

"I wish very much that you could get me some larvæ of *A. macronema*. I want very much to study the development of the calyx, which is very Jurassic in its general characters."

The communication with Dr. Carpenter was made by Mr. Dendy, on behalf of the Committee.

(2) *Preliminary Report on a Collection of Alcyonaria and Zoantharia from Port Phillip.*

By S. J. HICKSON, M.A., D.Sc.

In preparing this report of a small collection of Alcyonarians, sent to me by Professor Spencer, of Melbourne, on behalf of the Port Phillip Biological Survey Committee of the Royal Society of Victoria, I have met with greater difficulty than I expected. The numerous genera and species of Stoloniferous Alcyonaria, which have been named, are so imperfectly described and figured that it is almost impossible to identify specimens without seeing the type specimens. The greatest possible confusion exists as to the characters which separate the different genera and species, and consequently it is frequently found that similar specimens, probably belonging to one and the same species, are described by different authorities under different specific and generic names.

In the course of the last few months, I have carefully gone through the literature of the subject, and I propose shortly to communicate to the Zoological Society a paper dealing with the classification of the group.

Very few specimens of the genera Alcyonium and Ammothea have as yet been received in this country from Australian waters, and it might have been thought desirable to consider the two specimens (20 and 21) sent to me to be new species. I hope to be able to justify the course I have taken, in referring them to the species mentioned in the report.

The same difficulty is met with in considering the position of the Zoantharian genera, Palythoa and Epizoanthus, as mentioned above in the case of the Stoloniferous Alcyonaria. I believe there is not sufficient ground for the maintenance of many of the species which have recently been described.

(1)* *Virgularia lowenii* (Kölliker). "Anat. System. beschreibung der Alcyonaria," p. 182 *et seq.*

This specimen closely corresponds with the description of the species given by Kölliker.

* The numbers refer to those on the specimens sent to Dr. Hickson.

- (2) *Telesto smithi* (Gray). "Annals and Mag. of Natural History"
(4) iii, p. 21.

There are considerable quantities of this species in the national collection at South Kensington.

Specimens collected by H.M.S. *Alert*, Arafura Sea, 32-36 fthms; Port Holle, Queensland, 12-20 fthms.

- (3) *Clavularia australiensis* (sp. nov.)

Specimen growing on the test of an ascidian.

Stolon thin; membranous plate-like, dividing into separate ribbon-like pieces at the edges.

Polypes 2mm. long, 1mm. diameter in average size; separated from one another by very slight intervals.

Colour, brownish-yellow, due in large part to a considerable deposit of fine yellow sand.

Spicules very few, or absent.

Vide general remarks at the beginning of the report.

- (4) *Virgularia lowenii* (?)

I believe this specimen to be a young form of *V. lowenii*, see (1).

- (5) *Mopsea dichotoma* (Lamx.) "Hist. polyp. flexibles," p. 467;
Isis dichotoma, "Linn. Syst. Nat.," Ed. x, p. 799, *vide*
Challenger Reports lxiv, p. 41.

The specimen agrees with the specimens obtained by H.M.S. *Challenger* at Port Jackson, 35 fthms.

- (6) *Telesto smithi*, *vide* (2).

- (7) *Clavularia ramosa* (sp. nov.)

Specimen growing on a much ramified Alga.

Stolon composed of a number of branched tubular strands, upon which stand at intervals of about 3mm. the polypes.

Polypes partially retracted (the calyx being withdrawn into the body of the polype); funnel-shaped (narrow at the base, broad at the extremity); in the retracted condition 3mm. long by $1\frac{1}{2}$ diameter at the extremity.

Spicules numerous both in polyp walls and stolon, .1 to .15mm. long, double clubs and spindles bearing numerous prominent wart-like projections.

Colour, pale, dirty yellow.

- (8) *Epizoanthus parasiticus* (Verrill). "Memoirs Boston Soc.,"
Vol. i, p. 34.

Vide Challenger Report vi, p. 116, by Hertwig; and Supplement to Report on Actiniaria, by Hertwig and Erdman, published in 1888.

Vide remarks on the species of Zoantharia at the beginning of the report.

