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THE MARINE FAUNA OF LUNDY

COELENTERATA

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Introduction

Coelenterates make up a conspicuous part of the fauna of littoral and sublittoral rocks around Lundy. Observations of littoral species are described by Anon. (1948), Harvey (1950, 1951) and Boyden (1971). During 1969—1974 observations and collections of sublittoral species have been made at 21 locations all around the island and some published in Hiscock (1970) and Hiscock (ed.) (1971). Records are now sufficiently complete to compile a list which accurately describes the distribution and abundance of prominent sublittoral species and which also describes the presence of littoral species and of the smaller sublittoral species.

Many of the species listed show a characteristic distribution with relation to depth or to the exposure of their habitats to waves and tides. Others are worthy of special mention because of their rarity in British waters.

DISTRIBUTION WITH RELATION TO DEPTH

Coelenterate species living in the intertidal (the littoral and infralittoral fringe) are subject to dessication and to wave crash; species living in the infralittoral are subject to strong wave action, high illumination and there is a dense growth of algae; species living in the circalittoral are subject to usually gentle wave oscillation and there is little competition for living space with algae. Most of the benthic coelenterates recorded from around Lundy are found in abundance only in the circalittoral and some are present solely in deep water. Species which have been observed to show a characteristic distribution with relation to depth are listed below.

Species recorded from the littoral only: *Dynamena pumila, Haliclystus auricula, Depastrum cyathiforme, Lucernariopsis campanulata, Actinia equina, Bunodactis verrucosa, Sagartia troglodytes.*

Species confined to or most abundant in the sublittoral: *Tubularia indivisa, Plumularia setacea, Tealia felina, Cereus pedunculatus, Actinothoë sphyrodeta, Corynactis viridis.*

Species confined to or most abundant in the infralittoral: *Obelia geniculata, Aglaophenia pluma, Balanophyllia regia.*

Species confined to or most abundant in the circalittoral: *Halecium halecinum, Sertularella polyzonias, Antenella secundaria, Schizotricha frutescens, Nemertesia antennina, Nemertesia ramosa, Gymnangium montagui, Aglaophenia tubulifera, Alcyonium digitatum, Alcyonium glomeratum, Eunicella verrucosa, Epizoanthus couchi, Parazoanthus dixoni, Anthopleura balli, Caryophyllia smithi, Leptosammia pruvoti.*

Species present in the littoral and sublittoral: *Anemonia sulcata* (the green variety is present only on the shore and shallow sublittoral whilst the grey form is most abundant in the circalittoral).

DISTRIBUTION WITH RELATION TO THE STRENGTH OF WAVES AND TIDAL STREAMS

Benthic coelenterates are passive feeders; they rely on food to be brushed against their polyps so that it can be captured and consumed. Thus, many species, particularly hydroids which utilize suspended material, might be expected to be present in large numbers in areas exposed to vigorous water movement where considerable amounts of suspended food come into contact with the polyps. On the other hand, some species might not have the mechanical strength to, for instance, withstand the almost continual wave oscillations on the west coast or the very strong tidal streams of the north and south coasts.

From observations made around Lundy, it would appear that hydroids in particular thrive in exposed areas but that a few actinians are confined to sheltered locations. The absence of all but a few coelenterates from the sublittoral rocks bordering the east coast south of Halfway Wall is probably due partly to the paucity of suspended food and partly to the presence of a layer of mud on most rock surfaces. Settlement of larvae might thus be prevented or recently settled organisms smothered during periods of prolonged calm weather when more silt is deposited. The polyps of some hydroid species probably becoe clogged with sediment where there is insufficient water movement to maintain the polyps clear of silt.

The distribution of some prominent sublittoral coelenterates in relation to the exposure of their habitats to waves and tides is given below. The species are ordered according to the results of an ordination analysis and are grouped according to the similarity of their distribution determined by classificatory analysis.

Present only in exposed habitats: *Tubularia indivisa, Gymnangium montagui,* (probably also *Amphisbebia operculata*).

Particularly abundant in exposed habitats: *Actinothoë sphyrodeta, Alcyonium digitatum,* (probably also *Plumularia setacea*).

Distributed all around Lundy: *Corynactis viridis, Aglaophenia tubulifera, Eunicella verrucosa, Caryophyllia smithi, Nemertesia antennina.*

Particularly abundant in sheltered habitats: *Parazoanthus dixoni, Alcyonium glomeratum.*

Present only in sheltered habitats: *Leptopsammia pruvoti, Anthopleura balli, Anemonia sulcata.*

RARE SPECIES

The coral, *Leptopsammia pruvoti,* was, before its discovery on Lundy, known from only one location outside of the Mediterranean; Roscoff on the coast of Brittany. On Lundy, the species is present in large numbers at a few localities. The alcyonarian, *Parerythropodium hibernicum,* is known from Lough Ine (south coast of Ireland), the Isle of Man, the islands of Glenan (Brittany) and from Lundy only. On Lundy, it is present in very small numbers and has been found at only two stations, within 50 m of each other. The white specimens of *Eunicella* present in very small numbers around Lundy might be a form of *E. verrucosa* in which case such colour variation is apparently previously unrecorded. Another possibility is that it is the white Mediterranean species *Eunicella stricta* (Bertoloni) which is very similar in morphology to *E. verrucosa.* At the time of writing, the problem is being investigated.

