures also relatively small, indistinct, about 2x diameter of adjacent punctures, punctures on elytra stronger than on pronotum, sparse, many 2x diameter or more apart, a little stronger laterally. Serial punctures not traceable. Maxillary palpi short, stout, pseudo basal segment not reaching front edge of eye, apical and penultimate segment subequal in size.

Male: Unknown.

Distribution

Known only from Sydney, the type locality.

Remarks

This unique specimen is separated from all other Australian *Enochrus*, other than the much larger *E. mastersi*, by the short stout maxillary palpi. The masking of the elytral stria punctures is found only in the much larger *E. eyrensis* and *E. samae* and in *E. malabarensis*. *Enochrus malabarensis* differs from *E. peregrinus* by the more normal (for Australian species) maxillary palpi, the more extensive testaceous areas in front of the eyes and lighter coloured elytra. The elytral sutures continue to diverge noticeably in anterior quarter whereas in *E. malabarensis* they are subparallel. Most *E. malabarensis* also have stronger punctures, but this character is variable and tends to be relatively weak in the few Sydney area specimens I have seen. The pronotal punctures in *E. peregrinus* are weaker than those on elytra whereas in *E. malabarensis* they are similar sized.

The fact that only the type specimen is known worries me. For all the other small Australian *Enochrus*, specimens are relatively abundant. Also it is the only known specimen in the Australian region of the subgenus *Enochrus* (Hansen 1990). This is the sort of situation where mislabelling should be considered. This is beyond the scope of this revision.

Subgenus *Hydatotrephis*

Enochrus (Hydatotrephis) mastersi (MacLeay)

Hydatotrephis mastersi MacLeay, 1871

= *Farana simplex* Knisch, 1922: Hansen, 1990

Enochrus (Hydatotrephis) mastersi (MacLeay): Hansen, 1990

Types

Hydatotrephis mastersi: Lectotype: (♀), (round red label), 'K 19501', '*Hydatotrephis mastersi* Mc L.W. Gayndah'. Lectotype: *Hydatotrephis mastersi* W. J. MacLeay designated by M. Hansen 1990', AM.

Farana simplex: Lectotype: (unsexed) 'Sidney Mus. Godeffroy. No. 10704'; '*Philhydrus* x M. Régimbart determ. 1905'; '*Farana simplex* Knisch n.g. et sp. A. Knisch det. 1921', round black label; 'Lectotype *Farana simplex* Knisch designated by M. Hansen 1988', IRSNB. Synonymy after Hansen 1990.

Description (number examined, 71) Figs 14, 19

Size 8.0 mm – 9.1 mm. Broadly oval. Relatively flat. Black; lateral edges of elytra, pronotum and head, palpi and apical portions of legs diffusely dark-testaceous. Maxillary palpi stout, length about width of head in front of eyes, apical and penultimate segments subequal in length, together a little larger than pseudo first segment. Head strongly punctured, each about size of eye facet, most closer than a puncture width apart, systematic punctures 2–3x size of normal punctures. Pronotum with punctures a little smaller, shallower and more separated than on head, systematic punctures well marked, with sharp groove sometimes weak or lacking on front edge. Elytra punctured as on pronotum, each elytron with four rows of larger serial punctures, punctures in rows increasing in both number and scatter towards sides, elytra weakly grooved and flanged laterally, a few scattered large punctures between puncture rows two and three counting from suture. Mesosternal keel cone-like, strongly

raised, narrowly triangular from both lateral and front views, sharply truncated behind just prior to mesocoxal cavities so that no part of the keel extends between mesocoxae.

Male: Aedeagus broad, lacking collar or ventral plate, sides folded in ventrally tending to form broad channel. Parameres stout, broad, narrowing shortly before tips which tend to be turned inward to varying degrees.

Distribution

Australian Capital Territory

Black Mt, ANIC; Canberra, SAMA, ANIC; 3 km E Piccadilly Circus, ANIC; 6 km NE Piccadilly Circus, ANIC.

New South Wales

Allyn River, ANIC; Barrington River, ANIC; Blue Mts, ANIC Chichester St Forrest, ANIC; Coffs Harbour UQIC; Como, ANIC; Galston, SAMA; Lansdowne via Taree, ANIC; Muswellbrook, ANIC; Nerringa, SAMA; 12 km NW Nellinger, ANIC; 2km NE by N Rousmill, ANIC; Salisbury UQIC; Stanwell Park UQIC; Sydney, SAMA, ANIC; Tooloom Plateau via Woodenbong UQIC; Ulladulla, ANIC; Valery, ANIC; Wee Jasper, ANIC.

Northern Territory

30 ml W Alice Springs, SAMA; Stanley Chasm, SAMA.

Queensland

Brisbane UQIC; Bulburin State Forest via Many Peaks UQIC; Bunya Mt, ANIC; Carnarvon UQIC; Discot, ANIC; 13 km SW by S Gordonvale, ANIC; Joalah Nt Pk Tamborine Mt, ANIC; Mt Norman, via Wallangarra UQIC; Mt Spec, ANIC; Upper Cedar Ck, via Sandford UQIC; 8 km E Wallaman Falls, SAMA.

Victoria

Bagots Ck, SAMA; Ferntree Gully UQIC; Healesville, SAMA; 10 mls N of Valencia Creek via Maffra UQIC; Victorian Alps, SAMA.

Remarks

A widespread and relatively common species which, within Australian *Enochrus*, can only be confused with *E. aliciae* and *E. eubenangeei*. It is readily separated from these species by the stout maxillary palpi which have the last two segments subequal instead of having the apical segment about two-thirds the length of the penultimate as

in all other Australian *Enochrus*. The cone-like shape of the mesosternal keel is also diagnostic.

Enochrus mastersi is most frequently confused with a very different, but similar looking and very common species, *Limnoxenus zealandicus*, of the subtribe Hydrobiina. Although very similar in general appearance *Limnoxenus* can be separated from *E. mastersi* by the presence of nine well-marked series of punctures on each elytron, swimming hairs on the meso- and metatarsi and virtual absence of rugose portions on meso- and metafemora.

Subgenus *Methydrus*

Enochrus (Methydrus) aliciae sp. nov.

Types

Holotype: ♂, '15°16'S, 144°59'E, 14 km W by N of Hope Vale Mission, Qld, 8–10 Oct. 1980, T. Weir', ANIC.

Paratypes: 13, same data as holotype, 10 ANIC, 3 SAMA; 1, '12°31'S, 132°54'E, 9 km N by E of Mudginbarry Hs., N.T., 10.vi.1973, T. Weir and A. Allwood, '13985'', NTM.

Description (number examined, 17) Figs 11, 20

Length 7.5 mm – 8.2 mm. Broadly oval, relatively flat. Shiny, black, appendages, apical and lateral edges of head, pronotum and elytra dark-reddish. Maxillary palpi moderately long, pseudo first segment longer than distance from eye to front of clypeus, longer than maxillary stipe, apical segment $\frac{2}{3}$ to $\frac{3}{4}$ length of penultimate. Head strongly punctate, punctures about puncture width apart, about size of eye facet or a little smaller. Systematic punctures large about 3x size of adjacent punctures. Punctures on pronotum similar to or a little weaker than those on head, systematic punctures well marked, 3–4x diameter of adjacent punctures, rear and lateral margins weakly grooved and flanged, front margin grooved to about level of inner edge of eyes. Elytral punctures as on pronotum, more weakly impressed towards rear. Serial punctures in four loose rows, sparse and indistinct, more numerous but more scattered laterally, elytra weakly grooved and flanged laterally. Mesosternal pillar well marked, triangular in both front and lateral views, posterior edge often steeper near top of keel, reaching a short distance between mesocoxae.

Male: Aedeagus very short, broad, rounded, lacking narrower apical section. Parameres squat, inner edge a little sinuate, tips obliquely truncated

on inside or curved weakly outwards. Proclaw straightened with strong basal swelling, mesoclaw thickened, curved with basal swelling, metaclaw straightened and greatly swollen in basal half. In female claws similar but with straightening and basal swelling much weaker.

Distribution

Known only from the type localities in North Queensland and the Northern Territory.

Remarks

Readily separated from all other Australian *Enochrus (Methydrus)*, other than *E. eubenangeei*, by its large size and almost all-black colouring. The very short, broad aedeagus, and weak lateral punctures on the elytra separate it from the otherwise very similar *E. eubenangeei*.

In general appearance it is similar to *E. (H.) mastersi* but readily separated by its longer maxillary palpi with the apical segment shorter than penultimate. See also under remarks in *E. mastersi*.

Enochrus (Methydrus) deserticola (Blackburn)

Philhydrus deserticola Blackburn, 1896

Enochrus (Lumetus) deserticola (Blackburn): Knisch 1924

=*Enochrus mjobergi* Knisch, 1921: syn. nov.

