

THE MARINE FAUNA OF LUNDY
CRUSTACEA: AMPHIPODA

P. G. MOORE

University Marine Biological Station, Millport, Isle of Cumbrae,
Scotland. KA28 OEG

INTRODUCTION

Although the Amphipoda form perhaps the most ecologically significant group of small crustaceans, much remains to be learned about the detailed biology and environmental requirements of individual species.

The following list is certain to do less than full justice to the Lundy amphipod fauna since, in particular, certain habitats and lifestyles have been either poorly sampled or not sampled at all. This applies particularly to planktonic species (no records of species in the sub-order Hyperiidea are available); epibenthic scavenging species and species living in association (particularly the families Lysianassidae and Stenothoidae); offshore sediment dwelling (including interstitial) and brackish water species. The British Gammaridean list (Lincoln, 1979) contains 271 marine species of which 59 are definitely recorded from Lundy probably together with a further 9. This compares with 166 for Plymouth (Marine Biological Association, 1957) and 71 for Dale Fort (Crothers, 1966). Seven of the 13 British caprellids have been reported from Lundy. The presence within the Lundy list of certain species is however worthy of special notice. Thus the Lundy records for *Stenothoe tergestina* and *Parvivalpus capillaceus* are only the second and third records respectively for the British Isles.

Several of the Lundy species are restricted in their distribution to the warmer waters of Southwest Britain, including *Caprella fretensis*, *Hyale perieri*, *Atylus guttatus*, *Panoploea eblanae*, *Parametopa kervillei* and possibly *Corophium sextonae* (Moore, 1978, 1980). The poverty of haustoriids doubtless reflects the limited availability of littoral sandy deposits on the island. Water movement varies considerably from site to site around Lundy (Hiscock, 1974). Certain amphipods thrive in energetic conditions (*Parajassa pelagica*, *Jassa falcata*, *Gammarellus angulosus*, *Lembos websteri*, *Gammaropsis maculata*) whilst others prefer quieter, more sheltered conditions, e.g. corophids. *Corophium sextonae* was found in kelp holdfasts N. of Rat Island but was absent from Quarter Wall Bay, where *C. bonnellii* occurred (Moore, 1978). Whether this is the outcome of competitive interaction or a response to water movement gradients has not been established (see Hughes, 1975). *Tritiaeta gibbosa*, *Lysianassa ceratina*, *Leucothoe spinicarpa* and *C. sextonae* are known associates of sponges and tunicates (Moore, 1978). *Lysianassa ceratina* has been widely collected around Lundy and individuals collected from kelp holdfasts (PGM*) included in their stomach contents sand grains, triradiate sponge spicules and filamentous green algae. *Jassa pusilla* is well known for its habit of building tubes on the carapaces of spider crabs. The apparent lack of *Gammaropsis* (= *Podoceroopsis*) *nitida* may be associated with the paucity of large hermit crabs (especially *Pagurus bernhardus*) alluded to by Atkinson & Schembri (1980) in the decapod section. Present records have established the southerly limit of distribution of *Parapleustes assimilis*.

I am hesitant to accept two extant records. Firstly, Hoare & Wilson's (1976) queried identification of *Talitrus saltator* and secondly Prof. L. A. Harvey's record of *Corophium insidiosum*. The latter species prefers brackish water and has often been confused in the past with *C. bonnellii*. Without voucher material for confirmation, its presence on Lundy must remain dubious.

Considerable information (summarized in Harvey, 1950) has been derived from the unpublished notes of Prof. L. A. Harvey (lodged with Dr. K. Hiscock) from thirty years ago. It is not possible however to infer any change of status in the amphipod fauna from the information available.

* Initials are keyed later.

SAMPLING METHODS

Littoral zone. Amphipods crawling under stones and nestling amongst macro-algae have been collected by hand. Smaller species from finely branched weeds in pools have been sorted after initial preservation of intact weed clumps.

Sublittoral zone. My own samples of kelp (*Laminaria hyperborea*) holdfasts were taken by SCUBA diving, with holdfasts collected individually into polythene bags sealed underwater. Formalin added to these bags on land irritated amphipods causing them to vacate the holdfast. Extracted material was washed through a 318 μ m aperture mesh and preserved in 5% formalin prior to examination. Other rock epifauna samples, e.g. in the circalittoral zone, have been derived from diver-operated suction sampling, as have sediment infaunal species. Other species have been derived from baited fish or crab traps. Very little material is available from offshore dredgings or plankton hauls.

ACKNOWLEDGEMENTS

I am grateful to Dr. K. Hiscock, Dr. R. J. A. Atkinson, Dr. J. Wilson and Dr. J. David George for supplying material and to Mr. K. S. Cameron who was my able diving assistant at Lundy in 1975. Dr. Roger Lincoln (B.M. (N.H.)) confirmed certain tentative identifications.

KEY TO RECORDERS

RJAA — Dr. R. J. A. Atkinson, CRB — Dr. C. R. Boyden, DC — Miss Dale Cartlidge, JDG — Dr. J. David George, LAH — Prof. L. A. Harvey, KH — Dr. K. Hiscock, SH — Sue Hiscock, JMCH — Mr J. M. C. Holmes, DJWL — D. J. W. Lane, RJL — Dr. Roger Lincoln, PGM — Dr. P. G. Moore, BP — Mr. B. Picton, PJS — Dr. P. J. Schembri.

All taxonomic authorities for gammarideans follow Lincoln's (1979) monograph which should be consulted for synonymies and nomenclatural change since the 3rd edition of the Plymouth Marine Fauna (Marine Biological Association, 1957). The one exception is *Aora gracilis* (Bate). Lincoln's (1979) retention of *A. typica* Kröyer for the British *Aora* is contrary to the finding of Myers (1973) whose authority is followed here. Caprellideans follow the Plymouth Marine Fauna (Marine Biological Association, 1957).

