rhabdus occur as accidental varieties in sponges of which the rhabdus is the characteristic spicule (*Epallax callocyathus*, *Pœcillastra schulzii*).

The origin of the triæne is a subject on which opinions differ: on *à priori* grounds it may with equal probability be derived from the calthrops by a lengthening of one of the actines or from a rhabdus by terminal cladosis of one of the ends, naturally of the centrifugal end; the former hypothesis has in its favour an appearance of simplicity; the latter is supported by a great deal of direct evidence, both ontogenetic and morphological.

In the simplest triæne-bearing sponges, viz., the Tetillidæ, which are not much more complex than the Placinidæ, the anatriæne at its earliest recognisable appearance is an oxytylote, with a very feebly expressed tylus; the tylus increases in size, and a single cladus appears; and in the young sponge, while still within the body of the parent, this single cladus acquires a considerable size before the remaining cladi appear.

The strength of the argument to be drawn from this fact would be greater, were it not for the possibility that it may be merely an adaptive character, standing in relation to the advanced stage of development reached by the young sponge before it quits the body of the parent; and this seems the more likely as the body of parent sponge is invested with a strong fibrous and spicular cortex, through which the young sponge, which may be as much as 1·75 mm. in diameter, must make its way to the exterior, in what manner we know not (*vide* p. 39). The argument may be supposed to be further weakened by the fact that in the adult sponge all three cladi appear to develop simultaneously. While the appearance of one cladus earlier than the rest may not be a matter of any special significance, the origin of the triæne from an oxytylote is a very strong argument in favour of its rhabdal origin. The protriæne also develops from an oxytylote, but all three actines appear simultaneously, even in the young sponge; they are at first excessively minute, the merest spines, but subsequently attain considerable size (*vide* p. 13, Pl. V. figs. 10, 15).

Whatever doubt may be felt as to the value to be attached to the appearance of only a single cladus in the young Tetillid, the evidence in the case of *Thenea*, though of a different nature, seems to admit of but little dispute; in very young examples of this sponge, which do not develop within the parent, the anatriæne of the radical filaments commences as an oxystrongyle, subsequently numerous small spines appear at the strongylate end, and as these are absent from the adult spicules we may conclude that three of them by over-development become the adult cladi, the rest being suppressed; in some instances the strongyle presents in the young sponge only one or two strong spines, which are evidently developing cladi, and thus we have a variability in the number of the cladi of the early form of triæne, such as we might expect if it were, as we suppose, derived from a rhabdus with an at first spined and subsequently cladose termination.