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THE
PROCEEDINGS
OF THE
LINNEAN SOCIETY

OF
NEW SOUTH WALES,

VOL. VII.,

[WITH ¹²FOURTEEN PLATES.]



SYDNEY:

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1883.

ON SOME NEW AUSTRALIAN TUBICOLOUS ANNELIDS.

BY WILLIAM A. HASWELL, M.A., B.Sc.

[Plate XII.]

Eupomatus elegans, *sp. n.* (Plate XII., fig. 1.)

The operculum presents distally a circlet of twenty tapering processes, which fit close together below, but diverge towards their apices; each of these is ornamented with several pairs of short acute side branches; below their distal circlet is a collar of about forty palisade-like processes placed in close apposition, the rounded ends of which give the collar a crenated border. Branchiæ pinnate. Setæ simple. The branchiæ are of a brilliant scarlet, their stems white at the base and rich brown more distally. The operculum is yellow with a transverse brown band. The tube is smooth and of a cylindrical, somewhat sigmoid form.

Hab. Port Jackson.

This species differs from the European *E. trypanon* in the greater number of the processes in the distal circlet on the operculum.

Ammochares tenuis, *sp. n.* (Plate XII., fig. 2.)

The segments vary in number between nineteen and twenty-five; the middle ones are the longest, being several times as long as broad; the first three and last three or four are much shorter. The dorsal setæ are simple needles; a neuropodial transverse ridge with minute uncini occurs in all the segments except the first two and two or three at the posterior extremity of the body. There are about fifteen branchiæ, presenting short branches, which may in turn be subdivided. In each of the first seven segments is a pair of vermiform glands,* each of which opens near the parapodium, its inner extremity being suspended freely within the perivisceral cavity. The alimentary canal is surrounded

* It is conjectured that these serve to secrete the tube. There appears to be a lumen lined with cubical, non-ciliated cells.

from the third segment backwards by a close plexus of pseudo-hæmal vessels† which undergo synchronous peristaltic contractions passing from before backwards.

This species is exceedingly common in Port Jackson under stones near the upper tide limits. One specimen was observed in the act of swallowing a small Isopod.

Clymene integrinatis, *sp. n.* (Plate XII., figs. 3—6.)

The head is amalgamated with the buccal segment. The mouth is surrounded by a thickened lip. The upper surface of the head presents a low longitudinal ridge. The first three segments are devoid of hooklets, but possess simple setæ placed on slight lateral projections. The last three segments are without either hooked or simple setæ; the last has an oval concave terminal disk $\frac{1}{4}$ of an inch in long (*i.e.* dorso-ventral) diameter, and a little less in the transverse direction, with an entire margin except for a slight notch in the middle of the ventral border. The anus is situated near the middle of the terminal disk, but rather nearer the ventral than the dorsal aspect; it is key-hole-shaped and is surrounded by a number of minute, short, radiating ridges. The simple setæ are free from serrations or teeth; the uncini have usually five accessory teeth.

This species is not rare among sand and shingle in some parts of the shores of Port Jackson. The absence of crenulations on the borders of the terminal disk separates it from most species of the genus with the exception of *C. urceolata*, Leidy, from the Atlantic coast of the United States.

Sabellaria (*Hermella australiensis*), *sp. n.* (Plate XII., f. 7—11.)

The total length of the animal is about an inch and a half; that of the head $\frac{3}{16}$ ths of an inch, and that of the "tail" about

† In the European species this has been described as a peri-intestinal sinus.

