

ZOOPHYTOLOGY.

THE species of Polyzoa here described, and most of which appear to be new, occurred on shells from Mazatlan, on the Gulf of California; and for the opportunity of examining them, I have been indebted to the kindness of Mr. Phillip Carpenter, who has prepared a descriptive catalogue of the "Mazatlan Mollusca," for the British Museum. The typical specimens of the forms here noticed, will be found in that Institution.

Order. POLYZOA INFUNDIBULATA.

Sub-order I. CHEILOSTOMATA.

Fam. MEMBRANIPORIDÆ.

Gen. 1. *Membranipora*, Blainv.

1. *M. denticulata* (n. sp.), Busk. Pl. VII., figs. 1 and 2.

Area of cells rhomboidal; internal margin of the aperture denticulate; cells separated by a narrow raised line.

Hab. Mazatlan: on the shells of *Imperator olivaceus*, *I. unguis*, and *Anomia*.

The outline of the cells is usually distinctly defined by a narrow brown line. One or two rounded or triangular eminences (probably ovicells) are visible on many of the cells in front and below. The form bears considerable resemblance to *M. Savartii*, (Savigny, Egypt, pl. 10; *M. Lacroixii*, Savigny, B. M. Cat., p. 60, Plate 104, fig. 1,) but differs from it in several important respects; among which may be noticed a narrow brown line surrounding the cells, and clearly defining one from the other; and the irregularly shaped branching denticles with which the margin of the internal aperture is furnished.

2. *M. gothica*, n. sp., Rylands, MS. Pl. VII., fig. 5, 6, 7.

Area of cells elongated, oval; margin thin and smooth; mouth raised, suborbicular, with an ovide notch inferiorly; the anterior, calcareous, depressed surface of the cells punctated, and perforated on each side by a wide aperture; large, immersed avicularia scattered irregularly over the polyzoary.

Hab. Mazatlan: on *Imperator olivaceus* and *unguis*.

There is occasionally a short blunt spine or process on each side of the mouth, a character which is also presented in *M. Rozieri*, Savig. (B. M. Cat., p. 59, Plate 65, fig. 6) a species to which the present exhibits, in other respects, considerable resemblance, and especially in the existence of the large opening on each side of the front of the cells immediately below the mouth. The differences between the two, however, are sufficiently striking. In *M. Rozieri* the ovicell

is large, superior, rounded, and carinate in front, whilst in *M. gothica*, as in *M. calpensis*, Busk, B. M. Cat., p. 60, Plate 104, fig. 5, 6, this organ appears to be represented by one or two rounded eminences at the bottom of the cell in front. The large scattered avicularia also are characteristic of the present form, as well as its far larger size.

The same species occurs on a Pearl-oyster shell, for which I am indebted to Dr. J. E. Gray, the habitat of which seems to be doubtful. In M. Milne Edward's Memoir "Sur les Eschares," p. 17, Plate 12, fig. 13, a miocene fossil is described and figured, which bears some resemblance to the present; it differs principally, so far as can be determined from the figure alone, in the thickened and granulated margin of the area.

3. *M.* , n. sp.? Pl. VII., fig. 3, 4.

Apparently an undescribed form, but requiring further research for its precise determination.

Hab. As the preceding.

Gen. 2. *Lepralia*, Johnston.

1. *L. marginipora*, Reuss. Fossil. Polyp. d. Wiener tertiar. Becken., p. 88. Pl. 10., fig. 23. Busk, l. c., p. 4.

Cells ovate, convex or slightly depressed, immersed, roughish, punctate at the margin; mouth round, or subelliptical; margin thickened, with an avicularium on each side.

Hab. Mazatlan: on *Imperator unguis*; Vienna tertiary basin (fossil)?

As the form appears precisely to resemble the tertiary species described and figured by Reuss, I have applied his name to it, and in great part employed his character.

2. *L. hamilis*, n. sp. Busk, l. c., p. 5. Pl. VIII., fig. 1.

Cells immersed, depressed, or flattened, surface obscurely punctate; mouth small, rounded, with a shallow sinus in the lower lip, margin simple, thin.

Hab. Mazatlan: on *Imperator unguis*.

3. *L. hippocrepis*, n. sp. Busk, l. c., p. 4. Pl. VIII., fig. 2.

