V. *Scotia Collections.—On the Tentacles of an Antarctic Siphonophore.* By John Rennie, D.Sc., University of Aberdeen. [Plate II.]

(Received 12th December 1904; read 19th December 1904.)

Amongst some material kindly entrusted to me by Mr W. S. Bruce for examination, there occurred a number of long vermiform structures, which, on a preliminary examination, appeared both from external characters and consistency suggestive of a Polyzoon of the group Ctenostomata. A closer investigation, however, has revealed the fact that these bodies are the separated tentacles of an unknown Siphonophore. They present one or two features of interest, which, considering the limited number of forms belonging to the group which are known from Antarctic regions, I have thought worth recording.

Professor J. Arthur Thomson has quite recently,[1] from material of the same collection, described the detached gonostyles of a Siphonophore. He agrees with me in thinking that they must be referred to a different type from that to which these tentacles belong. The localities and dates of capture are different, the sizes of the two organs represented are disproportionate, and, in particular, such histological characters as could be compared, particularly the cnidoblasts, show distinctive features.

The tentacles were taken in the drifting net (1 to 100 fathoms) on 5th March 1904, in 72° 31′ S. lat., 19° 00′ W. long. The surface temperature was 29°·2 F.

In all there are thirteen parts, nearly every one of which is obviously incomplete. The longest piece measures 4 feet 3 inches in length, the others range from 2 feet to 3·3 inches. They are circular in section, are thicker at the attached end than at the free, to which they taper very gradually (Pl. II. Fig. 1). The extreme diameter measurements of all the pieces are 7 mm. and 1½ mm. respectively. The surface is of a pale brown colour, and is covered by very minute, approximately oval or circular, elevations closely set

[1] *Proceedings* of this Society, 28th November 1904.

together (Pl. II. Fig. 2). Over all there is a wrinkled appearance, with here and there a ring-like constriction (Pl. II. Figs. 1 and 2, *a*). These latter have no definite distribution upon the tentacles, and appear, together with the wrinklings, to be incidental to the state of contraction of the organ. The consistency is gelatinous but firm, and the tentacles are not readily broken. They bear no tentillæ or specialised "urticating organs." Since the state of preservation is not particularly good, they were probably detached from the parent organism some time before capture. This is all the more probable, as they appear to be the only parts of it which were found, and, judging by the great length of the tentacles, a single colony is likely to be of considerable size.

Serial sections, both transverse and longitudinal, were made, and these, though useful in illustrating the general structure, have not been satisfactory as regards histological detail. A reference to the figures, however, will show that one or two points of interest have been made out. Plate II. Fig. 3 is a transverse section. There is a marked general resemblance between its appearance and that of a typical stolon. The epidermis *b*, covering the minute elevations already referred to, consists of masses of small rounded cells. doubtless in part sensory, intermingled with which are numerous stinging cells. These are the best preserved of all the elements; they are of large size, their long axis measuring 25 μ. The coiled lasso is particularly well seen (see Pl. II. Fig. 5). These cells were seen to be grouped in "batteries" upon the papillæ. Passing inwards from the external layer, the ectodermal longitudinal muscle cells form a series of radially directed bands. These bands are double, and at their inner ends are widened out so as to form longitudinal canals (*c*) of some size, and more or less folded. On the walls facing the cavity of these canals are cells similar to those of the outer layer (except cnidoblasts). From this it appears not unlikely that the canals are formed by a folding of the outer wall, from which they are shut in by the apposition of the outer parts of the original folds. Plate II. Fig. 4 is a longitudinal section through the region of these

canals. The mesoglea, which is indicated (*d*) in both sections, fills most of the space, while centrally there is a large endodermal canal (*e*).

The noteworthy features of possible diagnostic value are—

(1) The large size of the tentacles, indicating an organism of some bulk;

(2) The absence of tentillæ and of localised stinging "organs" (*boutons urticants*);

(3) The specially well-developed ectodermal longitudinal muscular canals, and a large endodermal canal.

