

## DESCRIPTION OF A NEW SPECIES OF FABULARIA.

BY M. C. SCHLUMBERGER.

(Communicated by Walter Howchin, F.G.S.)

[Read October 6, 1891.]

Plate XIII., figs. 5-8.

A few months ago I received from Mr. Sherborn, of London, several Foraminifera discovered by Mr. Howchin\* in the Miocene beds of Muddy Creek, Victoria. Two of them seemed to be *Biloculina* with large longitudinal costæ and a cribriform aperture. These characters were remarkable enough, inasmuch as all known species of *Biloculina*, except *B. comata*, Brady, are smooth, and have a single tooth in the oral aperture. It was an easy matter to mistake the generic relationships of the specimens, as they were much weathered. Happily, Mr. Howchin obtained other specimens and kindly forwarded them to me. They are true *Fabularia*, and their discovery in a fresh locality is of the greatest interest, as the genus is only known by a single species from the Eocene (*Calcaire grossier*) of Paris and Egypt.

Two of the five specimens sent are sufficiently complete to allow a recognition of the external characters, and furnish material for a good drawing. The other three were used for the execution of two transverse and a longitudinal section. They all belong to the Form B,† whilst the Form A remains to be dis-

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\* The objects referred to by Mr. Schlumberger are the same as were briefly noted by me in "The Foraminifera of the Older Tertiary of Muddy Creek" as *Biloculina* species (Trans. Roy. Soc. S. Aus., vol. XII., p. 1), and which at the time of publication had been mislaid after having been submitted to the late Dr. H. B. Brady. The weathered condition of the test, added to the extraordinary external resemblance which this interesting object bears to the genus *Biloculina*, misled Dr. Brady, as it did Mr. Schlumberger in the first instance, and it was only on my making a section of the object that its true generic relationship was made apparent.—W. HOWCHIN.

† Interesting researches, bearing on the internal structure of the Foraminifera, made by the eminent specialists, MM. Munier-Chalmas and C. Schlumberger, have established the fact that many Foraminifera, notably Nummulites and the Miliolidæ, possess a dimorphic structure in their respective species. The dimorphism is of a similar kind in all the genera and species which exhibit the phenomenon, and determines the size and arrangement of the initial chambers. The authors referred to above distinguish the dimorphic types as Form A and Form B. The former possesses, relatively, a very large initial chamber, whilst in the latter the initial chamber is small, and is surrounded by numerous small and gradually enlarging chambers.—W. HOWCHIN.

covered. It is probable that the disposition of the central chambers, which is characteristic of the latter form, will be found in the case of very small individuals, as occurs with the minute examples of *Fabularia discolithes*.

## FAMILY MILIOLIDÆ.

Genus—FABULARIA, *Defrance*.

**Fabularia Howchini**, Schlumberger.

Form A.—Unknown.

Form B.—In a median transverse and transparent section of *Fabularia Howchini* of Form B we find in the middle an oval microsphaera surrounded by four little chambers (fig. 1).

