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Author(s): George Busk

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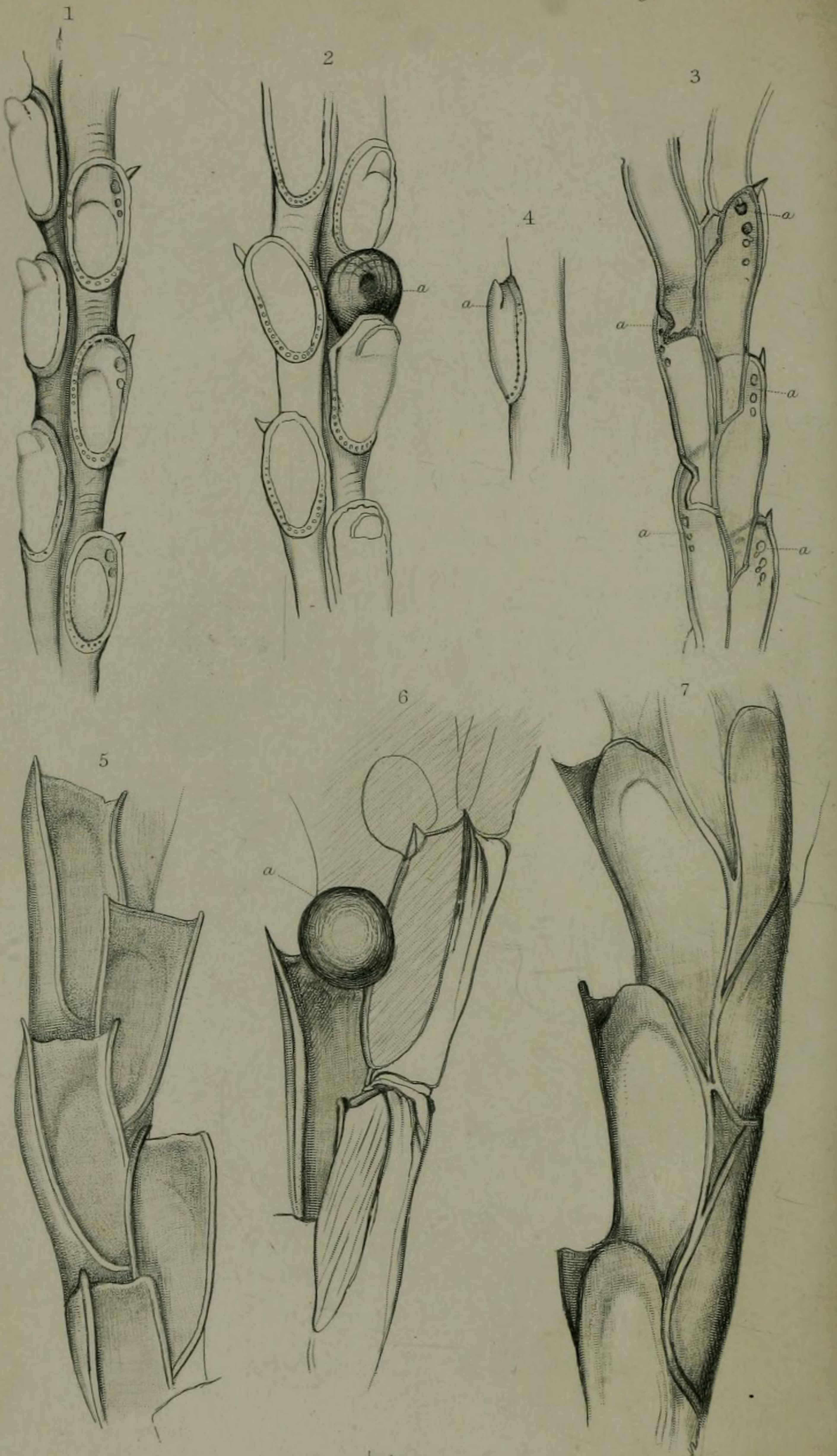
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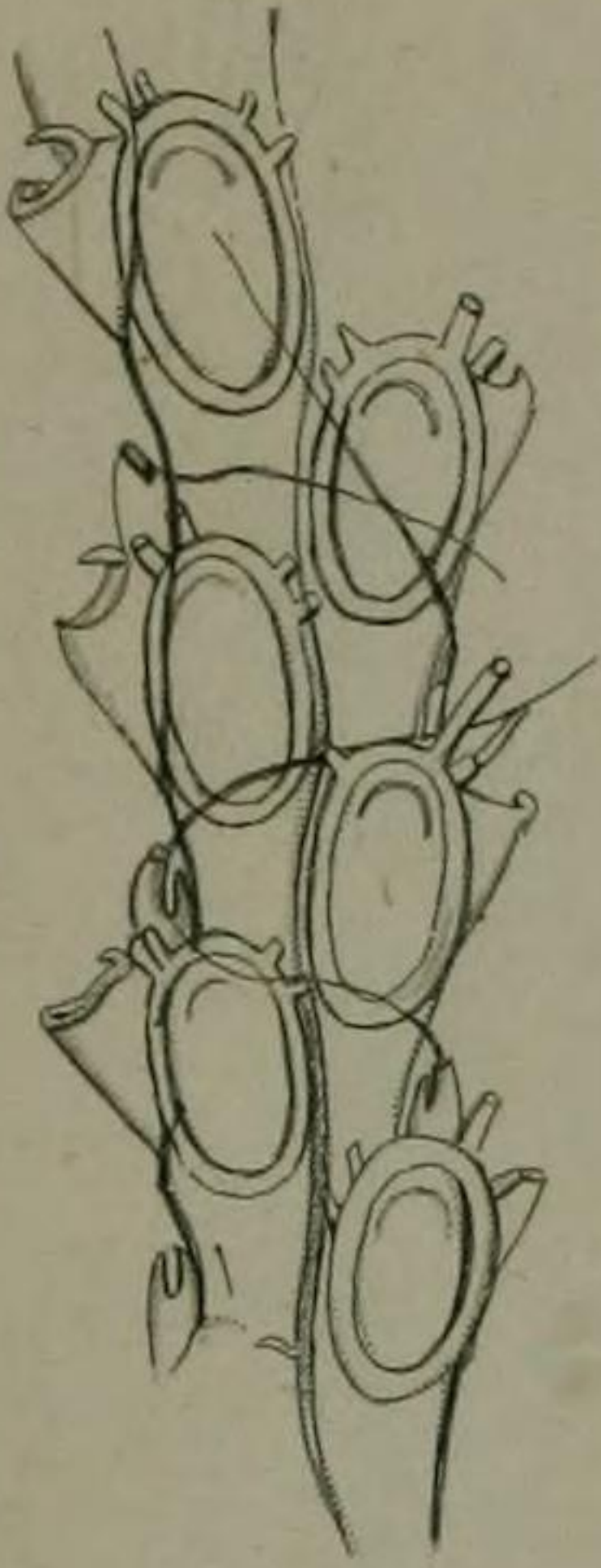
