

215 M
85^{ack}

Notes on Two Rare Species of Brachyura in the Colombo Museum

By

R.SERENE
Unesco Expert

Extract from the Spolia Zeylanica Vol. 31, Part II

1969

NOTES ON TWO RARE SPECIES OF BRACHYURA IN THE COLOMBO MUSEUM

By

R. SERENE

UNESCO Expert

(With 1 plate and 7 text figures)

THE Colombo Museum's *Brachyura* collection includes some of the specimens studied by LAURIE (1906). In his work LAURIE (1906) does not mention where the Type specimens of the new species described by him will be deposited, but he indicates that "much of the work have been done in the British Museum." Some Type specimens like that of *Euxanthus herdmani*, are in the British Museum (see GUINOT, 1960).

During a visit (March 1965) to Ceylon I was able to examine the collection of *Brachyura* in the Colombo Museum. I checked, a specimen without identification, but which was certainly a *Demanía splendida*. Knowing the rarity of the species, I was inclined to think that it could be the Type specimen. Dr. P. H. D. H. de Silva, Director of National Museums, Ceylon in an attempt to rehabilitate the collection, kindly sent me a series of about 20 species for examination which have now been sent back to the Colombo Museum. In the batch were included some specimens of two rare species, never recorded since LAURIE (1906) namely *Demanía splendida* and *Portunus euglyptus*. The position of the first have given matter to some controversial speculations; the second is generally forgotten in the recent revision of the species of *Portunus*.

Demanía splendida Laurie 1906 (Fig 1. and PL.1A-E)

1906—LAURIE, p. 397, pl.1, fig. 8; pl.2, fig. 1.

Material.—IM.523, 1 female of 34 × 42; 1 male of 15 × 17.—Yenkali Reef, 31.3.1923.

Observations.—The present specimens are without label indicating any identification but are accompanied by two labels: one gives a registration number IM. 523, the other the locality and date of collecting. From these informations, it can be inferred that these specimens have been collected many years after (1923) that recorded by LAURIE (1906) as Type specimen. Mme Guinot (in personal letter, 25 Nov. 1966) wrote to me: "*Demanía splendida*—A Londres, j'ai vu un beau spécimen (femelle) qui m'a semblé être le type récolté par Herdmann à Ceylan."

LAURIE (1906) describes the genus and the species for a female, probably adult, from Trincomalee, giving 32.5 as the length of the carapace. The present largest specimen has 34. It is not in very good condition; the carapace being partly softened after a long time in formalin, I have put it in alcohol. All its pereopods are separated from the carapace; the pereopods 2 and 3 are lost on both sides. The smaller male is with pereopods 2 and 4 lost on the left

side and 2, 3, 4 and 5 lost on the right side, but the right pereopod 2 exists as separated in the jar. Its first pleopod is illustrated here ; being an immature one, the shape must be considered as indicative only until an adult male is studied.

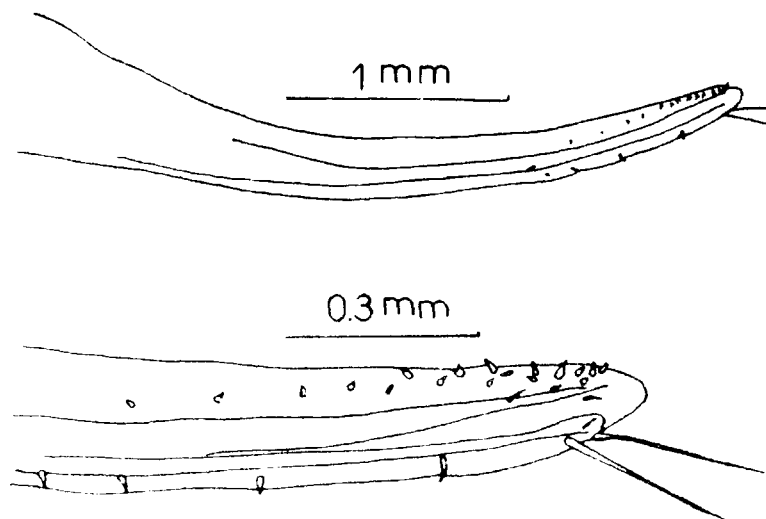


Fig. 1. *Demania splendida*.—Pleopod 1. of male of 15 × 17, juvenile.