=*Enochrus (Lumetus) mjobergi* Knisch: Knisch 1924

=*Philhydrus temporalis* Régimbart, 1908: syn. nov.

=*Enochrus (Lumetus) temporalis* (Régimbart): Knisch 1924

Types

Enochrus deserticola: *Lectotype*: '5487, Bl. Paisley T' top specimen of two separately carded on same pin, BM(NH), herein designated.

Paralectotypes: 1 unlabelled but mounted below lectotype on same pin, BM(NH); 1 ♂ '5487 Palm Cr', '*Philhydrus deserticola* Blackb. Co-type', SAMA; 3, 'Reedy Hole', NMV; 2, 'Ellery Ck', NMV; 2, 'Paisley Bluff', NMV.

Enochrus mjobergi: *Lectotype*: ♂ 'Cape York Penins'; 'Queensl. Mjöberg'; 'Type', '*Enochrus (Lum.) mjobergi* m. n. sp., A. Knisch 1921'; 'Typus', on red label NRS, herein designated.

Paralectotypes: 1, 'Queensl. Mjöberg Cape York Penins'; 'Sjöstedt don 1921'; 'Ex Coll. Knisch No. 5521544 Coll. d'Orchym'; 'Knis det

Enochrus (*L.*) *mjobergi* m'; Coll. A. Knisch TYPUS', on red card. IRSNB; 3, 'Cape York Penins'; 'Queensl. Mjöberg', NRS. Synonymy after examination of types.

Enochrus temporalis: Holotype: 'Avon R'; 'eaudouce'; '*Philhydrus temporalis*, Reg. TYPUS', MNHN. Synonymy based on descriptions and examination of types (of *E. temporalis* in 1964, not currently available).

Description (number examined, >1000) Fig. 4

Oblong oval, length 3.3 mm – 4.9 mm. Two colour morphs; one with dorsal surface black except light portions in front of eyes, other with elytra and pronotum light testaceous and head dark testaceous to black except for light testaceous area forward from eyes and a little wider than eyes, leaving central darker panel of variable width on front of head, underside dark testaceous, appendages lighter towards extremities except for maxillary palpi which usually have apical portion of last segment darker. Head covered with small, sharply impressed, well separated punctures a lot smaller than eye facets, a group of large punctures inwards from each eye, at least 4x diameter of other punctures. Punctures on pronotum as on head, but more shallowly impressed, systematic punctures as in *E. elongatus*, four or more times diameter of adjacent punctures. Elytral punctures increase somewhat in strength apically and laterally, serial punctures large, sparse and quite distinct at apex, interstitial punctures varying from weak to almost obsolete.

Mesosternal keel well developed, front edge nearly perpendicular, ventral edge straight or slightly convex.

Male: Aedeagus pointed, with weak dorsal pad at tip, collar a bit closer to tip than base. Parameres outwardly hooked at tips. Proclaw with basal lobe and rest of claw somewhat straightened. Meso- and metaclaws, with slight basal lobes, weakly curved.

Female: Claws only slightly weaker than males.

Distribution

New South Wales

Bonville, ANIC; Chichester SF, ANIC; Clarence River, NMV; Coff's Harbour, ANIC; Fowlers Gap, ANIC; 10 km N Jabiru, QDPIM; Lord Howe Island, SAMA; Moree, SAMA; Valery, ANIC; Wootton, ANIC.

Northern Territory

Adelaide River, ANIC; E Alligator River, AM; Bessie Spring, ANIC; Berry Spring, ANIC; 45

km SW by S Borroloola, ANIC; 7 km NW by N Mt Cahill Crossing East Alligator River, ANIC; 8 km N Mt Cahill, SAMA; 12 km NNW Mt Cahill, SAMA; 14 km S by W Cape Crawford, ANIC; Cooper Creek, ANIC; Daly River Mission, ANIC; 170 km E Daly Waters, SAMA; Darwin, ANIC, SAMA; Ellery Ck, NMV; 15 km S Elliot, SAMA; Harst Bluff, NMV; 12 km NE Humpty Doo, QDPIM; Jim Jim Creek, ANIC; Koogarra, ANIC; 4 km N McArthur R Stn, SAMA; 19 km SSE Mataranka, SAMA; 5 km E Mataranka, SAMA; Nourlangie Creek, ANIC; 18 km E by N Oenpelli, ANIC; Paisley Bluff, NMV; Pine Creek, QDPIM; Reedy Hole, NMV; 46 km S Renner Springs, SAMA; Stanley Chasm, SAMA, ANIC; 100 km W Tennant Creek, QDPIM; Tindal, ANIC; Wessel Island, ANIC.

Queensland

Ashmore, QM; Atherton, ANIC, QDPIM; 31 km NE Aramac, SAMA; Bakerville, QDPIM; Bamaga, SAMA; Brisbane, QM, UQIC; Benaraby, ANIC; 5 mls N Bloomfield River, ANIC; Bundaberg, ANIC; Bunya Mts, ANIC; Burketown, QM; Cairns, ANIC, SAMA; Calliope River, ANIC; Camooweal, QDPIM; Cape Tribulation, ANIC; Cardstone, ANIC; Chillagoe Creek, ANIC, QDPIM; Coen, QDPIM; 60 km S Coen, SAMA; Mt Coolum, ANIC; Cooktown, ANIC; 30 mls N Cooktown, UQIC; Crystal Creek, ANIC; Cunningham's Gap, ANIC; Dalhenty River, SAMA; Edungalba, ANIC; 5 km NE Edungalba, SAMA; Eidsvold, ANIC; Emu Park, UQIC; Fletcher, QM; Gayndah, UQIC; Mt Garnet, ANIC; Greenhills, ANIC; Home Hill, QDPIM; Ingham, ANIC, SAMA; Mt Inkerman, ANIC; Iron Rng, QDPIM; Julatten, ANIC; Julia Creek, SAMA; Kenilworth SF, UQIC; Kingaroy, ANIC; Kuranda, ANIC, SAMA; Laura, QDPIM; 70 km N Laura, QDPIM; 25 km N Laura, QDPIM; Mt Lewis, ANIC; Mackay, ANIC; Magnetic Isl, SAMA; Malanda, SAMA; 23 km E Marceba, QDPIM; Mary Creek, ANIC; Melvor, ANIC; 21 mls S Miriam Vale, ANIC; 100 mls S Miriam Vale, UQIC; Mission Beach, ANIC; 3 mls W Mourilyan, ANIC; Mornington Isl mission, SAMA; 5 km W Mossman, QM; Mossman George Nt Pk., UQIC; Mossman George, ANIC; Normanton, QDPIM; Oxley Ck, QM; Paluma Dam, ANIC; 9 km W Paluma, QDPIM; Prince of Wales Isl, NMV; 8 mls NE Proserpine, ANIC; Rocklea, QM; Stanthorpe, QM; Mt Spec, ANIC; Stewart Rng, SAMA; Tolga, SAMA; Townsville, ANIC, NMV, SAMA; 9 km ENE Mt Tozer, ANIC; Weipa, QDPIM;

Windsor Tableland, QDPIM; Yamba, UQIC; Yungaburra, QDPIM.

South Australia

Arkaba Creek, SAMA; Mambray Creek, SAMA; Marne River., SAMA; Mt Remarkable, SAMA; 6 km E Nilpinna, SAMA.

Victoria

Dimboola, ANIC; Genoa, ANIC; Sea Lake, SAMA.

Western Australia

6 km NNW Broome, ANIC; Beverley Springs, WAM; Cadjeput Rockhole, WAM; Charnley River, 25 miles N Beverley Springs, WAM; Derby, SAMA; Drysdale River, ANIC; 7 miles NE Giles, WAM; Gill Pinnacle, WAM; Hammesley Rng, SAMA; Koolan Island, WAM; 6.5 km N Mt Bell, WAM; Kununurra, ANIC, QDPIM; Millstream, ANIC; 5 km SE Millstream HS., ANIC; Mitchell Plateau, ANIC; West Peewah River, ANIC; Synnott Range, WAM; 14°53'S, 125°45'E, SAMA.

Remarks

A relatively large species showing considerable variation in size, colour and strength of dorsal punctation making its identification difficult without dissection. The two colour morphs are well marked and occur together in the same populations. Occasional specimens have an intermediate dark-testaceous dorsal surface to a variable extent. It is my impression that the dark form is more common in the north where it is the dominant form in many areas. The black morphs are readily identified by their weak to moderate punctation contrasting markedly with the strong punctation in the two other species with black morphs, *E. eyrensis* and *E. samae*. It is also the only species with the combination of tips of the parameres hooked, weak to moderate dorsal punctures and black patterning on the head. In the North-east the species overlaps with *E. weiri* and *E. pseudoweiri*. These can be separated from most *E. deserticola* by the lack of black morphs, somewhat stronger punctation, pale tips to the maxillary palpi and the small amount of black on the front of the head. An occasional specimen of *E. deserticola* may also have pale palpi tips and much reduced black on the front of the head.

