

THE MARINE FAUNA OF LUNDY PROSOBRANCHIA

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INTRODUCTION

Historically prosobranch molluscs have received more attention than most other groups of marine invertebrates, mainly because of their shells and their consequent appeal to amateur collectors. However, little is known about the habits and habitats of many of the smaller species, which are often well-known as dead shells but poorly understood as animals. A number of prosobranchs are entirely littoral, and the detailed distribution of these around the island has not been investigated; most of the recent collecting effort has been in the sub-littoral region. Many species are small and inconspicuous and the best records of these come from samples collected by a suction sampler and sorted afterwards. These samples consist of scrapings from mainly horizontal rock surfaces from sites all around Lundy at depths of 10 and 20 metres. A complete series of suction samples was taken at two sites, Brazen Ward, from 0 m. to 12 m. and Dead Cow Point from 0 m. to 16 m. It is likely that species which live under boulders, in crevices and in soft sediments are under-represented in this list.

SAMPLING AND COLLECTING METHODS

Collecting carried out with the diver-operated suction sampler resulted in total collections from 0.2 m² in the case of Brazen Ward and Dead Cow Point and from 0.5 m² at the other sites. These were sorted by Keith Hiscock and identified by the author. All records not credited to a particular observer are from these samples, and densities of individual species have been obtained by multiplying to give the approximate number of individuals per m². Other collecting was not quantitative, although some measure of abundance was recorded for certain species.

THE LUNDY FAUNA

52 species of prosobranch are recorded in this list. A number of common species are probably genuinely absent from the island due to a lack of suitable habitats, for instance there are no extensive areas of intertidal or shallow sub-tidal mud around the island. Lundy is within the range of a number of species, especially of Rissoids and Turrids, which have not yet been recorded, but these are mostly fairly scarce species which will probably be found by more extensive collecting.

The taxonomy of the Littorinids has undergone a series of upheavals in the past twelve years. *Littorina littoralis* is now recognised to consist of two species, *L. obusata* and *L. mariae* (Sacchi & Rastelli, 1966; Goodwin & Fish, 1977) *Littorina saxatilis* included four species, *L. neglecta*, *L. nigrolineata*, *L. rudis* and *L. arcana*, two of these were correctly recognised by Heller (1975) but the differences between *L. rudis* and *L. arcana* have only recently been elucidated. (Hannaford Ellis, 1978).

The animal commonly known as *Triphora perversa* has been shown by Bouchet and Guillemot (1978) to be a complex. Four species of this complex have been found on the French Atlantic coast, but only two of these were recorded from Britain. A check of the Lundy specimens enables us to add *Triphora similior* to the British list.

THE LIST

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

This list includes specimens collected or observations made by L. A. Harvey (LAH), C. R. Boyden (CRB), R. Hoare (RH), M. W. Robins (MWR), G. H. Brown (GHB), J. P. Hartley (JPH), K. Hiscock (KH) and B. E. Picton (BEP). All depths are referred to Chart Datum, those on shore are preceded by +, all others are below Chart Datum.

The classification and nomenclature used in this list generally conforms to that of the Plymouth Marine Fauna (Marine Biological Association, 1957) except where an alternative reference is given. Descriptions of most species can be found in N. F. McMillan (1968), individual references are given for others. Good illustrations of most species can be found in Forbes & Hanley (1849-53) or Jeffreys (1862-69). Information on distribution, habitat and diet where this is known is included in Fretter & Graham (1962).

Phylum **MOLLUSCA**
Class **Gastropoda**
Sub Class **PROSOBRANCHIA**
Order **ARCHAEOGASTROPODA**
Family **FISSURELLIDAE**
Emarginula reticulata J. Sowerby, 1813

SLIT LIMPET

This species usually lives under dead shells or stones, feeding on sponges. E. of Rat Is., 18 m, 21.7.76, one under small stone (BEP).

Diodora apertura (Montagu, 1803)

KEYHOLE LIMPET

Usually found on sponges under rocks. The Gates, Aug. 1948, near L.W. (LAH); Quarter Wall Bay, 10 m, 14.7.75, 1 specimen.

