

Fam. COROPHIIDÆ.

Paracorophium excavatum (G. M. Thomson).

Corophium excavatum, G. M. Thomson in Trans. N.Z. Inst., vol. xvi, p. 236, pl. xii, figs. 1-8 (1884). *Paracorophium excavatum*, Hutton in Index Faunæ N.Z., p. 261 (1904). *Paracorophium excavatum*, Chilton in P.Z.S. London, 1906, p. 704 (1906). *Paracorophium excavatum*, Stebbing in "Das Tierreich Amphipoda," p. 664 (1906).

This species was originally described by Mr. Thomson from the Brighton Creek (salt water), near Dunedin. Subsequently I took it from the same creek at a time when the water was almost fresh, and specimens lived in some of the same water for several months. I have also specimens taken from brackish water at Napier. Messrs. Lucas and Hodgkin afterwards took it near Lake Rotoiti (5 fathoms), and in Lake Waikare, where, of course, the water is perfectly fresh. It therefore appears to be one of several species of our New Zealand *Amphipoda* that are able to live either in salt or in fresh water.

So far as I am aware, it is the only known fresh-water species of the family *Corophiidae*.

ART. XIV.—*Note on the Amphipodan Genera Bircenna, Kuria, and Wandelia.*

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[Read before the Philosophical Institute of Canterbury, 2nd December, 1908.]

IN 1884 I established a new genus *Bircenna* for a peculiar small amphipod found at Lyttelton. The genus was characterized as follows: Body broad, coxæ very shallow. Antennæ subequal, upper without a secondary appendage. Mandibles without an appendage. Maxillepedes with well-developed plates on both basos and ischios. Gnathopoda equal, not subchelate. Last segment of pleon and its appendages rudimentary. Telson simple, not divided.

One of the most characteristic points was the greatly shortened pleon, the 6th segment being indistinct, and the telson (as I then thought) single and undivided.

I left the position of the genus undecided, merely pointing out that in several respects it seemed to resemble *Phlias*, Guérin. The genus remained isolated and unclassified until 1899, when Mr. Stebbing placed it in the family *Phliadidae*—the position which it occupies in his report on the *Amphipoda* for Das Tierreich, though the name of the family is there written *Phliantide*. In 1902, when examining the *Crustacea* collected by Mr. H. O. Forbes at Abd-el-Kuri, Messrs. A. O. Walker and A. Scott found a small amphipod which resembled *Bircenna* in many respects, but differed in having the "telson divided to the base, consisting of two subtriangular

plates set on edge." This they described as a new genus *Kuria*, having *Bircenna* as its nearest ally, and, as they were not satisfied with the position of the latter under the *Phliadidae*, they simply marked the genus "*incerta sedis*."

Mr. Walker wrote to me at the time he was examining his *Kuria*, giving the points in which it differed from *Bircenna*, and asking for further information as to the uropoda and telson, but as my original dissection of the terminal segments of the pleon has not been preserved, and I had at the time no other specimens available, I could only refer to my figure, which showed an undivided triangular telson.

In 1906 Monsieur Edouard Chevreux established a new genus *Wandelia* for a small amphipod found by the French Antarctic Expedition (1903-5) at Port Charcot and Wandel Island, which he said came very close to *Bircenna*, but differed from it in the uropoda, and in having the telson divided to the base. He placed the genus in the *Phliantidae*, which, however, he wrote *Phliasidae*, but pointed out that the completely divided telson separated it from all the other genera of the family. M. Chevreux apparently had not seen Mr. Walker's paper, for he makes no reference to *Kuria*.

As *Wandelia* evidently resembled *Bircenna* even more closely than *Kuria* did, though like the latter it possessed a completely divided telson, I was very anxious to get further specimens to see if my original description was really correct. I did not succeed in doing this till November, 1908, when I secured another small specimen from Lyttelton Harbour, and was able to examine the point carefully. The last segments of the pleon are greatly shortened, and it is difficult to make out the exact condition of the last segment and of its appendage, but I find that the telson is distinctly formed of two parts, and is consequently in harmony with that of *Kuria* and *Wandelia*, and I therefore hasten to make the correction. So far as I can make out, each half is as deep as broad, and is triangular in vertical section as well as horizontally, and consequently the one half, which alone is shown in my figure, is nearly symmetrical when seen from above, and therefore aroused no suspicion that it was only half the telson; and Mr. Stebbing, who dissected a specimen when preparing his generic diagnosis, published in the *Trans. Linn. Soc., Zool. vii*, p. 421, in 1899, seems to have been equally unaware that the telson had been incorrectly described.

There can be no doubt that *Wandelia* is identical with *Bircenna*, and, indeed, *Wandelia crassipes* is specifically not very different from *Bircenna fulva*. The genus *Kuria* differs in a few points—*e.g.*, in having the body laterally compressed and the 3rd uropoda less modified—and should perhaps be regarded as a separate genus, though evidently very closely allied to *Bircenna*.

