

PLATE 156, FIGS. 1 AND 2.

LAGENIPORA TUBERCULATA (McG.).

[Genus LAGENIPORA (HINCKS). (Sub-kingdom Mollusca. Class Polyzoa. Order Infundibulata. Sub-order Cheilostomata. Family Celleporidæ.)

Gen. Char.—Zoarium encrusting; zoœcia flask-shaped; mouth sub-circular, without a sinus.]

DESCRIPTION.—Zoœcia large, flask-shaped, erect or semi-erect, surface studded with large, hollow, pointed, entire, or perforated tubercles; mouth rounded or oval, with a thickened projecting peristome.

REFERENCE.—P. H. MacGillivray, Tr. Roy. Soc. Vict., July 1882.

Port Phillip Heads.

In this species the zoœcia are very large and covered with numerous raised tubercles, which are entire and pointed, or not so prominent and perforated. These perforations do not seem to be, as I at first supposed, caused by attrition, as in some cases the margins are unequal, thick, and lip-like. The peristome is much produced, cylindrical, rough, with small granulations, and the circular or oval mouth has a thickened margin. I have not seen avicularia or oœcia.

EXPLANATION OF FIGURES.

PLATE 156.—Fig. 1, three zoœcia, showing pointed entire tubercles, and others open, less prominent, and almost pore-like. Fig. 2, a single zoœcium viewed laterally, to show the peristome.

PLATE 156, FIG. 3.

LAGENIPORA NITENS (McG.).

DESCRIPTION.—Zoœcia oblique or decumbent at the edge of the zoarium, more erect towards the centre, smooth; mouth in the marginal zoœcia with a tubular peristome, separated by a narrow, constricting collar; orifice with a spinous process on each side, between which is a small avicularium, carried in a semi-spiral tube, widened above and ending in a clavate projection; mouths of other zoœcia circular or sub-circular, with a small oval avicularium on one side; vicarious avicularia broadly spatulate.

REFERENCE.—P. H. MacGillivray, Tr. Roy. Soc. Vict., Nov. 1886.

Port Phillip Heads, Mr. J. Bracebridge Wilson.

Of this interesting species I have only seen the minute specimen figured, and other examples are much to be desired for more complete examination. In the simplest zoœcia there is no peristome, and there is a small avicularium at one side of the mouth. The marginal zoœcia have a projecting cylindrical peristome, produced to a point at each side, and having between these a minute avicularium on a semi-spiral tube, as is found in *Lekythopora hystrix*. In the absence of other specimens, it is difficult to say whether the avicularium of the simple mouth is carried up on the peristome of the others or whether the marginal zoœcia with the constricted peristomes are not rather comparable to the young zoœcia of some of the smaller *Celleporæ*, and the simpler zoœcia in reality older. It undoubtedly belongs to the same genus as Mr. Hincks' Madeiran *Phylactella lucida*, afterwards referred to *Lagenipora*, and his *L. spinulosa* from Queen Charlotte Island.* It is, I think, probable that *L. tuberculata* and *L. nitens* will require to be referred to different genera.

EXPLANATION OF FIGURES.

PLATE 156.—Fig. 3, zoœcia, showing the tubular constricted peristomes, with the semi-spiral aviculiferous tubes. Fig. 3a, zoœcia without peristome, but with an avicularium at the side of the mouth. Fig. 3b, vicarious avicularium.

PLATE 156, FIGS. 4-10.

LEKYTHOPORA HYSTRIX (McG.).

[Genus LEKYTHOPORA (McG.). (Sub-kingdom Mollusca. Class Polyzoa. Order Infundibulata. Sub-order Cheilostomata. Family Celleporidæ.)

Gen. Char.—Zoœcia flask-shaped or elongated, oblique or erect, crowded; primary mouth with a notch in the lower lip and a small avicularium at one side; secondary mouth with the peristome produced into a long, tubular orifice, on one side of the margin of which is the avicularium, connected with its original position by a minute semi-spiral tube; oœcia projecting from the front of the zoœcia below the mouth, covered by a chitinous or sub-calcareous plate.]