The description and illustration by Laurie (1906) are accurate and the identification of the species does not create any difficulty. A new illustration is given here in consideration of the rarity of the species and its controversial position with regard to *Xantho reynaudi cultripes*. Laurie (1906) considered *Demania* as close to *Zozymus aeneus*. *Demania* differs from *Zozymus* mainly by the more acute and saillant frontal border and by the anterolateral border of the carapace, which is rounded without any crested margin. Balss (1938) considers *Demania splendida* to be without doubt (zweifellos) identical with *Xantho reynaudi* var. *cultripes* Alcock 1898. Buitendlik (1939) considers that Balss's opinion cannot be accepted by referring to the discrepancies of the front, the anterolateral borders and the lobulations of the dorsal surface of the carapace. She believes that not only the forms belong to a distinct species but also that the generic separation is valid ; only the rarity of specimens do not allow her to make a definite opinion. She mentioned her plan to clear up the question in a future complementary work on *Xanthidae* of " Snellius Expedition ", but unfortunately this work was not completed before her death.

A revision of the species of the genera *Xantho*, *Medaeus*, *Lophoxanthus*, at the moment in preparation (by Mme: Guinot), will include the study of specimens identified as *Xantho reynaudi* and its variety ; the situation of *Demania* will be reconsidered in the frame of that revision.

Portunus euglyptus (Laurie 1906) (figs. 2-7)

Neptunus (Amphitrite) euglyptus, Laurie, 1906, p. 413, fig. 6, 7.

Material.—Male of 12.5×25 (lateral spines included); male of 12×24 .

History.—Laurie (1906) describes the species for 20 specimens from the Gulf of Mannar; the three largest males with length of carapace of 12.5, 13 and 13. The species have never been recorded since Laurie (1906) and is not quoted in the *Portunus*'s species of the monograph of Stephenson and Campbell (1959), and neither in the complementary papers on *Portunidae* of Stephenson.

Observations.—During my visit, in a large jar containing, without indication of identification, a series of specimens of small *Portunus*, I noticed and separated some with an aspect very different from that of all the species of *Portunus*, I know. Two of these specimens are included in the invoice without indication of registration. They are softened by a long time in formalin and with detached legs, but in sufficiently good condition to be identified as *P. euglyptus* Laurie 1906 without any doubt. The largest of 12.5×25 could be referring to its size, one of the largest males mentioned by Laurie (1906).

The species have a carapace twice as broad (the lateral spines included) as long. Laurie (1906) give 1.64 as ratio of the breadth to the length, but he does not include probably the lateral spines in the breadth. It is well characterized by (1) clearly marked grooves which delimit the several granular regions of the carapace; (2) median frontal teeth very small, "producing an appearance not unlike a single dorsally grooved median tooth;" (3) large last lateral spine, "very broad proximally, flattened dorso-ventrally," with "posterior border

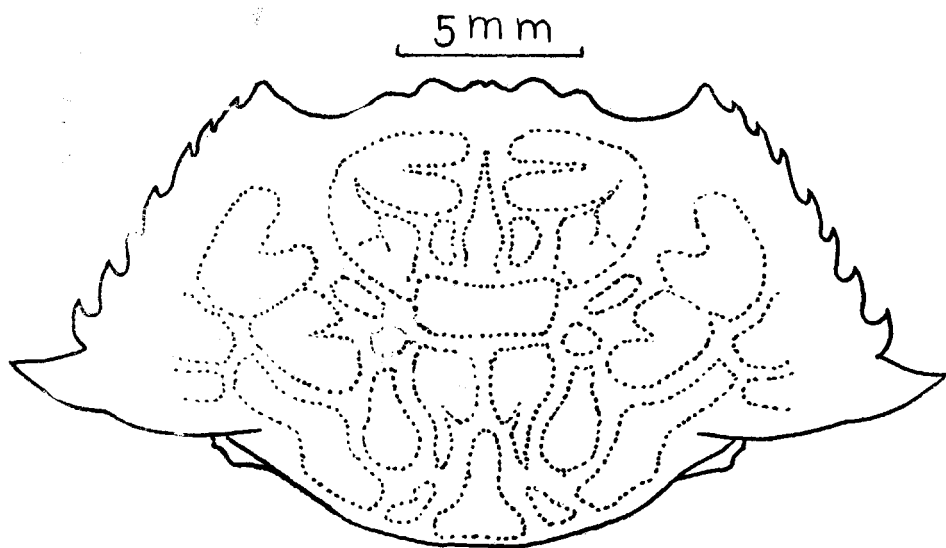


Fig. 2

strongly recurved downwards and forwards;" (4) short postero-lateral border of carapace correlated with (3); (5) merus of cheliped with two spines on the posterior border, which is "considerably expanded in the middle;" (6) inner surface of hand and fixed finger of cheliped granular. All these characters are illustrated by the figures of the present paper. Other specific characters not mentioned by Laurie (1906) could also be defined.

