NOTES

A NEW ACTINIAN *PARATEALIA KERALENSIS* GEN. ET SP. NOV. FROM THE SOUTHWEST COAST OF INDIA

ABSTRACT

In the benthos samples of ' R.V. *Conch* ' from the Kerala Coast at a depth of 150 m, occurred specimens of a deep water actinian, which resemble that of the genus *Tealia*, but show marked differences and so referred to a new genus *Paratealia*.

WHILE examining the collections of R. V. *Conch* from the Kerala Coast during 1957-59, several specimens of an actinian were found which may be assigned to a new genus of the Family Actiniidae. The collections were obtained from dredge samples made off Alleppey at a depth of 150 metres. The bottom area consisted of sand and mud, and the anemones were found attached to this substratum. Observations were made on live and preserved material. The anatomical features were studied by dissections and serial sections. Carlgren's classification (1949) is followed and the description of the nematocyst type is based on Cutress (1955). For anatomical studies Stephenson's (1928) description are followed.

Genus **Paratealia** nov.

Diagnosis : Actiniidae with wide pedal disc enclosing mud, sand and shell pieces. Column with verrucae all over the body and somewhat elongate. Not divisible into scapus and scapulus. Margin without pseudospherules. A well developed fosse is present. Tentacles long, arranged in 3 to 4 cycles, upto 80 in number. More than six pairs of perfect mesenteries, and as a rule decamerously arranged. Cnidom : Spirocyst, basitrichs, microbasic P-mastigophores.

Affinities : The anemone resembles the genus *Tealia* in the presence of a well developed pedal disc, presence of verrucae and in the absence of spherules. A well developed fosse and decamerous arrangement of mesenteries is seen in both. But it differs from *Tealia* in the nature of the sphincter and in the structure of the cnidom. In *Tealia* the number of perfect mesenteries is numerous, whereas in the case of the present genus the number is always twenty. Also *Tealia* has got the same number of mesenteries proximally and distally but here 10 pairs of imperfect mesenteries are present at the proximal end only. The systematic position of this anemone seems to lie close to the genus *Tealia*.

Paratealia keralensis gen. et sp. nov.

(Plate I, Figs. 1a-l)

Type Material : Holotype—Kept in the Department of Marine Sciences, University of Cochin, Cochin. Found attached to the substratum 150 m depth off Alleppey. Collected by R. V. *Conch*, March 1958.

Paratype—Department of Marine Sciences, University of Cochin, Cochin. 25 specimens collected by R. V. *Conch*, during 1958.

Diagnosis : Paratealia with weak diffuse endodermal sphincter, seen only in the upper portion with same width in its upper and lower portion. Mesenteries as a rule decamerously arranged. Longitudinal muscles of the perfect mesenteries well developed. Always 10 pairs perfect and with two well developed siphonoglyphs. An equal number of small imperfect mesenteries at the proximal end without filaments and gonads. All the perfect mesenteries bear gonads. Parietobasilar and basilar muscles well developed.

Description : Paratealia keralensis is a medium-sized actinian and is a deep water form found attached to the sand or mud substratum in deep water.

Size : The largest specimens examined have a length of 40 to 45 mm and diameter of column of 20 to 25 mm. The oral disc has a diameter of about 23 to 28 mm and the pedal disc about 30 to 34 mm.

Colour : Natural colour orange to gamboge in reticulate or mosaic 'bands' around circumference. Tentacles with orange tips and yellowish tinge. Oral disc and actinopharynx red in colour.

Column : Without cinclides, fully covered with verrucae, which are small in size. Circular muscles somewhat well developed. Mesogloea very thick. Ectoderm with numerous mucus cells. Endoderm not very thick. Limbus well pronounced.

Pedal disc : Broad and exceeding the diameter of the oral disc. The pedal disc curves round to the substratum to grasp a ball of mud, gravel and shell particles present in the locality by which attachment is effected.

Oral disc : Large and flat. Radial muscles of the oral disc ectodermal. Tentacles arranged decamerously. There are upto 4 cycles. Mouth large.