Although the main value of Lundy's marine life lies in its variety and richness rather than the presence of rare species, particularly careful control is required to ensure that the three species mentioned are not collected or disturbed.

THE LIST

The introduction to this series (Hiscock 1974) includes a list of abbreviations and terms and a map showing the location of sites.

In preparing the list of coelenterates, references to the presence of species around Lundy have been found in Gosse (1860), Anon (1948) and Harvey (1950, 1951). Observations made during and after 1969 have been taken directly from record cards. The lists include observations made by Atlantic College (AC) in Mendelssohn (ed.) (1973), C. R. Boyden (CRB), L. A. Harvey (LAH), K. Hiscock (KH), R. Hoare (RH), D. N. Huxtable (DNH), D. J. W. Lane (DJWL) and M. W. Robins (MWR). Uncredited records were made during the marine biological investigations of 1971 (MBI 71). Some identifications have been made by P. F. S. Cornelius (PFSC) who has also advised on nomenclature and checked the draft of the final list. The identification of specimens of *Aglaophenia* has been checked by A. Svoboda (AS).

Where a record credited to KH includes a note on the abundance of a species, the notations used have the following meanings:

LARGE SOLITARY SPECIES AND COLONIES. *Alcyonium digitatum, Alcyonium glomeratum, Eunicella verrucosa,* anemones. **Abundant;** one or more per m^2, one patch per 10 m^2. **Common;** one or more per 10 m^2, several large patches at one site. **Frequent;** less than one per 10 m^2 but more than 20 at the site. **Occasional:** 6-20 at any one site, one or two small patches. **Rare;** up to 5 individuals at the site.

SMALL SOLITARY SPECIES AND AGGREGATIONS OF SMALL SPECIES. *Caryophyllia smithi, Balanophyllia regia, Leptopsammia pruvoti.* **Abundant:** more than 100 per m^2 generally. **Common:** about 50-100 per m^2. **Frequent:** about 1-50 per m^2 scattered patches. **Occasional:** less than 1 per m^2, scattered small patches. **Rare:** widely scattered individuals.

SMALL COLONIAL SPECIES. Hydroids, *Parazoanthus dixoni, Corynactis viridis.* **Abundant:** large confluent colonies with more than 50% cover. **Common:** many small or a few large patches with 10-50% cover. **Frequent:** scattered patches. **Occasional:** scattered small patches. **Rare:** widely scattered small patches. or individuals.

The classification used in this list generally conforms to that of the Plymouth Marine Fauna (Marine Biological Association, 1957). The references for the identifications of the species and the source of the nomenclature are as follows: **Hydrozoa:** identified from Hinks (1868), named from the Marine Biological Association (1957) and from Rees and Thursfield (1965); **Stauromedusae:** Eales (1967); **pelagic Scyphomedusae:** Russell (1970); **Alcyonium** species: Hickson (1895); **Zoantharia:** Haddon and Shackleton (1891); **Actiniaria:** Stephenson (1928, 1935); **Scleractinia:** Best (1969). Where a description to a species is not included in one of the above texts, a reference to a description is given below the name of the species.

Synonyms are included only where they are the name used in the reference which describes the species or in recent publications. Marine Biological Association 1957 is abbreviated to MBA 1957.

Phylum **COELENTERATA**

Class **HYDROZOA**

Order HYDROIDA

Sub-Order ANTHOMEDUSAE (= Athecata)

Family CORYMORPHIDAE

Corymorpha nutans M. Sars, 1835

Brazen Ward, 14 m, 29.7.74, more than one per m^2 attached to granules on the muddy gravel plain, gonophores (KH).

Family TUBULARIIDAE

Tubularia indivisa Linnaeus, 1758

OATEN PIPES HYDROID

Large colonies occur in areas exposed to vigorous water movements Recorded from shallow water on the walls of a gulley between Rat Island and Surf Point (3 m) and under overhangs at Seals Rock (2 m). Present in deeper water at the heads of rock pinnacles and cliffs off the south coast and at Seals Rock. (KH).

Tubularia larynx Ellis and Solander, 1786

SE Gannets Rock 13 m, 8.8.74, one colony, gonophores (KH).

Tubularia sp.

The Pyramid, MTL, 31.7.69, in clefts in a rockpool (KH); W Needle Rock, 0·5 m above CD, 3.8.74 (KH). (No specimens).

Family CORYNIDAE

Coryne pusilla Gaertner, 1774

Coryne vaginata: (Hinks 1868), *Coryne muscoides:* (Harvey, 1950).

N. Rat Island, The Gates, Lametry Beach, N Gannets Rock, Quarry Beach, Ladies Beach, on *Corallina officinalis* and fine red algae at LW and, at Lametry Beach, MTL, Aug. 1949 and 1950 (LAH).

Sarsia eximia (Allman, 1859)

Syncoryne eximia: (Hinks, 1868).

