

3. *Cladoxeas* (Pl. XVIII. figs. 4–9), of various forms.

A. Of the body of the sponge.

*a. Orthotriæne*, a conical, sharply pointed rhabdome, with conical, sharply pointed cladi, at first diverging outwards and forwards, but mostly outwards, and afterwards horizontally. Rhabdome 3.6 by 0.05 mm., cladi 0.47 mm. long.

*β. Orthodiæne* (Pl. XVIII. fig. 8), similar, but with one cladus aborted.

*γ. Orthomonæne* (Pl. XVIII. fig. 9), similar, but with two cladi aborted. Rhabdome 3.75 by 0.075 mm., cladus 0.535 by 0.055 mm. This is by far the commonest form.

B. Of the excurrent tube.

*a. Orthodiæne*, an orthotriæne with one cladus aborted, the remaining two sometimes equal, oftener unequal in length; when equal about 1.0 mm. in length, or longer or shorter according to the diameter of the tube which they support.

*β. Orthomonæne* (Pl. XVIII. fig. 4), similar, but with a second cladus aborted, or reduced to a tubercle, and the third much developed, attaining a length of 1.143 mm.

*γ. Dichomonæne* (Pl. XVIII. fig. 6), similar to *β*, but with the remaining cladus bifurcated, one of the deuterocladi being large and the other scarcely more than a tubercle. Rhabdome 5.533 by 0.05 mm.; relative lengths of protocladi and deuterocladi very variable; the protocladus frequently 1.0 mm., the large deuterocladus 0.7 mm., the reduced deuterocladus 0.07 mm. long.

The measurements of these spicules are taken from examples obtained from an excurrent tube about 5 mm. in diameter, belonging to a sponge about 20 mm. in diameter. In a tube of about twice the diameter of the preceding, the cladi of the spicules are frequently much longer, *e.g.*, 2.142 mm., with about the same thickness.

II. Microscleres. 4. *Oxyaster* (Pl. XVIII. fig. 12), minute, with a comparatively large centrum, and numerous slender, sharply pointed actines; 0.008 to 0.0118 mm. in diameter.

5. *Sanidaster* (Pl. XVIII. fig. 11), similar in form to that of *Tribrachium schmidtii*, but larger; 0.01185 to 0.0158 mm. long.

6. *Orthodragma* (Pl. XVIII. fig. 13), chiefly confined to the oscular tube; of the usual characters; 0.0237 to 0.0276 mm. by 0.0118 mm.

*Colour*.—Translucent greyish-white, choanosome opaque yellowish-white.

*Habitat*.—Torres Strait, August 1874; depth, 3 to 11 fathoms.

Station 188, Arafura Sea, south of Papua, September 10, 1874; lat. 9° 59' S., long. 139° 42' E.; depth, 28 fathoms; bottom, green mud.

Also (Ridley) Port Darwin, 7 to 12 fathoms; bottom, sand and mud; and Torres Strait, 10 fathoms; bottom, sand.

*Remarks*.—As one of the most remarkable sponges, if not the most remarkable, of the Tetractinellid collection, this species merits a detailed description. The first