

group. It will, however, be interesting to ascertain what precise bearing the new facts here brought forward have on the arrangement of Milne-Edwards from two points of view. First it will be instructive to ascertain whether in the light of more recent researches it will be possible to retain the generic names given by Milne-Edwards, and secondly we may arrive at some conclusion as to how far a particular mode of branching appears to be of generic value. For this purpose it appears more convenient to consider the more restricted genera first.

*Arachnopathes*.—The following is Milne-Edwards' definition of his genus *Arachnopathes*:—"Axe sclérobasiq ue se divisant en une multitude de branches très grêles que se dirigent en divers sens et se soudent entre elles aux points de rencontre, de façon à constituer des réseaux dont la réunion forme une touffe arrondie. Tissu sclérobasiq ue noir et opaque." He includes only two species, viz.:—*Arachnopathes ericoides* (Pallas), and *Arachnopathes clathrata* (Pallas). If I have been correct in my identification of the former species, its mode of branching is precisely that described by Milne-Edwards, and the whole corallum lacks the apparent flatness shown in Esper's plate. A small fragmentary specimen in the British Museum collection may be the *Antipathes clathrata* of Pallas, but if so does not show the marked difference in thickness between the branches and branchlets to which Milne-Edwards refers. This specimen agrees with the former in consisting of a thick dense mass of branchlets all fused into one firm network, but there is not the same marked spiral arrangement of the branchlets as in the former species. A third form here described as new (*Arachnopathes aculeata*) has precisely the same thick matted corallum as the two former species, but in this case the branchlets, although frequently collected into groups, are chiefly confined to one margin of the branches. These three species undoubtedly have a peculiar form of branching in common, and one, too, which is not found in any other described species, so far as I have been able to make out from the frequently scanty descriptions available. The polyps are not known in any of the species, so that whether in this case a particular type of polyp is associated with this peculiar corallum, I am unable to say at present. A much branched type in the Challenger collection (*Antipathella contorta*) is certainly in some respects closely allied to *Arachnopathes clathrata* (Pallas). It shows the same marked contrast between the thickness of the branches and the innumerable needle-like branchlets which spring from them, as is figured by Morison (6). In the Challenger species, however, there appears to be no regular fusion between the slender branchlets in the manner indicated by Morison. The polyps of this species do not appear to differ in any important respect from those of other members of the genus *Antipathella*. I have not seen a specimen which I could with certainty refer to *Arachnopathes clathrata* (Pallas), and, so far as I am aware, it has not been identified by subsequent investigators. A specimen in the British Museum, which agrees fairly well with the original description, does not show such a marked