JOURNAL OF CRUSTACEAN BIOLOGY, 23(4): 951–962, 2003

THE CAMPTANDRIIDAE OF IRIAN JAYA, INDONESIA, INCLUDING THE DESCRIPTIONS OF TWO NEW SPECIES (DECAPODA: BRACHYURA)

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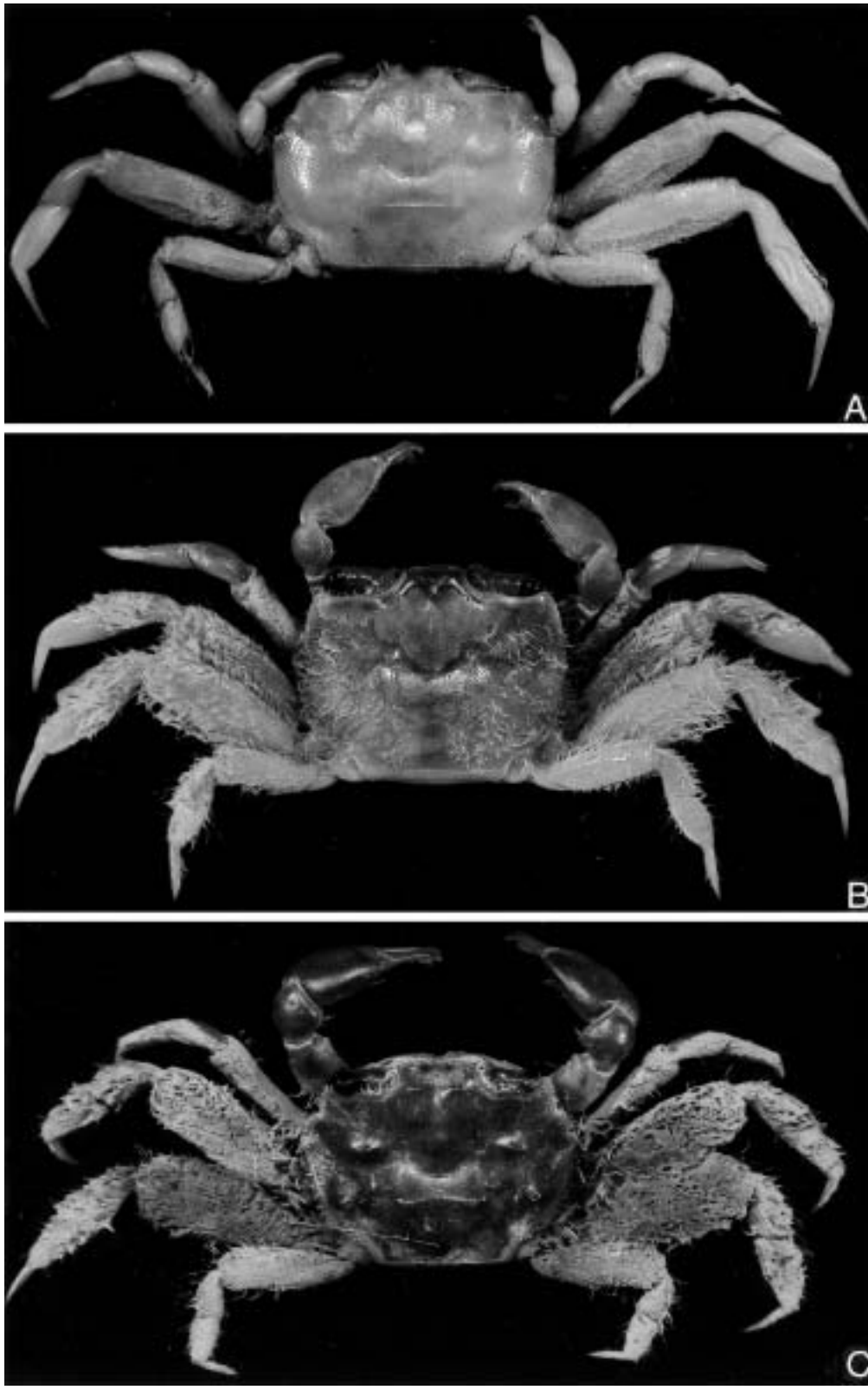
A B S T R A C T

Two new species and two new records of the family Camptandriidae are reported from mangroves in the southwest coast of Irian Jaya, Indonesia. *Paracleistostoma laciniatum*, new species, and *P. quadratum*, new species, differ from congeners in the form of the male first pleopod, which is long and cylindrical in the first species, and short and rounded in the second. *Paracleistostoma mcneilli* (Ward, 1933) and *Baruna trigranulum* (Dai and Song, 1986) are recorded for the first time from Indonesian waters.

Members of the camptandriid genus *Paracleistostoma* De Man, 1895, are defined by several characters, viz., possession of a very distinctive male first pleopod with a large and bulbous distal part, the tip with a distinct process; male abdominal segments 2 to 5 completely fused; the frontomedial region of the carapace being drawn out to form a small triangular projection; the lateral margins of the posterior margin of the epistome fused with the rest of the buccal margin; the infraorbital margin and suborbital ridges confluent; and the tooth on the dactylar finger longer than broad. The genus currently contains eight species, viz., *P. depressum* De Man, 1895 (type species, designation by Guinot and Crosnier, 1963); *P. eriophorum* Nobili, 1903; *P. wardi* Rathbun, 1926; *P. mcneilli* (Ward, 1933); *P. longimanum* Tweedie, 1937; *P. crassipilum* Dai, Yang, Song, and Chen, 1986; *P. tomentosa* Yang and Sun, 1993; and *P. tweediei* Tan and Humpherys, 1995 (Barnes, 1967; Manning and Holthuis, 1981; Tan and Humpherys, 1995). The second author managed to examine the type of the briefly described (without figures) *P. eriophorum* Nobili, 1903 (holotype male, 10.0 by 7.5 mm, Torino Museum, catalogue number MZUT Cr1200, Buntal, Sarawak, East Malaysia, donated by R. Shelford, 1902); it is actually a senior synonym of *P. tweediei* Tan and Humpherys, 1995. The taxonomy of this species will be discussed in depth in a complete revision of the genus to be done at a later date by the second author and C. G. S. Tan. Manning and Holthuis (1981) had referred *Cleistostoma dotilliforme* Alcock, 1900, to *Paracleistostoma*, but Manning (1991) subsequently transferred the species to its own genus, *Nasima* Manning, 1991.

