

The Hymenosomatidae (Crustacea, Decapoda, Brachyura) of Timika (Irian Jaya, Indonesia)

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ABSTRACT

Two new species and three new records of hymenosomatid crabs are reported from Timika, southwest coast of Irian Jaya, Indonesia. *Neorhynchoplax elongata* n. sp. differs from its congeners in the combination of an elongated carapace with a trilobate rostrum that has shorter lateral spines than the median one. *Amarinus pristis* n. sp. resembles *A. wolterecki* (Balss, 1934) and *A. crenulatus* Ng & Chuang, 1996, but differs in the form of male first gonopod and its relatively shorter ambulatory pereopods. *Elamenopsis lineata* A. Milne Edwards, 1873, *Halicarcinus bedfordi* Montgomery, 1931, and *Neorhynchoplax aspinifera* (Lucas, 1980) are new records for Indonesian waters.

KEY WORDS

Crustacea,
Decapoda,
Brachyura,
Hymenosomatidae,
Indonesia,
new species,
new records.

RÉSUMÉ

Les Hymenosomatidae (Crustacea, Decapoda, Brachyura) de Timika (Irian Jaya, Indonésie).

Deux nouvelles espèces et trois nouvelles mentions de crabes Hymenosomatidae sont signalées de Timika, côte sud-ouest d'Irian Jaya, Indonésie. *Neorhynchoplax elongata* n. sp. diffère de ses congénères par la combinaison plus courtes que la médiane. *Amarinus pristis* n. sp. ressemble à *A. wolterecki* (Balss, 1934) et *A. crenulatus* Ng & Chuang, 1996, mais en diffère par la forme du premier gonopode mâle et par ses péreopodes ambulatoires relativement plus courts. *Elamenopsis lineata* A. Milne Edwards, 1873, *Halicarcinus bedfordi* Montgomery, 1931 et *Neorhynchoplax aspinifera* (Lucas, 1980) sont nouvellement mentionnés dans les eaux indonésiennes.

MOTS CLÉS

Crustacea,
Decapoda,
Brachyura,
Hymenosomatidae,
Indonésie,
nouvelles espèces,
nouvelles mentions.

INTRODUCTION

The hymenosomatid fauna of Indonesia is composed of 11 species, viz. *Amarinus crenulatus* Ng & Chuang, 1996, *Apechocinus streptophallus* Ng & Chuang, 1996, *Cancrocaeca xenomorpha* Ng, 1991, *Elamena simplidenta* Ng & Chuang, 1996, *E. sundaica* Ng & Chuang, 1996, *E. truncata* (Stimpson, 1858), *Elamenopsis comosa* Ng & Chuang, 1996, *E. lineata* A. Milne Edwards, 1873, *Halicarcinus filholi* De Man, 1887, *Neorhynchoplax prima* Ng & Chuang, 1996, and *Trigonoplax unguiformis* (de Haan, 1839) (Ng & Chuang 1996). Most of these species, however, have been reported from western Indonesia and Sulawesi, with there being hardly any records from the eastern part of the archipelago.

We here report on five species from Timika in southwest coast of Irian Jaya, two of which are new species (*Amarinus pristes* n. sp., *Neorhynchoplax elongata* n. sp.), with three others being new records for Indonesia (*Elamenopsis lineata* A. Milne Edwards, 1873, *Halicarcinus bedfordi* Montgomery, 1931, *Neorhynchoplax aspinifera* (Lucas, 1980)).

The terminology used here follows Ng & Chuang (1996), with the abbreviations G1 and G2 used for the male first and second pleopods respectively. Measurements provided are of the carapace width and length respectively. Specimens examined are deposited in the Research Centre for Oceanography, Indonesian Institute of Sciences, Jakarta, Indonesia (RCO); Museum Zoologicum Bogoriense, Cibinong, Indonesia (MZB); Zoological Reference Collection of the Raffles Museum, National University of Singapore (ZRC); and Muséum national d'Histoire naturelle, Paris (MNHN).

