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PRELIMINARY DISCUSSION OF THE SPONGES
OF BRAZIL

M.W. de Laubenfels (*)

Brazil has a magnificent shore line, extending from nearly five degrees north latitude to more than thirty-three degrees south latitude. It comprehends the estuary of the mighty Amazon, and extends from humid tropics to the pleasant south temperate. These latitudes are certain to be replete with shallow-water sponges, yet practically nothing is known to the scientific world of the Porifera of the coasts of Brazil.

Attention of the scientific world has been suitably directed toward Brazil by the establishment in September 1955 of the Laboratório de Biologia Marinha de São Sebastião, sponsored by the University of São Paulo, the National Research Council of Brazil, and the Rockefeller Foundation. It seems appropriate that a comprehensive study of Brazilian Sponges should now be made, centering at this Marine Biological Laboratory.

Brazilian sponges were first called to my attention by Professor Dias da Rocha of Fortaleza-Ceará in July 1940; he sought assistance in identifying species. He sent me a collection of dried, macerated sponges, collected at depths of 5 to 7 meters, near Camocim, in the State of Ceará, nearly 3° south and 41° west. Certainly this area warrants further study.

The collection of Dias da Rocha comprised the following:

(*) Oregon State College - Department of Zoology - Corvallis, Oregon, U.S.A.

Hippiospongia lachne - This is the commercial variety known as "Sheepswool". Plastic sponges have taken over much of the market formerly available to natural sponges, nevertheless, some small commercial enterprise might be promoted in natural sponges from Brazil.

Ircinia fascicularis - This is an abundant circum-equatorial species.

Halme, species not determined, perhaps new. Most of the sponges of this collection were of the order *Keratosa*. Within this order, macerated specimens frequently cannot be determined precisely, because of necessary reliance on characteristics that only the soft flesh can reveal.

Verongia fistularis -

Verongia longissima -

Verongia capensis - The genus *Verongia* seems to be especially prominent in Brazil's equatorial waters. *V. fistularis* was recorded from "South America" (? = Brazil?) by Esper in 1794 page 228, and is abundant in the West Indian region. *V. longissima* occurs at least in Australia and the West Indies, probably is circum-equatorial. *V. capensis* has been hitherto reported only from extreme southern Africa.

Gallyspongia, perhaps *fallax* or *vaginalis*. This genus is abundant in the warmer waters of the world.

Brazilian sponges were next brought to my attention in July and August 1955, by Dr. M. Vannucci of the Instituto Oceanográfico, who sent me collections made by herself and her colleague, Tagea Björnberg.

One of these collections was made near Recife, about 8° south latitude, at the Praia da Boa Viagem, 6 July 1955. This included:

Lissodendoryx isodictyalis - This is a common West Indian species.

Tethya diploderma - This also is a common West Indian species.

Spirastrella cunctatrix - This is a Mediterranean species. The West Indian *Spirastrella*, *S. coccinea* is closely related to *cunctatrix*, but has spicules of only about half the dimensions of the Old World *Spirastrella*. The Brazilian sponge agreed closely with the Mediterranean form, however, rather than with that from West Indies.

Geodia gibberosa - This is a common West Indian species.

Chondrilla nucula - This sponge (presumably all one species) is abundant both in the Mediterranean and in the West Indies.

At Praia da Barra, also near Recife, Björnberg collected a *Dysidea*, species undeterminable due to the condition of the specimen. It, however, adds this abundant world-wide genus to the fauna of Brazil.

Another collection was made by Björnberg in southern Brazil, about 24° south latitude, near the Marine Laboratory. This collection was put for awhile into formaldehyde, and (as might be therefore expected) was not well preserved. It was notable, however, for three of its inclusions, as follows:

Verongia longissima, as in northern Brazil.

Callyspongia sp. also as in northern Brazil and (dubiously) a specimen of *Cinachyra*.

At the same time (August 1955) Dr. Vannucci also sent me a larger collection made by herself near the Marine Laboratory. It included the following:

Haliclona species. Some of the several specimens of *Haliclona* probably were the cosmopolitan species *permollis*. One of them clearly was *erina*.

Haliclona erina, described from the Atlantic Coast of Panama. The Brazilian specimen was collected 22 July 1955 at the Praia da Ribeira.

Tedania, perhaps *ignis*, perhaps *anhelans*, perhaps new species. This was collected 21 July at the Praia do Lamberto near Ubatuba.

Lissodendoryx isodictyalis, a common species of the West Indies. This was collected 23 July 1955 at the Praia do Lamberto, as well as near Recife by Björnberg.

Zygomycale parishii, originally described from the Australian region, and also recorded as common in Hawaii. This is represented by several specimens in the Vannucci collection, and may be abundant in southern Brazil, especially at the Praia da Ribeira.

Hymeniacion, perhaps *heliophila*. This species occurs along the east coast of North America, abundant at about latitude 32° North, less common farther north, also present (but uncommon) in the West Indies. The Brazilian *Hymeniacion* should perhaps be regarded as a new species. Dr. Vannucci collected her *Hymeniacion* 21 July 1955 at the Praia do Lamberto.

Timea authia, described from California. Astonishing as it may seem, the Brazilian species seems to be identical with that from the Pacific Coast of North America. This also was collected at the

Praia do Lambertto.

Menanetta new species. So far only two species of this genus have been described, one from the North Atlantic and one from the north coast of Spain. Vannucci's very interesting specimen was collected 22 July 1955 at the Praia da Ribeira.

Tethya dioloderma - This cosmopolitan species has also been recorded (above) from northern Brazil. Vannucci collected it 23 July 1955 at the Praia do Lambertto.

Stelletta, probably new species. This was collected 23 July 1955 at the Praia da Ribeira.

Ceodia gibberosa - This West Indian species has also been recorded (above) from northern Brazil. It, also, was collected at the Praia da Ribeira.

Chondrilla nucula, as recorded (above) from northern Brazil. Dr. Vannucci collected this 23 July 1955 at the Praia do Lambertto.

Surely the above list represents only a small fraction of the sponges that occur along the coast of Brazil. A comprehensive study of this topic should begin with a discussion of the biology of sponges, and include descriptions of the species, not just lists of names, as in this preliminary paper. It must be based on a study of, and description of living sponges, not merely preserved ones, and coordination with the ecological background is essential.

R E S U M O

Neste trabalho são apresentadas as listas de espécies de esponjas provenientes de três pontos da costa brasileira: Camocim, Recife e Enseada do Flamengo (perto de Ubatuba, Estado de S. Paulo).

A primeira coleção, proveniente de perto de Camocim, contém 7 espécies diferentes. De Recife foram distinguidas 6 espécies. Da região de Ubatuba foram classificadas amostras pertencentes a 15 espécies.

Ao todo foram verificadas 22 espécies diferentes, sendo que 8 não puderam ser classificadas especificamente; destas últimas, duas ou três provavelmente resultarão espécies novas. A maioria das espécies mencionadas são novas para o Brasil. Todas são provenientes da zona intercotidal ou de mar muito raso, e amostras de Camocim foram coletadas entre cinco e sete metros de profundidade.