Phylum	CRUSTACEA
Class	MALACOSTRACA
Super-order	PERACARIDA
Order	AMPHIPODA
Sub-order	GAMMARIDEA
Family	LYSIANASSIDAE

Lysianassa ceratina (Walker, 1889)

Hell's Gate Beach amongst *Corallina* and *Lithothamnium* 31.7.74 (JDG); Seals Rock (spur) on *Tubularia indivisa*, 23 m, 4.8.71 (KH); 3 per 0.25m², 21.5 m on horizontal granite, Knoll Pins South, 10.7.75 (KH); 1 ovigerous female per 0.3125m², 21.5 m on horizontal granite, Knoll Pins South, 10.7.75 (KH); 1 ovigerous female with juveniles in brood pouch per 0.25m², from vertical north-facing surface of granite boulder at 10.1 m near mud plain, Quarter Wall Bay, 14.7.75 (KH); 2 juveniles per 0.125m² horizontal granite at 21.5 m, Knoll Pins South, 10.7.75 (KH); 19 individuals (7 ovigerous females, 7 non-ovigerous females, 2 males, 3 juveniles) per 0.25m² from west facing vertical slate at 10.5 m, Rat Island (N), 12.7.75 (KH); 16 individuals (6 males, 8 ovigerous females, 2 non-ovigerous females) per 0.25m², Rat Island (N), 12.7.75 (KH); 3 individuals (2 ovigerous females, 1 male) per 0.25m² from vertical north-facing surface of granite boulder at 10.1 m near mud plain, Quarter Wall Bay, 14.7.75 (KH); single individuals from 2 out of 10 holdfasts of *Laminaria hyperborea*, Quarter Wall Bay, 3 m, 14.7.75 (PGM), 7 individuals in 1 holdfast (out of 5) of *L. hyperborea*, 3 m, from Rat Island (N), 15.7.75 (PGM) (see Moore, 1978); E. of Rat Island, 14 m, 11.7.76 (KH); one from muddy gravel, 50 m S Gull Rock, 15.4 m, 29.6.80 (JW det. JMCH); one from Knoll Pins, 20 m, 2.7.80 (RJAA det. JMCH); 7, 2 and 1 in samples 2, 6 and 11 from wreck of M. V. Robert, 14 m, June 1980 (KH/DC).

Orchomene humilis (Costa, 1853)

Single individual in holdfast of *Laminaria hyperborea* from Rat Island (N), 3 m, 15.7.75 (PGM) (see Moore, 1978).

Tryphosella sarsi Bonnier, 1893

Abundant in fish trap with *Nebalia bipes*, 4.8.71, Rat Island (E), 2 m depth (CRB).

Family AMPELISCIDAE

Ampelisca spinipes Boeck, 1861

Single individual, Ugly (Ladies Beach), 13 m, 31.7.74 (KH det. RJL); single individual in muddy gravel + stones, adjacent to wreck of M. V. Robert, 1 km E. of Tibbett's Point, 20.8 m, 23.6.80 (JW det. JMCH); 4 from muddy gravel, 50 m S of Gull Rock, 15.4 m, 29.6.80 (JW det. JMCH); one from clean coarse sand with rock outcrops, Lametry Bay, 8.4 m, 1.7.80 (JW det. JMCH); one in clean medium sand, Landing Bay, 7.1 m, 2.7.80 (JW det. JMCH).

Ampelisca brevicornis (Costa, 1853)

199/m² (?) in cores taken off Gull Rock in 1975 by Hoare & Wilson (1976); 5 and 9 individuals taken from two samples of sand/slate flakes, Landing Bay, 3.9m, 25.6.80 (JW det. JMCH); single individual from muddy gravel, 50 m S. Gull Rock, 15.4 m, 29.6.80 (JW det. JMCH); single individual from clean, medium sand Landing Bay, 7.1 m, 2.7.80 (JW det. JMCH). 1980 records confirmed PGM.

Ampelisca tenuicornis Liljeborg, 1855

Single individual, Ugly (Ladies Beach), 13 m, 31.7.74 (KH det. RJL); single individuals, Quarry Bay, 12 m, 27.7.78 (JW), Landing Bay, 11 m, 24.7.78 (JW) and in mud with stones, Gannet's Bay, 14.9 m, 30.6.80 (JW det. JMCH).

Ampelisca diadema (Costa, 1853)

possibly synonymous with *A. tenuicornis* Liljeborg, 1855 (Lincoln, 1979).

Two individuals, offshore Quarry Bay, 24 m, 28.7.78 (JW); 4 individuals including ovigerous female 1 m (?) locality unknown, 20.7.80 (GA); single individual Knoll Pins, 20 m, 2.7.80 (KH det. JMCH); 2 in each of two samples from muddy gravel + stones, adjacent to wreck of M. V. Robert, 20.8 m, 23.6.80 (JW det. JMCH); 9 and 2 in two samples of muddy gravel, 50 m S Gull Rock, 15.4 m, 29.6.80 (JW det. JMCH); single individuals in sandy gravel + mud, Three Quarter Wall Bay, 13.8 m, 3.7.80 (JW det. JMCH) and in muddy gravel + stones, adjacent to wreck of M. V. Robert, 12.5 m, 4.7.80 (JW det. JMCH); 1 from wreck of M. V. Robert, 14 m, June 1980 (KH/DC).

Ampelisca typica (Bate, 1856)

Single individual from sandy gravel + mud, Three Quarter Wall Bay, 13.8 m, 3.7.80 (JW det. JMCH) (specimen in National Museum of Ireland, Dublin).

Family ACANTHONOTOZOMATIDAE

Panoploea eblanae (Bate, 1857)

Single ovigerous female, Lee Rocks, 18 m, 8.7.77 (BP).