DESCRIPTION.—The same as that of the genus.

REFERENCE.—P. H. MacGillivray, Tr. Roy. Soc. Vict., Oct. 1882.

* Ann. and Mag. Nat. History, Jan. 1884.

Port Phillip Heads.

This species is not uncommon at Port Phillip Heads, and is found growing on *Adeonella* and allied polyzoa. The zoarium attains a height of three-fourths of an inch, and is simple or more usually branched. The zoecia are very much confused, flask-shaped, oblique or erect, the surface smooth, rough or pitted. It is extremely difficult to see the primary mouth, owing to the rapid development of the peristome. It is lofty, with a sinus in the lower lip. The peristome is produced into a long, nearly cylindrical tube, carrying a horizontal avicularium on one side, situated on the summit of a minute semi-spiral tube. The avicularium seems to be originally situated at the sides of the primary mouth immediately after the commencement of the development of the peristome, and, as the peristome grows, it is carried upwards in a semi-spiral manner. This oral avicularium is frequently absent. In some specimens there are numerous large, spatulate, vicarious avicularia. The oecium is very peculiar, being situated below the mouth, and the front being deficient in calcareous matter and closed by a convex, lens-shaped, thick, chitinous membrane. This membrane is smooth or faintly perforated or, when older, occasionally sub-calcareous and cribriform.

EXPLANATION OF FIGURES.

PLATE 156.—Fig. 4, branch of an *Adeonella* with several zoaria of *Lekythopora* growing on it, natural size. Fig. 5, another zoarium, natural size. Fig. 5a, portion of the same, magnified, showing zoecia with peristomes and oecia. Fig. 5b, lateral view of single zoecium from the same, showing the peristome, semi-spiral aviculariferous tube, and profile of oecium. Fig. 5c, another zoecium, to show the shape of the membranous front of the oecium. Fig. 6, orifice of peristome from another specimen, with the oral avicularium. Fig. 7, primary mouth, seen vertically. Fig. 8, outline of a peristome, with avicularium and top of tube. Fig. 9, to show the commencement of formation of an oecium. Fig. 10, an operculum.

PLATE 156, FIGS. 11-13.

PÆCILOPORA ANOMOLA (McG.).

[Genus PÆCILOPORA (McG.). (Sub-kingdom Mollusca. Class Polyzoa. Order Infundibulata. Sub-order Cheilostomata. Family Celleporidæ.)

Gen. Char.—Zoarium erect, bilaminar, branched. Zoecia indistinct; primary mouth with a sinus in lower lip; peristome commencing as an elevated point with a small avicularium on the summit, finally becoming a tumid, sub-circular ring. Oecia immersed, covered by a perforated plate.]

DESCRIPTION.—That of the genus.

REFERENCE.—P. H. MacGillivray, Tr. Roy. Soc. Vict., Nov. 1886.

Port Phillip Heads, Mr. J. Bracebridge Wilson.

Of this very curious species I have only one good specimen, for which I am indebted to Mr. Wilson, and two or three imperfect fragments. The zoarium is small, branched, bilaminar. The youngest zoecia, and those at the margins of the branches, have one side produced into a long point, with a small avicularium on the inner surface at the summit. As growth advances, the summit disappears, and the mouth becomes surrounded by a tumid peristome, with the avicularium usually on the outer part of the ring. The pointed process, with its surmounting avicularium, seems to be formed before the operculum, as in the zoecia showing these parts it cannot be detected. In a few older zoecia, where the peristome is developed into a thick, circular ring, the internal mouth can be seen with a sinus on its *superior* lip, that is, towards the *upper end* of the branches. On the basal side of the mouth is a perforated plate, covering the oecium. In young zoecia the oecium appears first as a cupped elevation, which becomes covered by a perforated plate, and gradually sinks into the substance of the zoecium. The most curious circumstance is that, although the oecium appears to be below the mouth, it is really above it, owing to the peculiar reversal of the mouth.

