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REDESCRIPTION OF CORALLIOCARIS BREVIROSTRIS

BORRADAILE, 1898 (CRUSTACEA,
DECAPODA, PONTONIINAE)

CARDED

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With 2 text-figures

In 1898 Borradaile described a new species of *Coralliocaris* from Funafuti, Ellice Islands. The original diagnosis was very short, but one year later Borradaile (1899: 1006, pl. 64 fig. 7) gave a slightly longer description and illustrations. No new finds of the species have been reported upon since then. In the collection of the Zoologische Sammlung des Bayerischen Staates in München 3 specimens of the species were found. As Borradaile's descriptions are short, this opportunity is taken to provide a more detailed account of this characteristic species.

I wish to express my thanks to Drs. W. Engelhardt and H. Fechter of the München Museum for entrusting me with the study of this material.

The abbreviations cl. and tl. are used to indicate the carapace length and total length respectively.

Coralliocaris brevirostris Borradaile, 1898 (fig. 1-2)

Coralliocaris brevirostris Borradaile, 1898: 386; Borradaile, 1899: 1006, pl. 64 fig. 7; Anon., 1899: 518; Borradaile, 1917: 384; Holthuis, 1952: 17.

Material:

Le Chaland, Mauritius; 1913; P. Carić. — 3 specimens (1 ovigerous ♀ cl. 8 mm, tl. 14 mm) cl. 7.5-8 mm, tl. 12-14 mm.

The rostrum is depressed, unarmed and curved down. It reaches to the base or to the end of the second segment of the antennular peduncle. In dorsal view it is triangular, with a rather wide base and slender distal part. The distal portion is much narrower than shown in Borradaile's figure. Both the dorsal and the ventral surfaces of the rostrum bear a sharp median

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carina. The lateral margin of the rostrum continues backwards and ventrally as a postorbital carina and then switches anteriorly to end in the antennal spine. The whole area between this carina — which in the greater part of its length is not sharp but more evenly rounded — and the posterior margin of the orbit is deeply sunken, forming a cavity in which the ocular peduncle fits. The lower orbital angle is about rectangular. The antennal spine is well developed and lies a considerable distance below — or actually, due to the strong depression of the carapace, laterally of — the lower orbital angle. No hepatic spine is present. Below the antennal spine the anterior margin of the carapace is curved strongly forward and reaches beyond the spine. This anterior margin gradually merges with the lateral margin of the carapace, there being no distinct anterolateral angle.

The pleura of the first four abdominal somites are broadly rounded, that of the fifth somite shows a small angle. The sixth somite is 1.5 times as long as the fifth and 0.6 times as long as the telson. The two pairs of dorsal spines of the telson are distinct; the anterior pair lies slightly behind the middle of the telson, the posterior pair is placed somewhat closer to the anterior pair than to the posterior margin of the telson. The posterior margin is straight and bears the usual three pairs of spines, the outer of which are shortest, the intermediate longest and strongest, the inner pair the most slender and about $\frac{2}{3}$ as long as the intermediate.

The eyes are well developed. The cornea is globular, distinctly shorter than and as wide as the stalk. Due to the strong depression of the carapace only the cornea, or even only part of it, projects beyond the lateral margin of the carapace, when the eyes are extended laterally.

The basal segment of the antennular peduncle is wide, being fully twice as wide as the third segment. The stylocerite is very long and strong; it reaches to or slightly beyond the base of the second segment of the peduncle. The outer anterior margin of the first segment is strongly produced and ends in a tooth which reaches to the middle of the third segment. This tooth evidently is the anterolateral tooth but it lies about halfway between the outer margin of the basal segment and that of the second segment, due to the fact that the distal part of the outer margin curves inward and the anterior margin curves forward. The second segment of the peduncle is distinctly shorter and wider than the third; its anterolateral angle is produced forward, but reaches less far forward than the anterolateral tooth of the first segment.