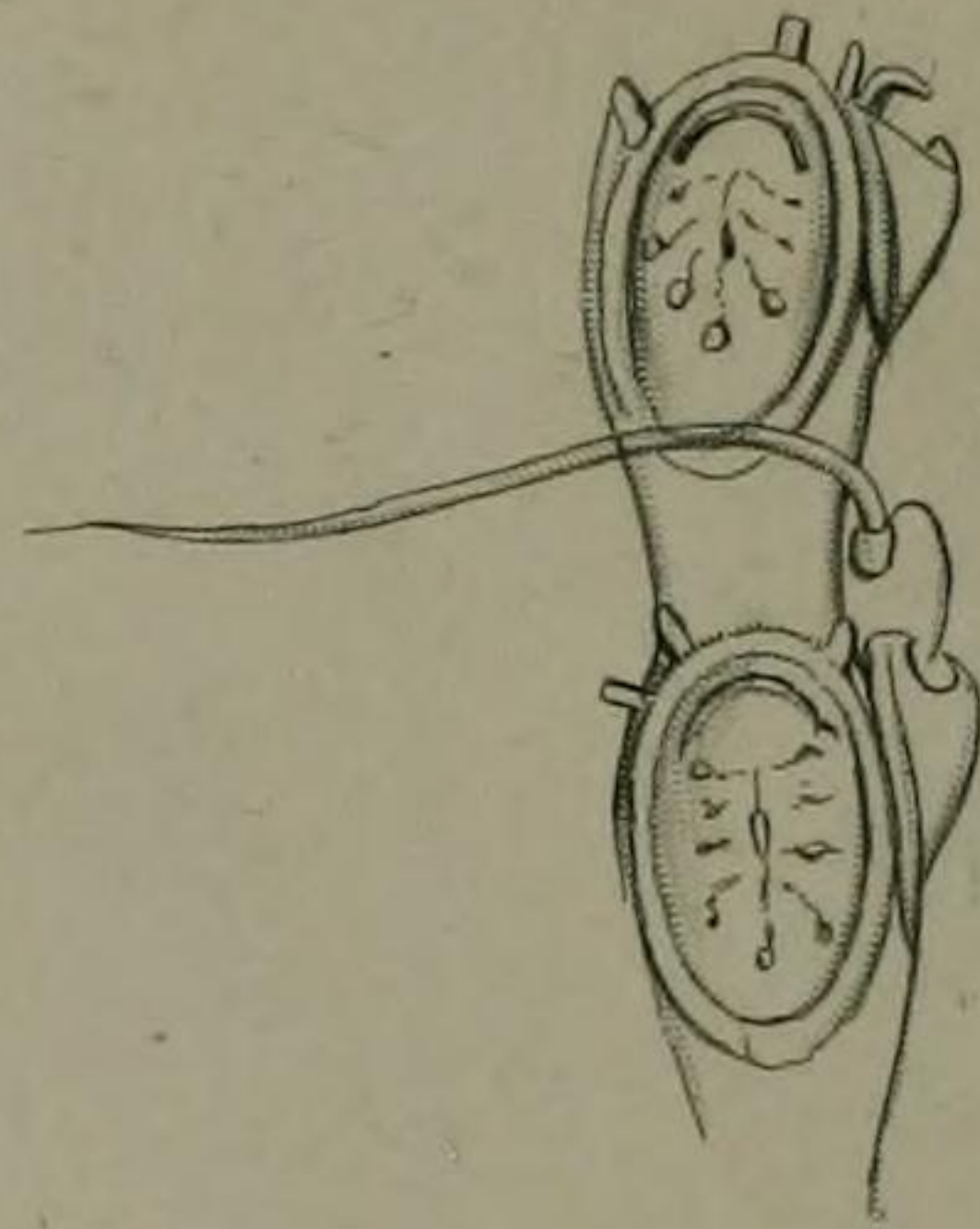
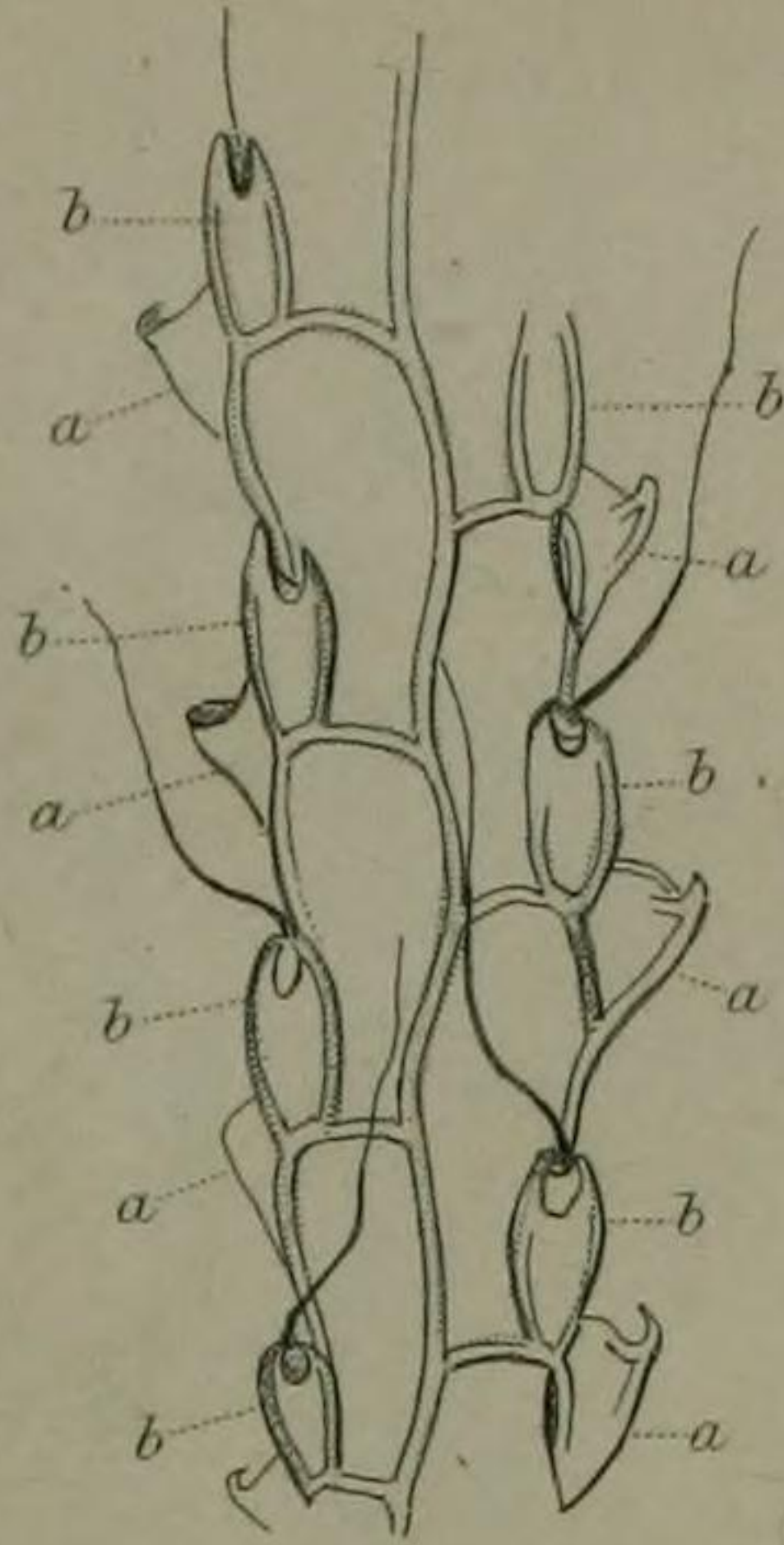
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