

is elliptical or sometimes lanceolate in the Velellidæ; often the periphery is more or less lobate, corresponding to the form of the surrounding peripheral part of the umbrella. The upper or proximal surface of the centradenia is attached to the lower or distal surface of the pneumatosaccus, and separated from it by a thinner or thicker fulcrum, a firm and elastic, structureless, supporting plate. But this supporting septum is wanting in the young larvæ, where the exodermal epithelium of the pneumatosac is in immediate contact and connection with the upper face of the centradenia.

All the various and often complicated apophyses (radial ribs, circular rings, &c.) which are formed by the distal or inferior face of the pneumatocyst, and its enveloping pneumatosac, are surrounded by corresponding furrows or envelopes of the proximal or superior face of the centradenia; the latter being always immediately attached to the supporting plate, which separates it from the former in the adult Disconnectæ.

The lower or distal surface of the centradenia is in its central part in contact with the base of the central siphon, in its peripheral part with that portion of the subumbrella which bears the gonostyles. The fundus of the central siphon, or the uppermost part of its cavity, is separated from the attached centradenia by a strong support, that supporting plate, which has been described above as "lamina gastrobasalis." This elastic and structureless plate is pierced in the periphery of the basal part of the stomach by eight or sixteen (sometimes more) radial canals, which arise from the fundus of the stomach itself and pass into the vascular system of the centradenia. We call these the primary perradial gastro-canals. There are originally eight equal and regularly disposed radial canals in the Discalidæ and Porpitidæ. In the Velellidæ, on the other hand, they are arranged in a bilateral manner; two larger radial canals (a dorsal and a ventral) arising from the opposite poles of the longer (sagittal) axis, two smaller (right and left) from the poles of the shorter (transverse) axis, and four other (diagonal) canals in the middle between the latter and the former. But usually the number of intercalated secondary canals is here much larger, and their arrangement more or less irregular.

*Origin of the Centradenia.*—For the right understanding of this peculiar organ of the Disconnectæ, a knowledge of its origin and development is essential. This question may be solved by the comparison of very young Disconnectæ and mainly of the Discalidæ. These simplest and most primitive Disconnectæ remain permanently in a lower stage of development, which is transitory in the Porpitidæ and Velellidæ. In the smallest Disconula-larvæ which I observed the centradenia is a small circular, biconvex, lenticular disc; its upper face is in direct contact with the pneumatosaccus, whilst its lower face is separated from the central siphon by the gastrobasal plate ("plancher" of Bedot). The entire mass of this solid disc is composed solely of exodermal cells and cnidoblasts; it is not traversed by any canals. The only canals of the centradenia are the eight simple radial canals which run upon its upper face; they arise from the eight ostia of the basigaster, embrace the surface of the lenticular centradenia like eight meridian lines, and