Panoploea minuta (Sars, 1882)

2 ovigerous females, N.W. Needle Rock, 10-15 m, 3.8.74 (KH); 1 ovigerous female per 0.25m², from west-facing vertical slate at 10.5 m, Rat Island (N), 12.7.75 (KH); present in 9 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) and in 2 out of 5 holdfasts of *L. hyperborea* from Rat Island (N), 3 m, 15.7.75 (PGM) (see Moore, 1978); Dead Cow Point, 12 m (DC); off Gull Rock, 12 m, 14.7.77 (KH); 2, 8, 3 and 4 individuals (including ovigerous females) in samples 2, 3, 6 and 11 from the wreck of M. V. Robert, 14 m, June 1980 (KH/DC).

Family AMPHILOCHIDAE

Gitana sarsi Boeck, 1871

In 10 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) and 5 out of 5 holdfasts of *L. hyperborea* from Rat Island (N), 3 m, 15.7.75 (PGM) (see Moore, 1978).

Amphilochus manudens Bate, 1862

3 ovigerous females from wreck of M. V. Robert, 14 m, June 1980 (KH/DC).

Family LEUCOTHOIDAE

Leucothoe spinicarpa (Abildgaard, 1789)

In 2 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) (see Moore, 1978); E. of Rat Island (including female with juveniles in brood pouch), 14 m, 11.7.76 (KH).

Family STENOTHOIDAE

Metopa sp.

Single immature individual in holdfast of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) (see Moore, 1978).

Parametopa kervillei Chevreux, 1901

Single individuals in 2 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) (see Moore, 1978); 2 in 0.1m² sample from wreck of M. V. Robert, 14 m, June 1980 (KH/DC).

Stenothoe marina (Bate, 1856)

1 ovigerous female and 1 juvenile from undergrowth, SS Carmine Filonema, 8 m, 2.8.74 (KH); on *Nemertesia antennina*, Tibbett's Point, 15 m, 15.7.75 (DJWL); 1 per 0.25m² from vertical north-facing surface of very large granite boulder, 10 m at Gannet's Rock, 15.7.75 (KH); 5 individuals (1 male, 1 ovigerous female, 1 non-ovigerous female, 2 juveniles) at Seals Rock, 10 m, 17.7.75 (KH); 5 per 0.25m² (2 males, 2 ovigerous females, 1 non-ovigerous female) from west-facing vertical slate, Rat Island (N), 10.5 m, 12.7.75 (KH); 11, 6, 7 and 14 individuals from samples 2, 3, 6 and 11 from wreck of M. V. Robert, 14 m, June 1980 (KH/DC).

Stenothoe monoculoides (Montagu, 1815)

In *Laminaria* holdfasts, Hells Gates (Aug. 1949, Aug. 1950), Gannet's Rock (N. side) (Aug. 1949, April 1950, Aug. 1950), Ladies Beach (Aug. 1950), Lametry Cove (Aug. 1949), Brazen Ward (Aug. 1949) (LAH); in *Corallina officinalis*, low shore, Hells Gates (Aug. 1949, Aug. 1950), Gannet's Rock (N. side) (Aug. 1950), Ladies Beach (Aug. 1949, Aug. 1950), Lametry Cove (Aug. 1949, Aug. 1950), Jenny's Cove (Aug. 1949), Brazen Ward (Aug. 1949), Rat Island (N. shore) (Aug. 1949), Quarry Beach (Aug. 1949) (LAH); in *Corallina officinalis*, mid shore, Hells Gates (Aug. 1949, Aug. 1950), Gannet's Rock (N. side) (Aug. 1949, Aug. 1950), Ladies Beach (Aug. 1949, Aug. 1950), Brazen Ward (Aug. 1949), Jenny's Cove (Aug. 1949), Rat Island (N. shore) (Aug. 1949), Goat Island (Aug. 1949) (LAH); in *Jania rubens*, Ladies Beach (Aug. 1949), Hell's Gates (April 1950) (LAH) (see Harvey, 1950); in *Corallina officinalis*, Hells Gate Beach (JDG); few, including ovigerous female on *Tubularia indivisa* at Seals Rock (spur), 23 m, 4.8.71 (KH); in 3 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) and 5 out of 5 holdfasts of *L. hyperborea* from Rat Island (N.), 3 m, 15.7.75 (PGM) (see Moore, 1978); ovigerous females from algal clumps in mid shore pools, Lametry Beach, 1.7.80 (KH); lower shore, from *Corallina officinalis*, Lametry Beach, 1.7.80 (KH).

Stenothoe tergestina (Nebeski, 1881)

Single female amongst *Tubularia* and *Syncoryne*, Black Rock, 0.3 m, 14.7.77 (KH).

Family CRESSIDAE

Cressa dubia (Bate, 1857)

1 ovigerous female from sample 11, from wreck of M. V. Robert, 14 m, June 1980 (KH/DC).

Family TALITRIDAE

Orchestia gammarellus (Pallas, 1766)

Upper shore, shingle bank above EHWS, Diving Hut, 17.7.75 (material: 2 males, 2 ovigerous females and 6 non-ovigerous females) (KH); the following offshore records presumably refer to individuals displaced by storm action, one from shell sand 300 m offshore, Jenny's Cove, 19 m, 2.7.80 (SW det. JMCH) and one from muddy gravel + stones, adjacent to M. V. Robert, 12.5 m, 4.7.80 (JW det. JMCH).

[**Talitrus saltator** (Montagu, 1808)]

Queried as present in 1975 by Hoare & Wilson (1976). I have not verified this record and suspect that the entity may have been *O. gammarellus*.

Family HYALIDAE

Hyalé nilssoni (Rathke, 1843)

Recorded by Harvey (1950); amongst *Fucus*, N.W. Point, + 5 m, 8.7.75 including ovigerous females (KH); single individual in holdfast of *Laminaria hyperborea* from Rat Island (N.), 3 m, 15.7.75 (PGM) (see Moore, 1978); males and females from *Corallina officinalis* clumps, N. Coast, L.W.S., 30.6.80 (KH); upper shore, N. coast, 30.6.80 (including ovigerous female) (KH); in algae, upper shore, Gannet's Bay, 30.6.80 (KH).

