

Peromedusæ by many very peculiar and complicated arrangements, which can only be completely understood after long and minute study. The only gastrovascular system among the forms of the Medusæ systems hitherto known, which offers more detailed points of comparison, is that of the Lucernaridæ, and in *Periphylla*, as in the Lucernaridæ, it is derived from that of Tesseridæ (comp. the general anatomical representation of the Stauromedusæ in my System, 1879, pp. 363–395, taf. xxi., xxii.). But whilst the essential condition of the central gastrovascular system in those Stauromedusæ resembles that of the Peromedusæ, in the Peromedusæ it differs in detail in very important and peculiar complications, and especially in the formation of the peripheric part. Generally speaking, we can distinguish in all Peromedusæ two principal sections of the gastrovascular system, the central principal intestine (“gaster principalis”) and the peripheric coronal intestine (“gaster coronaris”); they are only connected by four narrow, cleft-shaped, perradial gastral openings, and are otherwise completely separate.

The central principal intestine (“gaster principalis”) occupies the entire length of the axial space of the body and extends from the umbrella cone to the oral margin. It is divided by two circular constrictions or horizontal strictures into three principal sections—basal stomach (*gb*), central stomach (*gc*), and buccal stomach (*ga*). The upper or aboral circular stricture between the basal and the central stomachs, I term the pyloric opening or pylorus (“porta pylorica,” *gy*); the lower or oral circular stricture, between the central and the buccal stomachs, the palatine opening or palatum (“porta palatina,” *gp*). In order to gain a general correct idea of the complicated conditions of form of these three sections of the principal intestine, it is convenient to refer them to simple mathematical figures; the basal stomach is a cone (or more properly a quadrate pyramid), the central stomach an obelisk (or a truncated, regular quadrangular pyramid), the buccal stomach a cube (or a four-sided prism). The central stomach communicates with the peripheric circular sinus of the coronal intestine by four lanceolate perradial openings (“ostia gastralia”).

The buccal stomach (eventually also termed proboscis or œsophagus, “gaster buccalis, tubus oralis, proboscis” Pl. XIX. fig. 6 in the centre; Pl. XX. fig. 11; Pl. XXI. fig. 19) forms the lowest oral third of the axial principal intestine, is dice-shaped on the whole, and hangs perfectly freely in the centre of the coronal hollow of the umbrella, as it is only fastened above to the subumbrella by the four perradial palatine nodes (*gk*). The length of the edge of the cube amounts to nearly 5 cm.; Plate XX. shows it apart in its natural size, fig. 9 the interradian external view, fig. 10 the perradial external view, and fig. 11 the perradial transverse section. The lower (oral) wall of the cube occupies the quadrate oral opening (*oa*), and the upper (aboral) wall the palatine opening (*gp*); the four perradial vertical lateral surfaces of the cube are formed by the buccal pouches (*bb*), the four interradian edges between them by the buccal columns (*ac*).

The oral opening (“osculum,” *aa*), is shown from below in the middle of fig. 6 of