

Cystonectæ. He united in 1882 the Rhizophysidæ and Physalidæ under the name Pneumatophoridæ, and separated them from the Physophoridæ (our Physonectæ) (86, p. 1168). He pointed out as a common character the absence of nectophores and bracts, and the peculiar structure of the gonodendra. Chun further published the first accurate description of the peculiar structure of the pneumatophore in the Rhizophysidæ and Physalidæ, and of the metamorphoses of the young *Physalia* (48, 83, pp. 529, 557, 574).

The five different families of Cystonectæ which are described in the sequel, exhibit interesting relations to similar families among the Physonectæ. The monogastric Cystalidæ correspond to the simple Athoridæ. Two polygastric families with a very prolonged tubular trunk have analogous representatives in both orders; the Rhizophysidæ (with monogastric cormidia) are comparable to the Agalmidæ, the Salacidæ (with polygastric cormidia) to the Apolemidæ. Two other polygastric families possess a shortened and inflated vesicular trunk of the siphosome; of these the Epibulidæ are similar to the Discolabidæ, and the Physalidæ in some respects to the Anthophysidæ; the peculiar secondary development of the gigantic pneumatophore, however, and its consequences for their further divergent organisation, remove still more widely the Physalidæ from all other Siphonanthæ.

*Nectosome and Siphosome.*—The two different main portions of the corm, swimming and feeding portion, exhibit a very different relation in the various Cystonectæ. The nectosome, or the swimming body, is represented only by the large pneumatophore and corresponds to the modified umbrella of the original medusome. The siphosome, on the other hand, exhibits a different shape in the monogastric Cystalidæ, and the polygastric Cystonectæ of the four other families; it is composed in the Cystalidæ (Pl. XXII. figs. 1–5) of a single large siphon (the manubrium of the original medusome), and of various organs budding from its base (a tentacle, a corona of palpons, and a gonodendron). The single siphon of the Cystalidæ corresponds to the axial trunk of the four other families; from its ventral side arise numerous cormidia by budding. These secondary cormidia, composed of siphons, palpons, tentacles, and gonodendra, are sometimes ordinate, at other times loose; they are densely aggregated in the Brachystelinæ (Epibulidæ, Pl. XXII. fig. 6; and Physalidæ, Pl. XXVI.), with a shortened and inflated vesicular stem; they are loosely scattered and separated by long internodes in the Macrosteliniæ (Rhizophysidæ, Pls. XXIII., XXIV.; and Salacidæ, Pl. XXV.), which possess a long tubular stem. The nectosome and siphosome are usually separated by a constriction corresponding to that portion of the original medusome on which the manubrium is inserted into the centre of the subumbrella. Another structure, differing from that of all other Siphonophoræ, is exhibited by the peculiar Physalidæ. The hypertrophic pneumatophore extends here into the trunk of the siphosome, along its dorsal side, so that this side becomes the superior, and the opposite ventral the inferior side.