Over most of its range *E. deserticola* is sympatric with *E. maculiceps*. The two species are readily separated by the male genitalia and presence of black morphs in *E. deserticola*. I

have, however, been unable to reliably separate light coloured females. In general *E. deserticola* are larger and more weakly punctured but considerable character overlap occurs between the two species.

In more southern areas *E. deserticola* overlaps with *E. eyrensis*, *E. samae* and *E. elongatus* but can be separated from all three by the much weaker punctation and in the case of *E. elongatus* by the well-marked dark patterning on the head which *E. elongatus* lacks.

Enochrus (Methydrus) elongatus (W. MacLeay)

Philhydrus elongatus W. MacLeay, 1873

Enochrus (Lumetus) elongatus (W. MacLeay) Knisch, 1924

= *Philhydrus caledonicus* Fauvel, 1883: syn. nov.

= *Enochrus caledonicus* (Fauvel): Knisch, 1924

Types

Enochrus elongatus: Lectotype: 'Philhydrus elongatus Gayndah McL W'; 'K19506'. Right-hand specimen of two mounted on same card, AM herein designated.

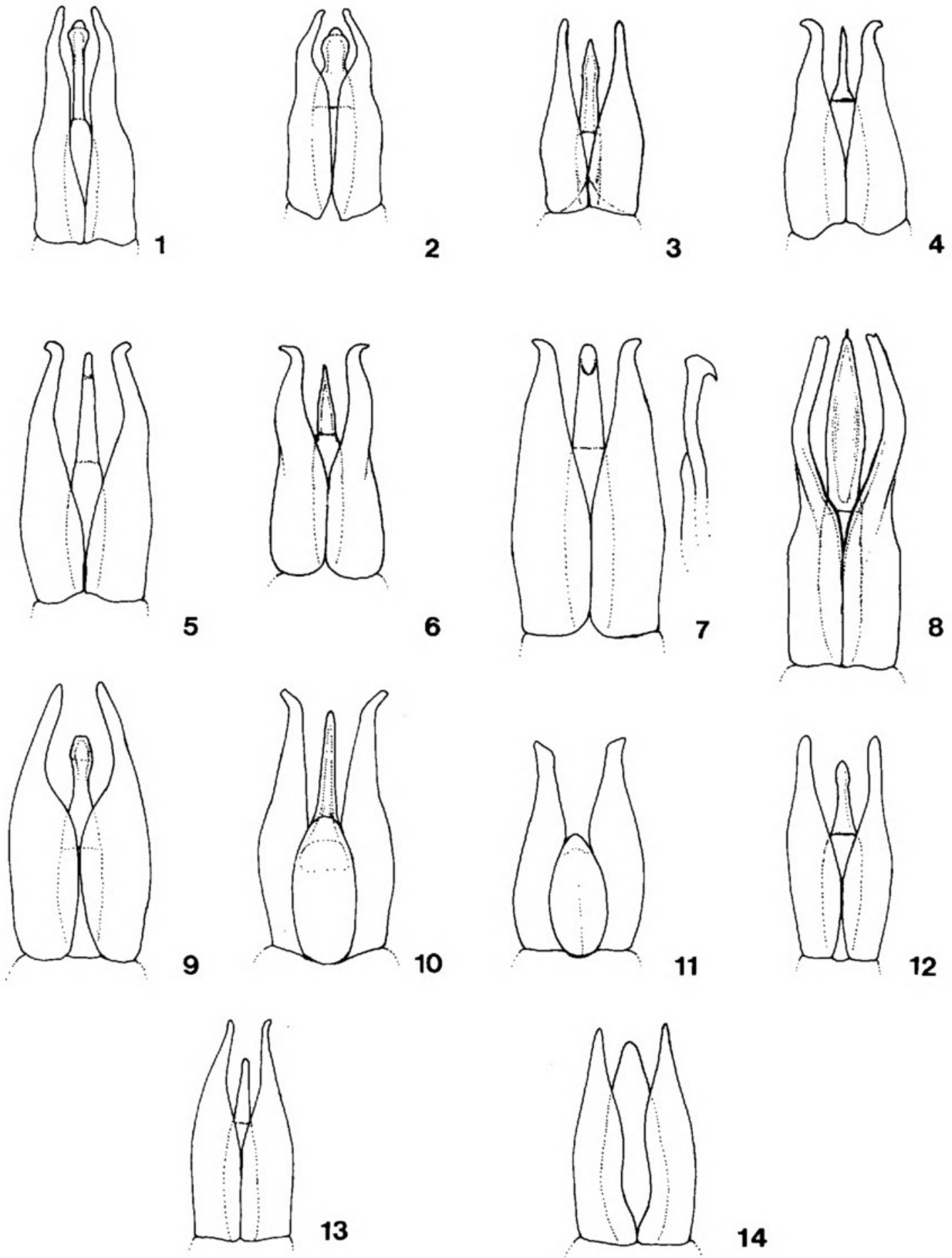
Paralectotypes: 1, same data as lectotype, left-hand specimen, AM; 3, on same card, same data as lectotype, ANIC; 1, 'Philhydrus elongatus McL', 'Griffith Collection Id by A. M. Lea', 'Co-Type', SAMA; 1, 'Philhydrus elongatus M. Queensland cotype 14629', SAMA.

Enochrus caledonicus: Lectotype: 'm', 'Nouvelle Caledonie. Noumea Marais Anse Vata, Octobre Savés, ex. coll. Fauvel', 'Coll. et det. A. Fauvel Philhydrus caledonicus Fvl', '17-479', 'lectotype' on red label. Remounted with genitalia dissected out, IRSNB.

Paralectotypes: 1, 'Nouvelle Caledonie Kanala, Rec. Coste, ex coll. Fauvel'; 'Coll. et det A. Fauvel Philhydrus caledonicus Fvl.' '17-479', 1, 'Nouvelle Caledonie. Anse Vata, Nouméa Savés', 'Coll. et det A. Fauvel Philhydrus caledonicus Fvl,' IRSNB. Synonymy after examination of types.

Description (number examined, 330) Fig. 7

Elongate oval, body flattish, length 4.4 mm – 5.0 mm. Dorsal surface testaceous, diffusely blotched, lighter towards sides, rear of head often diffusely darker but never distinctly darker than rest of head. Ventral surface dark red-brown, apical portions of legs lighter, palpi light testaceous, tips of maxillary palpi dark brown. Head covered with small sharply impressed, well



FIGURES 1-14. Dorsal views of apical portion of male genitalia. 1 & 2, *E. maculiceps* showing range of variation; 3, *E. pseudoweiri*; 4, *E. deserticola*; 5, *E. eyrensis*; 6, *E. isabellae*; 7, *E. elongatus*, lateral view of median lobe; 8, *E. weiri*; 9, *E. samae*; 10, *E. eubenangeei*; 11, *E. aliciae*; 12, *E. malabarensis*; 13, *E. esuriens*; 14, *E. mastersi*.

separated punctures, quarter to half size of eye facet, a dozen or so much larger punctures inwards from each eye. Pronotum similarly punctate, a row of systematic punctures about 3x diameter of adjacent punctures running inwards from each front corner and smaller group of similar punctures a little behind middle on each side. Elytral punctures slightly stronger than those on pronotum, stronger laterally than on disc. Serial punctures, larger, sparse, hard to trace towards apex. Underside evenly setose-punctate, rugose portions of femur, approximately three quarters length of femur. Mesosternal keel well developed, anterior edge curved somewhat, nearly perpendicular, ventral edge flat or slightly convex. Notch on apical sternite small but well marked.

Male: Aedeagus with crotchet-shaped hook at tip. Tips of parameres outwardly hooked. Metac claws with enlarged basal lobe and rest of claw straightened. Pro- and mesoc claws curved with thickened basal portion.

Female: Claws curved with thickened basal portions.

Distribution

Australian Capital Territory

Black Mt, ANIC.

New South Wales

Albury, ANIC; Allyn River, NMV; Armadale, ANIC; Balranald, ANIC; Bathurst, AM; Bogan River, AM; 20 mls SSW Bourke, SAMA; Broken Hill, SAMA; Coonabarabran, AM, ANIC; Cowra, AM; Ecclestone, AM; Hay, ANIC; 37 km E Hay, SAMA; Mt Kaputar Nat. Pk., ANIC; Kosciusko Nt Pk., ANIC; Lake Menindie, SAMA; Menindie, SAMA; Narrabri, ANIC; Norfolk Island, ANIC; 97 km S Tibooburra, NMV.

