

SMITHSONIAN MISCELLANEOUS COLLECTIONS
VOLUME 91, NUMBER 25

Johnson Fund

REPORTS ON THE COLLECTIONS OBTAINED BY THE FIRST
JOHNSON-SMITHSONIAN DEEP-SEA EXPEDITION
TO THE PUERTO RICAN DEEP

A NEW ACTINIAN

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A NEW ACTINIAN

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The collection of actinians made by the first Johnson-Smithsonian Deep-Sea Expedition to the Puerto Rican Deep, sent to me for report, contained only two species, namely, *Leipsiceras (Bolocera) pollens*, rather briefly described by McMurrich, and a new species belonging to a new genus, which I am here calling *Halcampogeton*.

Family HALCAMPOIDIDAE

HALCAMPOGETON, n. gen.

Body elongated, divisible into physa, scapus, and capitulum. Scapus with 12 longitudinal rows of solid papillae containing very large nematocysts. No sphincter. Tentacles more or less cylindrical, ordinary long, hexamerously arranged, few. No siphonoglyphs. Mesenteries hexamerously arranged, few, probably never more than six pairs. Pennons of the stronger mesenteries concentrated, on slides more or less kidneylike. Parietal muscles strong. At least the eight "Edwardsia"-mesenteries fertile. Nematocysts large.

The species is separated from all other halcampsoids by the presence of the solid papillae on the scapus and the extraordinarily large nematocysts, especially in the papillae.

Genotype.—*Halcampogeton papillosus*.

HALCAMPOGETON PAPILLOSUS, n. sp.

Body cylindrical. Papillae in each row about 20 or more. Tentacles and mesenteries 12. Only the eight "Edwardsia"-mesenteries provided with pennons and fertile. Pennons with numerous partly very ramified folds. Parietal muscles with the strongest folds inward, short but broad folds outward. Nematocysts of the papillae 96-108 x 5-5.5 μ , rather numerous, those of the tentacles 58-67 x about 4.5 μ , very numerous, those of the actinopharynx partly 53-60 x about 4.5 μ , partly 38-41 x 4.5-5 μ , those of the filaments partly 36-41 x 4.5-5 μ , partly

19-26 x 3-3.5 (4) μ (probably penicilli). Spirocoridae (spirocysts) of the tentacles 22-50 x about 2.5-7 μ .

Color in alcohol: Scapus brown, papillae at their apex uncolored. Size: Length of the body 1.5 cm, largest breadth 0.45 cm, length of the tentacles about 0.3-0.4 cm.

Holotype.—U.S.N.M. no. 43238.

Occurrence.—Station 100, northeast of Puerto Rico (lat. 18°40'15" N., long. 64°50'15" W.); 150 fathoms; 1 specimen.

The single specimen was not well preserved. The scapus had burst in some places, with ejected filaments; probably two tentacles were lost; the actinopharynx was evaginated; and the pennons of the

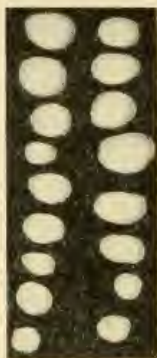


FIG. 1.—*Halcamptogeton papillosus*.
A piece of the scapus with two rows
of papillae.

mesenteries were mostly loosened from the parietal muscles. I think, however, that the description here given is in the main correct.

The column is divisible into three regions, a rounded physa, a long scapus, and a short, thin part, capitulum (or possibly scapulus). The scapus is provided with 12 rows of very distinct and rather high but solid papillae (fig. 1), diminishing in size proximally. The ends of these papillae are flat and broad and their ectoderm considerably higher and of other structure than that of the other parts of the scapus. The apex contains mainly gland cells and rather numerous but very large nematocysts and is not pigmented; the other parts of the scapus-ectoderm are provided with a brownish pigment and exceptionally few but smaller nematocysts. I am not sure that the nematocysts I have found in the macerated preparations really belong to the scapus. The mesogloea of the scapus is thick, especially in the papillae; in the capitulum, thin. There is no sphincter. The tentacles were 10, but as

a part of the capitulum and oral disk was torn off, there may have been 12, possibly arranged in a single cycle. They are cylindrical, with their apex acuminated and rather robust. The structure of the tentacles shows nothing extraordinary. Their longitudinal muscles and the radial muscles of the oral disk are ectodermal and well developed. The evaginated actinopharynx is provided with 12 longitudinal ridges supported by folds of the mesogloea. The ectoderm is high and provided



FIG. 2.—*Halcamptogeton papillosus*. Transverse section of the pennon of a dorsolateral mesentery.

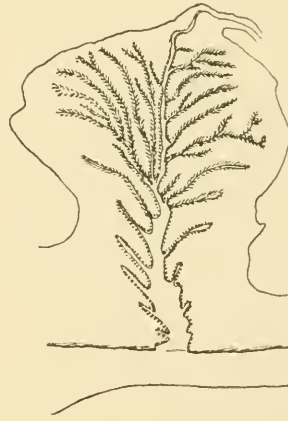


FIG. 3.—*Halcamptogeton papillosus*. Transverse section of a parietal muscle in the region of the actinopharynx.

with numerous gland cells, its mesogloea thin. There are no distinct siphonoglyphs. There are 12 mesenteries below the actinopharynx and probably not more in the distal part of the body. I have cross-sectioned a piece containing six mesenteries in the region of the tentacles. Of these, the dorsal directives and three others were perfect; one, forming a pair with a perfect dorsolateral mesentery, was imperfect and without pennon. To judge from the arrangement of these mesenteries, there is no second cycle of mesenteries here and only the "Ed-

wardsia"-mesenteries are perfect and provided with pennons. The pennons (fig. 2) are concentrated and more or less kidneylike in cross-sections, the muscle folds often much ramified. The outer lamellar part of the perfect mesenteries is attached to the pennons on their outside. The parietal muscles present on all 12 mesenteries are strong, the supporting folds of the mesogloea are thin and rather much ramified on the inside, coarse and few on the outside (fig. 3). The parietal muscles are not expanded on the column. The ciliated tracts of the filaments are well developed. Only the 8 "Edwardsia"-mesenteries are provided with testes which are well developed.