Family **PATELLIDAE**
Patella vulgata Linnaeus, 1758

COMMON LIMPET

Common on rocks all around the island, upper shore to low water. The Gates, Aug. 1948 (LAH); Landing Beach, 24.7.76 (BEP); Ladies Beach, 16.7.77 (KH/BEP).

Patella depressa Pennant, 1777

BLACK-FOOTED LIMPET

This species prefers exposed shores and is to be expected all along the south and west coasts, from MTL to MLWN. Landing Beach, 24.7.76 (BEP); Ladies Beach 16.7.77 (KH/BEP).

Patella aspera Röding, 1795

CHINA LIMPET

To be expected all around the island except on the more sheltered parts of the East coast. Landing Beach, 24.7.76, in pools (BEP).

Family **ACMAEIDAE**
Acmaea virginea (Müller, 1776)

WHITE TORTOISESHELL LIMPET

Common, feeding on encrusting calcareous red algae, 'Lithothamnia', at low water mark. Brazen Ward, 0-6 m, up to 15 per, m² July 1976; Virgin's Spring, infralittoral fringe and one at 15 m, 17.7.78 (KH).

Family TROCHIDAE

Calliostoma zizyphinum (Linnaeus, 1758)

PAINTED TOP SHELL

Generally sparsely distributed, this species is sometimes common amongst *Tubularia indivisa* and probably feeds on this and other hydroids. Ladies Beach, in *Laminaria* holdfast (LAH); Half Tide Rock, 20m Brazen Ward, 0m, 2m, July 1976; Knoll Pins, 20 m, 10.7.75; Gannets Rock, 10 m, 15.7.75; Black Rock, 26-31 m, frequent, 19.7.78 (KH). 15 m, 20.7.76; Lee Rocks, Paddle Steamer Wreck,

Monodonta lineata (da Costa, 1778)

THICK TOP SHELL

Intertidal, rare on Ladies Beach, common at Lametry and the Gates (CRB).

Gibbula cineraria (Linnaeus, 1758)

GREY TOP SHELL

Lower shore and sublittoral, common, often on *Laminaria*. The Gates, 5.8.71 (CRB); Quarry Bay, LWNT, 10.7.75 (KH); Ladies Beach, 16.7.77 (KH); Brazen Ward, 10 m, July 1976; N. of Rat Is., 3-6 m (KH)

Gibbula umbilicalis (da Costa, 1778)

PURPLE TOP SHELL

Common on rocky shores with loose stones. The Gates, Aug. 1948 (LAH); The Gates, 5.8.71 (CRB); Quarry Bay, 10.7.75, LWNT (KH).

Family TURBINIDAE

Tricolia pullus (Linnaeus, 1758)

PHEASANT SHELL

Lametry, the Gates, 1949 (LAH); in suction samples at 10 and 20 m from all round the island, and at Brazen Ward and Dead Cow Point, 0-16 m, 5-10 per m².

Order MESOGASTROPODA

Family LITTORINIDAE

Lacuna vincta (Montagu, 1803)

CHINK SHELL

This species is an annual, breeding early spring, when it is often common on *Laminaria* fronds. Listed by Harvey (1950).

Lacuna crassior (Montagu, 1803)

Lee Rocks, 18 m, 16.7.76, 2 specimens amongst Bryozoans (BEP).

Lacuna parva (da Costa, 1778)

This species may be common in early spring when it breeds in the same habitat as *L. vincta*. Brazen Ward, 2 m, July 1976.

Littorina littorea (Linnaeus, 1758)

COMMON PERIWINKLE

Confined to the littoral region, under rocks and seaweeds. The Gates, Quarry Reach, Jenny's Cove 1949 (LAH). Rare at the Gates, Lametry Beach, and Ladies Beach (CRB).