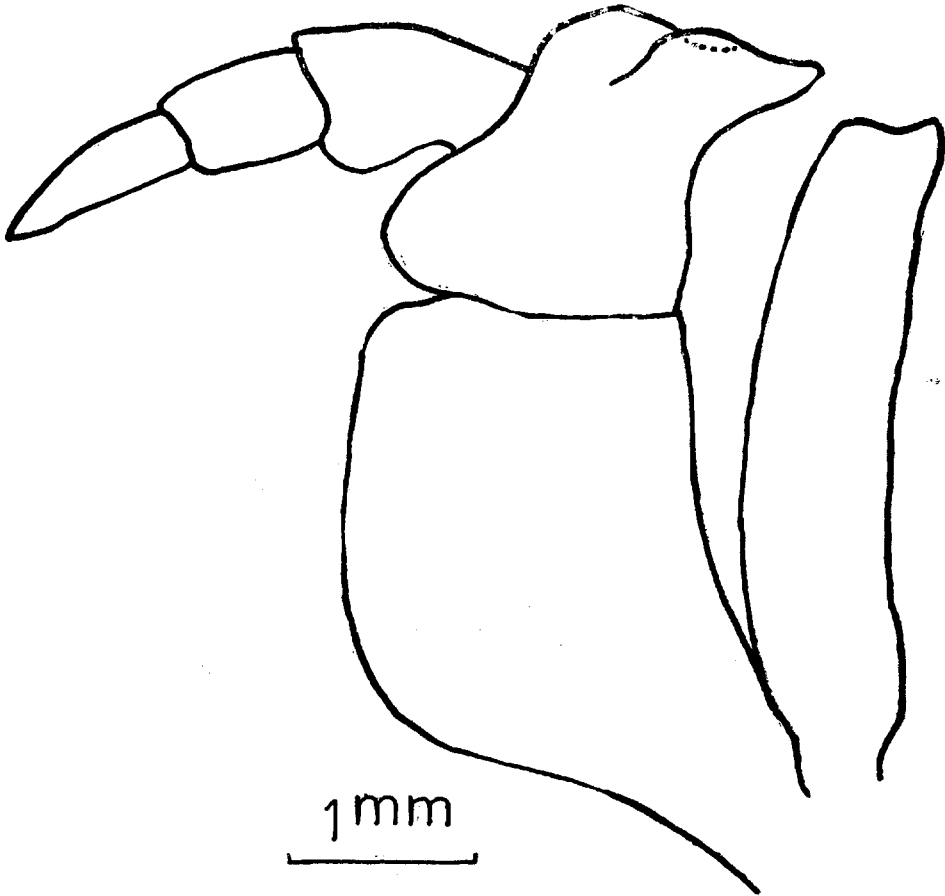


Fig. 3

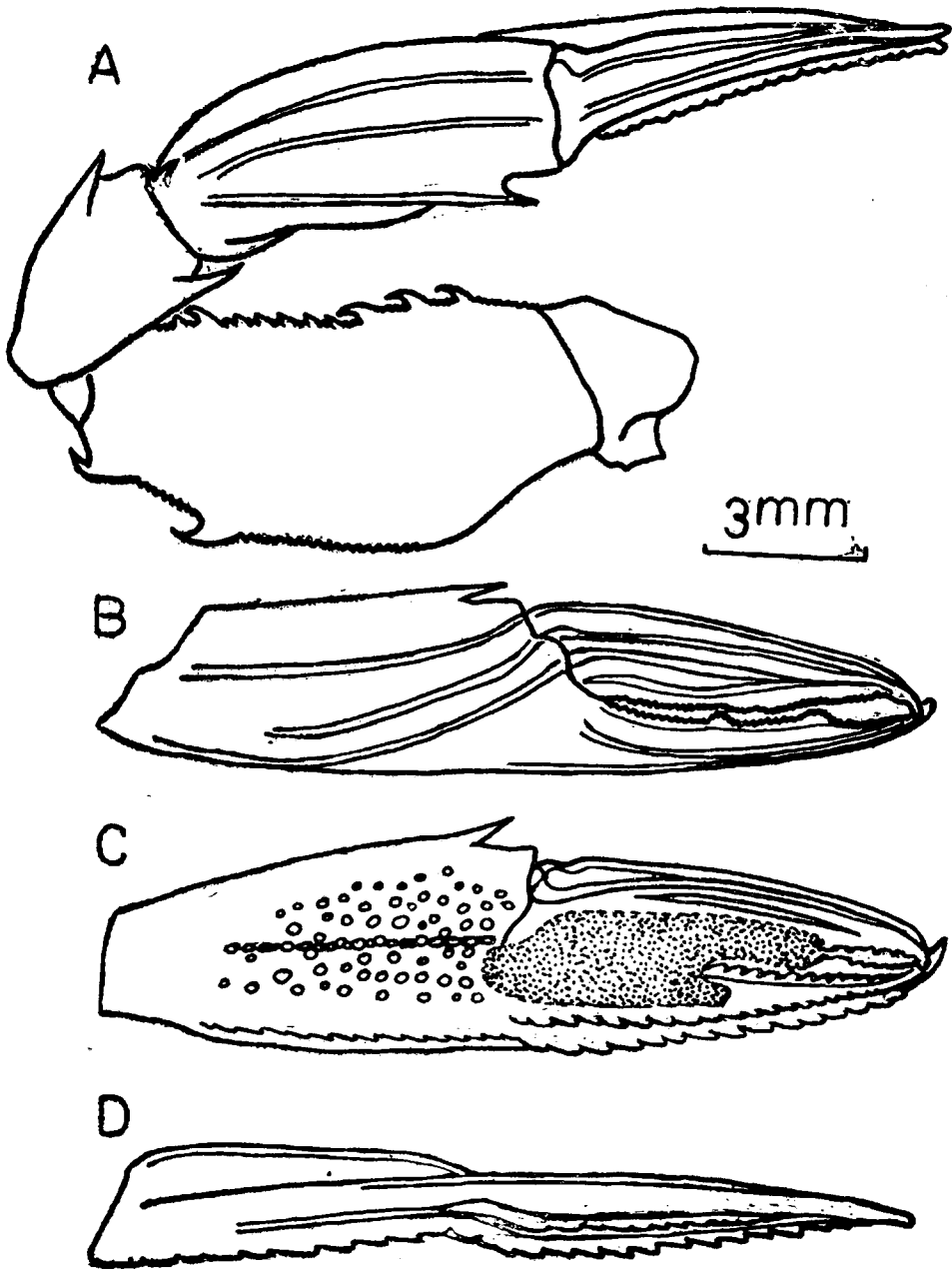


Fig. 4

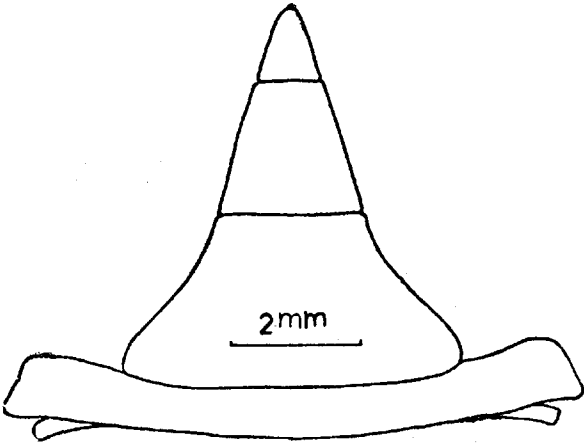


Fig. 5

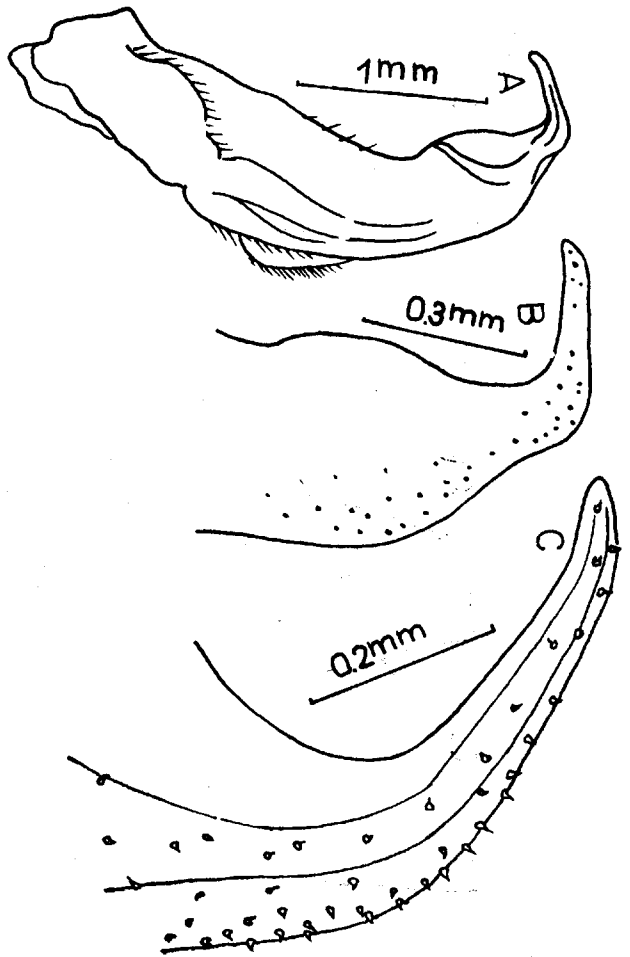


Fig. 6

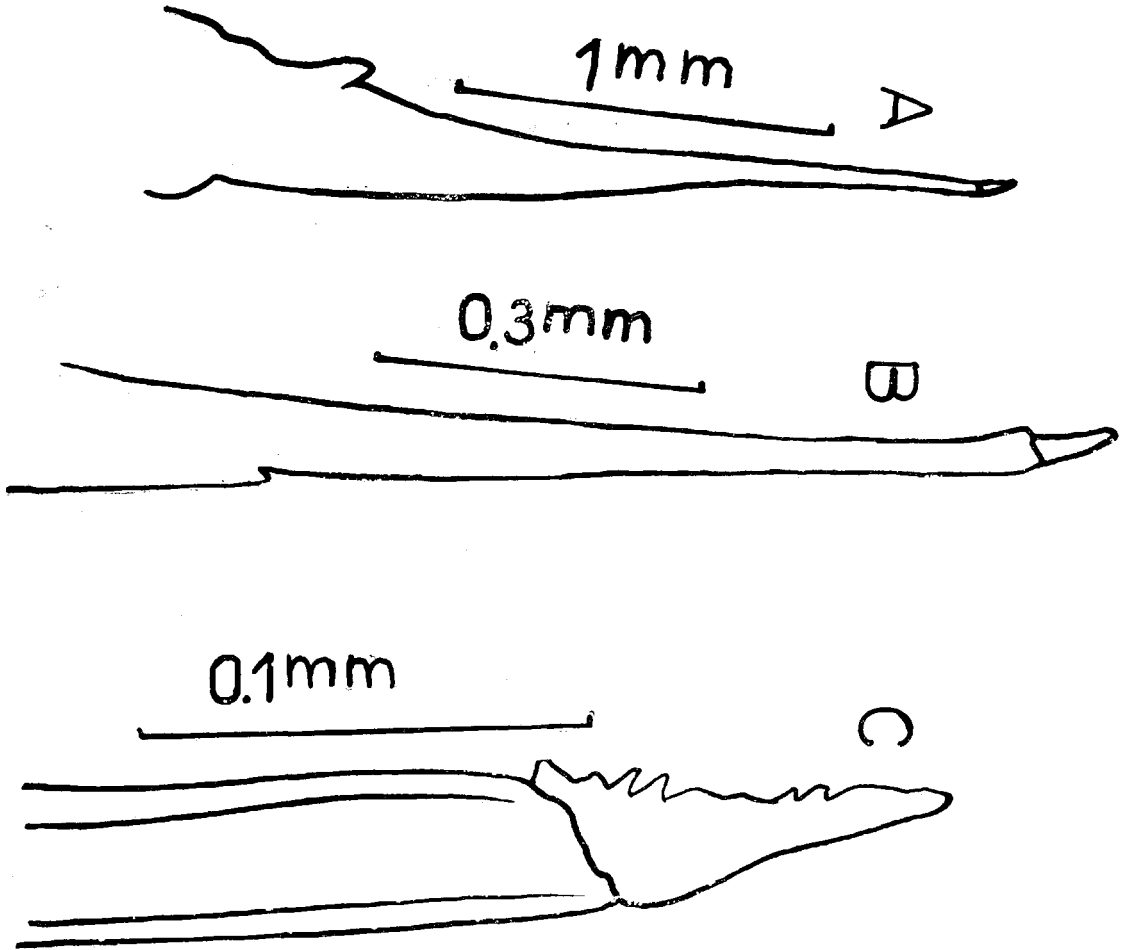


Fig. 7

Portunus euglyptus.—male of 12.5 × 25.—fig. 2, outline of carapace; fig. 3, third maxilliped; fig. 4, left cheliped; A, dorsal view; B, outer face of palm and dactylus; C, inner face of palm and dactylus; D, ventral face of palm and fixed finger; fig. 5, abdomen; fig. 6A, B, C, pleopod 1; fig. 7A, B, C, pleopod 2.

(1) On the chelipeds, the indication of Laurie (1906) that “ the inner surface of the hand and the fixed finger are granular, ” is insufficient. The inner face of the palm itself only is ornamented by round granules, that of the fixed finger has three longitudinal denticulated rims. The lower rim, which continues from the proximal part of the palm towards the tip of the fixed finger, becomes more saillant