

# FRESH-WATER SPONGES COLLECTED IN THE PHILIPPINES BY THE ALBATROSS EXPEDITION.

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During the recent expedition of the Bureau of Fisheries steamer *Albatross* to the Philippine Islands a number of fresh-water sponges were collected, which have been referred to me by Dr. Hugh M. Smith, of the United States Bureau of Fisheries and are here reported on.

## Genus SPONGILLA.

### Subgenus EUSPONGILLA.

#### SPONGILLA MICROSCLERIFERA, new species.

Sponge light, fragile; tomentose, of a dirty white color in dry specimens, apparently without branches and of no great thickness.

Skeleton practically devoid of spongin, but forming a close and almost regular reticulation in which the radiating and transverse fibers are of approximately equal diameter. The free microscleres extraordinarily abundant in the interstices of the skeleton.

Spicules: Skeleton spicules short, slender, smooth, sharply pointed at either end, feebly curved. Gemmule spicules slender, cylindrical, nearly straight, bluntly pointed at the ends, irregularly covered with short, sharp spines, which are more numerous at the extremities, at which they are usually directed backward, than in the middle. Free microscleres straight or curved, varying greatly in length, of extreme tenuity, densely covered with minute spines.

Gemmules few, free, small, spherical, without a foraminal tubule, with a thick granular coat, in which the spicules are arranged tangentially and horizontally in an irregular manner.

	Mm.	
Length of skeleton spicule.....	.254	-.365
Breadth of skeleton spicule.....	.0083	
Length of gemmule spicule.....	.0954	-.112
Breadth of gemmule spicule.....	.0062	
Length of free microsclere.....	.0539	-.1245
Breadth of free microsclere.....	.00103	-.00207
Diameter of gemmule.....	.35	-.49

*Habitat.*—Taal Lake, east side of Taal Island, Luzon, Philippines. H. M. Smith coll., December 26, 1907. "Abundant round shores of lake, and washed up in large quantities after storms." The specimens appear to have coated both surfaces of leaves, which have perished and almost disappeared.

The most noteworthy characters of this sponge are the number and hair-like appearance of the free microscleres, which are sometimes of unusual length in spite of their tenuity. Otherwise there is very little, except perhaps color, to distinguish it from some forms of *Spongilla lacustris*. The specimens I have examined are dry and appear to be somewhat worn on the external surface, but there is no trace of their having borne branches; the oscula seem to have been fairly large. The skeleton, in spite of the closeness of its reticulation, contains much less spongin than is usually the case in *S. lacustris*, but this is a character liable to a certain amount of variation, although perhaps less inconstant than is usually thought.

The type-specimen will be transferred to the U. S. National Museum.

SPONGILLA PHILIPPINENSIS Annandale.

*Spongilla philippinensis* ANNANDALE, Proc. U. S. Nat. Mus., vol. 36, 1909, p. 629, text figs. 2 and 3.

Several specimens from the original locality, Lake Lanao, Mindanao, collected by Dr. Paul Bartsch, were sent to me. They have a gray color in alcohol. I have not been able to find gemmules in these specimens, which were taken in May, 1908, at Vicars Landing, in shallow water at the edge of the lake, and were attached to submerged drift; but they are full of embryos. The embryos lie in the interstices of the skeleton and have no protecting membrane as is the case in some oriental species.<sup>a</sup> They are so numerous that in preparations made by boiling pieces of the sponge in nitric acid their minute immature skeleton spicules are present in sufficient numbers to appear to be a feature of the species and might easily be mistaken for free microscleres. True flesh spicules are, however, absent.

Only four species of Spongillinae appear to have been recorded as yet from the Philippines, namely, *Spongilla philippinensis* and *S. clementis* from Mindanao, and *S. microsclerifera* and *Ephydatia fortis* from Luzon. It may be expected that more will be discovered.

<sup>a</sup> Annandale, Records of the Indian Museum, vol. 1, 1907, p. 269.