Littorina rudis (Maton, 1797)

ROUGH PERIWINKLE

This species is ovoviviparous and produces live young winkles, in contrast to *L. arcana* Hannaford Ellis, 1978, which lays eggs. Both species are probably common on Lundy in a zone just above the barnacle belt, but only *L. rudis* has been positively identified. Ladies Beach 16.7.77 (KH/BEP).

Littorina neglecta Bean, 1844
[Heller, 1975]

This species lives in dead barnacle shells and small crevices high on the shore and grows to a maximum size of only 4 mm. The shell usually has a tessellated colour pattern and a black band running round from the top of the aperture. Lametry, MTL, 4.7.77 (KH/BEP); Dead Cow Point, +2.8 m (KH/BEP); Ladies Beach, 16.7.77 (KH/BEP); Montagu steps, Lower shore, upper shore, 14.7.77 (KH/BEP).

Littorina nigrolineata Gray, 1839
[Heller, 1975]

This species is similar to *L. rudis* but is oviparous (i.e. lays eggs) and can be recognised by the narrow, black based, spiral grooves on the shell. It lives in the barnacle belt, lower on the shore than *L. rudis*. Jenny's cove, +7 m, 7.7.75 (KH/BEP); Ladies Beach, 16.7.77 (KH/BEP); Montagu steps, 14.7.77 (KH/BEP).

Littorina obtusata (Linnaeus, 1758)
[Goodwin & Fish, 1977]

FLAT PERIWINKLE

This species lives amongst *Ascophyllum nodosum*, *Fucus vesiculosus*, and *Fucus spiralis*. It is probably common wherever these seaweeds occur. Quarry Bay, LWNT, 10.7.75 (KH/BEP).

Littorina mariae Sacchi & Rastelli, 1966
[Goodwin & Fish, 1977]

This species lives amongst *Fucus serratus*. It can be distinguished from *L. obtusata* by the slightly smaller shell and slightly flatter spire. Ladies Beach, 16.7.77 (KH/BEP).

Littorina neritoides (Linnaeus, 1758)

Common from above high water mark to M.T.L. on the West coast, with a more restricted range around high water mark on the east coast (LAH). Dead Cow Point, July 1977 (KH/BEP); Ladies Beach, 16.7.77 (KH/BEP); Lametry, July 1977 (KH/BEP); Montagu steps, 14.7.77 (KH/BEP).

Family RISSOIDAE

Cingula semicostata (Montagu, 1803)

Common, present all round the island both on the lower shore and to 20 m. Half Tide Rock, 20 m, 100 per m².

Cingula semistriata (Montagu, 1808)

Apparently much commoner on the east coast than on the west. Quarter Wall Bay, 10 m, 14.7.75; Knoll Pins, 20 m, 10.7.75; Brazen Ward, 0 m, 4 m, 12 m, July 1976; Gannets Rock, 10 m, 80 per m², 15.7.75; Dead Cow Point, 10 m, only one specimen, July 1977.

Cingula cingillus (Montagu, 1803)

This species lives in crevices and amongst algal bases on shore, often in very high densities. Goat Is., the Gates, Brazen Ward, amongst *Corallina*, (LAH); Common at Ladies Beach and the Gates (CRB).

Alvania cancellata (da Costa, 1778)

Brazen Ward, 4 m, 2 specimens only, July 1976.

Alvania punctura (Montagu, 1803)

An extremely common species taken all round the island from 0-20 m. Half Tide Rock, 20 m, 70 per m², 17.7.76; Gannets Rock Pinnacle, 10 m, 50 per m², 17.6.75.

Rissoa parva (da Costa, 1778)

Probably the most numerous prosobranch recorded everywhere from the lower shore to 20 m, often over 400 per m².

Rissoa membranacea (J. Adams, 1800)

This species is normally closely associated with *Zostera* and is therefore not expected to occur at Lundy. The Gates, 1950 in *Jania rubens*, 1 only (LAH).

Barleia unifasciata (Montagu, 1803)

This species is closely associated with coralline algae at low water mark. The Gates, Lametry, Goat Is., Jenny's Cove, Gannets Rock, Brazen Ward, Quarry Beach, 1949, 1950, amongst *Corallina* (LAH); Brazen Ward, +0.8 m, 0 m, 200 per m², July 1976.