$\frac{3}{10}$ ths. The thorax is composed of five segments; the abdomen of about forty. The body is stout, thickest in front, narrowing somewhat behind. The head, including the *lamina coronaria* (*operculum*, Quatrefages), is rather longer than broad. The opercular setæ are arranged in two long ovals; the setæ of the outer limbs of the ovals are fifteen or sixteen in number on each side, slightly curved, acute, bordered with two rows of prominent spinules; the setæ of the inner limbs are twelve or thirteen, simple; on each side, at the dorsal extremity of the rows are either two or three stout brown setæ, which are strongly hooked. The prehensile cirri are extremely numerous and delicate, arising from sixteen compressed lobes; along the bases of the outer rows of setæ is a series of eleven to thirteen short cirriform processes, the two or three most dorsal of which are larger than the rest. The mouth is surrounded by a raised rim. The first segment of the thorax presents on either side of the mouth a triangular lobe, and externally a short subconical cirrus, at the base of which is a small bundle of setæ. The second segment has a bundle of neuropodial setæ, similar to those of the first, but has no notopodium; it presents a series of three cirriform processes on either side. In the following three segments the notopodium is a broad lamina armed with a row of seven or eight compressed, straight, blade-like setæ and some minute setules. The abdominal parapodia are likewise biramous, the neuropodia being minute mammillæ with about half a dozen setæ, the notopodia transverse ridges.

A common species on Thursday Island, Torres Straits.

As in Grube's *S. sexhamata* the hooks of the *lamina coronaria* are sometimes two, sometimes three, often two on one side and three on the other.

Amphicteis foliata, *sp. n.* (Plate XII., figs. 12—14.)

The body is subcylindrical, but to some extent dorso-ventrally compressed, broadest in front, tapering gradually behind, the

greatest breadth being about a twelfth of the length, composed of thirty segments, the length of which in the anterior region of the body is about a third of the breadth.* The præstomium is small and not separate from the buccal segment. The whole head presents the form of a subconical lobe, about one-tenth to one-twelfth of the total length of the animal, with the mouth at the truncated apex; on the middle of the dorsal surface of this lobe are two longitudinal ribs, the anterior ends of which project a little above the mouth; at the hinder end of these is a shorter anteriorly divergent pair of ridges, and on either side of them bounding the dorsal surface of the head, a third pair of broad ribs which converge from before backwards. Protruding from the mouth are a number of feathered, ringed, oral tentacles. On the three first pairs of somatic segments, which are not very distinct, there are three pairs of cylindrical cirri which are somewhat longer than the breadth of the body, and a pair of foliaceous branchiæ of about the same length, but wide, thin and leaf-like; these appendages are very readily detached; behind the root of each branchia are a number of short cylindrical processes. On the same segment there is on each side a bundle of ten long smooth tapering setæ, arranged in the form of a fan and directed forwards and outwards. The parapodia are biramous, the notopodia with slender, tapering, perfectly smooth setæ; at the extremity of each notopodium on its dorsal aspect is a rounded knob-like projection, and nearer the base is a short cirrus, on the ventral aspect is another short tubercle; the neuropodium is a small elevation with numerous short pectinated setæ presenting a curry-comb-like appearance.

The length is about an inch. The tube is formed of cemented sand-grains.

Two specimens of this species were obtained with the dredge at a depth of 15 fathoms in Port Molle, during the cruise of H. M.S. "Alert" on the Queensland Coast.

* A portion of the hinder extremity of the body is lost.

In one of the specimens, which I dissected, the anterior portion of the alimentary canal was found to be invaginated for a considerable distance within the posterior portion, shewing a corresponding power of eversion which, however, was not observed in the living specimens. Following the thin-walled oesophagus is a very short gizzard-like portion with thick walls. To this succeeds the wide intestine which presents a thick epithelial lining made up of closely-packed elongated, cylindrical cells with large and distinct nuclei; in the hinder region of the body the intestine becomes extremely narrow and the epithelial lining very thin. Throughout its length the alimentary canal seems to be surrounded by a vascular plexus. The nerve cord is remarkable on account of the trigonal form of its lateral halves.

There are two points in which this species differs from the genus *Amphicteis* as defined by Grube, viz.—in the oral tentacula being pinnate, and in one pair of branchiæ being foliaceous; but it is certainly in most other points a very near ally of *Amphicteis Philippinarum*, of Grube.

EXPLANATION OF PLATE.

