

ostium meet by threes, by fours, and even more around the same opening. This is the case, for instance, in *Amphoriscus elongatus*, n. sp., and, if we compare the corresponding picture (Pl. IV. fig. 5) with that showing the inner organisation of my *Leucilla connexiva* (Pl. VI. fig. 1a), the way in which the Leucones have been developed from the Sycones will be quite clear. What is to be regarded as an exceptional arrangement in a Sycon becomes the rule in a Leucon. The invagination of the gastric surface, shallow in the Sycon, becomes deep in the Leucon; the irregularities in the disposition of some of the subgastric and subdermal spicules also arise gradually, and it is not every one of these spicules which retains its place between two neighbouring radial tubes; this, moreover becomes physiologically unnecessary, for a diminution in the size of the radial tubes follows their rising towards the dermal surface. The invaginated part of the gastric cavity, presenting in its simplest form a cone without secondary lateral sacs, may produce branches in its own turn. We find this condition depicted in Pl. VI. fig. 2a.

The radial tubes—here more correctly called flagellated chambers—although still of cylindrical form are short and comparatively small, and though the subdermal quadri-radiate and the subgastric triradiate spicules preserve their former disposition, there are to be found in the parenchyma spicules scattered without any evident order. Now the ramifying of the invaginated parts of the gastric surface may go further and further; hand in hand with this the flagellated chambers become smaller; their form also undergoes a modification; elongated in the preceding cases, they now grow more or less round. The intercanals, whose function is to provide the flagellated chambers with water, following the modification in the disposition of these latter, already somewhat irregular in the Sycones with non-articulated tubar skeleton, ramify more and more; it becomes quite impossible to find any order in the disposition of the spicules in the parenchyma; and if we examine Pl. VI. fig. 3a, which gives a true idea of the typical organisation of the Leucones, we shall find in the species to which the illustration refers (*Leuconia multiformis*, n. sp.) but one trace of its origin from the Sycones, viz., the subgastric triradiate spicules, which send their basal ray towards the cortex, their curved lateral rays lying in the plane of the gastric surface. These triradiate spicules being in most cases very thin in comparison with the stout triradiate ones of the parenchyma, no physiological signification can be assigned to them, and I think there can be no other explanation of their presence except that of a phylogenetic character. In *Leuconia typica*, n. sp., presenting a form closely allied to *Leuconia multiformis*, these interesting subgastric triradiate spicules are no longer to be found, and the spicules of the cortex, as well as those of the gastric surface, are the only constituent parts of the skeleton which follow a fixed law in their disposition. I do not speak of the quadri-radiate spicules accompanying in certain species the exhalent canals in all their windings, for they are exact homologues of the quadri-radiate spicules of the gastric surface. In some cases, for instance in *Pericharax*