Family SKENEOPSISIDAE

Skeneopsis planorbis (Fabricius, 1780)

A minute shell often present in large numbers in rock pools; The Gates, Goat Is., Quarry Beach, N. Shore of Rat Is., Brazen Ward, Gannets Rock, 1949, 1950, on red algae (LAH).

Family CAECIDAE

Caecum glabrum (Montagu, 1803)

Dredged in clean sand/shell, East coast (JPH).

Family TURRITELLIDAE

Turritella communis Risso, 1826

AUGER SHELL

Knoll Pins, 18 m, frequent on mud/sand plan. 24.7.71 (KH). Quarry Bay 15m, on mud, 15.8.72 (KH); Three Quarter Wall Bay, 15 m, abundant on mud, 14.7.76 (BEP).

Family CERITHIIDAE

Bittium reticulatum (da Costa, 1778)

SMALL NEEDLE WHELK

The Gates, Lametry, Ladies Beach, N. shore of Rat Is., Quarry Beach, in *Laminaria* holdfasts and amongst *Corallina officinalis* (LAH); Brazen Ward, 0-10 m, July 1976; Dead Cow Point, 10 m, July 1977.

Family CERITHIOPSISIDAE

Cerithiopsis tubercularis (Montagu, 1803)

HORN SHELL

Feeds on sponges, often associated with *Hymeniacion sanguinea*. The Gates, 1948 (LAH); Brazen Ward, 2 m, 2 specimens, July 1976.

Cerithiopsis barleei Jeffreys, 1867

Much commoner sublittorally than *C. tubercularis*, normally associated with the sponges *Suberites* spp. E. of Landing Beach, boring in sponge, 8 m, 6.8.74, 16 specimens (KH/BEP); Lee Rocks, on *Suberites* sp., 18 m, 16.7.76 (BEP); Brazen Ward, 2 m, 6 m, July 1976; Half Tide Rock, 20 m, 17.7.76; Knoll Pins, 20 m, 10.7.75.

Family TRIPHORIDAE

Triphora adversa (Montagu, 1803)

[Bouchet & Guillemot, 1978]

Dead Cow Point, 16 m, 3 specimens, July 1976.

Triphora similior Bouchet & Guillemot, 1978

[Bouchet & Guillemot, 1978]

Half Tide Rock, 20 m, one specimen, 17.7.76, new to the British Isles. The mottled black colouring of the body was well preserved by the alcohol preservative, enabling identification, but unfortunately the radula was lost during extraction.

Family EPITONIIDAE

Clathrus clathratulus (Kanmacher, 1798)

The diet and habitat of this animal are unknown but other species of this family feed on sea anemones. Half Tide Rock, 20 m, 17.7.76; Brazen Ward, 2m, July 1976.

Family EULIMIDAE

Balcis devians (Monterosato, 1884)

Feeds ectoparasitically on echinoderms, especially *Antedon bifida*. Half Tide Rock, 20 m, 17.7.76; Knoll Pins, 20 m, 10.7.75; Brazen Ward, 2 m, 8 m 10m, 25 per m² at 10 m, July 1976.

Family NATICIDAE

Natica alderi Forbes, 1838

NECKLACE SHELL

Generally feeds on small bivalves. At Lundy this species clearly lives amongst rocks as well as in its normal habitat, sand. The Ugly, 10 m, 31.7.74 (KH/BEP); Landing Bay, with eggs, on sand, 10 m, July 1977 (BEP); Lee Rocks, 19 m, 16.5.76; Brazen Ward, 4 m, 10 m, July 1976; Quarter Wall Bay, 10 m, 14.7.75; S. of Knoll Pins, 20 m, 10.7.75.

Family CYPRAEIDAE

Erato voluta (Montagu, 1803)

This species feeds on tunicates such as *Botryllus* and *Botrylloides*. Dead Cow Point, 18 m, 1 specimen only, July 1976.