Hyalé perieri (Lucas, 1846)

Single male, Jenny's Cove (N.), + 2 m, 7.7.75 (KH); among *Fucus*, N.W. Point, + 5 m, 8.7.75 (KH); amongst *Corallina*, Dead Cow Point, + 2.8 m, 5.7.77 (KH).

Hyalé pontica Rathke, 1837

In *Laminaria* holdfasts, Hell's Gates (Aug. 1950), Gannet's Rock (N. side) (Aug. 1950), Ladies Beach (April 1950) (LAH); in *Corallina officinalis*, low shore, Hell's Gates (Aug. 1949, Aug. 1950), Gannet's Rock (N. side) (Aug. 1949), Jenny's Cove (April 1950), Brazen Ward (Aug. 1949), Rat Island (N. shore) (Aug. 1949), Quarry Beach (Aug. 1949) (LAH) (see Harvey, 1950); in *Corallina officinalis*, mid shore, Hell's Gates (Aug. 1949, Aug. 1950), Gannet's Rock (N. side) (Aug. 1949), Jenny's Cove (Aug. 1949), Rat Island (N. shore) (Aug. 1949) (LAH); in *Jania rubens*, Hell's Gates (April 1950) (LAH); Dead Cow Point, Om (DC).

Family GAMMARIDAE

Chaetogammarus marinus (Leach, 1815)

In rock gully, Hell's Gates (Aug. 1948) (LAH), as *Marinogammarus marinus* (Leach) in Harvey (1950). I have not verified this record.

Eulimnogammarus obtusatus (Dahl, 1938)

Listed by Prof. L. A. Harvey (1950) with no site details; 5 males, 5 females from LWN Quarry Bay, 10.7.75 (KH); under stones, LWS Lametry Bay, 1.7.80 (KH); from gravel, under boulders Gannet's Bay, lower mid shore, 30.6.80 (KH).

Gammarus finmarchicus Dahl, 1938

Listed by Prof. L. H. Harvey (1950) with no site details. I have not verified this record.

Gammarus locusta (Linnaeus, 1758)

Listed by Prof. L. A. Harvey (1950) with no site details; 2 from 1 holdfast of *Laminaria hyperborea* and 1 from another, Rat Island (N.), 8 m, 15.7.75 (PGM) (see Moore, 1978); under stones LWS Lametry Bay, 1.7.80, some females ovigerous (KH).

Gammarus zaddachi Sexton, 1912

Listed by Prof. L. A. Harvey (1950) with no site details. I have not verified this record.

Family MELITIDAE

Melita obtusata (Montagu, 1813)

2 individuals from muddy gravel + stones, adjacent to wreck of M. V. Robert, 20.8 m, 23.6.80 (JW det. JMCH confirmed PGM).

Maera othonis (Milne Edwards, 1830)

Single individual from muddy gravel + stones, adjacent to wreck of M. V. Robert, 12.5 m, 4.7.80 (JW det. JMCH confirmed PGM).

Family HAUSTORIIDAE

Bathyporeia elegans Watkin, 1938

2 individuals from sand with slate flakes, Landing Bay, 3.9 m, 25.6.80 (JW det. JMCH). Material in National Museum of Ireland, Dublin.

Bathyporeia guilliamsoniana (Bate, 1856)

4 females (1 ovigerous) from Landing Bay, sand, 2 m, 18.7.75 (KH); 2 and 8 individuals from sand with slate flakes, Landing Bay, 3.9 m, 25.6.80 (JW det. JMCH).

Bathyporeia pelagica (Bate, 1856)

1991 m² (?) Landing Bay, near the moorings in 1975, reported by Hoare & Wilson (1976); single individual (specimen vary battered) from clean, coarse sand with rock outcrops, Lametry Bay, 8.4 m, 1.7.80 (JW det. JMCH confirmed PGM).

Urothoe brevicornis Bate, 1862

Single individual from Landing Bay, sand, 2 m, 18.7.75 (KH).

Urothoe elegans (Bate, 1856)

Single individual from muddy gravel + stones, adjacent to wreck of M. V. Robert, 20.8 m, 23.6.80 (JW det. JMCH). Material in National Museum of Ireland, Dublin.

Urothoe poseidonis Reibisch, 1905

Present in Landing Bay, near the moorings (1975) as reported by Hoare & Wilson (1976, as *U. grimaldi*). I have not verified this record.

Urothoe marina (Bate, 1857)

2 in clean, coarse sand with rock outcrops, Lametry Bay, 8.4 m, 1.7.80 (JW det. JMCH). Material in National Museum of Ireland, Dublin.

Family PHOXOCEPHALIDAE

Metaphoxus pectinatus (Walker, 1896)

1 (female) per 0.25m² from vertical north-facing surface of granite boulder at 10.1 m, near mud plain, Quarter Wall Bay, 14.7.75 (KH); 1 per 0.125m² from horizontal granite at 21.5 m, Knoll Pins South, 10.7.75 (KH det. PGM confirmed RJL).

Family CALLIOPIDAE

Apherusa bispinosa (Bate 1856)

In *Laminaria* holdfasts, Ladies Beach (Aug. 1949, Aug. 1950), Lametry Cove (Aug. 1949) (LAH); in *Corallina officinalis*, low shore, Hell's Gates (Aug. 1949), Ladies Beach (Aug. 1949), Brazen Ward (Aug. 1949), Rat Island (N. shore) (Aug. 1949) (LAH); in *Corallina officinalis*, mid shore, Brazen Ward (LAH); in *Jania rubens*, Ladies Beach (Aug. 1949), Hell's Gates (April 1950) (LAH) (see Harvey, 1950); in 9 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) and 4 out of 5 holdfasts of *L. hyperborea* from Rat Island (N), 3 m, 15.7.75 (PGM) (see Moore, 1978).

