

such recent forms as *Aphrocallistes*, *Iphiteon*, *Holtenia*, and *Askonema* with certain series of the chalk *Ventriculites*, there cannot be the slightest doubt that they belong to the same family—in some cases to very nearly allied genera. Fig. 80 represents a very beautiful specimen of *Ventriculites simplex* preserved in flint, for which I am indebted to Mr. Sanderson of Edinburgh. Looking at this in the light of our knowledge of *Euplectella* or *Aphrocallistes beatrix*, we have no difficulty in working out its structure, even to the most minute microscopic detail.

Other sponges, belonging chiefly to the *Lithistidæ* and the *Corticatæ*, re-

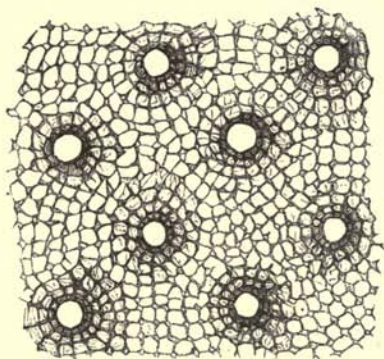


FIG. 81.—*Ventriculites simplex*, Foulx & Smith.
Outer surface; four times the natural size.

produce with wonderful accuracy the more irregular sponge-forms of the chalk and greensand; and a group, as yet undescribed, but apparently an aberrant family of the *Esperiadæ*, send out long delicate tubes, which contract slightly, but in a most characteristic way, at the point of their insertion into the sponge body, recalling very forcibly the peculiar manner in which the tube-like root processes join the sponge in such genera as the vaguely defined *Choanites*.

One sponge belonging to the group is represented at Fig. 83. A sphere 15 to 20 mm. in diameter consists of a smooth glossy external rind, composed of closely meshed pin-headed spicules, with two kinds

of 'spicules of the sarcode,' one large, C-shaped, the other much more minute, answering to Bowerbank's 'tridentate equianchorate' type; every now and then

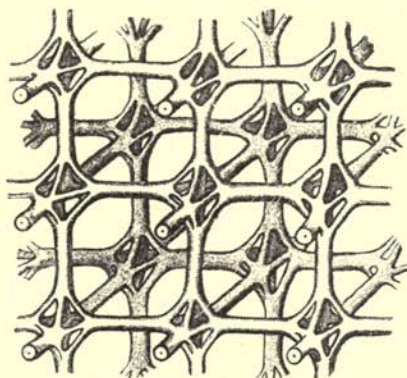


FIG. 82.—*Ventriculites simplex*, TOULMIN SMITH. Section of the outer wall, showing the structure of the silicious network. (x. 50.)

the rind thus formed coming to the margin of a small pore. The interior of the sphere is filled with soft semi-fluid sarcode, supported by the loosest possible

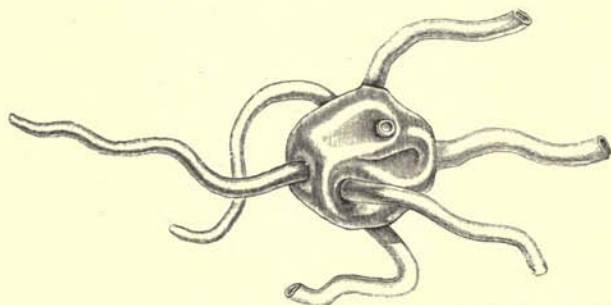


FIG. 83.—*Calosphera tubifex*, WYVILLE THOMSON. Slightly enlarged. Off the coast of Portugal.

mesh-work of granular horny matter and pin-headed spicules. From points apparently irregularly placed on the surface of the sponge, tubes about 3 mm. in diameter run out in all directions; the walls of the tubes are thin and delicate, being

more so towards the distant ends, where the tubes contract slightly to an open orifice. At the proximal end, at the junction between the tube and the sponge body, there is also a contraction, and a slight pit-like involution of the surface of the sponge. There is something very characteristic in this pecu-

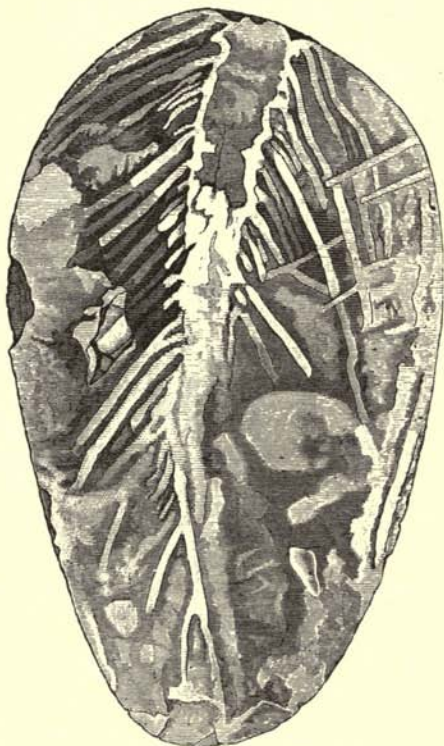


FIG. 84.—'Choanites.' In a flint from the white chalk.

liar form of junction which it is not easy to define, but which almost forces the conviction that there is the closest relation between these recent forms and tube-bearing fossil sponges such as *Choanites*.

Professor Martin Duncan mentions several corals