

As in the latter, each siphon or "suctorial tube" possesses at the distal end of the sac-shaped body a mouth opening, at the proximal end a stem opening, through which the simple cavity communicates with the cavity of the umbrella or the stem. By one or two (often even three) annular strictures the simple cavity of the siphon is divided into two, three, or four chambers. When four portions can be distinctly distinguished, the first (proximal) is a thin stalk (*pedunculus siphonalis*), usually bearing the base of insertion of the tentacle; the second is a thick-walled crop ("Vormagen," *basigaster*) equipped with masses of urticating cells; the third is the stomach proper (*stomachus*), usually with "hepatic stripes," more rarely with glandular villi; the fourth is an extremely contractile proboscis. The stomach usually passes without sharp boundary into the proboscis, but is generally definitely marked off from the *basigaster*, often by means of a pyloric valve. The stalk of the crop region is often degenerate or not distinctly defined. The single tentacle springs from this portion in the majority of Siphonanthæ. According as the adult Siphonophoral corm has only one or several siphons, we distinguish Monosiphoniæ and Polysiphoniæ.

MONOSIPHONIÆ OR MONOGASTRIC SIPHONOPHORÆ.

Of great importance for the right understanding of the Siphonophoræ is the fact, that in all forms the primary medusiform larva (*Disconula* or *Siphonula*) bears only a single siphon, and that this remains in one portion of the class, namely in the Monogastricæ, while in the other division it is modified into the stem, and is physiologically replaced by numerous secondary siphons (lateral branches of the latter). Hitherto the monogastric Siphonophoræ have been represented solely by the *Eudoxiæ* among the Calycophoridæ; but among the new deep-sea Siphonophoræ of the Challenger Expedition which I have described in this Report, there are interesting monogastric forms from three other orders (*Discalidæ*, *Athoridæ*, *Cystalidæ*). Since in both legions of the class the Monosiphoniæ exhibit close resemblance to the known larval forms of the Polysiphoniæ, they may be regarded as "sexually mature larvæ." In more accordance, however, with the phylogeny is the reverse interpretation, that those larvæ of the Polysiphoniæ repeat, according to the fundamental biogenetic law, the structure of their Monosiphonial ancestors.

In regard to the position of the stomach on the subumbrella, the Monosiphoniæ exhibit in both legions very important differences, which are explained by their diphyletic origin. In the *Discalidæ* or monogastric *Disconanthæ*, the primary siphon occupies the central point of a regular octoradial umbrella; in the monogastric *Siphonanthæ*, on the other hand, it is more or less excentrically situated at the base of a bilateral umbrella.