

NOTES ON THE PLYMOUTH MARINE FAUNA

AMPHIPODA

By G. M. Spooner

The marine Amphipoda of the Plymouth area, as a group, were last given attention in the middle 1930's by Crawford (1936, 1937). Renewed investigation after the lapse of 15 years has indicated that knowledge of species present was by no means complete, or that some changes have occurred in the interval, or both. In a recent survey of the amphipod fauna of the Isle of Man, Jones (1948) found no indication of the existence of undescribed species, nor even of known species previously unrecorded from Britain. The experience at Plymouth has been quite the reverse.

I am grateful to Mr M. D. Menon and to Dr H. W. Chang for giving me the chance of examining amphipods from the stomachs of *Gadus minutus* L.* and *Callionymus lyra* L. respectively. The use of bottom-living fish as a method of collecting amphipods has much to commend it, as records will testify.

The genera *Gammarus*, *Marinogammarus*, and *Corophium* are not included, being reserved for separate treatment. An asterisk indicates that the species have not hitherto appeared in a list of the Plymouth marine fauna (Marine Biol. Assoc., 1931, supplemented by Crawford, 1936).

Additions to the fauna show a notable balance of species which occur to the southward or in warmer waters. Taken together the evidence provided for a certain northward spread of the fauna cannot be ignored.

Family Lysianassidae

PERRIERELLA AUDOUINIANA (Bate)

Plymouth; dredgings from Asia Shoal, 2. vi. 49, ♀♀.

LYSIANASSA CERATINA (A. Walker)

Wembury Point, L.W. sievings.

*SOCARNOPSIS CRENULATA Chevreux [Chevreux, 1910, pp. 165-9, fig. 2; Chevreux & Fage, 1925, pp. 48-50, figs. 31, 32]

One ♀ amongst small sample of bottom fauna of L4, 3. vi. 49; length 9 mm., as against maximum of 7 mm. given by Chevreux & Fage. Genus and species new for Britain: previous northerly limit was Brittany.

TRYPHOSA SARSI Bonnier

Salcombe; Castle Rocks, L.W. sievings, 12. v. 49, ♀♀.

* See Menon, 1950: this *Journal* pp. 186-198.

ORCHOMENE HUMILIS (A. Costa) (= *batei* Sars)

Salcombe; Castle Rocks, L.W. sievings, 12. v. 49, ♀.

ORCHOMENELLA NANA (Kröyer)

Wembury Point, L.W. sievings. Stomachs of *Gadus minutus*, June 1948, ♂♀.

Family **Ampeliscidae**

AMPELISCA SPINIPES Boeck

Regularly in stomachs of *Gadus minutus* from the trawling grounds, including large specimens up to 18 mm. long. Present at station L4 and in the Mewstone shell gravel.

AMPELISCA DIADEMA (A. Costa)

Frequent in stomachs of *Gadus minutus*, 1948.

AMPELISCA TENUICORNIS Lillj.

A few in stomachs of *Gadus minutus* 1948, more freely in *Callionymus lyra* 1949.

AMPELISCA BREVICORNIS (A. Costa) (= *laevigata* Sars)

Two adults from stomachs of *Gadus minutus*, 1948.

*AMPELISCA sp. (allied to *brevicornis*)

Stomachs of *Gadus minutus*, 2♂♂, 1 juv., June 1948.

An apparently undescribed species, most closely related to *A. brevicornis*, which it resembles in the form of pp. 7, in the form of pp. 3, and in the shape of the head. It differs notably in the more feeble invagination at the posterior corner of epimeron 3, in the presence of a raised hump dorsally on the anterior half of urosome segment 1, in the ciliation of uropod 3, and small differences in antenna 1.

Family **Haustoriidae**

HAUSTORIUS ARENARIUS (Slabber)

Salcombe; Mill Bay, several in the sand in the lower part of the tidal zone, 17. iii. 49. Formerly not found in the Salcombe Estuary, and its presence at Mill Bay doubtless the result of the accumulation here of sand described by Wilson (1949). Otherwise recorded only from Whitsand Bay.

UROTHOË ELEGANS Bate

One in stomach of *Gadus minutus*.

Family **Phoxocephalidae**

HARPINIA ANTENNARIA Meinert

Rame Mud, 12. vii. 39 (M. Mare), three from a grab haul.

Family **Amphiloichidae**

AMPHILOCHUS NEAPOLITANUS Della Valle

Salcombe, Castle Rocks, 12. v. 49, 3♀♀ breeding.

Family *Leucothoidae**LEUCOTHOË SPINICARPA* (Abildg.)

From cavities in the sponge *Desmacidon*, Mewstone grounds; from amongst hydroids and sponges from Plymouth Sound; etc. One in a stomach of *Gadus minutus*.

