

XXXVI.—A new Species of the Isopod Genus *Serolis*.
By W. T. CALMAN, D.Sc.

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AMONG the numerous species of the genus *Serolis*, *S. latifrons*, Miers, stands apart on account of the structure of the uropods, which, as Beddard* pointed out, "recalls that characteristic of the Sphæromidæ." Beddard also stated that the species differed from all the other members of the genus in having minute "epimera" separated by suture from the first abdominal somite. It will be shown below, however, that these structures really belong to the last thoracic somite, of which no trace persists on the dorsal surface in any other species.

The Museum has recently received from the South Shetland Islands specimens of a new species agreeing in these and other characters with *S. latifrons*. The two species might very well be treated as forming a distinct genus, but it is not convenient to do so without undertaking the re-grouping of the remaining species of the genus *Serolis*. As a contribution towards this re-grouping, the following arrangement, based on some of the more obvious characters, is suggested:—

- A. Uropods without endopod, exopod articulated to outer margin of the prolonged spiniform peduncle. Tergum of last thoracic somite interrupted in the middle, where the first abdominal comes in contact with the penultimate thoracic tergum; lateral portions persisting as a pair of minute sclerites each with a coxal plate separated by suture Group of *S. latifrons*.
- B. Uropods with endopod and exopod movably articulated with the peduncle. Tergum and coxal plates of last thoracic somite absent.
 - a. Tergum of penultimate thoracic somite complete Group of *S. paradoxa*.
 - b. Tergum of penultimate thoracic somite interrupted in the middle, so that the first abdominal comes in contact with the antepenultimate thoracic tergum .. Group of *S. tuberculata*.

The first of these groups will contain, in addition to *S. latifrons*, only the new species described below. The group of *S. tuberculata* comprises the six Australian species

* Rep. Isopoda 'Challenger,' pt. 1, 1884, p. 46.

named by Beddard (*l. c.* pp. 66 and 81) as forming "a well-marked subdivision of the genus," together with *S. bakeri*, recently described by Chilton *. The group of *S. paradoxa* includes all the remaining species of the genus, and will no doubt be found to deserve further subdivision.

Studer †, who describes the uropods of *S. latifrons* in detail, regards the distal portion of the appendage as corresponding to the acute prolongation of the peduncle in *S. paradoxa* and other species, and states that one of the rami is suppressed while the other is reduced and spiniform. This interpretation (with the added assumption that the persisting ramus is the exopodite) is adopted here in preference to that of Beddard, who states that "the endopodite becomes fused with the protopodite and is extraordinarily elongated."

Beddard states that in *S. latifrons* "the first abdominal segment, which in no other species of *Serolis* known to me has any trace of epimera, has distinct though very minute epimera separated from the tergum by a suture which is continuous with that dividing the epimeron and tergum of the segment in front." The existence of distinct "epimera" (or coxal plates) on an abdominal somite would be without parallel not only in the genus *Serolis*, but among the Isopoda as a whole. As a matter of fact, the parts in question are quite similar in *S. latifrons* to those of the new species here described (text-fig. 2). A small sclerite (*b*), rounded or triangular in form, lies in contact with the external angle of the tergum of the first abdominal somite on each side. Separated from this sclerite by a groove or suture is a narrowly triangular or almost linear piece (*a*) wedged in between the terga of the first abdominal and the seventh (penultimate) thoracic somites. On disarticulating a specimen these two sclerites are easily separated from the first abdominal somite, and they are then seen to be continuous below with the sternal piece which carries the socket for the last pair of legs. There can be no doubt that the outer of the two sclerites (*b*) is the coxal plate of the last thoracic somite, and that the narrow piece (*a*) with which it is connected on the inner side is a vestige of the tergum of the same somite. This persistence of the lateral portions of the tergum is an interesting parallel to what happens in the case of the seventh (penultimate) thoracic tergum in the species of the *tuberculata* group, although in that case the lateral portions and their associated coxal plates remain of large size.

* Trans. Roy. Soc. S. Australia, xli. 1917, p. 398.

† Arch. Naturg. xlv. (1) 1879, p. 31.

Descriptions of species of *Serolis*, even those of some recent authors, tend to be obscure or even misleading as regards the general segmentation of the body. Grube*, describing in certain species a dark transverse line (really a ridge) on the lateral expansions of the segment following the head, regarded it as indicating that this segment was composed of two somites, those of the maxillipeds and first legs (or gnathopods) respectively. On this view the groove or suture-line which marks off the head runs between the maxillary somite and that of the maxillipeds. This interpretation was accepted and clearly enunciated by Beddard (*l. c.* p. 8), and is more obscurely implied by many subsequent writers. Gerstaecker† confused matters still further by assigning the maxillipeds to the head while stating that the *two following* somites were fused together—an opinion that had the advantage of accounting for the full number of thoracic terga, but could hardly have survived the examination of a single specimen. As a matter of fact, in *Serolis*, as in all other Malacostraca with the exception of *Bathynella*‡, the first thoracic somite (that of the maxillipeds) is completely incorporated in the head. The articulation between the head and the second thoracic somite, which in most Isopods is more or less movable, is represented in *Serolis* by a suture-line which corresponds, at the sides of the head, to a deep fold of the exoskeleton, but in the occipital region becomes reduced to a shallow groove. Grube's "dunkle Querlinie," whatever its significance, cannot possibly indicate the limit between two somites.

