

MOLLUSCA: SOLENOGASTRES-POLYPLACOPHORA

Phylum **MOLLUSCA**Class **SOLENOGASTRES**Family **Lepidomeniidae****NEMATOMENIA BANYULENSIS** (Pruvot, 1891, p. 715, as *Dondersia*)

Occasionally on *Lafoea dumosa* (R.A.T., S.P., E.J.A.): at 4 positions S.W. of Eddystone, 42-49 fm., on *Lafoea dumosa* (Crawshay, 1912, p. 368): Eddystone, 29 fm., 1920 (R.W.): 7, 3, 1 and 1 in 4 hauls N.E. of Eddystone, 1948 (V.F.)
Breeding: gonads ripe in Aug. (R.A.T.)

Family **Neomeniidae****NEOMENIA CARINATA** Tullberg, 1875, p. 1

One specimen Rame-Eddystone Grounds, 29.12.49 (V.F.)

Family **Proneomeniidae****PRONEOMENIA AGLAOPHENIAE** Kovalevsky and Marion [*Pruvot*, 1891, p. 720]

Common on *Thecocarpus myriophyllum*, generally coiled around the base of the stem of the hydroid (S.P., E.J.A.): at 4 positions S.W. of Eddystone, 43-49 fm. (Crawshay, 1912, p. 367): S. of Rame Head, 27 fm., 1920 (R.W.): N. of Eddystone, 29.3.33 (A.J.S.)

Class **POLYPLACOPHORA (=LORICATA)**Family **Lepidopleuridae****LEPIDOPLEURUS ASELLUS** (Gmelin) [*Forbes and Hanley*, 1849, II, p. 407, as *Chiton*; *Matthews*, 1953, p. 246]

Abundant, 15-30 fm., especially on muddy gravel (S.P.): at 9 positions S.W. of Eddystone, 40-43 fm. (Crawshay, 1912, p. 368, as *Craspedochilus onyx*)
SALCOMBE. Common in dredge material (Allen and Todd, 1900, p. 210)

LEPIDOPLEURUS, CANCELLATUS (Sowerby) [*Forbes and Hanley*, 1849, II, p. 410, as *Chiton*; *Matthews*, 1953, p. 246]

Wembury West Reef, three specimens at E.L.W.S.T. by J. Brady, 28.3.56 (G.M.S.)

Family **Lepidochitonidae****TONICELLA RUBRA** (L.) [*Forbes and Hanley*, 1849, II, p. 399, as *Chiton ruber*; *Matthews*, 1953, p. 246]

New Grounds, Cawsand Bay, Wembury Bay, between tide-marks, March-April, 1911, not common (K.H.B.)

LEPIDOCHITONA. CINEREA (L.) [*Forbes and Hanley*, 1849, II, p. 402, as *Chiton*; *Matthews*, 1953, p. 246]

The Sound, under stones at low tide; Yealm River, abundant on the sandbank

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bank; Looe, on shore, 1 specimen with ripe eggs, middle of April (S.P.): 1906 (E.W.S., A.J.S.): common on most rocky shores (V.F.)

CALLOCHITON ACHATINUS (Brown) [*Jeffreys*, 1865, III, p. 226, as *Chiton laevis*, *Matthews*, 1953, p. 246]
The Sound, under stones at low tide (S.P.)

Family **Cryptoplacidae**

ACANTHOCHITONA CRINITA (Pennant) [*Forbes* and *Hanley*, 1849, II, p. 393, as *Chiton fascicularis*; *Matthews*, 1953, p. 246]

Rocks under Hoe, moderately common among barnacles; Millbay Channel; Mewstone Ledge, 1 specimen; Yealm River, occasionally in dredgings (R.A.T.): Blackstone Rocks, Wembury Bay, abundant; Yealm Sand-bank (S.P.): shore, Balanus zone, 20.1.25, common creeping over Balanus, a dozen collected near landing place below Laboratory in a few minutes (J.H.O.): one, 8 x 4 mm., in a hollow, 2 mm. deep, which it had made in the Lithothamnion coating and outer surface of shell of *Patella aspera*, Plymouth Breakwater, lower barnacle zone, 17.11.48 (D.W.T.): plentiful, ordinary low tides, Cawsand (V.F.)

SALCOMBE. In dredge between Salstone and Snape's Point (Allen and Todd, 1900, p. 210)

Class **GASTROPODA**Sub-Class **PROSOBRANCHIA**Order **ARCHAEOGASTROPODA**Family **Fissurellidae**

EMARGINULA RETICULATA J. Sowerby [*Jeffreys*, 1865, III, p. 259, as *E. fissura*]

Millbay Channel; Queen's Ground (S.P.): the Breakwater, between tidemarks (R.A.T.): Mewstone Ledge; occasional specimens on the outside grounds in 15-30 fm. (R.A.T., S.P.): Eddystone Grounds, constantly present, but seldom numerous, on all grounds where shells are plentiful (E.J.A.): 1 specimen each at two positions S.W. of Eddystone, 42-49 fm. (Crawshay, 1912, p. 368)

SALCOMBE. One on a shell from the Bag (Allen and Todd, 1900, p. 210)

EMARGINULA CONICA Lamarck [*Jeffreys*, 1865, III, p. 261, as *E. rosea*]

Not uncommon, 10-30 fm. (S.P.): Wembury Bay, W. shore, male with seething sperm, 12.10.11, shell 10 by 7.5 mm. (J.H.O.)

DIODORA APERTURA (Montagu) [*Jeffreys*, 1865, III, p. 266, as *Fissurella graeca*]

Occasional specimens on all rocky stations, L.W.-10 fm. (s.p.): occasionally between tide-marks; the Breakwater; Reny Rocks; the Mewstone; Church Reef, Wembury Bay; not uncommon in dredgings from the Yealm River (R.A.T.): 23 under stones in rock pool, Church Reef, Wembury, 27.3.47 (J.E.F.)

SALCOMBE. Fairly common in dredged material, especially off Tosnos Point, feeding on ascidians, sponges, etc.; one on the Salstone (Allen and Todd, 1900, p. 210)

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Breeding: from Cawsand Bay shore (Farmer's Cellars), 16.1.07, ripe eggs extruded; shore N. side of Drake's Island, 17.1.11, 1 female quite ripe, 1 male not quite ripe; from Asia Shoal, 28.12.11 eggs, laid (A.J.S.): Wembury, 2/3.4.12, male with sperm practically ripe (J.H.O.): May, 1934 (Lebour, 1937*b*, p. 117)

Family **Patellidae****PATELLA VULGATA** L. [*Jeffreys*, 1865, III, p. 236]

More or less abundant everywhere on rocks between tide-marks (R.A.T.); ubiquitous, being least numerous where thick weed exists, and upper limit varies from E.H.W.N. to several feet above E.H.W.S. according to degree of wave-action and illumination (Evans, 1947, pp. 203-6): for distribution on Breakwater see Southward and Orton, 1954, p. 12.

Breeding: chiefly Sept. to March (see Orton, Southward and Dodd, 1956): larvae in plankton, Dec. 1931-March 1932, Nov. 1932 (F.G.W.S.): Oct. to March, with maxima Dec.-Jan. 1940-5 (M.V.L.)

PATELLA INTERMEDIA *Jeffreys* (=PATELLA DEPRESSA Pennant) [*Jeffreys*, 1865, III, p. 237, as var. *intermedia*]

Plymouth (Fischer-Piette, 1935, p. 46): Breakwater (V.F.), where distribution was studied by Southward and Orton (1954, p. 13): Looe (R.W.): most common at exposed sites, e.g. Bolt Head, Blackstone Point, Reny Rocks, Queener Point and outer rocks of Wembury Church reef, from H.W.S. to L.W.S. (Evans, 1947, p. 205)

PATELLA ASPERA Lamarck (=PATELLA ATHLETICA Bean) [*Jeffreys*, 1865, III, p. 237, as var. *depressa*]

Cawsand (R.W.): Plymouth (Fischer-Piette, 1935, p. 46): Plymouth Breakwater, lower barnacle zone, 17.11.48, length 68 mm., with young, 11 mm., embedded in Lithothamnion coating (D.W.T.): distribution on Breakwater studied by Southward and Orton (1954, p. 13): at various exposed or very exposed sites from L.W.N. downwards, or nearly from M.T.L. when much wave splash (Evans, 1947, p. 206)

PATINA PELLUCIDA (L.) [*Jeffreys*, 1865, III, p. 242, as *Helcion*]

On stems and in holdfasts of *Laminaria*, common everywhere (R.A.T., V.F.)

Breeding: artificial fertilization successful, 15.11.32 (F.G.W.S.): larvae in plankton, Nov. 1932 (F.G.W.S.): probably breeds at Plymouth throughout the year (Lebour, 1937*b*, p. 119)

Family **Aemaidae****ACMAEA VIRGINEA** (Müller) [*Forbes and Hanley*, 1849, II, p. 437]

More or less common under stones on all rocky shores, L.W. - 5 fm., gregarious; Drake's Island, large specimens (S.P.): moderately common in dredgings from the Yealm (R.A.T.): abundant, west reef, Wembury, 5.4.47 (J.E.F.)

SALCOMBE. Not uncommon in dredged material (Allen and Todd, 1900, p. 210)

Family **Trochidae****MARGARITES GROENLANDICUS** (Gmelin) [*Jeffreys*, 1865, III, p. 298]

A single specimen, possibly merely an empty shell, 3 m. S.W. Penlee Point (R.A.T.): Wembury, West Reef, 6.4.51, one living, at L.W., found by Miss U. Williams (G.M.S.)

CALLIOSTOMA ZYZYPHINUM (L.) [*Forbes and Hanley*, 1850, II, p. 491, as *Trochus*]

Common under stones and in crevices on all rocky shores at low water; a dwarf variety is not uncommon in the deeper water of the outside grounds (S.P.): Yealm River, a characteristic variety is common on the Sand-bank (R.A.T.): at 5 positions S.W. of Eddystone, 40-49 fm. (Crawshay, 1912, p. 368)

SALCOMBE. Occasional specimens everywhere (Allen and Todd, 1900, p. 210)

Breeding: in tanks, 11.4.12, eggs nearly ripe (J.H.O.): June (Lebour, 1936*a*, p. 547)

CALLIOSTOMA PAPILLOSUM (da Costa) [*Forbes and Hanley*, 1850, II, p. 499, as *Trochus granulatus*]

Moderately common on sandy gravel, 20-30 fm. (S.P.): Mewstone Echinoderm Ground, common (R.A.T.): Eddystone Grounds, on gravel with sand or muddy sand (J.E.J.A.): at 3 positions S.W. of Eddystone, 42-49 fm. (Crawshay, 1912, p. 368)

CANTHARIDUS MONTAGUI (W. Wood) [*Jeffreys*, 1865, III, p. 320, as *Trochus*] (in 1931 Fauna List as *Cantharus*)

One dead shell S.W. of Eddystone, 43 fm. (Crawshay, 1912, p. 368)

CANTHARIDUS STRIATUS (L.) [*Forbes and Hanley*, 1850, II, P. 508, as *Trochus*]

Occasionally; Cawsand Bay; Jennycliff Bay; Yealm Estuary, common on *Zostera* (R.A.T.): one dead shell S.W. of Eddystone, 45 fm. (Crawshay, 1912, p. 368)

SALCOMBE. Not uncommon in dredgings from between Snape's Point and mouth of Harbour, very common on the *Zostera* under the Marine Hotel (Allen and Todd, 1900, p. 210)

CANTHARIDUS EXASPERATUS (Pennant) [*Jeffreys*, 1865, III, p. 324, as *Trochus*]

Probably this species from 2 positions S.W. of Eddystone, 43-47 fm. (Crawshay, 1912, p. 368)

MONODONTA LINEATA (da Costa) [*Jeffreys*, 1865, III, p. 317, as *Trochus*]

The distribution of this species at Plymouth appears to be a very limited one, but it is met with in some numbers upon restricted areas of the rocks, at and above H.W.N.T., at those stations where it occurs; N.E. Drake's Island; Blackstone Rocks, Wembury Bay; Yealm Sand-bank (s.p.): Wembury Church Reef, Kingsand, Jennycliff Bay and Yealm mouth, M.H.W. to M.L.W.N. (Evans, 1947, p. 201): Breakwater, on N. side at E. end (Southward and Orton, 1954, p. 14)

SALCOMBE. On rocks, west side (R.W.)

Breeding: ripe ova, March, April (Lebour, 1937*b*, p. 123)

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GIBBULA MAGUS (L.) [*Jeffreys*, 1865, III, p. 305, as *Trochus*]

Uncommon at Plymouth, occurring only on coarse shell-sand or gravel; Queen's Ground; between the Knap and Panther Buoys, 4 very large specimens (S.P.): Millbay "shell-gravel" Ground; Mewstone Amphioxus Ground (R.A.T.): Yealm Estuary, one living, 15.4.53 (G.M.S.)

SALCOMBE. Common in dredgings between Salstone and the mouth of the Harbour: except the gravel in the Bag; a few on sand at MW Bay (Allen and Todd, 1900, p. 210)

GIBBULA TUMIDA (Montagu) [*Forbes and Hanley*, 1850, II, p. 513, as *Trochus*]

Occasional specimens from the Rame-Eddystone, Eddystone, Stoke Point and other outside grounds (S.P.): 1 specimen S.W. of Eddystone, 42 fm. (Crawshay, 1912, p. 368)

SALCOMBE. Attached to stones and broken shells (Montagu, 1803, p. 280)

GIBBULA CINERARIA (L.) [*Forbes and Hanley*, 1850, II, p. 516, as *Trochus*]

Abundant nearly everywhere, between tide-marks - 10 fm. under stones, on *Zostera*, *Fucus*, etc. (S.P.): from L.W.N. downwards (Evans, 1947, p. 202)

SALCOMBE. Common in dredge material and most probably at higher tidal levels everywhere on the shore although only recorded from the west shore of Salstone (Allen and Todd, 1900, p. 210)

GIBBULA UMBILICALIS (da Costa) [*Forbes and Hanley*, 1850, II, p. 519, as *Trochus umbilicatus*]

Common at most stations, but not so abundant as *G. cineraria* and occurs at a rather higher level, H.W - 3 fm. (S.P.): see Evans, 1947, p. 201 ; Southward and Orton, 1954, p. 14

SALCOMBE. Not recorded from dredgings; probably ubiquitous at higher tidal levels (Allen and Todd, 1900, p. 210)

Breeding: all the year (Lebour, 1937*b*, p. 122)

SKENEIA CUTLERIANA Clark [*Jeffreys*, 1865, III, p. 287, as *Cyclostrema*]

Borough Island and Torbay (Marshall, 1898, p. 68, as *Cyclostrema*)

Family **Turbinidae****TRICOLIA PULLUS** (L.) [*Forbes and Hanley*, 1850, II, p. 538, as *Phasianella*]

More or less common everywhere on algae and *Zostera*, L.W. - 10 fm.; common among weed growing on ships bottoms, buoys, etc. (S.P.): Queen's Ground; Jennycliff Bay; Cawsand Bay; etc. (R.A.T., S.P.)

SALCOMBE. One dredged in channel between Shape's Point and Salstone (Allen and Todd, 1900, p. 211)

Breeding: eggs laid singly (Lebour, 1937*b*, p. 124)

Order MESOGASTROPODA

Family **Littorinidae****LACUNA VINCTA** (Montagu) [*Forbes and Hanley*, 1850, III, p. 62]

Common on *Fucus*-covered rocks near low-water mark (S.P.). rocks

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below the Hoe, large specimens moderately common; smaller specimens common on the *Zostera* in Jennycliff Bay, Cawsand Bay, and Yealm Estuary; 1 m. S. of the Mewstone, very occasionally (R.A.T.)

SALCOMBE (type locality). Living on algae at L.W. (Montagu, 1803. p. 307)

Breeding: Jan.-May (Lebour, 1937*b*, p. 125)

LACUNA PARVA (da Costa) [*Forbes and Hanley*, 1850, III, p. 58, as *L. puteolus*]

Cawsand Bay (R.A.T., S.P.): common on rocks at spawning time (V.F.)

LACUNA PALLIDULA (da Costa) [*Forbes and Hanley*, 1850, III, p. 56]

Not uncommon on *Fucus*-covered rocks under the Hoe (R.A.T.)

Breeding: Feb. (R.A.T.)

LITTORINA LITTORALIS (L.) [*Forbes and Hanley*, 1850, III, p. 45]

Abundant everywhere on fucoids, *Zostera*, etc. (S.P.): common in Tamar, live specimens as far up as Neille Point, dead shells at Cargreen on bank below village; common in Lynher, as far as Antony Creek (E.P.)

SALCOMBE. Probably common everywhere on the shore at higher levels where there is any weed or stone (Allen and Todd, 1900, p. 210)

Breeding: Feb. (W.G.): March (S.P.)

LITTORINA LITTOREA (L.) [*Jeffreys*, 1865, III, p. 368]

Not uncommon between tide-marks on most shores, occurring at a lower zone than *L. saxatilis* (S.P.): St. John's Lake, abundant; Yealm River, common (A.J.S.), especially in the lee of Misery Point (G.M.S.): common Tamar as far as Neille Point; common in Lynher as far as Antony Creek (E.P.): ranges from M.T.L. to M.L.W.S., lacking from the more exposed situations (Evans, 1947, p. 199)

Breeding: Feb. (W.G.): 12/22.4.20, nearly all ripe, artificial fertilizations not successful (H.O.): egg capsules in plankton all months of year, and larvae recorded all months except March, 1940-5 (Lebour, 1947*a*, p. 537)

LITTORINA SAXATILIS (Olivi) [*Jeffreys*, 1865, III, p. 364, as *L. rudis*]

Very abundant on all rocky shores near high-water mark (S.P.): young numerous in old barnacle shells (G.M.S.): chiefly M.H.W.S. to M.L.W., but in exposed situations extends into splash zone (Evans, 1947, p. 199): River Tamar, St. John's Lake to Neille Point; River Lynher up to shore above Ince Castle (E.P., G.M.S.)

Breeding: throughout the year (Lebour, 1937*b*, p. 127)

LITTORINA NERITOIDES (L.) [*Jeffreys*, 1865 III, p. 361]

Abundant on rocks above high-water mark (s.p.): Wembury, in crevices of shale (H.E.Q., J.E.M.): most abundant in exposed situations, i.e. rocky headlands, and where there is strong wave splash may range up to 24 ft. above M.H.W.S.; occasionally downwards to below M.T.L. (Evans, 1947, p. 197): Breakwater, a flourishing population, attaining large size (Lysaght, 1941; Southward and Orton, 1954)

Breeding: at fortnightly intervals, chiefly during Dec. to April (Lebour, 1935*c*; Lysaght, 1941; Lebour, 1947*a*)

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Family **Hydrobiidae****HYDROBIA ULVAE** (Pennant) [*Jeffreys*, 1867, IV, p. 52]

Common in brackish water, Hamoaze, Hooe Lake, etc. (R.A.T.): common in Tamar, extends as far as North Hove; common in Lynher as far as Antony Creek (E.P.): for distribution and density in Tamar Estuary see Spooner and Moore, 1940

SALCOMBE. Abundant on muddy creeks of Kingsbridge Estuary (G.M.S.)

POTAMOPYRGUS JENKINSI (Smith, 1889, p. 142, as *Hydrobia*)

Common in low salinities in Chelson Meadow ditches, in River Plym near Marsh Mills, in River Aune above the road bridge, etc. (G.M.S.)

Family **Rissoidae****CINGULA (ONOBIA) SEMICOSTATA** (Montagu) [*Forbes and Hanley*, 1850, III, p. 94, as *Rissoa striata*](=*Onoba candida* of the 1931 Fauna List)

Common on all rocky shores, gregarious under stones particularly where there is a certain amount of silt, L.W. - 10 fm. (S.P.)

Breeding: March-May (Lebour, 1934a, p. 536)

CINGULA (HYALA) PROXIMA (Alder) [*Forbes and Hanley*, 1850, III, p. 127, as *Rissoa*]

Dead shells only (R.A.T.): Torbay and Plymouth, 15-20 fm. (*Jeffreys*, 1867, p. 39)

CINGULA (HYALA) VITREA (Montagu) [*Forbes and Hanley*, 1850, III, p. 125, as *Rissoa*]

Whitsand Bay (type locality), very sparingly (Montagu, 1803, p. 321) Dead shells Only (R.A.T.): Torbay and Plymouth, 15-20 fm. (*Jeffreys*, 1867, p. 39)

CINGULA (CINGULA) CINGILLUS (Montagu) [*Forbes and Hanley*, 1850, III, p. 122, as *Rissoa*]

Common between tide-marks on all rocky shores, gregarious under stones and in crevices, especially where there is a certain amount of silt; Yealm Sand-bank (S.P.): under stones beneath Laboratory about high-water mark (M.V.L.) var. *RUPESTRIS*: from Rame to Looe, with *Otina*, in crevices of shale (V.F.)

Breeding: March (Lebour, 1936a, p. 548)

CINGULA (CINGULA) SEMISTRIATA (Montagu) [*Jeffreys*, 1867, IV, p. 46, as *Rissoa*]

Millbay Pit (R.A.T.): Looe, gregarious among *Fucus vesiculosus*, in young growth on rocks (R.W.): 2 specimens, Asia Shoal; 3 specimens, Mewstone Ledge (R.P.): common between tide marks and below (M.V.L.)

