

ZOOLOGY.—*A new species of the gorgonacean genus Ainigmaptilon Dean (Coelenterata: Octocorallia).*<sup>1</sup> FREDERICK M. BAYER, U. S. National Museum.

Carlgren (1943) has recently published a study of the peculiar octocorallian genera *Ainigmaptilon* Dean and *Lycurus* Molander, in which he reached the conclusion that the two are identical, with Dean's name taking precedence. At the same time he described the new species *Ainigmaptilon wallini*, bringing the number of known forms to four. He also was of the opinion that the genus should be treated as a special family rather than as a subfamily of the Primmoidae as proposed by Molander (1929), and with this view I thoroughly agree. A very distinct new species of *Ainigmaptilon*, which presents additional evidence that Carlgren's interpretation is correct, was collected for the Smithsonian Institution by Cmdr. David C. Nutt during the U. S. Navy Antarctic Expedition, 1947-48.

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Family AINIGMAPTILIDAE Carlgren, 1943

Lycurinae Molander, 1929, p. 70.

Ainigmaptilonidae Carlgren, 1943, p. 7.

*Diagnosis.*—Gorgonaceans with more or less strongly calcified horny axis; polyps borne on expanded, unsupported, simple or branched "polyp-leaves"; spicules as thin scales; operculum developed.

Genus *Ainigmaptilon* Dean

*Ainigmaptilon* Dean, 1926, p. 337; Carlgren, 1943, p. 1.

*Lycurus* Molander, 1929, p. 66.

As has been pointed out independently by the authors of both names for this genus, *Ainigmaptilon* bears a striking superficial resemblance to certain pennatulids: the polyps are carried on biserial, leaflike, branched or unbranched lateral outgrowths without axial support, as in *Virgularia*. This pennatulidlike effect was heightened, in the first specimen described, by the absence of a horny axis (which had probably been torn out when the colony was dredged from the

bottom). In spiculation, however, members of this genus clearly show affinity with the Primnoidae. The sclerites are thin scales, and the polyps have an operculum of eight specialized circumtentacular scales. The polyp body-scales are either arranged more or less clearly in eight longitudinal rows, or are irregularly scattered. The axis is strongly calcified and iridescent, at least in the new species here described. The stem terminates proximally in a funnel-shaped expansion which, when filled with mud, must serve as an effective anchor. This feature has been carefully described by Carlgren (1943, p. 2) for *A. wallini*; the rootlike base of *A. virgularoides* described by Molander (1929, p. 66) is also thought by Dr. Carlgren to be the remains of a funnel-like base. A well-formed funnel is present in *A. edisto*, n. sp., and it seems likely that a similar modification of the base occurs also in the other species.

*Type* (by monotypy).—*Ainigmaptilon haswelli* Dean.

*Distribution*.—Antarctic and Subantarctic, circumpolar: *A. haswelli* was taken at 66° 55' South, 145° 21' East, off King George V Land (512–549 m); *A. wallini* in the Ross Sea, near Discovery Inlet (550 m); *A. antarcticum* and *A. virgularoides* at lat. 64° 36' S., long. 57° 42' W., off Snow Hill Island (125 m) and the latter also at lat. 54° 17' S., long. 36° 28' W., off South Georgia (75 m); and *A. edisto*, n. sp., at lat. 65° 25' S., long. 101° 13' E., off Queen Mary Land (182 m).

***Ainigmaptilon edisto*, n. sp.**

*Diagnosis*.—Colony unbranched; proximal end of stem furnished with a funnel-shaped expansion; axis heavily calcified, round, irregularly grooved longitudinally, light yellowish with pearly iridescence. Polyps borne on broad, bifid polyp-leaves which are opposite on the stem, in two lateral rows; opercular scales oval, with a very long, slender, smooth distal spine; no differentiated marginal (circumopercular) scales; body scales irregular, elongate, arranged longitudinally but not in eight rows. Coenenchyma of polyp leaves and stem densely packed with elongate, irregular scales.