Apherusa cirrus (Bate, 1862)

2 individuals (1 male) from wreck of M. V. Robert, 14 m, June 1980 (KH/DC).

Apherusa jurinei (Milne-Edwards, 1830)

In *Laminaria* holdfasts, Hell's Gates (Aug. 1949, Aug. 1950), Gannet's Rock (N. side) (Aug. 1949, April 1950), Ladies Beach (Aug. 1949, April 1950) Lametry Cove (Aug. 1949, Aug. 1950), Goat Island (Aug. 1949), Quarry Beach (Aug. 1949) Rat Island (N. shore) (Aug. 1949), Jenny's Cove (Aug. 1949), Brazen Ward (Aug. 1949) (LAH); in *Corallina officinalis*, low shore, Hell's Gates (Aug. 1949, Aug. 1950), Gannet's Rock (N. side) (Aug. 1949, April 1950, Aug. 1950) Ladies Beach (Aug. 1950), Lametry Cove (Aug. 1949, Aug. 1950), Jenny's Cove (Aug. 1949), Brazen Ward (Aug. 1949), Rat Island (N. shore) (Aug. 1949), Quarry Beach (Aug. 1949) (LAH); in *Corallina officinalis*, mid shore, Hell's Gates (Aug. 1949, Aug. 1950), Gannet's Rock (N. side) (Aug. 1950), Ladies Beach (Aug. 1949, Aug. 1950), Brazen Ward (Aug. 1949), Jenny's Cove (Aug. 1949), Rat Island (N. shore) (Aug. 1949), Goat Island (Aug. 1949) (LAH); in *Jania rubens*, Ladies Beach (Aug. 1949), Hell's Gates (April 1950) (LAH); (Harvey, 1950); from *Laminaria digitata* holdfast, Rat Island, 5 m, 31.7.74 (JDG); from 5 out of 5 holdfasts of *Laminaria hyperborea* from Rat Island (N), 3 m, 15.7.75 (PGM) (see Moore, 1978); ovigerous females from algal clumps in midshore pools, Lametry Bay, 1.7.80 (KH).

Gammarellus angulosus (Rathke, 1843)

In *Laminaria* holdfasts, Gannet's Rock (N. side) (Aug. 1949, Aug. 1950), Quarry Beach (Aug. 1949), Rat Island (N. shore) (Aug. 1949) (LAH); in *Corallina officinalis*, low shore, Ladies Beach (Aug. 1949), Rat Island (N. shore) (Aug. 1949), Quarry Beach (Aug. 1949) (LAH); in *Jania rubens*, Hell's Gates (April 1950) (LAH) (see Harvey, 1950).

Gammarellus homari (Fabricius, 1779)

In *Corallina officinalis*, low shore, Hell's Gates (Aug. 1949) (LAH) (Harvey 1950). I have not verified this record.

Family PLEUSTIDAE

Parapleustes assimilis (Sars, 1882)

Common on *Tubularia indivisa* from Seals Rock (spur), 23 m, 4.8.71 (KH); Seals Rock, 10 m, 17.7.75 (KH) (det. PGM., confirmed RJL who quotes (Lincoln, 1979) the former record as the southerly limit of the species range).

Parapleustes bicuspis (Krøyer, 1838)

1 or 2 per 0.1 m² in several samples from wreck of M. V. Robert, 14 m, June 1980 (KH/DC).

FAMILY ATYLIDAE

Atylus guttatus (Costa, 1851)

In *Corallina officinalis*, low shore, Lametry Cove (Aug. 1949) (LAH) (Harvey, 1950); single individual from lower shore *C. officinalis*, Lametry Bay, 1.7.80 (KH).

Atylus falcatus (Metzger, 1871)

Single individual from clean, coarse sand with rock outcrops, Lametry Bay, 8.4 m, 1.7.80 (JW det. JMCH). Material in National Museum of Ireland, Dublin.

Atylus swammerdami (Milne-Edwards, 1830)

In *Laminaria* holdfasts, Brazen Ward (Aug. 1949) (LAH); in *Jania rubens*, Ladies Beach (Aug. 1949) (LAH) (Harvey, 1950). I have not verified this record.

Family DEXAMINIDAE

Dexamine spinosa (Montagu, 1813)

In *Corallina officinalis*, low shore, Hell's Gates (Aug. 1949) (LAH); in *Jania rubens*, Ladies Beach (Aug. 1949) (LAH) (Harvey, 1950); 1 female N.W. Needle Rock, 10-15 m, 3.8.74 (KH); 1 per 0.25 m² from vertical north-facing surface of very large granite boulder at 10 m, Gannet's Rock, 15.7.75 (KH); 3 individuals

(including one ovigerous female)per 0.25m² in 2 different samples from vertical surface of granite boulder at 10.1 m, near mud plain, Quarter Wall Bay, 14.7.75 (KH); 2 males per 0.25m² from west-facing vertical slate at 10.5 m, Rat Island (N), 12.7.75 (KH); in 1 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) (see Moore, 1978).

Dexamine thea (Boeck, 1861)

Listed by Prof. L. A. Harvey (1950) with no site details; in 5 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) and 4 out of 5 holdfasts of *L. hyperborea* from Rat Island (N.), 8 m, 15.7.75 (PGM) (see Moore, 1978).

Tritiaeta gibbosa (Bate, 1862)

1 female per 0.25m² in different samples from west-facing vertical slate at 10.5 m, Rat Island (N), 12.7.75 (KH); large numbers in 9 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) few in 1 out of 5 holdfasts of *L. hyperborea* from Rat Island (N.), 3 m, 15.7.75 (PGM) (see Moore, 1978).