- Fig. 1.—Operculum of *Eupomatus elegans* \times 15.
 „ 2.—Anterior region of the body of *Ammochares tenuis*, magnified.
 „ 3.—Posterior region of the body of *Clymene integrinatis* \times 4.
 „ 4.—Anterior region of the same.
 „ 5.—Anal disc of the same.
 „ 6.—Ventral uncinus of the same.
 „ 7.—Head and anterior region of *Hermella australiensis* from the ventral aspect, magnified.
 „ 8.—The same, lateral view.
 „ 9.—Opercular setæ of the same, highly magnified.
 „ 10. and 11.—Opercular uncini of the same.
 „ 12.—*Amphicteis foliata*, dorsal view, magnified.
 „ 13.—Head of the same from the ventral side, more highly magnified.

Fig. 14.—Section through the body of the same in the region of the gizzard $\times 22$. *a.* nerve-cord; *b.* ventral vessel; *c.* intestine; *d.* gizzard; *e.* ventral longitudinal muscle; *b,* oblique muscle; *g.* dorsal longitudinal muscle.

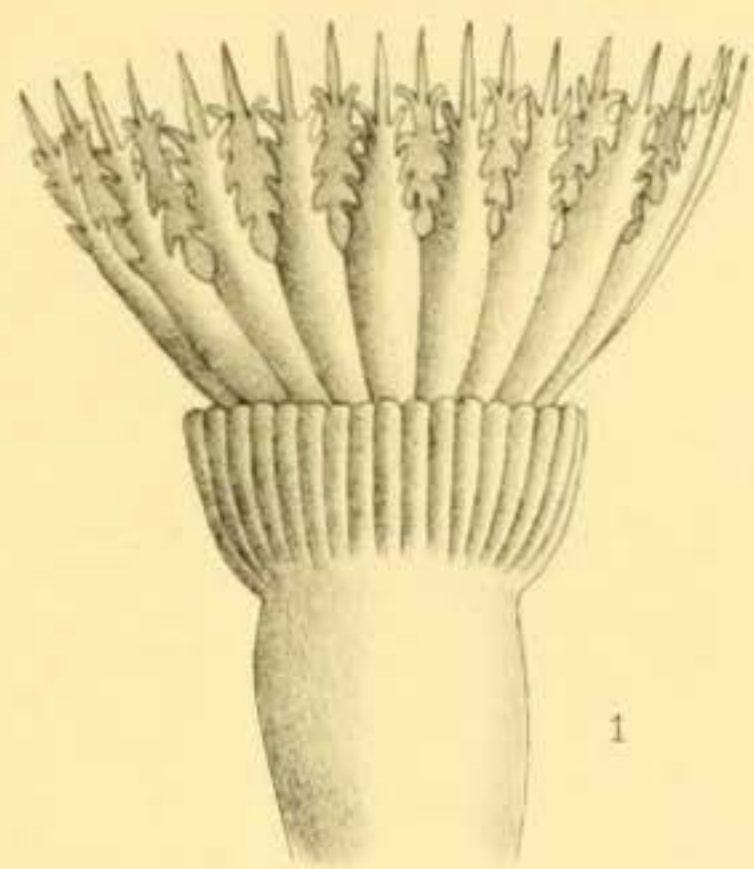
NEW SPECIES OF AGARICUS DISCOVERED IN WEST AUSTRALIA.

BY THE REV. C. KALCHBRENNER.

