In the Choristida all the spicules, both large and small, originate each in a single scleroblast, which persists throughout the life of the spicule. The scleroblast in the case of the large spicules is a large granular cell, extending all round the spicule, which it has formed as a siliceous secretion. In the granular protoplasm, variously situated, is a large oval nucleus containing a large spherical nucleolus (p. 34, Pl. II. fig. 20; Pl. XIII. fig. 10). In the case of small spicules the scleroblast is not distinguishable from an ordinary sarcencyte, and therefore does not present an unusually large nucleus.

In the Lithistida the young calthrops on which the adult tetracladine element or desma is moulded originates in a scleroblast similar to that in which the large spicules of the Choristid sponges are developed (p. 290, Pl. XXX. figs. 20, 21), but with the fully formed desma more than one is probably associated; thus each of the four depressions which occur about the centrum in the angle between the arms of a tetracladine desma appears to be occupied by a scleroblast, and others may possibly be distributed along the sides of the arms, though they have certainly not been observed.

In the rhabdocrepid desmas, *i.e.*, desmas moulded on a monaxon spicule (p. lix), the rhabdus which serves as the foundation is very probably formed within a single scleroblast, but this, although I have searched long and closely for it, I have never seen. The onlayering of silica which converts the rhabdus into the desma is almost certainly secreted by an envelope of surrounding scleroblasts, which are small when compared with the single scleroblasts of the large spicules of the Choristida. Thus in *Corallistes masoni* I have more than once observed small cells associated with the desmas, and separated from the surrounding mesoderm by a vacant interval, and the only serious objection I can discover to regarding them as scleroblasts is that they are not more frequently encountered, but considering the difficulty of preparing thin slices of these and similar sponges without to some extent tearing the tissues and partially displacing the cells, this will not probably be thought a very serious difficulty.

Genital Products.

It is somewhat surprising, considering the searching investigation to which they have been subjected, that more of the Challenger sponges have not yielded some trace of ova or spermatozoa.

Ova have been met with in *Chrotella macellata* (p. 22, Pl. IV. figs. 21, 22), one of the Tetillidæ; and in *Tethya seychellensis* (p. 430, Pl. XLIV. figs. 4–6), a Monaxonid in which they occur in great numbers, constituting at least half the volume of the choanosome.

Spermatozoa have been encountered somewhat more frequently; they occur in the following species amongst others:—*Tetilla pedifera* (p. 7, Pl. XLI. figs. 7, 13–21), *Tetilla grandis* (p. 12), *Chrotella macellata* (p. 22)—the same individual in this sponge containing ova and spermatozoa; *Caminus sphæroconia* (p. 216, Pl. XXVII. figs. 19–21), and *Erylus*