

## ZOO PHYTOLOGY.

*Descriptions of NEW SPECIES of POLYZOA.* Collected by  
GEORGE BARLEE, Esq., in Shetland.

THE assiduous dredging labours of Mr. Barlee, more especially in the Northern seas of Scotland, have, as is well known, been the means of introducing numerous additions to the British Marine Fauna, among which, those belonging to the domain of Zoophytology are by no means the least considerable. Having been favoured by Mr. Barlee with the opportunity of examining the Polyzoa collected by him within the last two years, we here commence the description of the new or imperfectly known species comprised among them. As these are numerous, and our limits, so far as illustrations are concerned, circumscribed, the description of these species will occupy several numbers of the journal, although, in the meanwhile, brief descriptions of most of the new forms were presented to the British Association at its late meeting.

Sub-order. *Cheilosiomata.*

Fam. 1. *Flustridae.*

Gen. 1. *Flustra.* Linn.

1. *F. Barlei*, n. sp. Pl. XXV, fig. 4.

*F. polyzoario foliaceo, diviso, lobato; cellulis oblongis, margine simplici; ovicellulis cucullatis; aviculariis intercellulas sparsis, oblique positis, mandibulo semicirculari.*

Cells oblong, with a simple margin; ovicells shallow, cucullate; avicularia few, scattered, placed obliquely, and having a semicircular mandible. Polyzoarium folaceous, divided, lobate.

Hab. Shetland, Barlee.

The polyzoarium of this species bears a close resemblance to some conditions of *Flustra foliacea*; but, when examined, it will at once be seen to be wholly distinct from that and all other hitherto described species. The cells are of the same oblong, rectangular shape as those of *F. papyracea* and *F. truncata*, and, as in those species, wholly membranous in front. *F. Barlei* differs, however, from both, in the far larger size of the cells, which is at least double that of the cells in either of the species named. The margin is wholly

unarmed, as in *F. truncata*, from which *F. Barlei*, is however distinguished, not only by the far smaller dimension of the cells, but also by the oblique position of the avicularia, and the widely different habit of its growth. *F. papyracea*, besides its having a small marginal spine on each upper angle, has no avicularia, so far as I am aware, and also differs from *F. Barlei* very widely in habit.

This is an important addition to the British Zoophysiological Fauna; and it is curious that so large and well-marked a species should have hitherto escaped recognition.

Fam. 2. *Membraniporidae.*

Gen. 2. *Membranipora*. Blainv.

1. *M. cornigera*, n. sp. Pl. XXV, fig. 2.

*M. incrassans*; *cellulis pyriformibus, supernè angustatis, margine glabro*  
*spinis 6 ornatis quarum infusis bifurcatis; laminā subgranulosa. Aviculariis*  
*crebris, inter cellulas sparvis, mandibulo semicirculari instructis.*

Incrusting; cells pyriform, contracted above, expanded below, with a smooth margin armed with three pairs of spines, of which the lowest are forked; lamina subgranular. Avicularia numerous, interspersed among the cells, with a rounded or semicircular mandible.

*Hab.* Shetland, Barlee.

When in a state of tolerable preservation, no confusion can be made between this species and any other. Its nearest ally, perhaps, is *M. Flemingii*, in which the form of the cell is pretty nearly the same, and the number of marginal spines equal; but the disposition of the avicularia differs, so that even in much worn specimens, sufficiently distinct characters may in most cases be perceived. When the marginal spines are uninjured, the peculiar forked form of the lowest pair will at once suffice to distinguish the present from any other British species. In *M. Flemingii* also, the mandible of the avicularium is acutely pointed, whilst in *M. cornigera* it is rounded and obtuse.

*M. vulnerata*, n. sp. Pl. XXV, fig. 3.

*M. incrassans*; *cellulis subpyriformibus seu ovalibus, supernè angustatis;*  
*aperturā pareā, semicirculariā; laminā granulosa, utrinque fissurā sigmoidē*  
*plerumque ornatā; margine granulosā, inermi; vibraculis intercellulas sparvis.*

Incrusting; cells subpyriform or suboval; aperture small, semicircular lamina granular, usually with a narrow sigmoid slit on either side; margin granular, unarmed. Vibracula scattered among the cells.

*Hab.* Shetland, Barlee, on stone.

This, so far as I am aware, is the only *Membranipora* furnished with vibracular instead of avicularian organs.

3. *M. minax*, n. sp. Pl. XXV, fig. 1.

*M. adnata*; *cellulis pyriformibus inferne angustatis*; *area ovali, aperturā trifoliata*; *laminā glabra*; *margine tenui spinis elongatis, gracibus, 4 armato*. *Aviculario magno, sessili, in parte anteriori cellulae, medio positō, mandibulo, rostroque peracutis; ovicellulis rotundatis, magnis*.

Adnate; cells pyriform, contracted below; area occupying about half the front of the cell of an oval form, with a smooth thin margin armed with four slender, elongated spines; lamina smooth; aperture obscurely trifoliate in form. A large, prominent, (but not pedunculate,) avicularium placed on the middle of the cell in front, below the area, and having a very acute mandible and rostrum, which are placed transversely; ovicell rounded, prominent.