Breeding: June (Lebour, 1934a, p. 536)

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- ALVANIA CRASSA (Kanmacher) [*Jeffreys*, 1867, IV, p. 22, as *Rissoa costata*] (in 1931 Fauna List as *Manzonina*)
 Drake's Island; Millbay Pit; occasionally (R.A.T.): Wembury, M.L.W.S. (Moore, 1940, p. 231)
 Breeding: usually summer and autumn, rarely spring (Lebour, 1936a, p. 549)
- ALVANIA CARINATA (da Costa) [*Forbes and Hanley*, 1850, III, p. 73, as *Rissoa striatula*]
 Dead shells (G.M., R.A.T.)
- ALVANIA ZETLANDICA (Montagu) [*Jeffreys*, 1867, IV, p. 20, as *Rissoa*]
 Dead shells only, Eddystone (R.W.)
- ALVANIA CANCELLATA (da Costa) [*Jeffreys*, 1867, IV, p. 8, as *Rissoa*]
 Dead shells only (R.A.T.)
- ALVANIA CIMICOIDES (Forbes) [*Jeffreys*, 1867, IV, p. 14, as *Rissoa*]
 .Dead shells Only (R.A.T.)
- ALVANIA PUNCTURA (Montagu) [*Jeffreys*, 1867, IV, p. 17, as *Rissoa*] (in 1931 Fauna List as *Arsenia*)
 Whitsand Bay (type locality) (Montagu, 1803, p. 320): living, Looe Island (R.W.): very common on outside grounds
 (M.V.L.)
 SALCOMBE. in sand (Montagu, 1803)
 Breeding: summer and early autumn (Lebour, 1934a, p. 537)
- ALVANIA SARSI (Lovén) [*Jeffreys*, 1867, IV, p. 29, as *Rissoa albella* var. *sarsii*]
 Adult at Plymouth known only from specimens reared in the laboratory by M.V.L. (V.F.)
 Breeding: winter (Lebour, 1936a, p. 550)
- RISSEO INCONSPICUA Alder [*Jeffreys*, 1867, IV, p. 26]
 Fairly common on sandy gravel in parts of Sound, and among weeds close to coast or beyond (Lebour, 1934a, p. 533)
- RISSEO PARVA (da Costa) [*Forbes and Hanley*, 1850, III, p. 98]
 Moderately common in the Sound between tide-marks; occasionally in dredgings from Millbay Channel, Asia Shoal,
 etc. (R.A.T.): Wembury (H.B.M.)
 SALCOMBE. One specimen only was taken in the dredge, between Snape's Point and the mouth of the harbour (Allen
 and Todd, 1900, p. 211)
 Breeding: most of the year but chiefly in spring and summer (Lebour, 1934a, p. 532)
- RISSEO MEMBRANACEA (J. Adams) [*Jeffreys*, 1867, IV, p. 30]
 Common on *Zostera* (S.P.): Cawsand Bay, very common; Yealm Estuary, moderately common (R.A.T.)
 SALCOMBE. Generally taken when working the cheese-cloth trawl on the *Zostera* banks (Allen and Todd, 1900, p.
 210)
 Breeding: Dec.-March (Lebour, 1934a, p. 529)

MOLLUSCA: GASTROPODA, MESOGASTROPODA

RISOA GUERINI Récluz [*Jeffreys*, 1867, IV, p. 35, as *R. costulata*]

Common round Plymouth among weeds at extreme low water and below (M.V.L.)
Breeding: Feb.-April (Lebour, 1934a, p. 532)

BARLEEIA RUBRA (Montagu) [*Jeffreys*, 1867, IV, p. 56]

From tow-nettings, found in a dish in which Actinia young were being reared on plankton, ova practically mature, 27.7.20 (J.H.O. and R.W.): common in pools on rocky shores (V.F.)

PSEUDOSETIA FULGIDA (J. Adams) [*Jeffreys*, 1867, IV, p. 43, as *Rissoa*]*

Reny Rocks, between tide-marks, on Kirchenpaueria (R.P.): common among seaweeds and corallines (M.V.L.)

PSEUDOSETIA ALDERI (Jeffreys) [*Jeffreys*, 1867, IV, p. 45, as *Rissoa soluta*]

Plymouth (Lebour, 1934a, p. 524)

Family **Tornidae****TORNUS SUBCARINATUS** (Montagu) [*Jeffreys*, 1867, IV, p. 231, as *Adeorbis*]

Ram's Cliff Point, common on rocks at low tide, Aug. 1887 (W.H.): local on rocks between tide-marks (M.V.L.)
Breeding: larvae in summer (Lebour, 1936a, p. 552); Nov. and Dec. (Lebour, 1947a, p. 538)

TORNUS UNISULCATUS (Chaster) [Chaster, 1897, p. 373, as *Adeorbis*]

Not very rare, Plymouth (Chaster, *loc. cit.*)

Family **Skeneopsidae****SKENEOPSIS PLANORBIS** (Fabricius) [*Jeffreys*, 1867, IV, p. 65, as *Skenea*]

Common among the holdfasts of seaweeds, and corallines, rocks under the Hoe; Drake's Island (R.A.T.): very common in pools high up (M.V.L.)
Breeding: throughout the year (Lebour, 1937b, p. 1,35)

Family **Omalogyridae****OMALOGYRA ATOMUS** (Philippi) [*Jeffreys*, 1867, IV, p. 69, as *Homalogyra*]

In pools, on *Ulva*, between tide-marks (M.V.L., V.F.)
Breeding: young found throughout the year (Lebour, 1937b, p. 135)

Family **Rissoellidae****RISSOELLA DIAPHANA** (Alder) [*Jeffreys*, 1867, IV, p. 59, as *Jeffreysia*]

Common in rock pools among weeds (M.V.L.)
Breeding: young found among weeds in summer (Lebour, 1936a, p. 552)

RISSOELLA OPALINA (Jeffreys) [*Jeffreys*, 1867, IV, p. 60, as *Jeffreysia*]

Common in intertidal rock pools, Cawsand, etc. (Fretter, 1948, p. 624)

* Systematic position undetermined, apparently not a rissoid (V.F.)

MOLLUSCA: GASTROPODA, MESOGASTROPODA

Family **Turritellidae****TURRITELLA COMMUNIS** Risso [*Jeffreys*, 1867, IV, p. 80, as *T. terebra*]

Common in places, on muddy and sandy gravel, 15-30 fm. (S.P.): Mewstone Grounds (R.A.T., S.P.): Rame-Eddystone Grounds; Stoke Point Grounds (s.p.): Eddystone Grounds (E.J.A., S.P.): a large quantity in two hauls, Rame Head bearing N.E. 2-2½ m., and N.E. by N. 2., Agassiz trawl; nearly every one had a small anemone on the shell (like *Sagartia viduata*) and Perigonimus on the operculum (A.J.S.): at 2 positions S.W. of Eddystone, 40-42 fm. (Crawshay, 1912, p. 370)

SALCOMBE. Shells common, especially in dredge material; nearly always occupied by a pagurid and covered with sponges (Allen and Todd, 1900, p. 211)

Breeding: April to July (Lebour, 1933c, p. 499)

Family **Aporrhaidae****APORRHAI PES-PELECANI** (L.) [*Jeffreys*, 1867, IV, p. 250]

Not uncommon, particularly on muddy gravel, 5-35 fm.; Jennycliff Bay, rare; Cawsand Bay, occasionally; Rame-Eddystone Grounds; Stoke Point Grounds; etc. (S.P.): Eddystone Grounds (E.J.A., S.P.): one dead shell S.W. of Eddystone, 40 fm. (Crawshay, 1912, p. 370)

Young shells in Aug. (A.J.S.)

Breeding: late March to early May (Lebour, 1933c, p. 503)

Family **Caecidae****CAECUM IMPERFORATUM** (Kanmacher) [*Forbes and Hanley*, 1850, III, p. 178, as *C. trachea*]

Occasionally dredged but must be abundant as the larvae are common; two from fine sandy mud from Eddystone Grounds (Lebour, 1936a, p. 553)

Breeding: summer and autumn (Lebour, 1936a, p. 553)

CAECUM GLABRUM (Montagu) [*Forbes and Hanley*, 1850, III, p. 181]

Dead shells only (R.A.T.)

Family **Cerithiidae****BITTIUM RETICULATUM** (da Costa) [*Jeffreys*, 1867, IV, p. 258, as *Cerithium*]

Not uncommon under stones on rocky shores, L.W. - 10 fm. (S.P.)

SALCOMBE. One or two generally taken in the cheese-cloth trawl on the *Zostera* banks (Allen and Todd, 1900, p. 211)

Breeding: spring and summer (Lebour, 1936a, p. 553)

Family **Cerithiopsidae****CERITHIOPSIS TUBERCULARIS** (Montagu) [*Forbes and Hanley*, 1851, III, p. 365]

Not uncommon in dredgings from the Sound, generally on sponges; occasionally on the outside grounds in 15-30 fm.; Yealm River, common on red sponge (R.A.T.): common among sponges, especially *Hymeniacion* (M.V.L.)

MOLLUSCA: GASTROPODA, MESOGASTROPODA

SALCOMBE. One in the dredgings from west of Salstone, and several from between Salstone and Snape's Point (Allen and Todd, 1900, p. 211)

Breeding: spring and summer (Lebour, 1933*b*, p. 491)

CERITHIOPSIS BARLEEI Jeffreys [*Jeffreys*, 1867, IV, p. 268]

Common living in *Suberites domuncula* (R.W.)

Breeding: spring and summer (Lebour, 1933*b*, p. 491)

CERITHIOPSIS JEFFREYSI Watson [*Jeffreys*, 1867, IV, p. 269, as *C. pulchella*]

Shell only, ca. 30 fm., near Hand Deeps, Eddystone (R.W.)

Family **Triphoridae**

TRIPHORA PERVERSA (L.) [*Jeffreys*, 1867, IV, p. 261, as *Cerithium*]

Occasional specimens not uncommon; Eddystone Grounds; Rame-Eddystone Grounds; Mewstone Grounds; Stoke Point Grounds (S.P.)

Breeding: spring and summer (Lebour, 1933*b*, p. 491)

Family **Epitoniidae**

CLATHRUS TURTONIS (Turton) [*Forbes and Hanley*, 1850, III, p. 204, as *Scalaria*]

Stoke Point Grounds (S.P.): 1 specimen S.W. of Eddystone, 43 fm. (Crawshay, 1912, p. 369)

CLATHRUS CLATHRUS (L.) [*Jeffreys*, 1867, IV, p. 91, as *Scalaria communis*]

One specimen S.W. of Eddystone, 40 fm. (Crawshay, 1912, p. 369): three, Rame Mud (M.R.): Yealm Estuary, 3 living, 25.3.51 (G.M.S.)

SALCOMBE. Five specimens taken at Salstone, four from the south-east shore, and the other from the south-west (Allen and Todd, 1900, p. 211)

Breeding: June-Aug. (Lebour, 1937*b*, p. 139)

CLATHRUS CLATHRATULUS (J. Adams) [*Forbes and Hanley*, 1850, III, p. 209, as *Scalaria*]

Dead shells only (R.A.T.): Rum Bay in cracks of rocks and between stones at low tide, three living specimens (C.L.W.)

Family **Aclididae**

ACLIS MINOR (Brown) [*Jeffreys*, 1867, IV, p. 103, as *A. supranitida*]

One living, 25 fm., Rame N. 2½ m. (R.W.)

Family **Eulimidae***

EULIMA GLABRA (da Costa) [*Jeffreys*, 1867, IV, p. 208, as *E. subulata*] (in 1931 Fauna List as *Strombiformis glaber*)

Occasionally; Millbay Pit; Mewstone Grounds, etc. (S.P.)

EULIMA TRIFASCIATA (J. Adams) [*Jeffreys*, 1867, IV, p. 210, as *E. bilineata*]

Occasionally; Rame-Eddystone Grounds; Eddystone Grounds, etc. (S.P.)

*On shell characters of the species and forms of Eulima, see Marshall, 1901, IX, pp. 122-8 and 1917, XV, pp. 198-201; Sykes, 1903; Kobelt, 1903, III, p. 172-200.

BALCIS ALBA (da Costa) [*Jeffreys*, 1867, IV, p. 201, as *Eulima polita*]

Not uncommon on muddy gravel, 15-35 fm. (S.P.): Mewstone Amphioxus Ground, not uncommon; Mewstone Ledge, occasionally; Stoke Point Grounds; Rame-Eddystone Grounds (R.A.T., S.P.): Eddystone Grounds (E.J.A., S.P.): single specimens at 2 positions S.W. of Eddystone, 42-47 fm. (Crawshay, 1912, p. 369)

Breeding: spring and summer (Lebour, 1935a, p. 65)

BALCIS SINUOSA (Scacchi) [*Sykes*, 1903, p. 352, as *Eulima pernula*]

One, apparently living, off Eddystone (R.W.)

BALCIS DEVIANS (Monterosato) [*Jeffreys*, 1867, IV, p. 205, as *Eulima distorta*; *Sykes*, 1903, p. 350, as *Eulima incurva*]

Millbay Pit; Asia Shoal; Mallard Shoal; Yealm River; etc. (S.P.): epizoic on *Antedon bifida*, Millbay Pit (V.F.)

Breeding: spring and summer (Lebour, 1935a, p. 68)

Family **Styliferidae****PELSENEERIA STYLIFERA** (Turton) [*Jeffreys*, 1867, IV, p. 195, as *Stilifer turtoni*]

On *Psammechinus* from deep water beyond Eddystone (M.V.L.)

Breeding: Aug. 1931 (Lebour, 1932b, p. 117)

Family **Naticidae****NATICA CATENA** (da Costa) [*Jeffreys*, 1867, IV, p. 220]

On sandy bottoms (W.G.): rare (S.P.): on sand in coastal bays, very rarely farther out (M.V.L.)

Breeding: April (W.G.): usually in spring (Lebour, 1936a, p. 558)

NATICA ALDERI (Forbes) [*Jeffreys*, 1867, IV, p. 224]

Not uncommon on clean sand and gravel L.W. - 35 fm. (s.p.): Drake's Island, sand-patch at N. end, occasionally; Cawsand Bay, not uncommon; Mewstone Echinoderm Ground; Rame-Eddystone Grounds (R.A.T., S.P.): Stoke Point Grounds (s.p.): Eddystone Grounds (E.J.A., S.P.): Yealm River, on the sand-bank opposite the Coastguard Station (R.A.T.): at 4 positions S.W. of Eddystone, three alive, two dead (Crawshay, 1912, p. 369)

Breeding: June (R.A.T.): spawn frequently seen (Lebour, 1936a, p. 558)

Family **Calyptraeidae****CALYPTRAEA CHINENSIS** (L.) [*Jeffreys*, 1865, III, p. 273]

The Sound, common in dredgings on stony ground, attached to stones, shells, etc.; Asia Shoal; Millbay Channel; the Bridge; etc. (S.P.): Yealm River, always present in dredgings; Cawsand Bay; etc. (R.A.T.): Yealm Sand-bank, between tide-marks (S.P.): very common, Asia Shoal, Aug. and Oct. 1911 (J.H.O.)

SALCOMBE. Very common in dredge material, especially from between Snape's Point and the Salstone (Allen and Todd, 1900, p. 210)

Breeding: July (R.A.T.): Aug.-Sept. (S.P.)

CREPIDULA FORNICATA (L.) [Orton, 1909, p. 468]

Trawling grounds, 23-30 fm., from S. of Mewstone and L4 to 4 m. S. of the Eddystone, between 16.3 and 18.4.51, 7 small specimens were found attached to limbs of *Maia squinado* males, six (size 3.2 X 2.6 mm. to 7.5 x 6.0 mm.) on the inner side of the third maxilliped and one (13.4 x 9.3 mm.) on the big chela; above records all eastward of longitude of Eddystone, many *Maia* were examined from grounds to westward, April-July 1951, without result; on 12.2.53, N.E. of Eddystone in 30 fm., one of 47.5 x 34 mm. dimensions had settled on the shell of a living *Pecten maximus*; Yealm Mouth, single individual reported by H. V. Wyatt, Aug. 1953, while collecting samples of Calyptraea, and one taken 19.3.54, ca. 5 cm. long, on an old bowl; several small specimens from Lynher Estuary in 1956 (G.m.s.)

SALCOMBE. Mill Bay, 5.4.50, single specimen on old tin 20 X 15.5 mm., the first record for the Plymouth area (G.M.S.): Salstone, 16.3.53, one 32 X 27 mm. on a piece of shillet (D.P.W.): several breeding individuals amongst relaid Essex oysters near Salstone, 1954; a few individuals on shore at Salstone, 1954 (D.A.H.)

TORQUAY. Chain of three on whelk shell inhabited by hermit crab, 6 fm., Babbacombe Bay, 1954; two, Hollacombe Beach, Preston, 1954 (L.A.J.J.)

Family **Capulidae****CAPULUS UNGARICUS (L.)** [Jeffreys, 1865, III, p. 269, as *C. hungaricus*]

Occasionally on gravel grounds, 15-35 fm. generally attached to *Chlamys opercularis* (S.P.): Mewstone Grounds, occasionally on *C. opercularis* (R.A.T., S.P.): Eddystone Grounds (E.J.A., S.P.): single dead shells from 3 positions S.W. of Eddystone, 40-44 fm. (Crawshay, 1912, p. 369)

Breeding: Jan.-March (W.G.): May and June, 1937 (Lebour, 1937b, p. 143)

Family **Cypraeidae****ERATO VOLUTA (Montagu)** [Jeffreys, 1867, IV, p. 400, as *Marginella laevis*]

Not uncommon on gravel grounds, 15-30 fm. (S.P.): one dead shell S.W. of Eddystone, 40 fm. (Crawshay, 1912, p. 369): common, Looe-Eddystone Grounds, 30 fm. (R.W.)

SALCOMBE (type locality). Sometimes taken alive by oyster dredges (Montagu, 1803, p. 203)

Breeding: spring and summer (Lebour, 1935b, p. 169)

TRIVIA MONACHA (da Costa) [Lebour, 1933a, p. 483=*T. europaea* in part, of the 1931 Fauna List]

Common between tide-marks and at extreme low tide, associated with compound ascidians, e.g. Drake's Island, Wembury Bay, Whitsand Bay; occasionally dredged in the Sound and just outside (M.V.L.)

SALCOMBE. Common between tide-marks (Allen and Todd, 1900, p. 212): common among sponges and ascidians at E.L.W.S.T. Salstone (D.P.W.)

Breeding: late spring and summer (Lebour, 1947a, p. 538)

TRIVIA ARCTICA (Montagu) [Lebour, 1933a, p. 483=*T. europaea* in part, of the 1931 Fauna List]

Not uncommon with *T. monacha* at extreme low water, e.g. Drake's Island and Wembury Bay; also in Sound and common from the Mewstone and Eddystone Grounds (M.V.L.): the form occurring in deeper water is usually small and has a smooth fawn-coloured mantle (S.P.): 40 fm. at 15 m. S.W. of Eddystone (R.W.): single specimens at 2 positions S.W. of Eddystone, 43-47 fm. (Crawshay, 1912, p. 369)

SALCOMBE' One amongst many *T. monacha* on shore at Ox Point, 1954 (D.A.H.)

Breeding: autumn, winter and early spring (Lebour, 1935b, p. 168)

Family **Lamellariidae****LAMELLARIA PERSPICUA** (L.) [Jeffreys, 1867, IV, p. 235]

Not uncommon between tide-marks and in dredgings from the Sound, etc. (S.P.): occasionally on the outside grounds, 15-30 fm. (R.A.T., W.I.B., S.P.): Yealm River, not uncommon (R.A.T., S.P.): at 2 positions S.W. of Eddystone, 42-49 fm. (Crawshay, 1912, p. 369)

SALCOMBE. Fairly frequent between tide-marks (M.V.L.)

Breeding: larvae in plankton throughout the year, most commonly in June and July (Lebour, 1947a, p. 538)

LAMELLARIA LATENS (Müller) [Odhner, 1913, p. 10, 49]

Occasionally in outside waters with *Alcyonium* (M.V.L.): one, collected by H.B.M., Oct. 1937 (McMillan, 1939, p. 171)

Breeding: spring and summer (Lebour, 1935b, p. 165)

VELUTINA VELUTINA (Müller) [Jeffreys, 1867, IV, p. 240, as *V. laevigata*]

Mewstone Echinoderm Ground (R.A.T.): occasionally dredged in shallow water, very rarely from outside the Sound (M.V.L.)

Breeding: from May throughout the summer (Lebour, 1935b, p. 166)

VELUTINA PLICATILIS (Müller) [Jeffreys, 1867, IV, p. 239]

Trawled, Asia Shoal on *Botryllus*, Rame-Eddystone hydroid ground, and 25 fm. Eddystone Grounds (J.E.F.): one dredged, Mewstone Grounds (J.E.F.)

SIMNIA PATULA (Pennant) [Jeffreys, 1867, IV, p. 407, as *Ovula*]

Not uncommon on *Alcyonium digitatum* 10-30 fm.; Mewstone Ledge; Stoke Point Grounds; etc. (S.P.): Mewstone Ledge, on *Eunicella* (W.I.B.): at 5 positions S.W. of Eddystone, 40-49 fm. (Crawshay, 1912, p. 369)

Breeding: spawned in a plunger-jar, Jan. 1932 (Lebour, 1932a, p. 107); larvae in plankton June to Sept., plentiful in Aug. 1942 (Lebour, 1947a, p. 538)

Order **STENOGLLOSSA**Family **Muricidae****TROPHON MURICATUS** (Montagu) [Forbes and Hanley, 1851, III, -p. 439]

Occasionally taken in 15-30 fm.; not uncommon on the Mewstone

GASTROPODA, STENOGLOSSA

Echinoderm Ground (R.A.T.): one shell occupied by *Eupagurus*, S.W. of Eddystone, 42 fm. (Crawshay, 1912, p. 371): adult dredged fairly frequently (Lebour, 1936a, p. 560)

SALCOMBE (type locality). A few by dredging (Montagu, 1803, p. 262)

Breeding: February to June (Lebour, 1936a, p. 560)

NUCELLA LAPILLUS (L.) [Jeffreys, 1867, IV, p. 276, as *Purpura*]

Abundant on rocks between tide-marks everywhere (S.P.): chiefly between M.H.W.N. and M.L.W.S., even in very exposed situations, provided there are crevices in the rock (Evans, 1947, p. 203)

Spawn: Jan.-April (W.G., R.A.T.): May (W.G.): July (S.P.): Nov. (W.G.): Nov., Dec., hatched Nov. 1930 (M.V.L.)

OCENEBRA ERINACEA (L.) [Jeffreys, 1867, IV, p. 306, as *Murex*]

Moderately common on rocks between tide-marks (R.A.T., S.P.): Asia Shoal; Millbay Channel; Yealm River; occasionally (R.A.T.): at 1 position S.W. of Eddystone, occupied by *Eupagurus*, 49 fm. (Crawshay, 1912, p. 370)

SALCOMBE. Several large specimens dredged between Snape's Point and the mouth of the Harbour, and one above Snape's Point (Allen and Todd, 1900, p. 211)

Breeding: spawn April (R.A.T., S.P.): May (W.G.): summer (Lebour, 1937b 153)

Family **Buccinidae**

COLUS GRACILIS (da Costa) [Jeffreys, 1867, IV, p. 335, as *Fusus*]

Dead shells only (R.A.T.): at 17 positions S.W. of Eddystone, 42-51 fm., chiefly empty shells with *Eupagurus* inside; living specimens at 4 positions (Crawshay, 1912, p. 370)

COLUS JEFFREYSIANUS (Fischer) [Jeffreys, 1867, IV, p. 340, as *Fusus buccinatus*]

One specimen S.W. of Eddystone 49 fm. (Crawshay, 1912, p. 370, as *F. propinquus*): rare living, shells common, Eddystone area (R.W.)

BUCCINUM UNDATUM L. [Jeffreys, 1867, IV, p. 285]

Mewstone Echinoderm Ground, moderately common; Rame-Eddystone Grounds; Yealm River, moderately common in dredgings, and not uncommon on the Sand-bank (R.A.T.): Eddystone Grounds, numerous on the gravel and coarser sands near the Eddystone (E.J.A.): Stoke Point Grounds (S.P.): shores at mouth of River Yealm, about 1 dozen from S. side and about 2 dozen from N. side, not very large, 6/7.3.16; about a dozen, Looe N.N.W. Downderry N.N.E., towing W. (A.J.S.): at 7 positions S.W. of Eddystone, 40-49 fm. (Crawshay, 1912, p. 370)

SALCOMBE. One large specimen on the west shore of the Salstone; young specimens not uncommon in the dredgings (Allen and Todd, 1900, p. 211)

Breeding: Jan.-April (W.G.): hatching Feb.-March (R.A.T.): a whelk laid eggs in a Laboratory tank towards end of March 1900; 10-12 batches of spawn each on a large piece of clinker, eggs quite young, 29.12.21 (A.J.S.): spawns in aquarium during winter (D.P.W.)