Tentacles : Upto 80 in number in large specimens ; long and pointed at the tip. Mesogloea relatively thick and ectoderm with mucus cells. They are with orange tips and with yellowish tinge. Inner and outer tentacles are almost of the same size. They are not fully retractile.

Actinopharynx: The actinopharynx is longitudinally ridged and each of these ridges occurs opposite to the insertion of the mesentery into the coelenteric wall. Two siphonoglyphs are present and they have the same length as that of the actinopharynx.

Sphincter : Weak endodermal and not circumscribed (Fig. 1a), seen only in the upper region and has same width throughout. In comparison with the size of the specimen the sphincter is not large and strong.

Mesenteries : Always 10 pairs of perfect mesenteries, all fertile and filament bearing (Fig. 1b). The imperfect mesenteries (10 pairs) are present only at the proximal end of the body in all specimens examined and devoid of filaments and gonads. The anemone always shows a decamerous arrangement of mesenteries and hence it may be regularly reproducing by the sexual method only. Both marginal and oral stoma are present on all the 10 pairs of perfect mesenteries.

Plate 1. *Parateatia keralensis* Gen. *et* sp. nov.

Cnidom (all measurements in μ)

Tentacles :

Spirocysts (Fig. 1c) 24-27 × 3-4

Basitrichs (Fig. 1d) 18-26 × 4-5

Actinopharynx :

Basitrichs (Fig. 1e) 15-17 × 2.1-3

Column :

Spirocyst (Fig. 1f) 16-18 × 5

Basitrichs (Fig. 1g) 20-24 × 3-4.1

Filament :

Basitrichs (Fig. 1h) 19 × 1.5

Basitrichs (Fig. 1i) 11-13 × 1.8-2.4

Basitrichs (Fig. 1j) 4-6 × 1-1.5

Microbasic p-mastigophore (Fig. 1k) 11-14 × 2.2-3

Microbasic p-mastigophore (Fig. 1l) 6-8 × 1.2-2

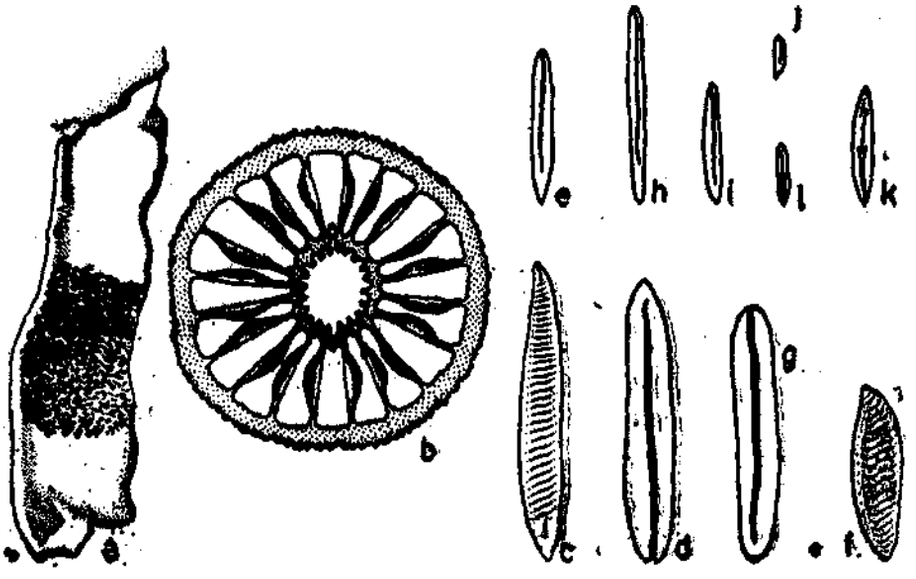

Fig. 1 : a. *Paratealia keralensis* Gen. et sp. nov. Transverse section of marginal sphincter muscle ; b. Horizontal section through the lower part of the actinopharynx ; and c-l. Cnidom.

The anemone is primitive in having a lesser number of mesenteries and in the nature of the sphincter. But it shows advanced characters in having a well developed pedal disc, parietobasilar muscles and in the development of verrucae all over the column.

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