

STUDIES ON INDIAN ECHINODERMS—3 *OPHIARTHURUM PICTUM*
(MÜLLER AND TROSCHEL) (OPHIUROIDEA : OPHIOCOMIDAE),
A NEW RECORD FROM THE INDIAN OCEAN WITH ADDITIONAL
NOTES ON THE SPECIES*

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THE genus *Ophiarthrum* Peters has three species, viz., *Ophiarthrum elegans*, *O. lymani* and *O. pictum*. The first two species have been recorded from the Indian Ocean. *Ophiarthrum elegans* is distributed from Mozambique and Zanzibar to Tahiti and northwards to Ryukyu Islands (H. L. Clark, 1946). The author has collected several specimens of this species at Port Blair during a visit to Andaman and Nicobar Islands in January, 1965. The second species *Ophiarthrum lymani* is described from Mauritius and appears to be endemic. The third species *Ophiarthrum pictum* which is now collected from Nancowry (Nicobar) is recorded for the first time from the Indian Ocean. This species has been described for the first time from Java by Müller and Troschel in 1842. Thereafter it has been recorded by several authors from various localities in the Pacific. Recently James (1969) has listed this species from Nancowry in his catalogue of the echinoderms in the Reference Collections of the Central Marine Fisheries Research Institute. A detailed description of this little known species and its distribution are given in this paper.

Ophiarthrum pictum (Müller and Troschel)

Ophiocoma picta Müller and Troschel, 1842, p. 102.

Dujardine and Hupé, 1862, p. 265.

Herklots, 1869, pl. v, fig. 2.

Ophiarthrum pictum Lyman, 1874, p. 225, pl. vii, figs. 2-4.

Lyman, 1882, p. 174.

Brock, 1888, p. 497.

Koehler, 1905, p. 72.

H. L. Clark, 1921, p. 140, pl. xii, fig. 1.

H. L. Clark, 1946, p. 251.

A. H. Clark, 1954, p. 261.

James, 1969, p. 56.

Material : A single specimen, 20 mm. in disc diameter ; all the arms broken near the disc.

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Dorsal view of the disc of *Ophiarthrum pictum* (Müller and Troschel). (Diameter of the disc 20 mm).

Locality : Nancowry (Nicobar).

Description : The disc is round (Pl. I) and the dorsal side of it is naked. The margin of the disc is bounded by a row of large (0.88 mm.) imbricating scales which are visible only on drying. The radial shields are very small (1.16 mm. in length), oval and separate. The ratio of the length of each radial shield to the diameter of the disc is 1 : 10.

The interbrachial areas on the ventral side of the disc are almost naked. Small imbricating scales may be seen on drying.

There are four oral papillae on each side of the jaw. The distal papilla is large and is about twice the size of the second and third papillae. The second and third papillae are more or less of the same size. At the apex of the jaw the tooth papillae are arranged in three rows. Each jaw has c. 15 tooth papillae. The oral shields are oval in shape and the adoral shields are small and triangular. They do not meet radially or interradially.

The dorsal arm plates are hexagonal. The ratio of length to breadth of the fifth plate is 1 : 1.7. The consecutive dorsal arm plates are contiguous.

The ventral arm plates are five-sided with the distal margin convex and the other edges straight. The ratio of length to breadth of the fifth free plate is 1 : 1.4. There is a single tentacle-scale for each tentacle pore.

The first few lateral arm plates bear four spines and the rest of them have three spines. The spines are smooth, cylindrical and gently taper to a point. The ratio of the length of the sixth segment to the longest spine is 1 : 2.7.

The specimen preserved in rectified spirit and dried has light brown disc with characteristic yellow markings on the dorsal side of the disc. The yellow markings are also found in the interbrachial areas on the ventral side. The dorsal arm plates are grey with a dark band running along the mid-dorsal region of the plates. The ventral arm plates are white and the spines are banded white and light brown.

Remarks : This is one of the most beautiful brittle-stars in the living condition. There appears to be considerable individual diversity in the colour pattern of the disc but the five white interradial areas with yellow markings are generally distinct.

Distribution : It has been reported from Java, Amboina, Borneo, Sulu Archipelago, Timor, New Guinea, Pelew Islands, Murray Islands, Low Islands, Lindeman Island and Guam. The present record from Nancowry (Nicobar) extends its distribution for the first time into the Indian Ocean.

SUMMARY

The brittle star *Ophiarthrum pictum* is recorded for the first time from the Indian Ocean. A detailed description of the species and its distribution are given. The distribution of other species of *Ophiarthrum* is also given in this paper.

ACKNOWLEDGEMENTS

I wish to record my sincere gratitude to Dr. S. Jones, Director, Central Marine Fisheries Research Institute for his unfailing interest and encouragement in my work. I thank Mr. C. Mukundan for kindly going through the manuscript and for the photograph. I also thank Mr. M. Alimanikfan who collected the specimen and kindly placed at my disposal.

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*Not referred to in original.