The scaphocerite reaches with about $\frac{1}{3}$ of its length beyond the antennular peduncle. It is about twice as long as broad. The outer margin is straight and ends in a strong tooth, which is distinctly overreached by the lamella. The antennal peduncle reaches beyond the middle of the scaphocerite. A

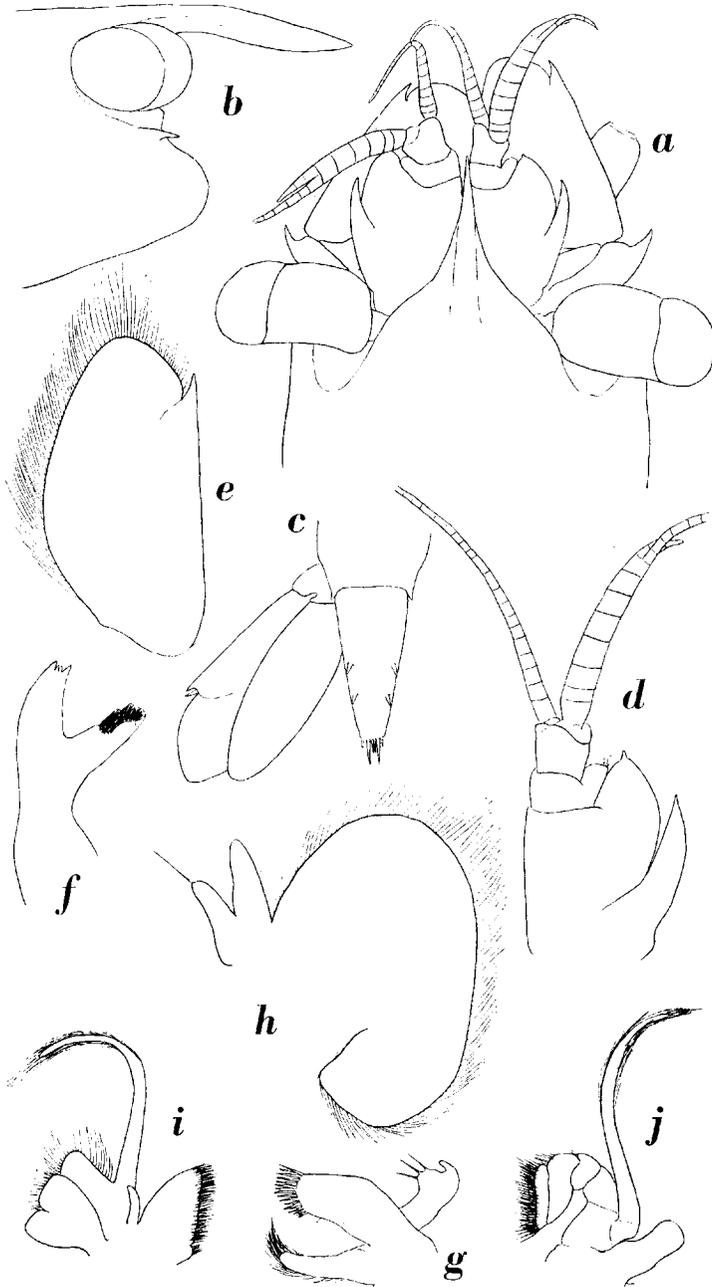


Fig. 1. *Coralliocaris brevirostris* Borradaile. a, anterior part of body in dorsal view; b, anterior part of carapace in lateral view; c, telson and left uropod in dorsal view; d, antennula; e, scaphocerite; f, mandible; g, maxillula; h, maxilla; i, first maxilliped; j, second maxilliped. a, b, $\times 14$; c, $\times 12$; d, e, $\times 20$; f-h, $\times 32$; i, j, $\times 16$.

strong tooth is present on the outer margin of the antennal peduncle near the base of the scaphocerite.

The oral parts are quite typical for the genus. The mandible bears no palp; the incisor process ends in four teeth, the outer of which are the larger; the molar process ends in blunt knobs with brush-like hairs. The maxillula has the lower lacinia slender, the upper ends in a row of spinules, the palp is bilobed, the lower lobe (in the dissected specimen) bears 3 strong setae. The endite of the maxilla is simple; the palp is well developed and the scaphognathite is large. All maxillipeds are provided with a large exopod.

