

jections were reported by Schmeil,² 1892, as found in the fourth feet of *C. oithonoides*, but not on feet 1 to 3. He also stated that the processes were found in *C. hyalina* and *C. dybowskii* on all the swimming feet, but that the processes were more of a semicircular form in these species. It is evident that the processes in *C. philippinensis* correspond more closely to those in *C. hyalina* and *C. dybowskii*, for they are distinctly semi-circular in outline. Sars,³ 1918, figures similar projections for the fourth feet of *C. crassus*.

The fifth foot, Fig. 5, is two segmented. The second segment is twice as long as broad: the setae are terminal and the inner seta is longer and stouter than the outer. The form of the *receptaculum seminis* could not be clearly distinguished in the available material.

Length: From 0.9 to 1.0 mm.

This was received from Dr. Stillman Wright and was collected by P. B. Sivikis, at Manila, Philippine Islands.

This form evidently belongs to genus *Mesocyclops* Kiefer, and subgenus *Thermocyclops* Kiefer. It is most nearly related to *C. oithonoides* Sars. The lack of hyaline membranes on the terminal segments of the first antennae, the armature of the membrane connecting the bases of the swimming feet, the form and armature of the fifth feet, and the markings of the abdomen separate this from any described species.

² Schmeil, 1892, *Deutschlands freilebende Süßwasser-Copepoden-Cyclopidae*. Bibliotheca Zoologica, Vol. 6.

³ Sars, G. O., 1918. *An account of the Crustacea of Norway*. Vol. VI, Copepoda, Cyclopoida.

ZOOLOGY.—*Notes on Talorchestia fritzi Stebbing*.¹ CLARENCE R. SHOEMAKER, U. S. National Museum. (Communicated by W. L. SCHMITT.)

Among some crustacea recently received by the United States National Museum from Professor Manuel Valerio of San José, Costa Rica, were six amphipods of the genus *Talorchestia*, taken on the Pacific coast of Costa Rica. One of the males is undoubtedly *Talorchestia fritzi* described by Mr. T. R. R. Stebbing² in 1903 from Isla del Coco, off the Pacific coast of Costa Rica. The two remaining males are somewhat larger and show marked differences in some characters from *T. fritzi*, but in most they agree completely with it. The greatest difference appears in the form of the sixth and seventh joints of the second gnathopods of the male. Fritz Müller³ has pointed out the differences in form which take place in some of the characters of sexually mature males of *Orchestia tucurauna*. The alteration in the form of the sixth joint of the second gnathopods and the fusion of the first

¹ Published by permission of the Secretary of the Smithsonian Institution. Received January 29, 1932.

² Stebbing, 1903, Proc. U. S. Nat. Mus., vol. XXVI, p. 925, pl. 60.

³ Fritz Müller, *Facts and Arguments for Darwin*, London, 1869, pp. 79-80.

few joints of the flagellum of the second antennae are among the principal changes which he noted. In *O. tucurauna* the young mature males had an evenly convex palm which, as the animal became older, acquired a deep emargination near the hinge of the seventh joint, and the seventh joint developed a corresponding prominence which exactly fitted into the emargination when the joint was closed against the palm. In the youngest mature males the joints of the second antennae were all free, but as maturity advanced the first few joints became fused.

I have examined the specimen of *Talorchestia fritzi* which Mr. Stebbing studied and I find that the young males have the emargination of the palm and the protuberance on the seventh joint so slight as to be scarcely noticeable, thus approaching the condition of uniform convexity described by Müller. I have already stated that one of the males received from Professor Valerio agrees quite well with the description and figures of *T. fritzi* given by Mr. Stebbing, except that the second joint of the second antennae is much more prominent and the fourth and fifth joints are much more massive. The two remaining males differ from the preceding specimen and Mr. Stebbing's specimens as follows. The second joint of the peduncle of the second antennae is even more prominent and the fourth and fifth joints still more massive. The first seven or eight joints of the flagellum are fused. Mr. Stebbing states that none of the flagellum joints are fused, but as the specimens which he examined had apparently been dried before they were put into alcohol this point is rather uncertain, though to me the first three or four joints have the appearance of being fused. The sixth joint of the second gnathopods is proportionally the same, but the emargination has become enlarged until it occupies about half the palm, and the remaining half of the palm has been crowded together into a high evenly convex prominence having at its junction with the posterior margin of the sixth joint a groove for the reception of the extremity of the seventh joint. The protuberance on the inner margin of the seventh joint has entirely disappeared so that when the joint is closed against the palm a large opening is formed by the palmar emargination.

