

diaphragms; both vela and collenchyme, however, disappear as the canals subdivide into branches. The main incurrent canals are also constricted by vela.

The cloacal wall is in direct continuation with the ectosome, of which it appears to be an invaginated portion, its roof or the oscular margin arising as a prolongation or outgrowth of the tissue at the angle of flexure.

The mesoderm of the choanosome is a true sarcenchyma, the separate cells of which are sometimes very clearly displayed (Pl. XII. fig. 42). The flagellated chambers are somewhat smaller in the specimens from Station 208 than in those from Station 186; in the latter they are usually about 0.0276 mm. broad by 0.02 mm. long; in the former they vary from 0.016 to 0.02 mm. in diameter. The aphodal canals are usually short and sometimes absent, so that occasionally the chambers are eurypylous. The scleroblasts of the large spicules are clearly shown in the thin slices of the sponge, and in some instances can be traced extending over the cladome of a triæne, as represented in the illustration (Pl. XII. fig. 43), which shows an accumulation of scleroblastic protoplasm over the cladome of an anatriæne.

Symbiotic Alga.—The collenchyme of the ectosome (Pl. XII. fig. 41) and the canal walls is infested by an Alga, the presence of which was remarked by Ridley also in the specimens he examined. Ridley compares it to a *Nostoc*, and it appears to closely resemble the Phycochromaceous Alga which Schulze observed in *Spongelia pallens*, and which he named *Oscillaria spongelia*.¹ Both Schulze's specimens and those in *Myriastræa clavosa* are about 4 mm. in length, but they differ slightly in other dimensions; thus the disc-shaped cells of *Oscillaria spongelia* are about 0.006 mm. in diameter and 0.004 mm. in thickness, while those of the Australian form are 0.008 mm. in diameter and 0.0045 mm. thick.

Myriastræa clavosa, var. *quadrata*, Sollas.

Myriastræa quadrata, Sollas, Prelim. Account, Sci. Proc. Roy. Dubl. Soc., vol. v. p. 189, 1886.

Sponge.—Small, free, rounded below, constricted above into three lobes; on the upper surface a depression between the lobes, in which a single small oscule, surrounded by a membranous margin, is situated. Pores in sieve-like areas, generally distributed.

Spicules.—I. Megascleres. 1. *Oxea*, straight or curved, fusiform, sharply pointed; 2.56 by 0.0158 mm.

2. *Dichotriæne*, a straight or curved, conical, sharply pointed rhabdome; protocladi projecting outwards and forwards, the deuterocladi extending horizontally. Rhabdome 3.206 by 0.0276 mm., protocladi 0.11 mm., deuterocladi 0.27 mm. in length.

3. *Anatriæne*, a long, slender, conical, sharply pointed rhabdome, with thin, conical,

¹ *Zeitschr. f. wiss. Zool.*, Bd. xxxii. p. 147, pl. v. fig. 7, pl. viii. figs. 9 and 10.