SYSTEMATICS

Family HYMENOSOMATIDAE MacLeay, 1838

Genus *Elamenopsis* A. Milne Edwards, 1873

Elamenopsis lineata A. Milne Edwards, 1873

Elamenopsis lineatus A. Milne Edwards, 1873: 324, pl. 18 fig. 4. — Kemp 1917: 250. — Tesch 1918: 26, pl. 1 figs 5, 5a-c. — Serène & Umali 1970: 58, pl. 5 fig. 11.

Elamenopsis lineata — Lucas 1980: 192, figs 3j, 5j, 8e, 10j. — Chuang & Ng 1994: 87. — Ng & Chuang 1996: 40, figs 15, 16. — Ng & Richer de Forges 1996: 263, fig. 1. — Guinot & Richer de Forges 1997: 468, figs 4J-L, 7B.

MATERIAL EXAMINED. — **Indonesia**. Kamora, intertidal, mud substrate in mangrove area, 10.VII.2001, coll. A. Pratiwi, 1 ♂ 2.7 × 2.1 mm, 1 ♀ 3.5 × 2.7 mm (RCO); 22.IX.2001, 1 ♂ 2.8 × 2.4 mm, 2 ♀♀ 4.9 × 3.2 mm, 3.4 × 2.7 mm (RCO).

Mawati, 4°58'S, 137°7'E, sandy mud, 3 m, estuary, 4.VIII.1999, coll. A. Haris, 2 ♂♂ 2.3 × 1.7 mm, 2.3 × 1.6 mm, 2 ♀♀ 2.4 × 1.7 mm, 2.1 × 1.5 mm (MNHN); 9.VIII.1999, 2 ♂♂ 2.3 × 1.7 mm, 2.5 × 1.9 mm (MNHN).

Otakwa, 4°58'S, 137°12'E, sandy mud, 5 m, estuary, 6.VIII.1999, coll. A. Haris, 2 ♂♂ 2.7 × 1.8 mm, 2.9 × 2.1 mm, 5 ♀♀ 2.5 × 2 mm, 2.2 × 1.6 mm, 2.2 × 1.6 mm, 3.23 × 2.3 mm, 2.9 × 2.0 mm (MZB); 28.VIII.1999, 4 ♂♂ 2.4 × 1.7 mm, 2.7 × 1.9 mm, 2.6 × 1.9 mm, 2.5 × 2.0 mm, 2 ♀♀ 2.4 × 1.6 mm (ZRC 2002.604).

REMARKS

This species has previously been reported from New Caledonia (type locality), Queensland (Australia) and Sulawesi (Indonesia) (Ng & Chuang 1996). Its presence in Irian Jaya is thus not at all surprising. In nearby Ambon, a related species, *E. comosa* Ng & Chuang, 1996, is present.

Genus *Halicarcinus* White, 1846

Halicarcinus bedfordi Montgomery, 1931

Halicarcinus bedfordi Montgomery, 1931: 425, pl. 27, figs 3, 3a, b. — Lucas 1980: 181, figs 3A, 5E, 6N, 7G, 9E, 9F. — Chuang & Ng 1994: 87. — Ng & Chuang 1996: 6.

MATERIAL EXAMINED. — **Indonesia**. Otakwa, 4°57'S, 137°14'E, sandy mud, 4 m, estuary, 11.IX.1997, coll. A. Haris, 1 ♂ 3.2 × 3.9 mm, 1 ♀ 3.3 × 3.6 mm (ZRC 2002.606), 3 ♂♂ 3.1 × 3.4 mm, 2.9 × 3.2 mm, 3.1 × 3.7 mm, 1 ♀ 3.0 × 3.2 mm (RCO).

Ajkwa, intertidal, mud substrate in mangrove area, 12.VI.2001, coll. A. Pratiwi, 1 ♂ 2.3 × 3 mm, 3 ♀♀

(2 ovigerous) 3.3 × 3.5 mm, 2.2 × 2.4 mm, 3.0 × 3.3 mm (ZRC 2002.605), 1 ♀ 3.3 × 3.4 mm (MZB); 15.VI.2001, 1 ♂ 2.0 × 2.3 mm (MZB).

