

FRESH-WATER SPONGES IN THE COLLECTION OF THE UNITED STATES NATIONAL MUSEUM.—PART V. A NEW GENUS PROPOSED, WITH HETEROMEYENIA RADIOSPICULATA MILLS AS TYPE.

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The free microscleres (as distinct from those associated with the gemmule) have not been regarded as of much systematic importance by writers on the Spongillidæ, but there seems to be no valid reason why they should not be considered in defining the genera of this family. I propose, therefore, to recognize an American species (*Heteromeyenia radiospiculata* Mills) as the type of a new genus on account of the peculiarities exhibited by these spicules, and in so doing I may state that I am of the opinion that the genus *Dosilia* Gray should be revived for the same reason, with *Spongilla plumosa* Carter as its type.

ASTEROMEYENIA, new genus.

Type.—*Heteromeyenia radiospiculata* Mills.

Spongillidæ which have birotulate gemmule spicules of two types and free microscleres in the form of anthasters.

The anthasters of this genus and of *Dosilia* are probably not homologous with those of most of the marine sponges in which spicules of the kind occur, but are produced by the secondary fusion of amphioxous or rotulate microscleres. In *Dosilia plumosa* monaxon microscleres are sometimes found, while the tips of the branches of asteroid microscleres often approximate to the rotulate form.

Two species, both confined (so far as we know) to North America, may be assigned to the new genus, namely *Heteromeyenia radiospiculata* Mills¹ and *H. plumosa* Weltner.² They may be distinguished most readily one from the other by the form of the terminal

¹ Ann. Mag. Nat. Hist., ser. 6, vol. 1, 1888, p. 313.

² Arch. f. Naturgesch., 1895, vol. 1, p. 127; see also Annandale, Proc. U. S. Nat. Mus., vol. 37, 1909, p. 405, fig. 3.

spines of the longer gemmule spicules, for in *A. plumosa* these spines have a simple curve, while in *A. radiospiculata* the tips are distinctly recurved so that the whole spine as seen in profile has almost the form of a capital J.

Both of these species appear to be rare. *A. radiospiculata* was originally described from Cincinnati, Ohio, and some fine specimens have recently been acquired by the U. S. National Museum from Granite City, Illinois. The largest of these specimens, which were obtained by Mr. B. Donaldson in the settling tanks of the city waterworks in August, 1910, measures no less than 42 by 12 by 8 cm.; they are all, in a dry condition, of a dark gray color. The only locality whence *A. plumosa* was hitherto known was Pinto Creek, Kinney County, Texas, but a very beautiful specimen from Shreveport, Louisiana, has recently been added to the National collection. It is almost circular in outline, nearly flat, and of a pale brown color in the dry state, measuring 28.75 by 24.7 cm. Both it and a specimen of *Trochospongilla leidyi* found with it are permeated by the tubes of a bryozoon of the genus *Plumatella*. It was obtained, like the gigantic specimen of *A. radiospiculata* to which allusion has been made, from the settling tanks of the city waterworks, a situation which might be expected to be favorable for the growth of sponges.