Family AMPITHOIDAE

Ampithoe rubricata (Montagu, 1808)

In *Laminaria* holdfasts, Hell's Gates (April, 1950), Gannet's Rock (N. side) (Aug. 1949, Aug. 1950), Ladies Beach (Aug. 1949), Lametry Cove (Aug. 1949), Goat Island (Aug. 1949) (LAH); in rock gully, Hell's Gates (Aug. 1948) (LAH); in *Corallina officinalis*, low shore, Hell's Gates (Aug. 1949, Aug. 1950), Gannet's Rock (N. side) (Aug. 1950), Lametry Cove (Aug. 1949, Aug. 1950), Brazen Ward (Aug. 1949), Rat Island (N. shore) (Aug. 1949), Quarry Beach (Aug. 1949) (LAH) in *Corallina officinalis*, mid shore, Hell's Gates (Aug. 1949, Aug. 1950), Brazen Ward (Aug. 1949) (LAH); in *Jania rubens*, Ladies Beach (Aug. 1949), Hell's Gates (April 1950) (LAH) (Harvey, 1950); immature *Ampithoe* sp. from Hell's Gate Beach, 31.7.74 (JDG) probably this species; female with juveniles in brood pouch, Quarry Bay, LWN, 10.7.75 (KH); in 2 out of 5 holdfast of *Laminaria hyperborea* from Rat Island (N.), 3 m, 15.7.75 (PGM) (see Moore, 1978); male and ovigerous female, lower shore, *Corallina officinalis*, Lametry Bay, 1.7.80 (KH).

Ampithoe (Pleonexes) gammaroides (Bate, 1856)

In *Laminaria* holdfasts, Hell's Gates (Aug. 1949), Rat Island (N. shore) (Aug. 1949), Brazen Ward (Aug. 1949) (LAH); in *Corallina officinalis*, low shore, Ladies Beach (Aug. 1949), Lametry Cove (Aug. 1950), Jenny's Cove (April 1950), Brazen Ward (Aug. 1949), Rat Island (N. shore) (Aug. 1949) (LAH); in *Corallina officinalis*, mid shore, Hell's Gates (Aug. 1949), Gannet's Rock (N. side) (Aug. 1950), Ladies Beach (Aug. 1949), Brazen Ward (Aug. 1949), Rat Island (N. shore) (Aug. 1949) (LAH) (Harvey, 1950); ovigerous female, low shore, Rat Island (N.) + 1.5 m, 13.7.76 (KH).

Family AORIDAE

Aora gracilis (Bate, 1857)

Aora typica Stebbing, 1906 (in part); Chevreux & Fage, 1925, p. 293, fig. 304-5; not *A. typica* Kröyer, 1845, p. 328. See Myers (1973).

In *Laminaria* holdfasts, Hell's Gates (Aug. 1949, April 1950, Aug. 1950), Gannet's Rock (N. side) (Aug. 1949, April 1950, Aug. 1950), Ladies Beach (Aug. 1949, April 1950, Aug. 1950), Lametry Cove (Aug. 1949, Aug. 1950), Goat Island (Aug. 1949), Quarry Beach (Aug. 1949), Rat Island (N. shore) (Aug. 1949), Jenny's Cove (Aug. 1949) (LAH); in *Corallina officinalis*, low shore, Hell's Gates (Aug. 1949, April 1950, Aug. 1950), Gannet's Rock (N. side) (April 1950, Aug. 1950), Ladies Beach (Aug. 1949, April 1950, Aug. 1950), Lametry Cove (Aug. 1949, Aug. 1950), Jenny's Cove (Aug. 1949, April 1950), Rat Island (N. shore) (April 1949) (LAH); in *Corallina officinalis*, mid shore, Gannet's Rock (N. side) (Aug. 1950), Ladies Beach (Aug. 1950), Brazen Ward (Aug. 1949) (LAH); in *Jania rubens*, Ladies Beach (Aug. 1949) (LAH) (Harvey, 1950); in 7 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) and 3 out of 5 holdfasts of *L. hyperborea* from Rat Island (N.), 3 m, 15.7.75 (PGM) (see Moore, 1978).

Lembos websteri Bate, 1856

Ovigerous female in *Laminaria digitata* holdfast, Rat Island, 5 m, 31.7.74 (JDG); in 10 out of 10 holdfasts of *L. hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (including ovigerous females) (PGM) and 5 out of 5 holdfasts of *L. hyperborea* from Rat Island (N.), 3 m, 15.7.75 (PGM) (see Moore, 1978 for population analyses).

Microdeutopus chelifera (Bate, 1862)

Listed by Prof. L. A. Harvey (1950) with no site details; *Microdeutopus* sp in *Jania rubens*, Ladies Beach (Aug. 1949) (LAH). I have not verified this record

Family ISAEIDAE

Gammaropsis maculata (Johnston, 1828)

On *Tubularia indivisa* at Seals Rock (spur), 23 m, 4.8.71 (KH); 1 per 0.25 m² from vertical, north-facing surface of very large granite boulder at 10 m, Gannet's Rock, 15.7.75 (KH); 5 per 0.25 m² (2 males, 2 ovigerous females, 1 non-ovigerous female) and 1 male per 0.25 m² from west-facing vertical slate at 10.5 m, Rat Island (N.), 12.7.75; in 9 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) and 4 out of 5 holdfasts of *L. hyperborea* from Rat Island (N.), 3 m, 15.7.75 (PGM) (see Moore, 1978 as *Eurysteus maculatus*); single individual from wreck of M. V. Robert, 14 m, June 1980 (KH/DC).

Megamphopus cornutus Norman, 1869

Dead Cow Point, either 18 mB or 16 mA (samples mixed) (DC).

Family COROPHIDAE

Corophium bonnellii (Milne-Edwards, 1830)

Single individual Hell's Gate Beach, 31.7.74 (JDG); 1 (female with eggs) per 0.25 m² from vertical, north-facing surface of granite boulder at 10.1 m near mud plain, Quarter Wall Bay, 14.7.75 (KH); in 10 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM), only in 1 in 5 holdfasts of *L. hyperborea* from Rat Island (N.), 3 m, 15.7.75 (PGM) (see Moore, 1978 for population analyses).

