

## PLATE 66, FIG. 1.

## DICTYOPORA GRISEA (LAMX.).

[Genus DICTYOPORA (P. McG.). (Sub-kingd. Mollusca. Class Polyzoa. Order Infundibulata. Sub-order Cheilostomata. Fam. Escharidæ.)

*Gen. Char.*—Polyzoary, stony, expanded, foliaceous, fenestrate, articulated by a flexible stem; cells horizontal, opening on both sides; a special pore on the front of each, close to which is an avicularium.]

**DESCRIPTION.**—Polyzoary fan-shaped, flat, occasionally proliferous; fenestræ large, nearly circular, the marginal rim divided into distinct pitted nodules; cells rounded above, attenuated below; mouth rather small, circular or nearly so, the margin somewhat thickened; a wart-like projection below and to one side of the mouth; surface, except on the summit of the elevation, pitted; a round pore near the middle of the cell, close to which is an avicularium of moderate size, the triangular mandible turned obliquely outwards to the side opposite the wart-like projection.

**REFERENCES.**—*Adeona grisea*, Lamouroux, Exposition Methodique, p. 40, t. 70, fig. 5; Kirchenpauer, Ueber die Bryozoen-Gattung Adeona, p. 9, t. I., fig. 8, 8a.

## Port Phillip Heads.

Of this species I have examined two perfect specimens, the one figured, dredged by Mr. Wilson, and the other by myself, in about 12 fathoms. In both the frond or plate is quite flat, not being twisted or contorted in any way, and extends more to one side of the stem. In the figured specimen it is  $3\frac{1}{2}$  by  $2\frac{3}{4}$  inches, and in the other 4 by 3. The flexible stem in one is 1 inch by  $\frac{3}{8}$ ths at the widest part, in the other about  $1\frac{1}{2}$  by  $\frac{1}{4}$ th. In both it terminates in a number of small radicles presenting the same structure as the main stem, by which they are fixed to the calcareous nodules on which they are growing. Raised branching processes or ribs extend for a considerable distance up the plate. The fenestræ are regularly placed, nearly circular or elliptical, 2–3 mm. in diameter, the intervening spaces 3–5 mm. The margins of the fenestræ, as in *D. cellulosa*, are divided into nodules resembling abortive cells.

*D. grisea* may be distinguished from *D. cellulosa*, to which in the structure of the cells it is closely allied, by the simple flabellate frond (said by Kirchenpauer to be sometimes proliferous), by the avicularium being shorter and directed obliquely across the front

of the cell, not, as in the latter, extending upwards beyond the level of the mouth, and by the wart-like elevation which is especially marked in incinerated specimens.

EXPLANATION OF FIGURES.

Fig. 1, specimen, natural size. Fig. 1a, group of cells, magnified. Fig. 1b, margin of fenestra, magnified. Fig. 1c, three cells, more highly magnified. Fig. 1d, two cells, to show the pattern after incineration. Fig. 1e, two cells of *D. cellulosa*, similarly treated.

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PLATE 66, FIG. 2.

DICTYOPORA ALBIDA (KIRCHENPAUER).

VAR. AVICULARIS (P. MCGIL.).

DESCRIPTION.—Polyzoary expanded, proliferous and cavernous; fenestræ regular, nearly circular, margin forming a continuous punctate rim; cells expanded and arched above, narrowed below, surface pitted, the pits forming a regular row just inside the margin; surface raised round the mouth, which is nearly circular; a round pore a short distance below, to the side of which is frequently attached a minute, triangular avicularium, with the mandible pointed obliquely upwards; several large avicularia, replacing cells, situated round the margins of the fenestræ.

REFERENCE.—P. H. MacGillivray, Trans. Roy. Soc. Vict., 1881.

Port Phillip Heads, first found by Mr. J. B. Wilson.

This, I believe, to be a form of Dr. Kirchenpauer's *D. albida*. It attains a very large size, one specimen, dredged in 15 fathoms, measuring over 30 inches in circumference. The plate is proliferous, and united in various ways so as to form chambers or caverns like those of *D. cellulosa*, but usually of larger size. On one specimen a broad, white, irregular rib extends up the plate. The color is ash-grey; the margins of the fenestræ white. The fenestræ are about 2mm in diameter, and the interspaces about 3mm wide. The cells resemble those of *D. Wilsoni*, but they are broader and more regularly trapezoid; the special pore is also smaller, the surface is not so much raised on each side, and the puncturation is deeper and larger. These characters are more prominently shown

in incinerated specimens. It also differs in the cavernous arrangement of the plate, in its lighter color and greater thickness. This and *D. Wilsoni* are at once distinguished from *D. cellulosa* and *grisea* by the small size of the avicularium and the smooth margins of fenestræ.