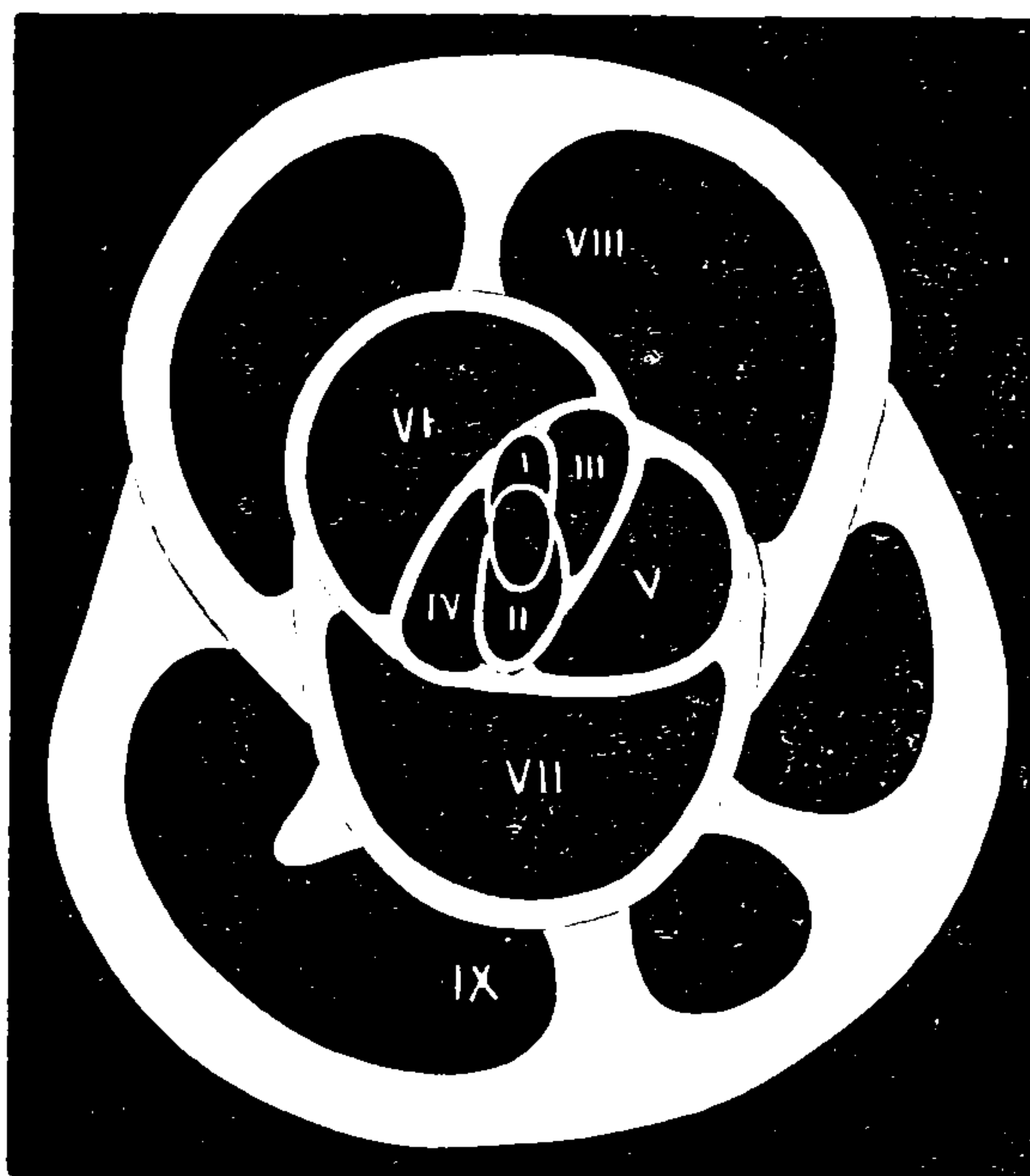


Fig. 1. *Fabularia Howchini*, Schlumberger. Form B, central portion x 100 diam.

The chambers IV. to VII. constitute successive triloculine cycles, and the last (VII.) is the first biloculine chamber. All the next are disposed alternately on the two sides of the axis of the poles in the same plane of symmetry as in the *Biloculine*. The first seven chambers have thin walls, leaning only against the preceding. The wall of the chamber VIII. becomes larger and produces an internal rib, extending to the wall of the chamber VI., and thus dividing chamber VIII. into two longitudinal canals. The next chamber (IX.) is divided into three canals by two internal ribs, and we remark in the greatest of them the beginning of a third rib from the inner side.



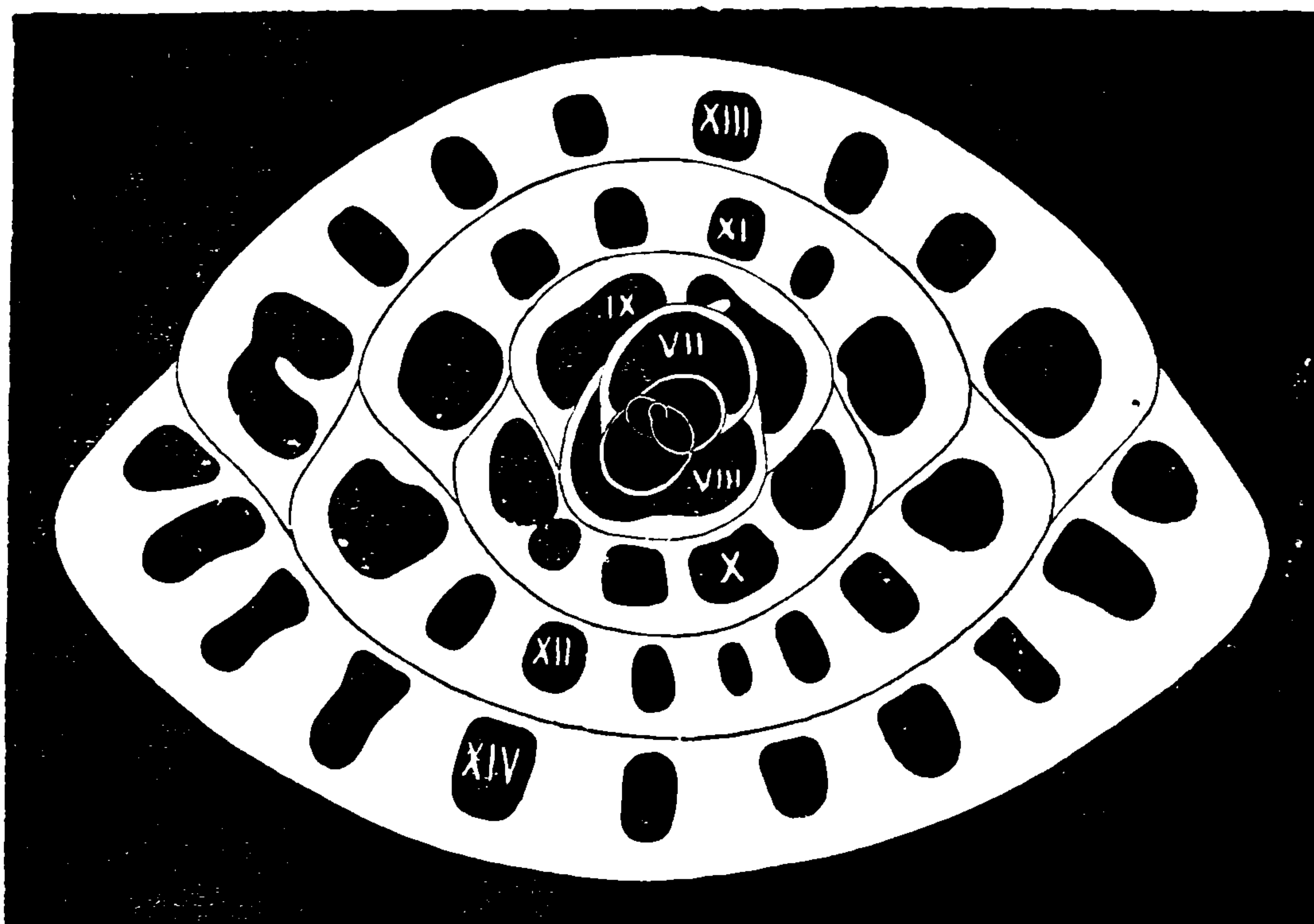


Fig. 2. *Fabularia Howchini*, Schlumberger. Form B, x 50 diam.\*

The fig. 2 gives the reproduction of the complete medial section of a specimen of the Form B whose central chambers were partly destroyed. It will be seen that the successive chambers, increasing by external growth, are more and more divided into longitudinal canals by large ribs, whose calcareous deposit is extended over the outward face of the preceding chambers, so that each chamber becomes a complete investment, as in all the *Miliolidae trematophoræ*.