Kamora, intertidal, mud substrate in mangrove area, 11.VII.2001, coll. A. Pratiwi, 5 ♀♀ (3 ovigerous) 3.3 × 3.6 mm, 2.5 × 2.8 mm, 2.4 × 2.8 mm (RCO), 3.0 × 3.3 mm, 3.3 × 3.5 mm (MNHN), 1 ♂ 2.9 × 3.3 mm (MZB); 12.VII.2001, 1 ♀ 2.3 × 2.7 mm (MZB); 13.VII.2001, 3 ♂♂ 2.0 × 2.3 mm (MZB), 3.3 × 3.8 mm, 2.2 × 2.7 mm, 1 ♀ (ovigerous) 3.0 × 3.5 mm (MNHN); 20.IX.2001, 1 ♀ 3.2 × 3.4 mm (MZB).

REMARKS

The genus *Halicarcinus* (type species *Cancer planatus* Fabricius, 1775) contains 20 species but only one (*Halicarcinus filholi* De Man, 1887, from Java) has been reported previously from Indonesian waters. *Halicarcinus bedfordi* was originally described from Western Australia but is also known from Northern Australia (Lucas 1980). The present specimens agree very well with the redescription and figures of this species by Lucas (1980), although there is some variation. The chelipeds of the largest males are substantially longer than those figured by Montgomery (1931) and Lucas (1980) for this species, but this is not unexpected, being previously observed in the related *H. coralicola* (Rathbun, 1909) (see Ng & Chuang 1996). The form of the anterolateral margin varies. In smaller specimens, the lateral angle is marked by a small spine, but in larger specimens, especially males, it expands to form a large dentiform structure, giving the carapace a broader appearance.

The male abdomen for this species is as described by Guinot & Richer de Forges (1997: 466, fig. 4A) for the genus, in which there are six segments, the telson being fused with segment 6 and barely separated by a faint suture (see also Lucas 1980).

Genus *Neorhynchoplax* Sakai, 1938

Neorhynchoplax aspinifera (Lucas, 1980)

Elamenopsis aspinifera Lucas, 1980: 195, figs 3I, 5G, 6R, 8D, 10G.

Neorhynchoplax aspinifer – Chuang & Ng 1994: 7. — Ng & Chuang 1996: 87. — Guinot & Richer de Forges 1997: 468, fig. 5F.

MATERIAL EXAMINED. — **Indonesia.** Ajkwa, intertidal, mud substrate in mangrove area, 15.VI.2001, coll. A. Pratiwi, 2 ♂♂ 2.5 × 2.7 mm, 2.6 × 2.5 mm, 1 ♀ 2.4 × 2.8 mm (ZRC 2002.607), 3 ♂♂ 2.4 × 2.7 mm, 2.9 × 3.0 mm, 2.4 × 2.8 mm, 2 ♀♀ 2.2 × 2.6 mm, 1.9 × 2.2 mm (RCO); 16.VI.2001, 3 ♂♂ 2.4 × 2.5 mm (MZB), 2.3 × 2.5 mm, 2.1 × 2.3 mm, 1 ♀ 2.1 × 2.2 mm (MNHN); 3.X.2001, 1 ♀ 5.1 × 6 mm (MZB).

Kamora, intertidal, mud substrate in mangrove area, 11.VII.2001, coll. A. Pratiwi, 1 ♀ 2.7 × 3.0 mm (MNHN); 11.X.2001, 1 ♂ 3.2 × 2.9 mm (RCO); 9.X.2001, 1 ♂ 2.8 × 3.1 mm (RCO).

REMARKS

The genus *Neorhynchoplax* (type species *Rhynchoplax introversus* Kemp, 1917) was redefined by Ng & Chuang (1996) and regarded as a valid genus with 24 species. Most species are associated with intertidal mangrove or muddy habitats.