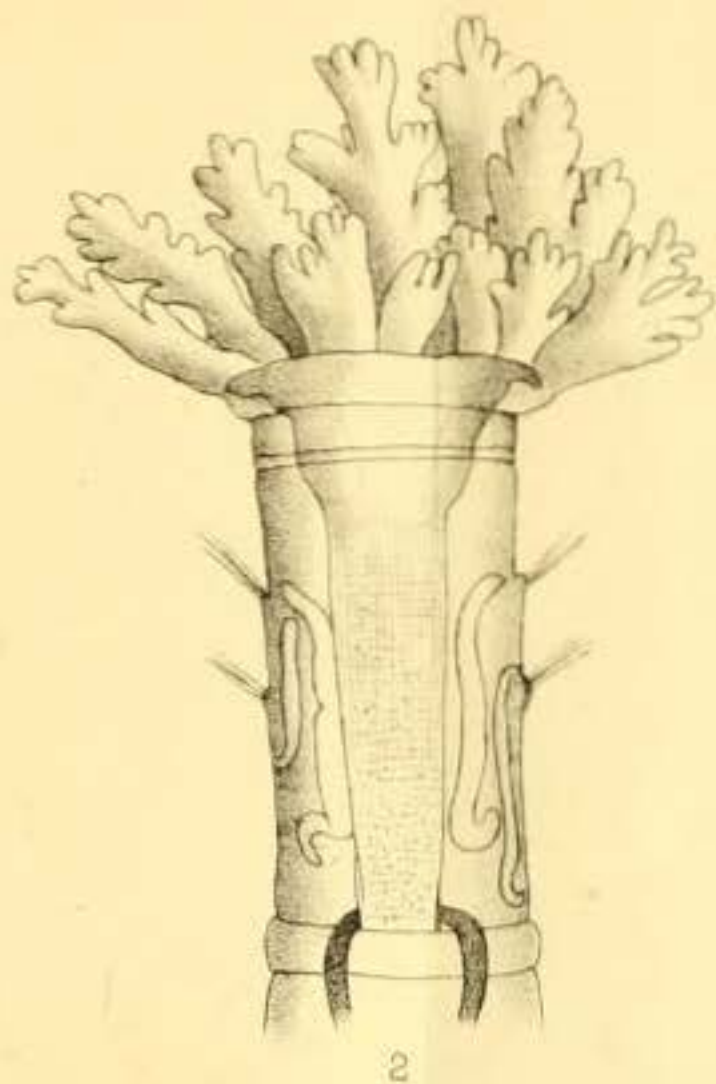
[Though now at a far advanced evening of life and no longer enjoying unimpaired eyesight, the Hungarian Divine has elaborated some more Australian fungaceous plants in addition to those formerly recorded in the Transactions of the Linnean Society of New South Wales. The accomplished lady, who at my request has commenced to collect fungi about the neighbourhood of Swan River, rendered her collections all the more valuable through accompanying them by splendid coloured drawings of each species, prepared by her own hands. The importance of this for the examination of succulent fungi from dried specimens I had pointed out to Mrs. Forrest; and I wish that ladies in other parts of Australia would devote their artistic talent likewise to such original and really useful purposes.—F. v. MUELLER.]

Agaricus Forrestiæ, (Sect. *Amanita*).

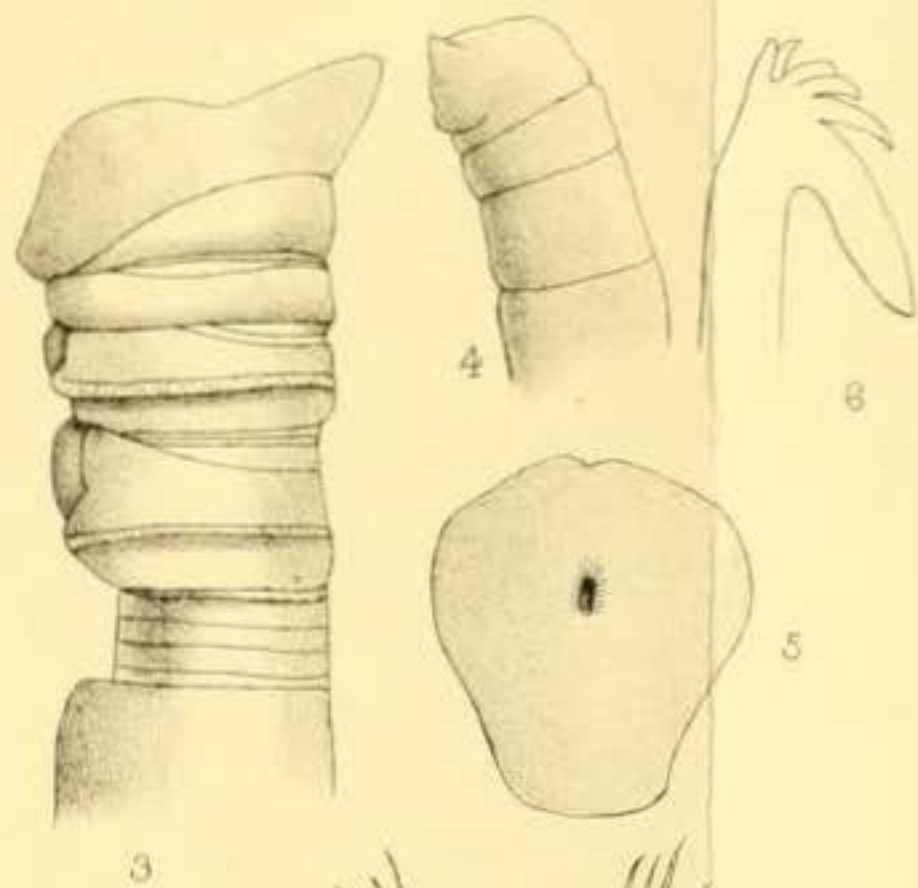
A. pileo carnosio convexo plano subdepresso laevi glabro nudo albo-cinerascente vel fuscescente margine haud striato, stipite valido faroto aequali albo fibroso glabrescente non bulboso, lamellis liberis ventricosis albis postice rotundatis, annulo amplo dependente, volva obsoleta. Pileus 4" latus; stipes pro ratione curtus, 3" longus, fere 1" crassus. A proximo *Ag. Persoonii* differt ob stipitem haud elongatum et radicum et pileum tenuem.