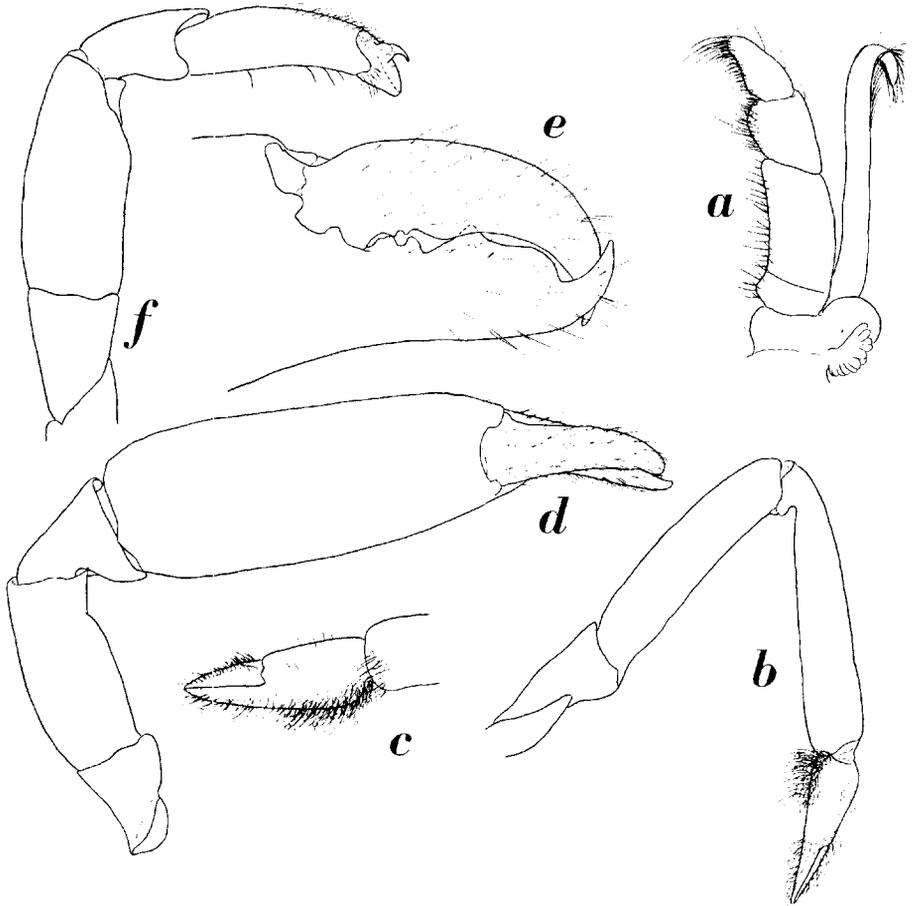


Fig. 2. *Coralliocaris brevirostris* Borradaile. a, third maxilliped; b, first pereopod; c, chela of first pereopod; d, second pereopod; e, fingers of second pereopod; f, third pereopod. a-c, $\times 20$; d-f, $\times 18$.

The first maxilliped has the endites indistinctly separated; the palp is short; the caridean lobe short and broad; the epipod is distinct and bilobed. The second maxilliped bears no podobranch; the epipod is elongate; the exopod is long and strong. The third maxilliped fails to reach the end of the antennal peduncle; it bears an arthrobranch. The epipod is rounded, the exopod is long. The ultimate segment is not fully twice as long as wide, it is about as long as the penultimate segment. The maxilliped closely resembles that of *C. venusta* as described and figured by Kemp (1922).