Two species that have been referred to *Paracleistostoma* require further comment, viz., *P. dentatum* Tesch, 1918, and *P. fossulum* Barnard, 1955. Manning and Holthuis (1981: 209) excluded these species from the genus but could not ascertain to what genus they should be assigned. One of the authors (PKLN, with C. G. S. Tan) has examined the type of *P. dentatum* (holotype female, 6.2 by 3.3 mm, Amsterdam Museum, catalogue number De.102.997, Saleyer Island off southern Celebes (= present Sulawesi), Indonesia, coll. Siboga Expedition, M. Webber, 7–8 May 1899); the species is certainly not a camptandriid because the third maxillipeds are broad, with the merus and ischium subequal in length, and the front is narrow, being slightly less than half the width of the orbit. Unfortunately, the holotype (and only known specimen) is a female, and the diagnostic G1 and male abdominal structures are not known. *Paracleistostoma dentatum* Tesch, 1918, is likely to be a species of Dotillinae (Ocypodidae), probably affiliated to, if not a species of, *Ilyoplax* Stimpson, 1858. Interesting, like most dotillines, all the ambulatory legs (P2–P5) have a fringe of relatively long setae on the inner edge of the dactylus. With regards to *P. fossulum* Barnard, 1955, Manning and Holthuis (1981: 209) emphatically stated that it is "... certainly no *Paracleistostoma* and possibly not even an ocypodid." The second



author (with C. G. S. Tan) examined the type specimen of *P. fossulum* (holotype female, 5.0 by 3.5 mm, South African Museum, catalogue number A10778, Delagoa Bay, South Africa), and although it is in poor condition, it is clear that the figures given in Barnard (1955) are accurate. The chelipeds of the holotype (and only known specimen) are robust, unlike the small, slender ones found in all known camptandriid species. The third maxillipeds are also set very wide apart, quite unlike the condition in known camptandriid species. While we are certain it is not a camptandriid, its actual familial affinities are not known, although the form of its mouthparts, legs, and chela suggest it may be a species of Varunidae, perhaps akin to *Parapyxidognathus* (N. K. Ng and PKLN, unpublished data).

In the present paper, we report on four species of camptandriids from mangroves in the southwest coast of Irian Jaya, Indonesia. *Baruna trigranulum* Dai and Song, 1986, is a new record for Indonesia. One species, *Paracleistostoma mcneilli* Ward, 1933, has previously only been found in Queensland, Australia. Two other species of *Paracleistostoma*, *P. laciniata* and *P. quadrata*, are here described as new. The terminology used here essentially follows that used by Tan and Ng (1999). Measurements, in millimeters, are provided of the carapace width and length respectively. The abbreviations G1 and G2 are used for the male first and second pleopods respectively, and P2, P3, P4, and P5 refer to the respective pereiopods (the chelipeds being P1). Specimens examined are deposited in the Research Centre for Oceanography, Indonesian Institute of Sciences, Jakarta, Indonesia (RCO); Museum Zoologicum Bogoriense, Cibinong, Indonesia (MZB); Academia Sinica, Beijing, China (AS); Queensland Museum, Brisbane, Australia (QM); and Zoological Reference Collection of the Raffles Museum, National University of Singapore (ZRC).

Taxonomy

Family Camptandriidae Stimpson, 1858

Baruna trigranulum (Dai and Song, 1986)

Leipocten sordidulum.—Tweedie, 1937: 162 (part), fig. 7; Sakai, 1939: 635 (part), text fig. 105; Snelling, 1959: 70; Barnes, 1967: 249 (part); Serène, 1968: 101 (part); Lundoer, 1974: 8; Serène, 1974: 62, 62, 66 (part); Sakai, 1976: 619 (part), fig. 339; Frith *et al*., 1976: 13, 18; Yang, 1979: 39; Naiyanetr, 1980: 44; Manning and Holthuis, 1981: 207 (part); Tantichodok, 1981: 94 (list); Davie, 1982: 206 (list); Shih *et al*., 1991: 125, 126. (Not *Leipocten sordidulum* Kemp, 1915, junior synonym of *Baruna socialis* Stebbing, 1904; *fide* Ng and Harminto, 1991).

Leipocten sp.—Yang, 1979: 39 (part).

Leipocten trigranulum Dai and Song, 1986: 57, pl. 1, fig. 4; Dai and Yang, 1991: 489, pl. 62(5), fig. 249 (2–3).

Baruna mangromurphia Harminto and Ng, 1991: 196, figs. 4–6; Tan and Ng, 1994: 83 (list).

Baruna trigranulum Davie, 2002: 130.

Material Examined.—Holotype, male (4.7 × 3.9 mm) (AS GX-808305), Guangxi, Qingzhou, Longmen, coll. 8 May 1980. Paratypes, 1 female (7.2 × 5.9 mm) (AS GX-808306), same data as holotype; 1 male (4.4 × 3.6 mm), 1 female (5.2 × 4.2 mm) (ZRC, ex-AS GX-808308), Guangxi, Qingzhou, Longmen, coll. 8 May 1980. Others.—1 male (holotype of *Baruna mangromurphia* Harminto and Ng, 1991) (6.0 × 5.1 mm) (ZRC 1991.111), 1 male (paratype of *Baruna mangromurphia* Harminto and Ng, 1991) (6.6 × 5.4 mm) (ZRC 1991.112), in rotten log, floor of mangrove, Mandai, Singapore, coll. P. K. L. Ng and L. W. H. Tan, 1980; 8 males (5.2–6.5 × 4.4–5.1 mm), 3 females (6.3–7.0 × 4.8–5.8 mm) (ZRC 1991.113–123), in rotten log, floor of mangroves, Mandai, Singapore, leg. P. K. L. Ng and L. W. H. Tan, 1980; 2 females (ZRC 1991.134–135), under muddy rocks, Mandai mangroves, Singapore, coll. P. K. L. Ng, 24 June 1987; 1 male, 1 female (ZRC 1991.154–155), Kranji mangroves, Singapore, coll. P. K. L. Ng, May 1987; 5 males, 7 females (ZRC 1991.142–153), Sungei Buloh mangroves, Singapore, coll. P. K. L. Ng, 3 April 1991; 1 male, 3 females (MZB Cru 1380), Sosobok, Kao, Halmahera, Indonesia, coll. K. Wada, 19 August 1985; 3 males (4.6 × 3.3 mm, 6.2 × 5 mm, 5.0 × 4.1 mm), 6 females (5.5–8.5 × 4.5–6.9 mm) (RCO), mud substrate in mangrove, Kamora, southeast coast of Irian Jaya, Indonesia, coll. I. Ermayanti, 6 October 2001; 4 males (2.7 × 1.9 mm, 3.8 × 3 mm, 3.6 × 3 mm, 3.9 × 3.1 mm), 1 female (4.3 × 3.5 mm) (ZRC), mud substrate in mangrove, Kamora, southeast coast of Irian Jaya, Indonesia, coll. 20 September 2001; 1 male (4.1 × 3.5 mm), 1 female, ovigerous (8.0 × 6.6 mm) (MZB), mud substrate in mangrove, Kamora, southeast coast of Irian Jaya, Indonesia, coll. 4 October 2001; 1 female, ovigerous (5.0 × 3.8 mm) (RCO), Tipoeka, southeast coast of Irian Jaya, Indonesia, coll. D. L. Rahayu, 8 December 1999; 1 female (11.3 × 9.3 mm) (RCO), in wood log, floor of mangrove, Tipoeka, southeast coast of Irian Jaya, Indonesia, coll. 8 March 2002.