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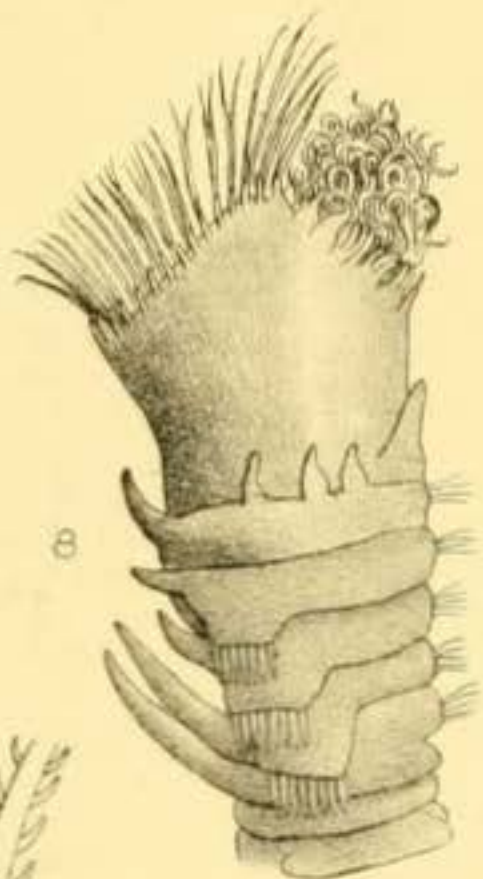