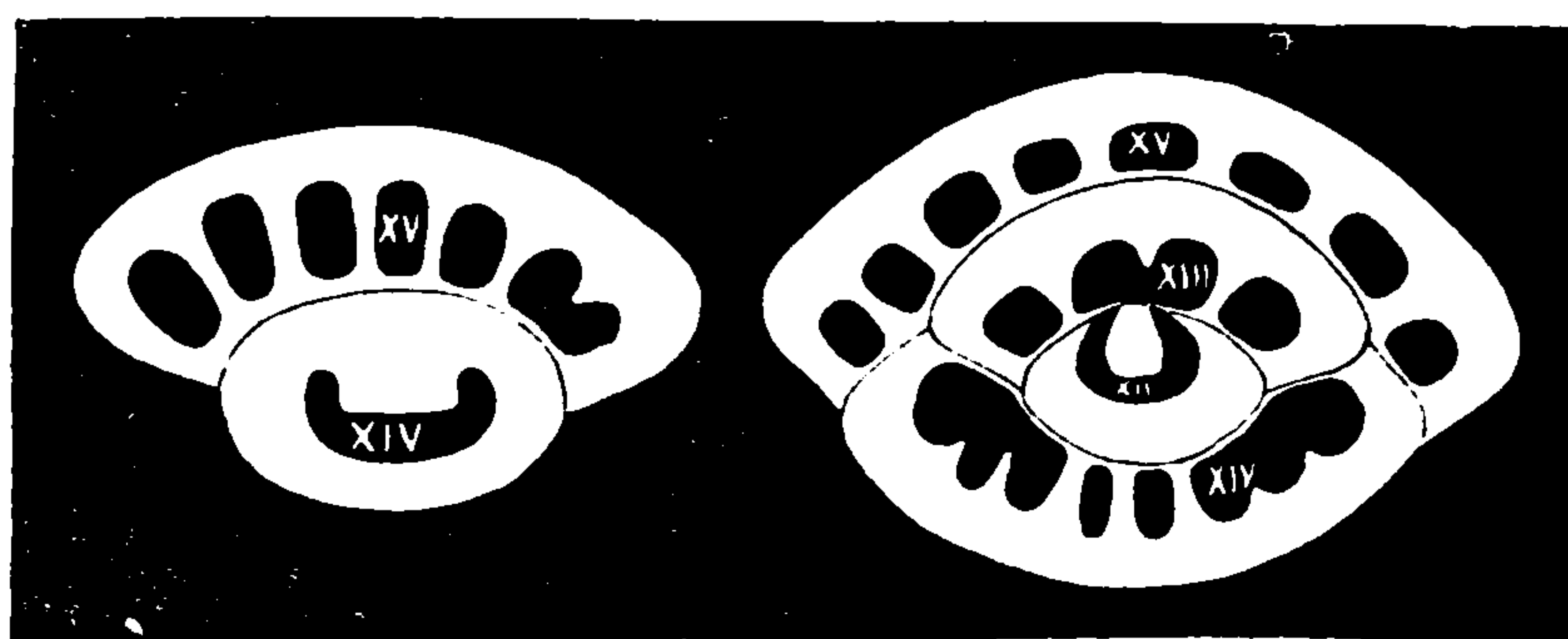


Fig. 3.

Fig. 4.

*Fabularia Howchini*, Schlumberger. x 20 diam. Successive appearances of the preceding specimen, fig. 2.

The figs. 3 and 4 give the appearance of successive sections of the same specimen (fig. 2) taken, the former at the beginning of the operation, the latter at the quarter of the length. They show that the apertures of the chambers (xiv., fig. 3, and xiii.,

\* During the preparation of this section the last chamber (xv.) was lost.

fig. 4) are occupied by a very large tooth. The superior part of this tooth divides itself in numerous ramifications, which also divide themselves and form the wall of the preceding chamber, thus constituting a trematophore with large openings.

From the comparison of the sections fig. 4 and fig. 2, it appears that the number of the canals increases towards the middle (in length) of the chambers, *i.e.*, the chamber XIII. (fig. 4) has only three canals, the middle beginning to divide; on the median section (fig. 2) the same chamber is composed of eight canals, the one being nearly subdivided by an internal rib. A similar division is to be seen in one of the canals of chamber X. (fig. 2) by the formation of two opposite ribs, and it is therefore evident that the canals of the same chamber communicate with each other as in *Fabularia discolithes*.

*Exterior characters* (Plate XIII., figs. 5 to 8).—Plasmostracum free, with a regular ovoidal outline in breadth, compressed on the thickness, showing only two chambers, as in the true *Biloculinae*. Test porcellanous, smooth, showing by transparency the disposition of the inner canals. Aperture formed by a small exhausted trematophore (fig. 8) with large perforations of various forms.

*Dimensions of the figured specimen.* — Length, 2mm., 7; breadth, 2mm., 8; thickness, 1mm., 2.

*Locality.*—The specimens which form the subject of the present note were found by Mr. Howchin in the Upper Division of the Muddy Creek Beds, Victoria, which I am informed Prof. R. Tate, of Adelaide, has referred to an age approximating to the Upper Eocene, or perhaps somewhat later.