Remarks.—The identities of *Leipocten trigranulum* Dai and Song, 1986, and *Baruna mangromurphia* Harminto and Ng, 1991, have been suspect for some time. The second author examined the type specimens of both species in 1994, and in a revision of the Camptandriidae with C. G. S. Tan, decided that *Baruna mangromurphia* Harminto and Ng, 1991, should become a junior synonym of *Leipocten tri-*

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Fig. 1. A, *Paracleistostoma laciniatum*, new species, male holotype (6.0 × 4.4 mm) (MZB); B, *P. quadratum*, new species, male holotype (7.0 × 5.9 mm) (MZB); *P. mcneilli* Ward, 1933, male (7.9 × 6.5 mm) (MZB).

granulum Dai and Song, 1986. All their external characters agree, and the G1s of the type males differ only slightly, too little to justify recognizing both taxa. To this effect, Davie (2002) has listed *Baruna mangromurphia* as a junior synonym of *L. trigranulum*.

The bifid tip of the distal process of the G1 is very diagnostic and is unique to the species. Dai and Yang (1991: 489) also stated that the "... near-posterolateral margin (of the carapace) with three distinct, larger granules, which in the female are easily distinguishable." This is also partially valid for *B. mangromurphia*, with males having a smoother carapace, whereas females have large, raised granules on the posterolateral region. The sizes of these granules vary, but the posterolateral region in females are almost invariably more prominently granular than that in males. Although smaller female specimens usually have three granules on the posterolateral region, in larger ones, there are often additional granules present that are subequal in size to the three main ones. Dai and Yang (1991) also mentioned the presence of "an incision" behind the orbital tooth; but this is more like a shallow notch, being more distinct in smaller specimens. There is some uncertainty as to the authorship *B. trigranulum* as both Dai *et al.* (1986) and Dai and Song (1986) were published in the same year (see Ng, 1992). It is here attributed to Dai and Song (1986) as originally intended by Dai *et al.* (1986).

Baruna trigranulum is a new record of the species from the Moluccas and Irian Jaya, Indonesia. It has otherwise been reported from Australia, Thailand, Malaysia, Singapore, and China.

***Paracleistostoma laciniatum*,** new species
Figs. 1A, 2A, 3

Material Examined.—Holotype male (6.0 × 4.4 mm) (MZB), mud substrate in high mangrove forest, Ajkwa, Irian Jaya, Indonesia, coll. I. Ermayanti, 15 October 2001. Paratypes.—1 female, ovigerous (6.4 × 4.8 mm) (RCO), mud substrate in high mangrove forest, Ajkwa, Irian Jaya, Indonesia, coll. I. Ermayanti, 3 October 2001; 1 male (7.9 × 5.9 mm) (ZRC), mud substrate in high mangrove forest, Ajkwa, Irian Jaya, Indonesia, coll. D. L. Rahayu, 31 March 2000.

Etymology.—The name is derived from the Latin for frilled; this alludes to the uneven indentation of the anterolateral margins.

Description.—Male. Carapace broadly rectangular, about 1.3 times broader than long, regions poorly demarcated, dorsal surface slightly convex, scarcely pubescent. Anterolateral margin granular, sparsely setose, with 3 broad, obtuse anterolateral teeth, first and second teeth subequal, forming broad, low lobes, third tooth largest. Posterolateral margin slightly convex, posterior margin almost straight, almost 2.5 times broader than front, with transverse crest parallel to it. Epigastric crest present, mesogastric region convex, gastrocardiac grooves weakly defined, cardiac region with transverse crest, branchial region with oblique row of tubercles starting from behind third anterolateral tooth, adjacent to lateral margin.

Front weakly bilobed in dorsal view, separated by shallow V-shaped groove, frontomedial projection broadly triangular. Orbit broad, sinuous, with numerous long setae. Supraorbital margin weakly granular, infraorbital margin finely granular, inner infraorbital tooth not sharply demarcated from rest of infraorbital margin, obtusely triangular, suborbital ridge smooth, without line of granules.

Anterior and posterior portions of epistome separated by transverse ridge, posterolateral margin separated from inner pterygostomial edge by shallow groove, posteromedial tooth triangular, posterior margin sinuous laterally.

Third maxilliped broad, completely covering buccal field. Ischium broadly rectangular, more than 2 times longer than merus measured along inner edge, tuft of long setae close to outer distal angle and inner proximal angle, short setae running along inner margin. Merus with rounded edges, outer margin convex. Exopod narrow with well-developed flagellum.

Cheliped slender, dactylus shorter than palm, with molariform tooth on basal edge, tips of fingers spoon-shaped, cutting edges serrated. Palm sparsely setose on upper and lower margins, outer surface smooth, inner surface with row of sparse setae parallel to upper margin of palm, carpus short, smooth, long setae on upper and lower margins, anterior margin of merus with row of granules and long setae, outer surface smooth, posterior margin with long plumose setae, longer and denser proximally.

