



<https://www.biodiversitylibrary.org/>

**The Scientific proceedings of the Royal Dublin Society.**

Dublin :The Society,1877-[1957]

<https://www.biodiversitylibrary.org/bibliography/44062>

**new ser.:v.8 (1893-1898):**

<https://www.biodiversitylibrary.org/item/95844>

Article/Chapter Title: Branched worm-tubes and Acrozoanthus

Author(s): A. Haddon

Subject(s): annelida

Page(s): Page 344, Page 345, Page 346

Holding Institution: Smithsonian Libraries

Sponsored by: Smithsonian

Generated 16 February 2020 9:39 PM

<https://www.biodiversitylibrary.org/pdf4/105905300095844.pdf>

This page intentionally left blank.

## XLIII.

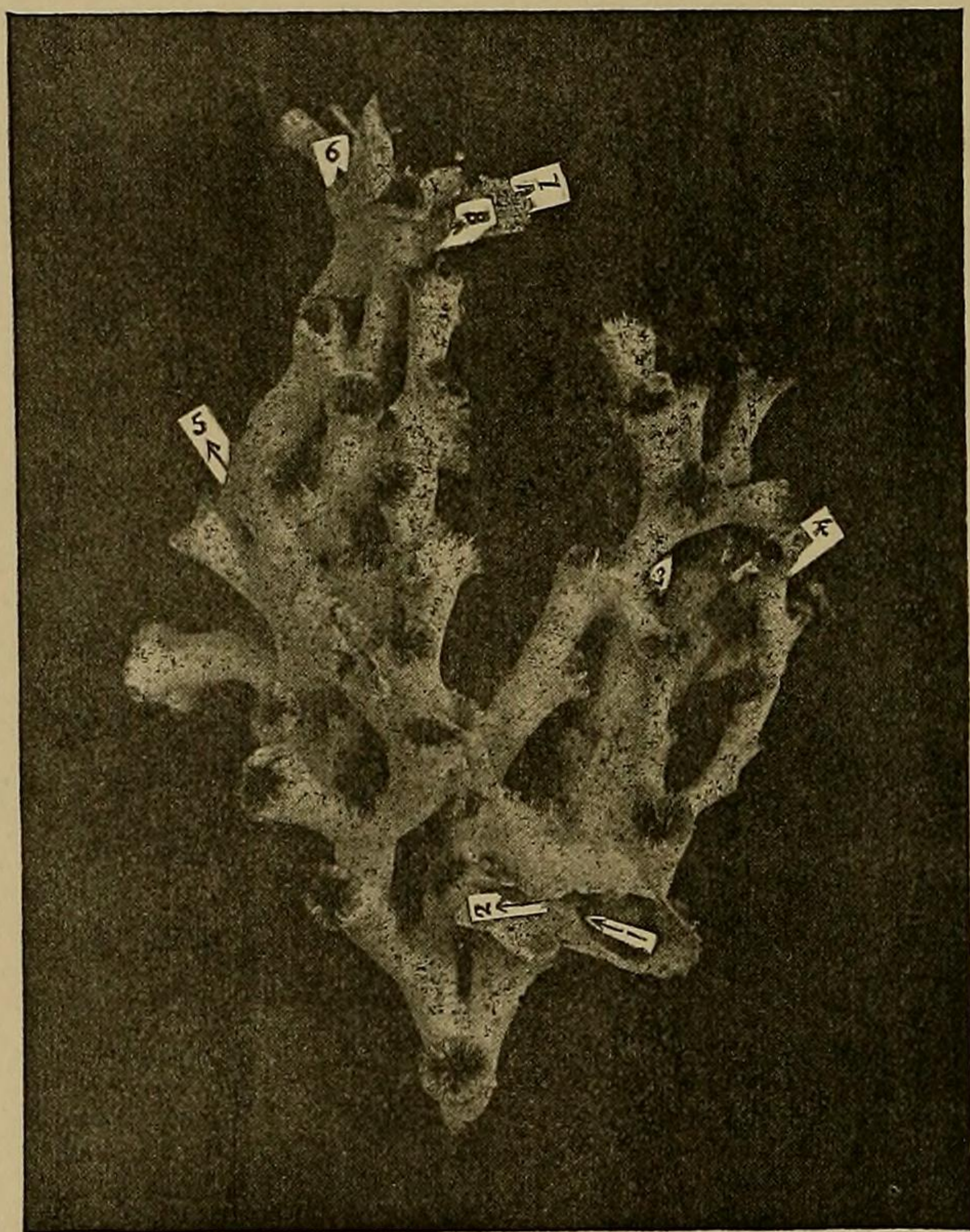
## BRANCHED WORM-TUBES AND ACROZOANTHUS.

By PROFESSOR A. C. HADDON, M.A., F.Z.S.,

Royal College of Science, Dublin.

[Read JANUARY 23; Received for publication MAY 20; Published JULY 27, 1895.]

