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On new and rare Crustacea from Scottish Waters.

By THOMAS SCOTT, LL.D., F.L.S.

[Plates II. & III.]

THE Crustacea described here were obtained in collections made by the fishery steamer 'Goldseeker' while carrying on work in the North Sea and adjacent waters under the direction of Professor d'Arcy W. Thompson, C.B., F.L.S., the representative for Scotland on the International Committee. I am indebted to Professor Thompson for permission to publish these notes.

AMPHIPODA.

Genus EUSIROGENES, Stebbing, 1904.

Eusirogenes propinquus, sp. n. (Pl. II. figs. 1-9.)

The genus *Eusirogenes* was established by the Rev. T. R. R. Stebbing in the year 1904 for an Amphipod which, while it agreed generally with *Eusirus*, Kröyer, differed in some important points, and among others in the structure of the gnathopoda*.

The form recorded here, of which only a damaged specimen was obtained, agrees very well with the characters by which

* T. R. R. Stebbing, "On Biscayan Plankton," Trans. Linn. Soc. ser. 2, Zool. vol. x. p. 15, pl. 2A (Nov. 1904).

Eusirogenes is distinguished, and I think undoubtedly belongs to that genus; but, as indicated below, it differs in some respects from the species described by Mr. Stebbing. Unfortunately *Eusirogenes dolichocarpus*, Stebbing, like the form mentioned here, was described from a single damaged specimen, and the author was unable to give so full a description of it as would have been desirable. Had the specimens in both cases been perfect, other differences besides those referred to might have been noticed.

In the specimen now recorded the cephalon was very imperfect and both pairs of antennæ were gone.

The mandibles, maxillæ, and maxillipeds, as shown by the drawings, are somewhat similar in structure to the same appendages in *E. dolichocarpus*.

The gnathopods are unequal in size, the first pair being somewhat larger than the second. In the first pair the basal joint is elongated and tapers towards the distal end, where it is only half as wide as at the proximal end; this joint is furnished with a few moderately long and slender bristles. The third and fourth joints are short. The carpus or fifth joint is elongated and slender, its length is equal to about four-fifths of that of the second joint; the superior margin of the joint is nearly straight, while the lower curves downward from both ends to form a small triangular process, the apex of which is rather nearer the proximal than the distal extremity and bears one or two moderately long and slender bristles. The distal half of the lower margin forms a shallow concavity to receive the large propodos when folded back upon the carpal joint. The propodos is about twice as long as broad, and with the outer and inner edges nearly parallel; the outer edge or palm terminates below in a distinct though small angular projection, from which springs a moderately long and stout spine; the dactylus is long and slender, slightly curved and finely serrated on the inner edge (fig. 4). The second pair of gnathopods, though smaller than the first, are somewhat similar to them in structure; in this pair, however, the second joint is narrow, with the margins nearly parallel, and provided with a number of marginal bristles; the carpal joint is rather longer than the second, and the bristles at the apex of the triangular process of the lower margin are more numerous; the propodos also differs from that of the first pair in that it expands and becomes rather wider posteriorly (fig. 5).

The remaining pereopods were imperfect, but appeared to be all elongated and slender as in *E. dolichocarpus*. The coxal plates of the gnathopods and of the first and second

pereiopods are slightly notched near the lower front angle, as shown in the drawing (fig. 5).

The last pair of epimeral plates are broadly rounded and have the posterior margin finely serrated (fig. 8). Uropoda imperfect.

Telson moderately elongated, the length being about twice the width at the proximal end, and tapering to the somewhat pointed but slightly cleft apex (fig. 9).

Hab. Station 53 (lat. $59^{\circ} 36'$ N., long. $70^{\circ} 0'$ W.), 1140 metres deep, Aug. 17th, 1906.