P2–P5 relatively long, setose especially on upper and lower margins. P2 and P5 almost equal in length. P4 longest. Dactylus longer than propodus, except for P4 in which dactylus shorter than propodus. Dactylus and propodus of all legs smooth. Lateral surface of carpus with transverse row of tubercles distally, parallel to junction with propodus. Merus of P2–P5 with granules along anterior and posterior

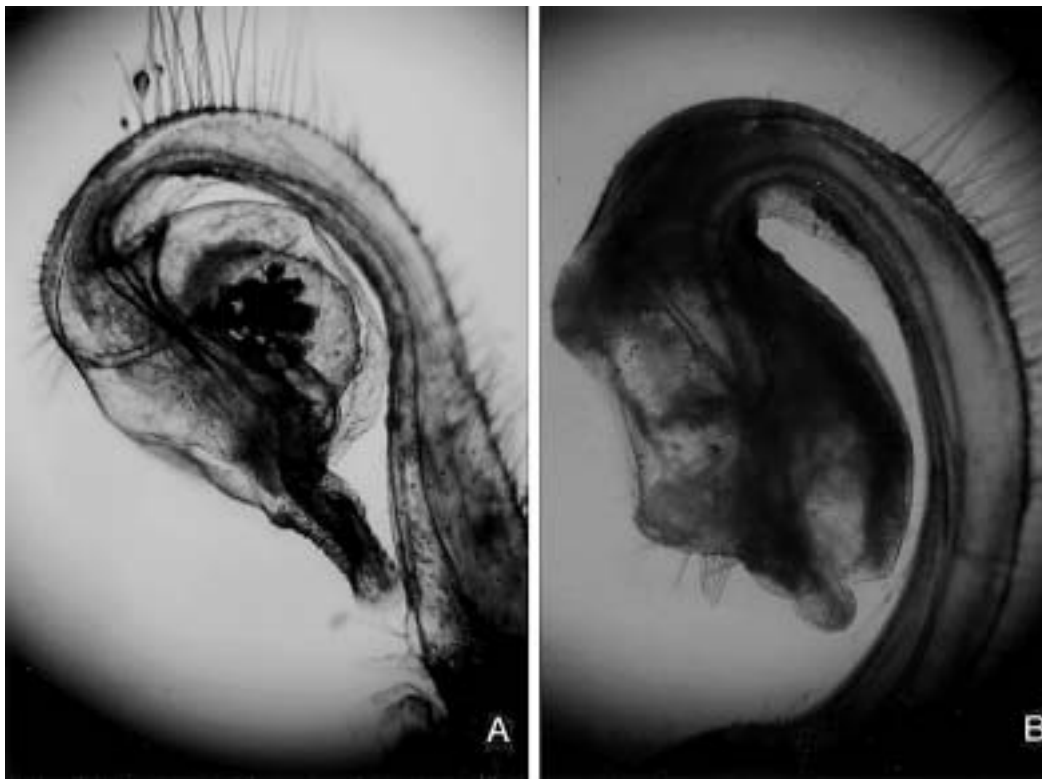

Fig. 2. A, Left G1s, photomicrographs. *Paracleistostoma laciniatum*, new species, male holotype (6.0 × 4.4 mm) (MZB); B, *P. quadratum*, new species, male holotype (7.0 × 5.9 mm) (MZB).

margins, lateral surface with rows of tubercles just adjacent to anterior and posterior margins.

Abdominal segment 1 not reaching bases of P5, segments 2–5 fused, sutures indistinct. Telson with distal edge rounded.

G1 external edge with long and short setae. Distal recurved portion large, globular, apex with long, cylindrical process, tip truncate, covered by spinules.

Female paratype. Tuberculation on lateral margin of carapace and on P1–P4 as in male. Chelipeds more slender than that of male, cutting edges of fingers serrated, without tooth on dactylus, fingers much longer than palm. Abdomen ovate, 6-segmented, with telson, all sutures distinct, covering entire sternum; telson broadly triangular, distal edge rounded.

Male paratype larger than holotype. P2–P5 more densely setose.

Remarks.—Paracleistostoma laciniatum, new species, is perhaps closest to *P. mcneilli* with regards to its dentate anterolateral margin. It can, however, easily be distinguished by the form of the teeth, carapace proportions, and structure of the G1 (see discussion for *P. mcneilli*).

The three specimens of *P. laciniatum* are rather small, and although the G1 is well developed in the male holotype, it is not fully mature, the chelae are still very small and the legs are not distinctively setose. The male paratype is slightly larger than the male holotype, but the chelae are also still not well developed, although the legs are distinctly setose, especially on the P3. On the other hand, despite its small size, the female paratype is already ovigerous. We have compared specimens of *P. laciniatum* comparable in size with *P. mcneilli*, and the differences observed above are valid. It is also possible that *P. laciniatum* is like *Ilyogynnis microcheirum* (Tweedie, 1937) (a species originally placed in *Paracleistostoma*) in which the male chelae never become enlarged and remain similar to those of females even on reaching maturity. The characters of *P.*