Neorhynchoplax aspinifera was described from Northern Australia, and is here reported from Irian Jaya, Indonesia, for the first time. The specimens on hand agree very well with the detailed description and figures by Lucas (1980). The species has male abdominal segments 1 and 2 free, with segments 3 to 5 fused, as is typical for congeners (Ng & Chuang 1996), with the pleotelson free (see also Guinot & Richer de Forges 1997: 468, fig. 5F).

Neorhynchoplax elongata n. sp.

(Fig. 1)

HOLOTYPE. — **Indonesia.** Kamora, intertidal, mud substrate in mangrove area, 22.IX.2001, coll. I. Ermayanti, ovigerous ♀ 2.7 × 4.0 mm (MZB).

ETYMOLOGY. — The name alludes to the elongated carapace of the species.

DESCRIPTION

Female holotype

Carapace (Fig. 1A) longer than broad, width two thirds length (including rostrum); carapace surrounded by distinct, complete rim; dorsal surface almost flat, with distinct gastrocardiac, cervical and thoracic grooves; cervical and thoracic

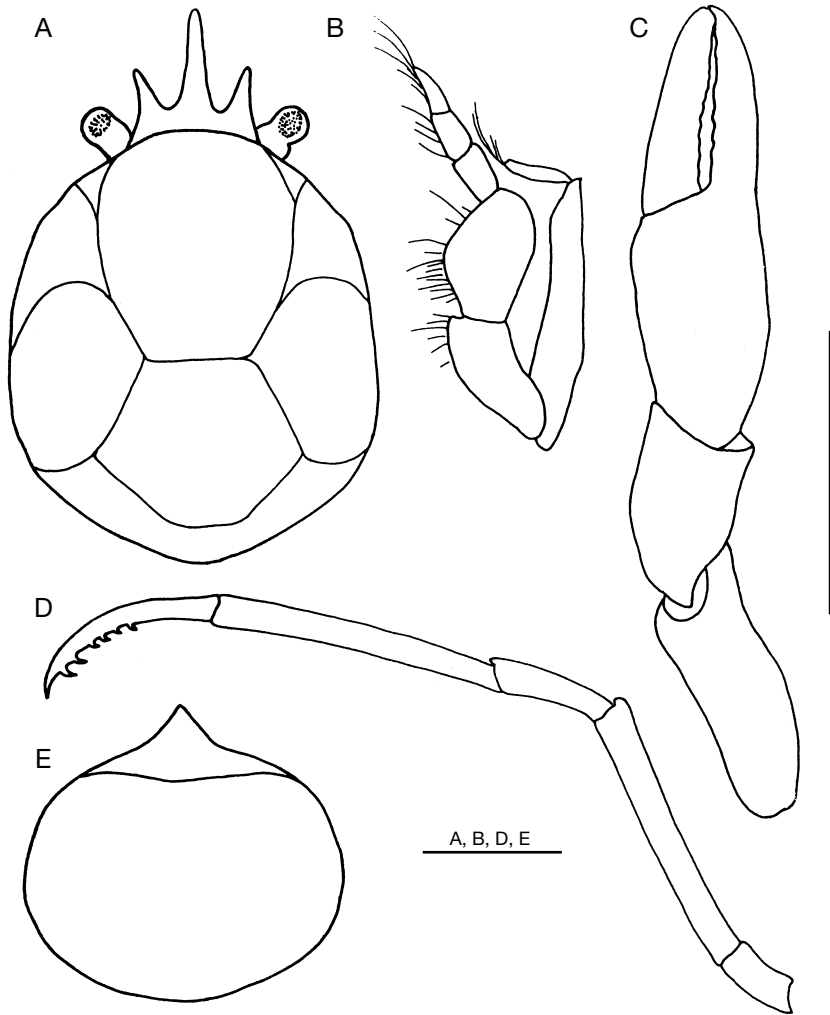


FIG. 1. — *Neorhynchoplax elongata* n. sp., ♀ holotype 2.7 × 4.0 mm (MZB); **A**, carapace; **B**, left third maxilliped; **C**, abdomen; **D**, right cheliped; **E**, left third pereopod. Scale bars: 1.0 mm.

grooves branched; anterolateral margin smooth. Rostrum trilobate, with three large, sharp teeth, median longest, not continuous with dorsal surface of carapace. Eyestalk prominent, distinctly visible dorsally.

