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The *Endeavour* and Other Australian Museum Collections of Portunid Crabs (Crustacea, Decapoda, Portunidae)

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Plate 43. Figure 1.

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SUMMARY

Portunids collected in 1909–1914 by the Fishery Investigation Ship *Endeavour*, held in the Australian Museum and not previously reported upon, are listed. Additional material collected by the *Endeavour* and held in the Mortensen collection, Zoologiske Museum, Copenhagen, is also listed. Specimens include a new State record of *Nectocarcinus spinifrons* Stephenson.

Two new species of *Caphyra* are described, *C. curtipes* n.sp. and *C. holocarinata* n.sp., and a third species is recognized as new, *C. carinata* nom. nov. Colour notes are given on *Charybdis yaldwyni*.

Caphyra unidentata is added to the Australian fauna, and new State records are given for *Macropipus corrugatus*, *Caphyra yookadai*, *Portunus pseudoargentatus*, *Thalamera crenata*, and *T. parvidens*. The distributions of *Charybdis truncata* and *Portunus orbitosinus* on the eastern Australian coast are extended. *Portunus gladiator* is recorded from Ceylon.

INTRODUCTION

This paper has two main aims: (a) completion of the recording of portunids collected by the Fishery Investigation Ship *Endeavour* and (b) the recording of interesting additions to the collections of the Australian Museum. For the sake of completeness two interesting specimens in the collections of the Queensland Museum are also included.

The majority of the portunids collected by the F.I.S. *Endeavour* during the years 1909–1914 and held by the Australian Museum have been reported upon by Rathbun (1923). Most of the remainder had been available to her and bore her preliminary identifications, although they were not referred to by her or by later workers (Stephenson and Hudson, 1957; Stephenson, Hudson, and Campbell, 1957; Stephenson and Campbell, 1959, 1960; Stephenson, 1961; Rees and Stephenson, 1966). Through the kindness of Dr D. J. G. Griffin, some additional *Endeavour* material held by the Zoologiske Museum, Copenhagen, and now under study by him with the Australian Brachyura collected by Dr Th. Mortensen and by the *Galathea* Expedition, has been made available to us. This remaining *Endeavour* material is reported on in the present work and in Stephenson and Rees (1968). These studies now hopefully complete the reporting of the *Endeavour* portunids. The status of *Charybdis incisa* Rathbun, 1923, from the *Endeavour* collections, is discussed by Stephenson, Hudson, and Campbell (1957, p. 502) and by Rees and Stephenson (1966, pp. 31–2), but Rathbun's other records from the 1923 report (with the exception of a *Nectocarcinus* specimen discussed below) stand unaltered. Included in the *Endeavour* collections is an interesting new record of another species of *Nectocarcinus* *N. spinifrons* Stephenson.

Most of the recent additional specimens in the collections of the Australian Museum do not add substantially to the known distribution of species, and this material is not referred to here. Exceptions are the extension of the distributions of *Caphyra yookadai* Sakai, *C. unidentata* Lenz, *Thalamita crenata* (Latreille), and *T. parvidens* (Rathbun) to New South Wales, of *Macropipus corrugatus* (Pennant) to Queensland, and of *Portunus pseudoargentatus* Stephenson to the Northern Territory; a second record of *Portunus orbitosinus* Rathbun from Queensland; and a new record of *Charybdis truncata* (Fabricius) from Moreton Bay. Two new species are described, *Caphyra curtipes* n.sp. and *C. holocarinata* n.sp., and a new *Caphyra* is named, *C. carinata* nom. nov. Colour notes are given on the recently described species *Charybdis yaldwyni* Rees and Stephenson.

Two specimens of *Caphyra unidentata* Lenz held by the Queensland Museum are included in the present work because they were collected with two species of *Caphyra* which were sent to the Australian Museum.

The order of presentation follows Stephenson (1961). Dimensions given are carapace breadths in mm to the nearest 0.5 mm, as measured by dial calipers. The letters and numbers accompanying some specimens listed (e.g., P. 13726) are Australian Museum registered numbers, and the numbers prefixed by E (e.g., E. 715) refer to *Endeavour* material in the Australian Museum.

RECORDS AND DESCRIPTIONS OF SPECIES

Subfamily **CARCININAE** Alcock

Genus **Nectocarcinus** A. Milne Edwards

Nectocarcinus spinifrons Stephenson

Nectocarcinus spinifrons Stephenson, 1961, pp. 92-3, 95, figs 1A, 2G; pl. 1, fig. 1; pl. 4A.

Material examined: ♂ (32 mm), N. x W. of Greenly I., South Australia, 44 fm, E. 4511.

Distribution: The present specimen is the second recording of this species. Previously known only from Shark Bay, Western Australia, now extended to South Australia.

Nectocarcinus tuberculosus A. Milne Edwards

Nectocarcinus tuberculosus A. Milne Edwards, 1860, p. 220; 1861, pp. 405-6; pl. 37. Miers, 1874, p. 2. Haswell, 1882, p. 82. Hale, 1927, p. 153, fig. 154. Stephenson and Campbell, 1960, p. 84, fig. 2C; pl. 1, fig. 3; pls. 5C, 6B.

