Zoology Part LXXX: Report on the ANTIPATHARIA. By George Brook. Bound in Volume 32,1889.

Haeckel, in his Arabische Korallen (**59**), gives a figure of a living colony of *Antipathes corticata*, Lamarck, but unfortunately only gives a few words in explanation of the plate. He also refers to *Gerardia lamarcki*, and copies Lacaze Duthiers' figures. No new species are described.

Klunzinger (**60**) in 1877 recorded the occurrence of *Cirrhipathes anguina*, Dana, in the Red Sea, and also called attention to another species, *Antipathes isidisplocamos*, first observed in the Red Sea by Ehrenberg. Fragments of the stem are figured, and Klunzinger discusses the probable identity of a specimen, figured as *Antipathes compressa* by Esper, with this species. The specimen is, however, too imperfect to admit of proper identification, and may be the base of any of the larger species already described. It may nevertheless prove to be a distinct species, but in the absence of more detailed information it must temporarily be included amongst the *species dubiæ*.

Studer (**65**) in 1878 gave notes of two species of Antipathidæ collected during the "Gazelle" Expedition, viz., *Antipathes fæniculum*, Lamarck (? *Antipathes fæniculacea*, Pallas), off West Australia and Mermaid Straits, in 45 to 50 fathoms, and *Antipathes pinnatifida*, Lamouroux, Mermaid Straits, in 50 fathoms. He also mentions the occurrence of broken portions of a large stem, from 900 fathoms, too fragmentary for identification.

G. v. Koch (**62**), in a paper on the Phylogeny of the Antipatharia, first gives an account of the structure of *Antipathes larix*, and calls attention to the fact that the pinnules arise at right angles to the stem and are disposed in six longitudinal rows. The polyps are placed in a single row on the superior surface of each pinnule, and are elongated in the direction of the pinnules. The mouth is situated on a conical or cylindrical projection from the peristome, and its aperture is usually oval, with the longer axis directed transversely. He describes ten mesenteries in the œsophagus which are unequally developed, only two being complete. These correspond with the long axis of the polyp, and divide it into two symmetrical halves. Four others, not so fully developed, are placed two on each side, so that each chamber corresponds with a tentacle. Four others still more rudimentary "kaum in den Magenraum hereinragende Scheidewände sind so angeordnet, dass sie der Längsachse zunächst stehen." All the mesenteries consist of a thin hyaline layer of connective tissue, which is clothed on both sides by entoderm. In the base of the polyp there is a longitudinal septum having a dilation at its free extremity, in the cavity of which the sclerobasic axis is contained. This is surrounded by an epithelium from which it is derived, and which is probably a portion of the ectoderm.

Koch next describes what he regards as a new genus (*Gephyra*) of Zoantharia, which appears to link closely the Antipatharia with the Actiniaria. The polyps of this species, named *Gephyra dohrnii*, have eighty or more tentacles which can be retracted, as in many Actiniæ and in *Gerardia*. They are found singly or in colonies, parasitic on

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