Third maxillipeds (Fig. 1B) cover two thirds of mouth field when closed; ischium subequal in length to merus along outer lateral edge, sparsely setose on inner lateral edge of both merus and ischium. Inner lateral margins of ischium meet-

ing when closed; palp not longer than merus; exopod much longer than merus.

Chelipeds (Fig. 1C) equal, stouter than ambulatory legs; outer surface pubescent; fingers slender, same length as palm, cutting edges slightly serrated. Dactylus and fixed finger slightly gaping proximally when closed. Palm, carpus and merus with tuft of setae on upper margins.

Ambulatory legs (pereopods 2-5) slender. Dactylus much shorter than propodus, with tips

sharply hooked, row of six teeth ventrally, ventral edge more densely lined with long and short setae. Propodus more than twice length of carpus, merus slightly shorter than propodus. Propodus, carpus and merus with scarce short setae.

Female abdomen (Fig. 1E) oval, convex, covers entire sternum, three-segmented, segments 3-5 fused, pleotelson sharply triangular.

REMARKS

Neorhynchoplax elongata n. sp. is remarkable within the genus in its long trilobate rostrum, with the lateral carapace margin not possessing any teeth or spines. In these characters, it closely resembles *N. inachoides* (Alcock, 1900), described on the basis of only one male specimen (6.0 × 8.5 mm) from Calcutta, India. *Neorhynchoplax elongata* n. sp., however, can easily be distinguished from *N. inachoides* in having an evenly ovate carapace (vs pyriform), the lateral rostral spines been relatively shorter and diverging obliquely outwards (vs longer and subparallel with median spine) and the relatively shorter ambulatory legs (cf. Alcock 1900: 389; Alcock & MacGilchrist 1905: pl. LXV fig. 1).

At present this species is only known from the type locality in Kamora, Irian Jaya, Indonesia.

Genus *Amarinus* Lucas, 1980

Amarinus pristes n. sp. (Fig. 2)

HOLOTYPE. — **Indonesia.** Kamora, intertidal, mud substrate in mangrove area, 21.IX.2001, coll. I. Ermayanti, ♂ 4.2 × 4.3 mm (MZB).

PARATYPES. — **Indonesia.** Otakwa, estuary, 5.II.1999, coll. A. Haris, 1 ♀ 5.5 × 5.7 mm (ZRC 2002.596). Kamora, intertidal, mud substrate in mangrove area, 21.IX.2001, coll. I. Ermayanti, 2 ♂ 3.0 × 2.9 mm, 4 × 4.1 mm (RCO); 17.X.2001, 1 ♂ 4.4 × 4.4 mm (ZRC.2002.598); 5.X.2001, 1 ♂ 4.1 × 4.0 mm (MNHN). Ajkwa, intertidal, mud substrate in mangrove area, 16.X.2001, coll. I. Ermayanti, 1 ♂ 5.1 × 5.0 mm, 1 ♀ 3.7 × 3.5 mm (ZRC 2002.597); 3.X.2001, 1 ♂ 3.4 × 3.5 mm (MZB); 22.X.2001, 1 ♂ 4.5 × 4.3 mm, 1 ♀ 4.5 × 4.3 mm (MNHN).

ETYMOLOGY. — The name refers to the lateral margin of the carapace (from the Greek *prion* for saw). The name is used as a noun in apposition.

