

contrast in thickness between the branches and branchlets as is figured by Morison, and as Pallas refers to this figure, it is to be presumed that his type specimen agreed with it.

The species *Arachnopathes paniculata*, Duchassaing and Michelotti, and *Arachnopathes columnaris*, Duchassaing, referred to the genus *Arachnopathes* by the authors, appear to me to have no place there. The former species, judging from the figure, is a form allied to *Antipathes gracilis*, Gray, and is one of the fan-like species, in which the branches are less confluent than in typical *Rhipidipathes*. *Arachnopathes columnaris*, of which Pourtalès has given us a photograph, has a similar corallum and polyp (?) to *Antipathes larix*, Esper, and has been provisionally referred to *Parantipathes*, n. gen. Fusions occur occasionally between the branches, but it must be remembered that in this type the stem is simple, and therefore the typical *Arachnopathes* form, brought about chiefly by fusion between branchlets belonging to *adjacent branches*, cannot occur. The reticulum to which Duchassaing refers forms a tube for a parasitic worm, and its presence is therefore neither generic nor specific, but depends on the presence of the parasite.

In the systematic portion of this Report I have temporarily retained the name *Arachnopathes* as generic, in order to link together the three species *Arachnopathes ericoides*, *Arachnopathes clathrata*, and *Arachnopathes aculeata*, until more detailed information is obtained regarding them.

*Rhipidipathes*.—Milne-Edwards gives the following definition of this genus:—“Polypier sclérobasiqne dont les branches s'étalent sur un même plan en forme d'éventail et se soudent entre elles aux points de contact, de façon à constituer un réseau.” At the time only two species had been described which were considered referable to this genus, viz. :—*Antipathes flabellum*, Pallas, and *Antipathes reticulata*, Esper. Gray in a paper published about the same time (40), and other authors more recently, have described quite a number of species which possess in a more or less marked degree the characters referred to. One of the Challenger species (*Aphanipathes cancellata*) shows a closer and more regular network than *Antipathes flabellum*, Pallas. Starting with this species as the one in which the network is most complete, one may trace this character through a number of forms in which it is less and less marked until finally the original feature has entirely disappeared. Such a series might include *A. cancellata*, *A. flabellum*, *A. hypnoides*, *A. reticulata*, *A. gracilis*, *A. paniculata*, D. and M. (*non* Esper), and *A. tristis*. To begin with, the reticulum is formed by bridges of sclerenchyma which pass across from branch to branch, giving a more or less rectangular network, the sides of the meshes being subequal in thickness. In other forms a similar result is obtained by fusion between pinnules of adjacent branches and a general confluence of the stouter portions of the corallum. In *A. hypnoides* one begins to find the terminal pinnate branchlets free, and not showing the fusions so abundant in other parts. From this type onwards in the series there is a gradual increase in the size of the terminal fronds in which fusions do not occur, until in