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ON THE OCCURRENCE OF THE SEA ANEMONE *PHYTOCOETEOPSIS RAMUNII* PANIKKAR (ACTINIARIA : HALIACTIIDAE) IN A TIDAL CREEK OF SAGAR ISLAND, WEST BENGAL ; AND A NOTE ON ITS NEMATOCYSTS

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ABSTRACT

Phytocoeteopsis ramunii has been reported for the first time from the Gangetic delta. The distribution and the size of different types of nematocysts, are studied.

Rao (1925) reported an undetermined sea anemone from the backwater of Adyar lake, Madras, and furnished a general account of the anatomy, habits and habitat of the species. Panikkar (1936) obtaining more specimens of this species from the same locality, created the new genus *Phytocoeteopsis* with *P. ramunii* as its type species. Cheriyan (1964) reported the species from the backwaters of Cochin, Kerala, extending its distributional range westwards. As the earlier reports have failed to give detailed account of cnidom which are essential key characters of the species, the present note intends to enumerate the same, as well as reports a new locality record and further extension of range.

Material : 42 exs., Sagar Island (Sundarbans, 24-Parganas), A. Misra and M. Chatterjee, 27. 11. 1974, Z. S. I. Reg. No. P. 2722/1 ; 10 exs., Sagar Island, A. Choudhury, 10. 1. 1975, unregistered at S. D. Marine Biological Research Institute, Sagar Island.

Diagnosis : This species is characterised by a typical arrangement of its tentacles and acontia. The tentacles are apparently arranged in four whorls, with 24 in each. The outermost whorl is biggest, the innermost smaller, and the two middle ones smallest. Acontia slender and short, and are arranged serially below the filament on all the macrocnemes.

Description : Body long, vermiform and more or less divided into three regions, a physa-like base, a scapus provided with longitudinal rows of cinclides, and a thin-walled capitulum. Mesenteries divided into macro- and microcnemes, which are more numerous at the margin than at the base. Only six pairs of macrocnemes are perfect and provided with retractors, filaments, gonads and acontia, while the microcnemes (18 pairs) lack these organs. Retractors strong and restricted, more or less reniform, the detailed account of which has already been furnished by the earlier workers. The cnidom complement of this species which has not yet been studied in the light of recently used terminology, consists of spirocyst, basitrich, and microbasic amastigophores. The distribution and size

of nematocysts are as follows :

Tentacle :	Spirocyst	...25-35 × 4-6 μm
	Basitrich	...12-14 × 6-8 μm
	Microbasic amastigophore	...26-35 × 5-6 μm
Column :	Microbasic amastigophore	...40-50 × 5-8 μm
	Basitrich	...14-20 × 3-6 μm
Filament :	Microbasic amastigophore	...20-24 × 6-8 μm
Acontia :	Basitrich	...12-16 × 2-4 μm
	Microbasic amastigophore	...35-60 × 6-8 μm

A minimum of 50 nematocysts of each type were measured to determine the size range for each class. Camera lucida drawings of each category of nematocysts from different body regions are given in Fig. 1. All the figures are drawn to the same scale.

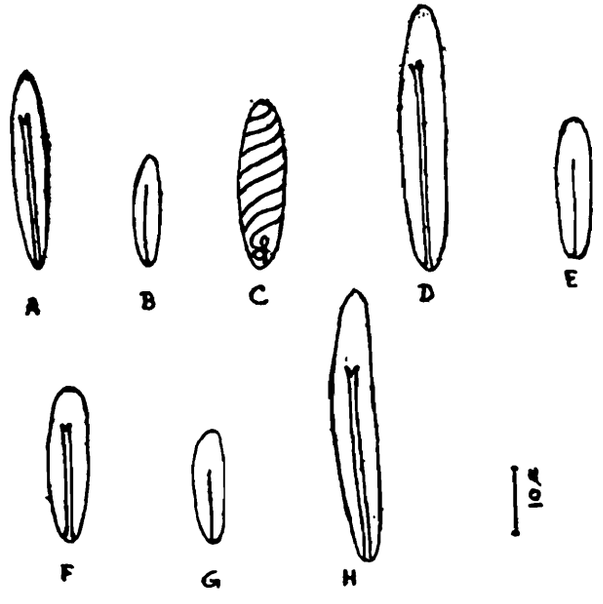

Fig. 1. Nematocysts of *Phytocoeteopsis ramunii* (all nematocysts drawn to same scale). A-C, tentacle ; D-E, column ; F, filament ; G-H, acontia. Spirocyst (C) ; Basitrich (B, E, G) ; Microbasic amastigophore (A, D, F, H).

Remarks : The species has so far been reported from Adyar lake, Madras and in the backwaters of Cochin, Kerala. The present record from Chemaguri creek of Sagar Island in the Gangetic delta extends its range north-eastwards.

Habitat : The species has been reported to occur in very low levels in the shallow esturine mudflats from which the specimens have been collected. The body remains completely burried in the substratum with only the oral disc and crown of tentacles above.

Discussion : Panikkar (1936) while describing the species, considered only two types of nematocysts, namely penicilli and spirulae. But these terms are not in accordance with the more generally accepted terminology of Weil (1934), augmented by Carlgren (1940, 1945). The latter author, in his monographic work (1949) reported that the acontia of this species were with basitrich and probably microbasic amastigophores, which characters are confirmed by the present authors. This acontiate athenarian species sharing characters of both thenaria and Athenaria, requires a detailed study, particularly in the light of the recent view of Hand (1966) on the evolution of actiniaria. It is generally held that actiniaria lacking skeleton, are more primitive than corals. But Hand (*op. cit.*) suggested that actiniaria may be derived from corals, while athenaria being primitive anemones, may better be considered as secondarily derived forms. The thenarian anemones closely resembling corals may be considered as primitive. Thus, the sequence of evolution within zoantharians as proposed by Hand, may be arranged as corals→thenaria→acontiate thenaria→acontiate athenaria→athenaria.

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