SS Carmine Filomena, 8 m, 2.8.71, attached to sponge, gonophores (KH); Seals Rock, 23 m, 4.8.71, attached to many of the *Tubularia indivisa* growing at the top of a cliff (KH).

Family MYRIOTHELIDAE

Myriothela cocksi (Vigurs, 1949)

Myriothela phrygia: (Hinks, 1868).

Lametry Beach, Goat Island, Ladies Beach, LW, Aug. 1949 and 1950, on *Laminaria* holdfasts (LAH).

Family HYDRACTINIIDAE

Hydractinia echinata (Fleming, 1828)

Quarry Bay, 15 m, 14.8.72, on shells inhabited by *Pagurus bernhardus*, 15 m, 14.8.72 (KH); Lundy Roads, 29.7.74 (JDG).

Family BOUGAINVILLIIDAE

Garveia nutans Wright, 1859

Seals Rock, 23 m, 4.8.71, one small group on a large mass of *Tubularia indivisa* collected from the top of a cliff (KH).

Family EUDENDRIIDAE

Eudendrium ramosum (Linnaeus, 1758)

S. Gannets Rock, 13 m, 8.8.74, one colony (KH); 1 km N.N.E. Lundy, 9.1.73, attached to stones on coarse gravel (DNH).

Sub-Order LEPTOMEDUSAE (= Thecata)

Family CAMPANULARIIDAE

Campanularia exigua (M. Sars, 1857)

Rattles Anchorage, 20 m, 20.8.70, attached to *Diphasia attenuata;* S Gannets Rock, 13 m, 8.8.74, attached to *Schizotricha frutescens* (KH).

Clytia hemisphaerica (Linnaeus, 1767)

Clytia johnstoni: (Hinks, 1868, MBA, 1957, Bruce *et al.*, 1963, Crothers, 1966).

Attached to other hydroids, common (KH, MWR). Seals Rock, 32 m, attached to *Crisia* (KH); 1 km N.N.E. Lundy, 9.1.73 (DNH). Gonophores recorded on specimens collected 4.8.71, 8.8.74 (KH).

Obelia dichotoma (Linnaeus, 1758)

Rattles Anchorage, ca. 20 m, Aug. 1970, gonophores (KH).

Obelia geniculata (Linnaeus, 1758)

Common on the fronds of *Laminaria* in shallow water (LAH KH, MWR)

Family CALYCELLIDAE

Calycella syringa (Linnaeus, 1767)

(The spelling *Calycella* rather than the original *Calicella*, follows general usage).

S. Gannets Rock, 13 m, 8.8.74, attached to *Tubularia larynx* and *Sertularia argentea* (KH).

Modeeria rotunda (Quoy and Gaimard, 1827)

(Edwards, 1973, p. 573)

Calycella fastigiata: (Hinks, 1868); *Stegopoma fastiagiata:* (MBA, 1957, Bruce *et al.*, 1963); *Stegopoma fastigiatum;* (Rees and Thursfield, 1967).

Knoll Pins, 25 m, 27.7.74, large amounts on *Sertularella polyzonias* (KH).

Family LAFOEIDAE

Lafoëa dumosa (Fleming, 1820)

Seals Rock, 21 m, 28.7.71, probably fairly common, attached to base of *Alcyonium glomeratum*, no gonophores (MWR); Gannets Rock Pinnacle, 36 m (KH); S Gannets Rock, 13 m, 8.8.74, attached to base of *Aglaophenia* (KH).

Lafoëa fruticosa (M. Sars, 1851)

St Philips Stone, 27.7.71, a few attached to *Halecium halecium*, no gonophores (MWR). (Considered by PFSC to be conspecific with the above species).

Family HALECIIDAE

Halecium halecinum (Linnaeus, 1758)

Widely distributed but in small numbers, depths greater than 10 m (KH, MWR). Male gonophores on a specimen from Rattles Anchorage, ca. 20 m, 28.8.70 (KH).

Family SERTULARIIDAE

Diphasia attenuata (Hincks, 1866)

Probably widely distributed but in small numbers. N. Rat Island, 3 m, 29.7.71, on stipe of *Laminaria hyperborea*, male gonophores (MWR); Rattles Anchorage, 20 m, 20.8.70, male and female gonophores (KH). Also recorded from SS Carmine Filomena, Black Rock, Seals Rock (KH).

Diphasia rosacea (Linnaeus, 1758)

1 km N.N.E. Lundy, 9.1.73, on stones on gravel (DNH).

Dynamena pumila (Linnaeus, 1758)

Sertularia pumila: (Hinks, 1868)

The Gates, Lametry Beach, Goat Island, N. Gannets Rock, Brazen Ward, littoral, 1949 and 1950, common on holdfasts of *Laminaria* and on *Corallina officinalis* (LAH); The Gates, littoral, July 1971, common (CRB); Rat Island, littoral, 25.7.71, abundant on the roofs of grottos (MWR).

Sertularella gayi (Lamouroux, 1821)

S. Gannets Rock, 14 m, 30.7.71, six shoots on one stone, gonophores (MWR); 1 km N.N.E. Lundy, 9.1.73, on stones on gravel (DNH).