Material examined: ♂ (41 mm), off mouth of Murray River, South Australia, 20 fm, 17th August, 1909, E. 715. Juv. ?♂ (9 mm), Oyster Bay, Tasmania, 26 fm, P. 15184 (ex. E. 5185).

Remarks: The single *Endeavour* specimen without locality (♂, 11.6 mm, E. 6493) recorded as *Nectocarcinus integrifrons* (Latreille) by Rathbun (1923, p. 130) has been re-identified by us as *N. tuberculosus*.

Distribution: Victoria, Tasmania, and South Australia.

Subfamily **MACROPIPINAE** Stephenson and CampbellGenus **Macropipus** Prestandrea**Macropipus corrugatus** (Pennant)

Cancer corrugatus Pennant, 1777, p. 5; pl. 5, fig. 9.

Macropipus corrugatus (Pennant). Stephenson and Campbell, 1960, pp. 92-4, figs 1E, 2G; pl. 2, fig. 4; pl. 5G. Rees and Stephenson, 1966, p. 30.

Material examined: 8 juvs (6.5-7 mm), Oyster Bay, Tasmania, 26 fm, E. 5185. ♀ (10.5 mm), Bay of Fires, Tasmania, 53 fm, E. 6162. 16 ♂♂, 5 ♀♀ (11.5-17.5 mm), Disaster Bay, N.S.W., 30-40 fm, sand, mud, trawled, 1st October, 1914, Dr Th. Mortensen, *Endeavour*. 3 ♂♂ (24.5-29.5 mm), outside Moreton Bay, N. of Cape Moreton, South Queensland, trawled 20 fm, coll. trawler fishermen, September, 1966, P. 15379.

Distribution: New record for Queensland and northerly extension of known Australian distribution. Previously known from eastern northern Atlantic, Red Sea, Japan, Western Australia, and southeastern States of Australia (see Stephenson and Campbell, 1960).

In recent months considerable numbers have been obtained from prawn trawlers working in 60-90 fm off the south Queensland coast.

Subfamily **CAPHYRINAE** AlcockGenus **Caphyra** Guérin**Caphyra curtipes** n.sp.

Pl. 43A; figs 1A-D

? *Caphyra rotundifrons* (A. Milne Edwards). Barnard, 1957, pp. 2-3, fig. 1 (specimen A only).

Material examined: *Holotype* ♂ (11 mm), Woody Head, Clarence River mouth, N.S.W., from intertidal brown soft coral (*Alcyonium aspiculatum* Tixier-Durivault), A. A. Cameron and D. Cameron, 12th November, 1966, P. 15361.

Description:

Front—Bilobed, with the left side somewhat protruding, indistinctly subdivided into smaller median and broader lateral lobes, latter distinct from a reasonably sharp inner orbital lobe. Right side of front sinuous and merging with inner orbital lobe almost suggesting a malformation.

Anterolateral teeth—Anterolateral margin forming a ledge, clearly subdivided into three broad flat teeth, these being followed by fourth smaller, sharper tooth at end of epibranchial ridges.

Carapace—Broader than long (L/B 0.86), convex with flattened anterolateral margins. Granules on carapace anterior to ridges and just behind anterolateral teeth; remainder smooth and shiny. Mesogastric ridge continuous, slightly sinuous, concave anteriorly in midline. Pair of short sinuous ridges lateral to and slightly posterior to mesogastric. Epibranchials well developed.

Chelipeds—Right larger than left. General upper surfaces microscopically granular. Arm—anterior border with fine smooth continuous ridge, under surface smooth and shining. Wrist—with short, blunt, inner spine; upper surface with two short carinae, one running to inner spine, and one to hand articulation; outer surface with upper and lower carinae. Hand—slightly swollen; blunt tubercle at

wrist articulation; upper surface with two parallel carinae; remaining surfaces smooth and rounded. Fingers—short, stout; movable finger with two carinae on upper surface.

Legs—Elongate, slender. Dactyls short, with fringe of hairs on inner side. Propodi long.

Fifth legs—Curved back dorsally over carapace. Propodus broad (L/B 2.05), fringed anteriorly with a few hairs. Dactyl narrow and very sharp tipped.

Male abdomen—Penultimate segment broader than long (L/B 0.7), with slightly converging borders. Ultimate segment triangular, about as broad as long.

Male first pleopods—Almost straight, except for sharp change in curvature near tip, where it tapers to a point. Apart from a few scattered hairs on basal lobes, appendage bare to terminal armature. Inner side bears long irregular row of fairly stout bristles terminating just before tip. Outer side bare except for a small cluster of bristles at tip. Upper surface with dense patch of bristles near tip, merging with those of inner side.

Colour—When first examined, about 3 months after collection, the anterior half of the carapace had faint longitudinal bars of pigment. These have since faded.