CHAUVETIA BRUNNEA (Donovan) [Jeffreys, 1867, IV, p. 313, as *Lachesis minima*]
Not uncommon in the Sound, under stones, L.W-20 fm. (S.P.)

Family **Nassariidae**

NASSARIUS RETICULATUS (L.) [Forbes and Hanley, 1851, III, p. 388, as *Nassa*]

More or less common everywhere, L.W. - 5 fm., especially on muddy sand; Cawsand Bay; Jennycliff Bay; Drake's Island, Yealm River; etc. (S.P.)

SALCOMBE. Very commonly taken in a prawn-pot, also fairly common on the various shores, especially Salstone (Allen and Todd, 1900, p. 211)

Breeding: Feb. (W.G.): March (W.G., R.A.T., S.P.): April (W.G., R.A.T.): May (S.P.): June (R.A.T., S.P.): July (W.G.): Aug. (S.P.): Sept. (W.G.): egg capsules on *Zostera*, spring and summer very common, hatched July 1930 (M.V.L.): eggs are laid in spring and summer, usually from March to August, more rarely in autumn and winter (Lebour, 1931b, p. 803)

NASSARIUS INCRASSATUS (Ström) [Forbes and Hanley, 1851, III, p. 391, as *Nassa*]

More or less common on all rocky shores, gregarious under stones and in crevices, particularly where there is a certain amount of silt, L.W. - 10 fm. (S.P.): 1 specimen S.W. of Eddystone, 46 fm. (Crawshay, 1912)

SALCOMBE. Several specimens taken by the dredge between Salstone and Snape's Point and a few between Snape's Point and the mouth (Allen and Todd, 1900, p. 211)

Breeding: Feb.-March (S.P.): April (W.G., R.A.T., S.P.): June (W.G.): Aug. (W.G., S.P.): Sept. (W.G.): a dozen or more fine clusters, Millbay Channel (Pit), 25.1.09, on *Nemertesia* stalks (A.J.S.): eggs laid in plunger-jar, Oct.-Dec., hatched Nov., Dec. 1930; late larvae in plankton, very common in summer (M.V.L.): larvae in the plankton throughout the year but especially in spring and summer (Lebour, 1947a, p. 539)

Family **Turridae***

HAEDROPLEURA SEPTANGULARIS (Montagu) [Jeffreys, 1867, IV, p. 390, as *Pleurotoma*]

One, living, dredged in Sound (Lebour, 1936a, p. 562)

SALCOMBE. Dredged alive (Montagu, 1803, p. 269)

LORA RUFA (Montagu) [Jeffreys, 1867, IV, p. 392, as *Pleurotoma*]

Dredged alive on S. coast of Devon (Montagu, 1803, p. 263): shell only, Eddystone Grounds (Lebour, 1934b, p. 545)

MANGELIA ATTENUATA (Montagu) [Jeffreys, 1867, IV, p. 377, as *Pleurotoma*]

Occasionally in muddy gravel, 20-30 fm. (S.P.)

MANGELIA COSTULATA Risso [Jeffreys, 1867, IV, p. 376, as *P. striolata*]

EXMOUTH. Coralline zone (Jeffreys, *loc. cit.*)

MANGELIA POWISIANA (Dautzenberg) [Jeffreys, 1867, IV, p. 386, as *Pleurotoma laevigata*]

White Patch, Sept. 1956 (V.F.)

*On shell characters of Turridae, see Marshall, 1912, XIII. pp. 295-306; Kobelt, 1904, III, pp. 217-72 and 1905, III, pp. 273-88.

MOLLUSCA: GASTROPODA, STENOGLOSSA

MANGELIA COARCTATA (Forbes) [*Jeffreys*, 1867, IV, p. 379, as *P. costata*]

Not uncommon, off Drake's Island, in sandy gravel (Lebour, 1934*b*, p. 547)

MANGELIA NEBULA (Montagu) [*Forbes* and *Hanley*, 1851, III, p. 476]

In the Sound, more rarely farther out (M.V.L.)

Breeding: May to September (Lebour, 1934*b*, p. 549)

PHILBERTIA (COMARMONDIA) GRACILIS (Montagu) [*Jeffreys*, 1867, IV, p. 363, as *Defrancia*]

Not uncommon, 20-35 fm. particularly in muddy gravel (S.P.): one living, one dead, S.W. of Eddystone, 40-42 fm. (Crawshay, 1912, p. 371)

Breeding: spring and summer (Lebour, 1947*a*, p. 539)

PHILBERTIA (PHILBERTIA) LEUFROYI (Michaud) [*Jeffreys*, 1867, IV, p. 366, as *Defrancia*]

Not uncommon in outside dredging grounds (M.V.L.)

Breeding: spring and summer (Lebour, 1934*b*, p. 553)

PHILBERTIA (PHILBERTIA) PURPUREA (Montagu) [*Jeffreys*, 1867, IV, p. 373, as *Defrancia*]

Occasionally under stones and in rock crevices, L.W.-5 fm.; Drake's Island; Asia Shoal; Hollow Rock Bay; Jennycliff Bay; Blackstone Rocks, Wembury Bay (S.P.): one, trawled, east of Eddystone (P.G.C.)

SALCOMBE (type locality). A few taken alive by dredging (Montagu, 1803, p. 260): shell only, taken between Snape's Point and mouth of Harbour (Allen and Todd, 1900, p. 211)

Breeding: Nov. (S.P.)

PHILBERTIA (PHILBERTIA) ASPERRIMA (Brown) [*Jeffreys*, 1867, IV, P. 370, as *Defrancia reticulata*]

Occasionally, 15-30 fm. (S.P.)

Breeding: summer (Lebour, 1934*b*, p. 553)

PHILBERTIA (PHILBERTIA) LINEARIS (Montagu) [*Jeffreys*, 1867, IV, p. 368, as *Defrancia*]

Queen's Ground, not uncommon; Asia Shoal; occasionally on the outside grounds, 15-30 fm. (R.A.T., S.P.): the Breakwater, occasionally (R.A.T.): one living, one dead, S.W. of Eddystone, 42 fm. (Crawshay, 1912, p. 317)

SALCOMBE. Several dredged (Montagu, 1803, p. 262)

Breeding: larvae in the plankton June to October, most abundant in July (Lebour, 1947*a*, p. 539)

PHILBERTIA (TERES) TERES (Reeve) [*Jeffreys*, 1867, IV, p. 362, as *Defrancia*]

Plymouth (Jeffreys): dead shell, Eddystone shell gravel (M.V.L.)

MOLLUSCA: GASTROPODA, BULLOMORPHA

Sub-Class *OPISTHOBRANCHIA*

Order BULLOMORPHA

Family **Acteonidae**

ACTEON TORNATILIS (L.) [Jeffreys, 1867, IV, p. 433]

Dead shells occasionally taken (R.A.T.): one, living, Rame Mud, April 1948, which laid eggs in bowl (D.P.W., M.V.L.)

Family **Pyramidellidae***

CHRYSALLIDA OBTUSA (Brown) [Jeffreys, 1867, IV, p. 151, as *Odostomia interstincta*] (in 1931 Fauna List as Pyrgulina)

Shells only, of Eddystone (R.W.)

SALCOMBE. Between edges of valves of *Ostrea edulis* (D.A.H.)

CHRYSALLIDA INDISTINCTA (Montagu) [Jeffreys, 1867, IV, p. 149, as *Odostomia*]

Shells only, off Eddystone (R.W.)

CHRYSALLIDA DECUSSATA (Montagu) [Jeffreys, 1867, IV, p. 145, as *Odostomia*] (in 1931 Fauna List at Pyrgulina)

Fairly common, dredged in the outer grounds (M.V.L.)

SALCOMBE. Shells in sand, very rare (Montagu, 1803, p. 322)

Breeding: May (Lebour, 1936a, p. 556)

CHRYSALLIDA SPIRALIS (Montagu) [Jeffreys, 1867, IV, p. 154, as *Odostomia*]

Cawsand, low water, parasitic on Sabellaria (V.F.)

SALCOMBE. Shells in sand, very rare (Montagu, 1803, p. 323)

ODOSTOMIA NIVOSA (Montagu) [Jeffreys, 1867, IV, p. 116]

Montagu's solitary type was from sand on S. coast of Devon (1803, p. 326)

ODOSTOMIA (BRACHYSTOMIA) EULIMOIDES Hanley [Forbes and Hanley, 1850, III, p. 273]

Common on the ears of *Chlamys opercularis* (R.A.T., S.P.): on *Pecten maximus* (R.A.T.)

SALCOMBE. On the ears of *Pecten maximus* (R.W.)

Breeding: May and June (Lebour, 1932b, p. 118)

ODOSTOMIA (BRACHYSTOMIA) LUKISI Jeffreys [Jeffreys, 1867, IV, p. 120]

Abundant, Cawsand and Wembury, parasitic on Pomatoceros, Spirorbis and Serpula (V.F.)

ODOSTOMIA (ODOSTOMIA) PLICATA (Montagu) [Forbes and Hanley, 1850, III, p. 271]

Common about low water, all round Cawsand, with Pomatoceros (V.F.)

SALCOMBE. Shells in sand, rare (Montagu, 1803, p. 325)

*The affinities of this family are uncertain, but the work of Thorson (1946, p. 199) and of Fretter and Graham (1949) shows that it is not a prosobranch family, and may be related to Diaphanidae. On shell characters of Pyramidellidae, see Marshall, 1899-1900, IX, pp. 170-338; Kobelt, 1903, III, pp. 64-172.

MOLLUSCA: GASTROPODA, BULLOMORPHA

ODOSTOMIA (ODOSTOMIA) UNIDENTATA (Montagu) [*Forbes and Hanley*, 1850, III, p. 264]

Living, on *Pecten maximus*, dredged offshore (Montagu, 1803, p. 324): shells only, off Eddystone (R.W.): Cawsand and Plymouth, on *Pomatoceros*, *Spirorbis* and *Serpula* (V.F.)
SALCOMBE. Shells in sand (Montagu, 1803)

ODOSTOMIA (ODOSTOMIA) ACUTA Jeffreys [*Jeffreys*, 1867, IV, p. 130]

Shells only, off Eddystone (R.W.)

ODOSTOMIA (ODOSTOMIA) CONOIDEA (Brocchi) [*Jeffreys*, 1867, IV, p. 127]

Shells only, off Rame (R.W.)

TURBONILLA ELEGANTISSIMA (Montagu) [*Jeffreys*, 1867, IV, p. 164, as *Odostomia lactea*]

Occasionally under stones, particularly where there is a certain amount of silt, L.W.-10 fm.; Drake's Island; Jennycliff Bay; etc. (S.P.): Asia Shoal; Wembury Bay (R.A.T., S.P.): with *Amphitrite gracilis* and *Audouinia tentaculata* (Fretter, 1951, p. 37)

SALCOMBE. Very common on the *Zostera* south of Pilworthy Point (Allen and Todd, 1900, p. 211, as *Chemnitzia elegantissima*)

The two closely allied species, *T. acuta* (Donovan), =*T. pusilla* of Marshall, and *T. innovata* Monterosato, =*T. pusilla* of Jeffreys, have been recorded from Borough Island and Torbay (Marshall, 1900, p. 334)

TURBONILLA JEFFREYSI (*Forbes and Hanley*, 1850, III, p. 251, as *Chemnitzia scalaris*) (= *T. rufa* (error) in 1931 Fauna List)

Rame-Eddystone Grounds, occasionally, feeding on hydroids (S.P., V.F.)

TURBONILLA FENESTRATA (Forbes) [*Jeffreys*, 1867, IV, p. 156, as *Odostomia*]

Cawsand Bay, one dead (K.H.B.): two living specimens, White Patch, 21.9.56 (V.F.)

EULIMELLA LAEVIS (Brown) [*Jeffreys*, 1867, IV, p. 170, as *O. acicula*]

30 fm. Eddystone (Marshall. 1900. IX, pp. 335, 336)

Family **Diaphanidae**

COLPODASPIS PUSILLA M. Sars [*Garstang*, 1894b, p. 664]

On rough ground, about 2 m. S. of the Mewstone, Feb. 1893 (W.G.)

Family **Retusidae**

RETUSA MAMMILLATA (Philippi) [*Jeffreys*, 1867, IV, p. 420, as *Utriculus*]

Dead shells occasionally taken (R.A.T.)

RETUSA RETUSA (Maton and Rackett) [*Jeffreys*, 1867, IV, p. 421, as *Utriculus truncatulus*]

Only dead shells (R.A.T.)

SALCOMBE. Rare (Montagu, 1803, p. 223, as *Bulla truncata*)

RETUSA OBTUSA (Montagu) [*Jeffreys*, 1867, IV, p. 423, as *Utriculus*]

Shells only, off Eddystone (R.W.): Tamar Estuary, one living, Oct. 1937; shells only at Salt Mills Creek (G.M.S.)
SALCOMBE. Rare (Montagu, 1803, p. 224)

RHIZORUS ACUMINATUS (Bruguière) [*Jeffreys*, 1867, IV, p. 411, as *Cylichna*]

Dead shell only (R.A.T.)

Family **Atyidae****HAMINOEA HYDATIS** (L.) [*Jeffreys*, 1867, IV, p. 437, as *Bulla*]

Yealm Estuary (W.G.): Jennycliff Bay, one (R.A.T.): several dredged, Rame-Eddystone Grounds, 15.4.47 (J.E.F.)
SALCOMBE. Fifteen living specimens on the muddy gravel on the western shore and on the clean gravel on the southern shore of the Salstone (Allen and Todd, 1900, p. 212): Salstone, west shore, 15 ft. tide, 1 ft. below low water (N.J.B.): 16 large living specimens under surface of soft mud, Salstone, mid-tide (V.F.)
Breeding: spawn attached to tubes of *Sabella* and algae near living adults, Salstone, 23.9.37 (V.F.)

Family **Scaphandridae****CYLICHNA CYLINDRACEA** (Pennant) [*Jeffreys*, 1867, IV, p. 415]

Dead shells only (R.A.T.): silty sand, Bigbury Bay (Ford, 1923)

ROXANIA UTRICULUS (Brocchi) [*Forbes and Hanley*, 1851, 111, p. 533, as *Bulla cranchii*]

A single specimen, 4½ m. S.W. by W. Penlee Point (R.A.T.)

SCAPHANDER LIGNARIUS (L.) [*Jeffreys*, 1867, IV, p. 443]

Common on the trawling grounds outside Sound (W.I.B., S.P.)
Breeding: Looe-Eddystone, 28.1.25, half a dozen ribbons of spawn in early stage; 1/6.3.28, 8-12 specimens spawned in tank (A.J.S.): 6 m. S. of Breakwater, 7.2.29, spawn in early and advanced stages (M.V.L.)

Family **Philinidae****PHILINE QUADRIPARTITA** Ascanius [*Jeffreys*, 1867, IV, p. 457, as *P. aperta*; *Pruvot-Fol*, 1954, p. 64]

Common on muddy sand bottom, at times very abundant; Cawsand Bay; Jennycliff Bay; Cattewater, etc. (W.I.B., S.P.): sandy bottom, Whitsand Bay (W.G.)

SALCOMBE. Several specimens in dredgings between Salstone and the mouth of the Harbour, and some in dredgings from the "Bag" off Snape's Point; on the shore it was taken, with spawn, on the *Zostera* bank between Mill Bay and the Ferry House (Allen and Todd, 1900, p. 212)

Breeding: April (W.G.): May-July (W.G., R.A.T.)

PHILINE SCABRA (Müller) [*Jeffreys*, 1867, IV, p. 447]

Whitsand Bay, 4-12 fm. (W.H.)

MOLLUSCA: GASTROPODA, PTEROPODA

PHILINE CATENA (Montagu) [*Jeffreys*, 1867, IV, p. 449]

Named by Montagu (1803, p. 215) from shells found in Bigbury Bay.
Mewstone Ledge (W.I.B.): Millbay Channel (R.A.T.)

PHILINE PUNCTATA (Clark) [*Jeffreys*, 1867, IV, p. 453]

The Sound, single specimen among *Bowerbankia*; plentiful 20 fm. among shells covered with *Bugula*, 1891 (W.G.); Drake's Island (E.J.A.): Asia Shoal; Millbay Docks, occasionally on the piles (R.A.T.): Asia Shoal, dredge, 19.7.11 (A.J.S.)

Family **Peltidae****PELTA CORONATA** Quatrefages [*Jeffreys*, 1869, V, p. 15, as *Runcina hancocki*]

Tide-pools below Hoe, very abundant April 1889, small specimens in Sept. (W.G.): Rum Bay (R.A.T.): among corallines from rock-pools in the Sound; Yealm River (W.I.B.): over 50 specimens were seen in "Drake's Island Tank" in the Laboratory, some very large, on stones and shells all over the tank, 10.11.11 (A.J.S.)

Order PTEROPODA

Sub-Order THECOSOMATA

Family **Spiratellidae****SPIRATELLA RETROVERSA** (Fleming) [*Tesch*, 1913, p. 19, as *Limacina*]

First observed in the Channel, Aug. 1905, especially in the South-West, but also in the North-West and Great West Bay areas; still abundant Nov. (Gough, 1907, pp. 167, 222): at Station E.1 in small numbers, Feb. 1906; small numbers at all stations west of Start Point, May 1906; others probably mixed with *S. lesueuri* (Bygrave, 1911, p. 249): often in large quantities in tow-nets from outside the Sound, occasionally inside, in spring and summer, especially June-Aug. (M.V.L.)

Breeding: June-Aug., many laying eggs; hatched from egg, July-Aug. (M.V.L.): continuous breeding spring and summer, less so at other times of year (Lebour, 1932c, p. 125)

SPIRATELLA LESUEURI (d'Orbigny) [*Vayssière*, 1915, p. 146, as *Limacina*]

Large shoal of young present at every station in the North-West area in Aug. 1906; another shoal in May 1906; in Nov. 1906, it spread so as to include all stations west of Portland, but the numbers were greatly decreased (Bygrave, 1911, p. 249): 5 m. South of Rame Head, 23.9.05; off Breakwater, 1. 11.20 (R.W.)

Sub-Order PTEROTA

Family **Clionidae****CLIONE LIMACINA** (Phipps) [*Tesch*, 1913, p. 126]

Occasionally tow-nettings (R.W., M.V.L.): in tow-nettings from outside the Sound from Feb.-Aug., large specimens in Feb.; very common in 1930, especially in summer, adults usually about 4 mm. long; a few from inside the Sound (M.V.L.)

Breeding: June-Aug.; many laying eggs; eggs hatched and larvae

MOLLUSCA: GASTROPODA, APLYSIOMORPHA-SACOGLOSSA

reared until the stage at which the shell was lost; larvae both with and without shell common in plankton, June-Aug. 1930; larvae without shell occasionally, Sept.-Dec. 1930 (M.V.L.): summer (Lebour, 1931a, p. 786)

Order APLYSIOMORPHA

Family **Akeratidae**

AKERA BULLATA Müller [*Jeffreys*, 1867, IV, p. 430; *Morton and Holme*, 1955, P. 101]

Abundant in sea-water tank, Devonport Naval Dockyard, 1954 (N.A.H.)

Breeding: April to July (N.A.H.)

Family **Aplysiidae**

APLYSIA PUNCTATA Cuvier [*Garstang*, 1890, p. 401]

Queen's Ground, rare; Cattewater; Cawsand Bay; Reny Rocks; Yealm River, moderately common in dredgings, very common at times on the shore, especially in May and June; Yealm Estuary, small specimens not uncommon on the *Zostera* (R.A.T.): E. end of Whitsand Bay, in quantity beneath seaweed on rocks (W.H.): Queen's Grounds, several young, 30.10.07, dredge (C.L.W.): New Grounds, 18.6. 10, several specimens different marked from usual kind, dull grey with light specks between the pigment spots, spawning; 27.6.10, Queen's Ground and Cawsand Bay, 2 or 3 grey specimens; irregularly in Yealm Estuary (A.J.S.)

SALCOMBE. This species, together with quantities of spawn was found in great abundance on the *Zostera* banks between the Marine Hotel and Gazebo in June, 1900; later few were seen; a few were also found on the other grounds, one on the north-cast mud, Salstone, a few on the *Zostera* between Mill Bay and the Ferry House, and one on the rocks between Sandhill Point and South Sands Bay; fairly frequently in dredged material (Allen and Todd, 1900, p. 212); absent when searched for in March, April 1922, abundant in Salcombe Estuary, April 1923, spawning (J.H.O.): April 1926, none found, 1924, 1925, in quantity (S.M.N.): abundant on shore, spawning, in spring of 1949, 1951, and 1952, but absent 1950 and 1953-6 (G.M.S.)

Breeding: March (J.H.O.): April-July (R.A.T., J.H.O.): June-Oct. (W.G.): maximum, May-June, Sept. (A.J.S.)

APLYSIA DEPILANS (L.) [*Grigg*, 1949, p. 795]

TORQUAY. One specimen trawled in Babbacombe Bay, 12.11.47 (Grigg, 1949, p. 795)

APLYSIA FASCIATA Poiret [*Grigg*, 1949, p. 796, as *A. limacina*; *Pruvot-Fol*, 1954, p. 98]

SALCOMBE. One specimen picked up at the Salstone, 15.2.49 (Grigg, 1949, p. 796)

Order SACOGLOSSA

Family **Stiligeridae**

HERMAEA BIFIDA (Montagu) [*Alder and Hancock*, 1855, p. 53]

St. Peter's Point, Hamoaze, single specimen on *Delesseria* (W.G.): West entrance of Sound, in tow-net, single specimen; Cawsand Bay, single speci-

MOLLUSCA: GASTROPODA, PLEUROBRANCHOMORPHA

men (W.I.B.): off Penlee Point, small specimen in tow-net (S.P.): Duke Rock, dredged, 9.9.13, on *Heterosiphonia* from which it is scarcely distinguishable (J.H.O.)

HERMAEA DENDRITICA (Alder and Hancock) [*Alder and Hancock*, 1855, p. 53]

Drake's Island, two on *Bryopsis* (W.G.): inside Bovisand Pier, single specimen (R.A.T.): in Laboratory tank on a stone from Bovisand Bay (W.I.B.): Wembury Bay W., 29.5.22, mainly on *Codium*; also abundant March-April 1922 (J.H.O.)
Breeding: June (W.G.)

STILIGER BELLULUS (d'Orbigny) [*Eliot*, 1910, p. 136]

Cawsand Bay (W.G.)

Family **Elysiidae**ELYSIA VIRIDIS (Montagu) [*Eliot*, 1910, p. 140]

Yealm Estuary, common (G.C.B., W.G.): Duke Rock; middle of the Sound; tide-pools below the Hoe (W.G.): Queen's Ground; Yealm River; uncommon (W.I.B.): New Grounds to Melampus Buoy, dredged, 10.7.12 (A.J.S.)