After mentioning that Stebbing had placed *Bircenna* in the family *Phliantidae*, Walker says that "it seems somewhat out of place with such genera as *Pereionotus*, *Iphinotus*, &c." In general appearance it certainly looks very unlike these dorso-ventrally flattened genera, and *Kuria*, which is somewhat laterally compressed, is still more unlike them, and both genera differ from the rest of the family in having the telson double or deeply cleft. In other respects, however, they agree closely with Stebbing's diagnosis of the family. The genus *Phlias*, from which the family takes its name, also differs greatly in general appearance from the genera named above, and resembles *Kuria* in having the body somewhat laterally compressed; but, as a small amount of lateral compression in the one case and of dorso-ventral compression in the other make the general aspect of the two forms

very different, it is probable that comparatively little importance should be attached to this point.

The possession of a double telson is more important, and distinctly marks these two genera off from the rest of the family; but this seems to me to point rather to the necessity for slightly enlarging the characters of the family than for the establishment of another family, and I therefore leave the two genera under the *Phliantidæ*, where Chevreux placed his *Wandelia*. In both species of *Bircenna*—i.e., *B. fulva* and *B. crassipes*—the pleopoda have the peduncle broad and laterally produced, as in other members of the family.

I give below the arrangement I suggest for these forms, with the characters that appear to me most important for differentiating them. I have shortened the diagnosis of *Bircenna*, as that given by Stebbing in "Das Tierreich Amphipoda" appears to me to include some details that are hardly likely to prove of generic value; indeed, some of them have to be omitted to include the second species (*B. crassipes*). The characters given are, of course, additional to those of the family, and these have not been repeated in the generic diagnoses.

Fam. PHLIANTIDÆ.

Phliadidæ, Stebbing in Trans. Linn. Soc., London, ser. 2, vol. vii, p. 414 (1899). *Phliantidæ*, Stebbing in "Das Tierreich Amphipoda," p. 200 (1906).

Genus BIRCENNA, Chilton.

Bircenna, Chilton in Trans. N.Z. Inst., vol. xvi, p. 264 (1884). *Bircenna*, Stebbing in "Das Tierreich Amphipoda," p. 205 (1906). *Wandelia*, Chevreux in Exped. Antarctique Française, 1903-5, "Crustacés Amphipodes," p. 44 (1906).

Body broad, almost cylindrical, pleon segment 5 very short, 6th indistinct. Side-plates all very shallow. Maxillipedes with inner and outer lobes long, both reaching apex of 2nd joint of palp, which, though short, contains 4 joints. Gnathopoda 1 and 2 slender and almost simple, similar. Peræopods short, the 3rd to 5th with the 2nd joint much expanded, and the 4th joint rather expanded and decurrent. Uropoda short, 3rd uniramous, lamelliform, peduncle and branch not clearly distinguishable. Telson split to the base, each half subtriangular.

1. *Bircenna fulva*, Chilton.

B. fulva, Chilton in Trans. N.Z. Inst., vol. xvi, p. 264, pl. xxi, figs. 1, 1 a-e (1884). *B. fulva*, Stebbing in "Das Tierreich Amphipoda," p. 205 (1906).

Gnathopods similar, not longer and only slightly more slender than the 1st and 2nd peræopods; 3rd joint longer than broad, as long as 4th; 5th a little shorter than the 6th, which is not expanded, but a little produced at apex, yet not enough to make a chela with the short apically toothed finger. Uropod 1 with peduncle much shorter than the acute curved rami, outer ramus much shorter than inner; uropod 2 similar, but stouter and shorter; uropod 3 apparently consisting of a single joint, bifid at end; outer apex rounded and bearing a few setæ, inner pointed and with only one or two setæ. Telson, each half subtriangular, but with apex broadly rounded, with a small seta on each half. Length, 3 mm.

Lyttelton and Otago Harbours, New Zealand.

2. *Bircenna crassipes* (Chevreux).

Wandelia crassipes, Chevreux in Exped. Antarctique Française, "Crustacés Amphipodes," p. 45, figs. 24-26 (1906).

Similar to *B. fulva* except in the following points: Gnathopods longer and much more slender than 1st peræopod. Uropods 1 and 2 with rami subequal and only slightly longer than peduncle. Telson completely divided into two triangular lobes, each armed with a small seta. Length, 3 mm.

Port Charcot (dredged at depth of 40 metres), Wandel Island (dredged with sponges in 40 metres).