Sertularella polyzonias (Linnaeus, 1758)

Probably widely distributed but uncommon, SS Carmine Filomena, 8 m, 2.8.71, specimens 5 cm high, gonophores (KH); Black Rock, ca. 30 m, 23.8.70, attached to *Tubularia indivisa*, gonophores (KH); W. Needle Rock, deeper than 8·5 m, 3.8.74, occasional and on *Nemertesia ramosa*, gonophores (KH); St Philips Stone, 23 m, 27.7.71, uncommon, on rock, 5 cm high, no gonophores (MWR); S. Gannets Rock, 13 m, 8.8.74, one colony (KH).

Hydrallmania falcata (Linnaeus, 1758)

SICKLE CORALLINE

Rarely observed. N. Rat Island, ca. 5 m, 24.7.71, 2 pieces (KH); SS Carmine Filomena, 8 m, 2.8.71, small branches in samples of undergrowth (KH); Rattles Anchorage, 28 m, 20.8.70, rare (KH); 1 km N.N.E. Lundy, 9.1.73, on stones on gravel (DNH); Knoll Pins, 27.7.74 (KH).

Sertularia cupressina (Linnaeus, 1758)

SEA-CYPRESS, WHITE WEED

(May include the following species—PFSC)

1 km N.N.E. Lundy, 9.1.73, stones on gravel (DNH).

Sertularia argentea (Linnaeus, 1758)

St Philips Stone, 27.7.71, a few shoots on weed-free rock, no gonophores (MWR); S. Gannets Rock, 13 m, 8.8.74, one small patch of short sprigs less than 5 cm tall, no gonophores (KH).

Amphisbetia operculata (Linnaeus, 1758)

Sertularia operculata: (Hinks, 1868, MBA, 1957, Bruce *et al.*, 1963, Crothers, 1966).

Probably confined to habitats exposed to vigorous tidal streams or to shallow water on wave-lashed coasts. Lee Rocks, 15 m, 26.7.71 (KH); W. Needle Rock, 0-1 m above CD, 3.8.74, common under overhangs (KH).

Family PLUMULARIIDAE

Kirchenpaueria pinnata (Linnaeus, 1758)

Plumularia pinnata: (Hinks, 1868), *Plumularia similis;* (Hinks, 1868).

Rat Island, littoral, 25.7.71 (KH/PFSC); S. Gannets Rock, 12 m, 8.8.74, one sprig, 1·5 cm high on a large cobble (KH).

Antennella secundaria (Gmelin, 1788)

Plumularia catharina—stemless variety: (Hinks, 1868).

Recorded as rare or occasional at Lee Rocks, Rattles Anchorage, Black Rock, Jennys Cove, St Philips Stone, Seals Rock and Knoll Pins, 12-23 m, usually on rock but recorded once on *Nemertesia ramosa* and once on an axinellid sponge, gonophores present in July and August (KH, MWR).

Plumularia setacea (Linnaeus, 1758)

Probably present in inconspicuous amounts around most of the island but common at exposed locations. SS Carmine Filomena, 8 m, 2.8.71, under spar of wreck (KH); The Gates, littoral (Harvey, 1951); Lametry Beach, LW, Aug. 1949 and 1950, on *Laminaria* holdfasts (LAH); Rattles Anchorage, ca. 28 m, 20.8.70, on *Nemertesia*, gonophores (KH); W. Needle Rock, large amounts at about CD (KH); Jennys Cove, LW, Aug. 1949, on many holdfasts (LAH); 1 km N.N.E. Lundy, 9.1.73, stones on gravel (DNH); Seals Rock, 32 m, 4.8.71, gonophores (KH); Gannets Rock, 32 m, 3.8.71, abundant on specimens of *Nemertesia*, gonophores (KH); Knoll Pins South, 20 m, 10.8.74, (KH/PFSC).

Halopteris catharina (Johnston, 1833)

Plumularia catharina: (Hinks, 1868, MBA, 1957, Crothers, 1966), *Antennella catharina:* (Bruce *et al.*, 1963).

SS Carmine Filomena, 8 m, 2.8.71, gonophores (KH); S. Gannets Rock, 13 m, 8.8.74, a few attached to *Schizotricha frutescens* (KH).

Schizotricha frutescens (Ellis and Solander, 1786)

Plumularia frutescens: (Hinks, 1868), *Polyplumaria frutescens:* (MBA, 1957).

Gannets Rock, 14 m, 30.7.71, clumps of 5 or 6 on inclined rocks (MWR); S. Gannets Rock, 14 m, 8.7.74, gonophores (KH); Brazen Ward, 13 m, 21.7.74, one group observed (KH); Knoll Pins, 15-20 m, 27.7.74, occasional (KH).

Nemertesia antennina (Linnaeus, 1758)

Antennularia antennina: (Hinks, 1868).