Although these data are barely sufficient for positive identification, the characters point to the family Apoleminæ, of which the genus *Apolemia*, a Mediterranean form which reaches a size of 2 to 3 metres, and whose tentacles are without tentillæ, appears to be near the form at present described.

VI. *Further Additions to the List of Spiders from the Edinburgh District.* (Third Supplement.)

By Prof. G. H. Carpenter, B.Sc., M.R.I.A., and William Evans, F.R.S.E.

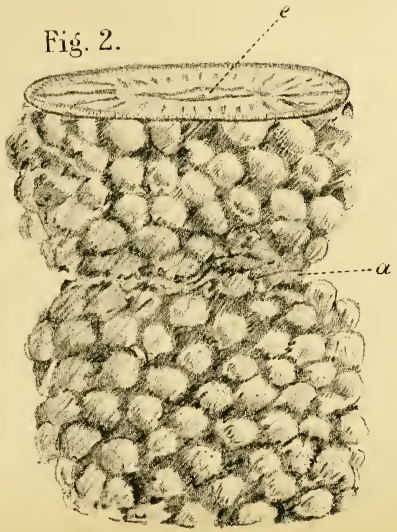
(Read 19th December 1904.)

Our last communication to the Society on this subject was made in 1899, and is contained in the *Proceedings* for that year (Vol. XIV. pp. 168-181). Since then, Evans, though not working specially at the Spiders, has continued to some extent his search for additional species and fresh records in various parts of the district, with the result that we are now able to add fourteen species,[1] some of them of very considerable interest, to our former lists. Up to the middle of 1899, the number of species recorded for the district was 191, from which, however, one has to be deducted as explained farther on, leaving a total of 190 to that date. The 14 species now recorded brings the number up to 204; but one of them, namely, *Hasarius adansonii*, it has

[1] A probable fifteenth—*Drassus sylvestris*, Bl.?, imm. ♂—is held over till the doubt can be removed by the capture of an adult specimen.

Fig. 1.

Fig. 2.



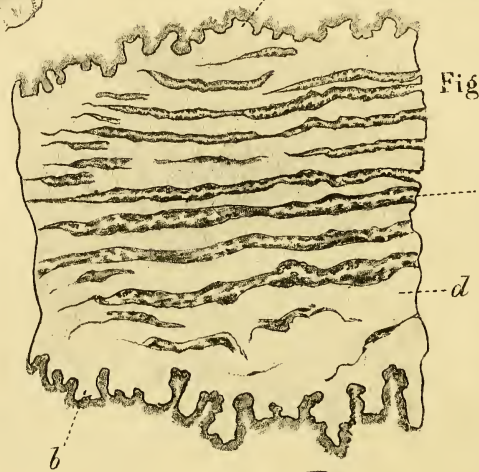


Fig. 4.

Fig. 5.

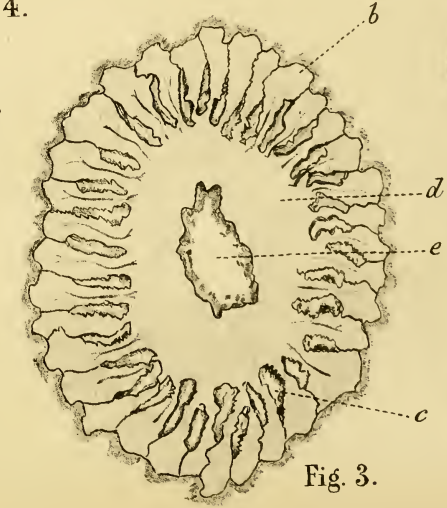


Fig. 3.

Jas. Ritchie, del.

McFarlane & Erskine, Lith. Edinr

TO ILLUSTRATE Dr RENNIE'S PAPER ON TENTACLES OF SIPHONOPHORE.