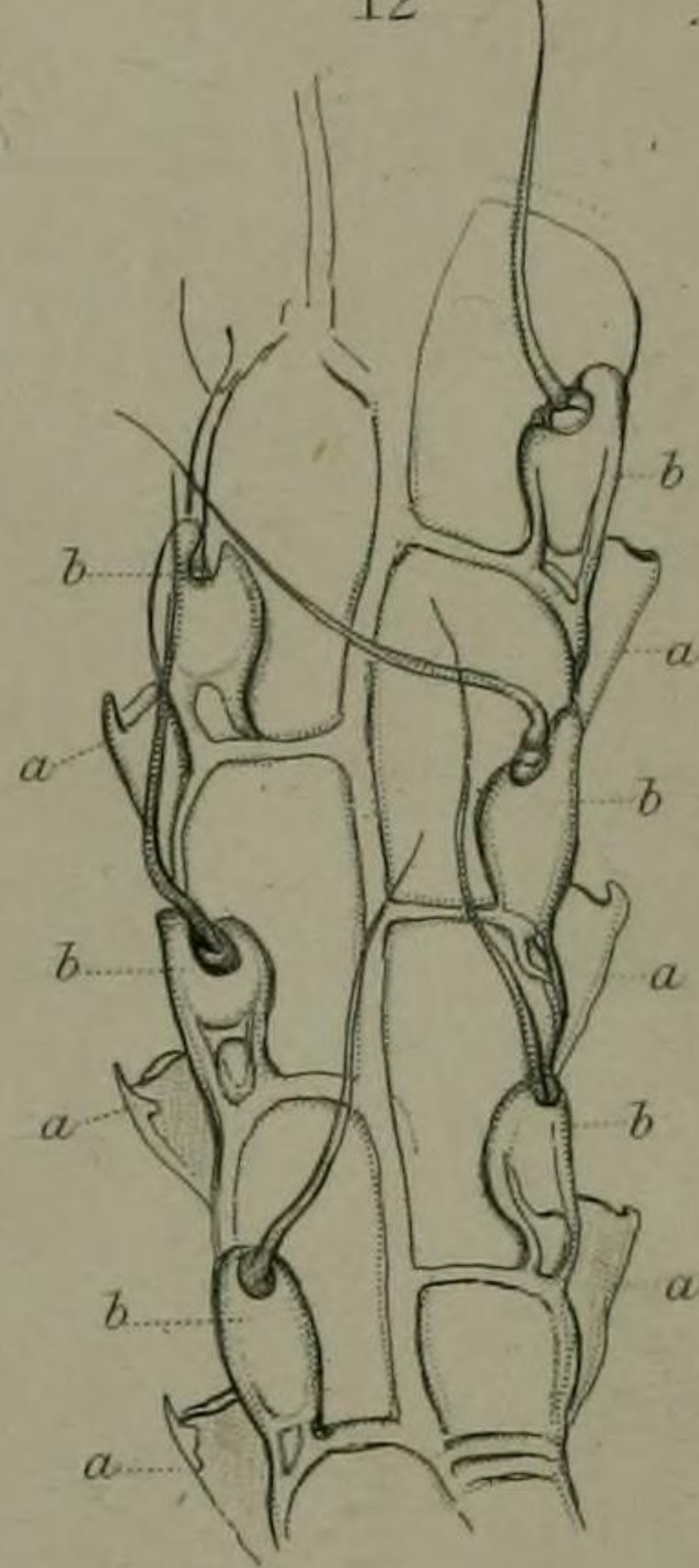
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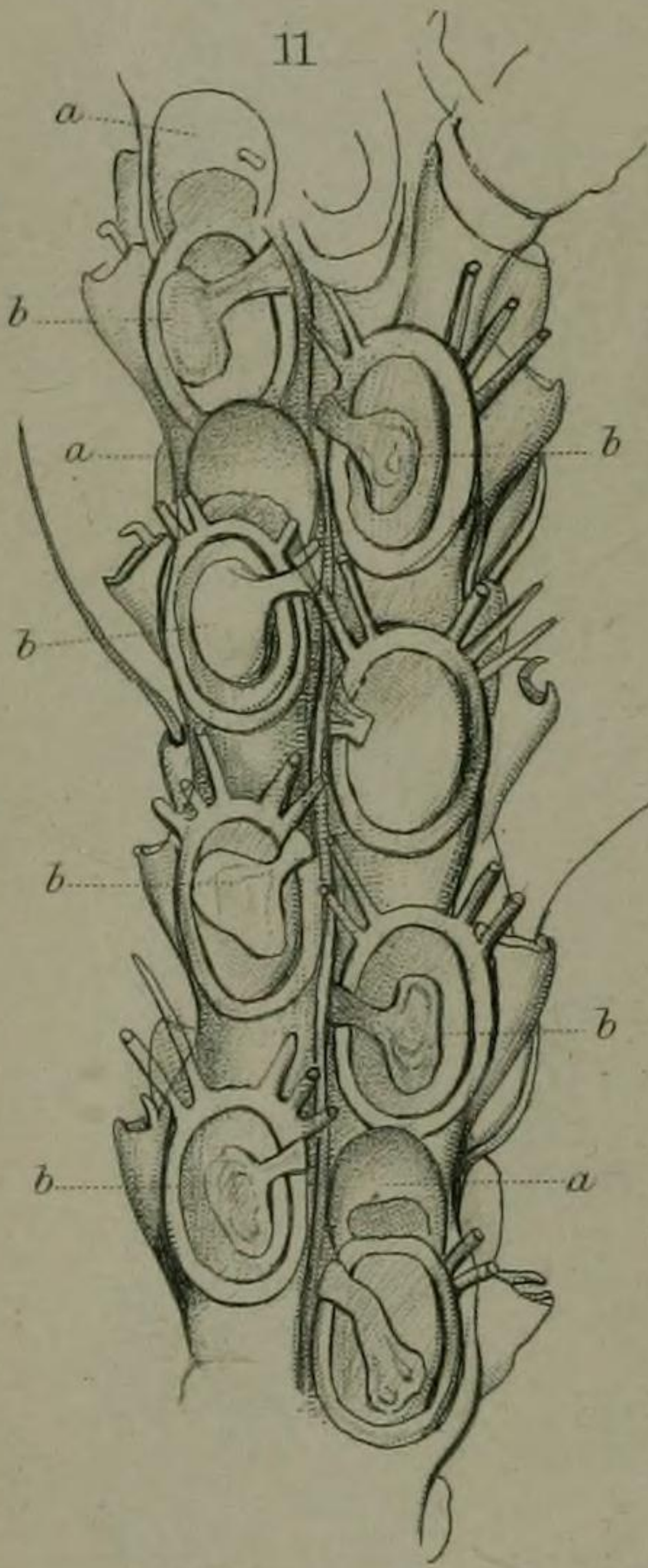
