

descend into the sponge, and articulate with the deeper lying desmas. The length of the crepidial axis averages 0.028 mm.

3. *Oxytylote* (Pl. XXXVII. figs. 10–20), rhabdome cylindrical or fusiform, smooth, terminating proximally in a sharply pointed or rounded off end, which may sometimes be thickened into an ellipsoidal enlargement; distally it expands into a rounded tylus, the distal region of which is covered with minute spines, sometimes directed distally, sometimes at right angles to the surface from which they spring. The axial rod is absent in many cases, and the canal which it occupied greatly enlarged. These spicules run lengthwise at the ends of the tubular processes, the tylote end is directed outwards, the oxate end downwards and inwards (Pl. XXXVII. fig. 22); down the sides of the tubes and elsewhere they are arranged perpendicularly to the surface, the tylus frequently touching the skin, in which case they appear to be attached to it, the oxate end as before being directed inwards. Rhabdome 0.42 to 0.57 by 0.005 mm., tylus 0.018 mm. in diameter.

*Colour*.—In the dried state the skin is a light yellowish-brown colour.

*Habitat*.—Station 192, off the Ki Islands, September 26, 1874; lat. 5° 49' 15" S., long. 132° 14' 15" E.; depth, 140 fathoms; bottom, blue mud.

*Remarks*.—Three perfect specimens of this sponge were trawled; the tubular processes are about 1 mm. in diameter at the end, and may attain a length of 10 mm. The sponge is so exceedingly like *Siphonidium ramosum*, Schmidt, from Florida, Sombrero, and near Morro light, Gulf of Mexico, 125 to 240 fathoms, that at first I referred it to that species, nor should I have been able to discriminate between the two but for the possession of specimens of Schmidt's species, kindly presented to me by Professor Agassiz. Differences between the desmas of Lithistid species, unless of a very marked character, are difficult to determine, and except that Schmidt's specimens are much harder than mine, which would lead one to infer some kind of difference in the desma, I can discover no specific distinction in them. The rhabdi of the two are, however, sufficiently distinctive; in *Siphonidium ramosum* the adult spicule is 0.45 mm. long by 0.02 mm. thick at the distal end, and it is never tylote like the corresponding spicule of *Siphonidium capitatum*. Its form is most simply described as conical, attenuately pointed at the proximal, and rounded at the distal end; the distal end is frequently granulated. Notwithstanding its style-like form, it is truly biradiate, though uniaxial, as is shown by the occasional presence of an enlargement in the middle of the axial rod, which sometimes is accompanied by a corresponding inflation of the exterior of the spicule; the enlargement is seldom exactly in the middle, but about four-sevenths of the length of the spicule distant from the basal end. The young form of this spicule may be an oxytylote, like that of *Siphonidium capitatum*, but with subsequent growth the distinction between rhabdome and tylus disappears. The exquisite ectosomal desma with its arabesque tracery is present in both species.