Northern Territory

53 km NE Alice Springs, ANIC; 12 km SW by W Alice Springs, ANIC; Top of Ayers Rock, WAM; 97 km N Barrow Ck, SAMA; 30 km NE by E Borroloola, ANIC; Ellery Creek, NMV; Finke, SAMA; Glen Helen, NMV; Stanley Chasm, ANIC; 15 km East, Vaughan Spring, HS, ANIC.

Queensland

Bollon Dist, AM; 42 km Boulia, ANIC; Bunya Mts, UQIC; Camooweal, QDPIM; Edgbaston HS, SAMA; 5 km NE Edungalba, SAMA; Glen Alpin, UQIC; Helidon, UQIC; 6 km E, Kamma, ANIC; Mackay, ANIC; MacPherson Rng, Nt Pk., AM; Marmor, ANIC; Mt Isa, QDPIM; Mt Spec,

ANIC; Normanton, QDPIM; Tolga, QDPIM; Toowoomba, UQIC.

South Australia

Aroona Dam, SAMA; Mt Barr, ANIC; Old Billa Kallina HS, SAMA; Blanche Cup Spring, AM; Broken Hill, AM; Coopers Creek, SAMA; Coward Sp., SAMA; 16 km E Curdimurka, SAMA; 36 km ESE Curdimurka, ANIC; 11 km NE by Etadunna HS, ANIC; Gawler Rngs, SAMA; Lake George, ANIC; Mt Lofty Rng, AM; Mannum, SAMA; Marne River, SAMA; McDovall Peak, UQIC; Murray Bridge, AM, SAMA; Olary, ANIC; Oodnadatta, SAMA; Paralana Hot Springs, SAMA; Quorn, AM; Renmark, SAMA; Roonka Stn, SAMA; Roseworthy, SAMA; Scorpion Springs CP, SAMA; River Torrens, SAMA; Warburton, River, ANIC; Wearing Gorge, SAMA; Willochra Ck, SAMA.

Tasmania

15 m N Waratah, UQIC.

Victoria

Eppalock Res., NMV; Eustace Gap Ck, NMV; King Lake Nt Pk., NMV; Kiata, NMV; La Trobe River, NMV; Lake Hattah, ANIC; Lilydale, SAMA; Little Desert, ANIC; Lake Hattah, NMV; Marysville, SAMA; Melbourne, UQIC; Preston, NMV; Shepparton, ANIC; Skeleton Ck, SAMA; Stawell, SAMA; Swan Hill, NMV; Traralgon Ck, NMV; Violet Town, ANIC; East Warburton, NMV; Wyperfeld Nt Pk, ANIC.

Western Australia

15 km SSE Armadale, ANIC; 102 km SE by E, Broome, ANIC; 12 km NE Broome, ANIC; Bunbury, ANIC; 23 km NW by W Mt Arid, ANIC; 7 miles NE Giles, WAM; Gill Pinnacle, WAM; Great Victoria Desert, WAM; Mary sp. HS, ANIC; 13 km ESE Mooka H.S., WAM; Koolan Island, WAM; Serpentine River, NMV; West Peawah River, ANIC; Wilga, ANIC; Wingello, ANIC.

Remarks

Enochrus elongatus differs from all other Australian *Enochrus* by the pale coloured dorsal surface including the head. It is the only Australian species with the tip of the aedeagus distinctly hooked upwards and with a basal swelling on the meta- and mesoc claws as well as the proclaws.

The rear of the head is variably coloured. In many specimens it is darker than the front of the

head, but diffusely so and never black and sharply delineated from the front as in most other species.

Enochrus elongatus superficially resembles the pale morphs of *E. deserticola* and *E. eyrensis* in size and colour. It also shares with them, and no other Australian species, the hooked parameres. Unlike them the black colour morph common in these two species does not appear to occur in *E. elongatus*. In both *E. deserticola* and *E. eyrensis* the head is predominantly black with only small patches of yellow-brown on the front angles. In *E. elongatus* the head is uniformly yellow-brown or the rear is diffusely darker. In *E. deserticola* the dorsal punctation is much weaker than in *E. elongatus* and in *E. eyrensis* it is stronger.

Enochrus elongatus is a widespread and common species within Australia including Norfolk Island. I can find no significant difference between Australian specimens and the types of *E. caledonicus* thus extending the range of *E. elongatus* to New Caledonia.

Enochrus (Methydrus) esuriens (Walker)

Philhydrus esuriens Walker, 1858

Enochrus (Lumetus) esuriens (Walker): Knisch 1924

Enochrus (Methydrus) esuriens (Walker): d'Orchymont 1927

= *Philhydrus pullus* Fauvel, 1883: syn. nov.

= *Enochrus (Lumetus) pullus* (Fauvel): Knisch 1924

Types

Enochrus esuriens: Type locality: Ceylon (Sri Lanka). Type not seen.

Enochrus pullus: *Lectotype*: ♂ 'Coll. IRSNB, Nouvelle Calédonie, Anse Vata, Marais Juill Octobre Rec. Savès, ex. coll. Fauvel'; 'Coll. et det A. Fauvel *Philhydrus pullus* Fvl. IRSNB 17-497', IRSNB with red lectotype label, herein designated. Seen.

Paralectotypes: 3 ♂, 1 ♀, same data as lectotype in IRSNB.

I have not seen type material of *E. esuriens* and have relied on the work of Balfour-Browne (1939, 1945) and specimens identified by him in BM(NH) for my concept of this widespread species which is known from India, through South-East Asia to Northern Australia and Polynesia.

Description (number examined, 130) Figs 13, 18
Length 1.6 mm – 2.3 mm. Oblong-oval. Elytron

and pronotum light-testaceous, often blotched and streaked darker, head black, area in front of eye, to about width of eye light-testaceous, central black panel two to three times width of lateral light area. Ventral surface dark-testaceous, appendages lighter towards extremities, whole of apical segment of maxillary palpi usually darker. Punctures on head moderately strong, systematic punctures inwards from eyes about size of eye facet and about twice diameter of adjacent punctures. Punctures on pronotum somewhat weaker, punctures on elytra somewhat stronger than on head, those towards apex and laterally about half diameter of adjacent serial punctures which are often not easy to trace. Mesosternal keel weakly developed.

Male: Aedeagus narrow, pointed, virtually lacking terminal dorsal pad, shorter than parameres, collar nearer base than tip, parameres broad in basal half narrow for most of apical half, inner edge only very weakly sinuate, tips rounded. Proclaw straightened, strongly swollen at base, meso- and metac claws rounded, swollen at base.

Distribution

New South Wales

Wootton, ANIC.

Northern Territory

Adelaide River, ANIC; E Alligator River, AM; Darwin, ANIC; Humpty Doo, QDPIM; 12 km N Humpty Doo, QDPIM; 6 km N Humpty Doo, QDPIM; Jim Jim Creek, ANIC; 9 km N by E Mudginbarry HS, ANIC; 19 km E by S Mt Borradaile, ANIC; 12 km NNW Mt Cahill, ANIC; Nourlangie Creek, ANIC; Oenpelli, AM.

Queensland

Annan Falls, ANIC; Ayr, ANIC; 29 km S Bamaga, ANIC; Cairns, ANIC, SAMA; Calliope River, ANIC; Cardstone, ANIC; 60 km S Coen, SAMA; 40 km N Coen, SAMA; Ingham, ANIC; Lansdowne St, ANIC; 73 km NW Laura, ANIC; Laura, QDPIM; Macleod River, SAMA; Mackay, ANIC; Mareeba, QDPIM; Mary Creek, ANIC; Mt Baird, ANIC; Mt Coolum, ANIC; Mt Ivor River, ANIC; Mt Molloy, ANIC; 2 km NNE Mt Tozer, ANIC; 11 km ENE Mt Tozer, ANIC; 8 km E by N of Mt Tozer, ANIC; 12 km S Normanton, SAMA; North Pine River, UQIC; Port Douglas, ANIC; Redcliff, UQIC; 15 km WNW South Johnstone, QDPIM; Townsville, ANIC, SAMA; Weipa, QDPIM.

Western Australia

Mitchell Plateau, ANIC; Nullagine, WAM.

Remarks

Enochrus esuriens' small size (<2.5 mm), predominantly black head and weak mesosternal keel make it one of the most readily recognised species of Australian *Enochrus*. It is most easily confused, not with other *Enochrus*, but with species of *Paracymus* and *Anacaena*. These latter genera lack the systematic punctures present on the head, pronotum and elytra of *Enochrus*.

Enochrus (Methydrus) eubenangeei* sp. nov.Types*

Holotype: ♂, 'Qld. Babinda Eubenargee Swamp, 1/4/96, C. Watts', SAMA.

Paratypes: 6, 'Bramston Beach via Innisfail, N.Q., 15 Aug. 1987, A. Walford-Huggins, coastal melaleuca swamp at light', ANIC; 1, 'N.T. Corndorl billabong nr. Jabiru, M.V. light, 2.x.1982, M.B. Malipatil', NTM.

