

with a well-marked dextrorsal curvature. They are very closely packed, and arranged subspirally around the axis. The arched branches bear a double alternate row of branchlets on the antero-lateral margins, which in turn bear a number of simple or branched pinnules on the anterior margin. The paniculate branches may be 6 cm. long and 4 cm. across the branchlets. The stem may be 60 cm. or more in length. The length of the branches does not always bear a definite relation to the length of the stem. There are several specimens of this species in the British Museum. Two from Mauritius are 60 cm. long; one has a diameter across the branches of 12.5 cm., the other only 9 cm. In the former the stem bifurcates near the apex, in the latter the stem is simple. In other cases the stem may be continued in a vertical direction, and give rise to from two to four strong branches of no great length, each of which bears the same arrangement of branches and branchlets as the main stem. The diameter of the corallum varies little, excepting near the apex, where the branches gradually become shorter. This species, on account of its closely-set paniculate branches, has a general resemblance to a bottle-brush. It may readily be distinguished from other species having the same type of corallum by its arched branches, all of which have a marked dextrorsal curvature. The spines are subcylindrical and slightly hooked upwards, the lower margin distinctly convex, the upper only slightly concave, having a length about equal to half the diameter of the axis. They are arranged in irregular dextrorse spirals, and also in longitudinal rows, six or seven of which may be seen from one aspect. The members of a row are separated from each other by a space equal to or exceeding the length of a spine (Pl. XI. fig. 21). Zooids not known.

Var. *paniculata*, Esper.

Under the name *Antipathes paniculata*, Esper described a form similar to the typical *Antipathes abies* but having more elongate branches. Lamarck considered this form to be referable to *Antipathes cupressina*, Pallas (= *Antipathes abies* (Linn.)), but Dana thought the two forms might be distinct. A specimen in the British Museum referable to Esper's species is 48 cm. long. It differs only from typical *Antipathes abies* (Linn.), in having longer and more lax branches, the basal portions of which are usually devoid of branchlets. The arrangement of spines is the same in both forms. The branches vary from 8 to 18 cm. in length. On account of the greater and more irregular development of the branches, this form does not at first recall the "bottle-brush" type, but can only rank as a variety.

*Habitat*.—Type.—Indian Ocean (Pallas); Banda Sea, &c. (Esper); Philippines (Gray), Mauritius, 70 fathoms (Brit. Mus.).

Var. *paniculata*.—Banda Sea (Esper); Ceylon (Ondaatje), Brit. Mus.