The chief differences between the two species composing the *latifrons* group may be briefly set forth as follows:—

Dorsal surface of head and body-somites nearly smooth. Telsonic segment smooth except for a median and a pair of curved submarginal ridges	<i>S. latifrons</i> , Miers.
Dorsal surface of head and body-somites strongly sculptured. Telsonic segment studded with tubercles between the median and submarginal ridges and with a pair of short submedian ridges	<i>S. beddardi</i> , sp. n.

Serolis beddardi, sp. n. (Text-figs. 1-3.)

Locality.—"From stomachs of fish (*Trematomus* or *Notothenia*). Deception Island, Bransfield Straits, 5-7 fath. 22. 1. 18," 1 ♀ (holotype), 1 ♂.

* Arch. Naturg. xli. (1) 1875, p. 211.

† Bronn's 'Thierreich,' Crustacea, p. 19 (1880).

‡ Calman, Quart. Journ. Micr. Sci. lxii. 1917, p. 502.

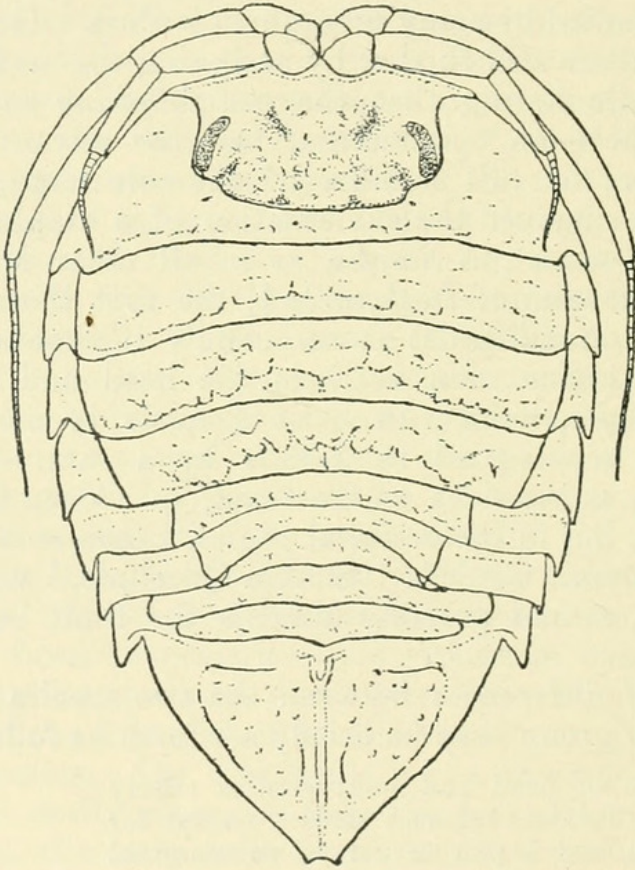
"From stomachs of fish. South Shetlands. 5. 1. 14." Many specimens (dried).

"From stomachs of Rock Cod. Outside Deception Island, Bransfield Straits. 18. 12. 13." Many specimens.

Collected by Mr. A. G. Bennett. In each case the specimens were accompanied by numbers of *S. polita*, Pfeffer.

Description.—Closely resembling *S. latifrons*, Miers, but with the dorsal surface strongly sculptured. The body is

Fig. 1.



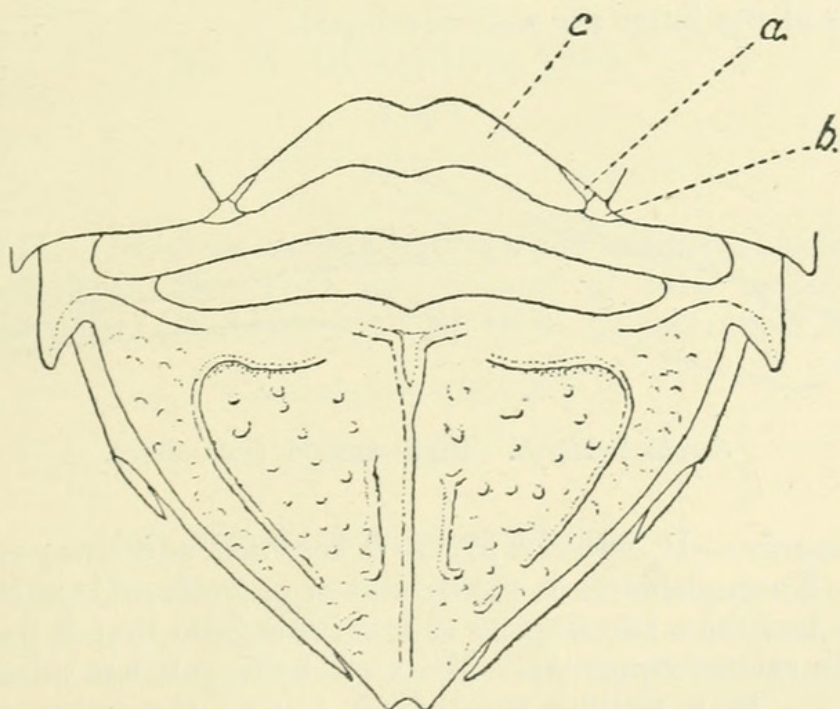
Serolis beddardi, sp. n., female. $\times 3$.

