[SCIENTIFIC RESULTS OF THE PHILIPPINE CRUISE OF THE FISHERIES STEAMER "ALBATROSS," 1907–1910.—No. 17.]

NEW ARENACEOUS FORAMINIFERA FROM THE PHILIPPINE ISLANDS AND CONTIGUOUS WATERS.

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The species of arenaceous foraminifera described here are from the dredgings of the U. S. Fisheries steamer *Albatross* about the Philippine Islands and in contiguous waters, the material from which has kindly been placed in my hands by the Bureau of Fisheries for the description of the foraminifera. All but one of these species belong to known genera but all are apparently undescribed. Some of them are from little-known genera and are for this reason very interesting, as they add greatly to the known distribution of the genera to which they belong. The plate gives figures of the various species.

DENDROPHYRA RAMOSA, new species.

Plate 28, figs. 7, 8.

Description.—Test large, laterally compressed, branching, wall with a chitinous base over which there is a thick layer of mud or fine sand and scattered sponge spicules; apertures at the ends of the branching portions elliptical.

Length 10 mm. or more.

Type-specimen.—Cat. No. 8463, U.S.N.M., from *Albatross* station D5385, Ragay Gulf, Luzon, 327 fathoms in gray mud, with a bottom temperature of 62.4° F. Other stations at which this species occurred are D5438, west coast of Luzon, 297 fathoms, green mud, 46.2° F. bottom temperature; D5460, east coast of Luzon, 565 fathoms, gray mud; D5470, 560 fathoms, mud; D5622, between Gillolo and Makyan Islands, Dutch East Indies, 275 fathoms, gray mud.

This species evidently belongs to the genus *Dendrophyra* as described, but is much larger than either of the other two described

species. The figured specimen is evidently only a fragment, as are all the specimens seen, and the complete test must be considerably larger. There is some variation in the color and texture of the wall and the comparative amount of spicules, depending somewhat upon the bottom conditions. All the stations are in fairly deep water compared with the shore conditions under which the other two known species were found. Usually specimens were very numerous, making up the large mass of the dredged material at the type station.

HALIPHYSEMA CATENULATA, new species.

Plate 28, figs. 5, 6.

Description.—Test elongate, tapering, with numerous constrictions as though segmented; wall arenaceous, with many included fragments of sponge spicules and with a crown of elongated spicules about the aperture; basal end with a sort of expanded portion like a proloculum, also made up largely of broken spicules; aperture terminal, circular, surrounded by the crown of erect spicules.

Length about 10 mm.

Type-specimen.—Cat. No. 8464, U.S.N.M., from *Albatross* station D5630, south of Patiente Strait, Dutch East Indies, 569 fathoms. The species was very common at this station, but was not met with elsewhere in the dredgings.

The spicules throughout the test except at the apertural tip are broken fragments, but about the aperture there are elongate spicules not entire but so placed that they rise up above the aperture like a crown.

MARSIPELLA GIGANTEA, new species.

Plate 28, figs. 1, 2.

Description.—Test elongate, tapering, nearly straight; wall of broken sponge spicules and arenaceous material, reddish-brown in color, spicules for the most part placed nearly in the axis of the test, occasionally projecting out from the wall; aperture circular, terminal, at the larger end.

Length up to 15 mm.

Type-specimen.—Cat. No. 8465, U.S.N.M., from *Albatross* station D5630, south of Patiente Strait, Dutch East Indies, 569 fathoms.

This species is much larger than any known species of this genus but has the usual characters for *Marsipella.*

AMMOSPHÆRULINA, new genus.

Test arenaceous, spherical, attached, with one or more interior chambers entirely inclosed, apertures interstitial.

Type-species.—*A. adhærens*, new species.

AMMOSPHÆRULINA ADHÆRENS, new species.

Plate 28, figs. 11, 12.

Description.—Test spherical, adherent, wall arenaceous; composed of two or more chambers, each included by the one next formed, eccentric; color light yellowish-brown.

Diameter about 0.75 mm.

Type-specimen.—Cat. No. 8466, U.S.N.M., from *Albatross* station D5637, in the vicinity of Bouro Island, Dutch East Indies, 700 fathoms, gray mud.

This is a peculiar form somewhat like *Psammosphæra*, but having chambers entirely included by the one last formed. On account of its small size and attached character it may easily be overlooked. The figured specimen was attached to a specimen of *Saccorhiza ramosa*.

REOPHAX HORRIDA, new species.

Plate 28, figs. 3, 4.

Description.—Test elongate of several chambers, with a nearly straight axis, chambers gradually increasing in size; wall arenaceous with an abundance of included sponge spicules so arranged as to give a bristly appearance to the exterior of the test; aperture terminal, with a well developed neck.

Length about 3 mm.

Type-specimen.—Cat. No. 8467, U.S.N.M., from *Albatross* station D5582, vicinity of Darvel Bay, Borneo, 890 fathoms, bottom temperature 38.3° F.

This species differs from others described in the character of the wall, the great number of included spicules bristling in all directions giving a spiny appearance to the wall.

HORMOSINA MONILE, new species.