## EXPLANATION OF FIGURES.

FIG. 2.—specimen, natural size. Fig. 2*a*, margin of fenestra and group of cells, with three large cell-replacing avicularia, magnified. Fig. 2*b*, cells from same group, more highly magnified, showing three with avicularia, one with simple pore, and a large cell-replacing avicularium. Fig. 2*c*, group of cells and large avicularium, incinerated.

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The specimens were presented by Mr. J. B. Wilson, and the descriptions by Mr. MacGillivray.

FREDERICK MCCOY.

## PLATE 67,

## DICTYOPORA WILSONI (P. MCGIL.).

DESCRIPTION.—Polyzoary thin, fan-shaped, somewhat contorted, simple or proliferous; fenestræ variable in size, circular or elliptical, the marginal rim nearly plain and not divided into nodules; cells broad and more or less rounded above, much attenuated below; surface obscurely pitted and raised on each side of the avicularian pore (frequently more so on one side) and towards the sides of the mouth; mouth circular or nearly so; about the middle of the cell there is a round pore with a small avicularium (frequently absent) with the triangular mandible directed obliquely upwards.

REFERENCE.—P. H. MacGillivray, Tr. Roy. Soc. Vict., 1881.

Port Phillip Heads, Mr. J. B. Wilson.

I have only seen one specimen of this species. It consists of a tuft of four separate plates, the stems arising from the same basis. The plates are thin, fan-shaped, somewhat contorted, about 4 inches high and the broadest about the same width. The separate flexible stems are up to 1 inch long, and from  $\frac{1}{8}$  to a  $\frac{1}{4}$  inch wide. To one of the plates there is a secondary plate attached at an acute angle, and in another there are several plates so arranged as to form two compartments, one very small, the other 2 inches deep,  $\frac{1}{2}$  inch wide in one direction and  $1\frac{1}{4}$  in the other at the orifice. In all, slightly raised ridges extend, dividing from the stem to a variable distance up the plate. The fenestræ are from 1 to 3 mm wide, the intervening spaces, about 4 mm. The cells resemble those of Kirchenpauer's *Adeona arborescens*, which I have not seen. That species, however, seems to be sufficiently distinguished by the thick, prominent ridges or ribs which extend regularly for a long distance on the plate, while in *D. Wilsoni* they are short and very slightly elevated.

## EXPLANATION OF FIGURES.

PLATE 67.—Fig. 1, specimen, natural size. Fig. 1a, margin of fenestra, with contiguous cells, magnified. Fig. 1b, three cells, more highly magnified. Fig. 1c, group of cells incinerated.

The figured specimens of *Dictyopora* were presented by Mr. J. Bracebridge Wilson; for the description I am indebted to Mr. MacGillivray.

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## PLATE 68, FIG. 1.

## IDMONEA MILNEANA (D'ORBIGNY).

[Genus *IDMONEA* (LAMX.). (Sub-kingd. Mollusca. Class Polyzoa. Order Infundibulata. Sub-order Cyclostomata. Fam. Idmoneidæ.)

*Gen. Char.*—Polyzoary erect, branched. Cells tubular, arranged in parallel transverse or oblique rows on each side of the mesial line of the front of the branches.]

**DESCRIPTION.**—Polyzoary spreading more or less horizontally, branches broad, flat, dividing dichotomously; cells usually four in a series, the outer the longest, surface closely punctate; back of branches longitudinally grooved, finely punctate or perforated, and marked with transverse concentric ridges of growth.

**REFERENCE.**—Busk, Brit. Mus. Cat., pt. iii., p. 12, Plate xi.

Port Phillip Heads, 10–15 fathoms.