One record from the littoral: The Gates, LW, 1950, on holdfasts of *Laminaria* (LAH). Otherwise, recorded in depths greater than 10 m all around the island but with a very patchy distribution. Particularly common on areas of flat seabed

consisting of stones or gravel. Recorded as common at N. Jennys Cove (MWR), Knoll Pins (MWR), Gannets Rock, Rattles Anchorage (KH); occasional at Landing Bay, Lee Rocks, Seals Rock, Gannets Rock and Gull Rock (KH). Also recorded from SS Carmine Filomena, Black Rock (KH), 1 km N.N.E. Lundy, 9.1.73 (DNH), N. Quarry Bay (DJWL). Gonophores recorded on specimens collected 24.7.71, 27.7.71 (KH).

Nemertesia ramosa (Lamouroux, 1816)

Antennularia ramosa: (Hinks, 1868)

Generally occasional and only recorded below 10 m. Recorded as common at W. Needle Rock on a vertical rockface, St Philips Stone, Knoll Pins; occasional at the Landing Bay, Lee Rocks; rare at Rattles Anchorage, Black Rocks, Jennys Cove, Seals Rock, Gannets Rock, Knoll Pins (bedrock), Knoll Pins South (KH, MWR).

Gymnangium montagui (Billard, 1912)

Aglaophenia pennatula: (Hinks, 1868), *Halicornaria pennatula:* (MBA, 1957, Hiscock, 1970).

Restricted to sites exposed to strong tidal streams or vigorous wave action at depths below 10 m. Occurring in clumps up to 50 cm across. Recorded as common at Lee Rocks, Rattles, Anchorage; frequent at St. James Stone; occasional at Black Rock, Needle Rock and Jennys Cove (KH).

Aglaophenia kirchenpaueri (Heller, 1868)

(Heller, 1868, p. 40.)

W. Needle Rock, 15 m, 3.8.74, gonophores (KH/AS).

Aglaophenia pluma (Linnaeus, 1758)

Probably common in shallow water exposed areas and on the alga *Halidrys siliquosa.* Landing Bay, 9.6.73, rare (KH); SS Carmine Filomena, 8 m, 2.8.71 (KH); S. Rat Island, depths shallower than 3 m, 7.6.73, occasional to frequent (KH); W. Needle Rock, from 0·3 m to probably about 9 m, 3.8.74, common in shallow water only (KH); Seals Rock, 9 m, 28.7.71, common on *Halidrys siliquosa* (KH/AS); Gannets Rock, 14 m, 30.7.71 (KH/AS); Knoll Pins, 10 m, 24.7.71, on *Halidrys siliquosa* (KH).

Aglaophenia tubulifera; (Hinks, 1861)

Generally in deeper water than *A. pluma* and not recorded from depths shallower than 10 m. Occasional to common, Lee Rocks, Rattles Anchorage, Black Rock, Brazen Ward, W. Needle Rock, St Philips Stone, Seals Rock*, E. Gannets Rock*, S. Gannets Rock, Brazen Ward, Knoll Pins*, Gull Rock (KH/*AS), 1 km N.N.E. Lundy, 9.1.73 (DNH). Epilithic but one group recorded from the stem of *Nemertesia ramosa.* Gonophores present in July and August.

Order CHONDROPHORA

Family VELLELLIDAE

Velella velella (Linnaeus, 1758)

(Vanhöffen, 1906, p. 37)

BY-THE-WIND-SAILOR

Landing Bay, 19.8.70, one stranded (KH); The Gates, 31.7.74, one stranded (JDG).

Order SIPHONOPHORA

Sub-Order CALYCOPHORAE

Family DIPHYIDAE

Muggiaea atlantica Cunningham, 1892

(Totton, 1965, p. 181)

Harvey (1951).

Class SCYPHOMEDUSAE (JELLYFISH)

Order STAUROMEDUSAE (STALKED JELLYFISH)

Family CLEISTOCARPIDAE

Depastrum cyathiforme (M. Sars, 1846)

Littoral (Harvey, 1951).

Family ELEUTHEROCARPIDAE

Haliclystus auricula (Rathke, 1806)

The Gates (Harvey, 1951); The Gates, common (CRB).

Lucernariopsis campanulata (Lamouroux, 1816)

The Gates, littoral, individuals on red weeds on steep sided gullies (Harvey, 1951); Lametry Beach, Goat Island, Ladies Beach, littoral, LW and MTL, 1949 (LAH).

Order SEMAEOSTOMAE

Family PELAGIIDAE

Chrysaora hysoscella (Linnaeus, 1767)

COMPASS JELLYFISH

Observed occasionally in very small numbers. Sometimes accompanied by small fish (KH, JDG).

Cyanea lamarcki Péron and Lesueur, 1810

BLUE CYANEA

Cyanea capillata var. *lamarcki:* (MBA, 1957)

Single specimens in the Landing Bay in August 1971 and 1972 (KH); abundant in July and August 1974 (JDG).

Family AURELIIDAE

Aurelia aurita (Linnaeus, 1758)

COMMON JELLYFISH

Observed occasionally in small numbers (KH).

Class **ANTHOZOA**

Sub-class OCTOCORALLIA (ALCYONARIA)

Order ALCYONACEA

Family CORNULARIIDAE

Sarcodictyon catenata Forbes *in* Johnston, 1847

[Herdman, 1895, p. 163]

Gannets Rock Pinnacle, 37 m, 25.7.71, extensive growth on a pebble collected at the bottom of the north cliff (KH).