Cells immersed, punctate; mouth suborbicular or elliptical, its upper margin in the older cells inconspicuous, inferiorly and laterally, thickened with an avicularium on each side.

Hab. Mazatlan: on *Imperator olivaceus*.

The peculiar horse-shoe shaped mouth of the older cells, with the avicularia on either side, sufficiently distinguishes the present from *L. marginipora*, to which, in the mouth of the younger cells, it bears some resemblance.

4. *L. Mazatlanica*, n. sp. Busk, l. c., p. 3. Pl. VIII., fig. 4.

Cells immersed, depressed, or ventricose; surface punctate; mouth

suborbicular, with a wide sinus in the lower lip; margin thickened, raised; a single avicularium (more rarely two) on the side near the mouth.

Hab. Mazatlan: on *Imp. olivaceus* and *unguis*.

This form might easily be confounded with some varieties of *L. unicornis*, or *L. Ballii* (B. M. Cat.) It is distinguished, however, by its reddish colour, and the raised mouth, together with its thickened margin. The single, or sometimes double *avicularium*, points outwards and upwards, and the mandible is prolonged and acute. This organ is sometimes, but not often absent.

5. *L. adpressa*, Busk. (B. M. Cat., p. 82. Pl. CII., fig. 3, 4.)

Hab. Mazatlan: on *Columbella major*, *C. fuscata*, and *Pisania gemmata*, not uncommon. Chiloe, 96, fm. Shell; Darwin.

The Mazatlan form differs from that from which the former description and figure were taken, in the absence, or indistinctness rather, of the radiating grooves. In other respects the two agree very closely.

6. *L. atrofusca*, Rylands, MS.

Cells elongated, ovate or rhomboidal, bordered with a thin elevated line, surface punctate; mouth suborbicular, sinuated in the lower lip, toothed on each side.

Hab. Mazatlan: on *Imper. olivaceus* and *unguis*, and on *Anomia*.

General hue blackish; and even when the cells are more calcareous, and on that account whiter, the dark interstitial line remains very evident. It is quite distinct from *L. cucullata* (B. M. Cat., p. 81, Plate 96, fig. 4, 5) which is also of a black colour, and occurs in the Mediterranean.

7. *L. trispinosa*, Johnston. (B. M. Cat., p. 70. Pl. 85, fig. 1, 2. Pl. 57, fig. 7.)

Hab. Mazatlan: on *Imperator*? Britain.

A single minute specimen only occurred, but this is quite undistinguishable from the British form.

8. *L. rostrata*, n. sp. Busk, l. c., p. 4.

Cells immersed, surface tuberculous or granulous; mouth immersed, upper margin inconspicuous; lower lip deeply grooved, armed with a large sessile avicularium,

Hab. Mazatlan: on *Imp. unguis*.

The lower margin of the mouth, in the mature cells, is deeply grooved in the middle; and on one side of the groove is a strong, short, blunt spinous process; and on the other a comparatively large, raised avicularium, which looks towards the sulcus, and whose mandible is acute, and points upwards and outwards. The surface of the cell is often beset with short raised spines or processes; and these projecting over the

mouth of the cell beneath, give it the appearance of being furnished with several oval spines.

Gen. 3. *Cellepora*, O. Fabricius.

1. *C. papillæformis*, n. sp., Busk, l. c., p. 5. Pl. VIII., fig. 5.

Cells sub-hexagonal, raised, surface punctate; mouth suborbicular, with a tooth on each side, margin simple, thin; scattered avicularia, with a triangular mandible.

Hab. Mazatlan: on *Imp. olivaceus*.

A well-marked and distinct form belonging to that subdivision of *Cellepora* in which the mouth is not armed with a projecting avicularium. The top of each cell projects in the form of a rounded mamillary eminence from a hexagonal area, which defines the border of the cell. The cells are of very unequal size, and very irregularly disposed. It is of a brownish colour.

2. *C. cyclostoma*, n. sp., Busk, l. c., p. 5. Pl. VIII., fig. 3. a, b, c.

Cells suberect or decumbent, discrete; surface punctate; mouth large, rounded above, with a wide sinus in the lower lip; the margin in the older cells much raised, thickened, occasionally dilated, infundibuliform, and furnished with a minute avicularium on each side.

Hab. Mazatlan: on *Imp. unguis*.