These differences, while apparently very marked, are only such as could readily be due to the larger size and greater age and maturity of the specimens. I believe, therefore, that these two larger males are merely more fully developed and matured specimens of *Talorchestia fritzi* Stebbing. In the Amphipoda development is frequently

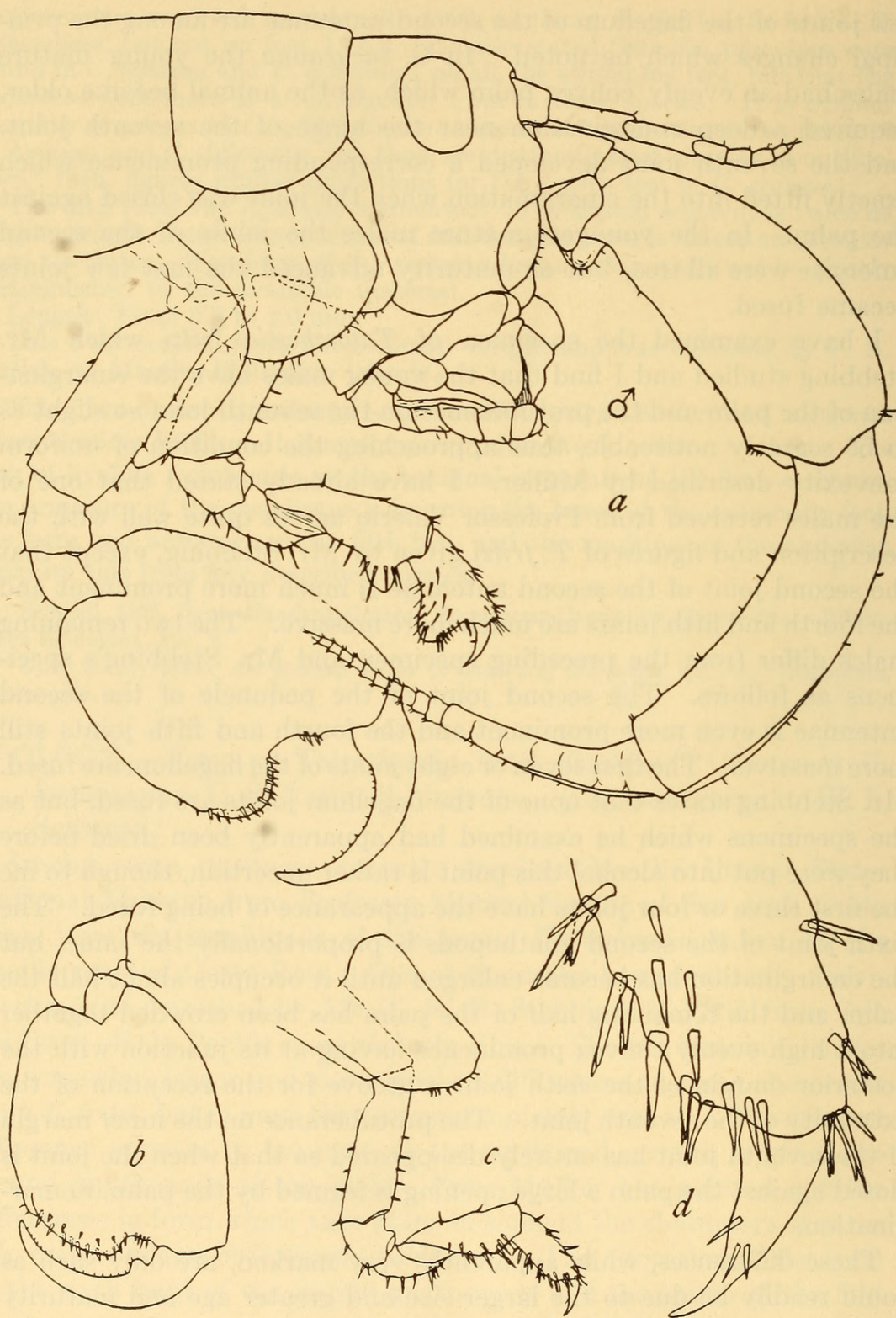


Fig. 1.—*Talorchestia fritzi* Stebbing. *a*, Head, antennae, and gnathopods of fully developed male. *b*, Gnathopod 2, left, inside view of young male. *c*, Gnathopod 1 of female. *d*, Extremity of gnathopod 1 of female much enlarged.

accompanied by marked changes in the form of the second gnathopod of the male.

Although Mr. Stebbing noted the general resemblance in the second gnathopods of *T. fritzi* to those of *Orchestia tucurauna* he believed that there was enough difference in other characters to distinguish them as separate species. It is not possible to determine from Fritz Müller's description or figures whether his species is an *Orchestia* or a *Talorchestia*, so that with further knowledge of these two species they may well prove to be one and the same. The first gnathopods of the females of these specimens from Professor Valerio approach more decidedly a subchelate structure than is shown by Mr. Stebbing in his figure. I have examined the females which he studied and find that the specimens show somewhat more of an approach to the subchelate structure than he has indicated. The dividing line between *Orchestia* and *Talorchestia* is so very hazy that at times it is difficult to decide into which of these two genera a species should be placed. For the present *T. fritzi* had best be left in the genus *Talorchestia*.

PROCEEDINGS OF THE ACADEMY AND AFFILIATED SOCIETIES

BIOLOGICAL SOCIETY

765TH MEETING