Trivia monacha (da Costa, 1778)

COWRY

This species normally lives on the lower shore and in the infralittoral, feeding on tunicates. The Gates, in *Laminaria* holdfasts, 1949 (LAH); N. of Rat Is., 8 m, 21.7.76 (GHB).

Trivia arctica (Montagu, 1803)

Common amongst tunicates in the circalittoral on the West coast, occasionally on the lower shore. S. Surf Pt., 2 m, 20.7.76 (KH); Dead Cow Point, 12 m, July 1977.

Family LAMELLARIIDAE

Lamellaria perspicua (Linnaeus, 1758)

This species usually lives under rocks, feeding on colonial tunicates. Occasional, the Gates, (CRB).

Lamellaria latens (Müller, 1776)

Listed by Harvey, 1950.

Simnia patula (Pennant, 1777)

POACHED-EGG SHELL

Common all round the island on *Alcyonium* spp. and *Eunicella verrucosa*. Specimens on *Alcyonium digitatum* are usually white, those on *Eunicella* are usually pale orange with darker stripes and may have small papillae arising from the mantle surface. Knoll Pins, 10 m, 24.7.71, on *Alcyonium glomeratum* (MWR); Lee Rocks, 10 m, 24.7.71, common on *Alcyonium digitatum*, with egg masses (MWR); Rattles Anchorage, 14 m, 7.8.71, white specimen on white *Eunicella* (RH); Cable to S. Light, 8 m, 20.7.76 (BEP); S. of Half Tide Rock, 20 m, 17.7.76 (BEP).

Order STENOGLOSSA

Family MURICIDAE

Nuccella lapillus (Linnaeus, 1758)

DOG WHELK

Generally common all round the island, confined to rocky shores and feeding on barnacles and mussels. The Gates, Goat Is., Lametry (LAH); abundant at Jenny's Cove, common at Quarry Beach, Ladies Beach, Lametry, and the Gates (CRB).

Ocenebra erinacea (Linnaeus, 1758)

STING WINKLE

Occasional at Jenny's Cove, Quarry Beach, Ladies Beach, rare at Lametry and the Gates (CRB); N. of Rat Is., one only on shore transect, +2.2 m, 13.7.76 (KH).

Family NASSARIIDAE

Nassarius reticulatus (Linnaeus, 1758)

NETTED DOG WHELK

Mouse Is., 3 m, 1.8.71, caught in fish trap (CRB); N. of Rat Is., Common on sand, 5 m, 21.7.76 (GHB).

Nassarius incrassatus (Ström, 1768)

THICK-LIPPED DOG WHELK

Present in very large numbers on rocks all around the island, recorded from lower shore to 20 m. The Gates, Brazen Ward, Gannets Rock, Ladies Beach, in *Laminaria* holdfasts (LAH); Brazen Ward, at every site, +0.8 to 12 m, 860 per m² at 6 m, July 1976.

Family TURRIDAE

Haedropleura septangularis (Montagu, 1803)

Lee Rocks, 10 m, 4.7.77, one on red algae (BEP); Lee Rocks, 19 m, 16.7.76 (KH/BEP).

Mangelia coarctata (Forbes, 1840)

Always in small numbers, up to 15 per m², Brazen Ward, 2 m, 4 m, 6 m, 10 m, 12 m, July 1976. Half Tide Rock, 20 m, 17.7.76; Lee Rocks, 19 m, 16.5.76; Dead Cow Point, 16 m, July 1977; Knoll Pins, 20 m, 10.7.75.

Philbertia linearis (Montagu, 1803)

Apparently commoner on the south and west coasts; Seals Rock, 32 m, 4.8.71 (KH); Lee Rocks, 18 m, 16.7.76, amongst Bryozoa (BEP); Gannets Rock, 10 m, 15.7.75; Half Tide Rock, 20 m, 17.7.76; Dead Cow Point, 10 m, 16 m, July, 1977. Brazen Ward, 4 m, July 1976.

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