Pæcilopora is allied to *Lekythopora*, but differs in the absence of the long, tubular peristome, and in the mature oecia being immersed.

EXPLANATION OF FIGURES.

PLATE 156.—Fig. 11, specimen, natural size. Fig. 11*a*, portion from the growing edge, magnified. Fig. 11*b*, portion from the extremity of a branch, magnified, one of the zoecia showing the internal or primary mouth. Fig. 11*c*, another portion, showing the growth of the oecium.

I am indebted to Mr. MacGillivray for the specimens and descriptions of the above Polyzoa.

FREDERICK MCCOY.

PLATE 157, FIG. 1.

FASCICULIPORA GRACILIS (McG.).

[Genus FASCICULIPORA (D'ORBIGNY). (Sub-kingdom Mollusca. Class Polyzoa. Order Infundibulata. Sub-order Cyclostomata. Family Frondiporidae.)

Gen. Char.—Zoarium erect, simple or branched or lobate. Zoecia opening only at the extremities of the branches or also (in *F. bellis*) in one or more regular series below the extremity.]

DESCRIPTION.—Zoarium small. Zoecia in somewhat flattened bundles, very long, slender, usually distinct and free at the extremity, surface thickly punctate, except the part immediately below the mouth, which is smooth or transversely wrinkled.

REFERENCE.—P. H. MacGillivray, Tr. Roy. Soc. Vict., Dec. 1882.

Port Phillip Heads.

A small species, consisting of simple or divided bundles of long, slender zoecia of a glassy appearance. The extremities usually project and are free, and the mouth is circular. The zoecia at the surface of the bundles are separated by distinct grooves, and are thickly marked, except immediately below the mouth, with small, raised, white puncta. The oecia in this, as in the other species of the genus, are unknown.

EXPLANATION OF FIGURES.

PLATE 157.—Fig. 1, specimen, natural size. Fig. 1a, the same, magnified.

PLATE 157, FIG. 2.

FASCICULIPORA BELLIS (McG.).

DESCRIPTION.—Zoecia in small, erect bundles, mostly opening at the summit by prismatic orifices; one or two series opening lower down, the upper of these frequently separated, and their orifices reaching to the same level as those of the chief mass of the bundles; surface minutely punctate.

REFERENCE.—P. H. MacGillivray, Tr. Roy. Soc. Vict., Dec. 1883.

Port Phillip Heads.

A small and very beautiful species, of which I have only seen one specimen. In this there are six or seven bundles of zoëcia spread over a small calcareous nodule and connected by a calcareous punctate or perforated crust. When viewed vertically, they suggest a resemblance to a composite flower on the end of its pedicle.

EXPLANATION OF FIGURES.

PLATE 157.—Fig. 2, specimen, natural size. Fig. 2a, bundle, viewed sideways, magnified. Fig. 2b, upper extremity of same, seen vertically.

PLATE 157, FIG. 3.

FASCICULIPORA FRUTICOSA (McG.).

DESCRIPTION.—Zoarium branched, the main branches mostly horizontal, with numerous short branches turned upwards, the secondary branches consisting of bundles of zoëcia, all opening by closely packed prismatic orifices; surface punctate, faintly sulcate longitudinally and (especially in older parts and on the back) transversely corrugated.

REFERENCE.—P. H. MacGillivray, Tr. Roy. Soc. Vict., Dec. 1883.

Port Phillip Heads.

Distinguished from *F. ramosa* by the much smaller number of zoëcia in the narrower branches. Some of my specimens form dense, shrub-like tufts an inch in diameter.

EXPLANATION OF FIGURES.

PLATE 157.—Fig. 3, specimen, natural size. Fig. 3a, portion of the same, magnified.

PLATE 157, FIG. 4.

