

*A. paniculata*, D. and M., whole paniculate branches are without adhesions, and the fusion affects only the stem and stronger branches. Finally we have in *A. tristis*, Duchassaing, a type in which actual confluence of parts has ceased to exist, and where, as Pourtalès assures us, the fusions described by Duchassaing are more properly to be considered merely as adhesions. It only requires one step further to reach such types as *A. pedata*, Gray, on the one hand, and *A. myriophylla*, Pallas, on the other. Both types are fan-like, the former relatively simple with elongate pinnules, the latter quite as complex as *A. flabellum*, Pallas, but entirely without fusions.

It will thus be seen that the presence of fusions between certain parts of the corallum is not a reliable character for generic purposes.

This fact will be brought out still more prominently if we now consider the structure of the polyps of some of these forms, and enquire whether in any case species not possessing Rhipidipathan characters have a type of polyps found also in that group, and *vice versa*. I have not been able to study the polyps of *Antipathes flabellum*, the only specimens available being dry, as in most of the species referred to. In *Antipathella assimilis*, n. sp., the form of the reticulate corallum is almost identical with that of *Antipathes reticulata*, Esp. The polyp of this species is rounded or oval and is provided with six tentacles, two of which, those at each extremity of the mouth, are usually, though apparently not always, inserted at a lower level than the other four. According to Pourtalès the zooids of *Antipathes tristis* have a similar form and arrangement of the tentacles. This type of polyp is by no means confined to species presenting fusions between different parts of the axis, but is seen typically in *Antipathes subpinnata*, Ellis and Solander, and other laxly pinnate types. *Aphanipathes cancellata*, n. sp., has quite a different form of polyp—a type which Pourtalès has termed sessile. The polyp is oval and so short that it is almost hidden amongst the spines of the sclerenchyma, which often project through the ectoderm in spirit specimens, as is figured by Pourtalès in the case of *Antipathes humilis*. Here again this type of polyp is by no means confined to the species of the genus *Rhipidipathes*, but is common to *Aphanipathes sarothamnoides*, n. sp., and a number of non-reticulate species from the West Indies described by Pourtalès. It is true that in *Rhipidipathes flabellum*, and also in two or three new species which are probably allied to it, the reticulum is formed in a different manner to that of either *Aphanipathes cancellata* or *Antipathella assimilis*, and at present we know nothing of the polyps of these types. Unless, however, they should ultimately prove to have a form of zooid unlike any yet described, the generic name *Rhipidipathes* ceases to have any systematic value. I have not retained it here, because it would be necessary to use it in a restricted sense, and in the absence of further information on the subject it seems advisable so far as possible to refer all species of which the zooids are not known to the genera with which they seem to have most in common.