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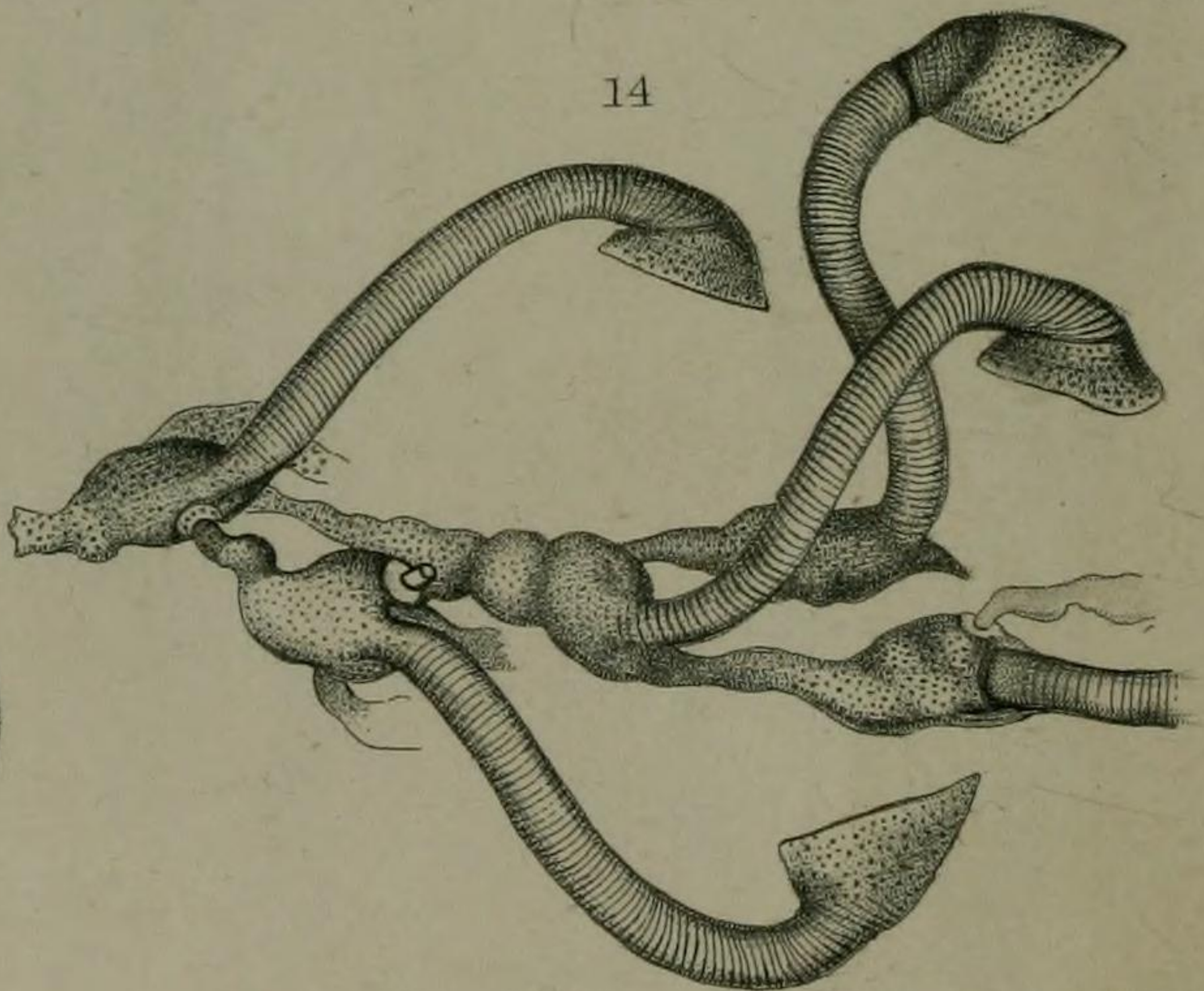
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