

The next larval stage of the Porpitidæ exhibits four stalked cnidospheres at the distal end of each tentacle; ¹ one of these is the primary terminal knob, whilst the three others are lateral branches (Pl. L. fig. 10). By multiplication of the latter in the prolonged tentacle arise three longitudinal rows of stalked cnidospheres, one of which is situated on the inferior or distal side of the tentacle, the other two opposite on its two lateral sides. These three longitudinal rows of short lateral branches, each of which bears a spherical cnidonode, are very characteristic of all Porpitidæ; each row bears six to nine or more branches in the larger species, their size decreasing from the terminal (oldest) branch towards the basal (youngest). The basal half of the tentacles is usually simple, and bears no branches.

The tentacles of the Velellidæ are never branched; they always remain simple cylindrical filaments, and are relatively short and small. The cnidocysts are either irregularly scattered on their surface, or form two opposite ribands on the two lateral sides.

Ontogeny.—The individual development of the Disconnectæ is very incompletely known, but seems always connected with a peculiar form of metagenesis. The first generation is asexual, the complicated cormus above described producing at its sub-umbrella numerous polypites or secondary manubria (mouthless palpons in the Discalidæ, mouth-bearing siphons in the Porpitidæ and Velellidæ). From the gastral wall of these secondary polypites (surrounding the sterile central siphon) there arise numerous medusiform buds of the form *Discomitra*. These do not become mature whilst sessile and attached to their parents, but are soon detached, and develop into free Hydromedusæ, which produce ova and spermatozoa. Some advanced stages of this second sexual generation are described by Gegenbaur as *Chrysomitra*, and possess eight or sixteen radial canals; but they have not hitherto been sufficiently examined in the adult state. The origin and structure of the sexual organs of the Disconnectæ, ovaria as well as spermaria, require a further accurate examination.

It is very probable (though not observed) that from the fertilised egg of this second generation arises a young Medusa with eight radial canals, and that this early produces in the top of its hemispherical umbrella the pneumatocyst, at first a simple central chamber (comparable to the simple pneumatocyst of the Siphonanthæ) and subsequently a corona of eight radial chambers. From this common larval stage probably arise two different lines of individual development. The Discalidæ, on one hand, remain regularly octoradial, and develop eight marginal tentacles (with increasing number), and between these and the central siphon eight or sixteen gonostyles, remaining mouthless palpons. The Porpitidæ retain the same regular octoradial type, but are further developed, and their gonostyles, at first mouthless, acquire afterwards a distal mouth-opening and metamorphose into secondary siphons.

On the other hand, a different course is followed by the bilateral Velellidæ. Here

¹ Compare A. Agassiz, 59, pl. ix. fig. 1.