Remarks.—The specimen now recorded has a close general resemblance to *E. dolichocarpus*, but as it differs from that species in one or two points, I am inclined for the present to regard it as a separate though closely allied species. In *E. dolichocarpus* the postero-lateral angles of the third pleon segment (the last pair of epimeral plates) "are smoothly rounded, not serrate." In the 'Goldseeker' specimen the postero-lateral angles are also rounded, but the lateral margin is distinctly serrate. Moreover, in *E. dolichocarpus* the stem of the fifth joint of the second gnathopods is considerably wider than that of the first pair and is nearly two and a half times as long as the part which forms the cup for the propodos, whereas in the 'Goldseeker' specimen the stem of the fifth joint of the second pair, which differs little from that of the first, scarcely equals in length the part that forms the propodal cup.

Genus PARASCINA, Stebbing, 1904.

Parascina fowleri, Stebbing. (Pl. II. figs. 10–16;
Pl. III. figs. 16, 17.)

1904. *Parascina fowleri*, Stebbing, "Biscayan Plankton," Trans. Linn. Soc. ser. 2, Zool. vol. x. p. 21, pl. 2 B.

One or two specimens of this species occurred in the same gathering in which the *Eusirogenes* recorded above was obtained. *Parascina* has a general resemblance to *Scina*, but differs distinctly in the form of the first and second maxillæ and the maxillipeds and in the structure of the fifth pair of thoracic legs.

The two pairs of maxillæ consist of broad lamelliform plates, fringed with numerous fine hairs and furnished also with several marginal spines, as shown in figs. 11 and 12, Pl. II. The maxillipeds consist of two large hemispherical plates, the inner margins of which are nearly straight, while the opposite margins are broadly and evenly rounded but

with a shallow notch near the distal end; the inner margins and the distal end of the outer margins are fringed with moderately stout bristles. The inner plates, though also moderately large, are smaller than the outer ones; their outline is subtriangular, with the distal end broad and evenly but not very boldly rounded, and with a minute tooth-like process near the outer angle; the distal margin is also densely fringed with fine hairs; these inner plates are situated one behind the other on the same side as shown in the drawing (fig. 16, Pl. III.), and it is interesting to notice that Mr. Stebbing, in the work referred to above, shows these plates arranged in the same way as described here, which therefore probably is the normal position of them in this species—a position that does not seem to be usual among the Amphipoda.

The first and second gnathopoda are nearly alike, and they are both unprovided with chelæ. The end-joint bears three apical spines, the middle one being twice or three times longer than that on either side (figs. 13 & 14, Pl. II.).

In the fifth pair of thoracic legs (the third pair if the gnathopods are not counted) the basal joint is not armed with marginal teeth as in *Scina*, nor is the distal end produced into a spiniform process.

The third pair of uropods are moderately stout; the inner branch is about as long as the basal joint, the outer margin of this branch and the inner margin of the outer branch are both finely serrated. Telson small, subovate.

Parascina fowleri has also been recorded by Chevreux and Tattersall. Its occurrence at 'Goldseeker' Station 53 extends its distribution northwards considerably.

Genus CYSTOSOMA, Guérin-Méneville.

Cystosoma spinosum (Fabr.).

A small specimen of *Cystosoma* scarcely 20 mm. in length was obtained in a gathering collected by the 'Goldseeker' in August 1907 at a depth of a little over 500 metres in lat. 60° 31' N., long. 3° 53' W., that is in the Faroe-Shetland Channel, but nearer Shetland than Faroe. A slight dorsal ridge extends from the cephalon to the base of the telson. Each segment has the posterior margin denticulate; the median dorsal tooth is of moderate size, but the other denticles are small, and they are more numerous on the margins of the pereion-segments. The specimen is devoid of colour and almost transparent. Tattersall records this species from

"50 miles N. by W. of Eagle Island, Co. Mayo." On female 50 mm. was obtained at 700 fathoms*. Rev. T. R. R. Stebbing remarks that *Cystosoma* has species which combine a length of 4 or 5 inches with the respectable breadth and depth of an inch in the amplest part of the head†. The specimen from the Faroe-Shetland Channel, judged by dimensions like these, must be regarded as "small."