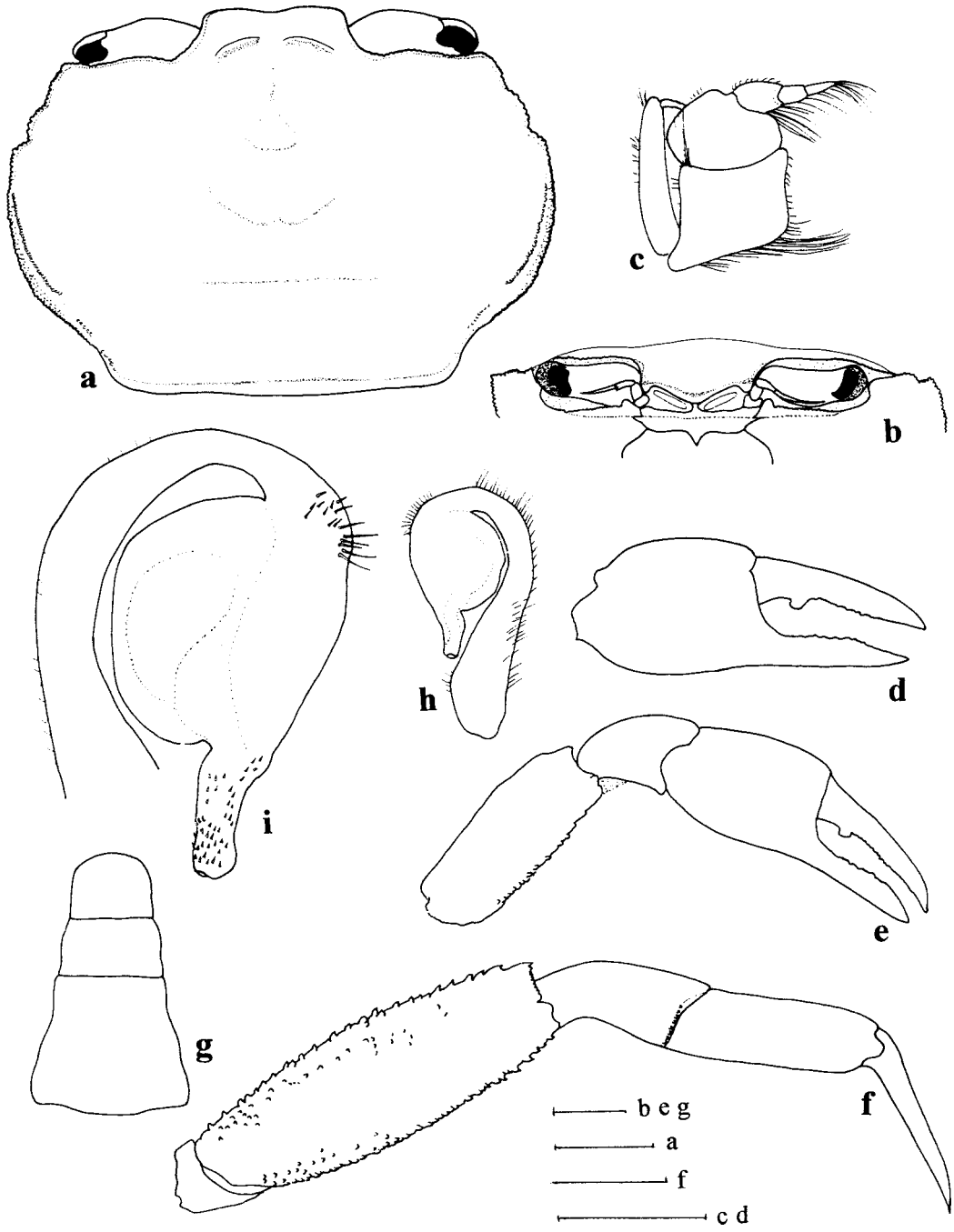

Fig. 3. *Paracleistostoma laciniatum*, new species, male holotype (6.0 × 4.4 mm) (MZB). a. carapace, b. front, c. right third maxilliped, d. propodus of right cheliped, e, right cheliped, f. left P4, g. male abdomen, h. G1, i. tip of G1. Setae omitted except for third maxilliped and G1. Scales = 1.0 mm.

laciniatum, however, do not conform with *Ilyogynnis* (type species *Paracleistostoma microcheirum* Tweedie, 1937) as defined by Manning and Holthuis (1981).

***Paracleistostoma quadratum*,** new species
Figs. 1B, 2B, 4, 5

Material Examined.—Holotype male (7.0 × 5.9 mm) (MZB), mud substrate in mangrove, Ajkwa, Irian Jaya, Indonesia,

coll. I. Ermayanti, 16 October 2001. Paratypes.—1 male (6.1 × 5.3 mm), 1 female, ovigerous (7.1 × 5.8 mm) (MZB), same locality as holotype, coll. I. Ermayanti, 22 October 2001; 1 male (7.7 × 6.3 mm), 1 female (7.0 × 5.9 mm) (ZRC), mud substrate in mangrove, Kamora, Irian Jaya, Indonesia, coll. D. L. Rahayu, 22 September 2001; 3 males (3.8 × 3.3 mm, 4.3 × 3.7 mm, 8.2 × 6.9 mm), 1 female, ovigerous (8.2 × 6.5 mm) (RCO), mud substrate in mangrove, Kamora, Irian Jaya, Indonesia, coll. D. L. Rahayu, 22 September 2001; 3 males (7.6 × 6.3 mm, 7.5 × 6.1 mm, 3.8 × 3.4 mm), 1 female (7.1 × 5.6 mm) (ZRC), mud substrate in mangrove, Kamora, Irian Jaya, Indonesia, coll. 21 September 2001; 2 males (7.1 × 6.1 mm, 6.2 × 5.0 mm), 4 females (4.0 × 3.2 mm, 7.4 × 6.2 mm, 4.3 × 3.6 mm, 4.3 × 3.8 mm), 1 female, ovigerous (9.3 × 7.5 mm) (QM), mud substrate in mangrove, Kamora, Irian Jaya, Indonesia, coll. 21 September 2001; 1 female (6.8 × 5.8 mm) (ZRC), mud substrate in mangrove, Kamora, Irian Jaya, Indonesia, coll. I. Ermayanti, 9 October 2001; 2 females (8.5 × 6.8 mm) (RCO), mud substrate in mangrove, Tipoeka, Irian Jaya, Indonesia, coll. G. Setyadi, 29 July 1999; 1 female (6.5 × 5.5 mm) (RCO), mud substrate in mangrove, Tipoeka, Irian Jaya, Indonesia, coll. D. L. Rahayu, 8 December 1999; 1 female (6.9 × 6.0 mm) (RCO), mud substrate in mangrove, Tipoeka, Irian Jaya, Indonesia, coll. D. L. Rahayu, 29 March 2002.

Comparative Material.—*Paracleistostoma longimanum* Tweedie, 1937: 9 males, 1 female (ZRC 1987.1292.1314), Woodlands, Singapore, coll. S. Harminto, 2 June 1987; 3 males (ZRC 1987.60–62), Lim Chu Kang, Singapore, coll. P. K. L. Ng and S. Harminto, 19 September 1986. *Paracleistostoma wardi* (Rathbun, 1926): 6 males (ZRC 1965.7.15.53-59), Sandgate, Morton Bay, Queensland, Australia, coll. November 1937.

Etymology.—The name is derived from the Latin for squarish, alluding to the shape of the carapace.

Description.—Holotype male. Carapace rectangular, about 1.2 times broader than long, dorsal surface slightly convex, covered with long, dense setae on hepatic and branchial regions, shorter and more scarce setae on gastric, cardiac, and intestinal regions, regions poorly demarcated. Anterolateral margin entire, sparsely setose. Posterolateral margin slightly convex, posterior margin almost straight, 2 times broader than front, with transverse crest parallel to it. Epigastric crest present, mesogastric region slightly convex, gastrocardiac grooves weakly defined, cardiac region with short transverse crest, branchial region with oblique row of granules starting from mid-anterolateral margin, adjacent to lateral margin.

Front weakly bilobed in dorsal view, separated by shallow triangular groove, frontomedial projection broadly triangular. Orbit broad, sinuous, with numerous short seate. Supraorbital margin smooth, infraorbital margin finely granular, inner infraorbital tooth not sharply demarcated from rest of infraorbital margin, obtusely triangular, suborbital ridge finely granulated.

Anterior and posterior portions of epistome separated by transverse ridge, posterolateral margin separated from inner pterygostomial edge by shallow groove, posteromedial tooth triangular, posterior margin sinuous on either side.

Third maxilliped broad, completely covering buccal field. Ischium broadly rectangular, more than 2 times longer than merus measured along inner edge, tuft of long setae on inner proximal angle, transverse short setae close to distal outer margin. Merus with rounded edges, outer margin convex. Exopod narrow with well-developed flagellum.