SALCOMBE. A few dredged between Salstone and the mouth of the Harbour; one trawled on *Zostera* between Rectory and Ditch End (Allen and Todd, 1900, p. 212)

Breeding: Oct. and probably earlier (W.G.)

Family **Limapontiidae**ACTEONIA SENESTRA Quatrefages [*Eliot*, 1910, p. 143, as *Cenia cocksii*]

Tide-pools below the Hoe, 1 specimen (W.G.): Jennycliff Bay (S.P.): Bovisand Bay, single specimen among corallines (W.I.B.): dredged from Asia Shoal, on a large specimen of *Ficulina ficus*, 25.11.09 (A.J.S., C.E.): rock-pools below Laboratory amongst *Cladophora*, with *Limapontia capitata*, 4.3.11 (K.H.B.)

LIMAPONTIA CAPITATA (Müller) [*Eliot*, 1910, p. 141, as *L. nigra*]

Reny Rocks (W.H., W.G.): Cawsand Bay, abundant in tide-pools (W.G.): tide-pools below the Hoe, abundant April 1890, disappeared Aug. and Sept. (W.G.): Drake's Island, common on corallines (R.A.T., W.G.): Rum Bay, occasionally (R.A.T., S.P.)

Order PLEUROBRANCHOMORPHA

Family **Pleurobranchidae**BERTHELLA PLUMULA (Montagu) [*Jeffreys*, 1869, V, p. 11, as *Pleurobranchus*]

Thurlestone ("Milton") (type locality), on rocks at L.W. (Montagu, 1803, p. 214)

Plymouth, between tide-marks under stones (Gardiner, 1936).

Records under *plumula* in previous list may include this and the next species (G.M.S.)

BERTHELLINA ENGELI Gardiner, 1936, p. 198

Plymouth, between tide-marks, under stones (Gardiner, 1936)

MOLLUSCA: GASTROPODA, NUDIBRANCHIA

PLEUROBRANCHUS MEMBRANACEUS (Montagu) [Jeffreys, 1869, V, p. 10]

Not uncommon on the trawling grounds (W.I.B., S.P.): the Sound, unusually plentiful, especially in Millbay Channel and the Hamoaze, 1893: young specimens common swimming at the surface in the Sound, Sept. 1892 (W.G.): Cattewater and Yealm River, very occasional (R.A.T.): Reny Rocks, under stones low tide, 24.10.07 (C.L.W.)

SALCOMBE. Abundant on shore, 1.10.32 (R.W.): common at L.W.S.T., Salstone (D.P.W.)

Breeding: shore, Wembury Bay, 3.9.06, 1 specimen spawning (R.E.): 1 specimen with spawn S.W. of Eddystone, 40 fm. (Crawshay, 1912, p. 371): spawns at L.W.S.T., Salstone, in the summer (D.P.W.)

Order NUDIBRANCHIA

Sub-Order DORIDACEA

Family **Glossodorididae**ROSTANGA RUFESCENS Iredale and O'Donoghue [Alder and Hancock, 1855, p. 42, as *Doris coccinea*]

Occasionally on the shore and in dredgings from the Sound on stony ground (W.I.B., S.P.): Drake's Island (W.G., G.C.B.): Yealm River; Donderry, on the shore (W.I.B.): Duke Rock, dredge, 6.12.07 (C.L.W.): often on the sponge *Microciona atrasanguinea* (J.H.O.): Church Reef, Wembury, 4.4.47, on *M. atrasanguinea* (J.E.F.)

DORIDIGITATA DERELICTA (Fischer) [Eliot, 1910, p. 96, as *Staurodoris verrucosa*]

SALCOMBE. Variety *mollis*, collected by R.A.T., 1900 (Eliot, 1906, p. 338)

DORIDIGITATA STICTA Iredale and O'Donoghue [Eliot, 1910, p. 98, as *Doris maculata*]

Queen's Ground (W.G., S.P.): Mewstone Ledge (T.V.H.): Eddystone Grounds (E.J.A., W.I.B.): Asia Shoal, dredge, about a centimetre long; Rame Head bearing N.E. by N., Eddystone $\frac{3}{4}$ W., about $3\frac{1}{2}$ m., 9.4.08, otter trawl; Rame-Eddystone Grounds, otter trawl, 9.6.08; Rame Head bearing N.E. $\frac{1}{2}$ E., 2 m., otter trawl, 21.4.08 (A.J.S.): 30 fm., Eddystone S. 62 W., 2 $\frac{3}{4}$ m., otter trawl, July 1920 (R.W.)

ARCHIDORIS STELLIFERA Vayssière [Eliot, 1910, p. 99, as *Doris testudinaria*]

Drake's Island (W.G., T.V.H.): Barn Pool (W.H., W.G.): Garden Battery (E.J.A.): Mount Edgcumbe; Millbay Channel; Queen's Ground, very occasionally (R.A.T.): Duke Rock (W.G.): Yealm River (R.A.T.): Rame-Eddystone Grounds (W.I.B.): shore collecting, E. end of Drake's Island, 29.4.08; Mewstone Ledge-Stoke Point Grounds, dredge, 19.7.09 (A.J.S.): 11 specimens (several large) S.E. of Mewstone, mostly on *Hemimycale columella*, April 1937 (J.E.F.)

ARCHIDORIS PSEUDOARGUS (Rapp) [including *britannica* and *flammea*] [Alder and Hancock, 1855, P. 41, as *Doris tuberculata*](= *A. britannica* and *A. flammea* of the 1931 Fauna List)

Not uncommon on most rocky shores and in dredgings from the Sound (W.G., W.I.B., S.P.): Yealm River; Rame-Eddystone Grounds; Eddystone

MOLLUSCA: GASTROPODA, NUDIBRANCHIA

Grounds (W.I.B.): Eddystone bearing S.E. 3 m., otter trawl, 29.11.23, 16 large specimens (A.J.S.): at 3 positions S.W. of Eddystone, 40-49 fm. (Crawshay, 1912, p. 372): variety *flammea*, Duke Rock, on red sponge (W.G., C.L.W.)

SALCOMBE. Two specimens only were found on the south-east shore of Salstone (Allen and Todd, 1900, p. 212): common on south-west shore, below Marine Hotel and farther south, at or near low water, under stones and on overhanging ledges of rock, always with *Halichondria*, length 2½-3 in. (J.E.F.)

Breeding: Jan-June (W.G.): Dec. (M.V.L.)

GEITODORIS PLANATA (Alder and Hancock, (1847) 1855, p. 42, as *Doris*)

Duke Rock, dredge, 6.12.07 (C.L.W.): one, Eddystone shell gravel, March 1933; one S. of Mewstone, April 1938 (J.E.F.)

JORUNNA TOMENTOSA (Cuvier) [*Alder and Hancock*, 1855, p. 42, as *Doris johnstoni*]

Occasionally on rocky and stony shores, and in dredgings from the Sound (W.G., W.I.B., S.P.): Reny Rocks; Yealm Estuary, south shore (W.I.B.): Mount Edgcumbe shore, 5.11.07; Reny Rocks, under stones, on sponges, 24.10.07 (C.L.W.): Rum Bay, 15.6.20 (R.W.)

Family **Polyceridae**

AEGIRES PUNCTILUCENS (d'Orbigny) [*Alder and Hancock*, 1855, p. 44, as *Aegirus*]

Millbay Pit and Channel, very occasionally; Drake's Island, single specimen among corallines (R.A.T.): Queen's Ground (T.V.H.): Duke Rock (W.G., T.V.H.): Yealm River (R.A.T.): Wembury Bay, few small specimens among corallines (T.V.H.): Eddystone Grounds (E.J.A.): 1 large specimen from rocks below Laboratory; 2 large specimens from Rum Bay shore, 20.7.09 (A.J.S.): rocks below Laboratory, 14.7.20 (H.G.C.): Duke Rock, dredge, 6.12.07; Asia Shoal, dredge, 18.12.07; New Grounds, dredge, 18.12.07 (C.L.W.): 5 fm., Sound, 11.6.20; rocks below Laboratory, July 1920 (R.W.): two, Asia Shoal, March 1938 (J.E.F.)

THECACERA PENNIGERA (Montagu) [*Alder and Hancock*, 1855, p. 44]

Thurlestone ("Milton") (type locality), one on rocks (Montagu, 1813, p. 17, as *Doris*)
Off Rame Head, 20 fm., single specimen (W.G.): Queen's Ground (S.P.)

LIMACIA CLAVIGERA (Müller) [*Alder and Hancock*, 1855, p. 44, as *Triopa*]

Millbay Pit, single specimen (W.I.B., R.A.T.): Mewstone Ledge, occasionally (R.A.T.): Mewstone Grounds (W.G., E.J.A.): Stoke Point Grounds; Eddystone Grounds (E.J.A.)
SALCOMBE. One large specimen on west side, 12.4.38 (J.E.F.)

POLYCERA QUADRILINEATA (Müller) [*Alder and Hancock*, 1855, p. 45]

In most years abundant on *Zostera* beds; Cawsand Bay; Yealm Estuary; etc. (W.I.B., S.P.): Drake's Island, under stones (W.I.B.): Yealm River, occasionally (R.A.T., W.I.B.): Queen's Ground (W.I.B.): Wembury Bay (W.G.): Rame-Eddystone Grounds; Eddystone Grounds (W.I.B., S.P.): Bigbury Bay,

MOLLUSCA: GASTROPODA, NUDIBRANCHIA

large specimens, close in, off Thurlestone (W.I.B.): 2 specimens with no yellow marks on the body wall, the only yellow being on the tentacles (there were four pairs), and on the tips of branchiae and tips of the pair of dorsal papillae, Cawsand Bay, 5-7 fm., 11.7.07; black variety on Laminaria on buoy in Cawsand Bay, 22.8.10 (J.H.O.)

POLYCERA (PALIO) DUBIA M. Sars [including *lessoni*] [*Alder and Hancock*, 1855, p. 45, as *Polycera ocellata* and *P. lessoni*](=*Palio lessoni* of 1931 Fauna List)

Rum Bay (W.I.B., R.A.T., S.P.): Duke Rock; Mount Edgcombe; Drake's Island (W.G.): Queen's Ground (T.V.H.): Asia Shoal (R.A.T.)

Family **Onchidorididae**

ACANTHODORIS PILOSA (Müller) [*Alder and Hancock*, 1855, p. 43, as *Doris*]

Rocks below the Laboratory (E.J.A.): Drake's Island, occasionally (E.J.A., R.A.T.): Millbay Channel, occasionally; Asia Shoal, occasionally; Queen's Ground, not uncommon; Rum Bay; the Breakwater (R.A.T.): Duke Rock (T.V.H., R.A.T.): Bovisand Bay (T.V.H.): Wembury Bay (W.G.): Yealm River, not uncommon (R.A.T.): 2 m. N. of the Eddystone (J.T.C.)

Breeding: May; 14.1.10, from Sand-bank, Yealm River, just beginning to lay their spawn (A.J.S.)

ONCHIDORIS MURICATA (Müller) [including *aspera*, *diaphana*, *ulidiana*] [*Alder and Hancock*, 1855, p. 42, as *Doris aspera*]

Between the Mallard and Cobbler Buoys, single specimen (W.G.): Yealm Estuary, very rare (R.A.T.): seven, Church Reef, Wembury, March 1947 (J.E.F.)

ONCHIDORIS FUSCA (Müller) [including *bilamellata*] [*Alder and Hancock*, 1855, p. 43, as *Doris bilamellata*]

Common; Batten Bay; Jennycliff Bay; Duke Rock (W.G.): Millbay Channel; the Breakwater; Yealm River (W.I.B., R.A.T.): 4 m. N.E. of the Eddystone, once (T.V.H.): several, Asia Shoal, 25.11.07 (C.L.W.)

SALCOMBE. One only, taken in dredge between Snape's Point and mouth of Harbour (Allen and Todd, 1900, p. 212)

ONCHIDORIS SPARSA (Alder and Hancock) [*Alder and Hancock*, 1855, p. 43, as *Doris*]

Two, off Stoke Point, 15 fm., 17.1.1889 (Garstang, 1889, p. 179, as *Lamellidoris*)

ONCHIDORIS DEPRESSA (Alder and Hancock) [*Alder and Hancock*, 1855, p. 43, as *Doris*]

Inner side of Breakwater once; Mewstone Ledge once (W.I.B., in 1904 Fauna List)

ONCHIDORIS OBLONGA (Alder and Hancock) [*Alder and Hancock*, 1855, p. 43 as *Doris*]

Extremely abundant at times on Cellaria; Mewstone Ledge; Rame-Eddystone Grounds; Eddystone Grounds, etc. (W.I.B.): many on

MOLLUSCA: GASTROPODA, NUDIBRANCHIA

Cellaria, 7 m. S. of Breakwater, 19.12.1892 (Garstang, 1894a, p. 220, as *Lamellidoris*)
Breeding: April (Garstang, 1894a, p. 226, as *Lamellidoris*)

ONCHIDORIS (ATALODORIS) PUSILLA (Alder and Hancock) [*Alder and Hancock*, 1855, p. 43, as *Doris*]
A few specimens, 7 m. S. of Breakwater. 19.12.1892 (Garstang, 1894a, p. 220, as *Lamellidoris*)
Breeding: Feb. (Garstang, 1894a, p. 226, as *Lamellidoris*)

Family **Okeniidae**

GONIODORIS NODOSA (Montagu) [*Alder and Hancock*, 1855, p. 44]

Plentiful on most shores and in dredgings from Sound (W.I.B., S.P.): at 1 position S.W. of Eddystone, 47 fm. (Crawshay, 1912, p. 372)

SALCOMBE. A few only in the dredge between Salstone and mouth of Harbour, excepting on the shell-gravel in the "Bag" (Allen and Todd, 1900, p. 212)

Breeding: Jan.-April (W.G., R.A.T.): May; Sept.; Dec. (W.G.): adults, with spawn, in large numbers on the shores of the Sound from Feb.-May; small specimens abundant in dredgings in June, July and Aug.; probably an annual, migrating to the shores to spawn (W.G.): Queen's Ground, 30.8.07 (C.L.W.): spawn laid in bowl, 16.12.30 (M.V.L.): with spawn, below the Laboratory, 25.9.35 (H.B.M.): spawning on shore below Laboratory, 3.4.39; 18 taken at Wembury, many spawning, 4.4.47 (J.E.F.)

GONIODORIS CASTANEA Alder and Hancock [*Alder and Hancock*, 1855, p. 44]

Occasionally under stones on most rocky shores (S.P.): below the Laboratory (E.J.A., W.G., S.P.): Millbay Channel (W.I.B., R.A.T.): Drake's Island (E.J.A.): Cattewater; Rum Bay; Bovisand Cove (W.G.): Cawsand Bay (T.V.H.): Rame-Eddystone Grounds; Yealm River occasionally (R.A.T.): two on shore below Laboratory, 2.4.38 (J.E.F.)

Breeding: Feb.; May; July; Sept. (W.G.): spawn laid, 30.10.30, found by J.E.S., hatched 12.11.30 (M.V.L.)

OKENIA QUADRICORNIS (Montagu) [*Alder and Hancock*, 1855, p. 46, as *Idalia quadricornis* and including *elegans*]

One, on a small boulder dredged near Asia Shoal Buoy, 8.10.55, spawned later in the Laboratory (J.M.A.)

SALCOMBE. Salstone, at low-water mark, filling interior of *Asciadiella* test, presumably having eaten the contents, 26.8.30 (N.J.B.)

OKENIA ASPERSA (Alder and Hancock, (1845) 1855, p. 46, as *Idalia*)

Yealm Estuary once; off Penlee Point once (W.G.)

ANCULA CRISTATA (Alder) [*Alder and Hancock*, 1855, p. 45]

Rocks below the Laboratory (E.J.A., W.G., (T.V.H)): on the piles at Millbay Dock (R.A.T.): Drake's Island (W.G., W.I.B., R.A.T.): Cawsand Bay (W.G.): Batten Bay, amongst corallines, etc. (W.I.B.): Jennycliff Bay (R.A.T.): Rum Bay, Nov. 1907 (C.L.W.): one, fully grown, in tow-net from Sound, March 1938 (J.E.F.)

MOLLUSCA: GASTROPODA, NUDIBRANCHIA

Sub-Order DENDRONOTACEA

Family **Tritoniidae****TRITONIA HOMBERGI** Cuvier [*Alder and Hancock*, 1855, p. 46]

The habitat of this species appears to be below the 30 fm. line (W.I.B., S.P.): Mewstone Ledge (T.V.H.): common on the outer trawling grounds (W.G.): Eddystone Grounds (E.J.A., W.G., S.P.): Mewstone Grounds (J.T.C.): at 5 positions S.W. of Eddystone, 40-49 fm. or over (Crawshay, 1912, p. 372)

DUVAUCELIA PLEBEIA (Johnston) [*Alder and Hancock*, 1855, p. 47, as *Tritonia*]

Millbay Pit (A.J.S.): Mewstone Grounds (W.G.): Rame-Eddystone Grounds (W.I.B.): Eddystone Grounds (E.J.A., W.I.B.)

A pink variety on Eunicella, especially from the Mewstone Ledge (W.I.B.): at 5 positions S.W. of Eddystone, 40-47 fm. (Crawshay, 1912, p. 372)

Breeding: Aug.; Oct. (R.A.T.): Nov. (W.G.)

DUVAUCELIA LINEATA (Alder and Hancock) [*Alder and Hancock*, 1855, p. 47, as *Tritonia*]

Stoke Point Grounds, single specimen (S.P.)

Family **Lomanotidae****LOMANOTUS GENEI** Vérany [*Eliot*, 1910, p. 115]

Very scarce; 2 specimens, New Grounds; 4 m. S. of Mewstone, large specimen; 3 m. S.S.W. of Rame Head (W.I.B.): Queen's Ground, young specimens on Nemertesia (W.G.): New Grounds, 13.7.20 (H.G.C.): Rame bearing N.E. ½ E., 4 m. (A.J.S.): 2 specimens, New Grounds, 4.7.21, about 1½ in. long, one deep red, the other brown speckled with white (A.J.S.): 1 specimen, Mewstone, April 1933; one from Asia Shoal, 30.3.38; one from Rame-Eddystone Grounds, 14.4.47 (J.E.F.): regularly in Agassiz trawl 1951-5 (G.M.S.)

Breeding: Sept. (W.I.B.)

LOMANOTUS MARMORATUS (Alder and Hancock) [*Alder and Hancock*, 1855, p. 47]

Fairly common on Nemertesia in shallow water; Asia Shoal; New Grounds; Millbay; etc. (W.I.B., S.P.): about 1 m. S. of Mewstone, large specimen (W.I.B.): 3 m. S. of Mewstone, as *L. varians* (W.G.): several, March 1938 (J.E.F.)

LOMANOTUS FLAVIDUS Alder and Hancock [*Alder and Hancock*, 1855, p. 47; *Eliot*, 1910, p. 112]

Single specimen, Eddystone Grounds, March 1938; one in Agassiz trawl, Rame-Eddystone Grounds with *Antiopella cristata*, 14.4.47 (J.E.F.)

Family **Hancockiidae****HANCOCKIA UNCINATA** (Hesse) [*Eliot*, 1910, p. 118, as *H. eudactylota*]

Between Drake's Island and Breakwater Light, once (F.W.G.): Cawsand Bay; Yealm Estuary; on *Zostera* and on *Laminaria*, rare (W.I.B.): New Ground, near Breakwater Light, Oct. 3rd, one specimen on *Laminaria* on which were colonies of *Obelia*, about a centimetre long; Cawsand Bay,

MOLLUSCA: GASTROPODA, NUDIBRANCHIA

13.9.11, green variety (J.H.O.): Duke Rock, 30.3.14, among red weeds; New Grounds, about an inch long, 4.7.21 (A.J.S.)

Family **Scyllaeidae**

SCYLLAEA PELAGICA L. [*Eliot*, 1910, p. 163]

Many from sailing vessel "Formica" in Plymouth Docks, 25.8.19 (R.W.)

Family **Dendronotidae**

DENDRONOTUS FRONDOSUS (Ascanius) [*Alder and Hancock*, 1855, p. 47, as *D. arborescens*]

Local specimens are usually small (S.P.): occasionally in the Sound (G.C.B.): Queen's Ground (S.P., W.I.B.): River Tamar, near Saltash, a large specimen (W.I.B.): Mewstone Ledge occasionally (R.A.T.): Mewstone-Eddystone Grounds (W.G.): Eddystone Grounds (E.J.A.): Rame-Eddystone Grounds (W.G., S.P.): Rame Head bearing N.E. by N., Eddystone S. $\frac{3}{4}$ W. about 3 $\frac{1}{2}$ m., otter trawl (A.J.S., C.E.): one S.W. of Eddystone, 43 fm. (Crawshay, 1912, p. 372): several large, on *Tubularia indivisa* from the ship "The Red Dragon" moored at entrance to St. John's Lake, June 1955 (D.P.W.)

Family **Dotoidae**

DOTO CORONATA (Gmelin) [*Alder and Hancock*, 1855, p. 48]

Fairly plentiful on *Nemertesia* at most stations (W.I.B., S.P.): always on calyptoblastic hydroids (W.G.): Millbay Docks on *Plumularia*; buoy near Breakwater; Drake's Island, on the shore (W.I.B.): Yealm River (W.I.B., R.A.T.): Queen's Ground, twice, Oct. 1907 (C.L.W.): one S.W. of Eddystone, 42 fm. (Crawshay, 1912, p. 371)

Breeding: during the greater part of the year (W.I.B., S.P.): Oct. (C.L.W.): eggs hatched, 14.11.30 (M.V.L.)

DOTO FRAGILIS (Forbes) [*Alder and Hancock*, 1855, p. 48]

Common on *Nemertesia*, etc., from the outside grounds, less frequent in the Sound (W.G., W.I.B., S.P.): young from Duke Rock, Dec. (C.L.W.): New Grounds, 1 specimen, 24.10.06, with spawn (L.R.C.): at 3 positions S.W. of Eddystone, 44-45 fm. (Crawshay, 1912, p. 372)

Breeding: during the greater part of the year (W.I.B., S.P.)

DOTO PINNATIFIDA (Montagu) [*Alder and Hancock*, 1855, p. 48]

Generally distributed and common on *Nemertesia* in the Sound and outside (W.I.B., S.P.): Asia Shoal (C.L.W.)

Breeding: most of the year (W.I.B., S.P.)

DOTO CINEREA Trinchese [*Eliot*, 1910, p. 124]

Probably this species, living at Plymouth (Eliot, 1910)

MOLLUSCA: GASTROPODA, NUDIBRANCHIA

Sub-Order ARMINACEA

Family **Arminidae****ARMINA LOVENI** (Bergh) [*Eliot*, 1910, p. 111, as *Pleurophyllidia*]

Single specimen 2 m. N. of Eddystone (J.T.C.): one, May 1920 (R.W.): two large ones in Agassiz trawl, N.E. Eddystone, 18.1.24 (det. J.E.F.): one, Eddystone shell gravel, 18.4.29 (G.A.S.): one, Eddystone shell gravel, 18.3.37; one (3 in. long), Rame Mud, 28.3.39; one, S. of Mewstone, March 1949; one in shell gravel 4½ m. S.W. Rame Head, 8.4.49 (J.E.F.): one from loose gravel 3 m. S. of Breakwater, 10.8.49 (T.G.)