*Observation.*—It is known that the chambers of *Fabularia discolithes*, DeFrance, are composed of several rows of longitudinal canals of various dimensions, that the interior of the test is marked by numerous pits, and that the plasmostracum is compressed on the breadth whilst *Fabularia Howchini* has a smooth test, a single row of canals, and the compression of the plasmostracum is on the thickness.

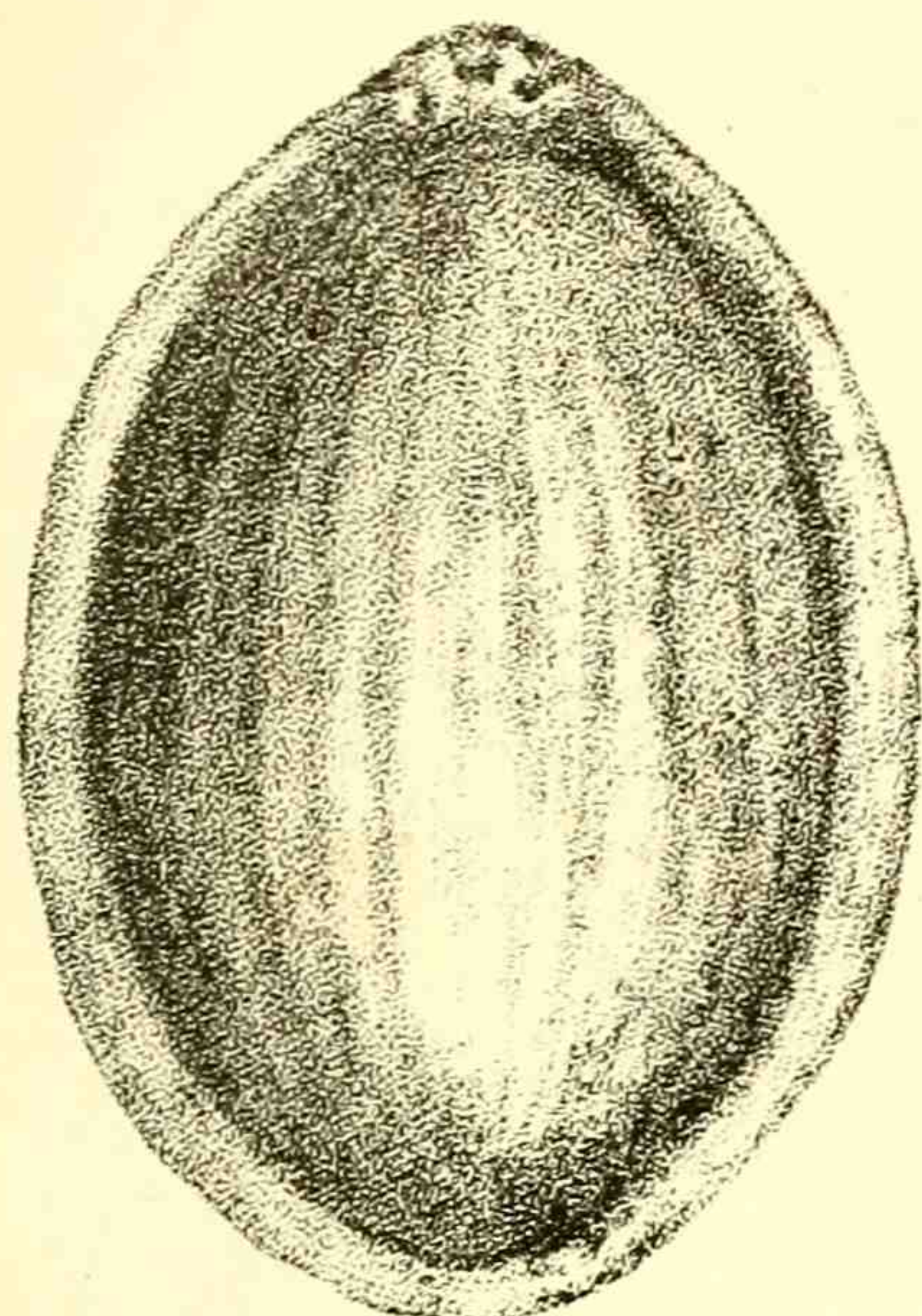
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#### DESCRIPTION OF PLATE XIII., figs. 5 to 8.