Plate 28, figs. 9, 10.

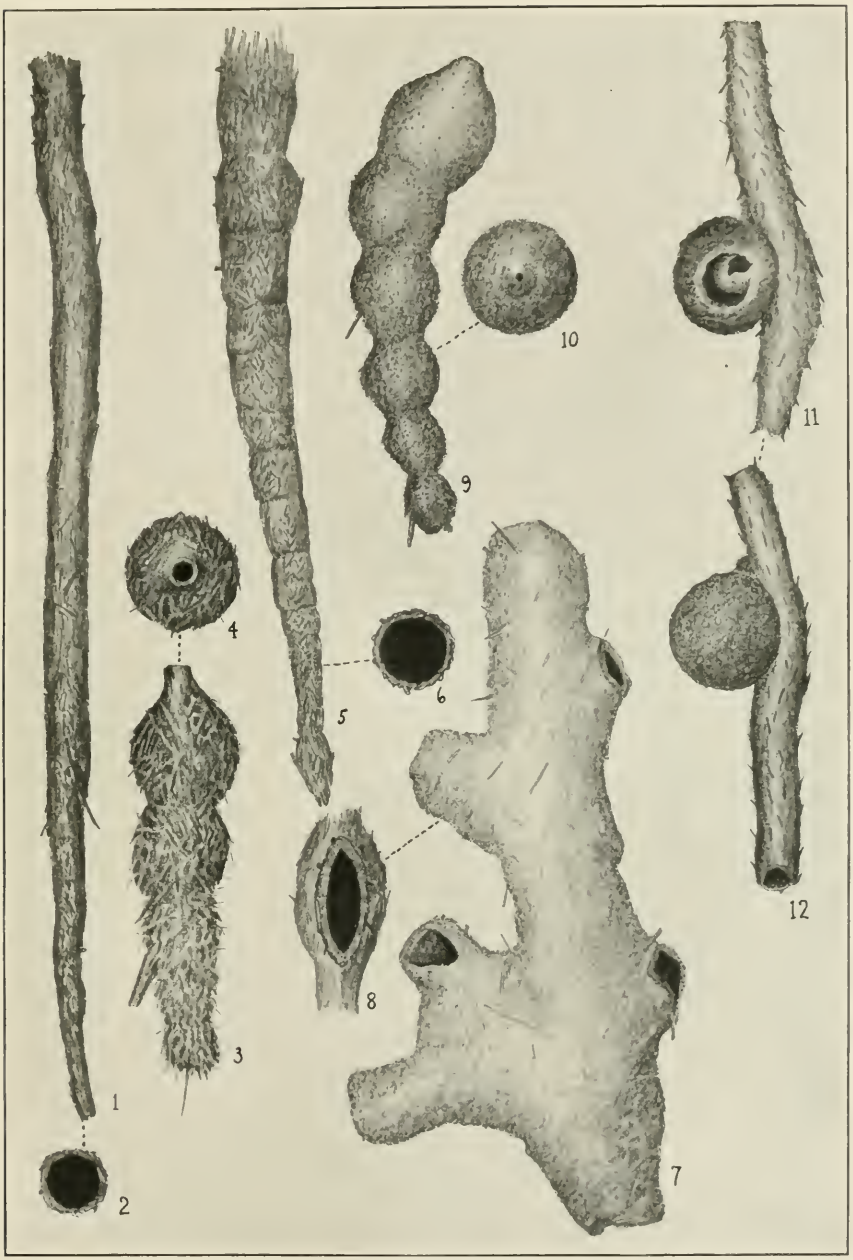
Description.—Test elongate, axis slightly but evenly curved; chambers several, six or more, increasing gradually in size toward the apertural end, oval, joined by broad connecting portions; wall arenaceous, rather hispid; aperture very small, at the end of a short, stout neck.

Length about 6 mm.

Type-specimen.—Cat. No. 8468, U.S.N.M., from *Albatross* station D5539, between Negros and Siquijor, depth not given. This differs in its characters from other described species, especially in the moniliform appearance, due to the peculiar way in which the chambers are joined.

EXPLANATION OF PLATE 28.

Fig. 1. *Marsipella gigantea*, new species. Front view, × 15.
2. *Marsipella gigantea*, new species. Apertural view, × 15.
3. *Reophax horrida*, new species. Front view, × 30.
4. *Reophax horrida*, new species. Apertural view, × 30.
5. *Haliphysema catenulata*, new species. Front view, × 15.
6. *Haliphysema catenulata*, new species. Apertural view, × 15.
7. *Dendrophyra ramosa*, new species. Front view, × 15.
8. *Dendrophyra ramosa*, new species. Apertural view, × 15.
9. *Hormosina monile*, new species. Front view, × 15.
10. *Hormosina monile*, new species. Apertural view, × 15.
11. *Ammosphærulina adhærens*, new species. Interior view, × 30.
12. *Ammosphærulina adhærens*, new species. Exterior view, × 30.



ARENACEOUS FORAMINIFERA.

FOR EXPLANATION OF PLATE SEE PAGE 230.