Family **Proctonotidae****JANOLUS CRISTATUS** (Delle Chiaje) [*Alder and Hancock*, 1855, p. 54, as *Antiopa*]

Rock-pool under the Hoe; Rum Bay (W.G.): Queen's Ground (S.P., W.I.B.): Millbay Docks, very large specimen; Eddystone Grounds (W.I.B.): Mewstone Grounds (W.G.): Yealm River (R.A.T.): 10 specimens and one batch of spawn, Millbay Docks, 17.12.12 (A.J.S.): many with much spawn on *Cellaria*, Rame-Eddystone Grounds, 14.4.47 (J.E.F.)
Breeding: Aug. (R.A.T.): Dec. (A.J.S.)

JANOLUS HYALINUS (Alder and Hancock) [*Eliot*, 1910, p. 165]

Queen's Ground, several small specimens (W.I.B.): Duke Rock, once (T.V.H.): Mewstone Ledge (W.I.B., and R.A.T.): Mewstone Echinoderm Ground; 2-4 m. N.E. of Eddystone (W.I.B.): Asia Shoal, 8.9.10, very like *Zephyrina mucronifera* (J.H.O.): Church Reef, Wembury, under stone, 2.10.44 (N.A.H.)

Family **Heroidae****HERO FORMOSA** (Lovén) [*Eliot*, 1910, p. 120]

Not uncommon outside the Breakwater (W.G.): Eddystone Grounds; Mewstone Grounds; Stoke Point Grounds; 6 m. S. of the Mewstone, in considerable numbers, Jan.-June 1895; has not been seen since 1898 (E.J.A. in 1904 Fauna List): Rame-Eddystone Grounds, 14.6.10 (A.J.S.) "the first I have seen for several years": about 2 m. N.W. of Eddystone, small specimens, 20.6.12 (A.J.S., "the first I have seen for many months")

Sub-Order EOLIDACEA

Family **Coryphellidae****CORYPHELLA VERRUCOSA** (M. Sars) [including *rufibranchialis*] [*Alder and Hancock*, 1855, p. 49, as *Eolis rufibranchialis*]

Fairly common on the inner trawling grounds W.I.B., S.P.): Whitsand Bay (W.G.)

CORYPHELLA GRACILIS (Alder and Hancock) [*Alder and Hancock*, 1855, p. 49, as *Eolis*]

Single specimen, between Duke Rock and Jennycliff; Cawsand Bay, single specimen (W.G.): Asia Shoal, two, 3.4.13 (A.J.S.): Mewstone E.N.E.,

MOLLUSCA: GASTROPODA, NUDIBRANCHIA

Rame N. ½ E., 25 fm., 27.7.20 (H.G.C.): several from Asia Shoal, April 1938 (J.E.F.)

CORYPHELLA LINEATA (Lovén) [*Alder and Hancock*, 1855, p. 49, as *Eolis*]

Mewstone Ledge, rare (R.A.T.): on stone dredged in Firestone Bay; Rame-Eddystone Grounds (W.I.B.): three on *Tubularia* from Breakwater, April 1938 (J.E.F.)

CORYPHELLA PEDATA (Montagu) [*Alder and Hancock*, 1855, p. 49, as *Eolis landsburgii*]

Occasionally at most stations in the Sound and outside (W.I.B., S.P.): twice amongst hydroids, Duke Rock (W.G.): near Asia Buoy, 22.10.07; Queen's Ground, 30.10.07 (C.L.W.)

Family **Eubranchidae**

CUMANOTUS BEAUMONTI (Eliot, 1910, p. 125)

Barn Pool (C.E., W.I.B.): 1 specimen, 21.5.08; six, 23.5.08; five, 25.5.08; nine, 27.5.08; one, 29.5.08; west muds, River Tamar, one, 28.5.15 (A.J.S.)
Breeding: May (A.J.S.)

EUBRANCHUS TRICOLOR Forbes [including *farrani*] [*Alder and Hancock*, 1855, p. 52, as *Eolis*]

Fairly abundant on the trawling grounds, 20-35 fm. (W.I.B.): s.p.): at 3 positions S.W. of Eddystone, 42-47 fm. (Crawshay, 1912, p. 371, as *Galvina*): Asia Shoal (R.P.): Drake's Island (C.L.W.)
Breeding: May; Nov. (W.G.)

EUBRANCHUS EXIGUUS (Alder and Hancock) [*Alder and Hancock*, 1855, p. 52, as *Eolis*]

Duke Rock (W.G.): Barn Pool, several specimens on *Obelia* (W.I.B.)
Breeding: March (W.G.): from Duke Rock, about 100 specimens, spawn crowded on *Obelia geniculata* growing on large fronds of *Laminaria*, 13.6.11 (A.J.S.): on *Obelia* on *Laminaria* from buoy in Cattewater, about 70, eggs laid in bowl during night, 29.7.20 (H.G.C.): eggs on *Nemertesia*, hatched 6.3.30 (M.V.L.)

EUBRANCHUS PALLIDUS (Alder and Hancock) [including *pictus*] [*Alder and Hancock*, 1855, p. 51, as *Eolis picta*]

Cawsand Bay, common on *Zostera*; Asia Shoal; Millbay Channel; Queen's Ground; Yealm Estuary, on *Zostera* (W.I.B.): buoy near West Hoe, among *Tubularia* (S.P.): several from Breakwater, April 1938 (J.E.F.)

EUBRANCHUS CINGULATUS (Alder and Hancock) [*Alder and Hancock*, 1855, p. 51, as *Eolis*]*

From among weed, etc., below the Laboratory (W.I.B.): Asia Shoal (W.I.B. and R.A.T.): Millbay Dock, on *Plumularia* from the piles; Yealm Estuary, on *Zostera*; Yealm River, on *Nemertesia* (W.I.B.): Mewstone Grounds (W.G.): Queen's Ground, 26.8.10 (J.H.O.)
Breeding: July (W.G.)

*This may prove to be a colour variety of one of the above species.

Family **Tergipedidae**

PRECUTHONA PEACHI (Alder and Hancock) [*Alder and Hancock*, 1855, p. 50, as *Eolis*]

Two specimens with spawn on *Hydractinia*, 3-4 m. S. of Mewstone (W.I.B.): Millbay Channel, on *Tubularia*, 1.6.10 (A.J.S.): Yealm River, Newton Ferrers, in shallow water at low tide, 9.7.10, with spawn (J.H.O.)

CUTHONA NANA (Alder and Hancock) [*Alder and Hancock*, 1855, p. 50, as *Eolis*]

Asia Shoal, July (J.H.O.)

CUTHONA AMOENA (Alder and Hancock) [*Alder and Hancock*, 1855, p. 51, as *Eolis*]

Occasionally on stony ground; Millbay Channel; Asia Shoal; New Grounds (W.I.B.)

SALCOMBE. One dredged between Snape's Point and the mouth of the Harbour (Allen and Todd, 1900, p. 212, as *Cratena*)

TRINCHESIA VIRIDIS (Forbes) [*Alder and Hancock*, 1855, p. 51, as *Eolis*] (in 1931 Fauna List as *Cratena*)

Millbay Channel, single specimen (A.J.S.): Duke Rock; Mewstone Grounds (W.G.): Rame-Eddystone Cellaria Grounds (W.I.B.): Eddystone Grounds (E.J.A.): Cattewater (probably from Plymouth trawling grounds), 9.12.07 (C.L.W.): one on hydroids, Rame Mud, 28.3.39 (J.E.F.)

TRINCHESIA CAERULEA (Montagu) [*Eliot*, 1910, p. 129, as *Amphorina*] (in 1931 Fauna List as *Cratena*)

Asia Shoal; Queen's Ground, not uncommon (S.P.): Rame-Eddystone Grounds; Mewstone-Eddystone Grounds, on *Cellaria* Grounds (W.I.B.): Mewstone Ledge; off Tregantle (W.I.B., R.A.T.)

TRINCHESIA AURANTIA (Alder and Hancock) [*Alder and Hancock*, 1855, p. 51, as *Eolis aurantiaca*] (in 1931 Fauna List as *Cratena*)

On piles, Millbay Dock; buoy near the Breakwater (W.I.B., R.A.T.): Millbay Channel, very rare, one on *Garveia nutans* (R.A.T., W.I.B.): Duke Rock (W.I.B.): several, on *Tubularia indivisa*, from the ship "The Red Dragon" moored at entrance to St. John's Lake, June 1955 (D.P.W.)

Breeding: May (W.I.B., R.A.T.): spawn on *Tubularia larynx* from buoy near Drake's Island, 18.11.07 (C.L.W.)

TRINCHESIA FOLIATA (Forbes and Goodsir) [including *olivacea*] [*Alder and Hancock*, 1855, p. 50, as *Eolis olivacea*] (in 1931 Fauna List as *Cratena*)

Occasionally on stony and rocky ground (W.I.B.): Queen's Ground, occasionally (W.I.B., R.A.T., S.P.): Asia Shoal; Drake's Island; Millbay Channel and Pit (R.A.T.): Mewstone Grounds (W.G.): Yealm River (W.I.B.): Mewstone Ledge (W.I.B., S.P.): 1 specimen, Asia Shoal, 25.11.07 (C.L.W.)

TRINCHESIA GLOTTENSIS (Alder and Hancock) [*Alder and Hancock*, 1855, p. 51, as *Eolis*]

Single specimen, on *Crisia*, etc., Rame-Eddystone Grounds, 14.4.47 (J.E.F.)

MOLLUSCA: GASTROPODA, NUDIBRANCHIA

EMBLETONIA PULCHRA (Alder and Hancock) [*Alder and Hancock*, 1855, p. 52]

Asia Shoal, single specimen, apparently on *Nemertesia* (W.I.B.)

TERGIPES DESPECTUS (Johnston) [*Alder and Hancock*, 1855, p. 52, as *Eolis despecta*]

Millbay Dock, on piles, common, March 1901 (R.A.T.): Barn Pool (W.I.B.): buoy near Breakwater; Duke Rock (R.A.T.): Mewstone Grounds (W.G.): five individuals reared in a bell jar on a colony of *Bougainvillia* from Millbay Pit, either brought in with colony or introduced in water, Nov. 1906; spawned in all directions over creeping stolon of colony; very small when first observed; growth extremely rapid involving destruction of nearly every polyp (L.R.C.): abundant on *Obelia*, Cattewater, July 1920, with *Eubranchus exiguus* (R.W.)

Breeding: March (W.G., R.A.T.): April-May (R.A.T.)

Family **Calmidæ**

CALMA GLAUCOIDES (Alder and Hancock, (1854) 1855, p. 50, as *Eolis*)

Queen's Ground (W.I.B., R.A.T.): Blackstone Rocks, Wembury Bay (S.P.): West Entrance of Sound, amongst goby eggs, which is apparently its natural habitat (W.I.B.): Mewstone Grounds, generally in *Buccinum* shells occupied by *Blennius ocellaris*, sometimes as many as 50 in one shell; resembles the eggs with which it is associated, the colour varying according to whether the eggs are those of the goby or blenny (A.J.S.): feeding on eggs of *Blennius ocellaris* and *Gobius minutus* (Evans, 1922)

Breeding: 26.4.09, 3 large specimens spawning on *Buccinum* shell in about seven batches; feeding on *Hydractinia* growing on shell, New and Queen's Grounds; 20.7.09, Rum Bay shore, eggs taken off rock (A.J.S.)

Family **Facelinidæ**

FACELINA AURICULATA (Müller) [including *coronata* and *drummondi*] [*Alder and Hancock*, 1855, p. 49, as *Eolis coronata* and *E. drummondi*] (as *F. longicornis* in 1931 Fauna List)

Millbay Dock, on piles; Millbay Channel; Cawsand Bay (W.I.B.): the Cattewater; Cobbler Buoy; Duke Rock; off the Mewstone (W.G.): reef between Wembury Point and the Mewstone (E.J.A.): Bridge Ground, 18.12.07 (C.L.W.)

Breeding: April-May (W.G.): spawned in dish, 26.6.32 (J.E.H.)

Variety *drummondi*: Queen's Ground; Cawsand Bay; Yealm Estuary (W.I.B.): 1 specimen S.W. of Eddystone, 42 fm. (Crawshay, 1912, p. 371)

FACELINA PUNCTATA (Alder and Hancock) [*Alder and Hancock*, 1855, p. 49, as *Eolis*]

Millbay Channel; Cawsand Bay; rocky ground off Penlee (W.I.B.): Mewstone Grounds (W.G., W.I.B., R.A.T.)

FAVORINUS BRANCHIALIS (Müller) [including *albus* and *albidus*] [*Alder and Hancock*, 1855, p. 49, as *Eolis alba*] (as *F. albidus* in 1931 Fauna List)

Drake's Island (W.G., W.I.B.): Asia Shoal, on *Nemertesia*; Barn Pool, on

Fucus; Batten Bay; Duke Rock (W.I.B.): Cawsand Bay (W.G.): Yealm Estuary, on *Zostera*, fairly common in 1897 (W.I.B.)

Breeding: June (W.I.B.): Nov. (W.G.)

Family **Aeolidiidae**

AEOLIDIELLA GLAUCA (Alder and Hancock) [including *alderi*] [*Alder and Hancock*, 1855, p. 48, as *Eolis*] (in 1931 Fauna List as *Eolidina*)

Millbay Channel, occasionally (R.A.T., W.I.B., A.J.S., S.P.): Drake's Island, rarely (R.A.T., S.P.): Mallard Shoal (J.C.S.): Mount Edgcumbe (W.G.): Queen's Ground (W.I.B., R.A.T.): Asia Shoal (S.P.): Cattewater, large specimen probably from trawl refuse; 5-6 m. S.W. Breakwater Light; Mewstone Ledge (W.I.B.): several specimens under Laira Bridge; shore, Wembury, Church Reef, 1 specimen, 20.3.16 (A.J.S.): Cattewater, 13.12.07 (C.L.W.)

Variety *alderi*: Drake's Island; rocks below the Hoe (E.J.A.): Yealm River (W.I.B., W.G., R.A.T.): Reny Rocks (R.A.T.): Wembury Bay, among corallines (W.I.B.)

Breeding: Aug. (W.G.)

AEOLIDIA PAPILLOSA (L.) [*Alder and Hancock*, 1855, p. 48, as *Eolis*]

Fairly common on all stony shores (W.I.B., S.P.): Yealm River, specimens common and particularly fine, among heaps of drift Fucus, etc. (A.J.S.)

SALCOMBE. One dredged between Snape's Point and mouth of Harbour; spawn on *Zostera* between Mill Bay and Ferry House (Allen and Todd, 1900, p. 212)

Breeding: Feb. (R.A.T.): March-May (W.G., R.A.T.): June (W.G.): July-Aug. (R.A.T.): 18.12.10, two spawned in tank (J.H.O.)

Sub-Class *PULMONATA*

Order BASOMMATOPHORA

Family **Ellobiidae**

LEUCOPHYTIA BIDENTATA (Montagu) [*Jeffreys*, 1869, V, p. 104, as *Melampus*]

Rocks under West Hoe, in empty barnacle shells (R.A.T.): common in crevices of rocks near high-water mark; Jennycliff Bay; Drake's Island; etc. (S.P.): high-water mark in cave below Laboratory, 12.5.13, gregarious (J.H.O.): high-water, Wembury, in clefts in rock (H.B.M.): Wembury, in crevices of shale, with *Fecampia*, *Geophilus*, *Obisium*, *Littorina* and *Lasaea* (H.E.Q.): Polhawn Bay, Whitsand, in crevices of slate, with *Otina* and *Onchidella* (H.E.Q.)

OVATELLA MYOSOTIS (Draparnaud) [*Forbes and Hanley*, 1852, IV, p. 194, as *Conovulus*]

Plymouth, plentiful at H.W. in sites distinct from preceding (Montagu, 1803, p. 235, as *Voluta denticulata*): Yealm Estuary, S.E. shore, two in crevice in shale rock in H.W. region, 5.4.51 (G.M.S.)

DAWLISH. On the Warren (H.E.Q.)

Fucus; Batten Bay; Duke Rock (W.I.B.): Cawsand Bay (W.G.): Yealm Estuary, on *Zostera*, fairly common in 1897 (W.I.B.)

Breeding: June (W.I.B.): Nov. (W.G.)

Family **Aeolidiidae**

AEOLIDIELLA GLAUCA (Alder and Hancock) [including *alderi*] [*Alder and Hancock*, 1855, p. 48, as *Eolis*] (in 1931 Fauna List as *Eolidina*)

Millbay Channel, occasionally (R.A.T., W.I.B., A.J.S., S.P.): Drake's Island, rarely (R.A.T., S.P.): Mallard Shoal (J.C.S.): Mount Edgcumbe (W.G.): Queen's Ground (W.I.B., R.A.T.): Asia Shoal (S.P.): Cattewater, large specimen probably from trawl refuse; 5-6 m. S.W. Breakwater Light; Mewstone Ledge (W.I.B.): several specimens under Laira Bridge; shore, Wembury, Church Reef, 1 specimen, 20.3.16 (A.J.S.): Cattewater, 13.12.07 (C.L.W.)

Variety *alderi*: Drake's Island; rocks below the Hoe (E.J.A.): Yealm River (W.I.B., W.G., R.A.T.): Reny Rocks (R.A.T.): Wembury Bay, among corallines (W.I.B.)

Breeding: Aug. (W.G.)

AEOLIDIA PAPILLOSA (L.) [*Alder and Hancock*, 1855. p. 48, as *Eolis*]

Fairly common on all stony shores (W.I.B., S.P.): Yealm River, specimens common and particularly fine, among heaps of drift *Fucus*, etc. (A.J.S.)

SALCOMBE. One dredged between Snape's Point and mouth of Harbour; spawn on *Zostera* between Mill Bay and Ferry House (Allen and Todd, 1900, p. 212)

Breeding: Feb. (R.A.T.): March-May (W.G., R.A.T.): June (W.G.): July-Aug. (R.A.T.): 18.12.10, two spawned in tank (J.H.O.)

Sub-Class *PULMONATA*

Order BASOMMATOPHORA

Family **Ellobiidae**

LEUCOPHYTIA BIDENTATA (Montagu) [*Jeffreys*, 1869, V, p. 104, as *Melampus*]

Rocks under West Hoe, in empty barnacle shells (R.A.T.): common in crevices of rocks near high-water mark; Jennycliff Bay; Drake's Island; etc. (S.P.): high-water mark in cave below Laboratory, 12.5.13, gregarious (J.H.O.): high-water, Wembury, in clefts in rock (H.B.M.): Wembury, in crevices of shale, with *Fecampia*, *Geophilus*, *Obisium*, *Littorina* and *Lasaea* (H.E.Q.): Polhawn Bay, Whitsand, in crevices of slate, with *Otina* and *Onchidella* (H.E.Q.)

OVATELLA MYOSOTIS (Draparnaud) [*Forbes and Hanley*, 1852, IV, p. 194, as *Conovulus*]

Plymouth, plentiful at H.W. in sites distinct from preceding (Montagu, 1803, p. 235, as *Voluta denticulata*): Yealm Estuary, S.E. shore, two in crevice in shale rock in H.W. region, 5.4.51 (G.M.S.)

DAWLISH. On the Warren (H.E.Q.)

MOLLUSCA: SCAPHOPODA-LAMELLIBRANCHIA

Family **Otinidae****OTINA OVATA** (Brown) [*Jeffreys*, 1869, V, p. 110, as *O. otis*]

Common in empty barnacle shells near high-water mark on the rocks under West Hoe and below Laboratory (R.A.T.): very abundant near high-water mark in rock crevices, etc., gregarious within limited areas; Drake's Island; cave under Ram's Cliff Point; etc. (S.P.): Polhawn Bay, Whitsand, with *Leucophytia* (H.E.Q.): Rum Bay and Wembury, abundant in high tidal crevices (J.E.M.)

Order STYLOMMATOPHORA

Family **Onchidiidae****ONCHIDELLA CELTICA** Forbes and Hanley [*Jeffreys*, 1869, V, p. 95, as *Oncidium*]

¼ m. W. of Y.M.C.A. Hut, Polhawn Cove, Whitsand Bay, practically high-water mark, 19.6.26 (also found in same spot, 22.5.27); found on one particular rock in batches on Sabellaria beds, a few small specimens found about high-water mark on same rock; 16.6.29, on same rock but higher up, two only, none on Sabellaria tubes as before; most of the Sabellaria gone (S.M.N.): between Rame Head and Looe, below high-water mark to near low water (Fretter, 1943, p. 685)

Class **SCAPHOPODA**Family **Dentaliidae****DENTALIUM ENTALIS** L. [*Jeffreys*, 1865, III, p. 191]

Not uncommon on the fine sand grounds, 15-30 fm. (R.A.T., S.P.): Eddystone Grounds, on all fine sand grounds except the outer trawling ground, and occasionally on gravel (E.J.A.): Rame bearing N. ½ W., 3 m., 48 specimens, dredge (A.J.S.): from 8 positions S.W. of Eddystone 40-43 fm. (Crawshay, 1912, p. 372): now absent or very rare (Holme, 1953, p. 39)

DENTALIUM VULGARE da Costa [*Jeffreys*, 1865, III, p. 195, as *D. tarentinum*]

South Devon, 12-15 fm.; Torbay (Forbes and Hanley, 1849, II, p. 454)

Class **LAMELLIBRANCHIA (=BIVALVIA)**

Order PROTOBRANCHIA

Family **Nuculidae****NUCULA NUCLEUS** (L.) [*Forbes and Hanley*, 1849, II, p. 215; Allen, 1954, p. 471]

Common on muddy gravel, 10-30 fm. (S.P.): Millbay shell-gravel; Cawsand Bay; Mewstone Grounds (R.A.T.): Eddystone Grounds (E.J.A.): 7 specimens S.W. of Eddystone, 40 fm. (Crawshay, 1912, p. 372): common in places, rough ground with mud, local, outside Sound (Ford, 1923)

SALCOMBE. Not uncommon in dredge material from the Channel off Tosnos Point (Allen and Todd, 1900, p. 209)

Breeding: spring to early autumn (Lebour, 1938*b*, p. 123): dredged off Mewstone in 25-30 fm., 31 August; gonads ripe in most specimens; ratio of females to males about 3:1 ; spermatozoa observed in water (E.I.J.)