Description (number examined, 8) Fig 10

Length 7.0–7.5 mm. Broadly oval, relatively flat. Shiny. Black; palpi and tarsi testaceous. Maxillary palpi moderately long, pseudo first segment longer than distance from eye to front of clypeus, longer than maxillary stipe, apical segment approximately three-quarters length of penultimate. Head strongly punctate, most punctures about a puncture width apart, almost size of eye facet. Systematic punctures large, about 3x size of adjacent punctures. Punctures on pronotum well marked, similar to those on head, not greatly weaker laterally, systematic punctures well marked about 3x size of adjacent punctures, lateral margins grooved and flanged, front and rear margins weakly grooved. Elytral punctures as on pronotum, not greatly weaker laterally. Serial punctures in four loose rows, relatively well marked, more numerous but more scattered laterally, elytra weakly grooved and flanged laterally. Mesosternal pillar well marked, sharply triangular in front view, front edge sloping, ventral edge short slightly pointed at rear, rear edge vertical in top half. Notch on apical sternite shallow, relatively broad.

Male: Aedeagus with very broad basal portion and narrow apical portion which is curved upwards. Parameres relatively broad, hooked outwards at tips, bent upwards in apical half. Proclaws bent, broadly thicker in basal third,

thickened part ends abruptly, meso- and metaclaws curved, basal third somewhat thickened, thickened part ending smoothly.

Remarks

Enochrus eubenangeei closely resembles *E. aliciae*. Apart from the genitalia it differs from *E. aliciae* in the lateral punctures on pronotum and elytra being almost as strong as more central ones and a greater extent of black. Based on the relatively few specimens of both species that are available *E. eubenangeei* also differs from *E. aliciae* by its black head, whereas in many *E. aliciae* the head has some testaceous colour, and by the broader but narrower exposure of the membrane between frons and clypeus than in *E. aliciae* where it is shorter but deeper.

The aedeagi are distinct. *Enochrus eubenangeei* has a normal narrow apical portion to the aedeagus, without apical pad but bending strongly upwards. *Enochrus aliciae* has a very broad basal portion but, uniquely among Australian *Enochrus*, lacks the apical portion, resulting in the aedeagus reaching little beyond half way along the parameres. The parameres are rather similar but the tips are more obviously hooked in *E. eubenangeei* and they bend noticeably upward in this species.

In its relatively large size, rounded shape and shiny, black appearance, *E. eubenangeei* also resembles *E. mastersi*. It, and *E. aliciae*, can be most readily separated from this more common species by the longer maxillary palpi with the apical segment shorter than the penultimate. The only other species it could be confused with is *E. isabellae* which is smaller, narrower, has light areas in front of its eyes and has the mesosternal process long and blade-like.

Distribution

Known only from type localities in Northern Territory and Queensland.

***Enochrus (Methydrus) eyrensis* (Blackburn)**

Philhydrus eyrensis Blackburn, 1894

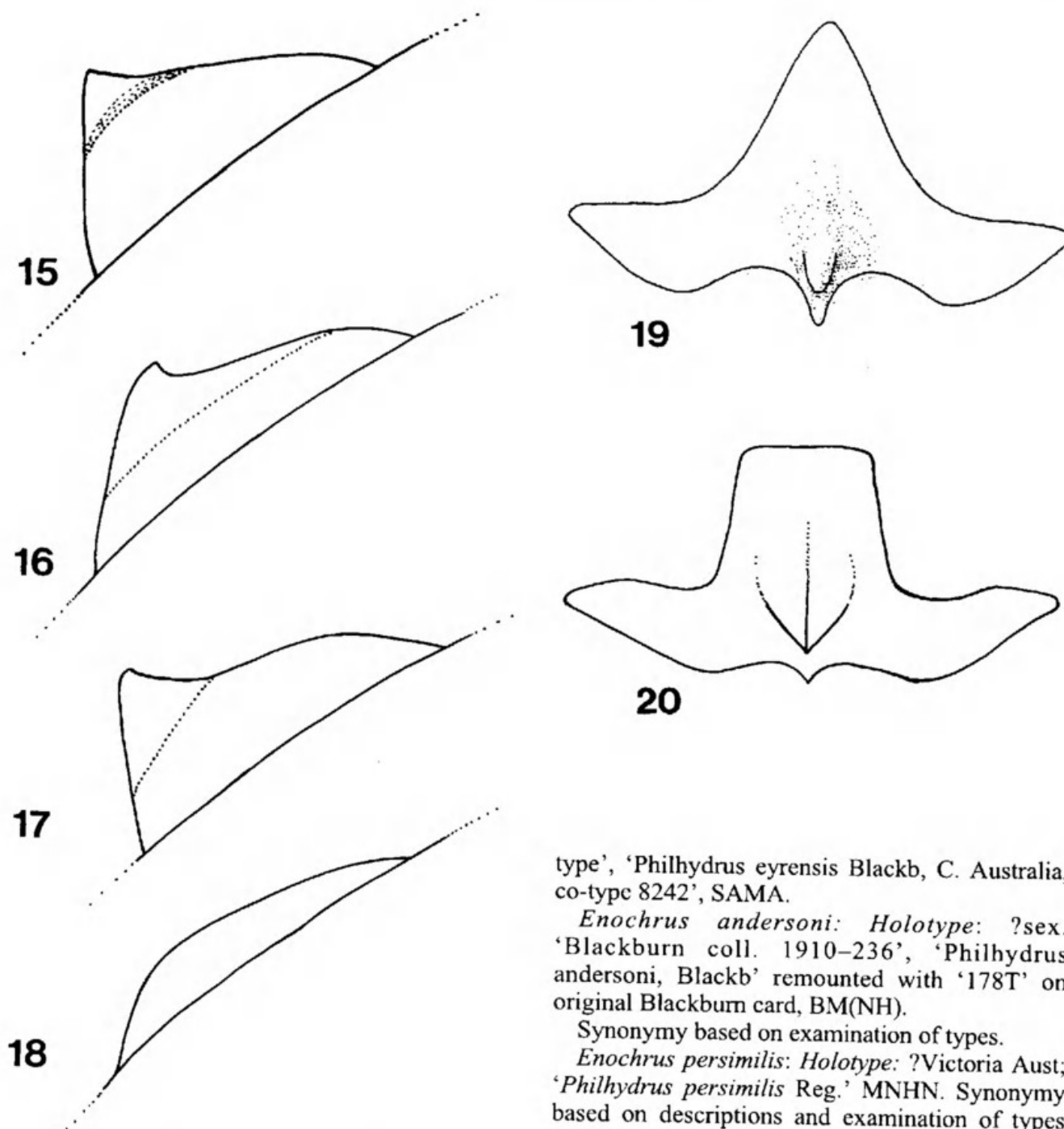
Enochrus (Lumetus) eyrensis (Blackburn):
Knisch 1924

= *Philhydrus andersoni* Blackburn, 1896: syn. nov.

= *Enochrus (Lumetus) andersoni* (Blackburn):
Knisch 1924

? = *Philhydrus persimilis* Régimbart, 1908: syn. nov.

? = *Enochrus (Lumetus) persimilis* (Régimbart):
Knisch 1924



FIGURES 15–20. Mesosterna. 15–18, Lateral view of mesosternal keel. 15, *E. samae*; 16, *E. eyrensis*; 17, *E. maculiceps*; 18, *E. esuriens*. 19 & 20, mesosternum. 19, *E. mastersi* (after Hansen 1990); 20, *E. aliciae*.

Types

Enochrus eyrensis: Holotype: ♀, 'Blackburn coll. 1910–236', 'Philhydrus eyrensis Blackb', remounted with '178T' on original Blackburn card, BM(NH),

Paratypes: 2 'Philhydrus eyrensis Blackb co-

type', 'Philhydrus eyrensis Blackb, C. Australia, co-type 8242', SAMA.

Enochrus andersoni: Holotype: ?sex. 'Blackburn coll. 1910–236', 'Philhydrus andersoni, Blackb' remounted with '178T' on original Blackburn card, BM(NH).

Synonymy based on examination of types.

Enochrus persimilis: Holotype: ?Victoria Aust; 'Philhydrus persimilis Reg.' MNHN. Synonymy based on descriptions and examination of types (of *E. persimilis* in 1964, type not currently available). It is possible that my *E. samae* will prove to be this species.

Description (number examined, 146) Figs 5, 16

Oblong-oval, length, 3.2 mm – 5.0 mm. Two colour morphs exist, one with elytra and pronotum testaceous often with sutural lines and striae punctures darker, occasionally with disc of pronotum darker, head dark-testaceous to black with lighter area forward from eyes to about the same width as eyes giving a darker central panel three to four times the width of one of the lighter patches, clypeus dark. Second colour morph has the elytra dark-testaceous or black, pronotum a

similar colour but quite widely but diffusely lighter laterally, head as for first colour morph. Underside of both morphs dark-testaceous, appendages lighter towards extremities, except for maxillary palpi which have apical portion of apical segment darker.

