

The family Nectalidæ is founded by me for the interesting new genus *Nectalia* (Pl. XIII.), to which probably *Sphyrophysa* of L. Agassiz (36) is closely allied. They have in general a similar organisation to the well-known Discolabidæ (*Physophora*), but differ from them essentially in the possession of a large protecting corona of cartilaginous bracts at the apex of the siphosome.

*Nectosome and Siphosome.*—The corm of the Nectalidæ is composed of a long columnar nectosome and a flat coroniform siphosome. The trunk of the nectosome is a slender vertical tubule, and bears either two opposite or four cruciate rows of nectophores; and at the apex a pneumatophore with four radial chambers. The trunk of the siphosome is shortened, vesicular, and horizontally expanded in form of a spiral bladder, to which are attached the following parts:—Uppermost a corona of bracts, beyond it a corona of palpons or cystons, below a bunch of siphons and tentacles, and at the distal base a group of clustered gonophores. Probably these polymorphous persons and organs are arranged regularly in ordinate cormidia, as in *Physophora*; but in the single specimen observed by me it was impossible to make out this metameric arrangement with full certainty. I suppose, however, that each nectophore belonged originally to a cormidium, which was composed of the following parts: One bract, one palpon, one siphon with a tentacle, and two gonodendra, a male and a female.

*Pneumatophore* (Pl. XIII. figs. 1–3, *p*, 4).—The float, placed at the apex of the siphosome, is in *Nectalia* pyriform, and exhibits four vertical radial septa, which connect the outer with the inner wall; the cavity of the pneumatosac is divided by them into four large radial pouches. An opening at the apex of the pneumatocyst was not visible, but there seems to be one at its base (just as in *Physophora*).

*Nectophores* (figs. 1, *n*, 5–8).—The column of nectocalyces in *Nectalia* is composed of two opposite longitudinal rows, in *Sphyrophysa* of four cruciate rows; the former bears therefore the same relation to the latter as in the following family *Physophora* does to *Discolabe*. The nectophores are similar in form and structure to those of many other Physonectæ, and they embrace the trunk of the siphosome so fully by two apical horns or wings, fitting in the space between two obliquely opposite nectophores, that the structure of the nectosome becomes very solid. The subumbrella of the nectophores has a strong muscle-plate, and renders possible a very rapid movement of the swimming corm. The velocity of the swimming *Nectalia* is much greater than that of most other Physonectæ, and comparable to that of *Diphyes*, *Sagitta*, and *Loligo*.

*Bracts* (figs. 1, 9–12).—The prominent character of the family Nectalidæ is found in the corona of bracts, which is attached to the apex of the siphosome immediately beyond the base of the nectosome; it is similar to that of the Anthophysidæ, and is wanting in the Discolabidæ, which are otherwise nearly related. The bracts of *Nectalia* are strong cartilaginous covering scales of a peculiar form and differentiation, especially described below. They are raised and subhorizontally expanded in the quietly-floating