FASCICULIPORA RAMOSA (D'ORBIGNY).

DESCRIPTION.—Of this I have only seen the portion figured, which is perhaps not sufficient for certain identification. It consists of a short, thick, obscurely bilobed, densely packed bundle of zoecia, all opening on the summit. The zoecia are not separated on the surface, which is closely transversely rugose and thickly punctate. The zoecia open on the surface by prismatic orifices, none of which are produced.

REFERENCE.—Busk, Cat. Pol. Brit. Mus., pt. iii., p. 37, pl. xxxiii., fig. 2.

Portland; Mr. Maplestone.

EXPLANATION OF FIGURES.

PLATE 157.—Fig. 4, specimen, natural size. Fig. 4a, the same, magnified.

Mr. MacGillivray has contributed the specimens and descriptions of the *Fasciculiporæ* on this plate.

FREDERICK MCCOY.

PLATE 158, FIG. 1.

FARCIMINARIA ACULEATA (BUSK).

[Genus FARCIMINARIA (BUSK). (Sub-kingdom Mollusca. Class Polyzoa. Order Infundibulata. Sub-order Cheilostomata. Family Farciminariidæ.)

Gen. Char.—Zoœcia oblong, elongated, closely contiguous, depressed in front, with raised margins; mouth close to the summit. Avicularia, when present, sessile or sub-immersed at the bottom or on the front of the zoœcia. Oœcia prominent, superior.]

DESCRIPTION.—Zoœcia very much elongated, narrow, separated by distinct, raised margins; a close series of single or furcate aculeate spines, directed upwards and inwards, along the margin. Oœcia large, galeate, with several large, aculeate spines. No avicularia.

REFERENCE.—Busk, Cat. Mar. Pol. Brit. Mus., pt. i., p. 33, pl. lxiv., figs. 4, 5; pl. lxxv. (bis), fig. 6.

Port Phillip Heads.

Distinguished from the other species by the long, narrow, zoœcia, the marginal aculeate spines, and the aculeate spines on the oœcium.

EXPLANATION OF FIGURES.

PLATE 158.—Fig. 1, specimen, natural size. Fig. 1a, portion of same, magnified.

PLATE 158, FIGS. 2-4.

FARCIMINARIA UNCINATA (HINCKS).

DESCRIPTION.—Zoœcia elongated, wide and rounded above, contracting inferiorly, separated by slightly raised margins; frequently a small, incurved, uncinete spine towards the base; an uncinete process from the front of the zoœcium on each side, below or opposite the mouth. Oœcia large, unarmed.

REFERENCE.—Hincks, Ann. and Mag. Nat. Hist., Oct. 1884.

Port Phillip Heads.

In this species the zoëcia are much wider above, contracting below. There is frequently, but not always, an incurved spine on each side towards the lower part. The front of the zoëcium is obscurely divided into three parts: the central, the same width as the mouth, is faintly lined transversely at its upper part; the two lateral, immediately below or opposite the mouth, give origin to a process terminating in a chitinous spine.

I have examined only a few dried specimens, and from these it is impossible to say whether there is any real division of the body-cavity. Mr. Hincks describes and figures the oral uncinatè spines as arising from sack-like structures, but the appearance is probably owing to his having examined old, dried and shrivelled specimens. The minute disks on the front of the zoëcia mentioned by him also only occur in old specimens, and are similar to the markings seen under similar circumstances in many other polyzoa.

EXPLANATION OF FIGURES.

PLATE 158.—Fig. 2, specimen natural size. Fig. 2*a*, portion of same, magnified. Fig. 3, portion of branch of another specimen. Fig. 4, two zoëcia, the upper surmounted by an oëcium.

PLATE 158, FIG. 5.

FARCIMINARIA SIMPLEX (McG.).

DESCRIPTION.—Zoëcia much elongated, narrow, but wider above, separated by raised, slightly crenulated, or smooth margins; no spines nor avicularia. Oëcia very large.

