

ENDECTYON DELAUBENFELSI sp. n.

(Text figs. 1, 2, 3.)

Holotype.—B.M. 29.8.21.3.

Diagnosis.—Sponge erect, stipitate, branched, composed of a number of irregular branches lying in one plane; surface coarsely hispid; oscules and pores not apparent; colour, in life, golden-yellow; skeleton composed of an axial reticulation of small styli and acanthostyli, which gives off short bundles of spicules on its outer fringes to run vertically to dermis; surface echinated by bundles of long styli; spicules:—(i) long smooth styli, usually straight, almost entirely confined to surface brushes, $\cdot 85$ by $\cdot 007$ to $\cdot 012$ mm.; (ii) short styli, smooth, usually curved, often vermiform, roughly divisible into two categories, $\cdot 18$ by $\cdot 005$ mm. and $\cdot 225$ by $\cdot 005$ mm.; (iii) acanthostyli, sparingly beset with spines which occasionally form a crown at either base or apex of spicule, $\cdot 18$ by $\cdot 006$; microscleres absent.

Remarks.—The species is interesting from many points of view. In the first place, new species of sponges are rarely found in British waters to-day, and it is extremely likely that this one has been overlooked hitherto owing to its extremely close resemblance to *Raspailia ventilabrum* (Bowerbank). Indeed, from external appearance only it is quite impossible to tell the two species apart. This emphasizes, once again, the great need for examining all sponges microscopically in order to be absolutely certain as to their identity.

The present species is the third one recorded for the genus *Endectyon*, the other two, *E. tenax* and *E. demonstrans*, having been found off Florida and the Azores respectively (see Topsent 1920 β , pp. 23–26).

The chief interest attaching to it, however, is that the spiculation shows

the manner in which the acanthostyli of the Ectyoninae may have arisen. The axial skeleton of the branches consists of a multispicular reticulation of triangular meshes, built up of small styli, for the