Cheliped relatively stout, large, dactylus longer than fixed finger, slightly shorter than palm, large molariform tooth on basal edge, tip of tooth serrated, fixed finger weakly curved from base, with distinct gap between bases of fingers when closed, tips of fingers spoon-shaped, with tuft of long setae, cutting edges serrated; palm stout, glabrous, outer surface smooth, dorsal margin with rows of minutes granules, inner surface with row of longitudinal setae adjacent and parallel to dorsal margin; carpus short, globular, outer surface with several low ridges, dorsal margin minutely beaded with granules, inner surface with some granules and row of hairs close to ventral margin; anterior and posterior margins of merus beaded with granules and sparse long setae, outer surface smooth.

P2–P5 relatively long, P2 glabrous, almost equal in length with P5; P3 and P4 densely setose, P4 longest, P5 relatively less setose. Dactylus longer than propodus, except on P4 in which dactylus shorter than propodus; dactylus, propodus, and carpus of P2–P5 smooth. Merus of P2–P5 with granules along upper and lower margins, proximal half of lateral surface with longitudinal row of tubercles medially.

Abdominal segment 1 not reaching bases of P5, segments 2–5 fused, sutures indistinct. Telson with distal edge rounded.

G1 external edge with long and short setae. Distal recurved portion large, globular, apex with short, rounded process.

Female paratype. Carapace covered with scarce short setae. Chelipeds much more slender than that of male, cutting edges of fingers not serrated, without tooth on dactylus, fingers longer than palm. P2–P5 less setose than those of male but with stronger tubercles on upper

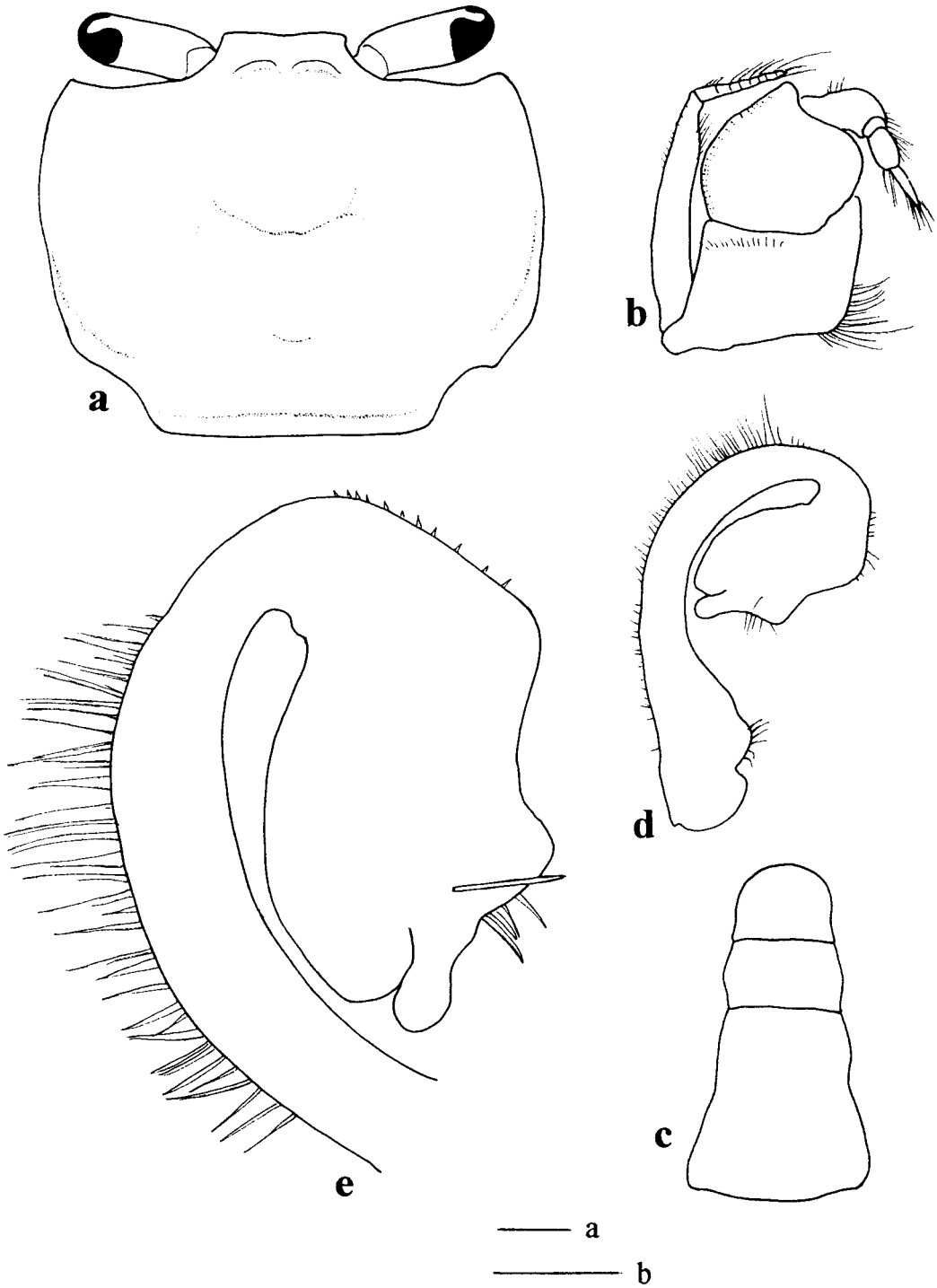

Fig. 4. *Paracleistostoma quadratum*, new species, male holotype (7.0 × 5.9 mm) (MZB). a. carapace, b. right third maxilliped, c, male abdomen, d. G1, e. tip of G1. Scales = 1.0 mm.