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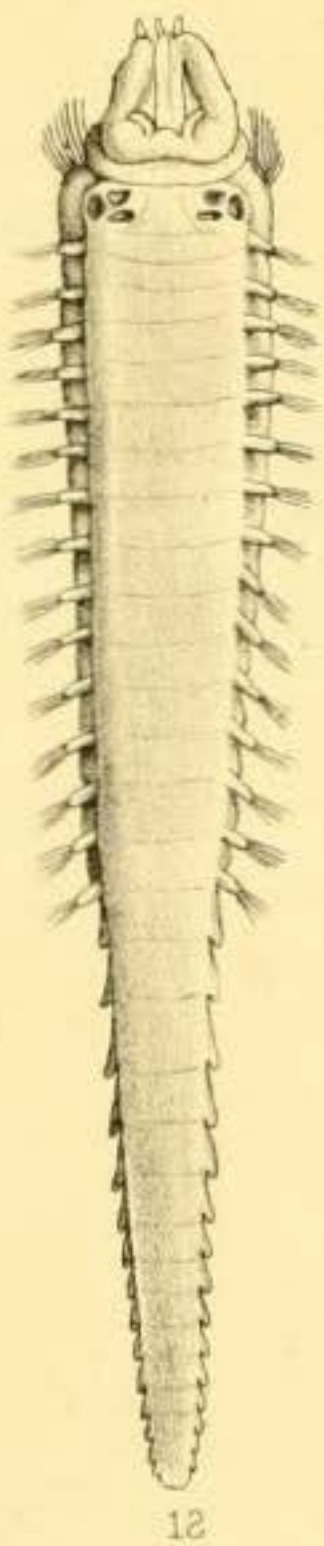
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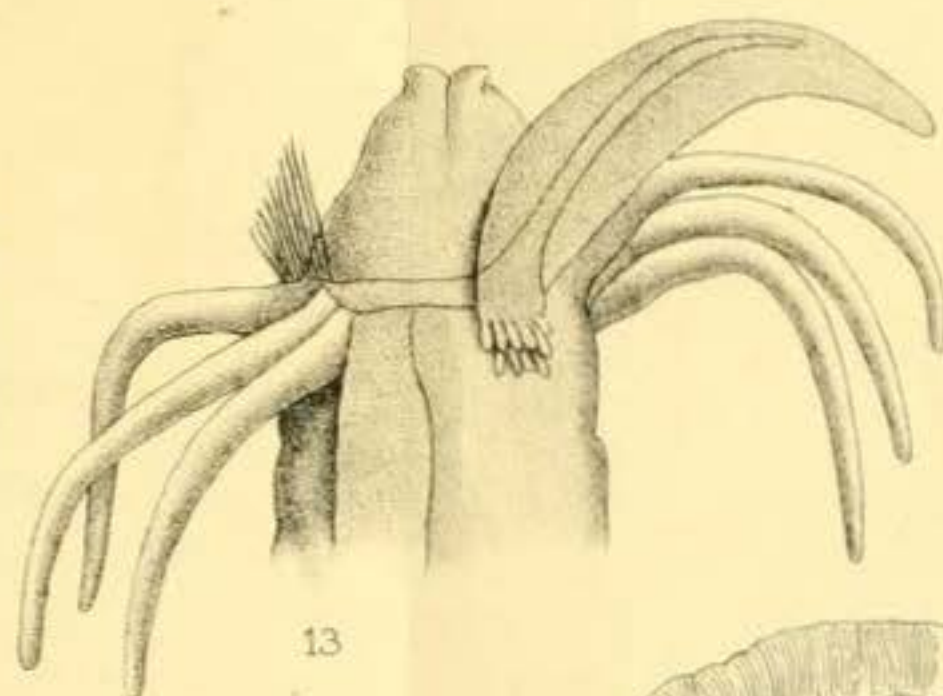
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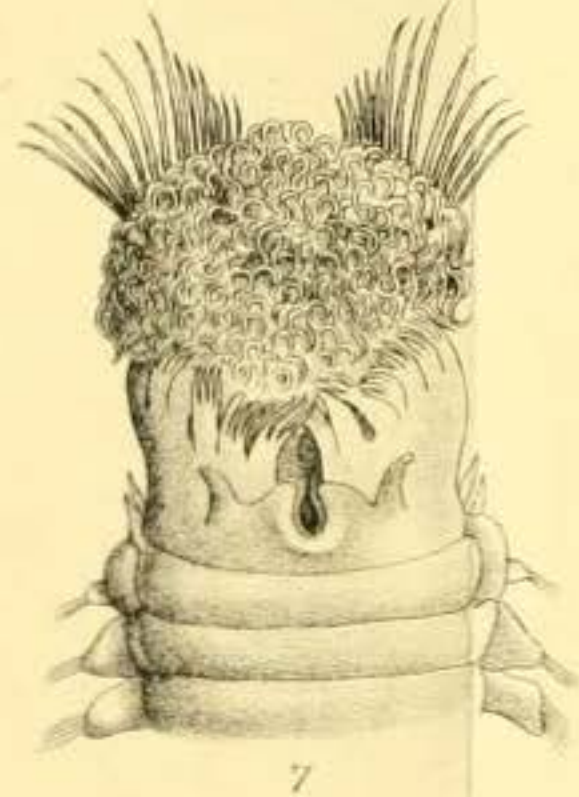