MOLLUSCA: LAMELLIBRANCHIA

NUCULA HANLEYI Winckworth [*Forbes and Hanley*, 1849, II, p. 220, as *N. radiata*; Allen, 1954, p. 471]

Common in shelly gravel, inside and outside Sound (Ford, 1923)

Breeding: spring to early autumn (Lebour, 1938*b*)

NUCULA TURGIDA Leckenby and Marshall [*Forbes and Hanley*, 1849, II, p. 218; Allen, 1954, p. 471]

Jennycliff Bay, Cawsand Bay; in muddy sand (R.A.T.): Eddystone Grounds, in the fine sand of the outer trawling ground (E.J.A.): very common, silty sand, inside and outside Sound (Ford, 1923)

Breeding: winter (Lebour, 1938*b*)

Order TAXODONTA

Family **Arcidae**

ARCA TETRAGONA Poli [*Jeffreys*, 1863, II, p. 180]

Occasionally on all rocky shores in crevices and among stones, L.W.-3 fm. (S.P.): not uncommon in rock crevices at Drake's Island and Rum Bay; occasionally from the Bridge and Millbay Channel (R.A.T.): at 3 positions S.W. of Eddystone, 42-49 fm. or over (Crawshay, 1912, p. 373)

ARCA LACTEA L. [*Jeffreys*, 1863, II, p. 177]

Occasionally between tide-marks, among stones, etc., and in 15-30 fm., particularly on muddy gravel (S.P.): Queen's Ground (R.A.T., S.P.): Reny Rocks, occasionally (R.A.T.): occasionally off Stoke Point, 23 fm., 1929 (G.A.S.)

Breeding: ripe eggs in Sept., Oct., ripe sperm in Jan., June, Sept., Oct. (Lebour, 1938*b*, p. 123)

Family **Glycymeridae**

GLYCYMERIS GLYCYMERIS (L.) [*Jeffreys*, 1863, II, p. 166, as *Pectunculus*]

Common in sandy and muddy gravel, 7-30 fm. (S.P.): moderately common on Mewstone Ledge in the patches of gravel between the rocks and occasionally from the other grounds round the Mewstone; Queen's Ground; Cawsand Bay; Rame-Eddystone Grounds (R.A.T.): Eddystone Grounds (E.J.A.): at several stations S.W. of Eddystone, 40-49 fm., mostly very small (Crawshay, 1912, p. 373): fairly common in shell gravel, outside grounds (Ford, 1923): about 20 large specimens, Stoke Point, 11.9.33 (D.A.)

Order DYSODONTA

Family **Mytilidae**

MODIOLUS MODIOLUS (L.) [*Jeffreys*, 1863, II, p. III, as *Mytilus*]

At 2 positions S.W. of Eddystone, single specimen, 40-2 fm. (Crawshay, 1912, p. 373)

SALCOMBE. One living specimen on western shore of the Salstone; small *Modiolus*, probably the young of this species, were not uncommon in dredge material, generally attached to stones and shells (Allen and Todd, 1900, p. 209): large specimens from Salcombe (N.J.B.)

Breeding: ripe eggs and sperm in Dec. (Lebour, 1938*b*, p. 123)

MOLLUSCA: LAMELLIBRANCHIA

MODIOLUS BARBATUS (L.) [*Jeffreys*, 1863, II, p. 114, as *Mytilus*]

Occasionally between tide-marks, under boulders (S.P.): Asia Shoal (R.A.T.): one S.W. of Eddystone, 40 fm. (Crawshay, 1912, p. 373)

MODIOLUS ADRIATICUS (Lamarck) [*Jeffreys*, 1863, II, p. 116, as *Mytilus*]

Sound, 4 fm., 1920 (R.W.)

MODIOLUS PHASEOLINUS (Philippi) [*Jeffreys*, 1863, II, p. 118, as *Mytilus*]

Not uncommon on the outside grounds in 15-30 fm.; occasionally between tide-marks, on the Breakwater and Drake's Island; Millbay Pit (R.A.T.): at several positions S.W. of Eddystone, 40-50 fm. or over (Crawshay, 1912, p. 374)

MUSCULUS MARMORATUS (Forbes) [*Jeffreys*, 1863, II, p. 122, as *Modiolaria*]

More or less common, buried in the tests of tunicates; Millbay Pit and Channel; Mewstone Ledge; Yealm River; etc. (R.A.T., S.P.): occasionally in sandy mud, outside Sound (Ford, 1923): at 7 positions S.W. of Eddystone, one free, others in tests of ascidians, one attached by a byssus to the base of a colony of *Cellaria*, 40-51 fm. (Crawshay, 1912, p. 374)

SALCOMBE. Common in dredge material, attached to or boring in the test of *Asciidiella* (Allen and Todd, 1900, p. 209, as *Crenella*)

MYTILUS EDULIS L. [*Jeffreys*, 1863, II, p. 104]

Very common on the coal-hulks moored in the Cattewater and on the piles of the Promenade Pier; young specimens are common between tidemarks on the rocks below the Hoe and occasionally from Drake's Island and Asia Shoal (R.A.T.): Yealm Sand-bank (S.P.): under Laira Bridge at low water, sometimes containing *Pinnotheres* (A.J.S.): common in Tamar as far as Weir Quay; common in Lynher as far as shore, 100 yd. above Antony Creek (E.P.)

Breeding: one from Promenade Pier spawned in Tank, 21.2.11 (A.J.S.): from Great Western Docks, on buoy, nearly 100 per cent. eggs fertilized in Laboratory, 6.3.13; from Laira Bridge and adjacent walls, approaching ripeness and none apparently spent, 15.5.19; from Yealm shore at Steer Point, female spawned in dish in tank, a few eggs segmenting, 19.6.20 (J.H.O.): samples of 20-50 *Mytilus edulis* were examined from the middle of March to the middle of June 1930, from Saltash and from Steer Point (Yealm River), but no artificial fertilization was successful until June 4th, and then only from the Steer Point sample; a sample of 60 large mussels from Saltash on June 16th, showed only a few even half-ripe and there was no motile sperm (A.J.S.): breeding chiefly April-June (Lebour, 1938*b*): the main spawning normally takes place between late April and early June (see Chipperfield, 1953)

MYTILUS GALLOPROVINCIALIS Lamarck [*List*, 1902, p. 4; *Hepper*, 1957, p. 33]

River Lynher at Wearde Quay; Forder Mill; Cattewater below Turnchapel; at all these places the species formed, in July 1953, about 4 per cent. or less of the mussel population (B.T.H.)

MOLLUSCA: LAMELLIBRANCHIA

Order OSTREIFORMES

Family **Ostreidae****OSTREA EDULIS** L. [*Jeffreys*, 1863, II, p. 38]

Millbay Channel; Queen's Ground; Mewstone Ledge; Yealm River; stray specimens occasionally dredged (R.A.T.): inside the Bridge (S.P.): extensive oyster beds cultivated in the Tamar River at Saltash and in the Yealm River (E.J.A.): mussel bed off Neille Point opposite mouth of Tavy (E.P.)

SALCOMBE. Many Essex and Brittany oysters relaid in mid-channel between Tosnos Point and Salstone, 1954; numbers will be subject to cultivation (D.A.H.)

Breeding: swimming larvae in great quantities given off in aquarium tank, Aug. 31st-Sept. 2nd, 1915 (A.J.S.): late June to early, August 1940, in Mr. J. Kingcome's tanks at Steer Point (Wilson, 1941)

Order PSEUDOLAMELLIBRANCHIA

Family **Anomiidae*****ANOMIA EPHIPIUM** L. [*Jeffreys*, 1863, II, p. 30]

More or less common everywhere, L.W.-30 fm. on stones, shells, rocks, etc. (R.A.T.): Eddystone Grounds, wherever suitable attachment can be found, least frequent on the fine sand grounds (E.J.A.): from several positions S.W. of Eddystone, 40-50 fm., common, possibly including *Monia patelliformis* (Crawshay, 1912, p. 373): Asia Shoal, 16.6.52 (D.A.): two, about 60 x 60 mm., on glass jar, west shore, Yealm Estuary, 22.8.52 (D.A.)

SALCOMBE. Found everywhere, especially in dredge material (Allen and Todd, 1900, p. 210): one, 58 X 53 mm., on stone, Mill Bay, 11.8.52 (D.A.)

Breeding: segmenting eggs and swimming larvae on fertilization, Feb.; sperm fairly active April (J.H.O.): ripe eggs, June, Oct. (Lebour, 1938b)

MONIA PATELLIFORMIS (L.) [*Jeffreys*, 1863, II, p. 34, as *Anomia*]

Eddystone Grounds, wherever suitable attachment is to be found, least common on the fine sand grounds (E.J.A.)

MONIA SQUAMA (Gmelin) [*Forbes and Hanley*, 1849, II, p. 336, as *Anomia striata*]

Typical and incrassate forms, Eddystone Grounds (R.W.): about 60 specimens south of Eddystone, 14.11.52 (D.A.)

HETERANOMIA SQUAMULA (L.) [*Winckworth*, 1922, p. 33]

Common, Sound and outside (R.W.)

Breeding: throughout the year (Lebour, 1938b, p. 123)

Family **Pteriidae****PTERIA HIRUNDO** (L.) [*Forbes and Hanley*, 1849, II, p. 251, as *Avicula tarentina*]

Very rare from the offing (R.A.T.): specimen, 1 in. long, attached to *Eunicella verrucosa*, dredged near Stoke Point, 13.2.33 (D.P.W.)

*For discussion of generic characters of Anomiidae see Winckworth, 1922.

MOLLUSCA: LAMELLIBRANCHIA

Family **Pinnidae****PINNA FRAGILIS** Pennant [*Jeffreys*, 1863, II, p. 99, as *P. rudis*]

Small specimens are occasionally taken on gravel off Rame Head, 20-30 fm.; dead shells are common (R.A.T.): Queen's Ground; Stoke Point Grounds, etc.; small specimens only (S.P.): pairs of empty valves at several positions S.W. of Eddystone, 42-52 fm. (Crawshay, 1912, p. 374): very rarely on Eddystone Outer Channel Grounds (G.A.S.)

SALCOMBE. Occasionally found alive in mud, large specimens (M.V.L.): living in *Zostera* bed, 1920, 1923, 1931 (R.W.)

Family **Pectinidae****CHLAMYS SIMILIS** (Laskey) [*Jeffreys*, 1863, II, p. 71, as *Pecten*]

Eddystone 30 fm., hundreds of valves and one living, 3.8.20 (R.W.)

CHLAMYS TIGERINA (Müller) [*Forbes and Hanley*, 1849, II, p. 285, as *Pecten*]

Not uncommon on coarse muddy or sandy gravel; Stoke Point Grounds; Rame-Eddystone Grounds; etc. (S.P.): Mewstone Echinoderm Ground (R.A.T., S.P.): Eddystone Grounds, not abundant, for the most part on coarse ground (E.J.A.): the Breakwater, single specimen between tide-marks (R.A.T.) at 10 positions S.W. of Eddystone, 40-46 fm. (Crawshay, 1912, p. 375)

Breeding: ripe eggs and sperm in Jan. (Lebour, 1938*b*, p. 124)

CHLAMYS OPERCULARIS (L.) [*Jeffreys*, 1863, II, p. 59, as *Pecten*]

More or less common everywhere in 15-30 fm., especially on the Mewstone Echinoderm Ground and about 5 m. S.W. of Penlee Point; occasionally from Queen's Ground and Asia Shoal; the Breakwater, single small specimen between tide-marks (R.A.T.): Eddystone Grounds, more or less abundant on all the grounds, often in beds which, while of limited extent, contain very numerous individuals (E.J.A., S.P.): in several positions S.W. of Eddystone, 40-51 fm. (Crawshay, 1912, p. 374)

SALCOMBE. A few living specimens on the Salstone; common in the dredge material (Allen and Todd, 1900, p. 209)

Breeding: June-Aug. (S.P.): most frequently Jan.-June, in smaller numbers July-Dec.; lunar periodicity (Amirthalingam, 1928): sperm only, no eggs, 30.6.32 (A.D.R.)

CHLAMYS VARIA (L.) [*Jeffreys*, 1863, II, p. 53, as *Pecten*]

The Breakwater, not uncommon at low tide; occasional specimens from Drake's Island, Asia Shoal, Queen's Ground, Rum Bay, Yealm River (R.A.T.): 1 young specimen S.W. of Eddystone, 42 fm. (Crawshay, 1912, p. 374)

SALCOMBE. Two dredged in the Channel between Salstone and Snape's Point (Allen and Todd, 1900, p. 210)

Breeding: ripe eggs in July (Lebour, 1938*b*, p. 123)

CHLAMYS DISTORTA (da Costa) [*Jeffreys*, 1863, II, p. 51, as *Pecten pusio*]

Not uncommon on all rocky shores, among stones, inside dead shells, etc., L.W.-30 fm. (S.P.): Drake's Island; Asia Shoal; Queen's Ground; the

MOLLUSCA: LAMELLIBRANCHIA

Breakwater, etc. (R.A.T., S.P.): one dead valve and one small living specimen, S.W. of Eddystone, 47-49 fm. or over (Crawshay, 1912, p. 374)

Breeding: ripe eggs and sperm, March, July (Lebour, 1938*b*, p. 123)

PECTEN MAXIMUS (L.) [*Jeffreys*, 1863, II, p. 73]

Mewstone Echinoderm Grounds, not uncommon; Rame-Eddystone Grounds, etc. (R.A.T.): Eddystone Grounds, moderately abundant on the various gravel grounds (E.J.A., S.P.): Mewstone Ledge; Asia Shoal; Yealm Sand-bank, between tide-marks, 1 specimen (R.A.T.): at several positions S.W. of Eddystone, 40-51 fm. (Crawshay, 1912, p. 374)

SALCOMBE. A few taken in the dredge; not uncommon at low tide on the *Zostera* bank under the Marine Hotel (Allen and Todd, 1900, p. 210): occasional on the shore at the Salstone, at L.W.S.T. (D.P.W.)

Family **Limidae**

LIMA SUBAURICULATA (Montagu) [*Jeffreys*, 1863, II, p. 82]

Dead shells only (R.A.T.): Eddystone Grounds (R.W.)

LIMA HIANS (Gmelin) [*Jeffreys*, 1863, II, p. 87]

Abundant at extreme low tide among a small patch of stones with muddy gravel on the N. side of the Breakwater, one record; Reny Rocks, one record (R.A.T.): Drake's Island, one record (S.P.): at 3 positions S.W. of Eddystone, 46-9 fm. or over (Crawshay, 1912, p. 375)

Breeding: late summer to early spring (Lebour, 1937*a*, p. 707)

LIMA LOSCOMBI Sowerby [*Jeffreys*, 1863, II, p. 85]

Not uncommon on the coarse grounds W. of the Eddystone (E.J.A., S.P.): Rame-Eddystone Grounds (S.P.): Mewstone Grounds (R.A.T., S.P.): Stoke Point Grounds (W.G., S.P.): at 5 positions S.W. of Eddystone, 42-51 fm. (Crawshay, 1912, p. 375)

Order EULAMELLIBRANCHIA

Family **Astartidae**

ASTARTE SULCATA (da Costa) [*Forbes and Hanley*, 1848, I, p. 452]

Not uncommon, 15-30 fm., generally on muddy or sandy gravel (R.A.T., S.P.): at several positions S.W. of Eddystone, 42-49 fm. (Crawshay, 1912, p. 375): local, common in places in muddy shingle, outside grounds (Ford, 1923): now, in 1954, taken infrequently (N.A.H.)

Breeding: ripe eggs in July, Oct., ripe sperm in Jan., July (Lebour, 1938*b*, p. 124)

ASTARTE TRIANGULARIS (Montagu) [*Jeffreys*, 1863, II, p. 318]

Shells in sand on various parts of coast of S. Devon (Montagu, 1803, p. 99): valves common, near Hand Deep, Eddystone, 3.8.20 (R.W.): in 1931 numerically the most important mollusc in the Eddystone shell gravel (Smith, 1932, p. 261); present but apparently less numerous, 1953-6 (G.M.S.)

MOLLUSCA: LAMELLIBRANCHIA

Family **Cyprinidae**

CYPRINA ISLANDICA (L.) [*Forbes and Hanley*, 1848, I, p. 441]

Occasionally, 15-30 fm.; dead shells moderately common (R.A.T.): a single living specimen S.W. of Eddystone, a few dead, 42-46 fm. (Crawshay, 1912, p. 375): small specimens in muddy sand, inside and outside grounds (Ford, 1923)

Family **Ungulinidae**

DIPLODONTA ROTUNDATA (Montagu) [*Jeffreys*, 1863, II, p. 254]

Occasionally in silty sand, outside Sound (Ford, 1923)

SALCOMBE. Shell dredged in Salcombe Harbour (Allen and Todd, 1900, p. 208)

THYASIRA FLEXUOSA (Montagu) [*Jeffreys*, 1863, II, p. 247, as *Axinus*]

Yealm Sand-bank, occasionally-; dead shells are very common in Cawsand Bay (R.A.T.): very common in mud, inside and outside Sound (Ford, 1923)

SALCOMBE. Not uncommon in the sand and *Zostera* bank's between Mill Bay and Ferry House, buried several inches below the surface (Allen and Todd, 1900, p. 208)

Family **Lucinidae**

LUCINOMA BOREALIS (L.) [*Jeffreys*, 1863, II, p. 242, as *Lucina*]

Occasionally on the *Zostera* bed N.E. of Drake's Island and on the Yealm Sand-bank; dead shells are very common in Cawsand Bay (R.A.T.): 1 young specimen S.W. of Eddystone, 40 fm. (Crawshay, 1912, p. 376): small specimens on muddy or silty sand, inside and outside grounds (Ford, 1923)

SALCOMBE. Found chiefly in the *Zostera* banks on the east side of the Harbour between Mill Bay and the Ferry House, one or two in the *Zostera* bank under Marine Hotel; always buried 6 or 8 in. (Allen and Todd, 1900, p. 208)

Breeding: ripe eggs and sperm, March, April (Lebour, 1938*b*, p. 124)

MYRTEA SPINIFERA (Montagu) [*Forbes and Hanley*, 1849, II, p. 49, as *Lucina*]

Rame-Eddystone Grounds (S.P.): dead shells not uncommon (R.A.T.): occasionally in silty sand, outside grounds (Ford, 1923); 1954, not often taken (N.A.H.)

SALCOMBE (type locality). (Montagu, 1803, p. 577)

Family **Neoleptonidae**

EPILEPTON CLARKIAE (Clark) [*Jeffreys*, 1863, II, p. 202, as *Lepton*]

SALCOMBE. In *Golfingia* burrows, 12.9.23 (R.W.): with *Golfingia elongata* Mill Bay side of the harbour, 1931 (Salisbury, 1932, p. 102): three with *Golfingia elongata* below Marine Hotel, 25.3.55; others with same host, Ox Point, 1.6.54 and 5.10.56 (G.M.S.)

Family **Erycinidae****LASAEA RUBRA** (Montagu) [Jeffreys, 1863, II, p. 219]

Abundant between tide-marks on all rocky shores, in crevices, etc. (S.P.): rocks below the Hoe, very common among barnacles and the holdfasts of *Fucus*, etc. (R.A.T.): Wembury, in crevices of shale (H.E.Q.): from M.H.W.S. to M.L.W.N.; with *Littorina neritoides* at upper limit of *Chthamalus stellatus* at Wembury; very abundant in *Pygmaea pumila* tufts and in mid-tidal and low-tidal crevices at Wembury; in interstices and empty *Chthamalus stellatus* shells, and in *Mytilus byssus*, Tinside (J.E.M.)

TURTONIA MINUTA (Fabricius) [Forbes and Hanley, 1849, II, p. 81]

Devon coast, very rare (Montagu, 1808, p. 21, as *Mya purpurea* n. sp.): rock crevices near L.W. at Tinside, 1956 (J.E.M.)

KELLIA SUBORBICULARIS (Montagu) [Forbes and Hanley, 1849, II, p. 87]

Not uncommon on all rocky shores, L.W.- 30 fm., in crevices, inside dead shells, etc., particularly where there is a thin layer of silt; gregarious (S.P.): Drake's Island; Asia Shoal; Queen's Ground; Rum Bay; Millbay Channel, in *Saxicava* borings; etc. (R.A.T., S.P.): Stoke Point Grounds in *Pholadidea* crypts, etc. (S.P.): Eddystone Grounds; generally in fine mud inside dead shells (E.J.A., S.P.): at 4 positions S.W. of Eddystone, 40-4 fm. (Crawshay, 1912, p. 376)

SALCOMBE. Often present in dredge material, generally in dead bivalve shells in which there was a deposit of mud (Allen and Todd, 1900, p. 208)

Breeding: apparently throughout the year but especially in late summer and early autumn (Lebour, 1938*b*, p. 124)

LEPTON SQUAMOSUM (Montagu) [Forbes and Hanley, 1849, II, p. 98]

River Yealm, south shore, on *Mya* bank in burrows of *Upogebia*, 4 specimens found in 2 burrows, 30.6.19, 5.2.24; River Yealm, shore by *Zostera* bed in a *Upogebia* burrow, 23.10.22 (J.H.O.): River Yealm on *Amphitrite johnstoni* ground near Noss, 1 specimen, 15.8.23 (A.D.H.): in burrows of *Upogebia deltaura*, south shore of River Yealm, April 1946 (D.P.W.): also yearly 1950-3, once three in one burrow (G.M.S.)

SALCOMBE. Commensal with *Upogebia stellata* (Norman, 1891): only shells found (Allen and Todd, 1900, p. 209): two living in one *Upogebia* burrow, 12.9.23; one of these emitted shelled larvae seven days later (R.W.): living specimens on two occasions in *Upogebia* (one at least *U. stellata*) burrows in Salcombe Estuary in black muddy sand (G.M.S.): in *Upogebia* burrows, 15.8.31, spatting next day (Salisbury, 1932, p. 101): occasional 1930-40 and 1946-56 (D.P.W., G.M.S.)

LEPTON NITIDUM Turton [Jeffreys, 1863, II, p. 198]

About a dozen valves, near Hand Deeps, Eddystone, 3.8.20 (R.W.)

GALEOMMA. TURTONI Sowerby [Jeffreys, 1863, II, p. 188]

From rock about 4 m. off Revelstoke, dredge, 18.12.25; red rock between Stoke Point and Mewstone, 22.4.27 (C.M.Y.): occasional specimens Mewstone-Revelstoke Point in 20-3 fm., 1929 (G.A.S.)

MOLLUSCA: LAMELLIBRANCHIA

Breeding: free-swimming shell-less embryos, Sept. (Lebour, 1938*b*, p. 124)

Family **Montacutidae**

MYSELLA BIDENTATA (Montagu) [*Jeffreys*, 1863, II, p. 208, as *Montacuta*]

One living, 28 fm. Rame-Eddystone, and valves, 1920 (R.W.): common in silty sand, inside and outside grounds (Ford, 1923)

SALCOMBE (type locality). Montagu (1803, p. 44) records it as not uncommon in the perforations of old thick oyster shells: associated with *Acrocnida brachiata* and in *Golfingia* burrows, 1923 (J.H.O., R.W.): regularly 1930-40 and 1946-56, with both hosts (D.P.W., G.M.S.)

Breeding: late veligers in summer and autumn, but chiefly autumn to spring (Lebour, 1938*b*, pp. 124, 142)

MYSELLA sp. [Lebour, 1938*b*, p. 143]

Breeding: viviparous larvae (Lebour, 1938*b*, pp. 124, 142)

MONTACUTA SUBSTRIATA (Montagu) [*Jeffreys*, 1863, II, p. 205]

Common, attached to the anal spines of *Spatangus purpureus* (R.A.T., S.P.): at 1 position S.W. of Eddystone, 46 fm., attached to *Spatangus purpureus* (Crawshay, 1912, p. 376): occasionally seen on *Spatangus* (D.P.W., G.M.S.)

