

sometimes the reverse, in the latter case curved, giving the cladome a cyathiform appearance, in the former usually straight; deuterocladi sometimes extending horizontally, sometimes projecting slightly forwards. Rhabdome 4.418 to 5.7, by 0.09 to 0.11 mm., protocladi 0.143 to 0.16 mm. long, deuterocladi 0.19 to 0.48 mm. long, chord 0.524 to 1.114 mm.; distance from the cladal origin to the dichotomy of the arms measured along an imaginary line representing the axis of the rhabdome produced 0.095 to 0.16 mm.

3. *Anatriæne* (Pl. XIII. figs. 4, 21; Pl. XV. fig. 25), a conical rhabdome sharply pointed or rounded off near the end; cladi gently recurving from their origin backwards, or first projecting outwards and then recurving; cladome rounded or flattened in front. Rhabdome 3.0 to 4.3 by 0.032 to 0.039 mm., cladi 0.127 to 0.16 mm. long, chord 0.16 to 0.2 mm., sagitta 0.12 to 0.15 mm.

II. Microscleres. 4. *Anthaster* (Pl. XIII. figs. 5, 22-24; Pl. XV. fig. 26), centrum usually not enlarged; actines cylindrical or sometimes conical, minutely spined, either entirely, or partially, in the latter case free from spines near the origin; usually from three to seven in number, sometimes numerous; from 0.021 to 0.028 mm. long.

5. *Chiaster* (Pl. XIII. figs. 6, 25-28; Pl. XV. fig. 27), centrum usually not enlarged, but occasionally, though very rarely, forming a sphere of greater diameter than the length of the actines; actines slender, hair-like, usually smooth and tylote, sometimes thickened and roughened; sometimes ending abruptly, without becoming tylote; usually numerous; 0.006 to 0.008 mm. long.

*Colour*.—Greyish or cream-coloured white; in one group of specimens russet-red.

*Habitat*.—Station 162, off East Monceur Island, Bass Strait, April 2, 1874; lat. 39° 10' 30" S., long. 146° 37' 0" E.; depth, 38 fathoms; bottom, sand and shells. Dredged.

Station 163A, off Twofold Bay, Australia, April 4, 1874; lat. 36° 59' S., long. 150° 20' E.; depth, 150 fathoms; bottom, green mud. Dredged.

Port Jackson, June 3, 1874; depth, 6 to 15 fathoms.

*Remarks*.—A large number of specimens of this sponge were dredged. From Station 162 three specimens, from Station 163A thirty-five specimens, and from Port Jackson eleven specimens were obtained. After examining a few specimens from each station, I was inclined to regard those from different stations as belonging to three different species, the first distinguished by its reddish colour and minute difference in the chiasters; the second distinguished from the first by containing typical chiasters, and from the third by the straightness of the protocladi of the dichotriæne; and the third characterised by the curved form of the protocladi. On further examination, the characters of the spicules appeared to be subject to much variation, and I therefore made an examination of the spicules of nearly thirty specimens; the result showed that none of the differences observed in the spicular forms could be