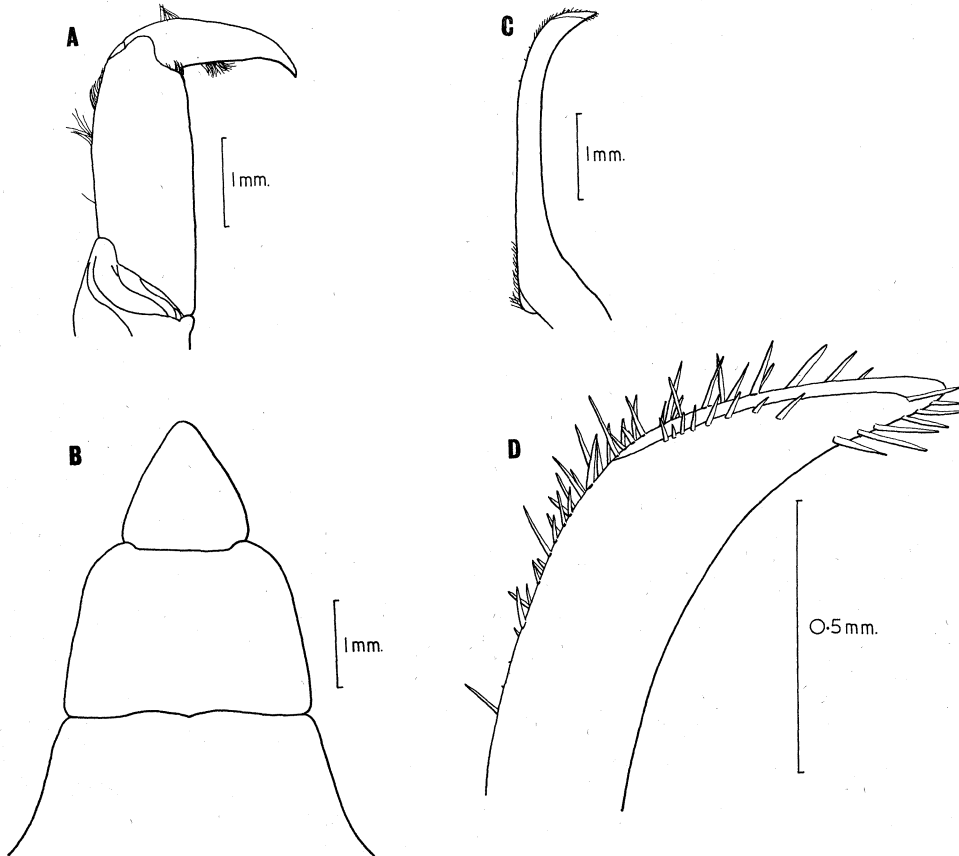


Fig. 1.—*Caphyra curtipes* n. sp. A, dactyl and propodus of right fifth leg; B, male abdomen; C, right male first pleopod; D, tip of pleopod.

Remarks:

This species keys out in Stephenson and Campbell (1960, pp. 96-7) with *C. alcyoniophila* Monod, but differs from it in the shape of the front, in the shape of the anterolateral teeth, in the broader propodus of the fifth leg, in the shape of the male abdomen, and in the less dense terminal armature of the male first pleopod.

Barnard (1957, pp. 2-3, fig. 1) records *C. rotundifrons* (A. Milne Edwards) from South Africa and figures two specimens. As indicated below under *C. yookadai* these are neither *C. rotundifrons* (A. Milne Edwards) nor *C. yookadai* Sakai. Barnard's figures and description of specimens B and C show a feebly developed inner supra-orbital lobe, two very obtuse anterolateral teeth and a last walking leg with very broad propodus. In this last respect it shows resemblances to the present species although the shape of the propodus is distinctly different. Barnard's description and figures of his specimen A show a front, inner supraorbital angle and anterolateral teeth resembling the present species. It appears to belong to a different species from his specimens B and C, and until it is redescribed its status must remain uncertain.

In company with *C. curtipes*, and apparently from the same alcyonarian host (*Alcyonium aspiculatum*), *C. unidentata*, and *C. yookadai* are recorded (see later). This adds credence to the suggestion that Barnard's material, also all from a single host, comprises more than one species.

***Caphyra holocarinata* n.sp.**

Pl. 43B

Material examined: Holotype. ♀ (10 mm), reef near Kunie, Port of Kuto, Isle of Pines, off New Caledonia, mid tide level, E. Pope, 19th July, 1960, P. 13726.

Description:

Front—Indistinctly six lobed; median and submedian almost fused to a broad sinuous lobe; laterals rounded. Inner orbital lobes rounded, clearly separated from and less protruding than frontal lobes.

Anterolateral teeth—Four, stout; first three moderately blunt, last the narrowest and sharpest.

Carapace—Convex, broader than long (L/B 0.6), shiny, finely granular in anterior half. Epibranchial ridge well developed, backwardly directed. No other carapace ridges.

Chelipeds—Right larger than left. Arm—anterior border with three small blunt, flattened spines; under surface smooth. Wrist—microscopically granular, with short, stout, blunt inner spine. Hand—rounded tubercle at wrist articulation, single uninterrupted carina on upper inner surface of hand. Fingers—short, stout.

Legs—Elongate, slender. Dactyls short, with fringe of long hairs on inner side. Propodi long. Fifth legs missing.

