branched as well as unbranched types. Thus, as Milne-Edwards points out, the simple elongate character of the axis is the only feature, in the absence of a fuller knowledge of the polyps, which separates this genus from the other Antipathidæ. This is the character which has been regarded as generic by subsequent investigators. *Antipathes spiralis*, Pallas, constitutes the type of the genus, but unfortunately we have at present no certain knowledge of its polyps, excepting such as may be surmised from the drawings in Ellis and Solander's Zoophytes. These, which only include the mouth and tentacles, appear to represent a rounded polyp with the tentacles arranged in a radiate manner—the form of polyp indeed which one has been accustomed to regard as typical of the Antipathidæ. Whether the polyps were arranged in a single row along the axis as in typical *Antipathes*, or all around the axis as in *Cirrhipathes anguina*, Dana, is uncertain, as Ellis gives no information on the point. An especially interesting feature of the drawings, and one which has given rise to frequent comment, is the curious cup-shaped mouth with a crenate margin, a form of oral aperture which does not appear to be shared by the species subsequently studied by Lacaze Duthiers and G. v. Koch. From a study of allied forms I am inclined to believe that this is a natural feature of the species, somewhat exaggerated, and not an altogether artificial appearance, as some have supposed. At any rate, in *Cirrhipathes propinqua* we have a type of oral cone, which with a little exaggeration (possibly in Ellis' case due to maceration of previously dried specimens) would agree fairly well with the drawings referred to. Pourtalès (**71**) in 1880 described and figured a species which he regarded as possibly identical with *Antipathes spiralis*, Pallas—a form which he had previously looked upon as a spiral variety of *Cirrhipathes desbonni*, Duchassaing and Michelotti. The polyps as described and figured by Pourtalès are quite unlike those of any species known at the time. The tentacles are long, fleshy, finger-like processes which do not usually shrink much in spirit and are evidently non-retractile. The polyps appear alternately large and small, and are arranged on one side of the stem only. By a comparison of the drawings and description of this form with specimens of *Cirrhipathes spiralis* from the East Indies (the original habitat), I have convinced myself that, irrespective of the structure of the polyps, the two forms are distinct. Pourtalès indeed was doubtful of their identity, but had no means of comparison at the time.

The only other species of *Cirrhipathes* previously described of which any account is given of the polyps is the *Cirrhipathes anguina* of Dana, a form which he regarded as probably identical with *Palmijuncus anguinus*, Rumphius (*Cirrhipathes Sieboldi*, Blainville). This is a species having rounded polyps with radiately arranged tentacles. The polyps are not alternately large and small as in Pourtalès' species, but subequal and disposed all around the axis instead of in linear series. Haeckel has since figured a similar arrangement in *Antipathes corticata*, Lamarck. Between Dana's type and that of Pourtalès there is a marked difference both in structure and arrangement—a difference probably sufficient to be of generic value. The question now arises, does *Antipathes spiralis*,