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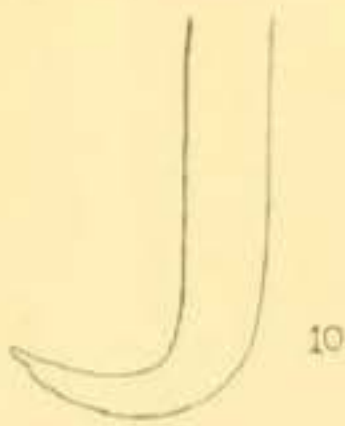
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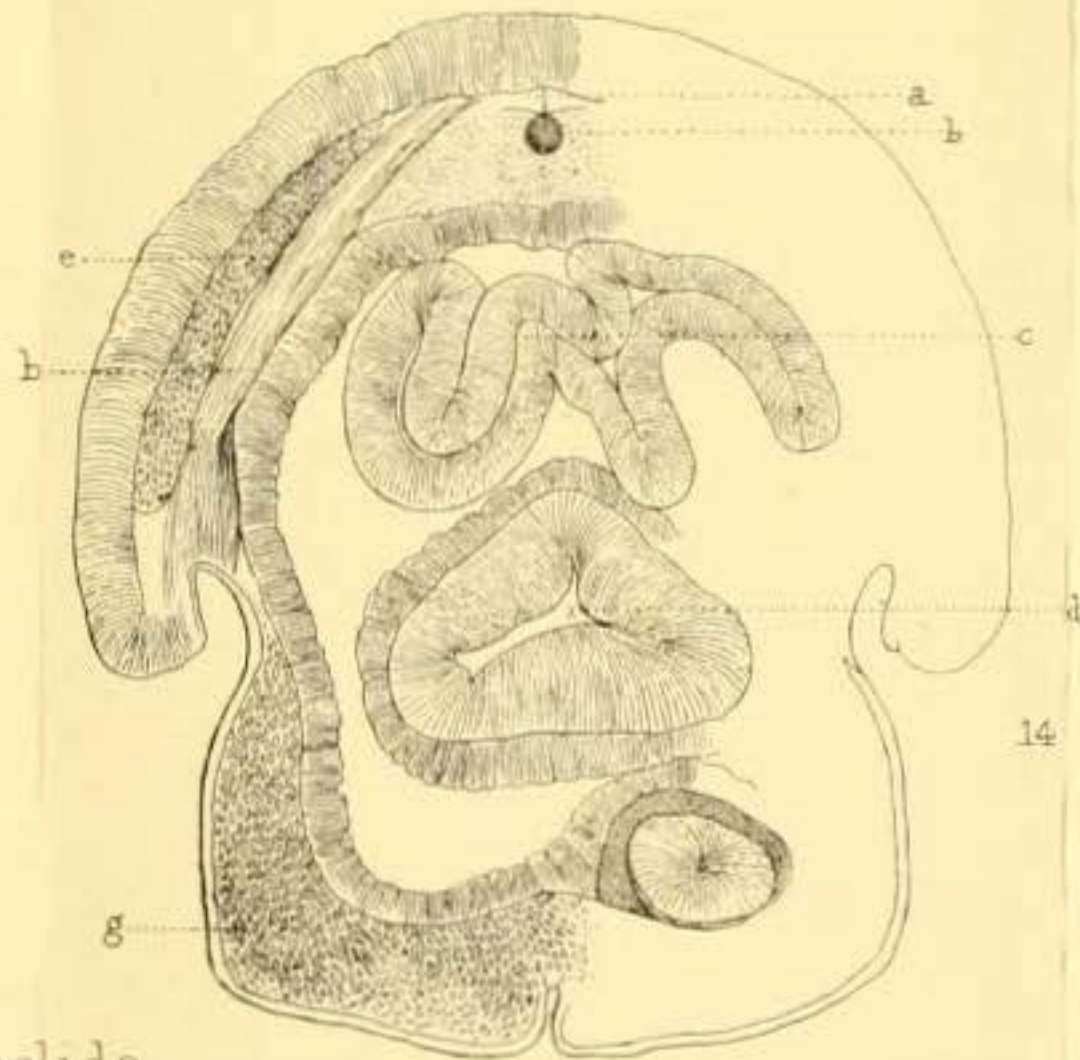
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WAH del

New Tubicolous Annelida.

S.T. Loagh & Co. lith.