MONTACUTA FERRUGINOSA (Montagu) [*Forbes* and *Hanley*, 1849, II, p. 72]

Yealm Sand-bank, common commensal with *Echinocardium cordatum* (R.A.T.): common commensal with *Echinocardium cordatum*, silty sand, outside Sound (Ford, 1923)

SALCOMBE. Always found commensal with *Echinocardium cordatum* in the clean sand at Mill Bay (Allen and Todd, 1900, p. 208): commonly so found, 1930-40 and 1946-56 (D.P.W., G.M.S.)

DEVONIA PERRIERI (Malard) [Anthony, 1916, p. 377, as *Entovalva*]

SALCOMBE. Attached to *Leptosynapta inhaerens*, April, May and Sept. 1923 (G.B., J.H.O., R.W.): similarly several during periods 1930-40 and 1946-8 (D.P.W.), and 1949-56 (G.M.S.)

Family **Cardiidae**

LAEVICARDIUM CRASSUM (Gmelin) [*Forbes* and *Hanley*, 1849, II, p. 35, as *Cardium norvegicum*]

Common on gravel, 15-30 fm.; West Channel and Queen's Ground, occasionally; Mewstone Ledge, moderately common in the patches of gravel between the rocks; Mewstone Amphioxus Ground; Rame-Eddystone Grounds, etc. (R.A.T., S.P.): Eddystone Grounds (E.J.A., S.P.): from 5 positions S.W. of Eddystone, 42-45 fm. (Crawshay, 1912, p. 377): on clean shell gravel, Mewstone and Eddystone Grounds (Ford, 1923)

Breeding: veligers in the plankton spring and summer (Lebour, 1938*b*, pp. 124, 132)

CARDIUM OVALE Sowerby [*Jeffreys*, 1863, II, p. 281, as *C. fasciatum*]

Occasionally in coarse sandy mud, outside Sound (Ford, 1923, as *C. fasciatum*): not uncommon in Sound (R.W.)

Breeding: one from Sound, ca. 5-6 mm. extruded ripe ova, 2.7.20 (J.H.O.)

CARDIUM SCABRUM Philippi [*Jeffreys*, 1863, II, p. 283, as *C. nodosum*]

Occasionally in shell gravel inside and outside Sound (Ford, 1923): in about 30 fm. near Hand Deeps, Eddystone (R.W.)

Breeding: July (Lebour, 1938*b*, pp. 124, 130)

CARDIUM EXIGUUM Gmelin [*Jeffreys*, 1863, II, p. 278]

Yealm Sand-bank, two in gravel and sand about L.W.M.N.T., 21.11.49 (N.A.H.): Yealm, S. shore, two living and some empty valves, 21.3.50 and 3.4.50 (G.M.S.)

SALCOMBE. Living on shore (R.W.): several dredged between Salstone and Ox Point, 1954 (D.A.H.)

CARDIUM EDULE L. [*Forbes and Hanley*, 1849, II, p. 15]

Hamoaze, abundant in places; occasional specimens from Laira, Drake's Island and- Rum Bay; Yealm River, abundant just below Steer Point (A.J.S.): common in Tamar up to Hole's Hole and in Lynher up to flats adjoining Ince Castle (E.P.); for distribution see Spooner and Moore, 1940, p. 317.

SALCOMBE. Commonest on the Salstone, lying on or near the surface of the muddy gravel on the west and south-east shores, and of the fine mud on the north-east; also on several other grounds, especially in the Kingsbridge estuary (Allen and Todd, 1900, p. 208)

Breeding: from River Yealm, 23.3.12, eggs very nearly ripe, 3 kept overnight yielded fertilized eggs (J.H.O.): Yealm River bed, near cockle bed, 21.4.20, ripe eggs not very abundant, artificially fertilized eggs developed so far as 4-cell stage (H.O.): spring to early autumn, chiefly May to August (Lebour, 1938*b*, pp. 124, 129)

CARDIUM TUBERCULATUM L. [*Jeffreys*, 1863, II, p. 273]

One young specimen, 9 mm. long, S.W. of Eddystone, 46 fm. (Crawshay, 1912, p. 377)

TORBAY. Occasional, after easterly gales, at Paignton (R.W.)

CARDIUM ECHINATUM L. [*Jeffreys*, 1863, II, p. 270]

Living specimens seldom obtained, 15-30 fm., although dead shells are moderately common; Cawsand Bay, single specimen (R.A.T.): Eddystone Grounds, fresh dead shells are a characteristic feature of the fine sand of the inner and outer trawling grounds (E.J.A.): at 2 positions, only one living, S.W. of Eddystone, 40 fm. (Crawshay, 1912, p. 377): very common, silty sand, inside and outside Sound, especially Bigbury Bay (Ford, 1923 and 1925, p. 547): growth in Bigbury Bay (Ford, 1925)

TORBAY. Occasional, after easterly gales, at Paignton (R.W.)

Breeding: nearly ripe eggs and ripe sperm in Jan., April, May, Sept. (Lebour, 1938*b*, pp. 124, 132)

CARDIUM ACULEATUM L. [*Jeffreys*, 1863, II, p. 268]

TORBAY. Occasional living specimens with *C. tuberculatum* and *C. echinatum*, after easterly gales, at Paignton (R.W.)

MOLLUSCA: LAMELLIBRANCHIA

Family **Veneridae****GOULDIA MINIMA** (Montagu) [*Forbes and Hanley*, 1848, I, p. 446, as *Circe*]

Not uncommon on fine and medium gravel, 5-30 fm.; Queen's Ground, occasionally; Mewstone Grounds; Stoke Point Grounds (S.P.): Eddystone Grounds (E.J.A., S.P.): at 3 positions S.W. of Eddystone, 42-6 fm. (Crawshay 1912, p. 377): not uncommon outside Sound in shelly gravel (Ford, 1923)

CALLISTA CHIONE (L.) [*Forbes and Hanley*, 1848, I, p. 396, as *Cytherea*]

Rare, outside Sound; Whitsand Bay (Ford, 1923, as *Meretrix*): 12 specimens dredged in fairly clean sand, Whitsand Bay, just inshore from the wreck, 8 fm., April 1952 (G.R.F.)

DOSINIA EXOLETA (L.) [*Jeffreys*, 1863, II, p. 327, as *Venus*]

Occasionally from gravel S. of Drake's Island and in Millbay Channel; Yealm Sand-bank, not uncommon (R.A.T.): Mewstone Grounds; Stoke Point Grounds; Rame-Eddystone Grounds; etc. (S.P.): Eddystone Grounds (E.J.A., S.P.): 1 specimen S.W. of Eddystone, 42 fm. (Crawshay, 1912, p. 376): common in shelly gravel, inside and outside Sound (Ford, 1923)

SALCOMBE. Below Marine Hotel, living, 11.4.52 (G.M.S.)

Breeding: apparently ripe eggs and ripe sperm, Feb., July (Lebour, 1938*b*, p. 124)

DOSINIA LUPINUS (L.) [*Jeffreys*, 1863, II, p. 330, as *Venus lincta*]

At 5 positions S.W. of Eddystone, 40-2 fm. (Crawshay, 1912, p. 376): common in silty sand, inside and outside Sound (Ford, 1923)

VENUS (VENUS) VERRUCOSA L. [*Forbes and Hanley*, 1848, I, p. 401]

Occasionally on mixed gravel grounds, 15-30 fm.; Rame-Eddystone Grounds; Mewstone Grounds; etc. (S.P.): Millbay Channel; Yealm Sandbank (R.A.T.): River Yealm, south side, 6 fine specimens just protruding out of the sand, on the patch of *Zostera* between Mashford's slip and the first corner going west, 1.4.15 (A.J.S.)

SALCOMBE. One specimen at extreme low-water mark, under Marine Hotel, 31.10.28 (G.A.S.)

Breeding: ripe eggs and sperm, April (Lebour, 1938*b*, p. 124)

VENUS (VENUS) CASINA L. [*Forbes and Hanley*, 1848, I, p. 405]

Occasionally on gravel grounds, 10-30 fm. (S.P.): at 12 positions S.W. of Eddystone, 42-46 fm. (Crawshay, 1912, p. 377): occasionally in Sound; one in muddy coarse shell-gravel, Eddystone, S.W. $\frac{3}{4}$ S. 1 $\frac{1}{2}$ m., 9.5.23 (Ford, 1923): Yealm Estuary, one alive, 7.4.55 (G.M.S.)

Breeding: throughout the year (Lebour, 1938*b*, p. 124)

VENUS (CHIONE) OVATA Pennant [*Forbes and Hanley*, 1848, I, p. 419]

Moderately common in the Sound on muddy sand and gravel, and occasionally outside in 15-30 fm. (R.A.T.): from 6 positions S.W. of Eddystone, 40-46 fm. (Crawshay, 1912, p. 377): common on sand or shelly gravel, inside and outside Sound (Ford, 1923)

SALCOMBE. Two specimens, on *Zostera* of Salcombe Estuary and between Snape's Point and the mouth of the Harbour (Allen and Todd, 1900, p. 208)

Breeding: March-Oct. (Lebour, 1938*b*, p. 124)

VENUS (CLAUSINELLA) FASCIATA da Costa [*Forbes and Hanley*, 1848, I, p. 415]

Common on coarse gravel, particularly on muddy or sandy gravel, 6-30 fm.; Queen's Ground; Mewstone Grounds; Stoke Point Grounds; Rame-' Eddystone Grounds; Eddystone Grounds (S.P.): Yealm Sand-bank, occasionally between tide-marks (R.A.T.): from 4 positions S.W. of Eddystone, 44-46 fm. (Crawshay, 1912, p. 376): common in shelly gravel inside and outside Sound (Ford, 1923)

SALCOMBE. One or two lying on clean sand in Mill Bay (Allen and Todd, 1900, p. 208)

Breeding: throughout the year (Lebour, 1938b, p. 124)

VENUS (CLAUSINELLA) STRIATULA da Costa [*Forbes and Hanley*, 1848, I, p. 408]

Cawsand Bay, moderately common in sand; occasionally on the outside grounds, 15-30 fm.; Yealm Sand-bank, between tide-marks (R.A.T.): occasional specimens in the Sound, common on sandy grounds outside (Ford, 1923)

SALCOMBE. Living specimens lying on the surface of the clean sand at Gazebo and Mill Bay (Allen and Todd, 1900, p. 208)

Breeding: Feb., March, May (Lebour, 1938b, p. 124)

VENERUPIS RHOMBOIDES (Pennant) [*Forbes and Hanley*, 1848, I, p. 388, as *Tapes virgineus*]

Common in gravel in Millbay Channel; occasional specimens from Drake's Island, Jennycliff Bay, the Breakwater, Reny Rocks, and from the outside grounds in 15-30 fm. (R.A.T.): from 7 positions S.W. of Eddystone, 40-49 fm. (Crawshay, 1912, p. 377): common in shell gravel, inside and outside Sound (Ford, 1923)

SALCOMBE. One on shore at Ox Point, 1954 (D.A.H.)

Breeding: Oct.-Dec., Feb., March (Lebour, 1938b, p. 124)

VENERUPIS SARNIENSIS (Turton, 1822, p. 153, pl. 10, fig. 6, as *Venus*)

Yealm Estuary, near Misery Point, occasional living, and frequent empty valves, amongst the plentiful *V. pullastra*; formerly confused with *V. aurea* and *V. rhomboides* (N.A.H.)

SALCOMBE. Sparingly on south side of Woodville Rocks (N.A.H.)

VENERUPIS PULLASTRA (Montagu) [*Jeffreys*, 1863, II, p. 355, as *Tapes*]

Occasionally between tide-marks and in dredgings from Sound; Yealm Sand-bank, common (R.A.T.): Yealm, south shore, abundant below M.T.L. (G.M.S.): Rat Island, near low water (E.P.): midway between Mallard Buoy and Batten Breakwater, common, 26.6.22 (Ford, 1923, p. 199)

SALCOMBE. By far the commonest bivalve on the Salstone, especially on the western shore, lying on the surface of the muddy gravel, or buried to a depth of 3 or 4 in.; a few on the other grounds, but nowhere so common as on the Salstone (Allen and Todd, 1900, p. 208)

Breeding: chiefly summer, also autumn (Lebour, 1938b, p. 124)

VENERUPIS SAXATILIS (Fleuriu) [*Jeffreys*, 1863, II, p. 357, as *Tapes pullastra* var. *perforans*]

Moderately common between tide-marks where the rocks are bored by *Hiatella* (R.A.T.): Rum Bay frequent in shale crevices (G.M.S.)

MOLLUSCA: LAMELLIBRANCHIA

VENERUPIS DECUSSATA (L.) [*Jeffreys*, 1863, II, p. 359, as *Tapes*]

Laira (A.J.S.): Yealm Sand-bank, not uncommon (S.P.): Yealm, south shore, occasional living in the more muddy gravel and dead shells frequent (G.M.S.)

SALCOMBE. Several living specimens in muddy gravel to the north of Pilworthy Point, and also in the bight below the Rectory (Southpool Lake), generally buried a few inches deep in the gravel (Allen and Todd, 1900, p. 207)

Breeding: ripe eggs and sperm in summer, also Dec. (Lebour, 1938*b*, p. 124)

VENERUPIS AUREA (Gmelin) [*Jeffreys*, 1863, II, p. 349, as *Tapes*]

Dead shells only (R.A.T.)

IRUS IRUS (L.) [*Jeffreys*, 1865, III, p. 86, as *Venerupis*]

Plymouth, in cavities in limestone (Montagu, 1803, p. 108). No further records and not seen 1956-7 (G.M.S.)

Family **Petricolidae****MYSIA UNDATA** (Pennant) [*Forbes and Hanley*, 1848, I, p. 435, as *Lucinopsis*]

Rame E., Tregantle, N.N.E., 2 living specimens trawled, 16.9.32 (M.R.)

Breeding: half-ripe eggs, Rame Mud, 16.9.32 (M.R.)

Family **Mastridae****SPISULA SUBTRUNCATA** (da Costa) [*Jeffreys*, 1863, II, p. 419, as *Mastra*]

Common in silty sand, outside grounds (Ford, 1923)

Breeding: active sperm, Nov., Jan.; nearly ripe eggs, Nov. (Lebour, 1938*b*, p. 125)

SPISULA SOLIDA (L.) [*Forbes and Hanley*, 1848, I, p. 351 and 354, as *Mastra solida* and *M. truncata*]

Drake's Island, common on sand-bank at east end (S.P. and A.J.S.): Yealm Sand-bank (R.A.T.): dead shells common on outside grounds (Ford, 1923)

SALCOMBE. Fairly common in the clean shell-gravel in the "Bag" off Snape's Point; shells were very common in North and South Sand Bays; 1 or 2 specimens obtained on the Bar; when dredging in the latter locality on 2.10.96, large numbers of this species were obtained (Allen and Todd, 1900, p. 207)

Breeding: winter and early spring (Lebour, 1938*b*, p. 125)

SPISULA ELLIPTICA (Brown) [*Forbes and Hanley*, 1848, I, p. 356, as *Mastra*]

West entrance, abundant; Cawsand Bay, moderately common (S.P.): at 3 positions S.W. of Eddystone, 42-49 fm. (Crawshay, 1912, p. 376): common in silty sand, inside and outside Sound (Ford, 1923)

MACTRA CORALLINA (L.) [*Jeffreys*, 1863, II, p. 422, as *M. stultorum*]

Common, living in clean sand, Whitsand Bay, Bigbury Bay (Ford, 1923)

Breeding: late spring (Ford, 1925, p. 555)

MOLLUSCA: LAMELLIBRANCHIA

Family **Lutrariidae****LUTRARIA LUTRARIA** (L.) [*Jeffreys*, 1863, II, p. 428, as *L. elliptica*]

Drake's Island, abundant in a small sandy patch on the *Zostera* bed on the N.E. side (S.P.): one dead valve S.W. of Eddystone, 42 fm. (Crawshay, 1912, p. 376): fairly common on sandy mud and sand inside and outside the Sound (Ford, 1923 and 1925)

SALCOMBE. On sand and *Zostera* bank off Mill Bay, usually only uncovered at low water; not uncommon on the sand and *Zostera* banks between MW Bay and the Ferry House; single specimens in the sand below Gazebo, in gravel on the south-east and in mud on the north-east shore of the Salstone, generally a foot or more below the surface (Allen and Todd, 1900, p. 207)

Breeding: gonads ripe, March-April (S.P.)

LUTRARIA MAGNA (da Costa) [*Jeffreys*, 1863, II, p. 430, as *L. oblonga*]

Fairly common in shelly gravel in the Sound (Ford, 1923 and 1925, as *L. oblonga*)

Family **Asaphidae****GARI DEPRESSA** (Pennant) [*Jeffreys*, 1863, II, p. 398, as *Psammobia vespertina*]

Yealm River, not uncommon in coarse sand between tide-marks (R.A.T.): sand-bank, River Yealm, digging in sand at low tide, 15 specimens, 1.5.09 (A.J.S.)

GARI COSTULATA (Turton) [*Jeffreys*, 1863, II, p. 394, as *Psammobia*]

Occasionally with *G. tellinella*; Rame-Eddystone Grounds; Eddystone Grounds; etc. (S.P.): single specimens S.W. of Eddystone, 40-43 fm. (Crawshay, 1912, p. 377): rare in shell-gravel in Sound (Ford, 1923)

GARI FERVENSIS (Gmelin) [*Jeffreys*, 1863, II, p. 396, as *Psammobia ferroensis*]

Small specimens, not uncommon in Cawsand Bay, and dead shells are moderately common in 15-30 fm. (R.A.T.): one dead valve S.W. of Eddystone, 40 fm. (Crawshay, 1912, p. 377): occasional living specimens on sandy ground outside Eddystone (N.A.H.)

SALCOMBE. One dug in Mill Bay at E.L.W.S.T., 24.3.51 (N.A.H.)

GARI TELLINELLA (Lamarck) [*Jeffreys*, 1863, II, p. 392, as *Psammobia*]

Millbay Channel; Mewstone Grounds, common in gravel and coarse sand (R.A.T.): Stoke Point Grounds; Rame-Eddystone Grounds; etc. (S.P.): one dead shell S.W. of Eddystone, 49-53 fm. (Crawshay, 1912, p. 378): fairly common inside and outside Sound in shell-gravel (Ford, 1923)

Breeding: summer (Lebour, 1938*b*, p. 125)

SOLECURTUS CHAMASOLEN (da Costa) [*Jeffreys*, 1865, III, p. 6, as *S. antiquatus*] (in 1931 Fauna List as *Psammosolen*)

Jennycliff Bay, single specimen; 4 m. W. by S. of Rame Head, single specimen; dead shells not uncommon 24 m. S.W. of Rame Head (R.A.T.): occasionally in silty, solid, black mud, inside and outside Sound (Ford, 1923): common in Rame Mud area (G.M.S.)

MOLLUSCA: LAMELLIBRANCHIA

Breeding: summer (Lebour, 1938*b*, p. 125): unripe eggs and sperm, Aug.-Oct. 1932 (M.R.)

SOLECURTUS SCOPULA (Turton) [*Jeffreys*, 1865, III, p. 3, as *S. candidus*] (*Psammosolen candidus* in 1931 Fauna List)

Eddystone Grounds, single specimen (R.A.T.): occasionally in shelly gravel outside Sound (Ford, 1923): regular in the shell gravel (G.M.S.)

Breeding: nearly ripe eggs and sperm, July (Lebour, 1938*b*)

Family **Scrobiculariidae**ABRA PRISMATICA (Montagu) [*Jeffreys*, 1863, II, p. 435, as Scrobicularia]

Rame-Eddystone; 3 specimens S.W. of Eddystone, 40 fm. (Crawshay, 1912, p. 376); Cawsand Bay, empty shells very common; Cawsand (K.H.B.): common in clean sand inside and outside Sound; Whitsand Bay (Ford, 1923), *ca.* 30 fm., near Hand Deeps, Eddystone, a few valves (R.W.): Tamar Estuary, West Muds and Thanckes Lake near L.W. (G.M.S.)

ABRA NITIDA (Müller) [*Jeffreys*, 1863, II, p. 436, as Scrobicularia]

Dead shells in Sound in black mud; Cawsand Bay (K.H.B.): very common in silty sand, inside and outside Sound (Ford, 1923): near Mallard Buoy in numbers (J.R.B.): Tamar Estuary, West Muds, near L.W. (G.M.S.)

ABRA ALBA (W. Wood) [*Jeffreys*, 1863, II, p. 438, as Scrobicularia]

Very common in silty sand, inside and outside Sound, especially Bigbury Bay (Ford, 1923; G.A.S.): near Mallard Buoy in large numbers (J.R.B.): growth stages, Bigbury Bay (Ford, 1925, p. 539): 1954, much less common than formerly (N.A.H.)

SALCOMBE. Several living specimens dredged in the channel off Tosnos Point (Allen and Todd, 1900, p. 207)

Breeding: summer (Lebour, 1938*b*, p. 125)

SCROBICULARIA PLANA (da Costa) [*Jeffreys*, 1863, II, p. 444, as *S. piperata*]

St. John's Lake, Hamoaze, common in fine tenacious mud (R.A.T.): in stiff mud as far as Pentillie Quay, River Tamar; mud banks immediately above St. Germans Viaduct; common (E.P.): for distribution in Tamar Estuary see Spooner and Moore, 1940, p. 318: Yealm Estuary, above Steer Point, numerous (G.M.S.)

SALCOMBE. Not uncommon in the mud just to the south of Snape's Point and in the gravel to the north of Pilworthy Creek, four or five together; single specimens in the creek below the Rectory (Southpool Lake) in gravel south-east of Pilworthy Point, and in gravel under Marine Hotel (Allen and Todd, 1900, p. 207)

Breeding: summer (Lebour, 1938*b*, p. 125)

Family **Tellinidae**ARCOPAGIA CRASSA (Pennant) [*Forbes and Hanley*, 1848, I, p. 288, as Tellina]

Drake's Island, occasionally between tide-marks (R.A.T.): Mewstone Grounds, common; Rame-Eddystone Grounds (R.A.T., S.P.): Stoke Point Grounds (S.P.): Eddystone Grounds (E.J.A., S.P.): Yealm River, occasionally

MOLLUSCA: LAMELLIBRANCHIA

on coarse sand between tide-marks (R.A.T., (G.M.S.): at 2 positions S.W. of Eddystone, one alive, one dead, 45-46 fm. (Crawshay, 1912, p.376): common in shell gravel, inside and outside the Sound (Ford, 1923)

Breeding: usually in summer; ripe eggs and sperm (Lebour, 1938*b*)

MACOMA BALTHICA (L.) [*Jeffreys*, 1863, II, p. 375, as *Tellina*]

Saltash, one record (E.J.A.): hard ground above Ince Castle, River Lynher, about half-tide; dead shells at Weir Quay and district, River Tamar (E.P.): for distribution in Tamar Estuary see Spooner and Moore, 1940, p. 322.