REFERENCE.—P. H. MacGillivray, Tr. Roy. Soc. Vict., Nov. 1885.

Port Phillip Heads.

This species differs from the others in the absence of avicularia and of spines or processes of any sort on the separating margins of the zoëcia. The oëcium is of great size. It is smooth,

globular, but when dried becomes wrinkled and has a depression round the upper edge and sides, owing to the shrivelling of the delicate outer envelope, which seems to be separated by some distance from the inner part.

In the *Challenger* Polyzoa, Mr. Busk describes eight species of *Farciminaria*, and says that "the genus may be regarded emphatically as abyssal; the mean depth at which the species here enumerated occurred being not less than 1,500 to 1,600 fathoms, or from 450 to 2,750 fathoms." *F. Brasiliensis* was, however, found at from 32 to 400 fathoms. The three species here recorded were dredged from a depth of 10 to 15 fathoms, so that the genus cannot by any means be considered as abyssal, a fact which Mr. Busk would no doubt have ascertained if the dredgings of the *Challenger* had not been almost exclusively confined to deeper waters.

EXPLANATION OF FIGURES.

PLATE 158.—Fig. 5, branch of specimen, natural size. Fig. 5a, portion of same, magnified, showing a shrunken oecium. Fig. 5a, another portion, in outline.

PLATE 158, FIGS. 6-8.

BRACEBRIDGIA PYRIFORMIS (BUSK, SP.).

[Genus BRACEBRIDGIA (McG.). (Sub-kingdom Mollusca. Class Polyzoa. Order Infundibulata. Sub-order Cheilostomata. Family Escharidæ.)

Gen. Char.—Zoarium encrusting, or erect and bilaminate. Zoecia distinct, entire; mouth sub-circular, with an internal denticle; peristome raised, thick, vicarious avicularia on the free margins of the branches, the triangular mandibles with a projecting articular process at each lower angle.]

DESCRIPTION.—Zoarium usually consisting of flat bilaminate branches with lateral lobes, the branches more or less twisted on themselves. Zoecia pyriform, separated by deep grooves; mouth sub-circular, with a broad denticle internally, and occasionally a small apiculate process on the lower lip; an elevated ridge round the mouth, the two sides meeting below the lower lip and continuing down the zoecium as a central elevation; surface smooth or minutely granular. On the free edge of the lobate branches is a single row of aviculiferous cells.

REFERENCE.—*Mucronella pyriformis*, Busk, *Challenger* Polyzoa, pt. i., p. 155, pl. xx., fig. 5; *Bracebridgia pyriformis*, MacGillivray, Tr. Roy. Soc. Vict., Nov. 1885.