Remarks:

This species is close to *C. laevis* (A. Milne Edwards), differing from it in having (a) smaller, less conspicuous and generally fewer spines on the anterior border of the arm; (b) shorter, blunter inner wrist spine; (c) absence of spine on carina of hand. The form of the front differs from *C. laevis* as shown by Crosnier (1962, fig. 43 bis a), but comes within the range of variation shown by Stephenson and Campbell (1960, fig. 3D-F). It is very similar to their fig. 3F.

C. holocarinata is distinguished from most specimens of *C. laevis* by possessing only four anterolateral teeth on each side instead of five. Occasional specimens of *C. laevis* do, however, possess four teeth as indicated by Haswell's (1882) description of a synonym of this species, *C. octodentata* (see Stephenson and Campbell, 1960, pp. 100-1; Rees and Stephenson, 1966, p. 30).

***Caphyra laevis* (A. Milne Edwards)**

Goniosoma laeve A. Milne Edwards, 1869, p. 152.

Caphyra laevis (A. Milne Edwards). A. Milne Edwards, 1873, pp. 173-4; pl. 4, figs 2a-c. Stephenson and Campbell, 1960, pp. 97-8, 100-1, figs 1G, 2I, 3D-G, 3J; pl. 3, fig. 3; pl. 5I. Crosnier, 1962, pp. 32-4, fig. 43 *bis* a-b. Rees and Stephenson, 1966, p. 30.

Caphyra octodentata Haswell, 1882, pp. 753-4.

Material examined: ♀ (13 mm), West I., off Rockhampton, Queensland, E. 4510.

Distribution: Malgache (= Madagascar), Amboina, Australia (Queensland), New Caledonia, and Fiji.

***Caphyra unidentata* Lenz**

Caphyra unidentata Lenz, 1910, pp. 555-6, figs. 2-4. Crosnier, 1962, pp. 28, 30, figs 33-8.

Material examined: ♂ (7 mm), Woody Head, mouth of Clarence River, N.S.W., from intertidal brown soft coral (*Alcyonium aspiculatum* Tixier-Durivault), A. A. Cameron, 7th January, 1966, P. 15378. ♂ (8.5 mm), ♀ (10 mm), Woody Head, mouth of Clarence River, N.S.W., on soft coral, A. A. Cameron, 10th December, 1966, Qld Mus. W. 2575.

Remarks:

As mentioned earlier, three species of *Caphyra*, *C. unidentata*, *C. yookadai*, and *C. curtipes*, were all collected from the one host, a brown soft coral.

The present species, not previously recorded from Australia, differs slightly from Crosnier's figures (figs 33-8). The 8.5 mm male possesses a more sinuous front, slightly broader ultimate segment of the male abdomen, and fewer bristles on the outer surface of the pleopod. These differences may be due to its juvenility.

The 7 mm male differs from Crosnier's figures (figs 33, 34) in possessing a distinctly bilobed front, and in the outer surface of hand of cheliped being granular. Crosnier mentions only "granules miniscules sur sa face supérieure."

Distribution: New record for Australia. Previously known only from Madagascar and Fiji.

***Caphyra yookadai* Sakai**

Pl. 43, C

Caphyra yookadai Sakai, 1933, pp. 141-3, pl. 13, fig. 3. Stephenson and Campbell, 1960, pp. 102-4, figs 1I, 2K, 3H; pl. 4, fig. 1; pl. 5K. Stephenson, 1961, pp. 98-9; pl. 1, fig. 3. Rees and Stephenson, 1966, pp. 30-1.

Non *Caphyra yookadai* Crosnier, 1962, pp. 31-2, figs 40-43 (= *C. carinata* nom. nov.).

Material examined: ♀ (8.5 mm), Woody Head, Clarence River mouth, N.S.W., from intertidal brown soft coral (*Alcyonium aspiculatum* Tixier-Durivault), A. A. Cameron, Jan., 1966, P. 15373. Ovig. ♀ (9 mm), locality as above, 7th March, 1966, A. A. Cameron, P. 15374. ♀ (9 mm), locality as above, 23rd March, 1966, A. A. Cameron, P. 15375. ♂ (9.5 mm), ♀ (7 mm), locality as above, 20th September, 1966, A. A. Cameron, P. 15376. 3 ♂♂ (8.0–8.5 mm) 3 ovig. ♀♀ (8.0–10.5 mm), locality as above, 12th November, 1966, D. and A. A. Cameron, P. 15360.

Remarks:

One of the 8 mm males of P. 15360 has very indefinite anterolateral teeth and the intermediate sized female of P. 15360 has five anterolateral teeth on the left. Previously a range of 2–4 teeth had been reported by Stephenson and Campbell (1959, p. 103).

The colour of two specimens (♂, 9.5 mm; ♀, 7 mm) was pale cream with dark grey blotches, while the third (♀, 9 mm) bore an orange-tinged carapace with orange-brown spots. These differed from Sakai's (1939, pl. 18, fig. 4) with whitish-pink base and brown mottling, and from Stephenson's (1961, pl. 1, fig. 3) material which was "shiny white with pottery blue blotches".