Family ALCYONIDAE (SEA FINGERS)

Alcyonium digitatum (Linnaeus, 1767)

DEAD MEN'S FINGERS

Common to abundant in the circalittoral off the south and west coasts and at other sites where water movement is vigorous. Occasional on the north part of the east coast but rare south of the Knoll Pins with only one specimen found in a 20 minute search adjacent to Quarry Bay (KH). Not observed above 3 m (Knoll Pins, AC). At W. Needle Rock, abundant at 12 m but not observed shallower than 11·5 m (KH). Epilithic but also observed attached to metal plates on the SS Carmine Filomena and epizoic on *Eunicella verrucosa* (KH). The white form is predominant with the orange variety recorded very rarely. Of a sample of 100 collected in July 1971, 27 had male gonads, 18 female (45% fertile). From the same sample, 8 individuals held the predatory mollusc *Simnia patula*, 12 were grazed and eggs of *Simnia* were found on 6 (MWR).

Alcyonium glomeratum (Hassall, 1843)

Alcyonium couchi: (Robins, 1969).

Occasional to common on the wave-sheltered east coast north of Quarry Bay and on the north coast. Rare colonies on the walls of muddy gullies on the west coast. Not found on the south coast where there are no microenvironments sheltered from strong tidal streams. Present only in depths greater than 10 m (KH). From a sample of 104 collected in July 1971, 65 had male gonads and 20 had female gonads (82% fertile). From the same sample, 2 specimens held the mollusc *Simnia patula*, 3 were grazed and 4 had eggs of the mollusc (MWR).

Parerythropodium hibernicum Renouf, 1931

[Renouf, 1931, p. 205]

Alcyonium pusillum: (Tixier-Durivault et Lafargue, 1966).

East coast, 18 m and 14 m, 2.8.71 and 7.8.74, in extremely small numbers on the roof of a small cave adjacent to the mud and less than 50 m away on the roof of another cave part of the way up a cliff (KH/MWR).

Order GORGONACEA

Family PLEXAURIDAE

Eunicella verrucosa (Pallas, 1766)

[Carpine, 1963, p. 13]

SEA FAN, GORGONIAN

Present all around the island in depths greater than 10 m but only common in localised patches. The maximum overall abundance at any one site is about 1 colony per 10 m^2. Until 1971, the species had been the subject of intensive collecting by divers and this activity has doubtless depleted numbers. At the Knoll Pins, the species is sparse and large specimens are heavily covered in epizoic organisms which has probably made them unattractive to divers. Sections of the axial rod taken near to the base of a specimen 30 cm high revealed 31 rings which, if annual, would indicate a growth rate of about 1 cm a year. On the west coast, the flat fans face east and west, that is, at right angles to wave oscillations. A similar orientation was observed at 13 m off Gull Rock but further offshore and on the rest of the east coast the fans face north and south, that is, at right angles to tidal streams. A few white *Eunicella* have been observed and it seems likely that they are a variety of *E. verrucosa.* A collected branch of one white specimen held the predatory mollusc *Simnia patula* (KH).

Sub-Class **HEXACORALLIA**

Order CERIANTHARIA

Family CERIANTHIDAE

Cerianthus lloydi Gosse, 1859

[Gosse, 1860, p. 268]

N. Rat Island, 8 m, 8.9.73, one in sand (KH); Brazen Ward, 29.7.74, occasional (JDG); N. Knoll Pins, 18 m, 2.8.71, on muddy gravel plain; S. Knoll Pins, 12 m, 10.8.74, few on gravel bank; Gull Rock, 14 m, 6.6.72, common on muddy sand; Lundy Roads, 12-15 m, Aug. 1971, Aug. 1972 and Aug. 1974, occasional on mud plain (KH).

Order ZOANTHARIA

Family EPIZOANTHIDAE

Epizoanthus couchi (Johnston, 1838)

Lee Rocks, 18 m, 26.7.71: Gannets Bay, 12 m, 8.8.74, on large stone; S. Knoll Pins, ca. 14 m, 10.8.74, scattered colonies on gravel bank (KH).

Parazoanthus dixoni Haddon and Shackleton, 1891

(Recorded as *Epizoanthus couchi* in Hiscock, 1970)

Present around most of the island but particularly common in semi-sheltered

localities. Generally in depths greater than 10 m but recorded at 6 m at the Knoll Pins by AC. Not recorded south of Halfway Wall Bay. Colonies of the white variety have been observed frequently at the Knoll Pins, occasionally at E. Gannets Rock and one group at Knoll Pins South (KH/DNH).

Order ACTINIARIA (SEA-ANEMONES)

Family EDWARDSIIDAE

Edwardsia callimorpha (Gosse, 1853)

Seals Rock, 4.8.74, 21 m, one specimen in a core sample of sand from the base of the cliff (KH).