SALCOMBE. Shells common on mud near Kingsbridge; 1 or 2 living specimens in muddy gravel between *Zostera* and shore, near Ditch End, buried 3 or 4 in. (Allen and Todd, 1900, p. 207)

Breeding: active sperm in July (Lebour, 1938*b*)

TELLINA DONACINA L. [*Forbes and Hanley*, 1848, I, p. 292]

Yealm River, occasionally in coarse sand between tide-marks (R.A.T.): Mewstone bearing N. ½ W. ½ m., dredge, 10.6.12, 5 specimens (A.J.S.): occasionally on the outside grounds (Ford, 1923)

TELLINA PYGMAEA Lovén [*Jeffreys*, 1863, II, p. 388, as *T. pusilla*]

Common in shell gravel, New Grounds, Eddystone Grounds (Ford, 1923): one or two dredged in Rum Bay, March 1951 (N.A.H.)

TELLINA FABULA Gmelin [*Forbes and Hanley*, 1848, I, p. 302]

Not uncommon in the muddy sand of the *Zostera* beds; Cawsand Bay; Batten Bay; Jennycliff Bay; etc. (S.P.): common in clean silty sand on inside and outside grounds (Ford, 1923)

SALCOMBE. A living specimen in the *Zostera* bank under the Marine Hotel, buried 6 or 8 in. (Allen and Todd, 1900, p. 206)

TELLINA TENUIS da Costa [*Jeffreys*, 1863, II, p. 379]

SALCOMBE. East side of Estuary (R.W.): occasional, Mill Bay (D.P.W.): one only. near low water, in sand, midway between Ferry House and Mill Bay, 13.11.47 (N.A.H.)

EXMOUTH. Common on west side of Pole Sands, on Salthouse Lake, etc. (Holme, 1949, p. 225)

Breeding: ripe eggs and sperm in May (Lebour, 1938*b*)

TELLINA SQUALIDA Montagu [*Jeffreys*, 1863, II, p. 384] (*T. incarnata* of 1931 Fauna List)

Dead shells only (R.A.T.): one living specimen, Cawsand Bay, muddy sand at 12 metres, 2.6.48 (N.A.H.)

SALCOMBE. Shells only (Allen and Todd, 1900): valves abundant, cast side (R.W.): Mill Bay, two living, 18.3.57 (G.M.S.)

Family **Donacidae**

DONAX VITTATUS (da Costa) [*Jeffreys*, 1863, II, p. 402]

Whitsand Bay, occasional specimens (R.A.T.): common on clean sand outside Sound (Ford, 1923)

MOLLUSCA: LAMELLIBRANCHIA

SALCOMBE. Occasional, Mill Bay (D.P.W.): one living, Mill Bay, 11.4.52 (G.M.S.)

DONAX VARIEGATUS (Gmelin) [*Forbes and Hanley*, 1848, I, p. 336, as *D. politus*]
Dead shells only (R.A.T.)

Family Solenidae

PHAXAS PELLUCIDUS (Pennant) [*Jeffreys*, 1865, III, p. 14, as Solen]

Jennycliff Bay; Cawsand Bay; common (R.A.T., S.P.): Mallard Shoal, in sandy mud (S.P.): from S.W. of Eddystone, 40 fm. (Crawshay, 1912, p. 378): very common in silty sand, inside and outside Sound (Ford, 1923 and 1925): Drake's Island, N. side, muddy sand, L.W.E.S.T., one specimen, 17.3.53 N.A.H.)

SALCOMBE. Several specimens lying on the surface of the sand at Mill Bay just after the tide had turned, having come out of their holes; one large specimen from the mud on the N.E. of the Salstone (Allen and Todd, 1900, p. 206)

Breeding: late summer and winter (Lebour, 1938*b*, p. 125): spat in June (Ford, 1925, p. 556)

SOLENS MARGINATUS Pulteney [*Forbes and Hanley*, 1848, I, p. 242]

Drake's Island, occasionally on muddy sand north of the Island (S.P.): Yealm Sand-bank (R.A.T.): Yealm Sand-bank, 20.10.33 (D.A.)

SALCOMBE. Characteristic of the sand and *Zostera* banks between Mill Bay and the Ferry House, burrowing to a depth of 18 in. or so (Allen and Todd, 1900, p. 206, as *S. vagina*): Mill Bay, 5.9.33 (D.A.)

ENSIS ENSIS (L.) [*Jeffreys*, 1865, p. 16, as Solen; *Holme*, 1951, p. 639]

Common in clean sand, inside and outside Sound (Ford, 1923): Cawsand Bay, one in Agassiz trawl; Whitsand Bay, several small specimens dredged; Cellars Beach (River Yealm), occasional; one 7 m. E. of Eddystone; Drake's Island, occasional on N. side, L.W.E.S.T. (N.A.H.)

SALCOMBE. Common at north end of Mill Bay; occasional specimens south of Marine Hotel (N.A.H.)

Breeding: spring, larvae reared to metamorphosis in three weeks (N.A.H.)

ENSIS ARCUATUS (Jeffreys) [*Jeffreys*, 1865, III, p. 19, as *Solen siliqua* var. *arcuata*; *Holme*, 1951, p. 639]

Whitsand Bay, occasional offshore; Drake's Island, rare; occasional specimens when dredging in shell-gravel at the Eddystone, and off the Mewstone and Revelstoke Point; Yealm Sand-bank, abundant; Cellars Beach, common; Drake's Island, quite common in coarse sand at N.E. corner, L.W.E.S.T. (N.A.H.)

SALCOMBE. Mill Bay, common in coarse sand; below Marine Hotel, occasional; Woodville rocks, scarce (N.A.H.)

Breeding: spring (N.A.H.)

ENSIS SILIQUA (L.) [*Jeffreys*, 1865, III, p. 18, as Solen; *Holme*, 1951, p. 639]

Occasional in Whitsand Bay; Bigbury Bay, several specimens in bottom sampler in depth of 20 m.; Drake's Island, occasional on N. side, L.W.E.S.T. (N.A.H.)

MOLLUSCA: LAMELLIBRANCHIA

SALCOMBE. Mill Bay, south side, occasional, less common than formerly (N.A.H.)

TORBAY. Common in all sandy beaches (N.A.H.)

Breeding: early spring (Lebour, 1938*b*, p. 125): spring, larvae reared to metamorphosis in three weeks (N.A.H.)

Family **Hiatellidae***

HIATELLA ARCTICA (L.) [*Forbes and Hanley*, 1848, I, p. 141, as *Saxicava*]

Mewstone Grounds; Rame-Eddystone Grounds (R.A.T.): Eddystone Grounds, on all grounds, attached to shells, the roots of hydroids, etc. (E.J.A.): from several positions S.W. of Eddystone, 40-50 fm. (Crawshay, 1912, p. 378): generally distributed, inside and outside Sound (R.W.): usually free, but occasionally found in holes (M.V.L.)

SALCOMBE. Two specimens attached to stones in dredge between Salstone and mouth of Harbour (Allen and Todd, 1900, p. 205)

Breeding: summer (Lebour, 1938*b*, pp. 125, 138)

HIATELLA STRIATA (Fleuriu) [*Forbes and Hanley*, 1848, I, p. 146, as *Saxicava rugosa*]

Generally distributed, in limestone, etc., low water to 20 fm. (R.A.T.): 4 fm., Sound (R.W.): always, or nearly always, found in holes in stone, especially in red rock dredged from Stoke Point Grounds, also in rocks at Rum Bay (M.V.L.)

Breeding: chiefly winter (Lebour, 1938*b*, p. 125, 138, as *H. gallicana*)

Family **Erodonidae**

CORBULA GIBBA (Olivi) [*Jeffreys*, 1865, III, p. 56] (in 1931 Fauna List as *Aloidis*)

Jennycliff Bay; Cawsand Bay; occasionally (R.A.T., S.P.): Mewstone Grounds; Stoke Point Grounds; Rame-Eddystone Grounds, not uncommon on muddy gravel (S.P.): very common in patches of silty sand, outside Sound (Ford, 1923)

Breeding: successful fertilization, April (Lebour, 1938*b*, p. 125)

Family **Myidae**

MYA TRUNCATA L. [*Forbes and Hanley*, 1848, I, p. 163]

Single specimen once, 4 small specimens another time, Yealm Sandbank; on the south side of the River Yealm there is a good bed about 100 yd. long starting a few yards west of Mashford's slip up to the first corner going west, towards the mouth of the river (A.J.S.): south shore of Yealm seawards of Ferry House, abundant at level of L.W. ordinary springs in gravelly soil adjacent to but east of *Zostera* bed (J.H.O.): occasionally in mud in Sound (Ford, 1923)

SALCOMBE. W. side, south of Marine Hotel, L.W.E.S.T one specimen, 16.3.53 (N.A.H.)

Breeding: one hermaphrodite with nearly ripe eggs and active sperm in May (Lebour, 1938*b*, p. 125)

*For nomenclature and habits of *Hiatella* spp. see Hunter. 1949.

MOLLUSCA: LAMELLIBRANCHIA

Family **Gastrochaenidae****GASTROCHAENA DUBIA** (Pennant) [*Jeffreys*, 1865, III, p. 91]

The Breakwater, boring in limestone; Asia Shoal; Millbay Channel and Pit; River Yealm, single specimen boring in an oyster shell (R.A.T.): Mewstone Ledge, dredged, broken out of a red sandstone rock; Eddystone Grounds, dredged, in red sandstone with calcareous syphon tubes shewing; Stoke Point Grounds (A.J.S.)

Breeding: successful fertilization in Jan. (Lebour, 1938*b*, p. 125)

Family **Pholadidae****BARNEA CANDIDA** (L.) [*Forbes and Hanley*, 1848, I, p. 117, as *Pholas*]

No Plymouth records; Salcombe, Torquay and Exmouth (Forbes and Hanley, *loc. cit.*)

SALCOMBE. 'Sufficiently plentiful' in decayed wood with *parvus* and *dactylus* (Montagu, 1803, p. 24)

BARNEA PARVA (Pennant) [*Forbes and Hanley*, 1848, I, p. III, as *Pholas*]

Rum Bay, common (R.A.T.): several, Rum Bay, 25.7.49 (N.A.H.)

SALCOMBE. Abundant, with the next (Montagu, 1803, p. 22)

Breeding: summer and early autumn (Lebour, 1938*b*, pp. 125, 135)

PHOLAS DACTYLUS L. [*Forbes and Hanley*, 1848, I, p. 108]

Rum Bay, common in particular patches of shale rock (R.A.T., A.J.S.): one, Rum Bay, 25.7.49 (N.A.H.)

SALCOMBE. In great abundance in submerged tree stumps (Montagu, 1803, p. 20): recent shells some over 5 in. in length, in mud between Garston Point and the Salstone (Allen and Todd, 1900, p. 205)

XYLOPHAGA DORSALIS Turton [*Jeffreys*, 1865, III, p. 120]

Eddystone bearing W.S.W. 4 m., from a piece of wood which came up in the trawl (A.J.S.): occasionally on all grounds in sunken wood (G.A.S.)

Breeding: ripe ova, Nov., Dec., March (Lebour, 1946, p. 388)

PHOLADIDEA LOSCOMBIANA Turton [*Forbes and Hanley*, 1848, I, p. 123, as *P. papyracea*]

Rum Bay, common at low tide (R.A.T.): abundant in the red rock of the Mewstone Ledge, Stoke Point, etc., 10-20 fm. (S.P.)

Breeding: autumn (Lebour, 1938*b*, pp. 125, 133)

Family **Teredinidae****TEREDO MEGOTARA** Hanley [*Jeffreys*, 1865, III, p. 176]

Occasionally in driftwood (Lebour, 1946, p. 387)

Breeding: immature ova, Sept.; ripe ova, Jan. (Lebour, 1946, p. 387)

TEREDO NORVEGICA Spengler [*Jeffreys*, 1865, III, p. 168]

Cawsand Bay (R.W.): in piles of the R.N. Barracks pier (J.H.O.): with the last in raft and fixed wood (M.V.L.)

Breeding: Pier Cellars jetty, all individuals examined over 3 in. long

contained ripe sexual products, 6.8.21 (ORB.): gonads ripe March-Nov. (C.M.Y.): all the year (Lebour, 1946, p. 382)

TEREDO NAVALIS L. var. [*Lebour*, 1946, p. 382]

Not uncommon in drift and submerged wood (R.A.T.)

Breeding: all the year (Lebour, 1946, p. 382)

Family **Lyonsiidae**

LYONSIA NORVEGICA Macgillivray [*Jeffreys*, 1865, III, p. 29]

Cawsand Bay, occasionally (R.A.T.): single specimen off Stoke Point (E.J.A.): one pair of dead valves S.W. of Eddystone, 43 fm. (Crawshay, 1912, p. 378): rare in silty sand, outside grounds (Ford, 1923): one specimen, Mewstone Grounds, 22.9.31; one specimen, Rame Mud, 28.9.32 (D.A.)

Family **Pandoridae**

PANDORA ALBIDA (Röding) [*Jeffreys*, 1865, III, p. 24, as *P. inaequalis*]

Cawsand Bay, occasionally (R.A.T.): Rame-Eddystone Grounds (R.A.T., S.P.): Eddystone Grounds (E.J.A., S.P.): Stoke Point Grounds (S.P.): Rum Bay, two at L.W., 6.4.55 (G.M.S.)

PANDORA PINNA (Montagu) [*Forbes and Hanley*, 1848, I, p. 210, as *P. obtusa*]

One specimen, Looe-Eddystone Ground, 22.8.33: 1 specimen Mewstone Grounds, 22.9.33 (D.A.)

TORCROSS (type locality). By dredging (Montagu, 1803, p. 566)

Family **Thraciidae**

THRACIA PHASEOLINA (Lamarck) [*Forbes and Hanley*, 1848, I, p. 221]

Single specimen south of Batten Castle, in sand (R.A.T.): Jennycliff Bay, one live specimen in mud, with *Thyasira flexuosa* (K.H.B.)

SALCOMBE. One living specimen lying on the sand at Mill Bay (Allen and Todd, 1900, p. 206)

Breeding: nearly ripe, hermaphrodite, July (Lebour, 1938*b*, p. 125)

THRACIA PUBESCENS (Montagu) [*Jeffreys*, 1865, III, p. 38]

Plymouth (Montagu, 1803, p. 40): dead shells only (R.A.T.): Rame-Eddystone Grounds, otter-trawl, two alive and several empty shells (K.H.B.)

THRACIA CONVEXA (W. Wood) [*Jeffreys*, 1865, III, p. 39]

One specimen, Rame Head, N.E. by E., ½ E., 1½ m. in coarse muddy sand (Ford, 1923, p. 219): Rame-Eddystone Grounds, one dead shell (K.H.B.)

Eggs from hermaphrodite fertilized, Sept. (Lebour, 1938*b*, p. 125)

THRACIA DISTORTA (Montagu) [*Jeffreys*, 1865, III, p. 41]

Plymouth, lodged in hard limestone (Montagu, 1803, p. 42): Mewstone Ledge, in red conglomerate, many shells (R.W.)

THRACIA VILLOSIUSCULA (Macgillivray) [*Forbes and Hanley*, 1848, I, p. 224]

Plymouth, ground unknown, 17.5.32, 18.1.33, 27.4.33 (D.A.)

MOLLUSCA: CEPHALOPODA

Family **Laternulidae**

COCHLODESMA PRAETENUE (Montagu) [*Jeffreys*, 1865, III, p. 34, as *Thracia praetenuis*]

Occasional specimens in sandy grounds outside Eddystone (N.A.H.)

SALCOME. One specimen, Zostera bed, Mill Bay, 13.2.33 (D.P.W.)

Class **CEPHALOPODA**

Order DECACERA

Family **Sepiidae**

SEPIA ELEGANS Orbigny [*Adam*, 1952, p. 22]

Not uncommon on the trawling grounds (E.W.L.H., W.I.B., S.P.): at 2 positions S.W. of Eddystone, 42-49 fm. (Crawshay, 1912, p. 378)

Breeding: egg capsules, Mewstone 10°-3½ m., 27 fm., Agassiz trawl, 11.12.38 (G.A.S., M.V.L.): off Eddystone on Nemertesia, 5.2.29 (M.V.L.): eggs on Nemertesia, July 1927, July 1929; on Cellaria, Sept. 1930 (A.M.B.)

SEPIA OFFICINALIS (L.) [*Tompsett*, 1939, p. 1]

Comes into the bays and estuaries to spawn during July and Aug. (W.I.B.): Mewstone Grounds; Rame-Eddystone Grounds, etc., occasionally (R.A.T.): very scarce during 1904 (A.J.S.): at 2 positions S.W. of Eddystone, 42-49 fm. (Crawshay, 1912, p. 378): a common species readily obtainable during most of the year (D.P.W.)

Breeding: July-Sept. (R.A.T.): hatching, Oct. (R.A.T.)

Family **Sepiolidae**

ROSSIA MACROSOMA (Delle Chiaje) [*Pfeffer*, 1908, p. 40]

Two specimens, autumn 1892 (W.G.): occasionally on the trawling grounds (A.J.S.)

SEPIOLA ATLANTICA d'Orbigny [*Pfeffer*, 1908, p. 59]

Common in Cawsand Bay, Jennycliff Bay and Whitsand Bay; occasionally on the outside grounds in 15-30 fm. (R.A.T., S.P.): the Cattewater, common (R.A.T.): Tamar River, common just below Saltash Bridge: Donderry, common in sandy pools; Yealm River (W.I.B.): 1 specimen S.W. of Eddystone, 42 fm. (Crawshay, 1912, p. 379): usually obtainable in ones and twos (D.P.W., G.M.S.)

Breeding: eggs on Cellaria (?), one or two sets of 5 or 6, July 1927, on Cellaria, July 1929, several lots (A.M.B.)

SEPIETTA OWENIANA (d'Orbigny) [*Pfeffer*, 1908, p. 49, as *Sepiola*]

The Sound, single specimen, Nov. 1887 (W.H.): Mewstone Grounds. single specimen, Oct. 1899 (W.I.B.)

Family **Loliginidae**

LOLIGO FORBESI Steenstrup [*Pfeffer*, 1908, p. 27]

The Sound, occasionally (W.G.): practically absent, Jan.-June 1895, (E.J.A.): River Tamar, below Saltash Bridge; River Lynher; small specimens

MOLLUSCA: CEPHALOPODA

common, July 1897 (E.W.L.H.): inner trawling grounds, large specimen, Aug. 1897 (W.I.B.): Sutton Harbour, latter end of Sept. and early Oct. 1914, hand-net, hook and line, and usually trammel, eight or ten dozen large specimens, mostly off the North Quay; of about three dozen examined, three out of every dozen were males (A.J.S.): a common species readily obtainable during most of the year (D.P.W.)

Breeding: April-Sept. (W.G.): Mewstone Ledge, 25.10.28, large numbers of egg capsules, mostly with half-developed embryos (A.J.S.): *ca.* 2½ m. S. of Stoke Point, many capsules, 30.1.29 (G.A.S., M.V.L.): spawn rarer than *Alloteuthis*; two clusters middle of May 1927, one lot, Sept. 1928; two lots between June 27th and Aug. 20th and Sept. 24th and Oct. 12th, 1929; three lots (one ripe, one half-ripe), Sept. 1930 (A.M.B.): occasionally, June-Oct. (M.V.L.)

LOLIGO VULGARIS Lamarck [*Adam*, 1952, p. 48]

Occasional specimens of this southern form off Plymouth (A.J.S.)

ALLOTEUTHIS SUBULATA (Lamarck) [*Pfeffer*, 1908, p. 29, as *Loligo media*]

Cawsand Bay; Whitsand Bay (W.G.): Jennycliff Bay (R.A.T.): St. John's Lake, Hamoaze, Aug. 1898 (E.W.L.H.): 1 specimen S.W. of Eddystone, 42 fm. (Crawshay, 1912, p. 379): one, off Draystone (W.G.)

Breeding: April-June (W.G.): late embryos in Oct. (W.G.): spawn plentiful, May-Oct. (A.M.B.): April-Dec. (M.V.L.) [It should be noted that *Alloteuthis media* (L.), a Mediterranean species, has not been found in British waters (W.J.R.)]

Family **Ommastrephidae**

ILLEX COINDETI (Vèrany) [*Adam*, 1952, p. 80, as *I. illecebrosus coindetii*]

From mackerel nets about 20 m. S.W. of Eddystone, 29.6.20, one (R.W.): a half-ripe female brought in on the morning of 19.7.29, and probably caught not far from the Sound (A.M.B.): one trawled, 19.3.51 (G.M.S.)

TODAROPSIS EBLANAE (Ball) [*Adam*, 1952, p. 94]

Plymouth neighbourhood, single specimen (J.T.C. and W.E.H.): from market, not uncommon, June, Nov. 1920 (20 specimens) (R.W.)

OMMASTREPES PTEROPUS Steenstrup [*Adam*, 1952, p. 103]

Captured off Salcombe, 6.1.1892 (Goodrich, 1892)

OMMASTREPES CAROLI Furtado [*Pfeffer*, 1908, p. 100]

Washed ashore at Looe, Nov. 1940 (Rees, 1950a)

[There is a possibility that *O. pteropus* and *O. caroli* are stages of the same species (see Rees and Maul, 1956, p. 268)]

Order OCTOPODA

Family **Octopodidae**

ELEDONE CIRRHOSA (Lamarck) [*Isgrove*, 1909, p. 1]

Frequently met with on the trawling grounds (E.J.A.): commonly caught in lobster pots (A.J.S.): 1 specimen S.W. of Eddystone, 43 fm. (Crawshay,

MOLLUSCA: CEPHALOPODA

1912, p. 379): not uncommon but the number taken varies from year to year (D.P.W.)

Breeding: a specimen laying eggs in a aquarium tank, several batches during twenty-four hours, 11.1.24 (A.J.S.): spawned in aquarium in July (Isgrove, 1909, p. 91): an undated egg mass from the Eddystone Grounds is described by Rees (1956c, p. 285)

OCTOPUS VULGARIS Lamarck [*Jeffreys*, 1869, V, p. 144]

On the shore and from lobster-pots; generally only a few specimens are obtained during the summer months, but it varies greatly in abundance in different years (E.J.A.): exceptionally plentiful in 1900 (W.G.) and in 1951 (D.P.W.; Rees, 1950b; Rees and Lumby, 1954)

SALCOMBE. Three specimens were found nested on the southern end of the Salstone (Aug. 12th); also taken in the dredge, and with seine nets (tucknet) in Salcombe Harbour (Todd in Allen and Todd, 1900, p. 212)

Breeding: spawned in aquarium, March 1947 and in April 1951 (D.P.W.): teapot containing spawn and small female trawled Middle Grounds, July 1952; eggs hatched at various times during the first three weeks of Aug.; larvae survived one week after hatching (G.R.F.): one planktonic larva off Looe, August 1950 (Rees and Lumby, 1954, p. 519)