*Description*.—The type (Fig. 1), a unique specimen, is broken; it consists of the base and lower part of a colony, 200 mm in length, together with 80 mm of naked axis (lacking the distal tip), and the apical 15 mm of the colony (lacking the axis);

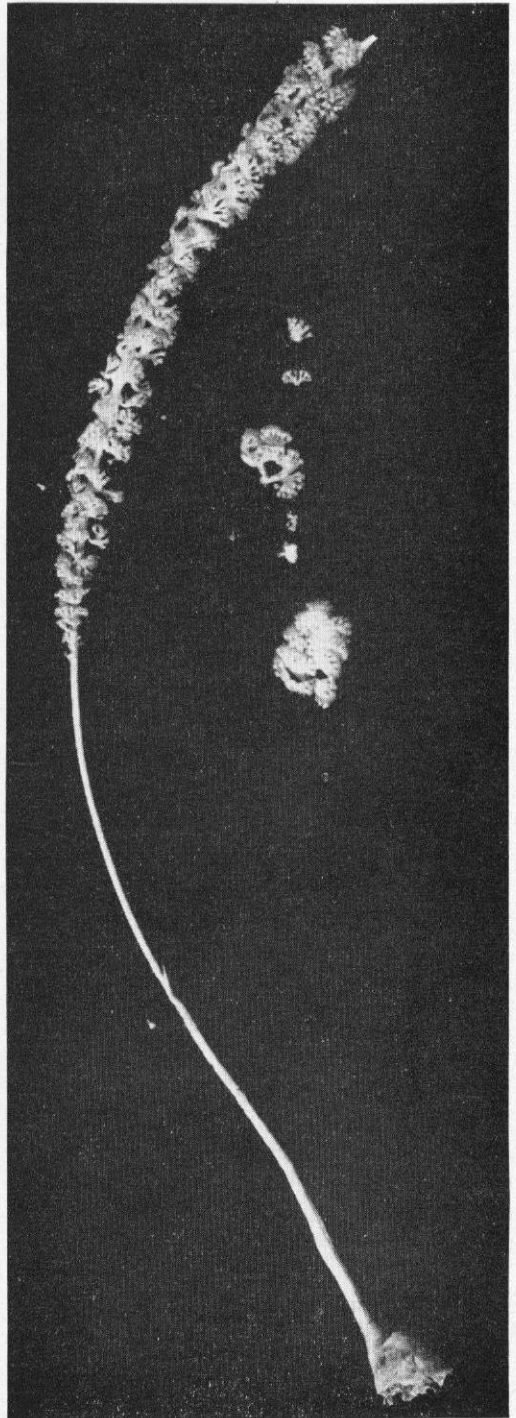


FIG. 1.—*Ainigmaptilon edisto*, n. sp.: The type specimen, about natural size. (Smithsonian Institution photograph.)

the entire colony must therefore have measured something over 295 mm in length. The polyp-leaves, which begin about 105 mm from the base, are opposite, in two series which incline a little toward one side of the axis. The leaves of the four proximal pairs are indistinctly bifid, and the polyps are placed along their free margins in a single row. The leaves of the more distally placed pairs are clearly bilobed (Fig. 2, *f*), with the polyps arranged along their free margins in two more or less distinct rows, usually numbering  $\pm 15$  on each lobe. On the leaves in the distal third of the colony, extra polyps are intercalated between the two marginal rows, increasing in abund-

ance on the more distally situated leaves until, in the terminal 15 mm, all the leaves have three rows and sometimes the beginning of a fourth. The polyps themselves (Fig. 2, *e*) are 2.5 to 3.0 mm tall from base to tip of opercular scales. The opercular spicules are well differentiated, elongate oval scales with irregularly dentate margins, sculptured with small warts, and furnished with an extremely long, smooth distal spine (Fig. 2, *a*). The body scales are irregular, elongate, finely warted but with a border practically devoid of sculpture (Fig. 2, *b*); they are arranged longitudinally, not in eight rows, closely and irregularly packed. Sclerites of similar form are found

