

*Cormidia*.—The entire body represents in the monogastric Cystalidæ (Pl. XXII. figs. 1-5) a single cormidium, composed of a large central siphon with a single tentacle, and at its proximal base (beyond the pneumatophore) a corona of palpons, and a single gonodendron. This solitary cormidium is similar to that of the Circalidæ and Athoridæ (Pl. XXI.), but differs in the absence of nectophores and bracts. The four other families are polygastric, and therefore composed of a variable number of cormidia. These are sometimes ordinate, at other times loose. They exhibit a different shape in the two subfamilies of Rhizophysidæ, where the trunk is very long, tubular, and articulate; the cormidia are ordinate and separated by equal free internodes in the Cannophysidæ (Pl. XXIV.), where each cormidium is composed of a single siphon with its tentacle, and a single gonodendron at its base; whereas the cormidia are loose in the Linophysidæ (Pl. XXIII.), where the gonodendra are detached from the siphons, usually alternating with them regularly. The family Salacidæ (Pl. XXV.) is distinguished by polygastric ordinate cormidia; the long tubular stem bearing in regular free intervals numerous equal cormidia, each of which is composed of several siphons (with tentacles) and gonodendra. The shortened vesicular stem of the Physalidæ (Pl. XXVI.) bears clusters of loose cormidia, without regular arrangement; the cormidia of the Epibulidæ, however (Pl. XXII. fig. 6), seem to be ordinate, similar to those of the Discolabidæ.

*Pneumatophore*.—The hydrostatic apparatus or the swimming-bladder is in all Cystonectæ large, sometimes gigantic and larger than all the other parts of the body together; it is the more important, as it is the only organ of floating, the nectophores being entirely wanting. In *Physalia* it attains unusual dimensions (one or two decimetres and even more), and occupies a far larger volume than in any of the other Siphonophoræ. The general form of the pneumatophore is usually more or less ellipsoidal, ovate or pyriform, sometimes more irregular, oblongish round. Its longitudinal axis is usually not vertical (as in the majority of Physonectæ), but more or less obliquely inclined, and in *Physalia* nearly horizontal. The cavity of the pneumatocyst opens in all Cystonectæ by an apical stigma, or a permanent pore, by which the animal expels the included gas at will, when it will sink down. I have observed this emission of gas repeatedly in the Rhizophysidæ, Epibulidæ, and Physalidæ.

*Pneumatocodon*.—The outer wall of the pneumatophore, which we call pneumatocodon ("Luftschirm"), is in all Cystonectæ very thick and muscular, and capable of strong contraction. The strongest muscles are the longitudinal or meridional fibres, which lie immediately under the exoderm and diverge from the open apical pole to the equator, and then converge from the latter to the basal pole. They form around the apical stigma a strong musculus dilatator (like that of the pupil of the eye). But further the stratum of circular muscles of the entoderm, which is antagonistic, and separated from the former by the thick fulcrum, is well developed. It forms around the apical stigma a strong sphincter, or a circular musculus orbicularis, which closes its opening completely.