Crosnier's (1962) description and figures differ in several respects from the present material and from that previously recorded from Australia (Stephenson and Campbell, 1960; Stephenson, 1961). The most important differences are:

- (a) front more salient and each side more clearly bilobed;
- (b) a continuous and sinuous mesogastric ridge;
- (c) outer surface of palm of cheliped distinctly carinate, fingers carinate;
- (d) propodus of fourth walking leg relatively broad (from Crosnier's figure 42, c. 2.7 times as long as broad).

In these respects Crosnier's specimen also differs from Sakai's description, figures, and plate.

Crosnier's species has resemblances to both *C. alcyoniophila* Monod, 1928 and to *C. curtipes* but differs from the former in its broader carapace, more protruding front, and mesogastric carapace ridge. It differs from *C. curtipes* in its front, mesogastric carapace ridge and having a longer propodus on the last walking legs. It is almost certainly an undescribed species to which the name *C. carinata* nom. nov. is now given, because of the carination of the outside of the palm and finger.

The three species, *C. alcyoniophila*, *C. carinata*, and *C. curtipes*, key out together in Stephenson and Campbell (1960, pp. 96–7 couplet 7) but can be separated as follows:

- a. Outer surface of palm of cheliped carinate *C. carinata*
nom. nov.
- Outer surface of palm of cheliped not carinate..... b
- b(a). First anterolateral tooth the longest, male abdomen almost
twice as broad as long *C. alcyoniophila*
Monod.
- Third anterolateral tooth the longest, male abdomen about
one and a third times as broad as long *C. curtipes* n.sp.

Barnard's *C. rotundifrons* (A. Milne Edwards) was incorrectly synonymized with *C. yookadai* by Stephenson and Campbell (1960). It differs noticeably in the proportions of propodus of the fourth walking leg, which from Barnard's figure

appears to be approximately twice as long as broad. It is also evident from the shape of the front that Barnard's material does not belong to *C. rotundifrons* (A. Milne Edwards) and it is further discussed under *C. curtipes*.

Distribution: *C. yookadai* which was previously recorded in Australia only from Myora, Moreton Bay, Queensland, is now known from New South Wales. Also from Izu and Kii Peninsulas, Japan.

Subfamily **PORTUNINAE** Stephenson and Campbell

Genus **Lupocyclus** Adams and White

Lupocyclus rotundatus Adams and White

Lupocyclus rotundatus Adams and White, 1849, p. 47; pl. 12, fig. 4. Stephenson and Campbell, 1960, pp. 109-111, figs 1K, 2M; pl. 4, fig. 3; pl. 5M. Stephenson, 1961, pp. 102-3, fig. 3B.

Material examined: ♀ (36.5 mm), 7 miles NNE. of Bowen, Queensland, 16 fm, 3rd August, 1910, E. 3104.

Distribution: Ceylon, Andamans, Borneo, Amboina, Malay Peninsula, Japan, Western Australia, and northern Queensland.

Genus **Charybdis** de Haan

Charybdis truncata (Fabricius)

Portunus truncata Fabricius, 1789, p. 365.

Charybdis (Gonihellenus) truncata (Fabricius). Stephenson, Hudson, and Campbell, 1957, pp. 503-4, figs 2D, 3E; pl. 3, fig. 3; pl. 4I. Rees and Stephenson, 1966, p. 39. Stephenson, 1967, p. 12.

Material examined: ♂ (35 mm), trawled 7 miles E. of Scarborough, Moreton Bay, Queensland, 7½ fm, sandy mud, 10th November, 1966, W. Stephenson and E. Jukkola. 31 ♂♂, 21 ♀♀, 18 ovig. ♀♀, 2 *Sacculina* infested specimens, trawled in 6 samples each 10 mins duration between Mud I. and sandhills on Moreton I., Moreton Bay, Queensland, 5½-18 fm, 19th December, 1966, W. Stephenson and E. Jukkola, P, 15385, 15386 (1 ♂, 1 ♀ only).

Distribution: Previously known in Queensland only from the North coast. Now known from India to Japan including eastern and western Australia.

Charybdis yaldwyni Rees and Stephenson

Charybdis (Charybdis) yaldwyni Rees and Stephenson, 1966, pp. 32-5; pl. 7C, fig. 1D-F.

Material examined: 7 ♀♀ (32.5-40 mm), 6 ovig. ♀♀ (39-43.5 mm), Tr. Sta. IV, 4 miles W. of small sand hill on Moreton I., Moreton Bay, Queensland, sandy mud, 10-12½ fm, 19th December, 1966, W. Stephenson and E. Jukkola.

Remarks:

Rees and Stephenson (1966) did not give colour notes on this species nor on the closely related *C. jaubertensis*. The specimens of *C. yaldwyni* from Moreton Bay bore the following pattern of dark red markings:

Carapace bearing a broad diffuse V extending from the protogastric ridges to the cardiac region. Epibranchial, mesobranchial, and posterior regions diffusely

pigmented. Concentrations of pigment on lateral ends of protogastric, mesogastric, and metagastric ridges, on cardiac region and median postcardiac region. Discrete spots present over all diffusely pigmented areas.

Frontal and anterolateral teeth, and postlateral borders reddish-orange.