Corophium sextonae Crawford, 1937

Both sexes from undergrowth on SS Carmine Filomena, 8 m, 2.8.74 (KH); 1 (male) per 0.25 m² on west-facing vertical slate at 10.5 m, Rat Island (N.), 12.7.75 (KH); abundant (including ovigerous females) in holdfasts of *Laminaria hyperborea* from Rat Island (N.) 3 m, 15.7.75 (PGM) (see Moore, 1978).

[**Corophium insidiosum** Crawford, 1937]

In *Jania rubens*, Ladies Beach (Aug. 1949) (LAH) (Jarvey, 1950). I have not verified this record and suspect that the entity may have been *C. bonnellii*.

Family ISCHYROCERIDAE

Ericthonius brasiliensis (Dan, 1852)

In *Jania rubens*, Ladies Beach (Aug. 1949) (LAH) (Harvey, 1950); from muddy tubes on anterior end of tube of *Bispira volutacornis*, 25.7.74 (JDG); 8 males, 4 females, 4 juveniles from tubes with *Jassa falcata*, Seals Rock, 15.5 m, 25.7.74 (KH); 1 (male) per 0.25 m² from vertical northfacing surface of granite boulder at 10.1 m near mud plain, Quarter Wall Bay, 14.7.75 (KH); 12 (8 males, 4 ovigerous females) per 0.03125 m² from horizontal granite at 21.5 m, Knoll Pins South, 10.7.75 (KH); 4 (2 non-ovigerous females, 1 ovigerous female, 1 male) per 0.25 m² from west-facing vertical slate at 10.5 m, Rat Island (N.), 12.7.75 (KH); in 7 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) (see Moore, 1978); single *Ericthonius* sp. (female) taken from wreck of M. V. Robert, 14 m, June 1980 (KH/DC) may be this species.

Ischyrocerus anguipes Krøyer, 1838

In 3 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) and 1 out of 5 holdfasts of *L. hyperborea* from Rat Island (N.), 3 m, 15.7.75 (PGM) (see Moore, 1978).

Jassa falcata (Montagu, 1808)

In *Laminaria* holdfasts, Hell's Gates (Aug. 1949, Aug. 1950), Gannet's Rock (N. side) Aug. 1949, April 1950, Aug. 1950), Ladies Beach (Aug. 1949, April 1950), Lametry Cove (Aug. 1949, Aug. 1950), Goat Island (Aug. 1949), Quarry Beach (Aug. 1949), Rat Island (N. shore) (Aug. 1949), Jenny's Cove (Aug. 1949), Brazen Ward (Aug. 1949) (LAH); in *Corallina officinalis*, low shore, Hell's Gates (Aug. 1949, Aug. 1950), Ladies Beach (April 1949, Aug. 1950), Lametry Cove (Aug. 1949, Aug. 1950), Jenny's Cove (Aug. 1949), Brazen Ward (Aug. 1949), Rat Island (N. shore) (Aug. 1949), Quarry Beach (Aug. 1949) (LAH); in *Corallina officinalis*, mid shore, Hell's Gates (Aug. 1949), Gannet's Rock (N. Side) (Aug. 1950), Jenny's Cove (Aug. 1949), Rat Island (N. shore) (Aug. 1949), Goat Island (Aug. 1949) (LAH); in *Jania rubens*, Hell's Gates (April 1950) (LAH) (Harvey, 1950); abundant on *Tubularia indivisa* from Seals Rock (spur), 23 m, 4.8.71 (KH); in holdfast of *Laminaria digitata* from Rat Island, 5 m, 31.7.74 (JDG); single female from undergrowth on SS Carmine Filomena, 8 m, 2.8.74 (KH); 1 male, 1 female from silt tubes, Seals Rock, 15.5 m, 25.7.74 (KH); 33 individuals (including ovigerous females) from Seals Rock, 10 m, 17.7.75 (KH); ubiquitous in holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) and Rat Island (N.), 15.7.75 (PGM) (see Moore, 1978); under overhang, halfway between Half Tide Rock and Battery (KH); amongst lithothamnion encrustations, sublittoral fringe S. Surf Point (KH); single male from lower shore, Rat Island (N.), + 1.5 m, 13.7.76 (KH); 1 male, 1 female, Rat Island (N.) + 1 m, 13.7.76 (KH); ovigerous females from lower shore, *Corallina*, Lametry Beach, 1.7.80 (KH); Dead Cow Point, 4 m (DC).

Jassa pusilla (Sars, 1894)

From dense colony of muddy tubes on carapace of *Macropodia longirostris* caught in nets 1 km E. of Landing Bay on sand, material included males, ovigerous females and juveniles (RJAA/PJS).

Parajassa pelagica (Leach, 1814)

Listed by Prof. L. A. Harvey (1950) with no site details; Dead Cow Point, Om (DC).

Sub-order CAPRELLIDEA
Family CAPRELLIDAE

Phtisica marina Slabber, 1769

Single individual from tubes with *Jassa falcata*, Seal's Rock, 15.5 m, 25.7.74 (KH); single male on algae, Rat Island (NE), 10 m, 17.7.75 (SH); 2 males, 1 female per 0.25 m², from North-facing surface of very large granite boulder at 10 m, Gannet's Rock, 15.7.75 (KH); single male per 0.03125 m² from horizontal granite at 21.5 m, Knoll Pins South, 10.7.75 (KH); in 8 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) and 5 out of 5 holdfasts of *L. hyperborea* from Rat Island (N.), 3 m, 15.7.75 (PGM) (see Moore, 1978); Brazen Ward, 8 m (DC); 3 from wreck of M. V. Robert, 14 m, June 1980 (KH/DC).