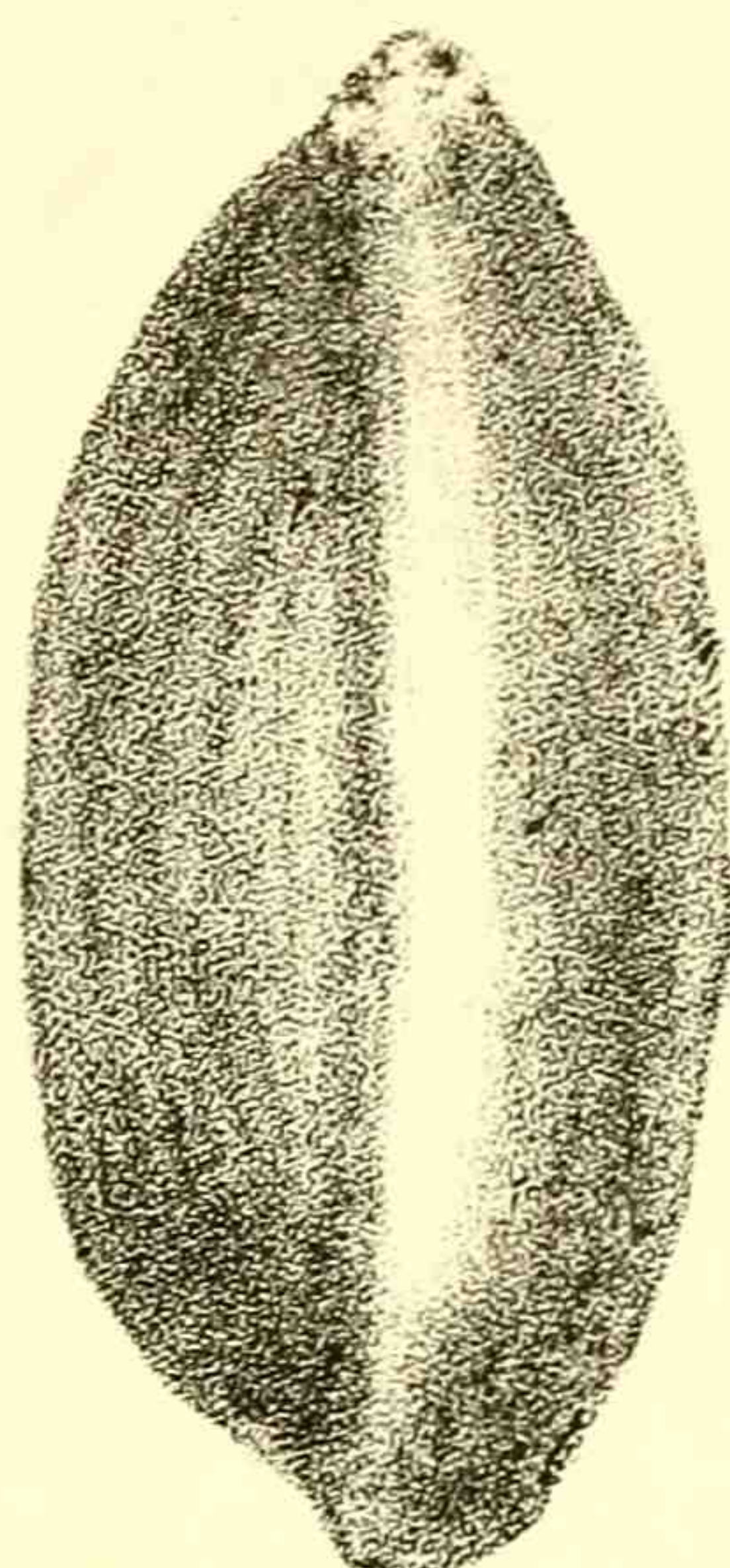
- Fig. 5. *Fabularia Howchini*, Schlumberger. Lateral view of test. x 17 diam.  
 Fig. 6. “ “ Peripheral aspect of same specimen.  
 Fig. 7. “ “ End view showing aperture.  
 Fig. 8. “ “ Greatly enlarged view of aperture, exhibiting its cribriform character. x 40 diam.



