

The body is always fixed, usually by the posterior end and more or less of the left side; it is in almost all cases sessile, and when not so the stalk is merely a narrow prolongation of the posterior end, and is not comparable with the peduncle of the Bolteninæ. The test is usually cartilaginous or gelatinous, and is found in all stages between these two conditions. In the genus *Chelyosoma*, an aberrant form, it is developed into horny plates. The number of lobes surrounding the apertures may vary considerably. In the majority of cases it is—branchial eight-lobed, atrial six-lobed, but the branchial is frequently found with seven or with nine lobes, while in *Chelyosoma* it is only six-lobed; in *Abyssascidia*, on the other hand, the branchial aperture is surrounded by fourteen lobes, and the atrial aperture by nine. The musculature of the mantle is generally very irregular, but in the genus *Ciona* a series of conspicuous longitudinally running bands are formed.

The branchial sac is never folded, but in many species of *Ascidia* it is thrown into a series of minute longitudinal plications, which will be described in detail further on. These must not be confused with the conspicuous folds so characteristic of the Cynthiidae and the Molgulidae, which are entirely wanting in the present family. The internal longitudinal bars, which are almost invariably present, are in the form of more or less stout, rounded bars, in contrast to the ribbon-like vessels found in many of the Cynthiidae and some of the Molgulidae. Usually in the Ascidiidae the bars bear on their inner sides papillæ, varying in size, shape, number and arrangement according to the genus and species. The stigmata are straight and approximately parallel, except in the genera *Corella*, *Corynascidia* and *Chelyosoma*, where they are curved and arranged spirally round certain central points. The tentacles are invariably simple, elongated, tapering filaments, like those of the Styelinæ, but usually rather thinner.

The arrangement of the viscera varies considerably. In most forms, including the genus *Ascidia*, the stomach and intestine lie upon the left side of the branchial sac; but in the nearly allied *Ciona*, they extend considerably beyond the branchial sac posteriorly, so as to form a rudimentary abdomen. In *Corella* and *Abyssascidia*, again, the stomach, intestine, and heart are placed upon the right side of the branchial sac, and the course of the intestine is different from that found in *Ascidia*.

The genital glands are always found in close relation with the alimentary canal, generally applied to the wall of the posterior part of the stomach, or the first part of the intestine, and often occupying the intestinal loop; they are never found attached to the mantle independently of, and at a distance from, the intestine, as is so frequently the case in the Cynthiidae and the Molgulidae.

The genus *Ascidia* is, even in its modern restricted sense, the typical and most important genus of this family. It contains by far the largest number of species, and is a central point round which the other genera may be arranged, according to their affinities. The first of these is *Pachyclæna*; this form and *Ascidia* are more closely allied than any other two of the genera. At the one extreme end of the series of which *Ascidia*