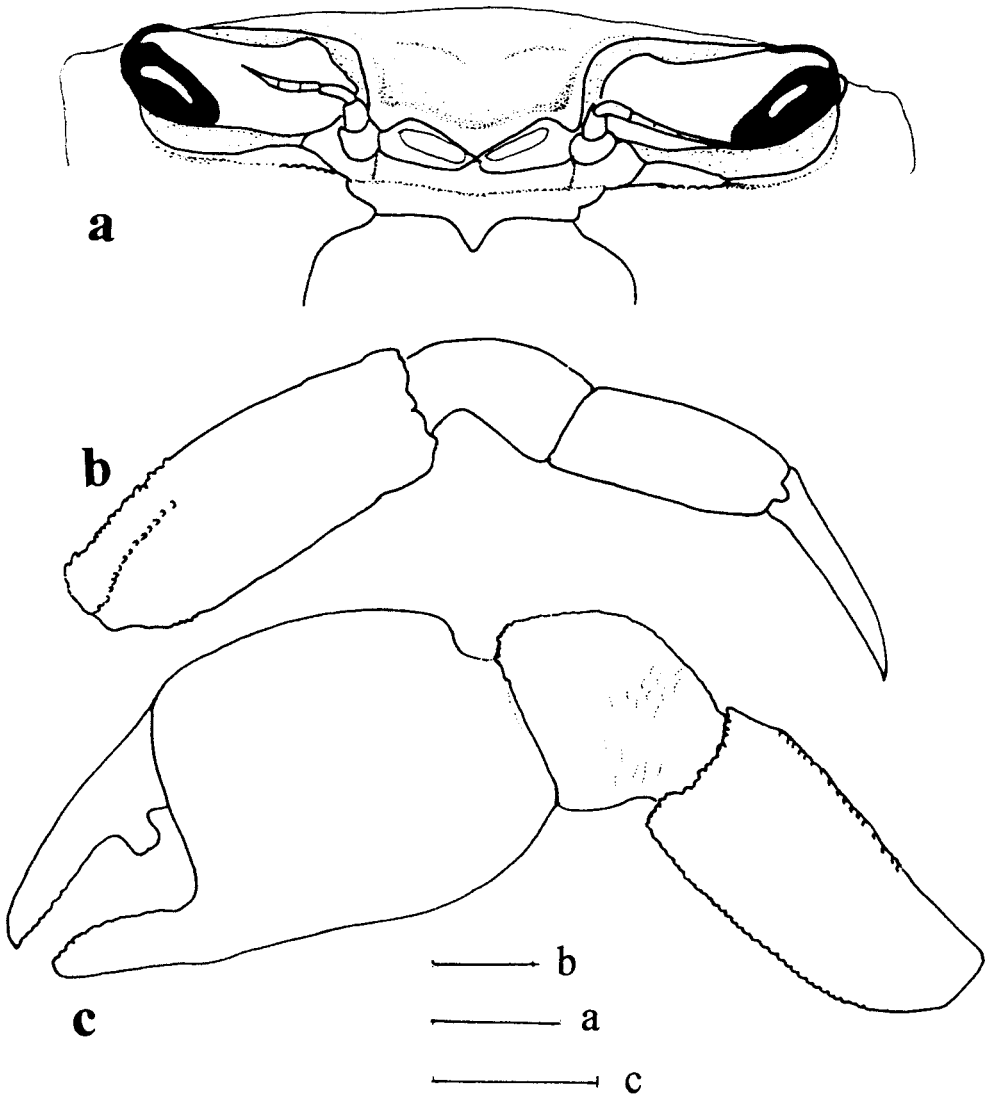

Fig. 5. *Paracleistostoma quadratum*, new species, male holotype (7.0 × 5.9 mm) (MZB). a. front, b. left P4, c, left cheliped. Scales = 1.0 mm.

and lower margins of merus. Abdomen ovate, 6-segmented with telson, all intersegmental sutures distinct, covering entire sternum, telson broadly triangular, distal edge rounded.

Remarks.—The present new species is most similar to *P. wardi* (Rathbun, 1926) (type locality, Sandgate, Brisbane River, Queensland, Australia) in body form, the presence of a low transverse ridge on the cardiac region, and the general form of the G1; however, it can easily be distinguished by the weakly convex antero- and posterolateral carapace margins and its shorter G1 distal process (cf. Rathbun, 1926: 178, pl. 14; Barnes, 1967: 244, fig. 15a–d). To this effect, we have also compared *P. quadratum* with topotypic specimens of *P. wardi*. The differences observed here are independent of size or sex.

From *P. longimanum* Tweedie, 1937 (type locality Singapore), which also has the transverse cardiac ridge, *P. quadratum* can easily be distinguished by its relatively more slender and proportionately shorter chelipeds (vs. robust and elongated chelipeds with the palms twice the length of the fingers) and structure of the G1 (cf. present specimens; Tweedie, 1937: 157, fig. 5a–e).

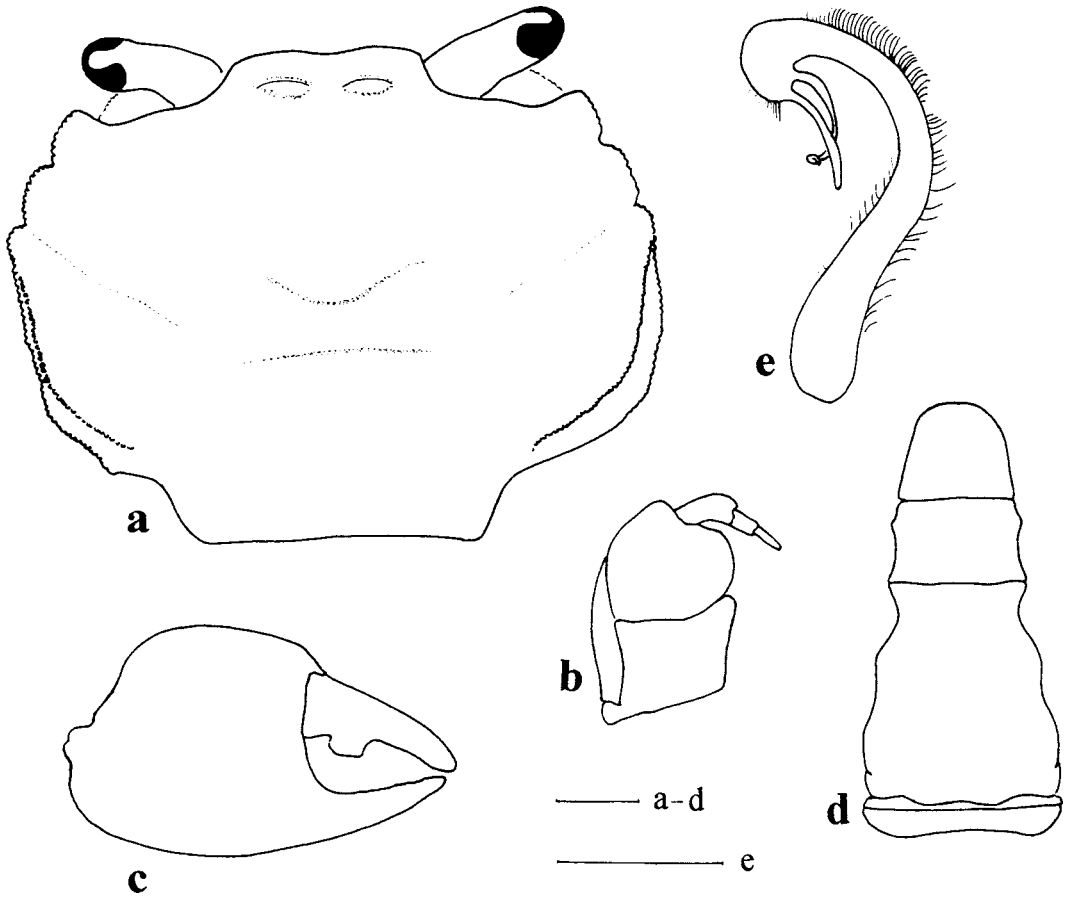

Fig. 6. *Paracleistostoma mcneilli* (Ward, 1933), male (7.9 × 6.5 mm) (MZB). a. carapace, b. right third maxilliped, c. propodus of right cheliped, d, male abdomen, e. G1. Scales = 1.0 mm.