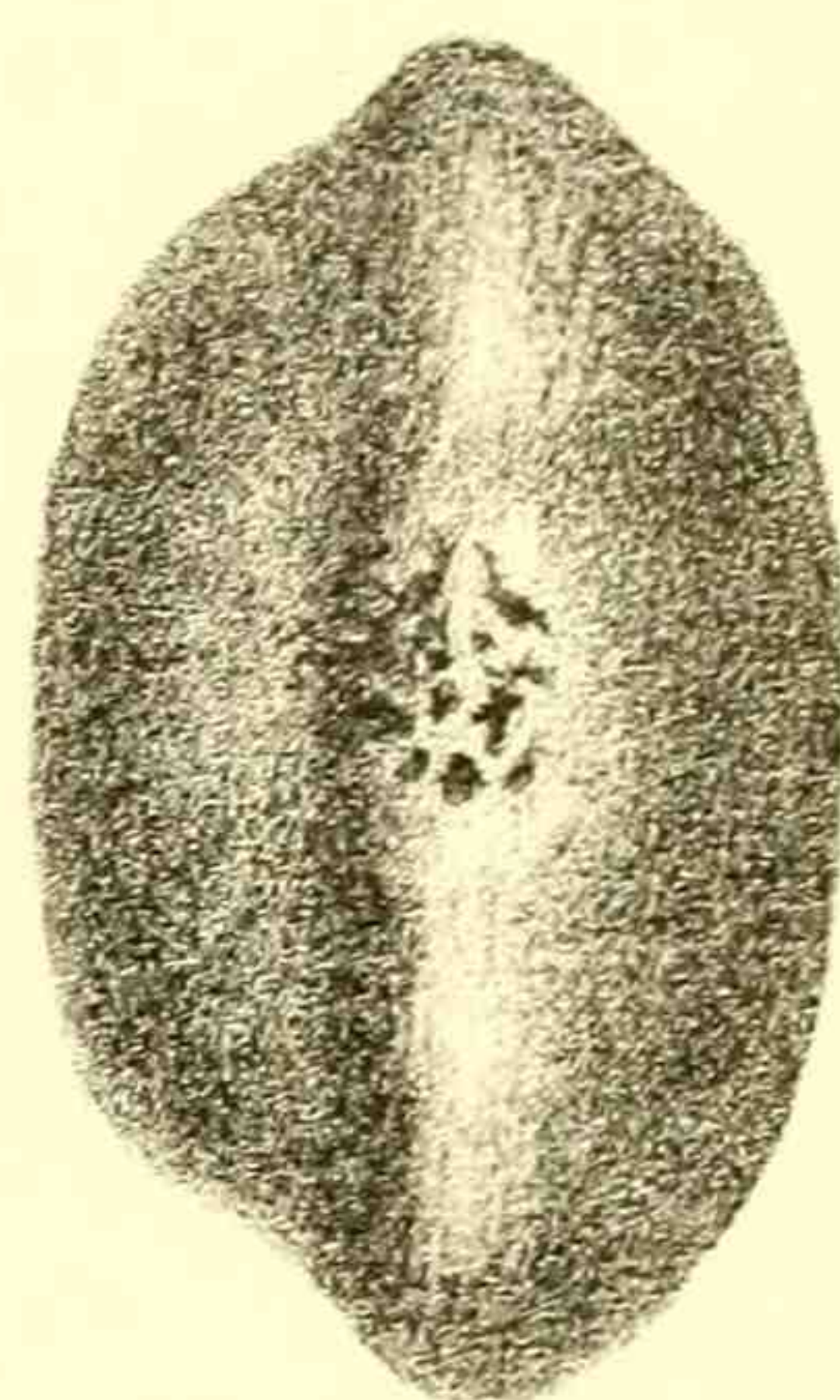
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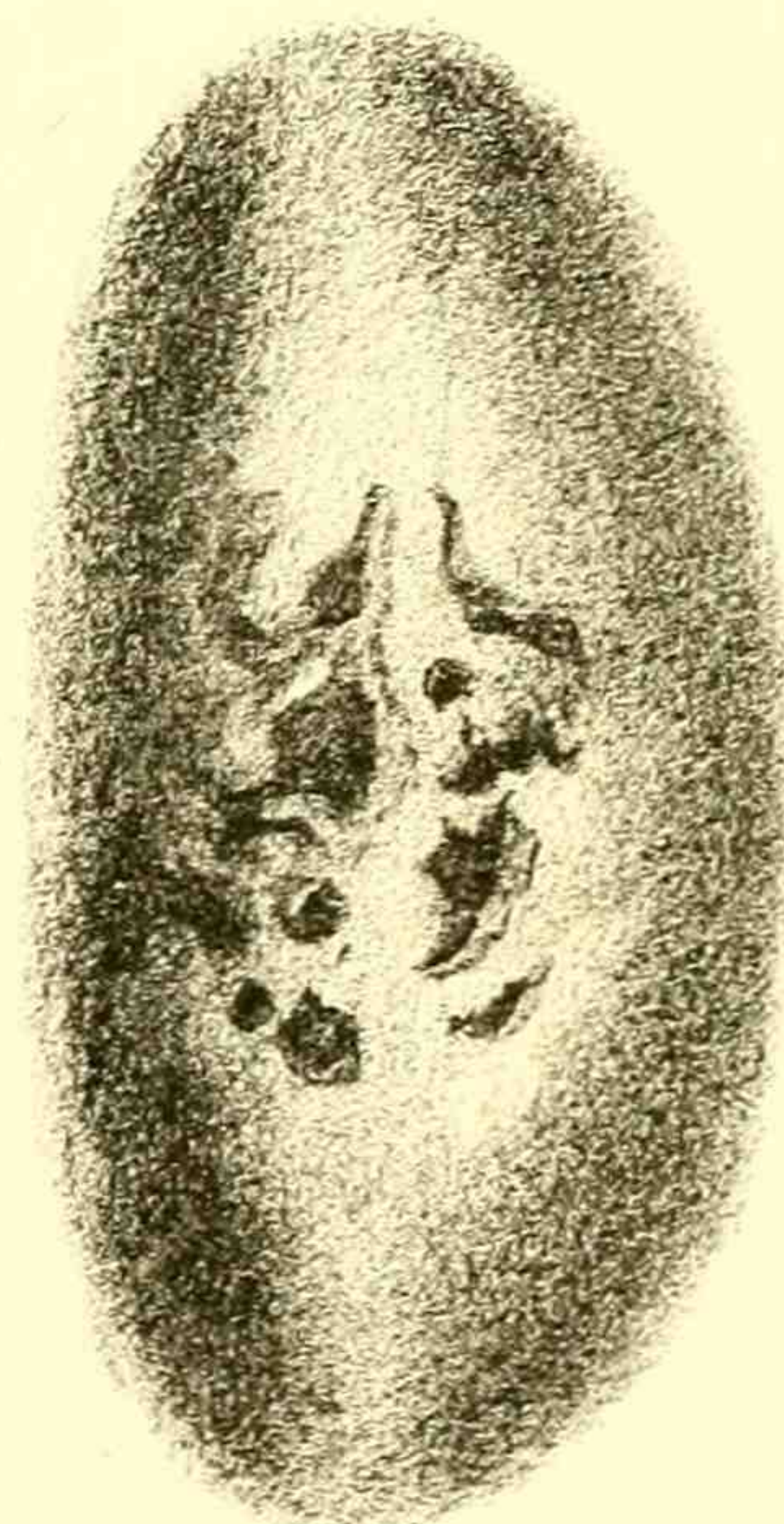
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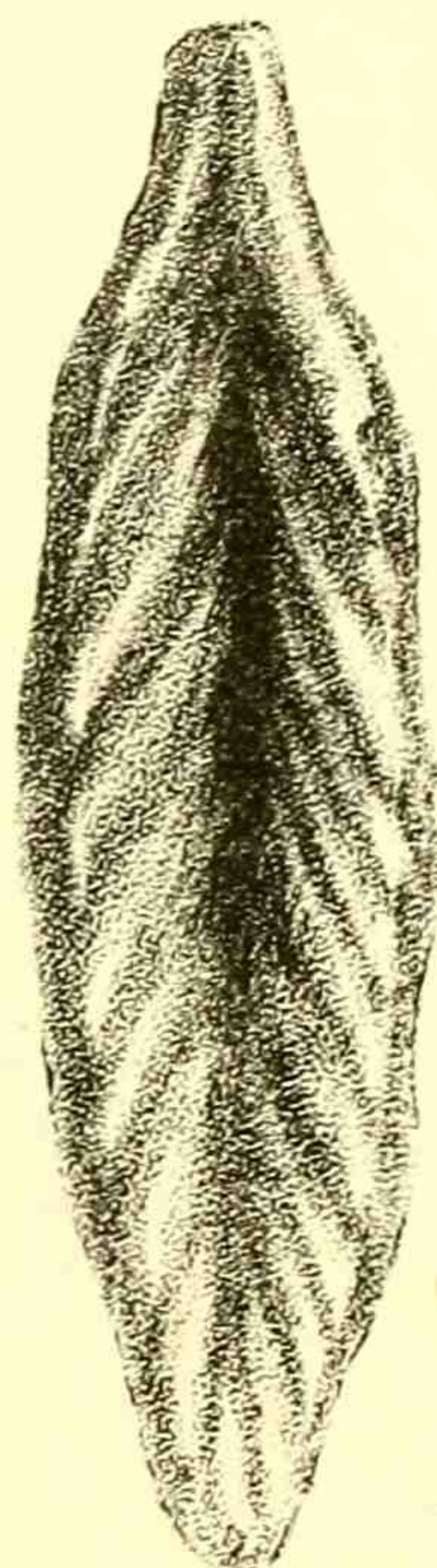