Chelipeds diffusely purplish-red with scattered blood-red spots. Concentrations of pigment present on spines on anterior border of arm, inner wrist spine, upper inner spines on hand, and proximal portion of movable finger. Walking legs banded in brown and pale orange.

C. jaubertensis, as restricted by Rees and Stephenson (1966, pp. 32-7), differs from the present species in being generally less pigmented and bears a large conspicuous blood-red spot in each mesobranchial area.

Distribution: North Australia from Exmouth Gulf, Western Australia, to Moreton Bay, Queensland.

Genus **Portunus** Weber

Portunus gladiator (Alcock)

? *Portunus gladiator* Fabricius, 1798, p. 368.

Neptunus (Amphitrite) gladiator Alcock, 1899, pp. 33-6. Shen, 1937, pp. 101-3, figs 2a-c.

Portunus gladiator Crosnier, 1962, pp. 51-4, figs 72, 76, 78, 82-83; pl. 3, fig. 2. Stephenson and Rees, 1967a, pp. 24-5.

Material examined: ♂ (62 mm), ovig. ♀ (46.5 mm), Ceylon Pearl Banks Inspection, Moderagam Paar, 26th November, 1921, exch. Colombo Museum, Ceylon, P. 7680, P. 7681.

Remarks: See *P. pseudoargentatus*.

Distribution: East Coast of Africa, Ceylon.

Portunus gracilimanus (Stimpson)

Amphitrite gracilimanus Stimpson, 1858, p. 38; 1907, p. 77; pl. 10, fig. 3.

Portunus gracilimanus (Stimpson). Stephenson and Campbell, 1959, pp. 115-6, figs 2M, 3M; pl. 4, fig. 1; pls 4M, 5M. Stephenson, 1967, pp. 14-5.

Material examined: ♂ (c. 45 mm), 7 miles NNE. of Bowen, Queensland, 16 fm, 3rd August, 1910, E. 3105.

Distribution: Andamans, East coast of India, Malaysia, New Guinea, Australia (Northern Territory and Queensland), and Hong Kong. Recently two or three specimens have been trawled in Moreton Bay, southern Queensland, thus extending the distribution further south.

Portunus granulatus (H. Milne Edwards)

Lupea granulata H. Milne Edwards, 1834, p. 454.

Portunus granulatus (H. Milne Edwards). Stephenson and Campbell, 1959, pp. 108-10, figs 2I, 3I; pl. 3, fig. 1; pls 4I, 5I. Stephenson, 1961, p. 108. Stephenson and Rees, 1967a, pp. 25-7, fig. 5.

Material examined: Ovig. ♀ (21 mm), One Tree Island, Capricorn Group, Queensland, dredged from lagoon, 12-15 ft at L.W., J. C. Yaldwyn and Museum party, November, 1966, P. 15369.

Remarks: Dredged from the One Tree Island lagoon in association with *P. longispinosus* and *P. orbitosinus*.

Distribution: Madagascar and Red Sea to Hawaii, Samoa and Fiji, including Japan and Australia (western, northern and eastern, extending into New South Wales).

Portunus longispinosus Rathbun

? *Amphitrite longispinosa* Dana, 1852, pp. 277-8; pl. 17, fig. 2.

Portunus (Xiphonectes) longispinosus Rathbun, 1906, p. 871; pl. 12, fig. 6.

Material examined: ♀ (c. 25 mm), One Tree Island, Capricorn Group, Queensland, dredged from lagoon, 12-15 ft at L.W., J. C. Yaldwyn and Museum party, November, 1966, P. 15368.

Remarks:

This species belongs to the "*P. longispinosus* complex", and keys out as *P. longispinosus* (Dana) in Stephenson and Rees (1967, pp. 29-30).

However, the present specimen differs from Rathbun's (1906) pl. 12, fig. 6 in (a) its decidedly less embossed carapace, (b) the last anterolateral spine being directed laterally and not backwardly and (c) the spinous projections on the post-lateral junctions being less conspicuous. In these features it more closely resembles Stephenson and Campbell's (1959) plate 2 fig. 2, although differing from it in the length of the last anterolateral spine.

It appears similar to *P. cf. longispinosus* Rathbun (see Stephenson and Rees, 1967, p. 30), in possessing a less strongly embossed carapace.

Distribution: Species of the "*P. longispinosus* complex" are known in the Australian areas from Western Australia, Queensland, and Lord Howe Island.

Portunus orbitosinus Rathbun

Portunus (Amphitrite) gladiator de Haan, 1833, p. 65; pl. 18, fig. 1.

Portunus (Achelous) orbitosinus Rathbun, 1911, p. 205; pl. 15, fig. 11.

Portunus orbitosinus Rathbun. Stephenson and Campbell, 1959, pp. 113-4, figs 2L, 3L; pl. 3, fig. 4; pls 4L, 5L. Stephenson, 1961, pp. 108-9; 1967, p. 17. Stephenson and Rees, 1967a, pp. 31-4, fig. 6.

Material examined: ♀ (c. 27 mm), Gillett Cay, Swain Reefs, Queensland, from sand flats at NE. end of Cay, Aust. Mus. Swain Reefs Exped., Oct., 1962, P. 15358. ♀ (23.5 mm), One Tree I., Capricorn Group, Queensland, dredged from lagoon, 12-15 ft at L.W., J. C. Yaldwyn and Museum party November, 1966, P. 15351.

