

*Localities*.—Station 73, June 30, 1873; lat. 38° 30' N., long. 31° 14' W.; off the Azores; depth, 1000 fathoms; bottom, Pteropod ooze; bottom temperature, 39°·4. Five specimens.

Station 184, August 29, 1874; lat. 12° 8' S., long. 145° 10' E.; south-east of Cape York; depth, 1400 fathoms; bottom, Globigerina ooze; bottom temperature, 36°·0. One specimen.

*Trichostemma irregularis*, Ridley and Dendy (Pl. XLIII. figs. 4, 4a, 5).

1886. *Trichostemma irregularis*, Ridley and Dendy, Ann. and Mag. Nat. Hist., ser. 5, vol. xviii. p. 489.

There are in the collection two specimens of this species which differ considerably from one another in external appearance. The one (Pl. XLIII. figs. 4, 4a), which is probably the normal form, has its parts arranged very much as in *Trichostemma sarsii*. In shape it closely resembles an inverted mushroom without the stalk. The convex, lower surface is protected by a thatch-like covering of very large spicules, which radiate upwards and outwards from its centre, and form a thick, irregular fringe round the free margin. The upper surface is slightly concave, strongly hispid, and bears a considerable accumulation of foreign dirt. It also bears a few, irregularly scattered, small, papilliform processes which may be oscular tubes. The specimen is about 17 mm. in diameter and 8·5 mm. thick in the centre. (The second specimen (Pl. XLIII. fig. 5) appears to be abnormal in shape; it is of about the same size as the first, but the upper surface is strongly convex and the lower slightly concave, and the long, projecting spicules are also very irregularly arranged, projecting almost at right angles all over the lower surface.) *Colour* in spirit dirty yellow. *Texture* fairly firm but rather spongy. *Lower surface*, in normal specimen, radiately fibrous, *upper surface* strongly hispid. *Oscula* (? several, on the upper surface, on the summits of papilliform projections).

*Skeleton*.—Normally arranged as in *Trichostemma sarsii*; the projecting spicules of the ectosome, on the upper surface, however, project for a very much greater distance than in that species, the portions outside the sponge being long and of hair-like fineness, sometimes even flexuous.

*Spicules*.—*Megasclera*; all either tylostylote or subtylostylote, but of most variable length; the spicules of the ectosome and of the interior of the sponge are much larger and slenderer than in *Trichostemma sarsii*; the former often projecting for as much as 1 mm. beyond the surface, while the latter commonly measure about 0·5 by 0·012 mm., but are often much larger. The large external spicules seem to be of about the same size as in *Trichostemma sarsii*; their heads are very feebly developed.

In appearance this species is very much clumsier and coarser than the foregoing, the upper cortical and internal spicules are larger, and there seems to be more than one osculum.