

the tail, though to a less degree than anteriorly. The entire body, from the middle of the second segment backward, as well as the bases of the feet, is filled with ova, each of which shows germinal vesicle and spot. The anterior segments are provided with bristles of the same type as the parent stock (Pl. XV_A. fig. 18), only the terminal appendage is more differentiated. None of the long simple bristles are apparent in this fragmentary example.

Exactly opposite the point from which the pedicle of the foregoing bud arises is another small one, consisting of upward of a dozen segments. Moreover, in the same specimen, a pair of young buds occur opposite each other. In these cases the segment of the intestine of the parent-stock, from which the diverticulum proceeds, is shorter than the rest. It would seem that the bud arises opposite a foot, and there is no evidence that it ever springs between two (successive) feet. The shortening of the intestinal segment may be due to the appropriation of the substance of both it and the body-wall in the production of the new bud.

A free female bud, again, occurred in one of the basal canals of the sponge. It (Pl. XXXIV_A. fig. 9) closely agrees with the description of the previous specimen, except in the larger garnet-tinted eyes, the dorsal and ventral pairs being more nearly equal, and the presence of beautiful tufts of long simple bristles (the "Pubertätsborsten" of Prof. Langerhans) in each foot. Its length is about 9 mm., and its breadth, including the bristles, rather more than 2 mm. There are twenty-nine segments, but the condition of the tail is open to doubt. Dorsally (Pl. XXXIII. fig. 12) each segment has a slender and distinctly jointed cirrus. Beneath the foregoing is a dense tuft of long, translucent, simple bristles, with broad flattened tips after the fashion of the straight Roman swords, but marked at the tip by two peculiar longitudinal processes, and sometimes the end assumes a fimbriated appearance (Pl. XV_A. fig. 19). The setigerous region beneath is short and conical, having superiorly the spine and inferiorly the bristles, which differ from those of the parent-stock in showing a more evident differentiation at the junction of the terminal process. Ventrally is a tongue-shaped cirrus, which nearly reaches the apex of the setigerous region. The entire body is filled with ova, which likewise occupy the feet almost to their tips, the first segment and the extremity of the tail (which is apparently in process of regeneration) alone being devoid of them. Some of the feet, indeed, assume a bulk four or five times larger than the others, from distention with ova. The latter apparently have embryos internally.

Another free female bud (Pl. XXXIV_A. fig. 10) amongst the specimens from the Arafura Sea, differs somewhat from the foregoing, and probably represents a younger stage, though the example has thirty-one segments. It is not in good preservation. Instead of the smooth, bifid snout and two large eyes, the anterior margin presents no notch anteriorly, while a minute cirrus appears on each side. The eyes are small and wide apart, and a similar pair occur ventrally. The ova are smaller (less developed)