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GALATHEA REPORT

Volume 2

*Scientific Results
of The Danish Deep-Sea Expedition
Round the World 1950-52*



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PRIMNOELLA KRAMPI N. SP.
A NEW DEEP-SEA OCTOCORAL

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PRIMNOELLA KRAMPI N. SP.

A NEW DEEP-SEA OCTOCORAL

By F. JENSENIUS MADSEN

Zoological Museum, Copenhagen

The Octocoral described in this note under the name of *Primnoella krampi*¹ belongs to the Primnoellidae within the Gorgonacea. The depth at which it was collected, 5850 m, is the greatest depth hitherto recorded for any Gorgonacean. Another group of Octocorals, the Pennatulacea, was recorded by the Galathea Expd. from a still greater depth, 6620 m, St. 650 in the Kermadec Trench, but the specimen collected, an *Umbellula*, is too juvenile to be identified to species.

Diagnosis:

Species of *Primnoella* with small, unbranched, flexible colony with disk-like attachment. Zooids ascending and placed opposite in pairs or in whorls of three. Intervals between successive groups of zooids about 1.4 to 2 mm. Verrucae cylindrical, 1 to 1.5 mm in length, and with 8 longitudinal rows of scales. Circumopercular scales the largest, oval, up to 0.4 mm long, and completely covering the distinctly smaller opercular scales. Scales of zooid body rounded, 0.2-0.25 mm in diameter; numbering 4 in the adaxial and 7-8 in the abaxial rows. Stem with a single layer of rounded scales of about 0.2 mm in diameter. These scales mostly with the distal, free part turned outwards, and the scales of the zooid body often with a similar tendency.

Type-locality:

Galathea St. 654. Kermadec Trench, 32°10'S., 175°54'W., 5850 m.

The type is preserved in the Zoological Museum of Copenhagen.

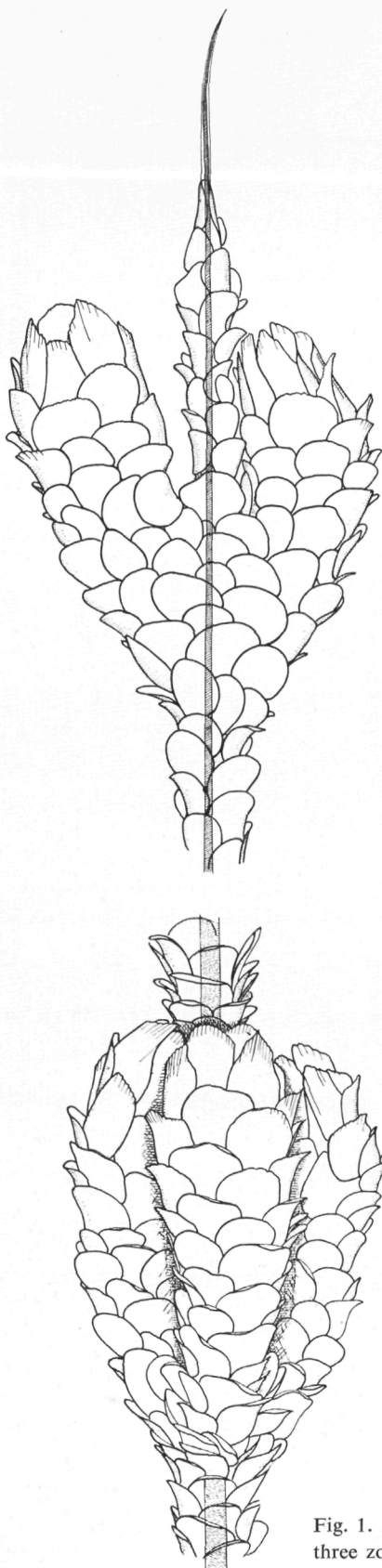
Description:

The single colony collected is unbranched and measures in intact condition 58 mm in length. The

basal disk is rounded, about 2-2¼ mm in diameter, and covered with scales. It is unknown to what the colony was attached when alive. The stem is about 0.3 mm in diameter at the base and keeps this diameter almost to the tip of the colony. The axis measures about 0.1 mm in diameter at the base and tapers gradually to the tip. The axis is dark brown and distinctly seen through the coenenchyma and the thin scales, otherwise the colony is white. The colony is erect, but the stem is very flexible. The zooids are mostly arranged opposite in pairs, but may be found in whorls of three. In all, 30-31 groups of zooids are present, of which the fifth group from the base, a few of the medium ones, and the eighth from the tip consist of 3 zooids. The pairs of zooids are not arranged in the same plane, but this turns irregularly along the stem, sometimes as much as 90° between two successive pairs. The colony is somewhat damaged, the coenenchyma of the stem with the zooids being pushed together in the major part along the stem and the axis thus laid bare for a length of about 2 cm. The lowermost group of zooids is placed 1.5 mm above the base and thereafter the zooids rise from the stem at intervals generally of about 1.4-2 mm, but sometimes only 1 mm. The stem is covered with thin, rounded, about 0.2 mm large scales, most of which have their distal part turned distinctly outwards. The distalmost 0.6 mm of the colony is naked, consisting of the pointed axis covered only by a thin layer of coenenchyma. There is no inner layer of differently formed sclerites.

The zooids are cylindrical, ascending, and usually closely pressed against the stem. They are covered by 8 longitudinal rows of imbricating scales. The circumopercular scales are the largest, irregularly oval, and up to 0.4 mm in length. The opercular scales, which are completely covered by the circumopercular scales, are also oval, but distinctly smaller. The scales of the zooid body are rounded, usually

1. Named thus in honour of Dr. P. L. KRAMP, Director of the department of marine invertebrates of the Zoological Museum of Copenhagen, and member of the scientific party of the Galathea-Expedition.



about 0.25 mm in diameter, and number 4 in the adaxial rows and about 7-8 in the abaxial rows. All the scales are thin, smooth on the outside, but on their inside provided with a number of fairly large warts. The distal border of the scales of the stem and zooid body, and the whole distal half of the circumopercular scales, however, are smooth also on the inside. The distal end of the scales of the zooid body sometimes have a tendency of being outwards bent as was the case with the stem scales. The length of the contracted zooids – the verrucae – varies from about 1 to about 1.5 mm, those of the distal part of the colony in general being the largest. The fifth distalmost pair of zooids consists of only two very small buds, and the seventh distalmost pair of zooids also is not fully developed.

Remarks:

The present form is closely related to *Primnoella jungerseni*, collected in the Irminger Sea, between Greenland and Iceland, by the Danish Ingolf-Expedition (MADSEN 1944, Rep. Dan. Ingolf-exp. 5, 13, pp. 39-42, figs. 30-31). The size and general appearance of the two forms are the same, and they agree closely also in most details. The verrucae of the colony from the Kermadec Trench are a little smaller than those of the North-Atlantic colonies, 1-1.5 mm as against 1.5-2 mm; but the only character which makes me regard the present form as representing a new species is the outwards bending of the scales of the stem, which gives this colony quite another appearance – under the microscope – than have the colonies of *P. jungerseni*, which have all the scales closely appressed.

Primnoella krampi and *P. jungerseni* form morphologically a group of their own within the genus *Primnoella*, and they are distinguished also in zoogeographical respect since both of them are deep-sea species, *P. krampi* taken at a depth of 5850 m and *P. jungerseni* at 2137 m and 2448 m respectively, whereas the other members of the genus are confined to depths less than about 1100 m, some of them even occurring at depths of only about 15 m.

Fig. 1. *Primnoella krampi* n. sp. The distalmost pair of zooids, and a whorl of three zooids (the eighth group from the tip of the colony). About 40 × nat. size.

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