

definite layer, at a little depth beneath the surface, we arrive at the condition of *Cladorhiza moruliformis*.

It is, of course, by no means impossible that perfect specimens of *Cladorhiza moruliformis* may have a branching stem with a head at the end of each branch; this remains to be seen. In spiculation it agrees very closely with other species of the genus.

*Locality*.—Station 157, March 3, 1874; lat. 53° 55' S., long. 108° 35' E.; Southern Ocean, south-west of Australia; depth, 1950 fathoms; bottom, Diatom ooze; bottom temperature, 32°·1. One specimen.

*Cladorhiza longipinna*, Ridley and Dendy (Pl. XX. fig. 2; Pl. XXI. figs. 4, 21).

1886. *Cladorrhiza longipinna*, Ridley and Dendy, Ann. and Mag. Nat. Hist., ser. 5, vol. xviii. p. 342.

This sponge (Pl. XX. fig. 2) has acquired the "*Crinorhiza*" form. It is composed of an almost globular body, somewhat flattened on the lower surface, and also, though over a less area, on the upper surface. The circumference of the flattened lower surface is fringed with very long, fine, supporting processes, twenty-five or thirty in number, projecting outwards and downwards, while a circlet of very short, stiff, stumpy processes crowns the summit of the head. From the centre of the lower surface depends a long, rather stout, slightly tapering root or stem. Diameter of head 5 mm. Length of root 27 mm. Average length of supporting processes 19 mm. *Colour* in spirit pale yellow. *Dermal membrane* distinct, transparent.

*Skeleton*.—Arranged in the usual "*Crinorhiza*" form; *i.e.*, bands of spiculo-fibre form the axes of the various processes given off from the body; these are composed of the usual, long, fusiform, stylote spicules.

*Spicules*.—(a) *Megasclera*; fusiform styli, reaching over 3 mm. in length by about 0·05 mm. thick, and usually much blunted at the apices. Very numerous smaller styli also occur scattered about in the soft parts of the sponge, both in the dermal membrane and in the deeper tissues; these spicules vary greatly in size (measuring say about 1·0 by 0·015 mm.). Sometimes they show a tendency towards the development of heads, but it is very rarely that these are developed to the extent shown in the figure (Pl. XXI. fig. 4), which has been unfortunately chosen. They differ from the larger styli in being much more sharply pointed, but it would probably not be difficult to pick out an intermediate series both in shape and size. (b) *Microsclera*; we have found only anisochelæ (Pl. XXI. fig. 21); these are of the usual *Cladorhiza* form, but on the lower surface of the sponge attain an unusually large size. Length from 0·034 to 0·06 mm. (on the lower surface of the sponge).

The species may be recognised by the shape of the body, the great length of the supporting processes and the presence of a second circle of short processes around the