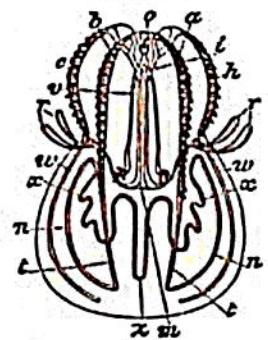


almost straight to their termination, while those of the lateral ambulacra are arched over the two rounded parallel ridges which inclose the circumscribed area. It is easily ascertained, that eight narrow bands, similar to those observed in Pleurobrachia, extend beyond the extremity of the ambulacra toward the central black speck, or rather toward the bulb under it, and that they are the prolongation of the vertical rows of locomotive flappers. Along the sides of the body the rows of locomotive flappers also gradually taper toward their actinal extremity, and, as soon as they reach the height of the dilatation of the lobes, the locomotive combs disappear, and the chymiferous tubes which accompany them can alone be traced farther. In the lateral ambulacra, however, the rows of locomotive flappers taper much sooner, and terminate at the base of the small lateral lobes, near their inner margin, for a considerable length above the actinal extremity of the ambulacra of the large lobes. In the small lobes we trace also a narrow prolongation of the chymiferous tubes of the lateral ambulacra, which extend beyond the locomotive fringes. The course of these narrow tubes in the lobes is very difficult to follow, and their connection with each other and with the central chymiferous cavity has been entirely overlooked by former observers, with the exception of Milne-Edwards;¹ though in the figures of *Bolina elegans* published by Mertens, there are already indications that he noticed the outline of their convolutions. I shall first trace the course of these tubes upon the larger lobes. As long as the tubes follow a straight course in the prolongation of the anterior and posterior ambulacra (*Fig. 92 t*), they remain at the surface of the lobes, covered only by the epidermis, beyond the ambulacral rows themselves. But as soon as they converge towards the lower margin, where they bend to take an inward course, they penetrate deeper into the substance, across the whole thickness of the lobe itself, till they reappear upon its inner surface, where they are nearest to each other; they then rise again, diverging toward the sides and following almost exactly the outline of the lateral margins of the lobes, along which they ascend (*n*) toward their bases, rising even higher than the lower termination

Fig. 92.



BOLINA ALATA, Ag.

(Seen from the narrow side.)

of the ambulacral combs, indeed nearly as high as the bases of the auricles; they then converge again, bend downward, and in a sinuous, winding course (*x*) descend a second time toward the middle of the lobe, to rise and converge again, and then descend for the third time, in a parallel course, to nearly the same level with their first bend, and, converging once more from the two sides, unite (*z*) in the medial line of the lobe: so that there is a direct communication

¹ MILNE-EDWARDS, Recherches, etc. Ann. Sc. Nat. 2de sér., vol. 16, p. 203, Pl. 3.