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## A NEW COSTA RICAN AMPHIPOD.

By THOMAS R. R. STEBBING,  
*Fellow of the Royal Society.*

This new species is interesting on its own account by reason of the perfectly chelate second gnathopods in the male sex, and it makes a further claim to attention by apparently throwing light on Fritz Müller's imperfectly described *Orchestia darwinii*. Since Müller made no mention of the female, it remained doubtful whether his species belonged to *Orchestia* or to *Talorchestia*, and a comparison of its second gnathopods with those of *Talorchestia deshayesii* (Audouin) gave some support to the suspicion that it really belonged to the latter genus. Now, however, its close affinity with the new species from Costa Rica makes its position in *Orchestia* by far the more probable hypothesis. A comparison of Müller's figures of two forms of the second gnathopod in the male<sup>a</sup> with the figures and description of that limb here given, while showing the points of agreement between the two species, will also make clear their very definite distinctness.

It may be remarked in passing that the separation of *Talorchestia*, Dana, from Nicolet's *Orchestoidea*, rests on a rather narrow foundation. In the former genus the first gnathopod of the male must be subchelate, in the latter it must be simple. But there are subtle gradations, and in consequence a difference of opinion sometimes arises as to whether the difference in nature is present or absent. It is not necessary here to argue the point.

### Family TALITRIDÆ.

#### ORCHESTIA COSTARICANA, new species.

Plate XI.

The new *Orchestia* is of slender structure, strongly compressed, with a shining surface. The second and third side plates have the lower hind angles a little produced backward. The front lobe of the fifth side plate is as deep as the plate preceding it. The quadrate postero-

<sup>a</sup>Facts for Darwin, translated by Dallas, 1869, p. 26.

lateral angles of the second and third pleon segments are minutely produced.

The eyes are dark, irregularly rounded, the interval between them less than the diameter of the eye and in large specimens reduced to a very narrow space. The first antennæ do not reach the end of the penultimate joint of the peduncle of the second pair. They have a five-jointed flagellum subequal in length to the peduncle, of which the first and second joints are subequal, broader but not much longer than the third. The second antennæ are slender, with a flagellum of about twenty joints, nearly as long as the peduncle, in which the last joint is considerably longer than the penultimate, more so in the male than in the female. The mouth parts are on the whole all of the character usual in the genus. In the first maxillæ no palp could be detected, but in the female a microscopic notch was seen in the position proper to the base of the palp.

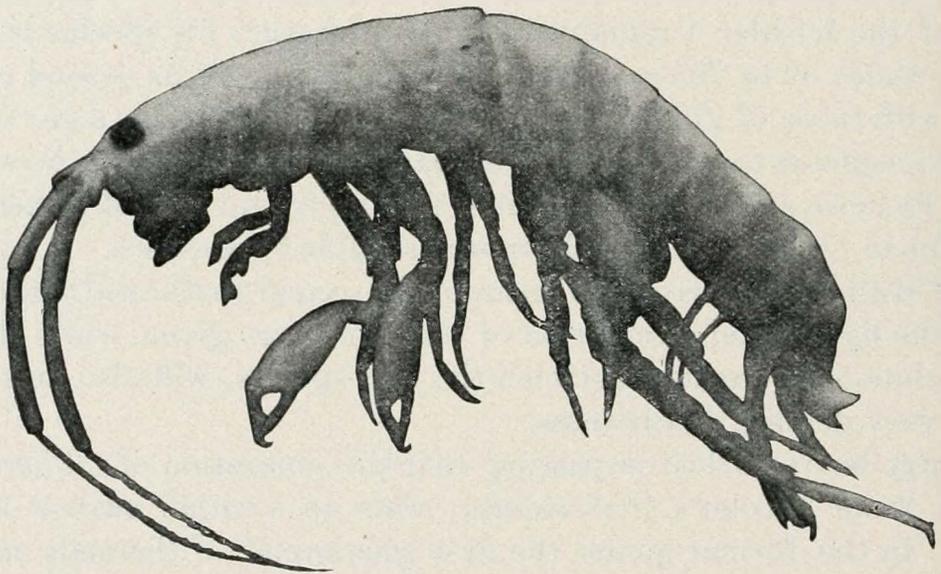


FIG. 1.—ORCHESTIA COSTARICANA, MALE.