Paracleistostoma quadratum also resembles *P. eriophorum* Nobili, 1903, in the form of the carapace and cheliped. These species are easily separated from each other by the structure of G1. In *P. eriophorum*, the apex of G1 has the distal part modified to form a short, median spine-like process (cf. Tan and Humpherys, 1995), whereas in *P. quadratum*, the distal part of the G1 is modified to form a large and rounded median process.

Currently, *P. quadratum* has been found only from the type locality, Ajkwa and Kamora rivers on the southeastern coast of Irian Jaya, Indonesia.

Paracleistostoma mcneilli (Ward, 1933)
Figs. 1C, 6

Cleistostoma mcneilli Ward, 1933: 390, pl. 21, fig. 1; Snelling, 1959: 70; Guinot and Crosnier, 1963: 607.

Paracleistostoma mcneilli.—Barnes, 1967: 246, pl. 4d, fig. 16; Manning and Holthuis, 1981: 201.

Camptandrium mcneilli.—Serène, 1974: 62.

Material Examined.—3 males (3.3–5.5 × 3.8–6.8 mm), 1 female (5.7 × 7.0 mm) (ZRC), mud bank, Murray River, northern Queensland, Australia, coll. R. Timmins, 22 May 1978; 3 males (6.8 × 5.5 mm, 5.7 × 4.5 mm, 4.0 × 3.5 mm) (RCO), mud substrate in mangrove, Ajkwa, Irian Jaya, Indonesia, coll. D. L. Rahayu, 21 June 2001; 6 males (7.1–10.2 × 5.7–8 mm), 4 females (2 ovigerous) (7.9 × 6.3 mm, 5.4 × 4.3 mm, 7.1 × 5.5 mm, 9.3 × 6.9 mm) (RCO), mud bank along river, Kamora, Irian Jaya, Indonesia, coll. D.L. Rahayu, 16 March 2001; 3 males (7.3 × 5.5 mm, 4.7 × 3.9 mm, 5.7 × 4.7 mm), 2 females (1 ovigerous) (5.7 × 4.7 mm, 6.3 × 5 mm) (MZB), mud substrate in mangrove, Kamora, Irian Jaya, Indonesia, coll. D. L. Rahayu, 21 September 2001; 12 males (4.6–9.6 × 3.7–7.2 mm), 15 females (1 ovigerous) (4.9–8.5 × 3.9–6.8 mm) (ZRC), mud substrate in mangrove, Kamora, Irian Jaya, Indonesia, coll. I. Ermayanti, 20 October 2001.

Remarks.—The species was described from southern Queensland but has been recorded

from more northerly areas as well (Snelling, 1959; Barnes, 1967). The present specimens agree with the published descriptions and comparative material we have from Queensland. There appear to be some subtle differences in the form of the dilated part of the G1, but with the limited Australian material we have on hand, it seems best to refer the present specimens from Timika to *P. mcneilli* for the time being. The species is currently being revised by P. Davie (personal communication), who believes that *P. mcneilli* is actually a species complex with more than one species, and it is possible the present material may be described as new at a later date.

Paracleistostoma mcneilli differs from typical congeners in two key aspects, notably the distal part of G1 is sharply bent (not gradually), with the tip possessing two terminal processes (not one), and the anterolateral margin is distinctly dentate. A new genus will be established at a later date for this species (P. Davie, personal communication). The presence of a dentate anterolateral margin, however, is no longer distinctive, as a second species, *P. laciniatum*, is here described from Irian Jaya. The anterolateral teeth of *P. laciniatum*, however, are distinctively less well developed, and the carapace is proportionately broader. In addition, the G1 of *P. laciniatum* is typical for members of the genus, with the structure gently bent and the distal part having only one process.

Acknowledgements

The material treated in this paper was mostly collected during Mangrove Invertebrate Monitoring Program of PT Freeport Indonesia. Thanks are due to the members of Tailings and Coastal Section of Environmental Department of PT Freeport Indonesia for assisting in the field. This paper was completed during a visit of the first author to the Raffles Museum, National University of Singapore, under a fellowship from the Raffles Museum and South China Sea Workshop Process (Indonesia). Lipke Holthuis and Peter Davie kindly read through the manuscript and provided many helpful suggestions.

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RECEIVED: 5 November 2002.
ACCEPTED: 9 April 2003.

ANNOUNCEMENT

The "11th Crustaceologist Meeting (Crusttag) in Ulm" was organized by Prof. Dr. Dieter Waloszek, Dr. Andreas Maasand, and many helpers from the "Section for Biosystematic Documentation," University of Ulm, and held in Ulm, Germany, during 20–23 February 2003. At that meeting, The Crustacean Society recognized outstanding student poster and oral presentations. Each winner received a $50 cash award, a certificate signed by the European governor of TCS, Angelika Brandt, as well as a one-year free membership in TCS and subscription to the *Journal of Crustacean Biology*. The recipient for Best Student Poster was Alexandra Hiller from the Justus Liebig University for her poster, "Übereinstimmung von Farbmerkmalen mit molekularen und larvalen Merkmalen in dem amerikanischen *Petrolistes galathinus*-Artenkomplex" [Investigation of similar colour patterns within the American *Petrolistes galathinus*-species complex using molecular and larval characters], presented together with Holger Kraus. The Best Oral Presentation award was presented to Sebastian Klaus from the University of Heidelberg for his talk, "Die Verbreitungsgeschichte der parathelphusoiden Süwasserkrabben Afrikas, Madagaskars und Asiens—Abwanderung oder Vikarianz?" [The colonisation history of parathelphusoid freshwater crabs from Africa, Madagaskar and Asia—migration or vicariance], presented together with Dirk Brandis.