Head quite densely covered with relatively strong punctures about half size of eye facet, a few large punctures inwards from eyes, 2–3x diameter of surrounding punctures. Punctures on pronotum slightly stronger, systematic punctures as in *E. elongatus*, 2–3x diameter of adjacent punctures. Punctures on elytra rather stronger than on pronotum, towards apex approaching size of serial punctures, which, as a consequence, are hard to trace.

Mesosternal keel well developed, anterior edge weakly curved, nearly perpendicular, ventral edge straight or weakly convex, narrow vertical 'blade' above an extensive broader base. Notch on apical sternite moderately developed.

Male: Aedeagus narrow, pointed, virtually lacking terminal dorsal pad, collar nearer base than tip. Parameres outwardly hooked at tip. Proclaw a little longer, less curved than in female, otherwise little sexual difference in claws.

Distribution

Australian Capital Territory

Black Mt, ANIC; Jarvis Bay, ANIC.

New South Wales

Bonville, ANIC; 25 km N Bulahdelah, ANIC; Maroota South, ANIC; 8 km SE by S Moruya, ANIC; Norfolk Island, ANIC; Queanbeyan, ANIC; 17 mls S Woodburn, ANIC; Wootton, ANIC.

South Australia

Adelaide, SAMA; American River, SAMA; Beachport, AM, SAMA; Bool Lagoon, SAMA; Coonalpyn, SAMA; Fairview Park Cons Pk, SAMA; Hindmarsh Park, SAMA; Lucindale, SAMA; Naracoorte, UQIC; Taratap Stn, SAMA.

Tasmania

Scamanden River, NMV; Swansea, SAMA.

Victoria

East Pomborneit, ANIC; Lorne, SAMA; Maffra, UQIC; Otway Rngs, UQIC; Wyperfeld Nt Pk, ANIC.

Western Australia

Albany, ANIC; Applecross, ANIC; Broomehill,

WAM; Dumbleyung, WAM; 5 km NE Esperance, ANIC; 63 mls E Esperance, ANIC; 9 mls NE by N Esperance, ANIC; 19 km E Esperance, ANIC; 5 km NW Esperance, ANIC; Fitzgerald River Nt Pk, ANIC; Karridale, ANIC; Maidavale, SAMA; Mt Margaret, ANIC; Mandurah, ANIC; 23 km NW by N Mt Arid, ANIC; Perth, ANIC; 8 mls E Pinjarra, ANIC; Stirling Rngs, SAMA; 12 km NE Wanneroo, WAM; 155 km SW Warburton, WAM; Wilga, ANIC.

Remarks

This relatively large species is common in both the south-east and south-west.

The relatively strong dorsal punctation separates it from all other Australian *Enochrus* except *E. samae* and the generally much smaller *E. malabarensis*. *Enochrus malabarensis* is also a more northern species and lacks black morphs. From *E. samae*, *E. eyrensis* differs in having the parameres hooked at the tips rather than rounded and in a higher, more blade-like mesosternal keel. This latter character is, I believe, a good one but is hard to see on many specimens and is difficult to use if comparative material is not available.

Enochrus eyrensis appears close to *E. tristis* (Broun) from New Zealand and some Pacific Islands in the hooked parameres and strong punctations. It differs from this species in having the apical portion of the aedeagus shorter than the basal and in rounded, not slightly straightened, male metac claws. *Enochrus eyrensis* differs from *E. abditus* (Sharp) from New Zealand, in details of the aedeagus and mesosternal keel.

Enochrus (Methydrus) isabellae sp. nov.

Types

Holotype: ♂, right-hand specimen on card, 'Qld. Townsville, 10 km NW, 23/3/96, C. Watts', SAMA.

Paratypes: 7, same data as holotype, SAMA; 3, 'Ayr Qld., 10.ix.1990, W.B. Muir', in ANIC; 1, 'Ingham, N.Q., 27.i.68, J.C. Brooks', ANIC; 1, 'Blighs Lookout, Cardwell Rng, N.Q. at light, 30.ix.67, J. Brooks', ANIC; 1, 'Bramston Beach via Innisfail, N.Q., 15.viii.1987, A. Walford-Huggins. Coastal melaleuca swamp at light', in ANIC; 6, 'Qld. Nardello's Lagoon nr. Mareeba 29/3/96, C. Watts', SAMA.

Description (number examined, 14) Fig 6

Length 4.5 mm – 5.5 mm. Oval, shiny. Black apart from lateral areas of pronotum, region in

front of eyes and appendages which are reddish-yellow. Tips of maxillary palpi darker. Head quite densely punctate, with weak to moderately sized punctures, systematic punctures rather sparse, somewhat larger than an eye facet and 2–3x size of adjacent punctures. Pronotum and elytra similarly punctured except that systematic punctures a bit larger in comparison with others. Mesosternal keel well-developed, narrow, often with small protuberance on anterior end.

Male: Claws on protarsi more bent than in female with broad basal portion. Parameres hooked apically, aedeagus with apical portion shorter than basal, relatively broad, narrowing rapidly at tip, slight but noticeable dorsal thickening at tip.

Distribution

Known only from type localities in Queensland.

Remarks

A relatively large nearly totally black species. It strongly resembles the black morphs of *E. eyrensis* and *E. samae* but is much more weakly punctured, has a shorter apical portion of the aedeagus than in *E. eyrensis* and has hooked parameres which distinguish it from *E. samae*. Compared to the black morph of *E. deserticola* which occurs sympatrically with it, it is larger, more strongly punctured and has more extensive black on the front of the head than is normal in *E. deserticola*. The male genitalia are relatively similar to those of *E. deserticola* but *E. isabellae* has a broader and shorter apical portion to the aedeagus with a more developed apical dorsal/ventral thickening. From *E. elongatus* it can be separated on colour, generally weaker punctation, weaker apical hook on aedeagus which ends well short of tips of parameres and lack of modified meso- and meta-claws in the males.

The Townsville and Nardello's Lagoon specimens were collected from shallow water among thick drying reeds at the edge of extensive shallow swamps.

Enochrus (Methydus) maculiceps (MacLeay)

Philhydus maculiceps MacLeay, 1873

Enochrus (Lumetus) maculiceps (MacLeay):
Knisch 1924

= *Philhydus laevigatus* Blackburn, 1888: syn. nov.

= *Enochrus (Lumetus) laevigatus* (Blackburn):
Knisch 1924

= *Philhydus artensis* Fauvel, 1883: syn. nov.

= *Enochrus (Lumetus) artensis* (Fauvel): Knisch 1924

= *Enochrus (Lumetus) bryani* d'Orchymont,
1927: syn. nov.

Types

Enochrus laevigatus: **Holotype:** 'Philhydus laevigatus Blackb', BM(NH), 'Blackburn coll. 1910–236'. Remounted with '1552T' on original Blackburn label. Synonymy based on examination of types.

Enochrus maculiceps: **Lectotype:** Male. 'Philhydus maculiceps McL W. Gayndah', 'K19505'. Right-hand specimen of two mounted on same card, AM, herein designated.

Paralectotypes: 1, on same card as lectotype, AM; 2, same data as lectotype and mounted on one card, in ANIC; 'Philhydus maculiceps McL. 'Co-type' Griffith collection id by A.M. Lea'; 1, 'Philhydus maculiceps McL. Queensland co-type 14631', SAMA. Synonymy based on examination of types.

Enochrus artensis: **Holotype:** 'Nouvelle Caledonie Ile Art', 'Rec. ex. coll. Fauvel', 'Coll. et det. A. Fauvel *Philhydus artensis* Fvl', with red Holotype label, IRSNB.

Paratype: ♀, 'Nouvelle Caledonie Kanata Re Deplénche ex. coll. Fauvel'; 'Coll. et det. A. Fauvel *Philhydus artensis* Fvl, IRSNB 17–479', with orange paratype label, IRSNB. Synonymy based on examination of types.

Enochrus bryani: **Holotype:** 'Savaii Samoa', 'Salailua v-22-24', 'H. Bryan Jr, Collector', ♂, 'Type', 'A. d'Orchymont det, *Enochrus (Lumetus) bryani*', Bishop Museum, Honolulu.

Paratype: '*Enochrus (Lumetus) bryani* A. d'Orchymont det'; 'Samoan Is. Apia Upolu Is'; 'female' 'I Samoa Mars 1924 Coll. d'Orchymont', IRSNB.

Both the types are mounted on card from the same source and similarly labelled by d'Orchymont. d'Orchymont clearly identified the Bishop Museum specimen as the holotype. Unfortunately all but a hind tibia and tarsus of the holotype has been lost. I base my concept of *E. bryani* on the Brussels paratype and d'Orchymont's description and illustration of the aedeagus.