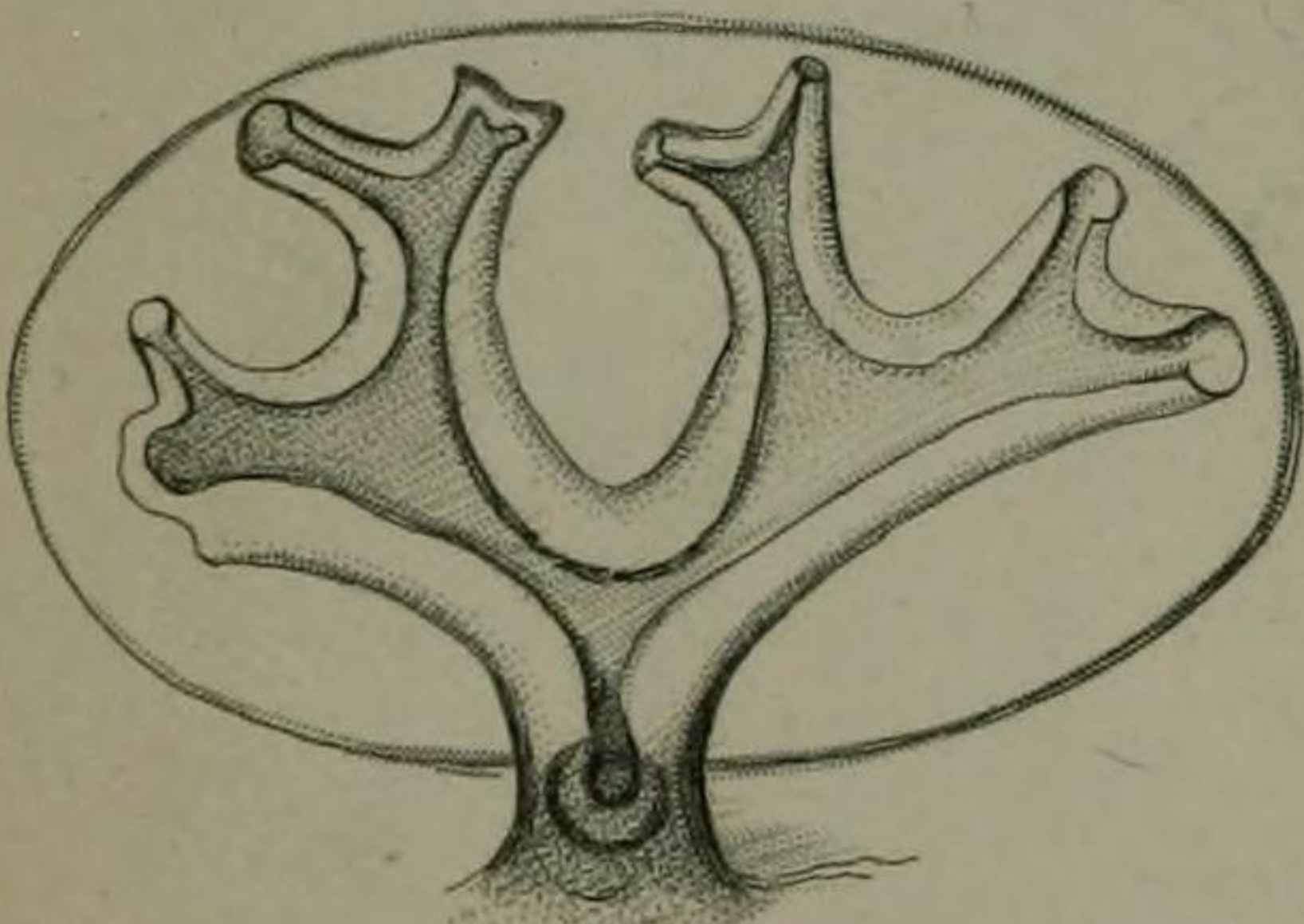
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# THE ANNALS