less convex and, as a rule, somewhat narrower. Dorsal surface of head, terga of thoracic and abdominal somites, and, to a less extent, the coxal plates rugose or vermiculate with a more or less symmetrical pattern. The coxal plates, especially those of the last three complete thoracic somites, much less produced backwards and less acute than in *S. latifrons*, although with some variation in both species. The pit on the under surface of each side-plate of the second thoracic somite (Grube's "sense-organ") is deep and sharply

defined; the arched outer margin of this side-plate is minutely serrated, and, like the margins of the succeeding coxal plates, is fringed with long setæ.

The telsonic segment (text-fig. 2) is rather broader and its lateral margins more sinuous than in *S. latifrons*. The median keel, with a marked pit near its anterior end where it unites with a short curved transverse ridge, is similar in the two species. The submarginal ridge on each side also runs a similar course in both, parallel to the front margin anteriorly, then curving round to run parallel to the lateral margin, but it is more sharply defined in the new species, and,

Fig. 2.



Serolis beddardi, sp. n., female. Posterior part of body, further enlarged.
a, vestige of tergum of eighth thoracic somite; *b*, coxal plate of same somite; *c*, tergum of first abdominal somite.

in the anterior part of its course, it is undercut posteriorly. On either side of the median keel, behind the middle of the segment, is a pair of short, somewhat irregular, submedian ridges, converging posteriorly. Between the ridges the surface is studded with prominent widely-spaced tubercles or granules.

The appendages differ very little from those of *S. latifrons*. The distal segments of the walking-legs are rather less slender.

Although there is some variation in the relative length of

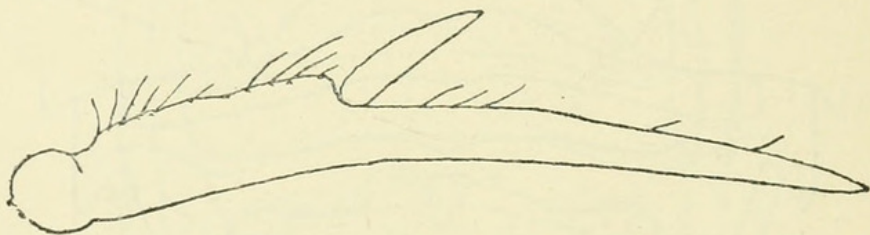
the exopod of the uropods, it is usually about one-fifth of the total length of the appendage. Studer figures it in *S. latifrons** as about one-third of the total length, but in the specimens which I have examined it does not differ conspicuously from that of *S. beddardi*.

Measurements in mm.—Holotype (female with empty marsupium): length 23·76, breadth (across third thoracic somite) 16·5, depth of body about 6·25; telsonic segment, length 7·5, breadth 12·5.

Male: length 22·0, breadth 16·75, depth about 5·25.

The largest specimen (a female) measures 25 mm., the smallest 6·5 mm. in length. In very small specimens the sculpturing of the dorsal surface and the tubercles of the telsonic segment are much less marked, but the submedian ridges of the latter are well developed.

Fig. 3.



Serolis beddardi. Right uropod, from above.

Remarks.—If *Serolis latifrons* is confined, as seems possible, to the Kerguelen area †, the habitat of *S. beddardi* is separated by no less than 130 degrees of longitude from that of its most closely related congener. Mr. C. Tate Regan has called my attention to a similar parallelism among the fishes of the genus *Notothenia* in the two regions of Kerguelen on the one hand and South Georgia and Graham Land on the other ‡.

It seems only fitting that one of the species of *Serolis* should bear the name of the author to whom we owe the 'Challenger' monograph of the genus.

* Arch. Naturg. xlv. (1) 1879, pl. iii. fig. 20.

† The type-specimen named by White and described by Miers is stated to have come from the Auckland Islands (Rendezvous Cove), but the species has not since been recorded from that locality. As the specimen reached the Museum in a collection comprising others from Kerguelen (e. g., the types of *S. quadricarinata*), there may possibly have been some confusion of localities.

‡ Regan, Fishes Brit. Antart. ('Terra Nova') Exp. 1914, p. 36.



Calman, W. T. 1920. "A new species of the Isopod genus Serolis." *The Annals and magazine of natural history; zoology, botany, and geology* 6, 299–304.

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