**LEUCOTHOË* sp. (allied to *L. richiardi* Lessona)

From stomachs of *Gadus minutus*, two in June 1948, one in Nov. 1948. Two of the specimens are undamaged. This species differs from *L. spinicarpa* in its posteriorly incised epimeron 3, and in its weaker gnathopod 1 dactyl which is only one third the length of the propod. It is possibly identical with the Mediterranean species *L. richiardi*, of which Della Valle (1893) gives a description and figures. Alternatively, it may be the undescribed species discovered by Crawford in *Chaetopterus* tubes (Crawford, 1936, p. 102).

LEUCOTHOË LILLJEBORGI Boeck

Rame Mud; 12. vii. 39 (M. Mare), four specimens in grab sample.

Family *Stenothoidae**STENOTHOË MONOCULOIDES* (Mont.)

From sievings of stones and rocks near L.W. below the Laboratory, at Rum Bay, Wembury Point and at Salcombe Castle Rocks, ♀♀.

**STENOTHOË* sp. (allied to *monoculoides* and *spiniimana*)

A number of ♀♀, many breeding, from among hydroids collected in Mill Bay Docks, 7. vi. 49. Others from hydroids on raft near Breakwater, end March 1950.

This is apparently a distinct species, somewhat intermediate between *S. monoculoides* and the south-european *S. spiniimana* Chevreux (Chevreux & Fage, 1925, pp. 134-5, fig. 133), but reaching a slightly larger size than either. The gnathopods I and II agree with those described for *S. spiniimana*, and so provide a good distinction from *S. monoculoides*. There are four spines laterally on uropod 3 peduncle, and the number of antennal segments is intermediate between the two species mentioned. The telson, however, is unarmed, and in certain other respects the resemblance is to *monoculoides* rather than to *spiniimana*.

The colour pattern was noted as follows: body translucent, especially the urosome; middle of body with broken dark lines between the segments round which orange patches develop; other irregular orange patches on side plates; eye carmine.

**STENOTHOË VALIDA* Dana [Chevreux & Fage, 1925, pp. 137-8, fig. 137]

♂ and ♀ (with eggs) from hydroids collected in Mill Bay Docks, 7. vi. 49, in company with the foregoing. Further ♂♂♀♀ from hydroids on raft near

Breakwater, end March 1950. A large species for a *Stenothoë*, with distinctive characters. Wide-spread in warm waters and known from the south of France. The colour pattern was noted as follows: body translucent, with scattered reddish orange and orange marks; a large red-orange mark on the urosome providing a striking feature.

Family Phliasidae

PEREIONOTUS TESTUDO (Mont.)

Wembury Point, from sievings of stones and weeds near L.W., 12. iv. 49, five specimens. Again 18. iii. 50, four specimens from pools above L.W.N. In the laboratory they were observed to browse on living furoid fronds, scraping small patches off the surface. A curious species, seldom encountered: formerly taken at Salcombe by Norman.

Family Acanthonozomidae

PANOPLOEA MINUTA (G. O. Sars)

Two in stomachs of *Gadus minutus*, 1948.

PANOPLOEA EBLANAE (Bate)

Rame grounds, ♀ from side of trawl, 8. iv. 49.

IPHIMEDIA OBESA Rathke

A few in stomachs of *Gadus minutus*, 1948.

Family Oediceroidae

*MONOCULODES sp. (? TESSALATUS Schneider)

From stomach of *Gadus minutus*, July 1948, one. Differs from other European species, except *M. tessalatus*, in the proportions of the gnathopod segments. If indeed this be *tessalatus*, which is a northern species, it has not previously been found so far south.

Family Calliopiidae

APHERUSA BISPINOSA (Bate)

Salcombe, Castle Rocks, L.W. sievings, 12. v. 49, abundant, ♀♀ greatly in excess of ♂♂.

APHERUSA OVALIPES Norman & Scott

One of the principal species in stomachs of *Gadus minutus*, particularly in June and July.

*APHERUSA HENNEGUYI Chev. & Fage [Chevreux & Fage, 1925, pp. 180-1, figs. 185, 186]

Regularly in the stomachs of *Gadus minutus*, 1948, though less numerous than the above (about sixty-five specimens seen). Present also in a small sample of the ground fauna at station L.4 on 3. vi. 49.

Known originally to Chevreux & Fage from only one locality (160 m., S.W. of Belle-Isle), this species has not previously been recognised in British waters. In view of Crawford's investigation (1937) on bottom-living amphipods, it is difficult to escape the conclusion that the species has spread into the Plymouth area but recently.

APHERUSA CIRRUS (Bate) (= *borealis* Sars)

A few in L.W. sievings among rocks at Wembury Point and Salcombe Castle. A uniform rose-pink colour seems distinctive.

