

*a. The prehensile mandibles*, though differing greatly in form, have certain characters in common which distinguish them from the other kind. In shape they vary from a simple semicircle or triangle to a more or less elongated, blunt, or acutely-pointed spear- or sword-shaped, formidable, weapon. They are formed of a strong chitinous frame with a base, by each extremity of which the mandible is articulated to the sides of its cup or receptacle, in which are lodged the occlusor and retractor muscles, &c. In this class of mandibles the sides towards the apex or upper border of the lower face are usually, but not always, finely toothed, and the apex, in the spear-shaped type especially, is very frequently furnished with an acute incurved point or fang. The interior of the chitinous frame is occupied by a membrane in which is almost always a large rounded or elongated *foramen*, above which are inserted the occlusor muscles, which usually constitute a distinct pair, but in one family (Adeoneæ) appear to be conjoined into a single band. By this arrangement it would seem that power rather than speed in the occlusion of the prehensile avicularium is provided for.

*b. The retentive mandibles* also present considerable variety of form, which may vary from a simple semicircle to all varieties of spatulate or duckbill-shape; usually rounded or obtuse but sometimes more or less bluntly pointed at the apex. They are generally simple, but occasionally bifid or trifid. Unlike the prehensile mandibles, they are constituted for the most part of a thin membranous expansion, supported only at the base or partially at the sides and lower part by a chitinous frame, by which also they are articulated. In this class of mandibles also the *foramen*, if present, is always close to the base, very near to which the weak occlusor muscles are inserted; we may conclude therefore that the retentive mandible is shut down with a sudden snap, or with great rapidity and but little force.

C. Besides the foregoing elements, which are almost universally present, others are met with which are limited to special groups; for instance, in the Family Salicornariadæ they consist of;—

1. A pair of slender curved rods imbedded in the ectocyst, one on each side of the orifice, and serving as *points d'appui* to the operculum; these I have termed *lateral trabeculæ*, but in some cases they are conjoined so as to form a complete or incomplete ring.

2. A very delicate chitinous, apparently tubular, filament contained in the areolar ridges, and constituting an "*areolar network*" continuous throughout each internode of the zoarium. (A somewhat similar network probably exists in some of the Selenariadæ.)

Very minute trabeculæ, somewhat similar to those of the Salicornariadæ, are found also in the genus *Steganoporella*, not on the sides but below the angles of the orifice.

The only other chitinous elements to which reference need be made are—

3. The so-termed *radical tubes* or *radicells*.

4. The different forms of clasping or connecting *tubular filaments*.