Family HALOCLAVIDAE

Peachia hastata Gosse, 1855

N. Gannets Rock, ca. 16 m, 1.8.71, on sand plain; Gannets Bay, ca. 14 m, 30.7.71, common on muddy seabed; Knoll Pins, 12-20 m, common all around the Pins on substrates ranging from muddy gravel to coarse clean gravel; Gull Rock, 16 m, 6.6.72, a few in muddy sand; Quarry Bay, 15 m, Aug. 1971, on mud plain. (KH). Quarry Bay, 29.7.72, abundant on the mud plain (JDG).

Family ACTINIIDAE

Actinia equina (Linnaeus, 1758) var. **mesembryanthemum** (Ellis and Solander, 1786)

BEADLET ANEMONE

Common on bedrock shores all around the island, littoral (CRB); S.E. Rat Island, MTL, 8.8.68, many groups of the green variety (KH).

Actinia equina (Linnaeus, 1758) var. **fragacea** (Tugwell, 1856)

STRAWBERRY ANEMONE

The Gates, littoral, July 1971, occasional specimens (CRB).

Anemonia sulcata (Pennant, 1777)

SNAKELOCKS ANEMONE

The Gates, littoral and shallow sublittoral, common in gullies, brown and green varieties (Harvey, 1951, CRB, KH); Lametry Beach, littoral, July 1971, common (CRB); Black Rock, shallow sublittoral, 7.8.71 (JDG). Generally restricted to very sheltered locations in the circalittoral and recorded during 1971-1974 as occasional to frequent at Gannets Rock (15 m), Brazen Ward (13 m), Knoll Pins (12 m), Gull Rock (14 m) and at Quarry Bay (12-14 m) (KH).

Tealia felina (Linnaeus, 1798) var. **coriacea** (Cuvier, 1798)

DAHLIA ANEMONE

Occasionally observed on the lower shore: The Gates, Aug. 1948, LW (LAH); Rat Island, 8.8.68, frequent (KH); Ladies Beach, July 1971, rare (CRB). In the sublittoral, the characteristic habitat is in gullies and at the base of rock outcrops near to coarse sand in which the base of the anemone is often buried: N. Rat Island, 5 m, 9.6.73, frequent on rocks adjacent to the sand (KH); Rattles Anchorage, 18-29 m, Aug. 1969 and 1971, frequent in gullies and adjacent to the sand (KH); Jennys Cove, 6-20 m, 27.7.71, common at the base of gullies (MBI, 71); Seals Rock, 28.7.71 (MBI, 71); Knoll Pins, ca. 16 m, 24.7.71 (KH).

Bunodactis verrucosa (Pennant, 1777)

WARTLET OR GEM ANEMONE

Rat Island, 1971-1973, common (KH, CRB); The Gates, Aug. 1948, LW to MTL (LAH); Lametry Beach, littoral, common under stones (Harvey, 1951); Ladies Beach, July, 1971, rare (CRB).

Anthopleura balli (Cocks, 1850)

Restricted to depths greater than 5 m at localities sheltered from vigorous water movement. N. Rat Island, ca. 5 m, 24.7.71 and 9.6.73, frequent on horizontal rock under kelp (KH); Seals Rock, 12 m, 28.7.71 one at base of cliff (RH); N. Gannets Rock, ca. 16 m, 1.8.71, rare (KH); S. Gannets Rock, 13 m, 30.7.74, abundant in the Bay but absent from the east side (KH); S. Gannets Rock

Pinnacle, 15 m, 18.8.74, occasional (KG); Brazen Ward, 13 m, 29.7.74, common (KH); Knoll Pins, 14 m, common (KH); Gull Rock, 9-15 m, 31.7.71 (KH); Lundy Roads, 16 m, 30.7.74, rock outcrop on mud (KH).

Family DIADUMENIDAE

Diadumene cincta Stephenson, 1925

N. Rat Island, MTL, 8.8.68, about 30 individuals in one cave (KH).

Family METRIDIIDAE

Metridium senile (Linnaeus, 1767) var. **dianthus** (Ellis, 1768)

PLUMOSE ANEMONE

N. Rat Island, MTL, 8.8.68, large numbers of small individuals on the roofs of caves (KH); Lundy Roads, 29.7.74, a few large individuals on a rock outcrop (JDG).

Family HORMATHIIDAE

Calliactis parasitica (Couch, 1842)

Quarry Bay, 13 m, 6.8.71, frequent on mud on every large *Pagurus bernhardus* shell observed (JDG); Quarry Bay, 29.7.74 (JDG).

Adamsia palliata (Bohadsch, 1761)

CLOAK ANEMONE

Living in association with the hermit crab *Pagurus prideauxi* Leach, 1815. Rattles Anchorage, 21 m, 5.8.71, on sand (KH); Knoll Pins, 21.8.70 (KH), Knoll Pins South, 23 m, 10.8.74, one observed (KH); Quarry Bay, ca. 13 m, 6.8.71 (KH); Lundy Roads, 29.7.74 (JDG).

Family SAGARTIIDAE

Sagartia elegans (Dalyell, 1848) var. **venusta** (Gosse, 1855)

Lundy (Gosse 1860 from a record by Tugwell); N. Rat Island, MTL, Aug. 1967, abundant on the walls of caves (KH).

