

Note on a New Zealand Amphipod belonging to the Genus
Seba. By CHARLES CHILTON, M.A., D.Sc., F.L.S.,
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[THE subjoined communication was sent to me by Prof. Chilton for publication. Since receiving it I have carefully compared my female specimens and Mons. Chevreux's descriptions and figures with those of *S. Saundersii* in the 'Challenger' Report. As regards the former, I can find no differences of any value, and I agree with Prof. Chilton that those given by Mons. Chevreux cannot be relied on*. I have therefore come to the following conclusions:—

* There is, however, a marked difference in the mandibular palps: in *S. Saundersii* (and in *S. antarctica*) the third joint is much longer than the first, while in *S. armata* it is said to be shorter. As the last-named species was taken in the Gulf of Gascony, it is probably distinct.

1. That the females of the known species as mentioned in Prof. Chilton's article cannot be differentiated.

2. That *S. Saundersii*, Stebbing, may be the female of *S. typica* (Chilton), *S. armata* (Chevreux), of the 'Discovery' species, or of a male, not yet discovered, distinct from all three, and that, consequently, we are not justified in referring any of them to it.

The 'Discovery' species, which I propose to call *Seba antarctica*, appears to offer an example of male dimorphism. The commonest form resembles the female so closely in size (4.25 mm.) and structure that they can only be distinguished by the absence of the incubatory lamellæ. But in one gathering two males, measuring respectively 5 mm. and 7 mm., occurred, remarkable for the great expansion of the meral joints of the last three pairs of peræopods, especially in the larger specimen. The hand of the first gnathopods is more perfectly chelate than in either *S. typica* or *S. armata*.

It is a question whether any of the above species ought to have been placed in the genus *Seba*! In the 'Catalogue of Amphipodous Crustacea (Brit. Mus.),' p. 159, pl. xxix. fig. 5, Sp. Bate defines *Seba*, which he attributes to A. Costa, as having *long* antennæ, *small* coxæ, and *uniform, subequal*, and chelate gnathopoda. None of the characters italicized fits the above three species, nor can the hand of the first gnathopods of the male *S. typica*, as figured by Prof. Chilton, be properly called chelate. To complete the confusion, Prof. A. Costa denied having ever established either the genus or species of "*S. innominata*, A. Costa, Pochi Crost. de Messina," as given by Sp. Bate, who further says, at the end of his description, that they are taken "from a figure given in a memoir in the possession of Prof. M.-Edwards, but I have some doubt of the correctness of my notes both as to the title of the work and the specific name"! *—ALFRED O. WALKER.]

IN 1884 † I described under the name *Teraticum typicum*, gen. et sp. n., a small Amphipod taken in Lyttelton Harbour. I had three specimens, in two of which the first gnathopod was large and subchelate, while in the third specimen it was smaller and chelate. Subsequently the Rev. T. R. R. Stebbing called my attention to the resemblance between my species and one described by him under the name *Seba*

* 'Challenger' Report, vol. xxix. p. 334; Della Valle, 'Fauna &c. Golf. Neap.,' Gammarini, p. 774.

† Trans. N. Z. Inst. xvi. p. 257, pl. xviii. figs. 1 a-1 f.

Saundersii supposed to come from South Africa; consequently in 1885* I transferred my species to the genus *Seba*, but left its identity or otherwise with *S. Saundersii* an open question, and the New Zealand species was given under the name *Seba typica* in the "Critical List of the New Zealand Crustacea" published in 1886 by Mr. G. M. Thomson and myself †.

In the collections made by the 'Challenger' Mr. Stebbing found a single female specimen from Station 313 off Cape Virgins, Patagonia, which he referred to *Seba Saundersii*, Stebbing, and he considered my New Zealand species to be identical with this, assuming the form I had described with rather large subchelate first gnathopods to be the male ‡. It will be noted that Mr. Stebbing had himself seen no males of his species. The only difference pointed out by Mr. Stebbing between his specimens and the New Zealand ones was in the first joint of the upper antenna, which I had described as being equal in length to the second, while in his original specimen the second joint was a little longer and in the 'Challenger' specimen decidedly longer. In 1892§ I published a short note accepting Mr. Stebbing's view as to the identity of the New Zealand specimens with his and as to the male sex of the forms with the larger gnathopods.