The 765th meeting was held in the new assembly hall of the Cosmos Club 17 October 1931 at 8.10 p.m., with President JACKSON in the chair and 33 persons present.

FRANK THONE mentioned the observation of a partly albino robin recently near the National Academy building.

E. P. WALKER commented on Dr. W. M. MANN's return with specimens from British Guiana. He also stated that both the lowland and mountain forms of gorilla are on exhibition at the Zoological Park.

I. N. HOFFMAN stated that Mr. DENLY has raised this summer several rare species of pheasant, including Java peafowl and Elliot pheasant. He has about 25 species in captivity.

The regular program was as follows:

WATSON DAVIS: *Some recent biological expeditions*.—The speaker has record of about 60 biological expeditions of greater or less importance afield throughout the world in 1931.

FRANK THONE: *New books in biology*.—The speaker exhibited and commented briefly on a considerable number of new books.

S. F. BLAKE, *Recording Secretary*

766TH MEETING

The 766th meeting was held in the new assembly hall of the Cosmos Club 31 October 1931 at 8.05 p.m., with President JACKSON in the chair and 48 persons present. New member elected: W. O. EMERY.

The following resolution was adopted:



Shoemaker, Clarence R. 1932. "Notes on Talorchestia fritzi Stebbing." *Journal of the Washington Academy of Sciences* 22, 184–187.

View This Item Online: <https://www.biodiversitylibrary.org/item/123322>

Permalink: <https://www.biodiversitylibrary.org/partpdf/101492>

Holding Institution

Smithsonian Libraries and Archives

Sponsored by

Biodiversity Heritage Library

Copyright & Reuse

Copyright Status: Permission to digitize granted by the rights holder

Rights: <https://www.biodiversitylibrary.org/permissions/>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.