Distribution: Second record from Queensland. Previously known from Madagascar, Seychelles, Western Australia, Mapoon (northern Queensland), and Japan.

Portunus pseudoargentatus Stephenson

? *Portunus gladiator* Fabricius, 1798, p. 368.

Portunus (Amphitrite) gladiator de Haan, 1835, p. 39; pl. 1, fig. 5.

Neptunus (Amphitrite) gladiator Sakai, 1939, pp. 390-1, fig. 5a; pl. 47, fig. 3.

Portunus pseudoargentatus Stephenson, 1961, pp. 109-11, figs 2A, 3F; pl. 2, fig. 4; pls 4F, 5D. Stephenson and Rees, 1967a, p. 25.

Material examined: ♀ (44.5 mm), Troubadour Reef, approx. 10° S., 129° E., edge of Sahul Shelf off Darwin, N.T., dip net on surface over 17 fm, G. P. Whitley, Stanley Fowler Exped., 6th September, 1949, P. 14193.

Remarks: The present specimen and the type of *P. pseudoargentatus* have blunter frontal teeth than a specimen of *P. gladiator* identified by Crosnier or the Ceylon specimens of *P. gladiator* (see p. 293).

Distribution: From the Philippines, Japan, northern and western Australia. Second known specimen from Australian waters.

Portunus rubromarginatus (Lanchester)

Achelous rubromarginatus Lanchester, 1900, pp. 746-7; pl. 46, fig. 8.

Portunus rubromarginatus (Lanchester). Stephenson and Campbell, 1959, pp. 112-3, fig. 2K, 3K; pl. 3, fig. 3; pls 4K, 5K. Stephenson and Rees, 1967a, p. 37. Stephenson, 1967, p. 18.

Material examined: 3 ♂♂ (47.5, 48.5, 51.5 mm), ♀ (44 mm), 4-5 miles SW. of Bustard Head, Queensland, 11-16 fm, 8th July, 1910, E. 2032, E. 2033, E. 2034, E. 2035. ♂ (63 mm), Platypus Bay, Hervey Bay, Queensland, 28th July, 1910, E. 3107. ♂ (59.5 mm), 7 miles NNE. of Bowen, Queensland, 16 fm, 3rd August, 1910, E. 3106.

Distribution: Malay Archipelago, South China Sea, Hong Kong, northern half of Australia (on the east coast, including Moreton Bay).

Genus **THALAMITA** Latreille

Thalamita crenata (Latreille)

Portunus crenatus Latreille, 1829, fide H. Milne Edwards, 1834.

Thalamita crenata (Latreille) H. Milne Edwards, 1834, p. 461. Stephenson and Hudson, 1957, pp. 332-4, figs 2Q, 3Q; pl. 2, fig. 3; pls 7F, 9C. Stephenson and Rees, 1967a, pp. 66-9.

Material examined: 2 ♂♂ (36 mm, 69 mm), lagoon, Lord Howe I., Miss Julie Booth, August, 1962, P. 14190, 14191. ♂ (15 mm), Bayview, Pittwater, Sydney, N.S.W., mangrove mud flat, Miss Patricia McDonald, 16th May, 1966, P. 15392.

Distribution: Now extended to New South Wales and Lord Howe I. Previously known from East Africa, Red Sea, Philippines, Japan, Society Islands, and the northern half of Australia.

Thalamita macropus Montgomery

Thalamita macropus Montgomery, 1931, pp. 431-2; pl. 24, fig. 4; pl. 28, fig. 2. Stephenson and Hudson, 1957, pp. 343-4, figs 2J, 3J; pl. 4, fig. 1; pls 7J, 10H. Stephenson, 1961, p. 122.

Material examined: 2 ♂♂ (10.5, 12 mm), ♀ (11 mm), 1 juv. (7 mm), 37° 05' S., 150° 05' E., off Twofold Bay, N.S.W., 30-50 fm, sand, "Dynd, Skraber", 30th September, 1914, Dr Th. Mortensen, *Endeavour*. ♂ (17.5 mm), 2 ♀♀ (11, 17.5 mm),

Disaster Bay, N.S.W., 30-40 fm, sand, mud, trawled, 1st October, 1914, Dr Th. Mortensen, *Endeavour*. Ovig. ♀ (16 mm), near Eden, N.S.W., 20-25 fm, "Blod Bd., Skraber", 1st October, 1914, Dr Th. Mortensen, *Endeavour*.

Remarks: The juvenile (7 mm) does not possess the subsidiary basal tooth on the first anterolateral tooth, but appears to agree in other respects with this species.

Distribution: Western Australia and New South Wales.

***Thalamita parvidens* (Rathbun)**

Thalamonyx parvidens Rathbun, 1907, p. 62; pl. 5, fig. 9.

Thalamita parvidens (Rathbun). Sakai, 1939, pp. 425-6, fig. 19. Stephenson, 1961, pp. 122-4, figs 2F, 4B; pl. 4, fig. 1; pls 4K, 5H. Stephenson and Rees, 1967a, pp. 82-4, fig. 30.