COPEPODA-CALANOIDA.

Genus PSEUDOTHARYBIS, T. Scott.

Pseudotharybis dubius, sp. n. (♀).
(Pl. III. figs. 1-15.)

Body moderately stout, forehead rounded, rostrum small, last thoracic segment scarcely produced and rounded at the sides, abdomen and caudal rami short.

Antennule on the (?) left‡ side composed of twenty-four joints, the first two stout, other joints small, but the eighth and the penultimate joints are rather longer than the others. The (?) right antennule is composed of eighteen joints, but is otherwise somewhat similar to the left; both are provided with several short sensory filaments (figs. 2 & 3).

Antennæ with the inner ramus considerably shorter than the outer, as in *Tharybis*, G. O. Sars.

Mandibles with the masticatory end truncated and armed with strong teeth, and the palp is moderately large and two-branched. Maxillæ nearly as in *Tharybis*.

First maxillipeds small, but armed with two moderately strong spiniform setæ and a number of stout bristles (fig. 8). Second maxillipeds somewhat similar to those of *Tharybis*, but the first basal joint is furnished with stout, curved, spiniform setæ on the inner distal angle in addition to several bristles (fig. 9).

In the first pair of swimming-feet the spines on the outer distal angles of the first and second joints of the outer branches are long and slender. The exterior marginal spines on the outer branches of the other three pairs are also moderately elongated, while the terminal spines are nearly one and

* "Pelagic Amphipoda of the Irish Atlantic Slope," Fisheries, Ireland Sci. Invest. 1905, iv. (1906) p. 17.

† 'A History of Crustacea,' p. 30.

‡ The antennules were dissected off and mounted ere the difference between them was observed, and there is some doubt as to which is right and which is left.

a half times the length of the joint to which they are articulated (figs. 10-13).

Fifth pair of thoracic feet short, moderately stout, and slightly asymmetrical (fig. 14). The inner distal angle of the penultimate joint becomes in the one ramus a small papilliform process, but not in the other. The end joints of both rami are furnished with a small spine near the middle of the outer margin and with three unequal terminal spines, the two inner spines being large and stout, and the outer as shown in the drawing.

Hab. Station 53 (lat. 59° 36' N., long. 7° 00' W.), 1140 metres, Aug. 17th, 1907. No males observed.

Remarks.—This species, like *Pseudotharybis zetlandicus*, T. Scott, has a moderately close resemblance to *Tharybis*, G. O. Sars; but the structure of the fifth pair of thoracic feet in the female differs considerably and the first maxillipeds are also devoid of sensory filaments. The species now described also differs from *P. zetlandicus* in several respects, *i. e.* in the asymmetrical antennules, in the armature of the second maxillipeds and of the first and fifth pairs of thoracic feet. One or two other though perhaps less prominent differences might be mentioned, but those referred to are sufficient to distinguish the present species from that previously described.

EXPLANATION OF THE PLATES*.

PLATE II.

Eusirogenes propinquus, sp. n.

Fig. 1. Mandible and palp. 2. Second maxilla. 3. Maxillipeds. 4. First gnathopod. 5. Second gnathopod. 6 & 7. First and second pereopods. 8. Last epimeral plate. 9. Telson.

Parascinus fowleri, Stebbing.

Fig. 10. Upper antenna. 11. First maxilla. 12. Second maxilla. 13. First gnathopod. 14. Second gnathopod. 15. First pereopod. 16. Third pereopod.

PLATE III.

Pseudotharybis dubius.