Description (number examined, 134) Figs 1, 2, 17

Length 2.6 mm – 4.0 mm. Elytra testaceous, sutural lines, some serial punctures and a rough, small patch on each humeral angle darker; pronotum testaceous, disk rather darker than sides; head with testaceous areas in front of each

eye much wider than eye, central dark panel about half width of lateral light patches, boundary between areas often diffuse. Ventral surface dark-testaceous, appendages only slightly lighter towards extremities, maxillary palpi with tip of apical segment darker. Punctures on head moderately sized, a few larger punctures inwards from eyes a little smaller than eye facets and about 4x diameter of adjacent punctures. Pronotum similarly punctate, systematic punctures relatively weak, smaller than eye facets. Interstrial punctures on elytra weak, verging on subobsolete, serial punctures also relatively small and weak, both a little stronger apically and laterally, on humeral angle the serial punctures are about 3x the diameter of adjacent punctures but both are small and relatively weak. Mesosternal keel moderately developed, ventral edge flat except for a well developed anterior protuberance.

Male: Genitalia variable in elongation, aedeagus usually relatively broad, narrowing to rounded point, collar closer to base than tip. Parameres relatively narrow, pointed. Male and female claws similar.

Distribution

Australian Capital Territory

Blundello Creek, ANIC; Canberra, SAMA.

New South Wales

Albury, ANIC; Ashfield, AM; Balranald, NMV; Berry, SAMA; Bogan River, AM; 20 mls SSW Bourke, SAMA; Collector, SAMA; Congo, ANIC; 9 km NNE Coonabarabran, ANIC; 14 km W Coonabarabran, ANIC; De Burghs Rng, AM; Deniliquin, ANIC; 37 km E Hay, SAMA; Illadulla, ANIC; Jenolan Caves, SAMA; Kenilworth, ANIC; North Sydney, NMV; Tooloom Plateau, UQIC; Wallacia, SAMA; Wilcannia, SAMA; 3 km S Wingellow, ANIC; Wingham Scrub, ANIC; Wootton, ANIC; Valery, ANIC.

Northern Territory

30 mls W Alice Springs, ANIC; Stanley Chasm, SAMA; 100 mls W Mt Olga, WAM; 30 km N Wauchope, ANIC; Yuendumu, SAMA.

Queensland

31 km NE Aramac, SAMA; Atherton, QDPIM; Babinda, UQIC; Brisbane, UQIC, SAMA; Bundaberg, ANIC; Byfield, ANIC; Cardstone, ANIC; Clermont, AM; Edungalba, ANIC; Funnell Creek, ANIC; 50 mls W Mackay, ANIC; Mt Coolum, ANIC; 9 mls S Stanthorpe, ANIC;

South Australia

Arkaba Creek, SAMA; 80 mls S Cooper Pedy, SAMA; 10 km SE Coward Springs, SAMA; Murray River, SAMA; Wintana Station, SAMA.

Victoria

Healsville, SAMA; Maffra, UQIC; Nathalia, SAMA; Portland, SAMA; 13 km SE Shepperton, ANIC; 14 km NW Violet Town, ANIC.

Western Australia

Nr Mt Gibson, WAM; 3 km E by N Newman, ANIC.

Remarks

A widespread and common species resembling a small *E. deserticola* and difficult to separate from light morphs of this species without reference to the male genitalia. Somewhat more strongly punctured than in most *E. deserticola*. In the North-east, *E. maculiceps* is sympatric with *E. weiri* and *E. pseudoweiri* which it closely resembles in general form. Both these species are a little more strongly punctured and have pale tips to their maxillary palpi and usually only a small central triangular area of black on the front of the head. However *E. maculiceps* with pale palpi and the central black portion on the front of the head reduced to a triangle, are not uncommon.

The male genitalia are variable in elongation, from a squatter form with the aedeagus quite curved in lateral view, with a strong apical pad and with only a small amount of structure apical to the pad, through to a more elongate form with elongate parameres, nearly straight aedeagus with a weak apical pad and a quite pronounced broadly triangular portion apical to the pad.

Some more strongly punctured specimens of *E. maculiceps* may approach weaker punctured specimens of *E. malabarensis*. In *E. malabarensis* the front of the head is nearly all black whereas in *E. maculiceps* the black area is seldom more than a third the width of the front of the head.

I have compared Australian specimens with the holotype, a paratype and five other specimens of *E. artensis* Fauvel from New Caledonia in IRSNB including two dissected males and consider that *E. artensis* is a junior synonym of *E. maculatus*.

Enochrus (Methydrus) malabarensis (Régimbart)

Philhydrus malabarensis Régimbart, 1903

Enochrus (Lumetus) malabarensis (Régimbart): Knisch, 1924

Types

Enochrus malabarensis: Holotype. 'Make, Calicut Ind'; 'Philhydrus malabarensis Reg', MNHN.

Description (number examined, 37) Fig. 12

Length 2.5 mm – 4.1 mm. Broadly oval. Elytron and pronotum coloured as for *E. pseudoweiri*. Head black, areas in front of eyes light testaceous to about width of eye, central black panel 3–4x width of lateral light area. Ventral surface as for *E. pseudoweiri*, tips of maxillary palpi sometimes a little darker than rest of palpi. Punctures on head relatively strong, often approaching the size of eye facet, systematic punctures inwards from eye a little larger, sometimes hard to trace. Pronotum moderately to strongly punctured, systematic punctures often hard to trace. Punctures on elytra somewhat stronger towards apex and sides, approaching size of serial punctures which, as a consequence, may be difficult to distinguish. Mesosternal keel moderately developed, pronounced protuberance anteriorly, composed almost entirely of broad basal portion.

Male: Aedeagus relatively short, narrow, pointed with only slight apical pad, collar equidistant from tip and base. Parameres broad in basal half, narrow in apical quarter, inner edges almost straight, tips rounded. Proclaw rounded or weakly straightened strongly swollen at base, meso- and metaclaws, rounded.

*Distribution***New South Wales**

Ashfield, AM; Bondi Heights, AM; Sydney, NMV, SAMA.

Northern Territory

Black Point Coburg Peninsula, ANIC; Coastal Plains Research Stn, ANIC; Crocodile Island, SAMA; Darwin, ANIC, SAMA; Groote Eyland, SAMA; Howard Springs, ANIC; Kakadu NP, ANIC.

Queensland

Bowen, SAMA; Brisbane, UQIC; Bundaberg, ANIC; Stewart River, SAMA.

South Australia

Billa Kalina Station, SAMA.

Remarks

The moderate size and strong dorsal punctation separate *E. malabarensis* from all other Australian

Enochrus. The punctation is strongest in specimens from the Darwin area where the systematic punctures on pronotum and elytra are virtually untraceable. The punctures get weaker to the south where some specimens can approach the situation in the most strongly punctate *E. maculiceps*, *E. pseudoweiri* and *E. weiri*. The greater extent of black on the front of the head (the pale area reduced to the width of an eye) will separate *E. malabarensis* from these species where the black portion covers <1/3 of the head width. *Enochrus malabarensis* has the unusual combination of strongly black head with pale tips to the maxillary palpi.

The male genitalia of *E. malabarensis* differ from those of *E. maculiceps* in that the inner margin of the parameres are straight rather than sinuate to accommodate the apical pad on the aedeagus. Although the tip of the aedeagus in *E. malabarensis* is thickened dorsoventrally, it is not laterally expanded (to varying degrees) as in *E. maculiceps*.

The mesosternal keel is stronger than in *E. weiri* and *E. pseudoweiri* and most specimens of these species lack the pronounced anterior downward protuberance found in both *E. malabarensis* and *E. maculiceps* (Fig. 17). The genitalia of *E. weiri* is distinctive, that of *E. pseudoweiri* quite closely resembles *E. malabarensis* but has a shorter and thinner aedeagus.

Enochrus malabarensis differs from the two other strongly punctate Australian *Enochrus* (*E. eyrensis* and *E. samae*) by its smaller size, lack of black colour morphs, usually pale maxillary palpi, stronger punctation particularly on the head and the strong downward protuberance at the front of the mesosternal keel which is usually lacking in *E. eyrensis* and *E. samae*. *Enochrus malabarensis* has a generally more northern distribution than the other two species but overlaps with *E. eyrensis* on the east coast. The male genitalia readily separate the species (Figs 5, 12).

I have not seen the type of *E. malabarensis* (it is unavailable at this time) and have based my concept of this species on specimens identified by d'Orchymont from Sulawesi in IRSNB.

Enochrus (Methydrus) pseudoweiri sp. nov.*Types*

Holotype: ♂, '16°03'S to 16°05'S, 145°28'E, Cape Tribulation area, Qld., 21–28 Mar 1984, A. Calder and T. Weir'. ANIC.