In 1889||, among the Amphipoda collected by the 'Hirondelle,' M. Chevreux described under the name *Grimaldia armata* a species from the Gulf of Gascony which he afterwards ¶ described very fully under the name *Seba armata* and compared at some length with *S. Saundersii*, pointing out various differences. As some of the differences were based upon the assumption that the New Zealand species belongs to the true *S. Saundersii*, Stebbing, and as it appears desirable, as shown below, to consider the New Zealand specimens as a distinct species, it follows that these differences may not serve to distinguish *S. armata* from the true *S. Saundersii*, Stebbing.

Mr. A. O. Walker, in working out the Amphipoda collected by the National Antarctic Expedition, has found several specimens of *Seba Saundersii*, Stebbing, and as he finds that in them the first gnathopods of the males do not differ appreciably from those of the female, and therefore differ

* N. Z. Journ. of Science, ii. p. 320.

† Trans. N. Z. Inst. xviii. p. 148.

‡ Rep. on 'Challenger' Amphipoda, p. 783, pl. xlix.

§ Trans. N. Z. Inst. xxiv. p. 260.

|| Bull. Soc. Zool. de France, xiv. p. 284.

¶ 'Résultats des Campagnes Scientifiques par Albert 1^{er} de Monaco, fasc. xvi. p. iii, pl. xiii. fig. 1.

considerably from the New Zealand specimens, he has written to me suggesting that after all these latter should be considered a distinct species. At the same time Mr. Walker has very kindly sent me three female specimens of *S. Saundersii*, Stebbing, so that I have been able to compare them with mine; and after doing so I am forced to agree with him that the New Zealand specimens, though very closely allied, must be considered distinct under the name *S. typica* (Chilton). Unfortunately the only female specimen I had is no longer extant, so that the following description is drawn up from the male only; this, however, is perhaps not of much consequence, since it is evident that in this genus, as in so many others of the Amphipoda, the males of the different species differ from one another much more than the females do.

Seba typica (Chilton).

1884. *Teraticum typicum*, Chilton, Trans. N. Z. Inst. xvi. p. 257, pl. xviii. figs. 1 a-1 f.
 1885. *Seba typica*, Chilton, N. Z. Journal of Science, ii. p. 320.
 1886. *Seba typica*, Thomson and Chilton, Trans. N. Z. Inst. xviii. p. 148.
 1888. *Seba Saundersii*, Stebbing, Report on the 'Challenger' Amphipoda, p. 783, pl. xlix. (in part.).
 1891. *Seba Saundersii*, Chilton, Trans. N. Z. Inst. xxiv. p. 260.

Male.—Closely allied to *S. Saundersii*, Stebbing, and also to *S. armata*, Chevreux, and apparently differing mainly in the first gnathopoda, which are large and strong; propod oblong, width at base equalling that of the end of the carpus, anterior border with an oblique row of setæ about the middle; palm transverse, its middle third with a rather deep depression, in which rises a small projection bearing a single short seta, the portions of the palm on either side of the central depression bearing three or four short setæ; dactyl stout, its inner border very minutely serrate.

Female.—Differs from the male in having the first gnathopod chelate and apparently very similar to that of *Seba Saundersii*.

Hab. Lyttelton.

Length about 2 mm.

M. Chevreux gives several small points in which *S. armata* appears to differ from *S. Saundersii*, such as the shape of the side-plate of the first segment of pereion, the relative lengths of the different joints of the antennæ, and of the peduncles and rami of the uropoda &c. After carefully comparing the figures and descriptions given by M. Chevreux and Mr. Stebbing with regard to these points, and after observing them in my specimens and in those of *S. Saundersii* sent by Mr. Walker, I must confess that I have little con-

vidence in any of these differences as good specific characters, and consider that the distinction must be made principally by the characters of the first gnathopod of the male (see figure). For the sake of comparison, however, I give here a few points in which my (male) specimens appear to differ from the other species, it being understood that in the characters not mentioned there is no appreciable difference.



Seba typica: first gnathopod of male (highly magnified).

In the antenna the second joint of the peduncle is more slender than the first and is equal to it in length or only very slightly longer; the lower antenna is hardly, if at all, shorter than the upper; in all the pereopoda the meros is more or less produced alongside the carpus; in the first pereopod this projection reaches about to the middle of the carpus, in the last pereopod it reaches slightly beyond the distal end of the carpus, the intervening pereopoda showing intermediate stages; the first uropod has the peduncle a little shorter than that of the second, the outer branch is longer than the peduncle and about two thirds the length of the inner branch; in the second uropods the branches are subequal. My specimens are about the same size as *S. armata*, but considerably smaller than *S. Saundersii*.