The first gnathopod of the male has a small pellucid prominence on the fourth joint distally, and the inner margin of the fifth and sixth joints boldly produced, the distal projection of the sixth much narrower than that of the fifth, but extending beyond the little spinule-fringed palm, which is matched by the small acute finger. In the female this limb is differently constructed, with a narrower second joint and no pellucid bulbous prominences. As in the male, the fifth joint is considerably longer than the sixth. The latter is narrow, fringed on both margins with spines, and expands slightly to a small concave palm, beyond which the small curved finger extends.

The second gnathopod of the male has a long, slender second joint, having on the proximal part of the front margin two little tubercles near together, equal or very unequal. The third joint is short, with a distal projection in front, the fourth joint of about the same length,

the fifth apparently quite coalesced with the sixth and consisting of a narrow triangular piece lying alongside the oblong fourth joint. The sixth joint proper has an oblong trunk about twice as long as broad, with the hind margin distally produced into a slender nearly straight thumb about two-thirds the length of the trunk. The finger, somewhat stronger than the thumb, when closed overlaps the pointed apex of the thumb with its own curved and blunt apex, and brings its bulging middle part into contact with the spinulose distal half of the thumb, leaving an irregularly oval gap between the proximal confronting edges of this true chela. It will be noticed in the enlarged figures of the second gnathopod of *Orchestia darwini* that the proportions and outline of the trunk are quite different from those of the present species, and also that the finger in closing upon the thumb there presents an arrangement which is scarcely more than subchelate. The second gnathopod of the female is not exceptional. The fourth

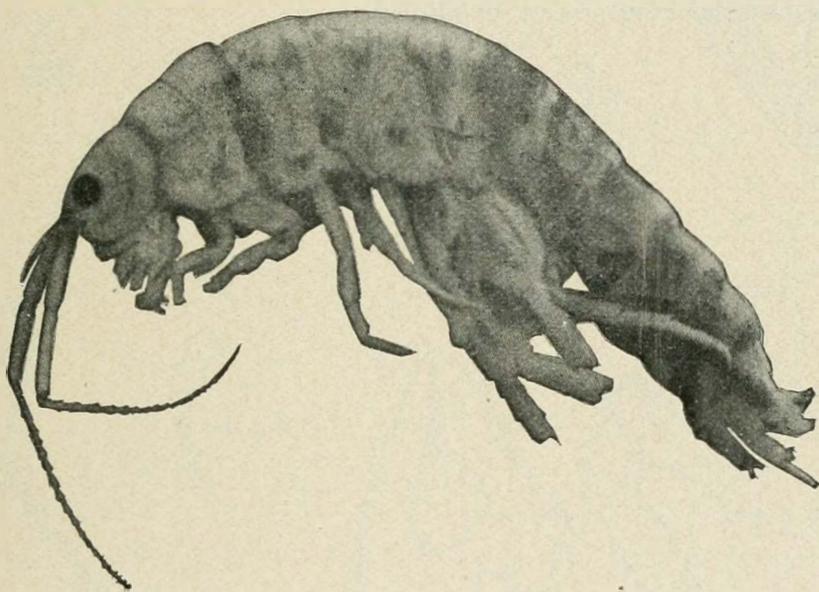


FIG. 2.—ORCHESTIA COSTARICANA, FEMALE.

joint has a pellucid boss, the fifth a similar median projection of the free hind margin, and the sixth is broadly produced beyond the exceedingly small chela-forming finger of this delicate structure. The pereopods in both sexes are slender, the first longer than the second, of which the finger is not constricted; the third much shorter than the fourth; and the fourth than the fifth. The second joint of the third pereopod is rather narrowly oval; that of the fourth larger but similar; that of the fifth again larger, but also much broader proximally than distally, with the lower margin straight. In this pair and to a less degree in the third and fourth pairs the sixth joint is considerably longer than either of the two preceding joints. The branchiæ are of the usual slender character, some of them lobulate.