The first pereopod reaches with the larger part of the carpus beyond the scaphocerite. The fingers are shorter and much narrower than the palm; the chela regularly tapers from the base to the top. Many hairs are present on the chela. The carpus is less than twice as long as the chela and distinctly longer than the merus. The second legs are equal, they reach with part of the carpus beyond the scaphocerite. The fingers are half as long as the palm. The upper margin of the palm is evenly and moderately curved, it does not show the semicircular arch of *C. graminca* (Dana), nor the hump shown by *C. venusta* Kemp and *C. superba* (Dana). The cutting edges bear three teeth, the proximal of which are the smallest, the distal teeth are placed in or behind the middle of the cutting edge. The fingertips are strongly curved and pass each other. A distinct, but scattered pubescence is visible on the fingers. The palm is elongate and slightly swollen. The carpus is short and cup-shaped, it has less than $\frac{1}{3}$ of the length of the palm. Its anterior margin is entire, without teeth or spines. The merus is less than twice as long as the carpus. It shows an anteroventral tooth on the inner surface, but no other teeth are present. The ischium is short and unarmed.

The third leg reaches with part of the propodus beyond the scaphocerite. The dactylus has the shape characteristic for the genus, with a single claw and a large hoof-shaped protuberance. The leg is short and strong. The propodus is somewhat more than twice as long as the dactylus and about 3 times as long as high. The carpus is distinctly more than half as long as the propodus, while the merus is distinctly longer and wider than the latter segment. The fifth leg fails to reach the end of the scaphocerite.

The uropods are longer than the telson. The outer margin of the exopod ends in a tooth, which at its inner side is provided with a movable spine.

The present species differs from all known species of *Coralliocaris* in the shape of the second pereopods. In *C. graminca* (Dana) and *C. macrophthalmia* (H. Milne Edw.) the dactylus of this leg is semicircular being very high. In *C. superba* (Dana) and *C. venusta* Kemp, the upper margin of the dactylus shows a distinct hump, while in these two species the anterior margin of the carpus is crenulate or spinulate and shows a distinct spine.

Moreover in *C. graminea*, *C. superba*, and *C. venusta* the rostrum is toothed, although I have seen specimens of the latter species without rostral teeth.

The identity of *Coralliocaris nudirostris* (Heller) is not very clear. Heller's (1862: 279, pl. 3 fig. 25) description is such that his specimen could be either a *C. venusta* without teeth or a specimen of the present species. Heller's description of the dactylus of the large cheliped as "leicht dreikantig" agrees better with the situation in *C. venusta* Kemp than with that in the present species, while his figure shows a tooth on the carpus, which is present in Kerap's species, but not in *C. brevirostris*. Only the examination of Heller's type can definitely solve this question. For the time being I consider *C. nudirostris* a species different from *C. brevirostris*.

Borradaile (1898, 1899, 1917) gave as one of the main features of his species the fact that the rostrum is extremely short, reaching only to the middle of the first segment of the antennule. As shown by the present material the rostrum reaches much farther forward, and Borradaile's specimen evidently was abnormal in this respect.

LITERATURE CITED

- ANON., 1899. Summary of the fauna of Funafuti. — Mem. Australian Mus. **3**: 513-535.
- BORRADAILE, L. A., 1898. A revision of the Pontoniidae. — Ann. Mag. nat. Hist. (7) **2**: 376-391.
- , 1899. Macrura. On some Crustaceans from the South Pacific. - Part III. — Proc. zool. Soc. London **1898**: 1000-1015, pl. 63-65.
- , 1917. On the Pontoniinae. The Percy Sladen Trust Expedition to the Indian Ocean in 1905, under the leadership of Mr. J. Stanley Gardiner, M. A., vol. 6 n. 8. — Trans. Linn. Soc. London Zool. (2) **17**: 323-396, pl. 52-57.
- HELLER, C., 1862. Beiträge zur Crustaceen-Fauna des Rothen Meeres. Zweiter Theil. — S. B. Akad. Wiss. Wien **44** (1): 241-295, pl. 1-3.
- HOLTHUIS, L. B., 1952. Subfamily Pontoniinae. The Palaemonidae collected by the Siboga and Snellius Expeditions with remarks on other species. II. The Decapoda of the Siboga Expedition. Part XI. — Siboga Exped. Mon. **39** (a) (10): 1-253, fig. 1-110, 1 tab.
- KEMP, S., 1922. Pontoniinae. Notes on Crustacea Decapoda in the Indian Museum. XV. — Rec. Indian Mus. **24**: 113-288, text-fig. 1-105, pl. 3-9.