DESCRIPTION

Male holotype

Carapace (Fig. 2A) flat, circular, as long as broad or very slightly longer or shorter than broad, surrounded by complete and distinct rim, not interrupted at base of rostrum. Dorsal surface smooth, cervical, thoracic and gastrocervical grooves distinct; cervical and thoracic grooves approaching but not reaching antero- and posterolateral margins respectively. Lateral margins crenulated, with strong, distinct teeth on anterior margin and between coxae of third and fourth pereopods. Rostrum unilobed, broad, surface concave, not continuous with dorsal surface of carapace. Eystalk prominent, clearly visible dorsally.

Third maxillipeds (Fig. 2B) almost fill mouth field when closed. Ischium of third maxilliped shorter than merus along outer lateral edge; short setae on inner lateral margin of ischium; longer setae on inner lateral margin of merus; inner lateral margins of ischium and merus meeting when closed. Palp not longer than merus, exopod much longer than merus.

Chelipeds (Fig. 2C) equal, slightly shorter than ambulatory legs; cutting edges of fingers serrated with denticles, tip of fingers sharp, gaping proximally when closed, strong median tooth on dactylus. Dactylus slightly shorter than palm, pollex gently curved inwards. Upper and lower margin of dactylus, propodus, carpus and merus scarcely setose.

Ambulatory legs (pereopods 2-5) stout, cross-section circular, dorsal and ventral edges sparsely setose. Dactylus slightly shorter than propodus, slightly curved with tip sharply hooked, recurved subterminal tooth, ventral edge more densely lined with long and short setae. Propodus slightly longer than carpus; merus about 1.75 times length of carpus.

Abdomen (Fig. 2E) five-segmented, with pleotelson free, triangular, segment 1 shortest, widest; segment 3 longest; segments 4 and 5 similar