The wide, rounded, or elliptical, raised margin of the mouths of the distant cells, gives the polyzoarium of the present species a very peculiar and well-marked aspect. It is of a brownish hue or white.

Sub-order II. CYCLOSTOMATA.

Fam. DISCOPORADÆ, Busk, MS.

Gen. Defrancia, Brown.

1. *D. intricata*, n. s., Busk, l. c., p. 6.

Disc very irregular in form, rows of cells radiating irregularly; orifices of cells and interstitial pores of equal size.

Hab. Mazatlan: on *Imperator unguis*.

The small irregular patches appear to be constituted by the confluence of several sets of *costæ*, with their corresponding interstices, each set radiating from a depressed central point. It differs from *D. deformis*, Reuss (op. cit. p. 36, Plate 5, fig. 24), in the uniform size of the openings of the tubes in the *costæ*, and of the pores in the interstices.

Besides the above, there occur on some of the shells in the same collection, indications of other species, but in too imperfect a condition to allow of their determination with any certainty. Among these, perhaps the best marked are a species strongly resembling *Cellepora pumicosa*, Linn., a species of *Lepralia*, and a *Tubulipora*.

ZOOPHYTOLOGY.

DESCRIPTION OF FIGURES.

PLATE VII.

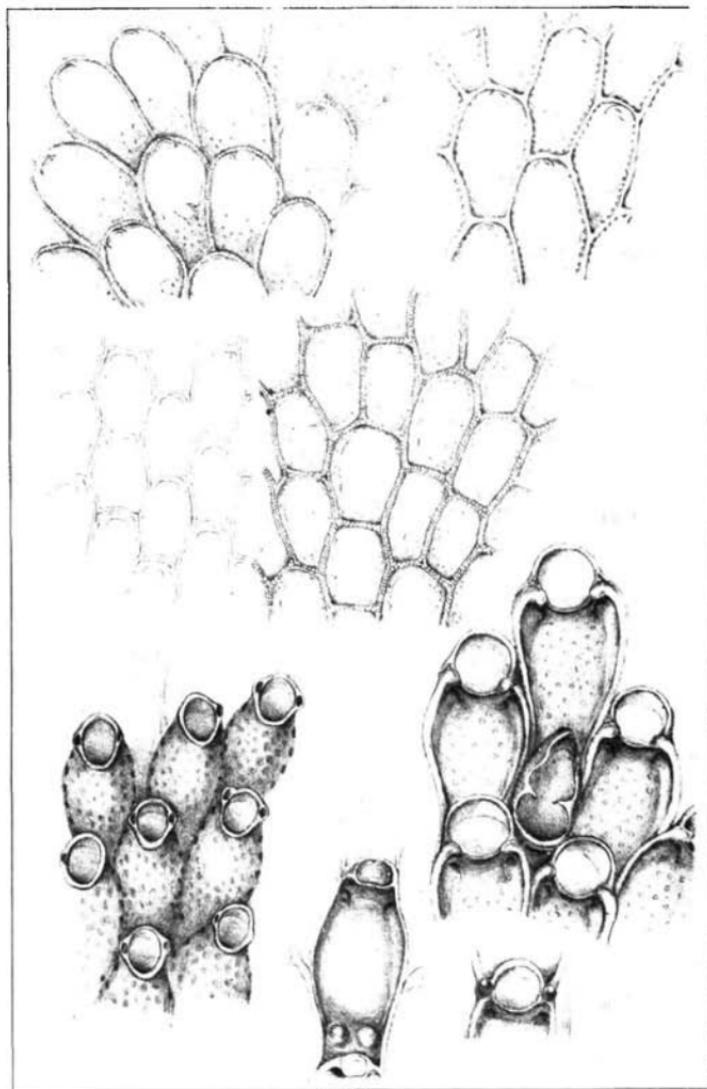
- Fig.
1, 2.—*Membranipora denticulata*.
3, 4.—*Membranipora* sp. ?
5, 6, 7.—*M. gothica*.
8.—*Lepralia marginipora*.

PLATE VIII.

- 1.—*Lepralia humilis*.
2.—*L. hippocrepis*.
3.—*Cellepora cyclostoma*.
4.—*L. Mazatlanica*.
5.—*Cellepora papillæformis*.
6.—*L. adpressa*.
-

ZOOPHYTOLOGY

PLATE VI



APHYLLOIDY

Figure 10