at the level of the articulation of the dactylus, sufficiently to be visible in dorsal view; the denticulations are round tipped, not acute. A second similar rim starts at the proximal part of the fixed finger; a third, similar but shorter, starts a little before the middle of the fixed finger. The area bordering the cutting rim of the two fingers and the distal portion of the palm around the articulation of the fingers is covered partly by a fur of dense woolly setae; each setae like a small powder-tuff. The ventral face of the palm and fixed finger are flat and strongly canneled; its inner margin is made by the lower denticulated rim of the inner face. The outer face of the palm and fixed finger are ornamented by strong rims. The dactylus is strongly canneled.

(2) The pereopod 5 has no spine on the anterior (superior) neither the posterior (inferior margin of the merus ; the posterior (inferior) margin of the propodus is without spinules.

(3) The male abdomen has a long and narrow segment 6 ; it is not squarish like that of *gladiator*, as it is illustrated by DE Haan (1850, pl.1, fig. 5), Shen (1937, fig. 2), Sakai, (1939) text-fig. 5A) and Crosnier (1962, fig. 76). If the shape of the segment 6 of *euglyptus* is relatively close to that of *gladiator*, illustrated by Stephenson and Campbell (1959, pl. 4j), that specimen recorded by Stephenson and Campbell (1959, p. 110, fig. 2j, 3j ; pl. 3, fig. 2 ; pl. 4j, 5j) present some characters which do not agree with *gladiator*. On the photograph (Pl.3, fig. 2) the lateral spines are more straight and acute like on *gladiator*, the male abdominal segment 6 (Pl.4j) is not squarish but trapezoidal. The authors mention (p. 111) " the male abdomen in the present specimen is longer and narrower than figured by Sakai (1939, text-fig. 5A) or by SHEN (1937, fig. 2b)." Referring to its size (28), and to the fact that its male pleopod (fig. 2j, 3j) is that of *gladiator*, I think the specimen of *gladiator* of Stephenson and Campbell (1959) is an immature of *gladiator* or of *pseudo-argentatus*, In any way the key (p. 90) of these authors have to be modified. A " penultimate segmet of male abdomen relatively narrow," cannot be given as a specific character of *gladiator*. It is more a character of *pseudoargentatus*. In fact, *euglyptus* is closer to *pseudoargentatus* by the proportion of the carapace and the shape of the abdominal segments. Stephenson (1961, p. 109, fig. 2A, 3F ; pl. 2, fig. 4. Pl. 4F, 5D) mentions for *pseudoargentatus* a carapace " relatively broad (breadth 1.8 times its length) " for a specimen of 63 and a male abdomen with segment 6 " parallel sided in its proximal half, 1½ times as long as broad". On the illustrations (Pl.4F) the abdomen is trapezoidal ; but the male pleopod 1 of *pseudoargentatus* (fig. 2A, 3F) is very different from that of *euglyptus* ; and, of course, the last lateral teeth of the carapace are also different.