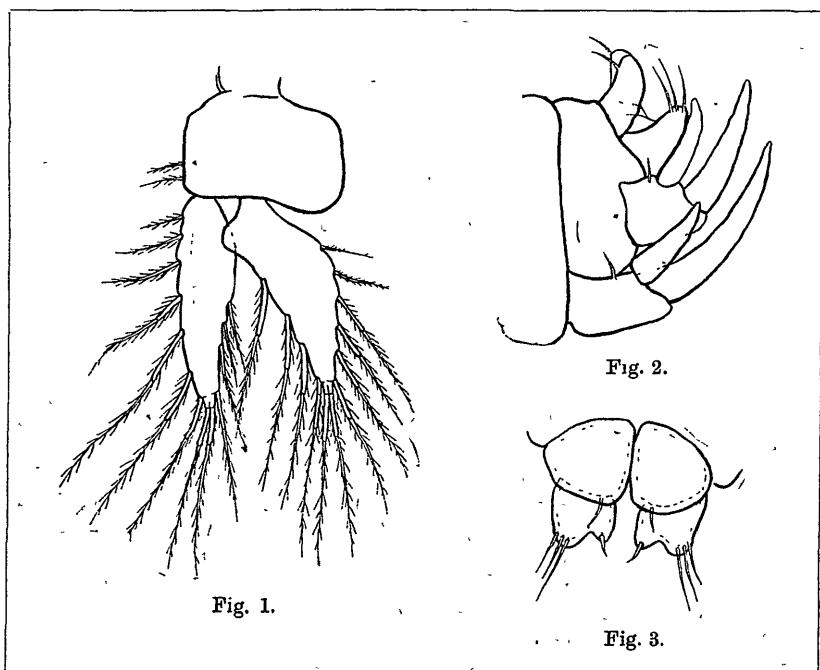
*Bircenna fulva*.

FIG. 1.—Third pleopod; highly magnified.

FIG. 2.—Uropoda and telson (side view); highly magnified.

FIG. 3.—Telson and 3rd uropoda (from above); highly magnified.

Genus *KURIA*, Walker and Scott.

Kuria, Walker and Scott in Nat. Hist. Sokotra, p. 228 (1903).

Body laterally compressed. Side-plates not very shallow, the first 4 as deep as their segments. Maxillipedes with inner and outer lobes very small, especially the latter; neither reaching further than base of 2nd joint of the 4-jointed palp. Gnathopods 1 and 2 subequal, long and slender, with a small subchelate palm. Peræopods short, last three with 2nd and 4th joints expanded. Uropod 3 with single ramus. Telson divided to the base, consisting of 2 subtriangular plates set on edge.

1. *Kuria longimana*, Walker and Scott.

Kuria longimanus, Walker and Scott in Nat. Hist. Sokotra, p. 228, pl. xiv b, figs. 5-5n (1903). *K. longimana*, Stebbing in "Das Tierreich Amphipoda," p. 726 (1906).

Body rather plump, first 4 side-plates deeper than their segments; last 3 segments of pleon coalesced. Gnathopods very slender, 2nd joint as long as the next 3, 5th as wide and almost as long as the 6th, which is about 5 times as long as broad; palm very small, oblique, defined by a spine, finger projecting beyond palm by about one-fourth of its length. Uropods 1 and 2 with peduncles rather shorter than the rami, which are equal and similar, and bear a few spines; 3rd uropod with peduncle short and broad, the single ramus about as long as peduncle, but more slender, and with one or two spines at apex. Telson divided to base, the two subtriangular divisions turned up on edge, the lower margin being convex and the upper straight, with 2 or 3 setæ near the distal end. Length, .2 mm.

Abd-el-Kuri.

Remarks.

In addition to the points that have been mentioned in the descriptions given above, there are several others that I have not included, because I have not yet been able to make a satisfactory comparison of them in the different forms. For example, Messrs. Walker and Scott describe the last 3 segments of the pleon as being fused together in *Kuria longimana*; and Chevreux says that the last 2 segments are fused together in *Bircenna crassipes*. They appear to be fused also in *B. fulva*, but owing to the imperfect development of the 6th segment it is difficult to be quite clear as to the actual state of affairs.

In *Bircenna crassipes*, as figured and described by Chevreux, there is no molar process on the mandible, while in *Kuria longimana* Messrs. Walker and Scott describe the molar process as "rather large." In *Bircenna fulva* the mouth parts, so far as I have been able to examine them in the single very small specimen at my disposal, appear to closely resemble those of *B. crassipes*. The mandible shows no molar process or palp, the cutting-end is formed of some 4 or 5 indistinctly marked teeth, and the accessory process is either absent altogether or very imperfectly developed. The 2 pairs of maxillæ have practically the same form as in *B. crassipes*, and the maxillipede also closely resembles that of the same species. The upper lip is small, and regularly rounded at the end, which bears a few very short setæ; in the lower lip the lateral lobes are rounded and finely ciliated on the distal border.

The 3rd pleopods are shown in fig. 1. They have the inner margin of the peduncle much produced, and bear 2 very short coupling-spines at its distal end; the inner branch has a projection of its outer margin near the base, as shown in the figure. The other pleopods closely resemble the 3rd pair.