

*Cystons*.—Numerous Physonectæ, mainly the Macrostelia (Apolemidæ, Agalmidæ, and Forskalidæ), possess cystons or anal vesicles, excretory polypites which occur in no other order of Siphonophoræ. They have hitherto been confounded with the similar palpons, although some authors have observed the distal opening, by which fluid and crystalline excretions are ejected. The cystons differ from the similar but smaller palpons essentially in the possession of the distal opening, which may be closed by a muscular sphincter, and with respect to its function called an anus (Pl. XV. figs. 8, 9, *yo*). They seem to differ further in the peculiar structure of the wall, which is often intensely coloured (Pl. XVIII. fig. 2, *y*) and glandular, at least in the distal part. The characteristic hepatic glands of the siphons, however, are wanting. The cystons are therefore excretory polypites, which in morphological relations are intermediate between the digesting siphons and the feeling palpons. I have never observed more than a single cyston in each monogastric cormidium. In the polygastric cormidia of the Apolemidæ the number of cystons seems to correspond to that of the siphons.

*Palpacles*.—Usually in the Physonectæ each single palpon, as well as cyston, is provided at its base with a long palpacle, or a simple "accessory tentacle." It is a very slender, never branched, cylindrical tubule, the thin wall of which contains small cnidoblasts and palpoblasts. It is in perpetual motion, and its function is mainly sensory. Perhaps these feeling filaments ("Tastfäden") are generally distributed among the Physonectæ; they are not observed in various genera, but it may be possible that here they have been either overlooked or lost accidentally.

*Gonodendra*.—Nearly all the Physonectæ have monœcious corms, male and female gonodendra being developed from the same trunk. There are two exceptions only where the corms are dicecious:—*Athoralia* among the monogastric, and *Apolemia* among the polygastric Physonects; in these two genera each corm bears either male or female gonodendra.

The ordinate cormidia are usually monoclinic, each provided with two gonodendra, a male and a female, which arise separately from the node of the trunk (Pl. XVIII. fig. 2; Pl. XX. figs. 9–16). Usually here the female is placed more proximally (near the palpon) and the male more distally (near the siphon). These gonodendra may be called distylic, since their stems or gonostyles are two independent branched palpons. There occur, however, sometimes monostylic gonodendra, where the basal part of the single branched gonostyle bears female, and the distal part male gonophores. This is the case in *Forskalia* (Pl. X. fig. 21; compare Kölliker, 4, Tab. ii. fig. 1).

The irregular cormidia are sometimes monoclinic, at other times diclinic; in the former male and female gonodendra occur scattered over the same internode; in the latter arising separately from different internodes. In many Physonectæ with irregular cormidia (mainly Halistemmidæ) very numerous gonodendra of both sexes are scattered irregularly along the whole trunk.