AND

## MAGAZINE OF NATURAL HISTORY.

[SECOND SERIES.]

No. 38. FEBRUARY 1851.

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VIII.—*Notices of three undescribed species of Polyzoa.*

By GEORGE BUSK, F.R.S.

[With two Plates.]

### I.

AT the late meeting of the British Association in Edinburgh, Mr. Peach brought forward specimens and drawings of what he regarded as a new species of *Cellularia*, and of which he was good enough to give me a specimen for the purpose of examination and comparison. The result has convinced me that Mr. Peach was right in his conjecture, and that the species then produced, though not first collected or noticed by him, is fully entitled to a distinct specific place in the British fauna.

In Dr. Johnston's collection of Zoophytes now in the British Museum, there are, included in the same sheet of paper with the typical form of *Cellularia neritina*, or that from which the figure, if not the description, in the 'British Zoophytes' is taken (pl. 60. figs. 3, 4), two or three specimens of a form, termed in the Catalogue, a "slender transparent variety," I presume on Dr. Johnston's authority, although this variety is not referred to in the same terms in his work. This form, however, and Mr. Peach's new species are identical, and it is so very dissimilar in every respect to the *C. neritina* figured in pl. 60. fig. 3, 4 of 'British Zoophytes,' and in pl. 19 of Ellis's 'Corallines,' that I think it is impossible to regard it merely as a variety of that species. With respect to the latter, it may be remarked, that eventually it may perhaps turn out to be but a doubtful native; for although it is very generally distributed throughout the globe, it would appear to be more especially a southern form. It is stated by Lamouroux to occur in the Mediterranean, and is found in the Red Sea near Suez; it is also met with at Rio de Janeiro, the Falkland Islands, Australia, New Zealand, the Auckland Islands, and still further south, whence I have seen specimens in



Dr. Hooker's collection. And it should be remembered that the figure (pl. 19) in Ellis's 'Corallines' was taken from a specimen sent to his friend Mr. Peter Collinson from America. I would further advert to the circumstance, that from one of the localities enumerated by Dr. Johnston as affording *C. neritina*, viz. Copinstra, I have, through the kindness of Lieut. W. L. Thomas, received specimens of Mr. Peach's species, but none of the true *C. neritina* of Ellis and Lamouroux. It may also be noticed, that although Dr. Johnston's figure and references, as well as the authentic specimen in the British Museum, are plainly assignable to one and the same form, viz. to that figured in Ellis's 'Corallines,' pl. 19, and to that only, yet the description in 'British Zoophytes' (vol. i. p. 340) is not exactly applicable to that form, but more correctly so to Mr. Peach's.

As it is evident the name *C. neritina* must be retained for the form hitherto understood under it, the new species, now for the first time distinguished from it, will demand a distinctive appellation. Perhaps no better can be found than in the name of the worthy and zealous observer, to whose discrimination the British fauna may in fact be considered as indebted for this addition.

In the present not very satisfactory state of nomenclature with respect to the various species of *Cellularia*, I have thought it better to retain that more general term than to adopt any of the divisional ones more recently employed.

Genus CELLULARIA, Pallas.

Sp. *Cellularia Peachii* (Busk).

*Cellularia neritina*, var. Johnston.

*Bugula neritina*, var. Gray, List of British Radiata, p. 114.

*C. cellulis subelongatis, deorsum attenuatis, supra truncatis, subrotundatis, spinam parvulum erectam externe gerentibus; postice foraminibus 3-5 seriatim dispositis, perforatis. Ore ovali regulari amplo, margine subincrassata minute verrucosa. Ovariis rotundatis superficie tessellatis.*

*Hab.* Boddam, Buchanness; Peterhead, Tynemouth, Copinstra.

Mr. Peach remarks that the species is bushy, erect, attached to stones, old shells, and to other zoophytes from deep water, brought up by the fisherman's lines off Peterhead, &c., and that it is not plentiful. According to the British Museum list it also occurs at Tynemouth; and I have received it from Copinstra by Lieut. W. L. Thomas, R.N.

It is white and of a delicate shining aspect when dry; the branches long, slender and straggling. The inferior end of the cell as seen behind much contracted; the mouth regularly oval and



surrounded with a somewhat thickened margin, beset with minute verrucosities. There is a row of from three to five small openings towards the outer border of the cell on the back, and the upper and outer angle in front supports a minute upright spine, which is however not unfrequently wholly wanting. There are no moveable appendages. The ovarian cells are rounded and affixed above the cell to which they belong, and immediately behind the upper margin of the mouth, which in that case is slightly depressed. Their external surface is marked by lines crossing each other obliquely and giving it a tessellated aspect. The mouth of the cell is filled up by a delicate transparent membrane (more or less calcareous?), in the upper part of which is situated the small crescentic orifice, protected below by a projecting and probably moveable labium as in others of this class.

#### EXPLANATION OF PLATE VIII.

Fig. 1. Front view of a portion of a branch of *C. Peachii*.

Fig. 2. Ditto to show an ovarian cell (*a*).

Fig. 3. Back view of a portion of a branch: *a, a, a, a*, the series of holes.

Fig. 4. Side view of the mouth of a cell.

For the sake of comparison I have added some figures of the true *C. neritina*, and drawn to the same scale as the others, in order more distinctly and briefly to show the difference between it and the new species.

Fig. 5. Front view of a portion of a branch of *C. neritina* (*Acamarchis neritina*, Lamx.).

Fig. 6. *a*, an ovarian cell.

Fig. 7. Back view of a portion of a branch.