Sagartia elegans (Dalyell, 1848) var. **nivea** (Gosse, 1853)

Lundy (Gosse, 1860); Rat Island, ca. 5 m, 24.7.71, one group of about 12 individuals (KH); Brazen Ward, infralittoral fringe, 29.7.74, few (KH); Quarry Bay, 15 m, 6.7.71, one attached to stone just below the mud surface (KH).

Sagartia troglodytes (Price *in* Johnston, 1847)

Lametry Beach, LW, Aug. 1949, amongst holdfasts of Laminaria (LAH).

Actinothoë sphyrodeta (Gosse, 1858)

Usually present in localised patches of several hundred individuals in areas exposed to vigorous water movement. The variety with an orange disc has been observed in the shallow sublittoral at Rat Island and at Long Roost. Recorded as common at SS Carmine Filomena (8 m), Black Rock (24-28m), W. Needle Rock (25m), N. Rat Island (ca. 5m), the gulley between Rat Island and Surf Point (3 m); frequent at S. Rat Island (3 m), Lee Rocks (15-25 m), Long Roost; occasional at Rattles Anchorage (18-25 m), Seals Rock (15-30 m); only one or two patches at Battery Point (12 m), Knoll Pins, Knoll Pins South (23 m) (KH). Gates Region, littoral, July 1971, common (CRB).

Sagartiogeton undata (Müller, 1788)

Actinothoë anguicoma: (Stephenson, 1935)

N. Rat Island, littoral, dense groups on roofs of caverns (Harvey, 1951); N. Rat Island, littoral, 8.8.68, one inside a metal boiler (KH).

Cereus pedunculatus (Pennant, 1777)

DAISY ANEMONE

Landing Bay, ELWS, 8.8.68, abundant on some reefs and ledges and on the floors of gullies (KH); N. Rat Island, 9.6.73, one group in the shallow sublittoral (KH); Quarter Wall Bay, July 1974, up to 300 per m^2 in nearshore coarse sediment (RH); Lundy Roads, 29.7.74, on muddy gravel and rock outcrops (JDG).

Order SCLERACTINIA (= MADREPORARIA) (CORALS)

Family TURBINOLIDAE

Caryophyllia smithi Stokes and Broderip, 1828

THE DEVONSHIRE CUP CORAL

Recorded rarely on the shore and in the infralittoral but common all around the island below 10 m. On rock surfaces which are largely free of other organisms, there is a high density of *C. smithi* with a recorded maximum of 351 per m^2 at the base of the Gannets Rock Pinnacle (35 m). In areas where there is a dense growth of other epibenthic species, a population of less than 1 coral per m^2 is present. *C. smithi* is one of a limited number of epibenthic species able to withstand siltation and, therefore, is present on muddy boulders and inclined surfaces off the south part of the east coast where few other coelenterates thrive. The barnacle *Pyrgoma anglicum* Sowerby, 1823, which lives in association with corals, was recorded from 49% of specimens of *C. smithi* collected from the Knoll Pins and 36 barnacles have been recorded from the corallum of one specimen collected in Rattles Anchorage at 15 m (KH).

Family EUPSAMMIIDAE

Balanophyllia regia Gosse, 1860

SCARLET AND GOLD STAR CORAL

Present on the lower shore and to a maximum depth of 7 m. Lundy (Gosse, 1860); littoral at two sites, several groups of up to 20 individuals in gullies and clefts with one gulley containing several hundred corals (Harvey, 1951, CRB, KH); St Philips Stone, 5 m, 27.7.71, one in a gulley (KH); S. Gannets Rock, 7 m, 30.6.71, common in gullies (KH); Brazen Ward, ca. 4 m, 1969 (KH); Knoll Pins (AC). Rarely holding the barnacle *Pyrgoma anglicum.*

Leptopsammia pruvoti Lacaze-Duthiers, 1896

East coast at four sites, present in depths greater than 6 m and most frequently recorded at 11-18 m, 1969-1974, locally abundant in a steep sided canyon and under overhangs and cave roofs, maximum recorded density of 320 per m^2 (KH/M. Wijsman-Best). The barnacle *Pyrgoma anglicum* was present on 5% of a sample, collected on 4.8.69. From the same sample, and 48 hours after collection, planulae were produced.

Order CORALLIMORPHARIA

Family CORALLIMORPHIDAE

Corynactis viridis Allman

[Gosse, 1860, p. 289]

JEWEL ANEMONE

Lundy (Gosse, 1860); The Gates, lower shore, Sept. 1968, July 1971 (KH, CRB); St Philips Stone, Seals Rock, Knoll Pins, infralittoral fringe (KH, AC); W. Needle Rock, present below 2·3 m, 3.8.74 (KH). Present around most of the island in the circalittoral. On the north coast and north part of the east coast, abundant on vertical surfaces with an estimated 60% cover of the north cliff at the Gannets Rock Pinnacle. On the west and south coasts where sediment-free rocks are covered in a dense growth of other organisms, *C. viridis* is present as scattered individuals. Observed on mud covered rock at Gull Rock but not recorded further south on the east coat (KH).

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