*CALLIOPIUS LAEVIUSCULUS (Kröyer)

Salcombe, Castle Rocks, L.W. sievings, 12. v. 49, one. Known from localities in Cornwall, N. Devon, and occurrence in the Plymouth area to be anticipated (Crawford, 1936, p. 101).

The characters agree with Sars's figures of *C. rathkei*, which is assumed to be synonymous (following Stephensen).

Family Melphidippidae

MELPHIDIPPELLA MACRA (Norman)

From stomach of *Gadus minutus*, 3. vi. 49, ♀.

Family Gammaridae

*CHEIROCRATUS ASSIMILIS Lillj. [Chevreux & Fage, 1925, p. 225, fig. 235]

One ♂ from stomach of *Gadus minutus*, July 1948.

PHERUSA FUCICOLA Leach

Freely under stones, etc., near L.W., Plymouth (Rum Bay), Wembury Point, and Salcombe. Salstone, one ♂.

*MELITA HERGENSIS Reid

A characteristic species on the shore under stones, etc., in L.W. region, where it replaces *M. palmata* (Montagu). At once recognized in the field by its blue-grey colouring, broken only by white bands on the limbs which show up on closer inspection.

First taken at the mouth of the Yealm, near L.W., 3. viii. 38, when recognized as a distinct species. Independently Reid (1939) described the species, having taken it from Wembury Bay.

Amongst specimens from various parts of the coast identified by Reid in the British Museum were some from Salcombe and Polperro (Norman collection).

It has since been found freely at Rum Bay, Mt. Edgcumbe, Wembury Point, and Salcombe Castle Rocks.

Some former records of *M. palmata*, especially from the sub-littoral zones, may be expected to belong to *M. hergensis*.

MELITA GLADIOSA Bate

Salcombe, Castle Rocks, 12. v. 49, adult ♂.

MELITA PELLUCIDA G. O. Sars

Tamar Estuary, in reed bed near Cotehele, 10. iii. 48, about forty. Also obtained in the Helford River, W. Cornwall, at the head of Frenchman's Creek, Sept. 1949.

Family **Dexaminidae**

DEXAMINE THEA Boeck

Salcombe estuary, at Castle Rocks and the Salstone, May 1949, ♀♀ and juv., accompanying *D. spinosa* (Mont.), amongst weeds.

Family **Aoridae**

AORA TYPICA Kröyer

Salstone, 13. v. 49, both sexes freely, sieved from weeds near L.W.

MICRODEUTOPUS CHELIFER (Bate)

Wembury Point, 12. iv. 49, sieved from weeds, breeding.

Salcombe, Castle Rocks, 12. v. 49, ♀.

MICRODEUTOPUS DAMNONIENSIS (Bate) [= *propinquus* Sars]

Salstone, sieved from weeds at L.W., ♂♂♀♀.

From examining ♂♂ of different sizes it is clear that the species recognized by Chevreux & Fage (1925) as Bate's *damnoniensis* is identical with the species figured and described by Sars (originally as *propinquus*). Chevreux & Fage, however, cannot have seen fully mature specimens in which the secondary tooth on the carpus of gnathopod 1 had developed. The gnathopod 1 figured by them (fig. 308) is correct for younger ♂♂, while the form shown in Sars's (1895) pl. 192, fig. 1 refers to the larger and older. The species key given in Chevreux & Fage (pp. 294-5) therefore requires modification.

Family **Photidae**

MICROPROTOPUS MACULATUS Norman

Salstone 13. v. 49, ♂♂♀♀ breeding.

EURYSTHEUS MACULATUS (Johnston)

Stomachs of *Gadus minutus* in June 1948. Salcombe, Castle Rocks, 12. v. 49, 2♀♀.

PODOCEROPSIS SOPHIAE Boeck

Bottom fauna of L.4, 3. vi. 49, ♂. Stomachs of *Gadus minutus*, in June 1948.

LEPTOCHEIRUS PILOSUS Zaddach

River Tamar, Cothele Ferry, 28. ii. 48, a number of juv. amongst stolons at *Cordylophora lacustris*. Also obtained in the Helford River, W. Cornwall, at head of Frenchman's Creek, Sept. 1949.

Family **Amphithoidae****AMPHITHOË VAILLANTI** Lucas

Plymouth Sound: dredgings from Asia Shoal, 2. vi. 49, ♂♂♀♀.

Family **Podoceridae****PODOCERUS VARIEGATUS** Leach

Salcombe, Castle Rocks, sievings at L.W., 12. v. 49, several ♂♂♀♀.

Family **Caprellidae****PHTISICA MARINA** Slabber

In plenty in stomachs of *Gadus minutus*, 1948, especially in July. Also in stomachs of *Callionymus lyra*, 1949.

Salcombe, Castle Rocks, L.W., one; Salstone, L.W., a few, 13. v. 49.

PSEUDOPROTELLA PHASMA (Mont.)

A few in stomachs of *Gadus minutus* with the above.

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