The pleopods are very narrow. The first uropods have the rami nearly equal to the peduncle. In the much shorter second uropods the rami are equal one to the other and to the peduncle. The third

uropods have a very short ramus on a somewhat longer and much stouter peduncle. The telson is slightly bilobed.

*Length.*—The largest males and females are about 9 mm. long.

*Habitat.*—Numerous specimens were collected by Prof. J. F. Tristan and Prof. P. Biolley in January, 1906, at Boca Jesus Maria, Costa Rica, on mangroves in the mud under trunks of trees.

*Cotypes.*—Cat. No. 32688, U.S.N.M.

The specific name refers to the place of capture.

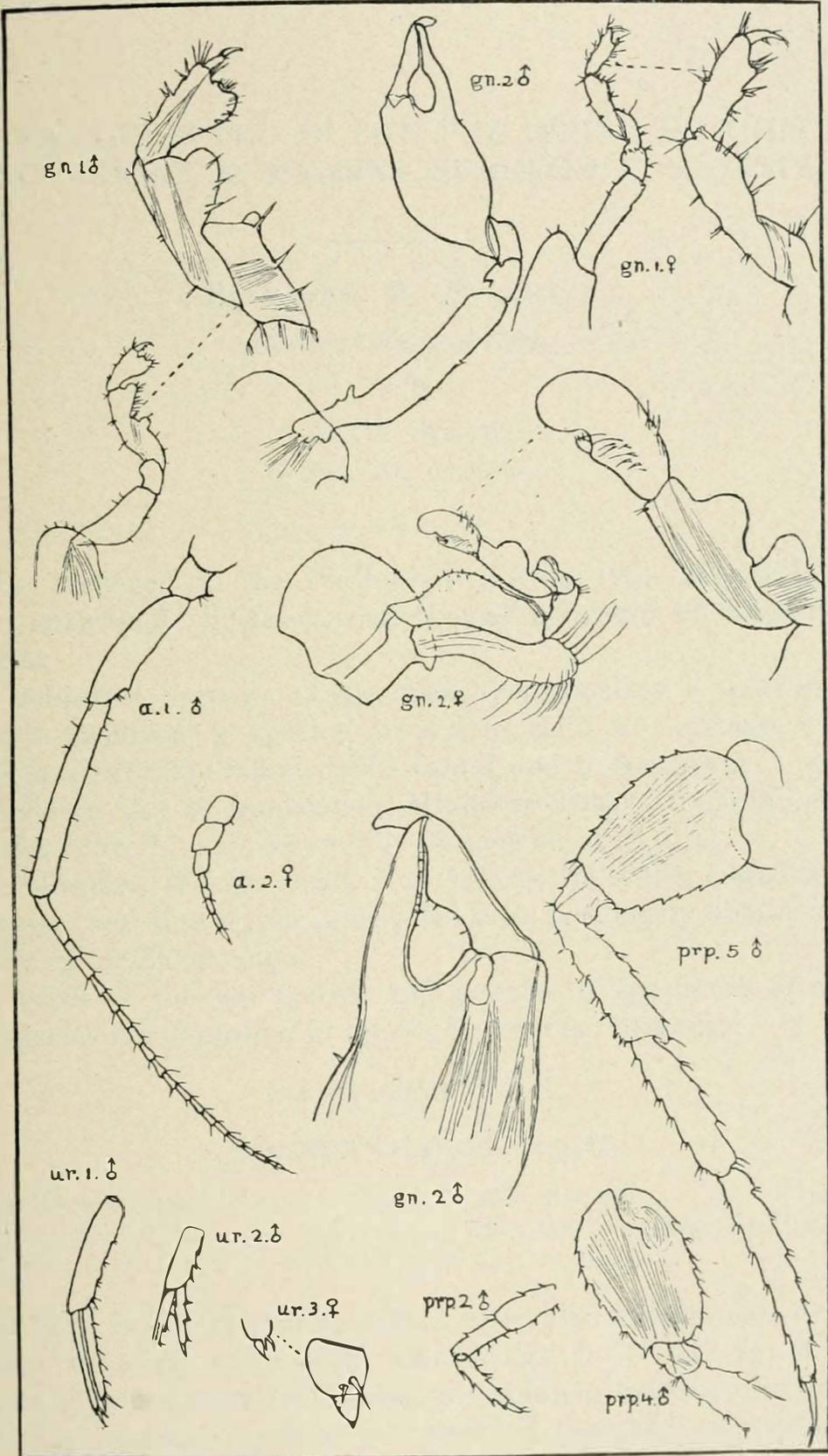
#### EXPLANATION OF PLATE XI.

