

NOTES ON THE FRESHWATER SPONGES OF SIAM.

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HISTORICAL NOTE.

Up to the present there has been very little intensive work upon the fauna of the fresh waters of Siam, and this statement is especially true of the freshwater sponges. Through the kindness of Dr. H. M. Smith of the Siamese Department of Fisheries we have recently received specimens of two species of sponges from that country. Since so little has been done on this subject we think it altogether worth while to bring the records up to date.

The earliest record which we can find of the collecting of a specimen of a freshwater sponge in Siam is that made by Dr. R. Evans at Legeh in the interior of the Province of Pattani, southwest of Singora, Peninsular Siam, in 1899. Dr. Evans described this sponge as a new species, *Ephydatia blembingia*, in the Quarterly Journal of Microscopic Science, vol. 44, pp. 71-109, in 1901.

Dr. N. Annandale, of the Zoological Survey of India, and Mr. H. C. Robinson made an expedition to Siam in 1901-1902 and found only a very few indeterminate specimens. They collected also in the Federated Malay States at that time and failed to obtain any sponges at all. Again in 1915 and 1916, Dr. Annandale visited the regions around Penang and Singapore which are apparently very favourable localities for the growth of sponges, but he failed to find any sponges. From his observations, Dr. Annandale concluded "There can be no doubt, therefore, that in most parts of Malaya, as in Ceylon, some unknown obstacle to the growth of sponges is widespread in fresh water." We have also been in correspondence since that time with the authorities in the Singapore Museum who inform us that, so far as they know, no freshwater sponges have been found in the Federated Malay States. This information would seem to confirm Dr. Annandale's conclusion.

SPONGES OF TALE SAP, SIAM.

In 1915, Dr. Annandale made a hurried trip to Tale Sap, or the Inland Sea, near Singora for the purpose of making a study of

the fauna of that lake with a view to comparing it with that of other similar lakes elsewhere. In his article in the *Journal of the Natural History Society of Siam*, vol. 2, p. 95, in 1916, he has the following to say concerning the freshwater sponges observed on that trip: "The only sponges (three species) found in Tale Sap belong to the cosmopolitan freshwater genus *Spongilla*, and one of them cannot be separated specifically from the common European *Spongilla lacustris*. Dry specimens of this species were found in a field near Pak Payun, where they had been left by a retreating flood. Specimens of two species were found at Lampam. One of these (*Spongilla nana*) I recently described from the Chilka Lake in Orissa, while the other is a particularly interesting new species of the sub-genus *Eunapius*. So far as I am aware, these are the only freshwater sponges (with the exception of *Ephydatia blembingia* Evans, from the Province of Pattani) as yet found either in the Malay Peninsular or in Siam; so far as it is yet known, the aquatic fauna of these countries offers a striking contrast to that of India and Burma in the poverty of its *Spongillidæ*."

The sponges found by Dr. Annandale were all in the inner lake where the water contains only a very small amount of salt. The outer lake contains a much higher percentage of salt as the water enters that lake directly from the sea with the rise and fall of the tides: this salinity renders the water of this lake unsuitable for the growth of most freshwater sponges.

In the *Memoirs of the Asiatic Society of Bengal*, vol. 6, part 4, pp. 208-210, fig. 6, in 1918, Dr. Annandale described and illustrated the new sponge from Tale Sap, found some two years before, as *Spongilla potamolepis*.

A NEW RECORD FOR SIAM.

On March 11, 1929, Dr. H. M. Smith secured specimens of a freshwater sponge from Nong Han, a large swamp or lake at Sakorn Nakorn in eastern Siam. Those sponges are described as having been very abundant on living bushes on an island in the lake. They were dry and from 6 to 8 feet above the water level at the time of collection and were incrusting the branches of the bushes between

the leaves, having grown there during a flood period when the waters covered the bushes. This sponge is a typical *Spongilla carteri*. The specimen sent us was about 8.5 cm. long and about 2 cm. in diameter, and had grown upon a very small twig. Its color is dark brown, and the gemmules are a lighter yellowish brown. The structure is characteristic, radiating fibers woven together by smaller transverse ones that make a more or less regular meshwork crowded throughout with gemmules. We find nothing in the structure, the gemmules, or the spicules to differentiate it from the type form.

AN UNDETERMINED SPONGE.

A short time afterward, April 20, 1929, Dr. Smith collected another very interesting sponge which had grown on the bark of submerged teak poles in a small pond in the grounds of the Department of Fisheries in Bangkok. The sponge forms a thin film, 1 to 3 mm. thick, over the surface of the bark; the largest specimen sent us covers an area 12 cm. long by 7 cm. across in the widest part. Another specimen completely covers a small stick 13 cm. long and 1½ cm. in diameter with a thin film. The color is a light yellowish brown, the surface is smooth. Scattered over the surface are a number of short canals, as many as five or six in places, radiating from a central pore in a star-like fashion. Unfortunately this sponge does not contain any gemmules and its identification without them is unsatisfactory, so we must delay final decision upon it until more material bearing gemmules can be collected at other seasons of the year. Dr. Smith has kindly agreed to see to this collection for us.

NEED OF MORE MATERIAL FOR STUDY.

The freshwater sponges of both India and the coastal provinces of China have been studied, and it will be most interesting to make a comparison of the sponges from Siam with those already known from the other two countries. We would be very glad indeed to receive further materials representing this group from as many different localities in Siam as possible and to undertake a study of Siam's freshwater sponges. We hope that both Dr. Smith and other students of biology will assist in getting together such a representative collection.

SUMMARY.

The following freshwater sponges are now known from Siam :

1. *Spongilla carteri*, which was recently found in Nong Han, has already been recorded from Africa, Dutch East Indies, India, Mauritius, and Madura in its type form. Varieties of the same sponge are found in Europe, Turkestan and southeastern China. Under these circumstances it is quite natural to find it in Siam.

2. *Spongilla lacustris* is also a very widely distributed species throughout both hemispheres and is found in both India and China, therefore its occurrence in Siam was to have been expected.

3. *Spongilla nana* has been found in only two places so far. It was first described from the brackish waters of Chilka Lake, Orissa, on the east coast of India. It was found under similar conditions in Tale Sap at the mouth of Patalung River at Lampam, Peninsular Siam.

4. *Spongilla potamolepis* is a very distinct species and is known only from its type locality, the mouth of the Patalung River at Lampam, Tale Sap.

5. *Ephydatia blembingia* is known only from a single small pool, a deserted gold-mine, at Legeh, Peninsular Siam. This sponge is related to *E. bogorensis* which is now known from Java, Celebes, and Socchow, China.

6. An undetermined sponge from a pond in Bangkok.

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