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THE FIRST REPORT

UPON THE

FAUNA OF LIVERPOOL BAY

AND THE

NEIGHBOURING SEAS,

WRITTEN BY THE MEMBERS OF THE

LIVERPOOL MARINE BIOLOGY COMMITTEE,

AND EDITED BY

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WITH TEN PLATES AND TWO MAPS.

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On a NEW SPECIES of SYCANDRA.

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In the collection of worms dredged off the south end of the Isle of Man, a specimen was found which, at first sight, seemed to be extremely like the rare and interesting genus *Chætoderma*, and as such was labelled and put aside for further examination. When, however, it was sectionized and examined in detail, it was soon found to be a calcareous sponge.

In shape it is fusiform, the narrower end being provided with a slight rim or fold (Pl. X, fig. 1). Its length is 8 mm.; its breadth, at the narrow end, 1 mm.; at its thickest part, 3½ mm.; and at the terminal opening 1½ mm. The entire surface of the body is studded with blunt-headed calcareous spicules, which had at first suggested the possibility of its being a *Chætoderma*.

In transverse section (Pl. X, fig. 2) the usual poriferal characteristics appear, namely, a central cavity communicating with the exterior by a series of closely placed ciliated canals or chambers. The chambers are ovoid in horizontal section, communicating with the interior and exterior by slightly-constricted openings. These were well seen on the sloughing of the superficial layer of tissue and spicules, which took place when the animal was put in gum, as a preliminary to freezing and sectionizing. In a section taken from the centre of the thickest portion of this body, twenty-eight of these chambers are seen in horizontal section. They lie in a hyaline syncytium, containing a number of

branched granular corpuscles (Pl. X, fig. 3, 4). The chambers themselves are lined by cubical granular nucleated endoderm, each cell having the characteristic collar and cilium (see Pl. X, fig. 4). In the syncytium, externally, internally, and between the chambers, the spicules are placed. These are of four different forms. Inserted between the chambers, as a rule, are long club-shaped spicules, the pointed ends plunged into the syncytium, while the clubbed heads are free and extend for some distance beyond the surface of the body (Pl. X, fig. 3). In addition to these spicules, there are also a large number of the ordinary triradiate type, some large and T-shaped, others much smaller, and having their rays diverging at equal angles to each other (Pl. X, fig. 5). Amongst these are short needle-shaped spicules, lying irregularly in the syncytium; these might, however, be the broken ends of the club-shaped forms.

None of the species described by Hæckel* seems to agree with this form, nor have I been able to place it under any of the species described by more recent authors. The club-shaped spicules, which were generally in pairs, lying close together, seem to be characteristic, and it is probably new to science.

The specific diagnosis is as follows:—

Sycandra aspera, n. sp. (Pl. X, figs. 1–7).

Shape.—Elongated and fusiform, attached by one end.

Size.—8 mm. long, and from 1 to 3·5 mm. in breadth.

Spicules.—Four different forms—large and small triradiates, short straight spicules, and large club-shaped spicules, whose bent blunt ends extend outwards beyond the surface of the body.

Locality.—Off the south end of the Isle of Man, depth fifteen fathoms.

* *Die Kalkschwämme*, 1872

Explanation of Plate X.

Fig. 1. *Sycandra aspera*, n.sp., × 8 diameters. *a*. Superficial layer sloughed, and shewing the openings of the ciliated chambers. The natural size is indicated at the side.

Fig. 2. Semi-diagrammatic transverse section of the body. *a*. Ciliated chamber; *b*. syncytium.

Fig. 3. Body-wall, transverse section, × 50 diameters. *a*. Club-headed spicules. *b*. Needle-shaped spicules; *c*. connective tissue cells; *d*. triradiate spicules; *e*. cavity of ciliated chamber, with epithelium wanting; *f*. do. do. with epithelium.

Fig. 4. Part of wall of a ciliated chamber, × 300 diameters. *a*. Connective tissue cells; *b*. epithelium.

Fig. 5. Triradiate spicule, large size, × 60 diameters.

Fig. 6. Club-headed spicules, × 60 diameters.

Fig. 7. Triradiate spicule, small size, × 60 diameter.

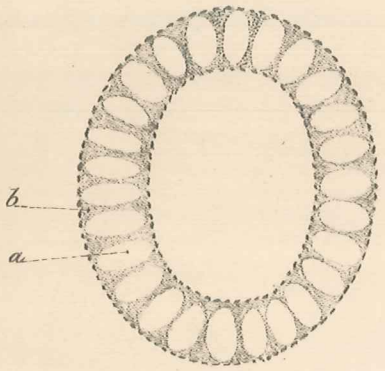

FIG. 2.

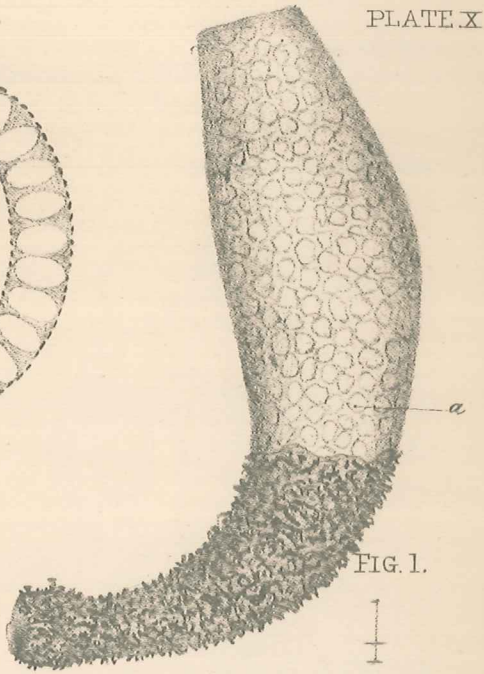

FIG. 1.

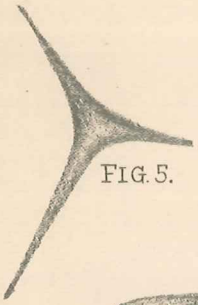

FIG. 5.

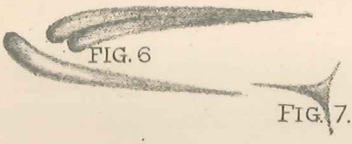

FIG. 6

FIG. 7.

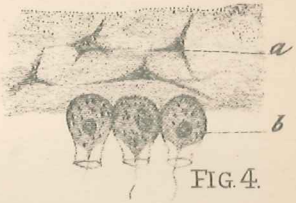

FIG. 4.

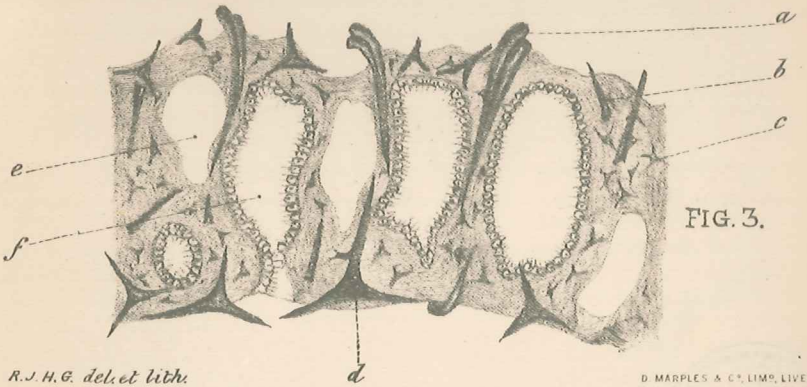

FIG. 3.

R.J.H.G. del.et lith.

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SYCANDRA ASPERA n.sp.