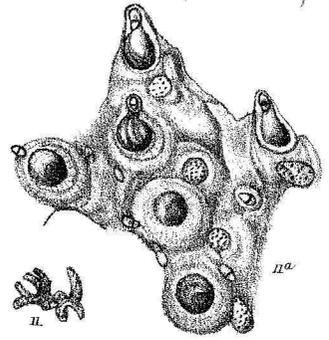
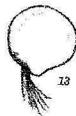
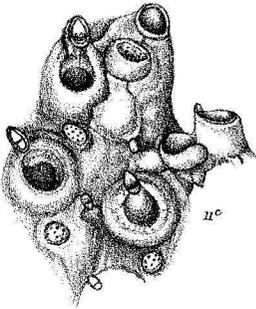
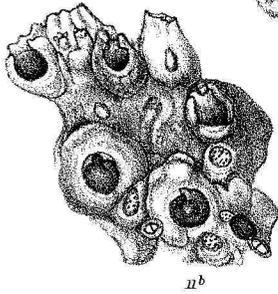
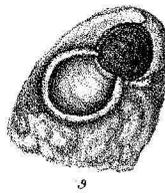
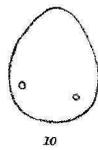
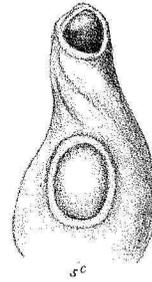
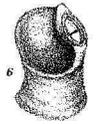
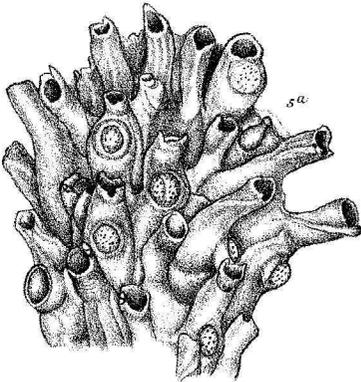
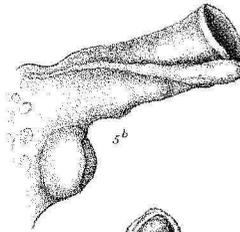
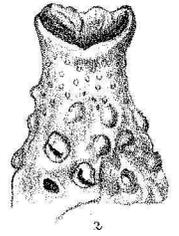
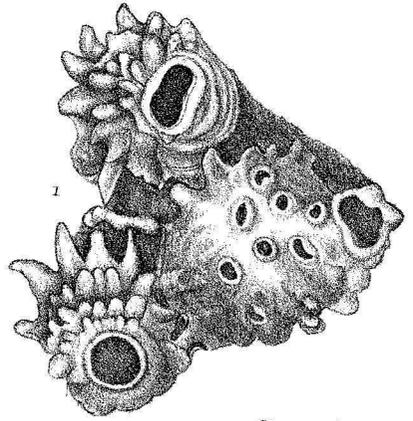
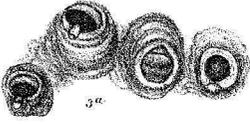
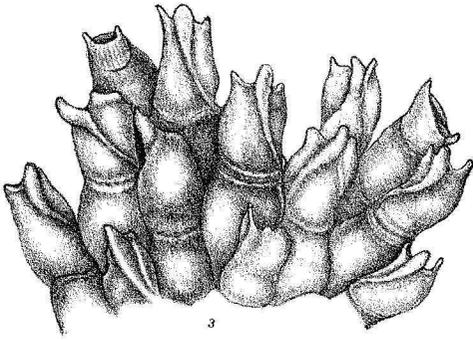
This seemingly common species, which I have dedicated generically to my friend Mr. J. Bracebridge Wilson, was first described by Mr. Busk and doubtfully referred to *Mucronella*. It attains a height of one or two inches. In the younger parts of the zoarium the zoëcia are very distinct, but, as age advances, the divisions between them become much fainter, the zoëcia themselves are squarer, and the mouth appears as a circular opening surrounded by a tumid border. Many of the zoëcia are then also closed. On the free edges of the lobate branches, in most specimens, there is a single row of avicularian cells, the triangular mandibles of the avicularia having projecting articular processes at the lower angles. One very young specimen (Fig. 7) rises as a small bifid lobe from an encrusting base. Towards the edge of the encrusting part many of the zoëcia are closed or not properly formed, while, both external and internal to these, are some in which the mouths have clear, narrowly elevated margins, with an apiculate mucro below and, in a few, a broadly elliptical avicularium across the front of the lower lip.

EXPLANATION OF FIGURES.

PLATE 158.—Fig. 6, specimen, natural size. Fig. 6a, portion towards the periphery, showing normal zoëcia. Fig. 6b, two avicularian cells from the margin of a lobe. Fig. 6c, older zoëcia towards the base of the specimen, two completely closed. Fig. 7, young specimen, growing from an encrusting base, natural size. Fig. 7a, two zoëcia from encrusting part, showing apiculate process and oral avicularium. Fig. 8, opercula and mandible of avicularium from edge of a lobe.

Mr. MacGillivray has kindly contributed the specimens and descriptions of the above species of the genera *Farciminaria* and *Bracebridgia*.

FREDERICK McCoy.



(Polyzoa.)

