

“bilateral,” sometimes even “uniradial” (Chun). But a comparative study of their development, and mainly of the central part of their body, demonstrates that the corm of all Velellidæ originally is also octoradial; this is clearly proved by the girdle of eight radial lobes which surrounds the central chamber of the pneumatocyst; further, by the eight primary radial canals, which arise from the gastrobasis of the central siphon and give off the ascending branches forming an octoradial liver-star on the upper surface of the centradenia. *Rataria* (Pl. XLIV.), as the simplest form of this family, and the similar *Ratarula*-larvæ of other Velellidæ, possess marks of an octoradial type also in other organs (eight primary buds of gonostyles, sixteen primary tentacles, &c.). But whilst the eight parameres in the Discalidæ and Porpitidæ are precisely equal (each composed of two symmetrical antimeres), they are unequal in the Velellidæ (each composed of two asymmetrical antimeres). The two horizontal cross-axes, which are perpendicular one to another, and to the vertical main axis, are both equal in the Discalidæ and Porpitidæ; whilst they are unequal in the Velellidæ. Their sagittal axis (marked by the vertical sail) is longer than the frontal axis (marked by the transverse groove of the pneumatocyst). But the dorsal half of the corm (on one side of this frontal groove) is symmetrically equal to the ventral half (on the opposite side), in the same manner as the right half is symmetrically equal to the left (separated from it by the vertical sail). The fundamental form of the corm in the Velellidæ, therefore, is not “bilaterally-symmetrical,” but “amphithec,” or bilaterally-octoradial, similar to that of the Ctenophoræ.

The octoradial structure of the Medusæ is originally derived from the quadriradial type, as I have demonstrated in my Monograph of the Medusæ. The same promorphological law is valid also for the Disconnectæ. Their octoradial trunk has arisen from the umbrella of some Medusa, the older ancestors of which were quadriradial. Their next ancestral forms may be Trachynemidæ, with eight radial canals, eight tentacles, &c. But these again have arisen from the older Petasidæ, which possess four radial canals, four tentacles, &c. This older quadriradial structure is still preserved in the medusiform gonophores of the Disconnectæ (*Discomitra*).

*Promorph of the Corms in the Siphonanthæ.*—The corm of the Siphonanthæ, differing from that of the Disconanthæ in all respects from the first beginning, is also distinguished completely by its bilateral promorph. The primary larva (Siphonula), which develops the corm of the Siphonanthæ by unilateral budding from its manubrium, has already a markedly bilateral fundamental form. Its primary umbrella has a deep ventral cleft, and its only tentacle is attached to one side of the manubrium. The vertical plane, which passes through the median line of these parts, is the sagittal plane, and bisects the entire body; the two halves separated by it, right and left, are symmetrically equal. That side of the manubrium from which arise the buds of the corm is the ventral side, the opposite the dorsal side.