TWO NEW SPONGES FROM THE CHESAPEAKE BAY

By H. V. Wilson

The U. S. Bureau of Fisheries has been making in recent years under the direction of Professor R. P. Cowles of Johns Hopkins University an ecological survey of Chesapeake Bay. Among the sponges intrusted to me for identification are the two new forms described below.

Suberites paradoxus n.sp.

The upper body of the sponge is a flat continuous lamella about one millimeter thick, perforated here and there by small apertures; from this upper body flattened and very areniferous downgrowths extend, establishing through anastomosis with one another a coarse honeycomb-like structure. The lamellate main body apparently rests upon the sea bottom while the honeycomb-like structure, which may extend 20 mm. or more below the main body, is probably more or less buried in the muddy sand on which the sponge grows. The flattened trabeculae composing the honeycomb-like structure seem at first sight to be made up chiefly, if not entirely, of sand. Sections show however that they are really plates of sponge tissue with abundant sand grains in the interior, the sponge tissue including flagellated chambers, mesenchyme cells that are especially abundant near the surfaces, and numerous spicules scattered irregularly.

The upper, lamellate, body is densely filled with megascleres. At the dermal surface these are arranged radially with the pointed ends outward and not projecting or barely projecting beyond the surface. Below these the spicules are irregularly scattered except that near the basal surface they tend to lie more or less tangentially. Mesenchyme composed of small and closely packed cells is abundant at (near) both dermal and basal surfaces.

The only spicules are tylostyles, smooth, sharp-pointed, slightly curved, with well marked heads. They range from 220μ x 7μ to 350μ x 8μ. The radial spicules at the surface of the upper body average a somewhat smaller size than those in the deeper part of the lamella. The range in the former is about 220μ to 300μ in length, in the latter 280μ to 350μ in length.

Dendy, 1921 p. 147, records a form, *Suberites cruciatus* Dendy var. *depressa* nov., from the Indian Ocean which, like the species described above, takes into its body some of the mineral material on which it rests. Dendy's variety is based on a sponge of thinly incrusting habit which "covers somewhat extensively an irregular mass of calcareous débris which it partially incorporates in its own substance."

The material, fragmentary although showing the character of the form, was taken in Chesapeake Bay by the U. S. Bureau of Fisheries Str. *Fish Hawk* at U. S. B. F. station 8824, 7–8–1920, in beam trawl and mud-bag. The holotype is deposited in the U. S. National Museum, Cat. No. 22064.

Tetilla laminaris George and Wilson, var. *symmetrica*, n. var.

In the type (George and Wilson 1919, p. 142) the body is a vertical lamella rooted by its lower edge. The radial skeletal fibres extend out from a fairly well marked mesial skeleton made up of fibres which pursue in the main a vertical direction.

In the variety here recognized the shape is roughly ellipsoidal, the long axis vertical; a small terminal osculum at the upper end and root-tufts at the lower end. Correlated with this difference in shape from the type is the arrangement of the main skeletal fibres which radiate from an eccentric point situated above the centre of the body. The sponges are pinkish in alcohol and smooth. Little emphasis should, however, be placed on the smoothness, since sections show that most of the spicules of the peripheral radial brushes have been broken off just beyond the surface. The largest specimen is 45 mm. high, greatest transverse diameter 24 mm. The smallest specimen, exclusive of root-tuft, is 24 mm. high, greatest transverse diameter 13 mm.

The megascleres present only differences in size, and not important ones, from those of the type. The sigmas of the two forms do not differ.

The relationship of this variety to *T. gravata* Hyatt (Sollas 1888, p. 46) is probably close. Hyatt's specimens came from Buzzard's Bay. Lendenfeld in his Tierreich synopsis of the Tetraxonia (1903) does not record *T. gravata*.

Three specimens taken in Chesapeake Bay at U. S. B. F. Station 8982 by U. S. B. F. Str. *Fish Hawk* in beam trawl, 4–2–1921. Holotype and the two co-types deposited in U. S. National Museum, Cat. No. 22065.

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REFERENCES

DENDY, A. 1921. Report on the Sigmatotetraxonida collected by H. M. S. *Sea-lark* in the Indian Ocean. Trans. Linnean Society of London, Vol. xviii, Part I.

GEORGE, W. C., AND WILSON, H. V. 1919. Sponges of Beaufort (N. C.) Harbor and Vicinity. Bulletin U. S. Bureau of Fisheries, Vol. xxxvi.

LENDENFELD, ROBERT VON. 1903. Das Tierreich. Porifera Tetraxonia. Berlin. Friedländer u. Sohn.

SOLLAS, W. J. 1888. Report on the Tetractinellida collected by H. M. S. Challenger. In: Report on the scientific results of the voyage of H. M. S. *Challenger* during the years 1873–76. Zoology, vol. xxv.