The largest specimen I have seen is the one figured. The polyzoary is green, 1 inch in one diameter by  $\frac{3}{4}$  in the other. It springs from the surface of a *Retepora* and immediately branches horizontally and dichotomously. These branches send down from the back numerous calcareous radiciform processes which become attached to the *Retepore*. The branches are broad and flat behind. The cells are usually four in a series, the inner the least prominent, the others gradually increasing in length to the outer which projects very much. They are united side to side throughout almost their whole length, so as to form regular walls rising up and projecting far beyond the edges of the branches. They are distinct on the front of the branches and are minutely and closely punctate. The back of the branches is longitudinally sulcate, thickly covered with punctations which are usually opened and form small pores, and it is closely marked by nearly transverse, arched, concentric lines of growth. From various parts of the back of the branches calcareous radiciform processes project downwards, and are united to the body from which it grows; these processes are sulcate and punctate, and in section are seen to be composed of a number of prismatic tubes.

## EXPLANATION OF FIGURES.

PLATE 68.—Fig. 1, specimen, natural size. Fig. 1a, portion of front of same, magnified. Fig. 1b, portion of back, magnified, showing the longitudinal sulci, punctations, and transverse ridges.

## PLATE 68, FIG. 2.

## IDMONEA AUSTRALIS (P. MCGIL.).

DESCRIPTION.—Polyzoary dichotomously branched, branches spreading irregularly, contorted, and twisted on themselves; 4–6 cells in a series, the inner the longest, surface punctate; back of branches longitudinally sulcate, the intervening ridges punctate.

Port Phillip Heads, 10–15 fathoms.

The only specimen I have with a distinct point of attachment is  $\frac{1}{2}$  inch high by  $\frac{3}{4}$  across. Numerous others, evidently broken off close to their origin, are about the same size. The polyzoary is of a dirty-white color, dichotomously irregularly branched; the branches angular in front, slender, frequently spreading in various directions and slightly twisted on themselves, occasionally a third of a revolution or even more. There are about 4–6 cells in a series, the inner the longest, the outer little projecting. The surface is finely punctured and obscurely granular. The back of the branches is rounded, deeply sulcate longitudinally, the ridges between the sulci punctate.

This species may prove to be a form of *I. Atlantica*, but at present I think it better to describe it as a distinct species.

## EXPLANATION OF FIGURES.

PLATE 86.—Fig. 2, specimen, natural size. Fig. 2a, front of a branch, magnified. Fig. 2b, back, magnified.

## PLATE 68, FIG. 3.

## IDMONEA RADIANS (LAMK.).

DESCRIPTION.—Polyzoary rising from a narrow base; branches narrow in front, dichotomous, spreading in a radiating manner; cells 1–4 in a series, the inner very much projecting, smooth, mouth bilabiate; back of branches ridged longitudinally, with the intervening sulci pierced by a single row of round or oval pores; ovicells anterior, situated immediately below a bifurcation, and embracing the cells on both sides for about 5 series, divided by elevated ridges, and with the intermediate surface pitted.

REFERENCE.—Busk, Brit. Mus. Cat., pt. iii., p. 11., pl. vii., fig. 1–4.

Williamstown ; Queenscliffe ; Portland, Mr. Maplestone.

This beautiful species forms small masses up to  $\frac{3}{4}$  inch in diameter. It is fixed to narrow algæ and other zoophytes by a small calcareous attachment usually encircling the stem. There are generally several primary branches which at once divide dichotomously and more or less horizontally, the bifurcations being repeated three or four times. The divisions of each primary branch are arranged in a fan-shape, and in fine specimens the whole polyzoary assumes a nearly circular outline. The branches are much narrowed in front, the proximal parts of the cells forming a prominent ridge. The number of cells in a series varies from 1 to 4. When more than one, the inner is very much longer, and when viewed in front may obscure the others (as in the figure). The mouth, in perfect specimens, is usually bilabiate. The back of the branches is deeply sulcate longitudinally, the spaces between the sulci forming continuous, rounded, smooth ridges. In the sulci there is a single series of roundish or oval foramina, placed at short distances and regular intervals. The ovicells are situated on the front of a branch immediately below a bifurcation. They are very large, embracing the cells of 4 or 5 series on each side, project forwards, and are traversed by reticulating slightly elevated ridges, the surface between which is deeply pitted.

EXPLANATION OF FIGURES.