- (9) *Primnoella australasiae* (Gray). "Ann. Mag. Nat. Hist." (2), Vol. v, p. 510; Wright, *Challenger Reports* lxiv, p. 88.
Specimens collected by the *Challenger* at Port Jackson, 30 to 35 fthms; Twofold Bay, 150 fthms.
Specimens collected by H.M.S. *Alert*, now in British Museum, in Magellan Straits, sandy bottom, 30 fthms, apparently belong to this species.
- (10) *Epizoanthus parasiticus*, see (8).
- (11) *Clavularia australiensis* (sp. nov.)
Specimen growing on a sponge.
Stolon, thin, membranous, plate-like, becoming divided at the edges into narrow ribbons.
Polypes crowded together in the central regions of the colony, scattered and separated by considerable intervals at the edge; partially retracted. The average length is 3mm., and the average breadth 15mm., but they vary very considerably in size.
Spicules numerous in the polypes, few and scattered in the peripheral portions of the stolon; .2 to .3mm. long; spindles with very prominent wart-like projections.
Colour, brownish-white.
- (12) *Epizoanthus parasiticus*, see (8).
- (13) *Mopsea dichotoma* (?)
A small fragment only of a *Mopsea* which apparently belongs to this species.
- (14) *Telesto smithi*.
I can form no grounds for separating this specimen from *T. smithi*. It should be noted that some authors use, and with justice it appears to me, the stolon or root of the *Telestos* as one character useful for classification. None of the specimens submitted to me have this.
- (15) *Gerardia* (sp.)
As a volume of the *Challenger Reports*, dealing with the large and interesting collection of the Antipatharia obtained by the expedition, is shortly expected, I have postponed the identification of this valuable specimen. It does not appear to differ very markedly, however, from *G. lamarcki*.
- (16) *Sympodium verrilli* (Percival Wright and Studer). *Challenger Reports* lxiv, p. 271.
The specimen sent me is growing on a piece of Alga, and agrees fairly closely with the description of the species mentioned above.
The *polypes* are all completely retracted, a wart-like prominence, marked by an eight-rayed star, indicating their position.

These prominences are from 1 to 2mm. in diameter, rather smaller than those of the *Challenger* specimens, which are 2 to 4mm. in diameter.

The *spicules*, which are very varied in shape and size, are in general appearance similar to those figured by Studer (l.c. Pl. xlii, fig. 12).

The locality of the *Challenger* specimens is given as Station 320, lat. 37° 14' S., long. 53° 52' W.; 600 fthms.

- (17) *Clavularia australiensis* (sp. nov. v. supra.) This specimen is growing on a piece of sponge.

Stolon thin and membranous, in some places forming sympodial plates, in others narrow ribbons. Numerous *spicules* in the older part of the stolon.

Polypes averaging $\frac{1}{2}$ mm. in diameter; all of them considerably retracted, leaving projections on the stolon 1 to 1.5mm. in height. They stand on an average 2mm. apart from one another.

Spicules as in (11), only more numerous.

Colour, brownish-white.

- (18) *Clavularia australiensis*. A very small specimen, apparently belonging to this species.

- (19) *Palythoa anguicoma* (?) A very small specimen apparently belonging to this species.

- (20) *Ammonothea thyrscides*. Klunzinger "Die Korallthiere des Rothen Meeres," p. 30, Part I.

This specimen agrees fairly well with the description given by Klunzinger.

- (21) *Alcyonium tuberculosum*. Milne Edwards and Haime, Quoy and Gaimard, Voyage de l'Astrolabe Zooph., Pl. 23, fig. 4.

- (22) *Clavularia australiensis*. Specimen growing on a Lamelli-branch shell.

- (23) *Palythoa anguicoma*.

- (24) *Clavularia australiensis* (sp. nov.) Specimen growing on a broken piece of *Mytilus* (?) shell.

Stolon formed of thin membranous strands, in some places uniting together to form plates.

Polypes all completely expanded, 4 to 5mm. long.

Colour, white.

Spicules—I can find no *spicules* in this specimen.

- (25) Missing.

- (26) *Palythoa anguicoma*.

- (27) *Sarcophyllum australe* (Kölliker). "Anat. System. beschreibung der Alcyonaria," p. 121.

The specimen sent me agrees in many of its anatomical details closely with Kölliker's species. The details in which it differs from it are such as might be expected in a young specimen. Kölliker's specimens varied from 196 to 262mm.; this specimen is only 115mm. in length. Kölliker's specimens possessed 32 to 47 leaves on each side; this specimen has only 28. The leaves of Kölliker's specimens bear four or five rows of polypes; the leaves of this specimen bear only two. In Kölliker's specimens there were numerous small calcareous needles in the leaves, and a few small needles in the stalk; in this specimen, I cannot find any spicules at all.

From the consideration of all these and other facts, I thought it better to refer this specimen to the species mentioned, than to consider it a new species, and give it a new name. It is very desirable to obtain more specimens of this pennatulid from the same locality. The only specimens hitherto obtained come from New Holland and Australia (*sic.*)

- (28) *Clavularia flava* (sp. nov.)

Colony parasitic on old bivalve shell.

Stolon thin and ribbon-like, much branched, bearing a few polypes at intervals of 4mm. and upwards.

Polypes partially retracted; the calyx and tentacles are withdrawn into the lower part of the tubular body. Length in the retracted condition, 4 to 6mm.; diameter 1 to 1½mm.

Colour, bright orange.

Spicules orange-coloured, very numerous in both stolon and polypes; spindles club and double club-shaped, covered with numerous wart-like processes .1 to .15mm. long.

- (29) *Primnoella flagellum* (?) (Studer). "Monatsbericht d. k. preuss Akad d. wiss., Berlin, 1878," p. 644; Wright, *Challenger Reports*, p. 85, Pl. xvii, 1.1a.

The very small specimen I received apparently belongs to this species, but it was too small and imperfect to identify with any degree of certainty.



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