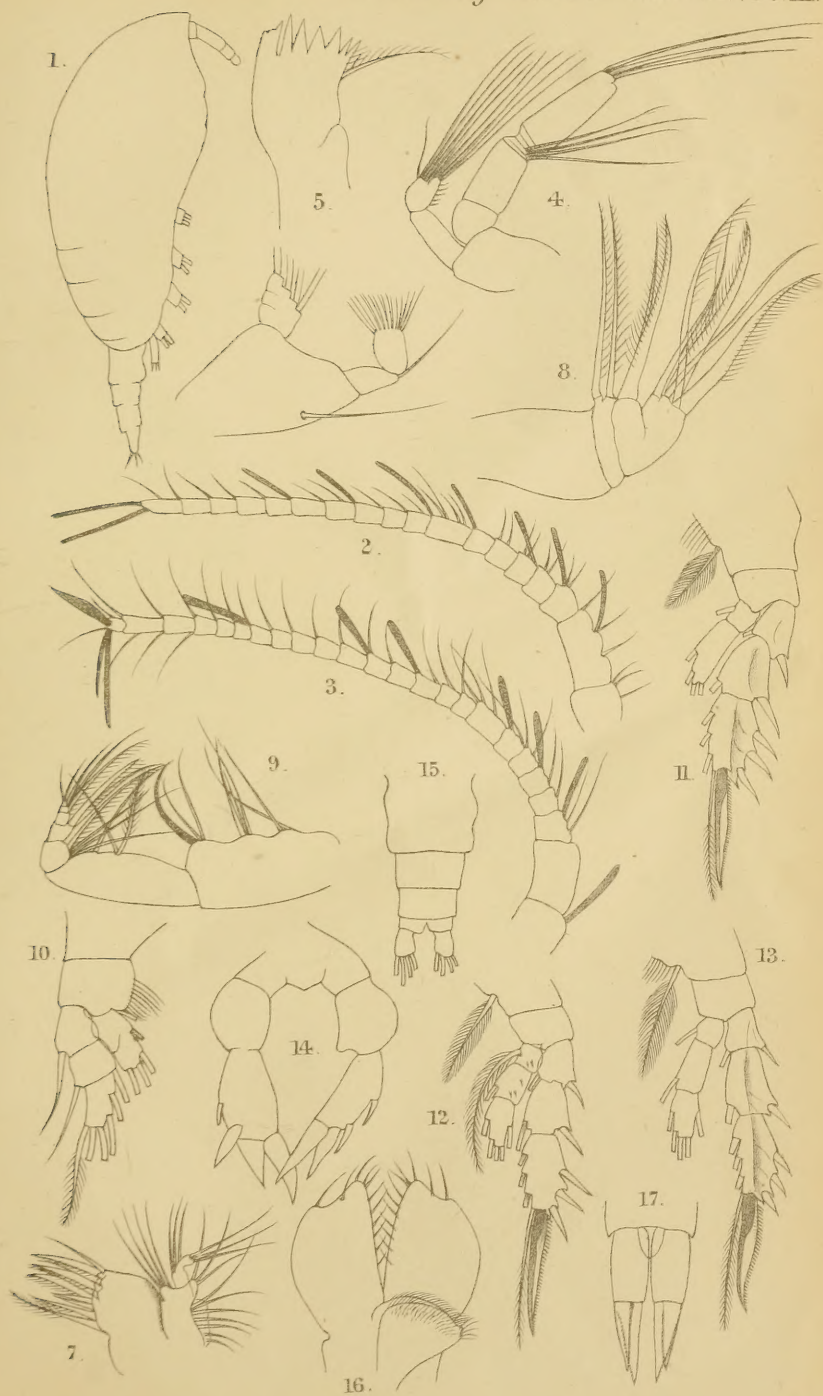
Fig. 1. Female, side view. 2. (?) Right antennule. 3. (?) Left antennule. 4. Antenna. 5 & 6. Mandible and palp. 7. Maxilla. 8. First maxilliped. 9. Second maxilliped. 10. One of first pair of swimming-feet. 11. One of second pair. 12. One of third pair. 13. One of fourth pair. 14. Fifth pair. 15. Abdomen.

Parascina fowleri, Stebbing.

Fig. 16. Maxillipeds. 17. Last pair of uropods and telson.

* The figures are drawn with a "Zeiss" camera and are all enlarged.





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