

to this species is really a larger and more densely branched form of *Antipathes filix*, Pourtalès. In this, his last work on the subject, five new species are described, and a sixth, *Antipathes eupteridea*, Lamouroux, was met with apparently for the first time since the species had been described by Lamouroux from a Martinique specimen over fifty years previously. Amongst the new forms described, *Antipathes salix*, *Antipathes rigida*, and *Antipathes thyroides* have a similar polyp to that of *Antipathes humilis*, Pourtalès, and the two former are probably only varieties of the same species. *Antipathes picea* appears to possess a type of polyp not previously described. The oral cone forms a prominent rounded knob, the mouth apparently being very small in spirit specimens, and the tentacles, arranged somewhat in pairs, are flattened and have a crenate margin. Finally, *Antipathes tanacetum* agrees precisely with *Antipathes picea* in the mode of branching, but has much more elongate spines. The polyps in this specimen were too badly preserved to show the arrangement of parts. The true *Cirrhopathes desbonni*, Duchassaing and Michelotti, is also recorded.

Portalès is the first and indeed almost the only author who has given us figures of the arrangement of spines in all the species described. His plates also include figures of the polyps of seven species.

In 1871 he advocated the removal of *Gerardia lamarcki* from amongst the Antipatharia, and suggested that it should be included amongst the Zoanthidæ as the type of a new subfamily. He then argued that the polyps of *Gerardia* differ in no particular from those of the Zoanthidæ in the arrangement, number, or shape of the tentacles, and even agree with that group in the habit of encrusting the derm with small foreign bodies. He at the same time pointed out that this genus has no other relationship with the Antipathidæ than the property of secreting a horny axis. He calls attention to the fact that the genera of Antipathidæ as at present defined are based solely on the solid parts, and adds :—

“ It has seemed to me, however, that two distinct types of polyps could be distinguished, the one well circumscribed, flower-shaped, symmetrically radiate, with long tentacles ; the other so elongate longitudinally that the radiate shape is quite indistinct, the six tentacles being disposed in pairs at some distance from each other.” At the same time he points out that amongst the few species examined there appeared to be no connection between the form of the polyp and the general shape of the corallum.

Throughout all his papers Pourtalès uses the name *Antipathes* as the sole generic designation, but in the last of the series makes an attempt to use the difference in the shape of the polyps, and in the disposition and form of the spines, to draw characters for a revision of the group.

He calls attention to the fact that there are at least two different types of spines, and that these are usually associated with a different form of polyp. In the one type the