Pseudoprotella phasma (Montagu, 1804)

Female amongst *Plumularia*, Seal's Rock Cliff, 32 m +, 4.8.71 (KH); 35 individuals from *Nemertesia antennina*, Tibbett's Point, 15 m, 15.7.75 (DJWL); 1 male, Gannet's Rock (Point), ca. 8 m, 16.7.75 (KH); 9 individuals in single holdfast (out of 10), Quarter Wall Bay, 3 m, 14.7.75 (PGM) (see Moore, 1978); males and females in *Halopteris cathrina*, from wreck of M. V. Robert, off Tibbett's Point, 14 m, 10.8.79 (DC/KH); Brazen Ward, 2 m (DC); 5 (including an ovigerous female) from wreck of M. V. Robert, 14 m, June 1980 (KH/DC).

Parvipalpus capillaceus (Chevreux, 1887)

Single ovigerous female from holdfast of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) (see Moore, 1978). Extremely rare, previously recorded in Valencia Harbour, S.W. Eire (Harrison, 1944) and the Isle of Man (Jones, 1948) but has since been recorded from Oban, Scotland in stomachs of *Lesueurigobius friesii* and *Callionymus maculatus* (Gibson & Ezzi, 1978, 1979, identified PGM).

Caprella acanthifera Leach, 1813

SKULL-HEADED SKELETON SHRIMP

In *Laminaria* holdfasts, Gannet's Rock (N. side) (Aug. 1949, Aug. 1950), Ladies Beach (Aug. 1949), Lametry Cove (Aug. 1949, Aug. 1950), Jenny's Cove (Aug. 1949) (LAH); in *Corallina officinalis*, low shore, Hell's Gates (Aug. 1949), Ladies Beach (Aug. 1949, April 1950), Lametry Cove (Aug. 1949) (LAH); in *Corallina officinalis*, mid shore, Hell's Gates (Aug. 1950), Brazen Ward (Aug. 1949) Jenny's Cove (Aug. 1949) (LAH); in *Jania rubens*, Ladies Beach (Aug. 1949) (LAH) (Harvey, 1950); in 5 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) and in 5 out of 5 holdfasts of *L. hyperborea* from Rat Island (N.), 3 m, 15.7.75 (PGM) (see Moore, 1978); male amongst algae, Landing Bay shallow sublittoral, 17.7.76 (KH); Brazen Ward, 2 m (DC); 2 from wreck of M. V. Robert, 14 m, June 1980 (KH/DC).

Caprella acutifrons Latreille, 1816

One male and 2 ovigerous females amongst *Tubularia* and *Syncoryne*, Black Rock, 0.3 m, 14.7.77 (KH).

Caprella fretensis Stebbing, 1878

Single male on algae, Rat Island (NE), 10 m, 17.7.75 (SH); in 6 out of 10 holdfasts of *Laminaria hyperborea* from Quarter Wall Bay, 3 m, 14.7.75 (PGM) (see Moore, 1978); Brazen Ward, 2 m (DC).

Caprella linearis (Linnaeus, 1767)

Recorded by Prof. L. A. Harvey (1950) with no site details; ovigerous females on *Tubularia indivisa* from Seal's Rock (spur), 23 m, 4.8.71 (KH); single female from undergrowth SS Carmine Filomena, 8 m, 2.8.74 (KH); ovigerous female, non-ovigerous female, male and 8 juveniles from Seal's Rock, 10 m, 17.7.75 (KH).

REFERENCES

- Atkinson, R. J. A. & Schembri, P. J. (1980). The marine fauna of Lundy. Crustacea: Euphausiacea and Decapoda. *Rep. Lundy Fld Soc.* 31.
- Crothers, J. H. (ed.) (1966). *Dale Fort Marine Fauna*, 2nd ed. Field Studies Council, 169 pp.
- Gibson, R. N. & Ezzi, I. A. (1978). The biology of a Scottish population of Fries' goby, *Lesueurigobius friesii*. *J. Fish Biol.*, **12**, 371-389.
- Gibson, R. N. & Ezzi, I. A. (1979). Aspects of the biology of the spotted dragonet *Callionymus maculatus* Rafinesque-Schmaltz from the west coast of Scotland. *J. Fish Biol.*, **15**, 555-569.
- Harrison, R. J. (1944). *Synopses of the British fauna No. 2. Caprellidea (Amphipoda, Crustacea)*. Linnean Society of London, 27 pp.
- Harvey, L. A. (1950). The granite shores of Lundy. *Rep. Lundy Fld Soc.*, **4**, 34-44.
- Hiscock, K. (1974). The marine fauna of Lundy. General Introduction. *Rep. Lundy Fld Soc.*, **25**, 16-18.
- Hoare, R. & Wilson, J. (1976). The macrofauna of soft substrates off the coast of Lundy. *Rep. Lundy Fld Soc.*, **27**, 53-58.
- Hughes, R. G. (1975). The distribution of epizoites on the hydroid *Nemertesia antennina* (L.). *J. mar. biol. Ass. U.K.*, **55**, 275-294.
- Jones, N. S. (1948). The ecology of the Amphipoda of the south of the Isle of Man. *J. mar. biol. Ass. U.K.*, **27**, 400-439.

- Lincoln, R. J. (1979). *British Marine Amphipoda: Gammaridea*. British Museum (Nat. Hist.), London, 658 pp.
- Moore, P. G. (1978). Turbidity and kelp holdfast Amphipoda. 1. Wales and S.W. England. *J. exp. mar. Biol. Ecol.*, **32**, 53-96.
- Moore, P. G. (1980). *Corophium sextonae* in Scottish waters. *J. mar. biol. Ass. U.K.*, **60**, 1081.
- Marine Biological Association of the U.K. (1957). *Plymouth Marine Fauna*, 3rd ed., pp. 1-457.
- Myers, A. A. (1973). The genus *Aora* Kröyer, 1845 (Amphipoda: Gammaridea) in the Mediterranean. *Mem. Mus. Civ. Stor. nat. Verona*, **20**, 283-301.