

position, at any rate show that it cannot belong to the genus *Hyalopathes* as defined by Milne-Edwards. The axis is not smooth, neither is it semi-hyaline. With regard to the glassy appearance of the black sclerenchyma, it may be stated that this is a character of frequent occurrence amongst the Antipathidæ, and one which has no generic value. The same appearance was noted by Marsigli in his description of the species which we now know as *Antipathes dichotoma*, Pallas. I have also observed it in several species of *Cirrhopathes* and other forms, and, so far as could be ascertained, this aspect is not constant in all the specimens of a species, but appears to depend to some extent on age. So far as can be ascertained from Haeckel's figure and description, this species differs from any other with which I am acquainted in the arrangement of the zooids on the corallum. In other branched forms the zooids are almost invariably arranged in a single linear series on the branches and branchlets. In Haeckel's figure the corallum is represented as very thick in proportion to its length, and the branches do not appear to taper much. The zooids are relatively small, radiate in outline, and not confined to one aspect of a branch. They are a considerable distance apart, and apparently distributed irregularly at any point around the axis. The thickness of the corallum and the shape and arrangement of the zooids recall the characters of the genus *Cirripathes* as modified in the present Report, but the corallum in this species is branched. On account of the fact that we are still ignorant of the structure of the zooids and the arrangement of the spines, I have temporarily included this species amongst a group of others which are too imperfectly known at present to have a definite position assigned to them.

In accordance with this arrangement I propose to drop the generic name *Hyalopathes*, which should be regarded as a synonym of *Iridogorgia*, Verrill. Of the three species comprised in it, the type species is not an Antipatharian; another which does not possess the generic characters is probably closely allied to *Cirrhopathes*, whilst we know too little of the third to assign it any definite position.

The remaining species of the old genus *Antipathes*, Pallas, are divided by Milne-Edwards into three genera, the characters of which depend solely on the mode of branching, and the presence or absence of fusions between adjoining parts of the corallum. He retains the name *Antipathes* for those forms which appear to be without fusions, and divides those in which fusions are frequent into two sections. The name *Arachnopathes* is suggested for those in which the corallum forms a more or less thick confused mass, the branchlets of which are distributed all around the branches, that of *Rhipidipathes* for the flattened fan-like forms, in which the extension of the colony takes place chiefly in one plane.

It has been admitted on all sides that genera of Antipatharia based solely on skeletal structures must be more or less artificial, and Milne-Edwards himself anticipated that further researches would necessitate a modification in his arrangement. Unfortunately we do not yet possess all the information necessary for a proper elucidation of the