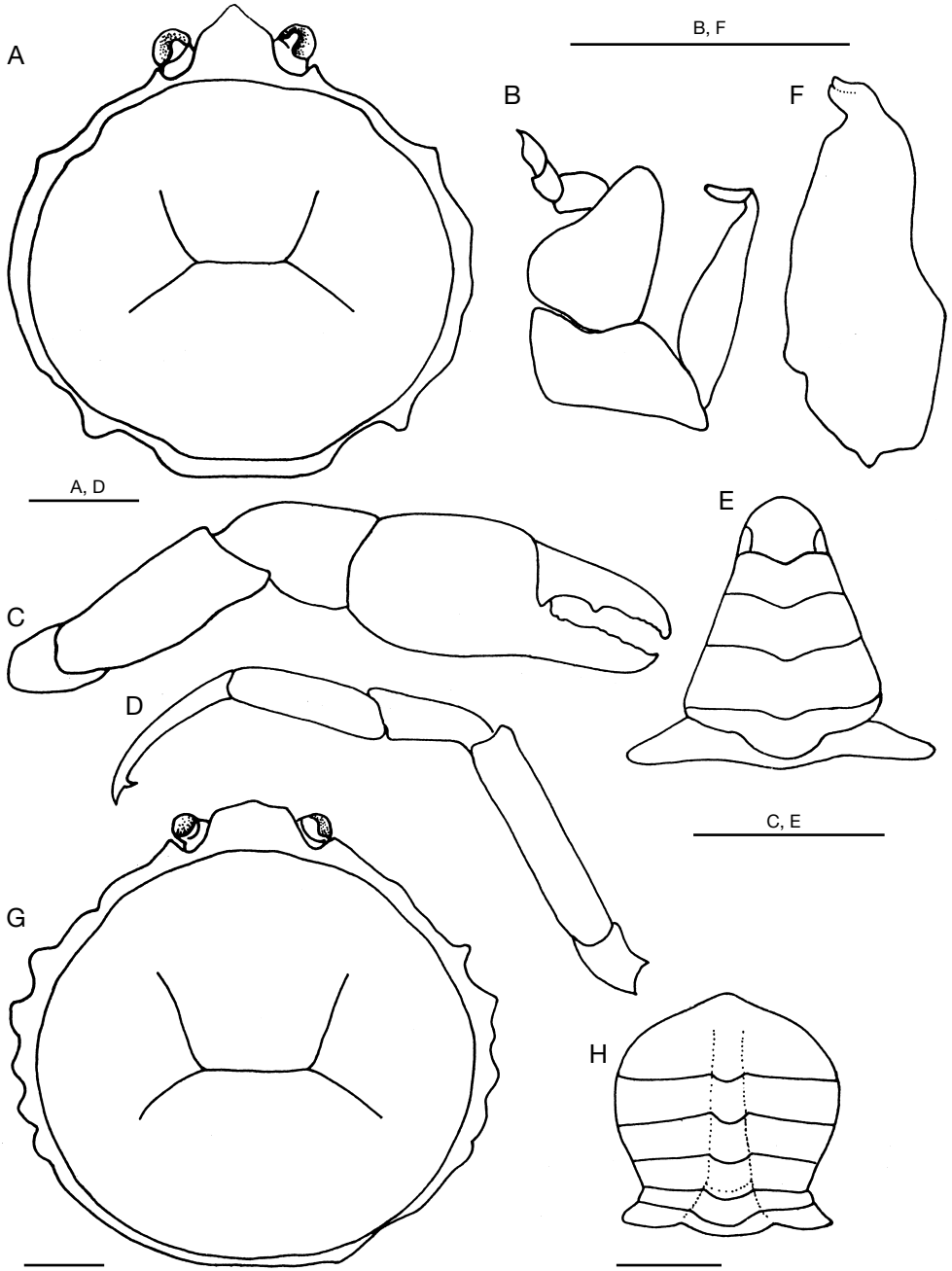


FIG. 2. — *Amarinus pristes* n. sp.; **A-F**, ♂ holotype 4.2 × 4.3 mm (MZB); **G, H**, ♀ paratype 5.5 × 5.7 mm (ZRC 2002.596); **A, G**, carapace; **B**, left third maxilliped; **C**, right cheliped; **D**, left third pereiopod; **E**, ♂ abdomen; **F**, right G1; **G**, ♀ abdomen. Scale bars: 1.0 mm.

length, tapering to pleotelson; pleotelson bluntly triangular, approximately same length as segment 3, with lateral intercalated plates basally; press-button system as described by Guinot & Bouchard (1998). Male G1 (Fig. 2F) stout, tip curved, truncate.

Female

In larger female specimens, crenulations on lateral carapace margin stronger (Fig. 2G); in smaller females, crenulations as in male. Chelipeds more slender than those of males, cutting edges of fingers not serrated, without tooth on dactylus. Abdomen (Fig. 2H) five-segmented (excluding pleotelson), submedial groove running almost entire length, defining convex central region; all intersegmental sutures distinct, covering entire sternum for larger specimens (e.g., 5.5×5.7 mm, ZRC 2002.596), not covering entire sternum for smaller specimens, longer than broad, pleotelson broadly triangular.

REMARKS

The genus *Amarinus* (type species *Elamena lacustris* Chilton, 1882) is a small genus of wholly to mostly freshwater species with a Gondwanic distribution. Only one species has previously been reported from Indonesia, viz. *A. crenulatus* Ng & Chuang, 1996, from Sulawesi. With regards to the uneven to serrated lateral carapace margin, *A. pristes* n. sp. is most similar to *A. wolterecki* (Balss, 1934) (Philippines) and *A. crenulatus*. It can be distinguished from *A. wolterecki* by the form of male G1 that is curved and truncate at tip while it is straight and tapering at tip in *A. wolterecki*. The male abdomen of *A. wolterecki* is also proportionally more slender than in *A. pristes* n. sp. (see Ng & Chuang 1996). From *A. crenulatus*, *A. pristes* n. sp. can easily be separated by its relatively shorter ambulatory pereopods, notably the merus and dactylus (cf. Ng & Chuang 1996). The male abdomen of *A. pristes* n. sp. agrees with what has been described in detail for the genus by Guinot & Richer de Forges (1997: 467, fig. 4B-D).

At present *A. pristes* n. sp. is only known from the type locality in Kamora, Irian Jaya, Indonesia.

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