NUMEROUS specimens of *Lophohelia prolifera* were dredged at a depth of 220 fathoms, fifty miles off Bolus Head, county Kerry, during the Society's Fishery Survey.<sup>1</sup> Most of these are infested



by the tubes of *Eunice philocorallia*, Buch. Miss Buchanan<sup>2</sup> refers (p. 174) to the commensalism of the worm with the coral, and

<sup>1</sup> E. W. L. Holt: "Survey of Fishing Grounds," etc., Proc. R.D.S., VII. (N.S.) 1892, p. 261.

<sup>2</sup> "Report on Polychaets, collected during the Royal Dublin Society's Survey off the West Coast of Ireland. Part I.—Deep-Water Forms." By Florence Buchanan. Proc. R.D.S. VIII. (N.S.) 1893, p. 169.

states that the worm to some extent modifies the growth of the coral, the coral growing round the worm-tube which thus becomes embodied in the cœnenchyme. Although Miss Buchanan describes the tubes as having a "parchment-like consistency, with jagged lateral openings," she does not allude to the branched character of the tube, nor does this appear in her plate XI. I have therefore thought it advisable to draw attention to this character, and to figure a specimen (p. 334) which exhibits it in a fairly satisfactory manner.

I have indicated by numbers all the orifices in the tube, and there were probably several others, as the specimen figured is only a fragment. Immediately after the side branch at 2, the tube divides into two main branches, the one has two orifices, the other has four, three of which are close together, and diverge something like the crown tines of a deer's antler.

In the Zoological Department of the Royal College of Science, there is a somewhat similar worm-tube associated with *Oculina virginica*; but the commensal worm is unknown, and the locality of the specimen is unrecorded. In this specimen there are six lateral openings, most of which are at the extremities of short branches, and there are indications of two other orifices which have been covered by the cœnenchyme of the coral.

Professor E. Ehlers,<sup>1</sup> in his Report on the Annelida collected on the "Blake" Expeditions, describes the branched tubes of the following Polychætes:—*Eunice floridiana*, *E. tibiana*, and *E. conglomerans*. The first species has lamellose papyraceous tubes, often variously contorted with lateral ragged openings irregularly placed, though, in general, alternate. In *E. tibiana* the sub-pellucid horny tube is either cylindrical and straight, or regularly serpentine; at every bend there is a tubulated aperture directed backwards, with an expanded fimbriated border.<sup>2</sup> Lastly, the whitish paper-like tube of *E. conglomerans* has only a single orifice, one end is closed, and there are several spots and prominences which also appear to have been once open, and subsequently closed over.

<sup>1</sup> "Florida—Anneliden." Mem. Mus. Comp. Zool., Harvard, xv., 1887.

<sup>2</sup> The description of this and the preceding tube have been compounded from Ehlers' and from L. F. de Pourtales' "Contributions to the Fauna of the Gulf Stream at Great Depths." Bull. Mus. Comp. Zool. Harvard, No. 6, 1867, p. 108.

Professor W. C. M'Intosh<sup>1</sup> refers to the tough, parchment-like, slightly branched tubes of *E. Magellanica*; and he figures (fig. 28, p. 267) a distinctly branched tube of an unknown worm from the Gulf of Manaar, which is commensal with a horny sponge (*Hircinia clathrata*).

Other examples of branched worm tubes are known to occur, but these will suffice for my purpose.

Mr. W. Saville-Kent, in his magnificently illustrated book, "The Great Barrier Reef of Australia: its Products and Potentialities," described a new form of Zoanthean which he named *Acrozoanthus Australiæ*. He regards it as the representative of a new family, on account of the polyps growing on a branched parchment-like tube. Mr. Saville-Kent forwarded me a specimen for anatomical investigation; and I found that the polyp was of precisely the same structure as those species of the genus *Zoanthus* which I have investigated, the differences being so small as not to amount to more than specific distinctions. I also stated that I considered it as a new species of *Zoanthus*, which was associated with a worm-tube. In his book Mr. Saville-Kent discusses this point, but as he was unaware of the occurrence of branched worm-tubes, he considered this peculiarity as an insuperable objection to my view. He says: "Such an interpretation would involve the improvisation of a far more abnormally constituted worm than Zoophyte" (p. 154).

I have seen several tubes of "Acrozoanthus," and all the forms of branching, and the closure of some of the lateral openings can be paralleled among the tubes of the various species of *Eunice* referred to above. On one tube (Taf. 27, fig. 2) of *E. tibiana*, in Dr. Ehlers' Memoir, will be seen disc-like bodies, some of which are represented with radiating lines. These have every appearance of dried and contracted specimens of a Zoanthean, possibly an *Epizoanthus*. If this identification is correct, other branched worm-tubes may be associated with Zoantheæ.

I propose therefore to abolish the genus *Acrozoanthus*, and to place Mr. Saville-Kent's form under the genus *Zoanthus*, as *Z. Australiæ* (S.-Kent).

---

<sup>1</sup> Report on the Annelida Polychæta. Challenger Rep. vol. xii., 1885, p. 1.