(4) The pleopod 1 of *euglyptus* is different by its swollen shape not only from that of *gladiator* and *pseudoargentatus* but from those of all other species of the subgenus *Amphitrite*, and from those of all other species of *Portunus*. Only *P. granulatus* has a male pleopod 1 close to that of *euglyptus* ; but the two species are separated by many other characters and cannot be confused. On *euglyptus*, the male pleopod 2 is just a little shorter than its pleopod 1.

Laurie (1906) classified the species in the subgenus *Amphitrite* and situates it as close to *gladiator* ; he is precise, however, in that *euglyptus* is distinguishable from all the species of the subgenus by " its very characteristic last pair of lateral spines." Without considering the subgeneric level, it can be pointed out that *P. euglyptus* is different from all the other species of *Portunus* by the shape of : (a) its last pair of lateral spines, (b) its male pleopod 1.

Laurie (1906) describes some other new forms of *Portunus* : *Neptunus (Hellenus) hastatoides var unidens* Laurie 1906, *Neptunus (Hellenus) longispinosus var bidens* Laurie 1906, *Neptunus (Achelous) dubia* Laurie 1906. From these three forms, only *Portunus longispinosus var bidens* is recorded in Stephenson's works. The two others have, like *euglyptus*, never been recorded since Laurie (1906).

Reference to Literature

BALSS, H.—

1938—Ueber einige *Xanthidae (Crustacea, Decapoda)* von Singapore und Umgebung.—*Bull. affi Re Mus.*, No. 14, p. 48-63, fig. 1-2, pl. 2-3.

BUITENDIJK, A. M.—

1939—Biological Results of the Snellius Expedition, V. The Dromiacea, Oxystomata and Oxyrhyncha of the Snellius expedition.—*Temminckia*, Leiden, 4, p. 223–276, 5 pls., 27 text-figs.

CROSNIER, A.—

1962—Crustacés Décapodes *Portunidae*. p. 1–154, figs. 1–255, pl. I–XIII, in *Faune de Madagascar XVI. ORSTOM, 80, route d'Aulnay, Bondy, Seine*.

GUINOT DUMORTIER, A.—

1960—Revision des genres *Euxanthus* Dana et *Hypocolpus* Rathbun (Crustacea. Décapode *Brachyura*). *Mem. Mus. Nat. Hist. Nat., ser. A. Zool.*, 20, fasc. 2, p. 153–218, pl. 1–12, 5 text-fig.

HAAN, W. DE—

1833–1849—Crustacea in: de Siebold, *Fauna Japonica sive Descriptio animalium, quae in itinere per Japoniam, Jussu et govd superiorum, qui summum in India Batava Imperium tenent, suscepto, anni 1823–1830 collegit, notis, observationibus et adumbrationibus illustravit*, p. I–XVII, I–XXXI, 1–244, pl. 1–55, A–Q.

LAURIE, D.—

1906—Report on the *Brachyura*, collected by Prof. Herdman at Ceylon in 1902.—*Ceylon Pearl Oyster Fisheries and Marine Biology. Report to Colonial Government*, Part V, 5, p. 349–432, pl. 1 & 2.

SAKAI, T.—

1939—Studies on the Crabs of Japan. IV *Brachygnatha, Brachyhyncha*.—*Tokyo*, p. 365–74 129 figs., pls. 42–III.

SHEN, C. J.—

1937—Notes on a collection of Swimming Crabs (*Portunidae*) from Singapore.—*Bull. Raffles Mus* No. 13, p. 96–139, 20 text-figs.

STEPHENSON, W. & CAMPBELL, B.—

1959—The Australian Portunids (*Crustacea, Portunidae*). III. The genus *Portunus*.—*Austr. Mar. Freshw. Res.*, 10 (1), p. 84–124, 5 pls.

STEPHENSON, W.—

1961—The Australian Portunids (*Crustacea: Portunidae*). V. Recent collections.—*Austr. J. Mar Freshw. Res.* 12 (1), p. 92–128, 5 pl.

Explanations of Plate

Demania splendida.—female of 34 × 42.—A, carapace.—B, dorsal view of left cheliped.—B', ventral view of right cheliped.—C, dorsal view of pereopod 5.—C', ventral view of pereopod 5.—D, dorsal view of pereopod 4.—D', ventral view of pereopod 4.—E, male of 15 × 17.

