Whilst the large coronal muscle with its circular fibres contracts the distal part of the subumbrella, the muscle of the swimming bell ("musculus codonoides") with its longitudinal fibres answers for the proximal half of the subumbrella. The most important longitudinal muscles of this system are the eight strong deltoid muscles ("musculi deltoides," *md*; Pl. XIX. fig. 6; Pl. XX. fig. 8). They are very powerful, equilaterally triangular, and touch the proximal margin of the coronal muscle with their broad bases, whilst their truncated point is directed upwards and their longitudinal fibres consequently diverge centripetally. The four weaker perradial deltoid muscles (*md'*) are inserted by their truncated point at the distal end of the gastral openings, in the subumbral wall of the four cartilaginous palatine nodes (*gk*). The four stronger interradial deltoid muscles (*md''*), on the other hand, are longer, and inserted further up on the subumbral wall of the four septal nodes (*kn*) in the middle of the length of each pair of genitalia between the two halves. Between these, the deltoid muscle also forms, above the septal node, a thin band-shaped prolongation, which runs centripetally as far as the pylorus ("musculus intergenitalis," fig. 8, *ms*). Besides these, a stronger longitudinal muscle, which I will call "musculus congenitalis" (fig. 8, *mn*), runs into the subumbrella on the two lateral margins of each of the four gastral openings, between them and the limiting genital bands. It springs with a broader base from the inverted lateral margin of the perradial deltoid muscle, runs, gradually becoming narrower, up above between the gastral ostium and the limbs of the genitalia, and is inserted above with its narrow end in the pyloric ring (fig. 8, *gy*). Finally, a narrower and very much weaker longitudinal muscle, which may be termed "musculus axogenitalis," runs in the middle of the eight genitalia, and, in fact, on the midrib between the two limbs of each genitalium (fig. 38, *mx*). On the whole, therefore, the system of the muscle of the swimming bell ("musculus codonoides") is divided into four stronger interradial and four weaker perradial areæ; the four interradial deltoid muscles, the four intergenital muscles and the eight axogenital muscles belong to the former; the four perradial deltoid muscles, and the eight congenital muscles to the latter.

Although the circular system of the distal coronal muscle, and the longitudinal system of the proximal swimming bell muscle, form by far the most important part of the subumbral muscular system, it is represented by weaker muscles in other parts of the subumbrella. The circular fibres already mentioned, in the wall of the basal funnel cavities, belong to it on the one hand, and the longitudinal fibres on the concave axial side of the marginal lobes, which we shall briefly term "lobe muscles" ("musculi lobares," *mh*), on the other. Each of the sixteen marginal lobes has in its thin subumbral wall a pair of such longitudinal muscular bands, which run to both sides of the medial (subradial) lobe clasps (*lk*), and clearly correspond to the well-known stronger lobe muscles of the Discomedusæ.

The gastro-vascular system of *Periphylla mirabilis* (Pl. XX. figs. 8–11; Pl. XXI. figs. 12–20; Pl. XXII. fig. 22; Pl. XXIII. figs. 29–31) is distinguished from that of all