*a. s.* female, *a. i.* male. Upper antenna of female, lower antenna of male.

*gn.* 1, 2, male; *gn.* 1, 2, female. First and second gnathopods of male and female, with portions of the same more highly magnified.

*pp.* 2, 4, 5, male. Parts of second and fourth and whole of fifth pereopods of male.

*ur.* 1, 2, male; *ur.* 3, female. First and second uropods of male, and third uropod of female, the last also more highly magnified.



ORCHESTIA COSTARICANA.

FOR EXPLANATION OF PLATE SEE PAGE 504.

The following text is generated from uncorrected OCR.

[Begin Page: Page 501]

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Proceedings U. S. National Museum, Vol. XXXI— No. 1490.

501

**[Begin Page: Page 502]**

502 PROCEEDINGS OF THE NATIONAL MUSEUM. voi., xxxi.

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Fui. 1. — *Orchestia oostaricana*, male.

The first gnathopod of the male has a small pellucid prominence on the fourth joint distally, and the inner margin of the fifth and sixth joints boldly produced, the distal projection of the sixth much narrower than that of the fifth, but extending beyond the little spinule-fringed palm, which is matched by the small acute finger. In the female this limb is diff'rently constructed, with a narrower second joint and no pellucid ]bulbous prominences. As in the male, the fifth joint is considerably longer than the sixth. The latter is narrow, fringed on both margins with spines, and expands slightly to a small concave palm, beyond which the small curved finger extends.

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near together, equal or very unequal. The third joint is short, with a distal projection in front, the fourth, joint of about the same length,

**[Begin Page: Page 503]**

NO. 1490. A NEW COSTA RICAN AMPHIPOD—STEBBING. 503

the fifth apparently quite coalesced with the sixth and consisting of a narrow triangular piece h<sup>a</sup>ing- alongside the oblong fourth joint. The sixth joint proper has an oblong trunk about twice as long as broad, with the hind margin distally produced into a slender nearly straight thumb about two-thirds the length of the trunk. The finger, somewhat stronger than the thumb, when closed overlaps the pointed apex of the thumb with its own curved and blunt apex, and brings its bulging middle part into contact with the spinulose distal half of the thumb), leaving an irregularly oval gap between the proximal confronting edges of this true chela. It will be noticed in the enlarged figures of the second gnathopod of *Orchestia darvHnii* that the proportions and outline of the trunk are quite different from those of the present species, and also that the finger in closing upon the thumb there presents an arrangement which is scarcely more than subchelate. The second gnathopod of the female is not exceptional. The fourth

Fig. 2. — *Orchestia costaricana*, female.

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**[Begin Page: Page 504]**

504 PROCEEDINGS OF THE NATIONAL MUSEUM. vol.xxxi.

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Length. — The largest males and females are about 4 mm. long.

Habitat. — Numerous specimens were collected by Prof. J. F.

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nr. 1, 2, male; ur. 8, female. First and second nropods of male, and third uropod of female, the last also more highly magnitied.

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U. S. NATIONAL MUSEUM

PROCEEDINGS, VOL. XXXI PL. XI

*Orchestia costaricana*.

For explanation of plate see page 504.