#### II.

For the following species, which I believe to be also new to the British fauna and hitherto altogether unnoticed, I am indebted to Prof. E. Forbes. It was dredged on the coast in the neighbourhood of Dartmouth. It also occurs among some zoophytes collected on the coast of Spain, or in the Mediterranean, by Mr. M'Andrew in the course of last year.

Its very close resemblance to *Scrupocellaria scruposa* may have caused it to be overlooked, and it may therefore be more generally distributed than at present appears.

#### Genus SCRUPOCELLARIA.

##### Sp. *S. scruposa* (Busk).

*S. cellulis rhomboideis; supra infraque truncatis; postice sinuatis. Ore subovali margine paullulum incrassato; spinis 4 vel 5 superne armato. Operculo pedunculato reniformi obtecto. Ovariis cucullatis subappressis, lævibus.*

*Hab.* Dartmouth. Mare Mediterraneum.

In stating the form of the cells in this genus, it is more con-



venient usually to refer to the back view of them, as I have done in this case.

In habit this species bears so close a resemblance to *Scrupocellaria scruposa*, that to the naked eye there is very little difference between them. The branches are a little broader, and perhaps more regularly and more closely disposed. The cells are wider in proportion to their length than in that species, and their sides, especially the upper one, more square and straight. The principal difference in the form of the cell consists in the existence in *S. scruposa* of a rather deep depression or sinus on the back of the cell and towards the outer margin, in which sinus is lodged the vibraculum\*. This organ is placed considerably more behind the cell than it is in *S. scruposa*, and differs somewhat in shape from the same organ in that species. It is wider, flatter, and as it were, more of a spatulate form. The avicularium occupies the same position or nearly so as in that species, or perhaps is also placed a little more posteriorly. An important difference however between these very similar species consists in the reniform pedunculate operculum, which projects in front of the mouth of the cell. Although this organ exists in a great variety of forms in many species of Cellulariadae, and is particularly well developed in the common *Scrupocellaria reptans*, I am not aware that it has hitherto received the attention it would seem to deserve in the distinction of species: that its presence or absence could scarcely be regarded with safety as a generic character, the present instance might perhaps suffice to show, as it does not exist in *S. scruposa*; but of its specific importance I am convinced, from the examination of many foreign species. Several species furnished with this appendage and in various forms are figured by Savigny in the great work on Egypt, but no allusion is made to it by Audouin in the meagre text relating to those figures.

This process does not arise from the edge of the cell (at least not generally), but from the wall of the cell a little beyond the margin, and it usually appears to be tubular at its origin. It assumes various forms, some very fantastic, and increases in size as the cell becomes older, so that in the older cells at the bottom of the branches it almost entirely covers the mouth.

In the case of *Scrupocellaria scruposa*, the want of this operculum appears to be compensated for by the greater thickness of the velum, and which in that species, in the older cells, becomes the seat of an increased deposition of calcareous matter. When in this state, the cells anteriorly very much resemble those of certain species of *Catenicella*.

I have subjoined a figure of this operculum as it occurs in

\* I employ this term to signify the organs furnished with a moveable or vibratile seta, as distinguished from the prehensile avicularia.



*Scrupocellaria reptans*, in which the peculiar structure of this appendage is well seen.

# EXPLANATION OF PLATE IX.

## *Scrupocellaria scruposa*.

Fig. 8. Front view of a portion of a branch of *S. scruposa*.

Fig. 9. Back view of the same: *a, a, a, a*, avicularia; *b, b, b, b*, vibracula.

Fig. 10. Front view of two older cells; the front of the cell strengthened by deposition of calcareous matter in the velum.

## *Scrupocellaria scrupea*.

Fig. 11. Front view of a portion of a branch: *a, a, a*, ovarian cells; *b, b, b, b, b, b*, opercula.

Fig. 12. Back view of the same: *a, a*, avicularia; *b, b*, vibracula.

Fig. 13. A more highly magnified view of the operculum in *S. reptans*.

## III.

The species of *Anguinaria* about to be described was given to me by Mr. J. Quekett of the College of Surgeons, who believes that it came from Torres Straits.

It differs so evidently from the hitherto only known species of *Anguinaria*, that there can be no doubt of their specific distinction, but at the same time the distinctive character of the new species requires but a very short definition.

## Genus ANGUINARIA, Lamk.

### Sp. *Anguinaria dilatata* (Busk).

*A. cellulis apice cyathiformibus, ore magno dilatato suborbiculari.*

*Hab.* Torres Strait?

In habit this species is rather more robust, but in other respects very nearly corresponds with *A. spatulata*, and as in that species, the cells arise from a creeping, branched, decumbent polyzoarium, which is adnate on fucus; in this case a species of *Sphacelaria*. It is rather remarkable that *Anguinaria spatulata* should occur in Bass Straits and other parts of the Australian seas, and in the South of Africa, as well as in Europe, whilst the present species would seem to be much more limited in its range; the one perhaps requiring a temperate and the other a tropical climate.

PLATE IX. fig. 14. *Anguinaria dilatata*.