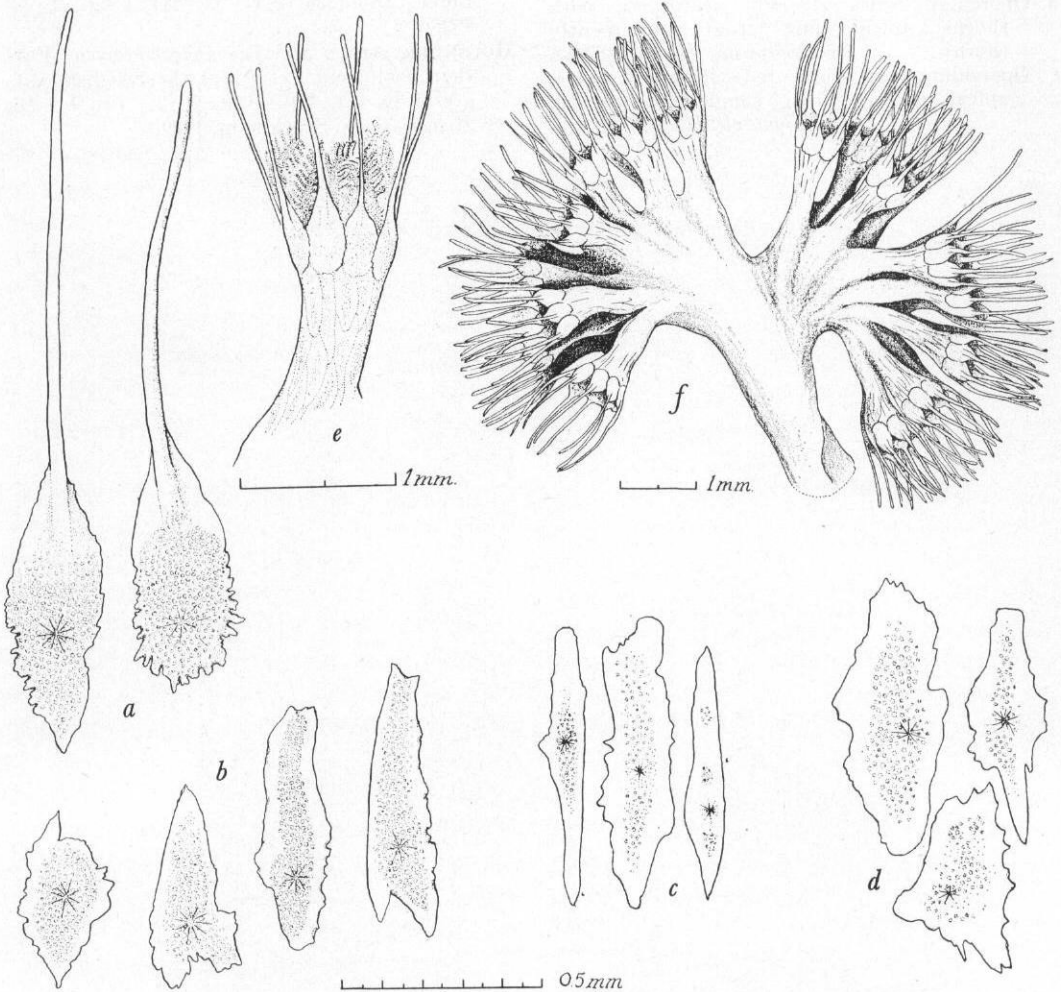


FIG. 2.—*Ainigmaptilon edisto*, n. sp.: *a-d*, Spicules (*a*, two operculars; *b*, four body scales; *c*, three scales from a polyp-leaf; *d*, three scales from the stem rind); *e*, single zoid; *f*, polyp-leaf from above the middle of colony, showing two rows of zooids on the right lobe, and an incomplete third row on the left lobe.

thickly set in the walls of the polyp-leaves (Fig. 2, *c*) and in the stem rind (Fig. 2, *d*). The color of the colony is cream white.

*Type*.—U. S. N. M. no. 49580.

*Locality*.—Lat. 65° 25' S., long. 101° 13' E., 100 fathoms; water temperature (surface) 30° F.; January 14, 1948, collected by Cmdr. D. C. Nutt, U. S. N. R., aboard the U. S. S. *Edisto*.

#### KEY TO THE KNOWN SPECIES OF AINIGMAPTILON

1. Polyp-leaves simple.
  - Ainigmaptilon virgularoides* (Molander)
  - Polyp-leaves subdivided or branched . . . . . 2
2. Opercular scales with prominent apical spine 3
  - Opercular scales more or less acutely pointed but without a long projecting spine . . . . . 4
3. Opercular scales strongly sculptured with thorns; apical spine stout, prominently thorny . . . . . *Ainigmaptilon haswelli* Dean
  - Opercular scales sculptured with small warts; apical spine very long, slender and smooth. *Ainigmaptilon edisto*, n. sp.

4. Opercular scales more or less regular isosceles triangles; stem rind and all surfaces of polyp-leaves filled with sclerites.

*Ainigmaptilon wallini* Carlgren

- Opercular scales oval-triangular, with bluntly pointed apex; polyp-leaves with spicules only around base and on under surface; stem rind with very few spicules.

*Ainigmaptilon antarcticum* (Molander)

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