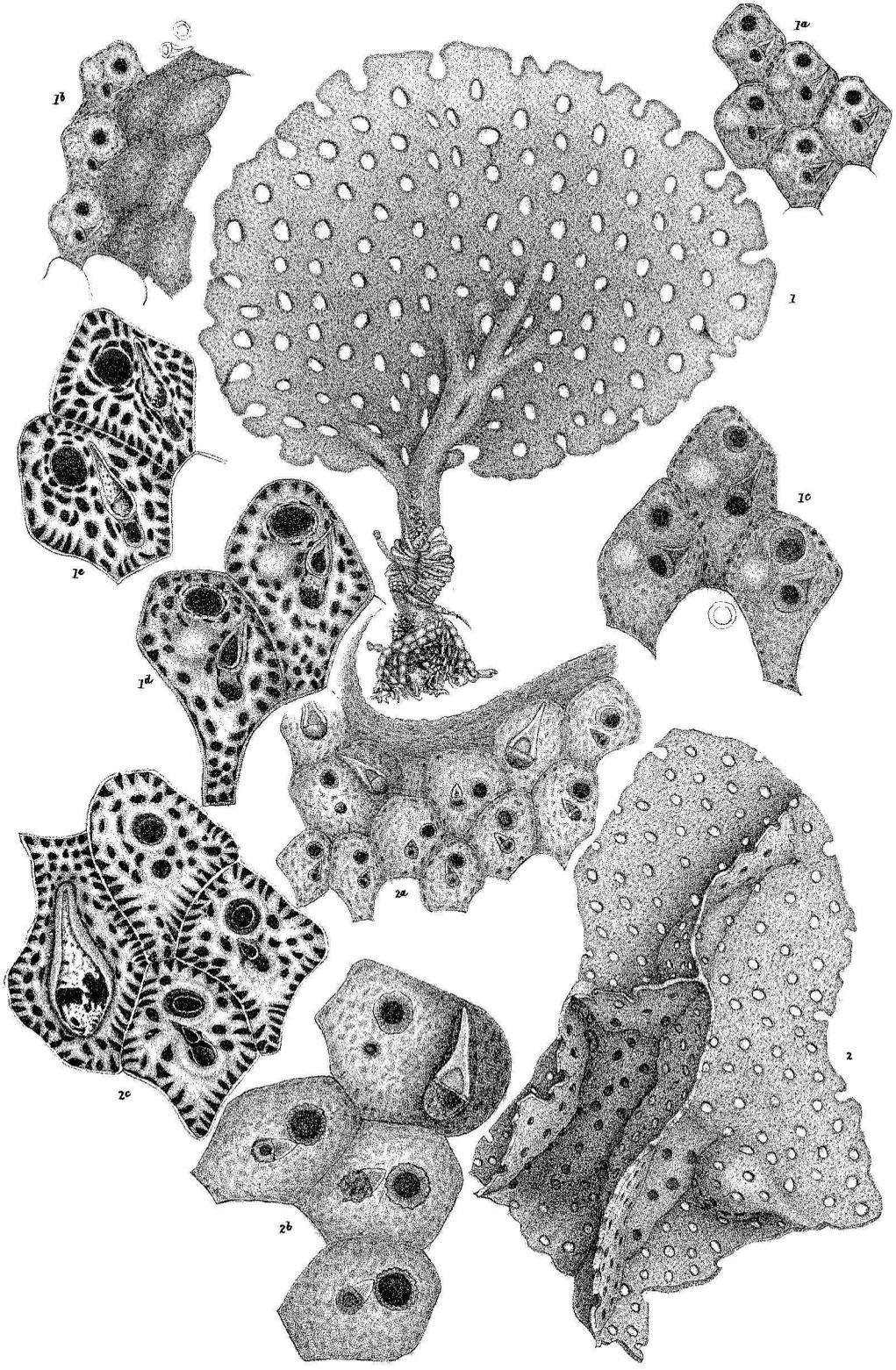
PLATE 68.—Fig. 3, specimen, natural size. Fig. 3*a*, front of portion magnified, showing also two ovicells. Fig. 3*b*, portion of back, magnified.