*Hab.* Shetland, Barlee; on stone.

The strong, prominent avicularium is a striking characteristic of this species. Its mandible and rostrum are both pointed, and the organ is placed transversely with respect to the axis of the cell.

Gen. 3. *Lepralia*. Johnst.1. *L. sinuosa*, n. sp. Pl. XXIV, figs. 2 and 3.

*L. cellulis subrhomboideis, subplanis, lined elevata, sinuosa sejunctis, porosis; orificio suborbiculari, infra sinuato, peristomale tenui, elevato*.

Cells subrhomboidal, flattened in front, perforate, separated by a wavy, sinuous line; orifice suborbicular, situated below; peristome thin, raised.

*Hab.* Shetland, Barlee; on shell. Cornwall, Peterhead, Ipswich. Peach.

My friend Mr. C. Peach is of opinion that this species is identical with one found by him in the localities above cited, and described with a figure in the "Report of the Royal Institution of Cornwall for 1851." But I must confess that his figure leads me to doubt the correctness of Mr. Peach's surmise.

2. *L. Malusii*, Audouin.

*Var.* *Spinis marginalibus armata*.

In the 'Brit. Mus. Catalogue,' *L. Malusii* is placed among the unarmed species, but subsequent observation has shown that the form furnished with marginal spines, there cited as a variety, may be more properly regarded as the typical aspect of *L. Malusii*, of which a figure is here introduced, taken from a specimen, in which the mode of origin of a patch from a single, central, abnormal cell is well shown.

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### DESCRIPTION OF PLATES XXIV & XXV.

#### PLATE XXIV.

Fig.

- 1.—*Lepralia malusii*, p. 125.
- 2.— " *sinuosa*,  $\times$  25 d., p. 125.
- 3.— " "  $\times$  50 d.

#### PLATE XXV.

- 1.—*Membranipora rhynchota*, p. 125.
  - a. Avicularium, open.
  - b. " closed.
- 2.—*M. cornigera*, p. 124.
- 3.—*M. vulnerata*, p. 124.
- 4.—*Flustra Barlei*, p. 123.
  - a. Natural size of small fragment.
  - b. Avicularium,  $\times$  50 d.
  - c. Portion,  $\times$  25 d.
- 5.—*F. truncata*    }  $\times$  25 d., for comparison.
- 6.—*F. papyracea*    }

Fig 1.

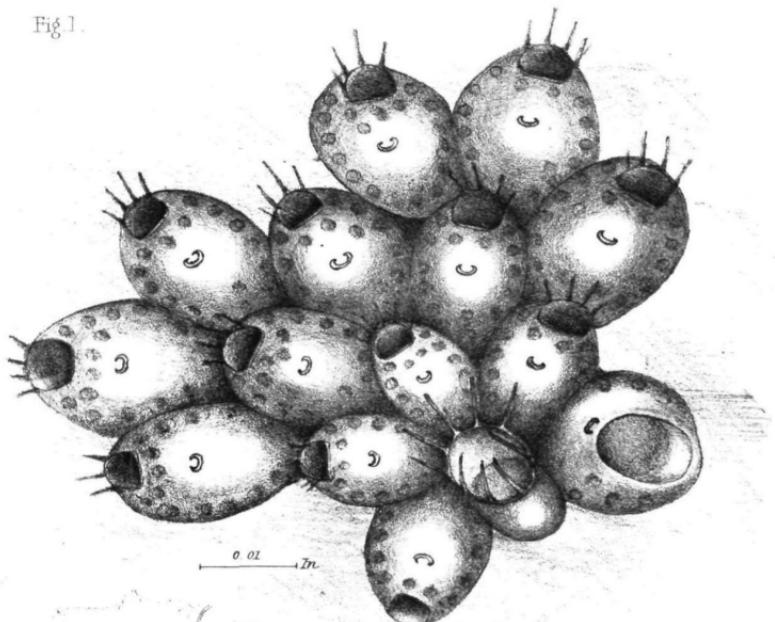


Fig 2.

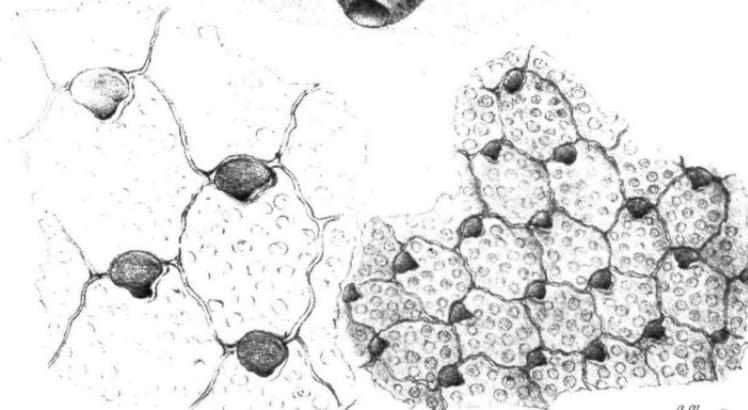


Fig 3.

ZOO PHYTOLOGY.

Plate XXV