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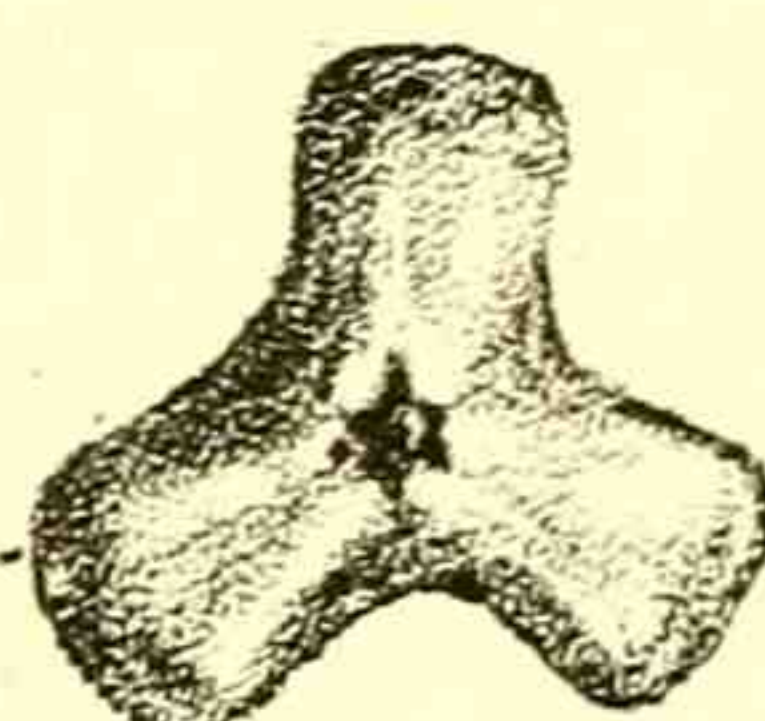
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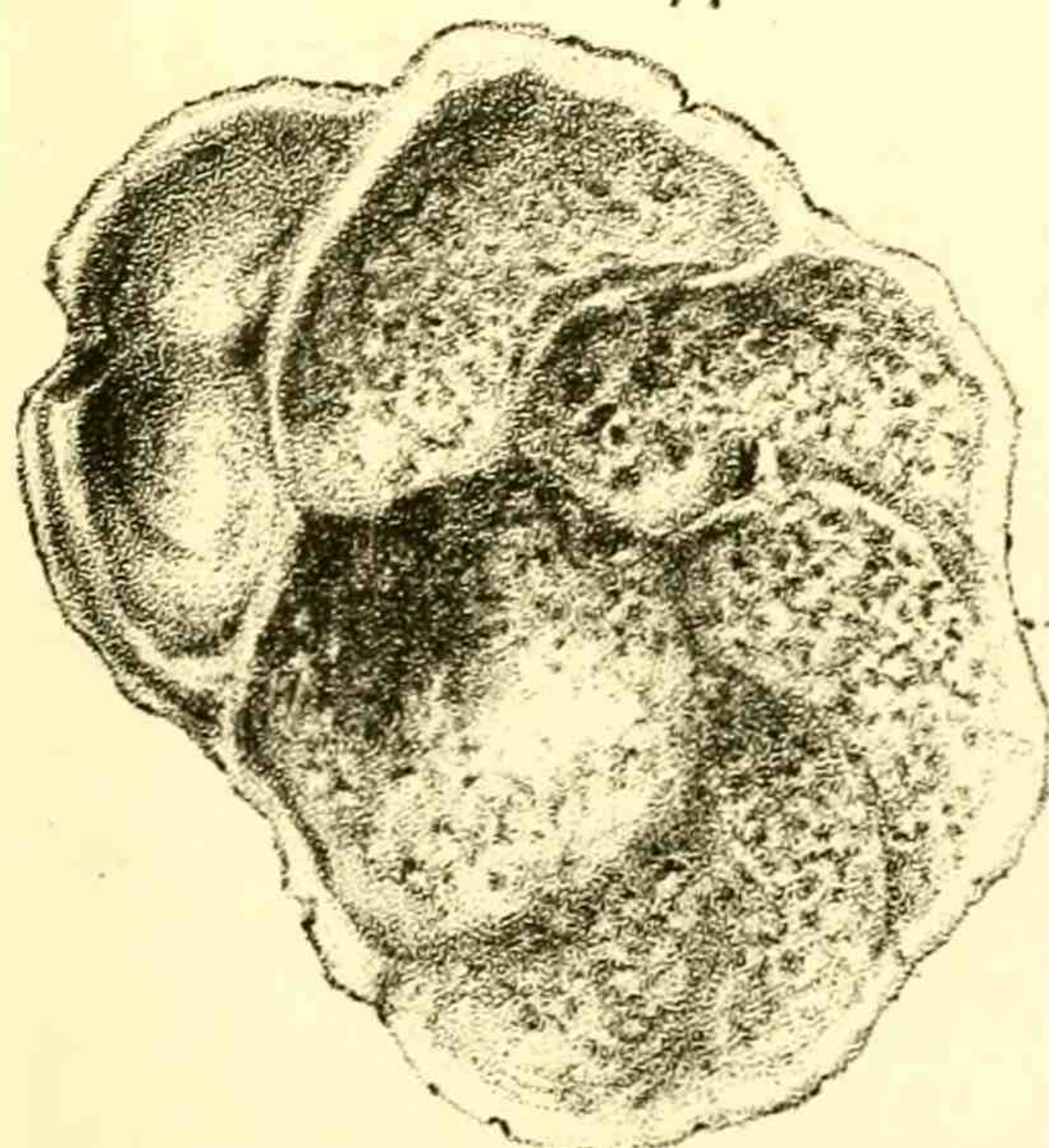
