

The Ascidian Fauna of the Plymouth Area.

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THE nomenclature followed is that used by Hartmeyer (9), in which account will be found identification keys and complete lists of the synonymous species, only the commoner of which are given below. That his conclusions in this respect are open to question has already been pointed out (see *Journ. Mar. Biol. Assoc.*, Vol. XV, p. 159).

For a description with figure of a species the reference number is placed after the name.

Those species common but widely scattered are denoted thus *, those common but local **.

Keys to localities : Aquarium tanks, *at.* Asia shoal, *a.* Bridge ground, *b.* Cawsand Bay, *c.* Duke Rock, *d.* Drake's Island, *dr.* Eddystone Grounds, *e.* Mewstone ledge, *f.* Millbay channel, *g.* Millbay Pier, *h.* New Grounds, *i.* Millbay Docks, *j.* Queen's Ground, *k.* Rame, *l.* Rame-Eddystone, *m.* Stoke Point, *n.* Salcombe (Castle Rocks), *o.* Salcombe (Salstone), *p.* Shore below Laboratory, *q.* Skerries, *s.* Torbay, *t.* Yealm River (hotel corner), *y.* Wembury, *w.* For outer western area stations (Crawshay, 3), station number.

The months in which the different species are recorded to breed are denoted by Roman numerals, but the breeding season may in any case be of longer duration than that shown.

The records include those in the "Plymouth Invertebrate Fauna" (1), in the "Fauna of the Outer Western Area" (3), from collections in the museum of the Plymouth Laboratory identified (1911) by Hartmeyer, and those made by myself during the last four years.

Molgulidae,

EUGYRA ARENOSA Ald. (14). Deep water, free in sand or gravel.
m.1.6.10.37.

MOLGULA MANHATTENSIS de Kay, var. AMPULLOIDES. =*M. ampulloides* Bened. (14). Low water, fixed. I-XII. *j.p.y.*

**MOLGULA OCULATA Forb. (14). Deep water, free in sand or gravel.
VII-IX. c.m.11.33.46.

**MOLGULA OCCULTA Kupff. =*M. roscovita* Lac.-Duth. (14). ? +*M. conchilega* Forb. In association with *M. oculata*. VII-IX. c.m. 11.33.46.

MOLGULA SIMPLEX Ald. (14). Deep water, fixed. V-VIII. e.i.h.1.3.7. 8.10.11.12.31.32.34.49.70.

MOLGULA COMPLANATA Ald. (14). Shallow water and intertidal, fixed. VII-IX. a.o.

Tethyidæ.

PYURA TESSELLATA Forb. (15). =*Forbesella tessellata* Lac.-Duth. Shallow to deep water. VIII. e.f.n.p.

PYURA SQUAMULOSA Ald. (10). f.

PYURA SAVIGNYI Phil. (15). =*Pyura (Cynthia) morus* Forb. Shallow to deep water. VIII. f.m.p.s.3.4.8.15.34.43.

MICROCOSMUS CLAUDICANS Sav. (15). t.f.

Styelidæ.

POLYCARPA POMARIA Sav. (15) (?). ? =*P. varians* + *P. tuberosa* Lac.-Duth. Deep water. VIII-IX. e.f.g.k.y.1.3.4.7.8.9.12.49.59.60.70.72.

POLYCARPA FIBROSA Stps. (15). =*P. comata* Ald. Shallow water. V-IX. k.p.y.1.4.10.31.53.

*POLYCARPA RUSTICA Lac.-Duth. (15). Shallow water. V-IX. p.

POLYCARPA GRACILIS Hell. =*P. tenere* Lac.-Duth. (15). Shallow water. f.y.

**STYELOPSIS (DENDRODOA) GROSSULARIA Bened. (15). Shallow water and intertidal. IV-X. a.f.h.q.y.

STOLONICA SOCIALIS Hartmr. (15). =*Thylacium aggregatum* (Ald.). Deep water. VIII-IX. b.d.k.f.

*DISTOMUS VARIOLOSUS Gaertn. (15). =*Heterocarpa glomerata* Lac.-Duth. Shallow water and intertidal. VII-IX. a.c.f.k.

Botryllidæ.

*BOTRYLLUS SCHLOSSERI Pall., var. TYPICA (6). Shallow water and intertidal. VI-VIII. g.k.l.m.o.q.

BOTRYLLUS SCHLOSSERI, var. POLYCYCLUS (4). =*B. gigas* + *Polycyclus polycyclus*. Shallow to deep water. a.e.f.3.4.7.8.48.60.64.

*BOTRYLLUS LEACHII Sav. (6). =*Botrylloides vinosum* + *rubrum*, etc., Milne-Edw. Shallow water and intertidal. VIII-X. i.q.p.3. 4.8.38.