Material examined: 2 ♂♂ (10 mm, 11 mm), trawled in Wallis Lake, near Forster, N.S.W., from shrimp net over mud bed, Univ. of N.S.W. party, 7th December, 1966, P. 15359.

Remarks:

The present specimens key out in Stephenson and Hudson (1957, p. 318) as *T. poissoni* (Audouin and Savigny) because the anterolateral teeth are more acute than could be expected due to their juvenility. Stephenson and Hudson's key needs alteration at couplet 46, because the present material, together with Sakai's (1939, fig. 19a), shows distinct mesobranchial ridges.

The larger specimen possesses a pleopod similar to that shown by Stephenson (1961, fig. 4B), while the pleopod of the smaller one resembles that figured by Sakai (1939, fig. 19b).

Distribution: New record for eastern Australia. Previously known from Madagascar, Philippines, Carolines, Japan, and Western Australia.

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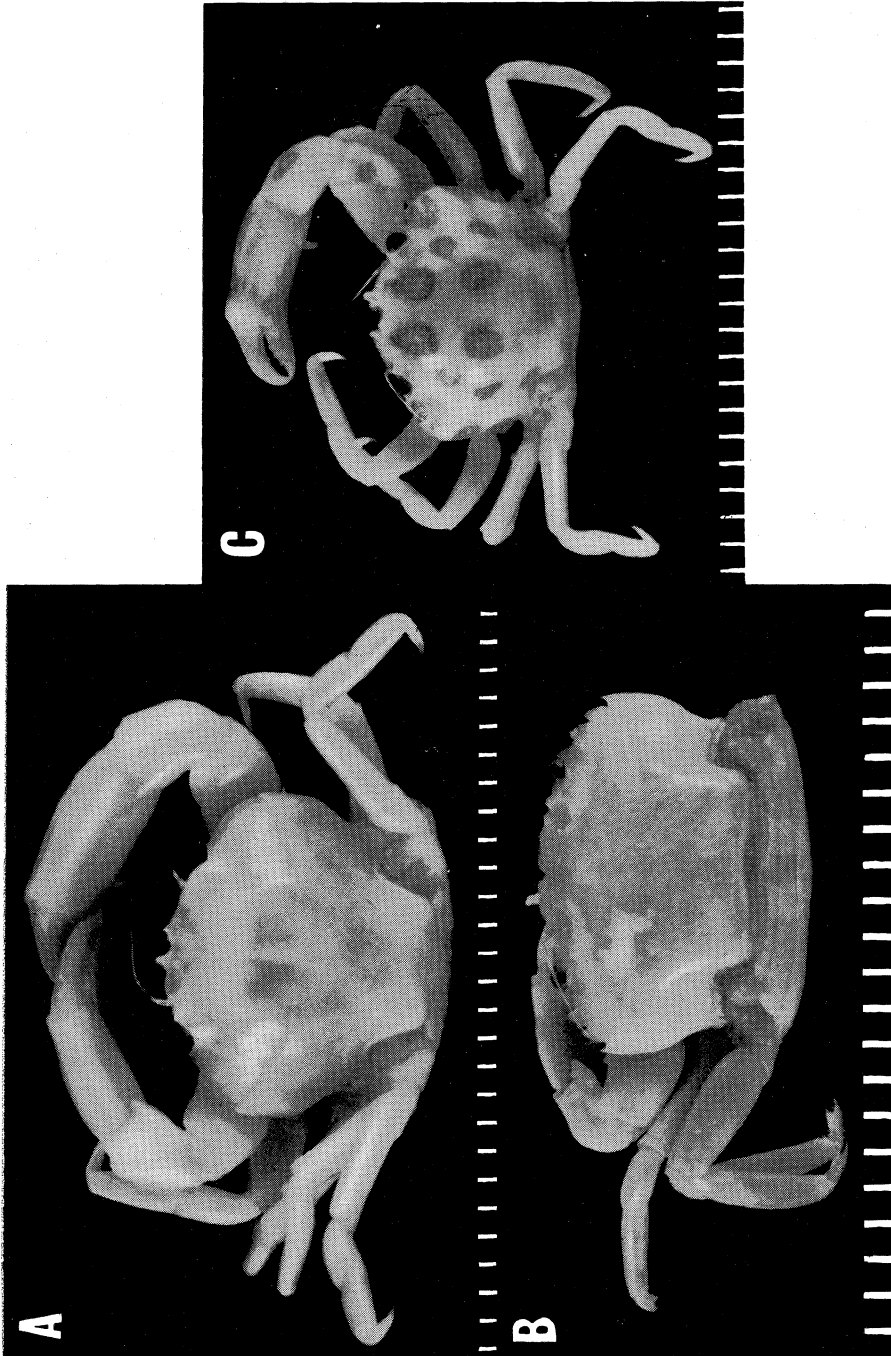
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Dorsal views (scale divisions, 1 mm) : A, *Caphyra curtipes* n.sp. (holotype); B, *C. holocarinata* n.sp. (holotype); C, *C. yookadai* Sakai.