In external appearance this species at first sight closely resembles *Esperella mammiformis*, and as it comes from the same station one is liable to confuse the two before examining them microscopically. It really bears some resemblance to a typical *Esperella* in having heads to the megasclera. The resemblance, however, does not go much further. We have seen that there is no definite skeleton fibre such as exists in *Esperella mammiformis*, although the surface is hispid. The chelate spicule also differs much from that of an *Esperella* in not being properly palmate and in having a widely expanded shaft, both these features being very characteristic of *Cladorhiza*.

Imbedded in the soft tissues of the sponge all around the margin, and at fairly regular intervals from one another, are a number of small, round, yellow bodies (Fig. 4, *a*, and Pl. XX. fig. 9), varying in size. Possibly they are foreign objects, but they occur in the same position in all three specimens, so this view is highly improbable. Full details concerning them will be found in the Introduction.

In the arrangement of its skeleton this sponge stands quite alone in the genus, and as this is generally such a good guide it seems very doubtful whether it ought to be admitted as a *Cladorhiza;* but for the sake of convenience we shall retain it here for the present, placing it at the end as a doubtful species.

Only three examples were obtained, one of which represents only half of the sponge, while another is damaged on the lower surface, having evidently been torn from its attachment. The third specimen is, however, still attached to the stone on which it grew (woodcut, Fig. 4).

Locality.—Station 147, December 30, 1873; lat. 46° 16′ S., long. 48° 27′ E.; between Prince Edward Island and Crozet Island; depth, 1600 fathoms; bottom, Diatom ooze; bottom temperature, 34°·2. Three specimens.

Genus *Axoniderma*,[1] Ridley and Dendy (Pls. XX., XXI.).

1886. *Trochoderma*, Ridley and Dendy, Ann. and Mag. Nat. Hist., ser. 5, vol. xviii. p. 344.
1886. *Axoniderma*, Ridley and Dendy, Ann. and Mag. Nat. Hist., ser. 5, vol. xviii. p. 493.

Megasclera stylote to tylostylote. Microsclera anisochelæ of the *Cladorhiza* type, to which may be added sigmata. In addition to these spicules there is also present another form, peculiar to the genus. These may, for the present, be classed as microsclera. They are amphiasters, consisting each of a long, cylindrical shaft with five equal teeth arranged in a star at each end (Pl. XXI. fig. 9).

This genus is probably descended from a "*Crinorhiza*" form of a *Cladorhiza*, which, as a protection against parasites and other enemies, has acquired an additional kind of

[1] From Greek ἄξων, a wheel, and δέρμα, the skin. We are indebted to Professor F. J. Bell for pointing out to us that the name *Trochoderma* was already in use for a genus of Echinoderms, so we have altered the name while endeavouring to retain the meaning.