Paratypes: All male. 4, "Cardwell Rng, N.Q., 30.9.87, G.B. 'Q363'; 'J. G. Brooks Bequest 1976', ANIC; 2, '15°03'S, 145°09'E, 3 km NE of Mt Webb, Qld., 1-3 Oct. 1980, T. Weir', ANIC; 1, 'Whitfield Rg., Rd., ca. 486 m, Qld., 3.ii.1970, at light, J. G. and J. A. G. Brooks', ANIC; 1, '12°44'S, 143°17'E, 8 km E by N of Mt Tozer, Qld., 7 July 1986, T. Weir and A. Calder', ANIC; 2, Mclvor Rv., 25 mls N Cooktown, N Qld, 6 May 1970, S. R. Curtis', one ANIC, one SAMA; 1, 'Australia, N Qld, Iron Range, 26-31.x.1991, Wood, Dunn and Hasenpusch', QDPIM; 1, 'Cow Bay, N of Daintree N Qld, 20-1 7-11 1984 1, C. Cunningham', QDPIM; 1, 'Cow Bay, N of Daintree, Qld., 27/7/82, C. Watts', SAMA; 4, 'Peach Ck, N Qld., 24/7/87, C. Watts', SAMA; 1, 'Cairns, C. J. Wild, Jan 91', QM.

Description (number examined, 33) Fig. 3

Length 3.0 mm – 3.6 mm. Oblong oval. Elytra testaceous to dark-testaceous, sutural region and serial punctures darker; small darker patch on humeral angles in many specimens. Pronotum dark testaceous centrally, widely lighter laterally. Head dark testaceous-black, frons area light testaceous except for small triangularly shaped dark area with apex often not reaching front of head, boundary between darker area and light areas indistinct, clypeus dark testaceous, ventral surface dark testaceous, appendages somewhat lighter towards extremities, maxillary palpi lacking darker tip. Head sparsely covered by small weak punctures, much smaller than facets of eyes, a few larger punctures inward from eyes about size of eye facet and 2-3x larger than adjacent punctures. Elytral punctures a little stronger, shallow. Serial punctures relatively weak, hard to trace laterally except on humeral angles where they are more distinct and 3-5x the diameter of adjacent punctures. Mesosternal keel strongly raised, ventral edge weakly convex, usually with a distinct anterior protuberance, broader basal portion making up most of keel with only a narrow thinner section in lateral view.

Male: Genitalia very stout to moderately stout overall. Aedeagus very slender, lacking terminal pad, collar nearer base than tip. Parameres broad, tips rounded. Proclaws curved, strongly swollen in basal half, more so than in female.

Distribution

Queensland

Cairns, ANIC; Cardstone, ANIC; Cardwell,

ANIC; Cape Tribulation area, ANIC; 3km S by W of Cooktown, ANIC; 25mls N Cooktown, ANIC, SAMA; Cooktown, ANIC; 2mls N Kuranda, ANIC; 8km E by N of Mount Tozer, ANIC; 3km NE of Mount Webb, ANIC; Peach Ck, SAMA; 15km WSW South Johnstone, QDPIM; Whitfield Rg Rd, ANIC.

Northern Territory

Howard Springs, ANIC.

Remarks

Apart from the male genitalia and a tendency for the darker portion at the front of the head to be larger and more diffuse, I can find no difference between this species and *E. weiri* (see under *E. weiri*).

***Enochrus (Methydrus) samae* sp. nov.**

Types

Holotype: ♂, 'East Pomborneit, Vic. 24 km ESE Camperdown. Temporary pond, Aug. 1978-Feb. 1979, P.S. Lake coll.', ANIC.

Paratypes: 2 ♂, same data as holotype, ANIC; 2 ♀, '29.01°S, 167.57°E, Norfolk Island, Filmy Fern Walk, 14 Nov. – 2 Dec. 1984, I.D. Naumann ex ethanol', ANIC; 4 ♀, 4 ♂, 'Stonor, Tas: Lea', SAMA; 'Swansea, Tas., Jan. C. Watts', SAMA; 1 ♀, 1 ♂, '10 km S Robe S.A., 1/83, C. Watts', SAMA; 2 ♂, 'Grampians, Vic., 2.63, C. Watts', SAMA; 1 ♂, 'Chain of Ponds, S.A., December 1957, C. Watts', SAMA; 1 ♂, 'Mylor, S.A., Aug. 1958, C. Watts', SAMA.

Description (number examined, 47) Figs 9, 15

Length 4.0 mm – 5.0 mm. Oblong-oval. Elytra and pronotum dark-testaceous, quite broadly lighter at sides, dark area broken up with longitudinal rows of spots towards apex, front of pronotum often narrowly light-testaceous. Head dark-testaceous to black except for broad light-testaceous areas forward from eyes, leaving a central dark panel which is about the same width as one of the pale patches, boundary between the dark central panel and pale patches diffuse. Underside dark-testaceous, appendages only slightly lighter towards extremities, apical portion of apical segment of maxillary palpi darker. Punctures on head relatively strong, not much smaller than eye facet, a few larger punctures inward from eyes, about 3x the diameter of adjacent punctures; pronotal punctures on elytra a

little stronger than on pronotum, towards apex and laterally approaching size of stria punctures which are consequently not easily traced. Mesosternal keel moderately developed, triangular shaped, broader basal portion makes up most of keel.

Male: Aedeagus broad, well-marked terminal dorsal pad, collar nearer to base than to tip. Parameres with rounded tips. Male proclaws greatly swollen in basal half, strongly curved in apical half, female less swollen and more evenly curved.

Distribution

Australian Capital Territory

Black Mt., ANIC.

New South Wales

Norfolk Isl., ANIC.

South Australia

Chain of Ponds, SAMA; Mylor, SAMA; 10 km S Robe, SAMA.

Tasmania

George Town, SAMA; Stonor, SAMA; Swansea, SAMA.

Victoria

Grampians, SAMA; Hamilton, NMV; Lorne, SAMA; Otway Rngs., UQIC; East Pombornit, ANIC.

Remarks

In general facies this species is very similar to *E. eyrensis* and at least in the South-east occurs sympatrically with it. The strong dorsal punctation and patterned head readily separates these two species from other *Enochrus* in the region. *Enochrus samae* differs from *E. eyrensis* in having rounded rather than hooked tips to the parameres and in a squatter mesosternal keel. This latter character is hard to use if comparative material is not available.

***Enochrus (Methydrus) weiri* sp. nov.**

Types

Holotype: ♂, '12°44'S, 143°14'E, 3 km ENE of Mt Tozer, Qld., 28 Jun – 4 Jul 1986, T. Weir and A. Calder', ANIC.

Paratypes: All ♂. 1, '12°44'S, 143°17'E, 8 km E by N of Mt Tozer, Qld., 7 July 1986, T. Weir and A. Calder', ANIC; 1, '12°44'S, 143°14'E, 3

km ENE of Mt Tozer, Qld., 28 Jun – 4 Jul 1986, T. Weir and A. Calder', ANIC; 2, '12°43'S, 143°17'E, 9 km ENE of Mt Tozer, Qld., 5–10 July 1986, T. Weir and A. Calder', one ANIC, one SAMA; 1, 'Dejinghe Ck, N.Q., 3 mls SW of Yarrabah, 26.x.1966 E. Britton, R Trumble', ANIC; 1, '16°03'S to 16°05'S, 145°28'E Cape Tribulation area, Qld., 21–28 Mar 1984, A. Calder and T. Weir', ANIC; 1, 'Australia, N Qld., Cow Bay N of Daintree R, 13.ix.1990, Cunningham and DeFaveri', QDPIM; 1, 'Australia, N Qld Cow Bay N of Daintree R, 14.xii.1987–6.i.1988, Storey and Cunningham', QDPIM.

Description (number examined, 18 with male genitalia extracted) Fig. 8

As for *E. pseudoweiri* except for male genitalia.

Male: Aedeagus broadest in middle, tapering to a point, lacking any terminal dorsal pad. Tips of parameres truncated, weakly bifid.

Distribution

Known only from type localities on Cape York in North Queensland.

Remarks

A tropical species known only from the Queensland east coast, north of Cairns. I have found no reliable way to separate this species and *E. pseudoweiri*, with which it is sympatric over most of its range, other than by the distinctively different male genitalia. These species can also be readily confused with *E. maculiceps* and with small brown colour morphs of *E. deserticola* which also occur in the region. The virtual absence of black on the front of the head and pale tips to the maxillary palpi will separate them from most examples of these species. Most *E. weiri* lack or have only a small downward protuberance at the front of the mesosternal keel whereas most *E. maculiceps* have it well developed. The differently coloured head and weaker dorsal punctures will readily separate *E. weiri* from the similarly sized *E. malabarensis*.

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