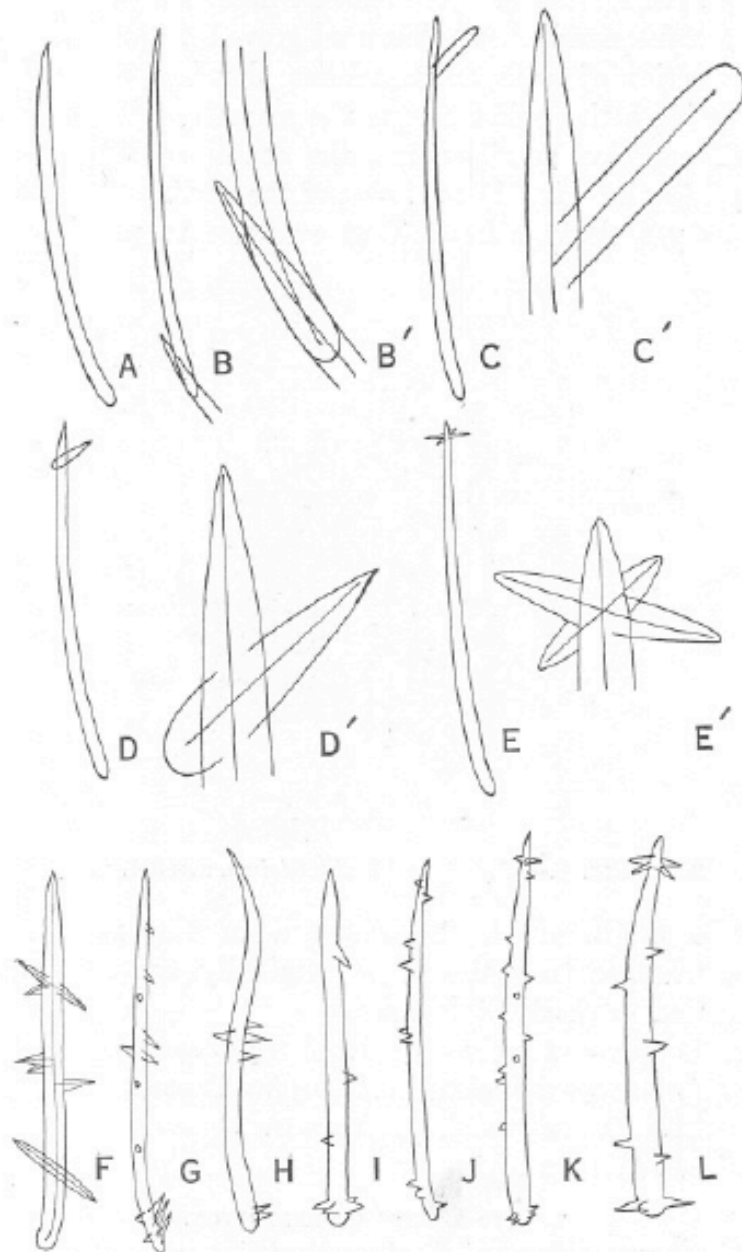


FIG. 1.—*Endectyon delaubenjelsi* sp. n. A. Normal stylus of main skeleton; B-E. abnormal styli (B'-E'. abnormalities enlarged); F-H. abnormal styli showing transitions to normal acanthostyli; I-L. normal acanthostyli. All figures (except B'-E') $\times 220$.

most part curved, and acanthostyli. The latter, however, are of comparatively rare occurrence. The typical form (figs. 1 I, L.) is that of a smooth style bearing a few stout spines. In a few cases, the

spines have become so grouped that the spicule is ornamented by crowns of spines, four to six in number, at either end of the spicule. In this condition the spicules closely resemble those of the genotype, *E. tenax* (see Topsent, l.c., p. 24, fig. 4b). On the other hand, the smooth styli of the axial skeleton frequently bear abnormal growths, and it is possible to pick out a series of such abnormalities showing a transition which effectually bridges the gulf between the smooth styli and the acanthostyli. In this species, at all events, the acanthostyli have arisen from an abnormal (pathological?) condition of the styli. The next question, for which as yet there is insufficient evidence to provide an answer,

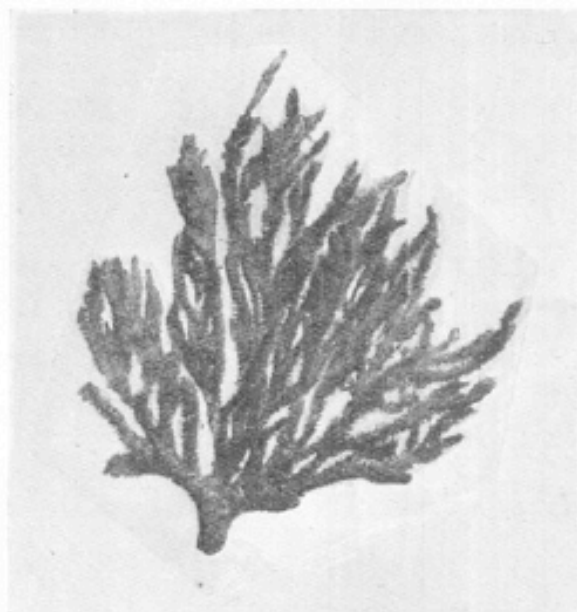


FIG. 2.—*Endectyon delaubenfelsi* sp. n. $\times 3/4$.

concerns the origin of the acanthostyli of the remainder of the Ectyoninæ, whether they too arose originally as abnormalities and what factors led to their stabilisation.

Endectyon is apparently closely related to *Hemectyon* Topsent (genotype *Raspailia hamata* Schmidt), *Tethyospira* Topsent (genotype *Tethea spinosa* Bowerbank), and, possibly, *Acarus*.

Distribution.—Plymouth.