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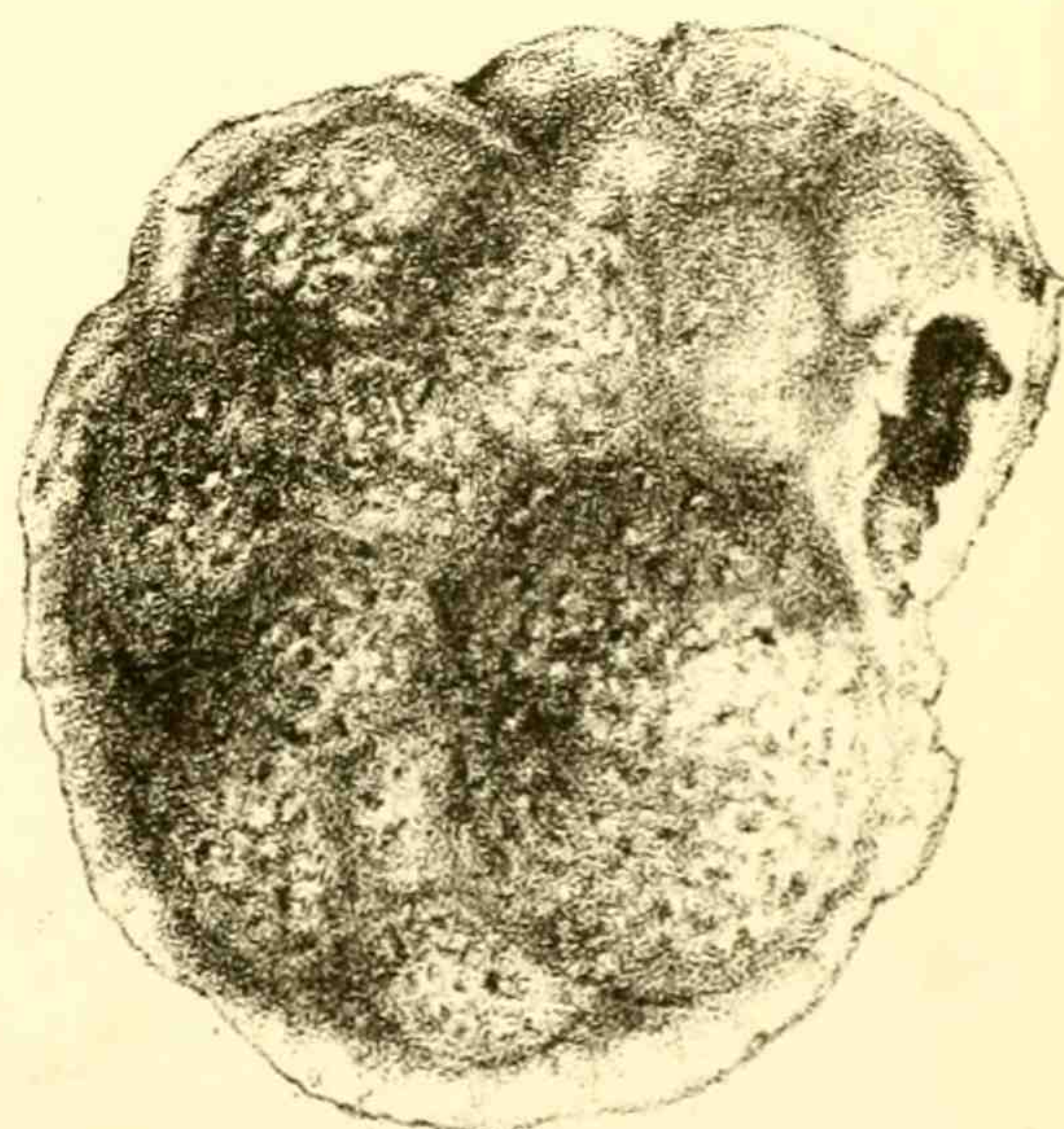
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# TRANSACTIONS AND PROCEEDINGS

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