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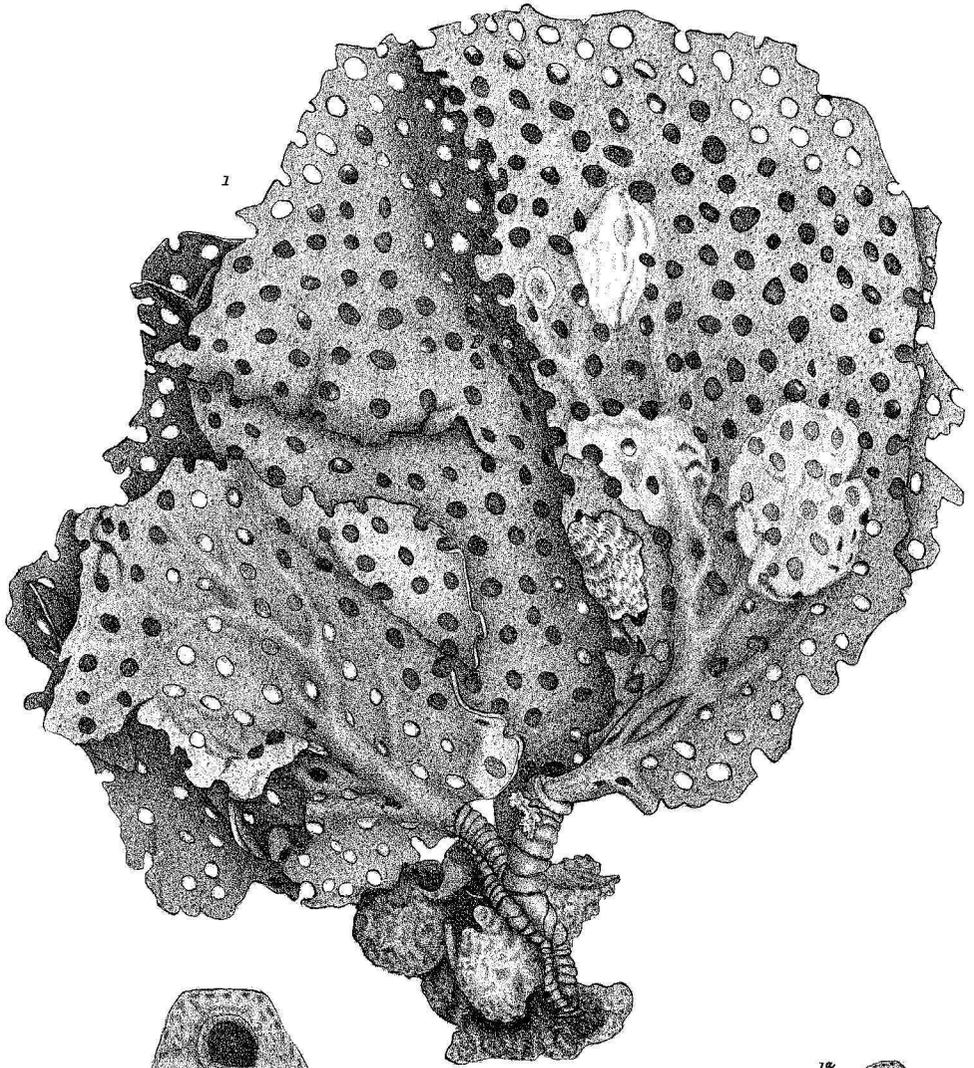
Mr. MacGillivray has presented all the type specimens figured on this plate, and the descriptions for the Museum and this work.

FREDERICK McCoy.

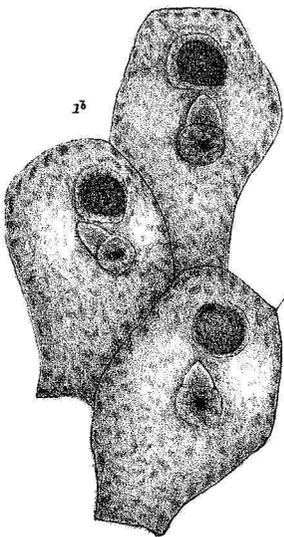
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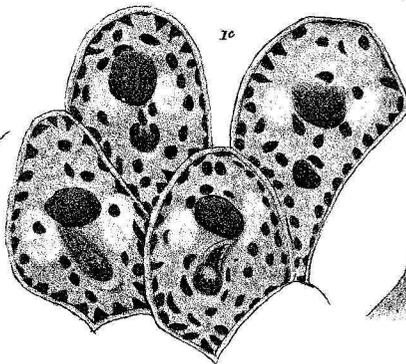
(*Polyzoa*)



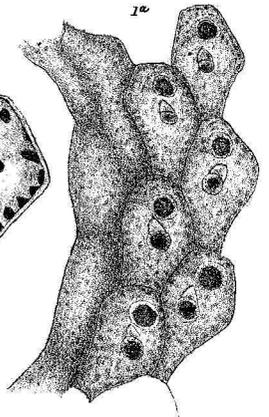
1



1b



1c



1a

(Polyzoa)