Rhodosamatidæ.

CORELLA PARALLELOGRAMMA Müll. (?). =*C. larvæformis* Hanc. Deep water. VIII. b.d.e.g.f.3.10.32.38.60.

Ascidiiidæ.

- *ASCIDIA MENTULA Müll. (4). Deep water. II–XI. *f.g.h.n.p.3.4.12.34.40.59.*
- ASCIDIA CONCHILEGA Müll. (4). =*A. depressa* (Ald.). Low water to deep water. I–XII. *h.e.g.p.1.4.8.10.32.34.36.37.43.49.70.*
- ASCIDIA VIRGINEA Müll. (7). =*A. venosa* Traust. Deep water. VI–X. *h.e.1.3.8.12.15.34.38.40.43.59.60.67.70.72.*
- **ASCIDIELLA ASPERSA Müll. (12). Intertidal to deep water. I–XII. *j.n.p.y.*
- *ASCIDIELLA SCABRA Müll. (12). Shallow to deep water. V–IX. *e.g.k.m.n.y.*
- *PHALLUSIA MAMMILLATA Cuv. (18). Low water to deep water. I–XII. *d.e.f.n.p.y.*

Cionidæ.

- *CIONA INTESTINALIS Linn. (8). =*C. fascicularis* Hanc. Low water to deep water. IV–X. *f.g.j.p.3.4.10.12.34.40.44.49.59.67.70.*
- DIAZONA VIOLACEA Sav. (4). Deep water. *e.f.n.*

Perophoridæ.

- PEROPHORA LISTERI Forb. (4). Tidal pools and shallow water. VIII–X. *a.d.k.o.p.q.y.*

Polycitoridæ.

- **CLAVELINA LEPADIFORMIS Müll. (4). Low water and shallow water. VI–X. *dr.d.f.g.k.j.p.*
- CLAVELINA AURILUCENS Garst. (4). =*Pycnoclavella aurilucens* Garst. Deep water. VIII–IX. *f.n.*
- ARCHIDISTOMA AGGREGATUM Garst. (5). Shallow water. VI. *d.*
- HOLOZOA (DISTAPLIA) ROSEA d. Valle. (15). Shallow to deep water. *k.d.*

Synoicidæ.

- SIDNYUM TURBINATUM Sav. (6). =*Circalium concrescens* Giard. Shallow water and intertidal. *b.dr.d.g.o.w.o.*
- SIDNYUM ELEGANS Giard (6). =*Fragarium elegans* Giard. Shallow water. *d.g.i.*
- AMAROUCIUM PUNCTUM Giard (6). Shallow to deep water. *b.f.k.j.n.*
- *AMAROUCIUM NORDMANNI Milne-Edw. (6). Low water and shallow water. VI–IX. *k.m.p.w.*
- AMAROUCIUM DENSUM Giard (6). *f.t.*
- APLIDIUM PALLIDUM Verrill. (6). =*A. zostericola* Giard + *A. lacteum* Huit. Kaas. + *Amarouciumpall.* Verrill. Shallow to deep water. *d.l.i.k.*

*MORCHELLIUM ARGUS Milne-Edw. (10). =*Morcheolloides alderi* (Herd.).

Intertidal and shallow water. VI-IX. *a.b.d.g.h.i.j.o.p.y.*

POLYCLINUM AURANTIUM Milne-Edw. (6). =*P. sabulosum* Giard + *Glossoforum sabulosum* Giard + *Aurantium aurantium* Lah. Shallow to deep water. *k.l.i.*

Didemnidæ.

*DIPLOSO MA LISTERIANUM M.E., var. GELATINOSUM M.E. (16).

=*Didemnum gelatinosum* + *Leptoclinum gelatinosum* M.E. Shallow to deep water. *at.a.g.i.h.n.1.3.4.5.9.*

TRIDIDEMNUM TENERUM Verrill. (7). =*Didemnopsis variabile* Hartmr. + *Didemnum cereum* Giard. Intertidal to deep water. *d.f.h.i.m.n.o.y.*

Doliolidæ.

DOLIOLUM NATIONALIS Borgert. (2). In tow-nettings, Aug., Sept., 1893.

Abundant 1895. A few S. of Eddystone, Nov., 1904.

Salpidae.

SALPA FUSIFORMIS Cuv. (13). Aggregated form at surface, N. of Eddy-stone, Aug., 1901.

SALPA MUCRONATA Forskal. (13). Large shoals in Sound, 1893, in June and July. VIII-X.

Appendicularia.

OIKOPLEURA DIOICA Fol. (17). Tow-nettings. III-IV.

FRITILLARIA BOREALIS (17). Tow-nettings.

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