

**ENDECTYON LAMELLOSA N. SP., (DEMOSPONGIAE :
POECILOSCLERIDA, RASPAILIIDAE) FROM THE INDIAN
SEAS AND A REVISED KEY TO THE INDIAN SPECIES OF
ENDECTYON TOPSENT**

ABSTRACT

Hitherto only two species of *Endectyon* Topsent (*E. fruticosa* and *E. thurstoni* (Dendy, 1887)) are known to occur in the Indian Seas. But an extensive survey undertaken during the years 1964-67 revealed the presence of a new species in the Indian Seas, and a detailed description of the same is furnished in the present communication.

The present new species differs from the previously known species mentioned above, both in the form of growth and spicular constitution. Taking the lamellar form of growth found in the present new species into account the specific name *lamellosa* is suggested here. In addition to the characteristic echinating acanthostyles (grapnel like spicules) found in *E. fruticosa* and *E. thurstoni*, another category of echinating spicule, acanthostrongyle, is also added on to the spicules of the present new species, and in this respect this comes close to *E. teissieri* Cabioch (1968) from Roscoff and *E. delaubenfelsti* Burton (1930) from Plymouth. The form of growth found in the new species tallies well with that of *E. teissieri* Cabioch and *E. delaubenfelsti* Burton, but differs considerably from these in the spicular dimensions.

A revised key for the Indian species of *Endectyon* Topsent, is also provided herewith for easy identification.

ONLY two species of *Endectyon* Topsent, [*E. fruticosa* and *E. thurstoni* (Dendy, 1887)] are known to occur in the Indian Seas. But intensive survey conducted during the years 1964 to 1967 revealed the presence of a species new to science, and a detailed description of the same is presented in this paper.

The author is grateful to Dr. E. G. Silas, Director, Central Marine Fisheries Research Institute, Cochin, for permission to publish this account. His thanks are also due to Dr. L. Cabioch, Station Biologique de Roscoff, France, for providing him with necessary literature and also for confirming the identification.

The pattern of growth noted in the present new species is stalked with lamellar branches, resembling very much to that noted in some species of *Axinella* from the same locality. Both the other species of this genus, mentioned earlier, have finger shaped branches varying between 4 and 5 mm in diameter and dividing dichotomously at the growing tips. Taking the lamellar growth form of the present new species into consideration the specific name *lamellosa* is suggested here.

Order POECILOSCLERIDA Topsent

Family *Raspailiidae* Hentschel

Genus *Endectyon* Topsent

Raspailiidae with skeleton a reticulation of stout styles and echinated with acanthostyles and/or acanthostrongyles; with dermal tuft of long styles at the extremities of ascending fibres; and auxillary subtylostyles in the dermal region; microscleres absent. Type: *Phakellia tenax* Schmidt, 1870.

Endectyon Lamellosa n. sp. (Pl. 1 A and B ; Fig. 1a—d)*Endectyon* sp. Thomas, 1968. Ph. D. Thesis. 1969, p. 16.**Material :** Four specimens.**Reg. Nos., dates and localities :**

CMFRI-S. 55A ; 3-11-65 ; Palk Bay.

CMFRI-S. 55B ; 8-6-64 ; Fish Farm area, Palk Bay (Type).

CMFRI-S. 55C ; 26-12-65 ; Thiruchendur, Gulf of Mannar.

CMFRI-S. 55D ; 6-1-66 ; Thiruchendur, Gulf of Mannar.

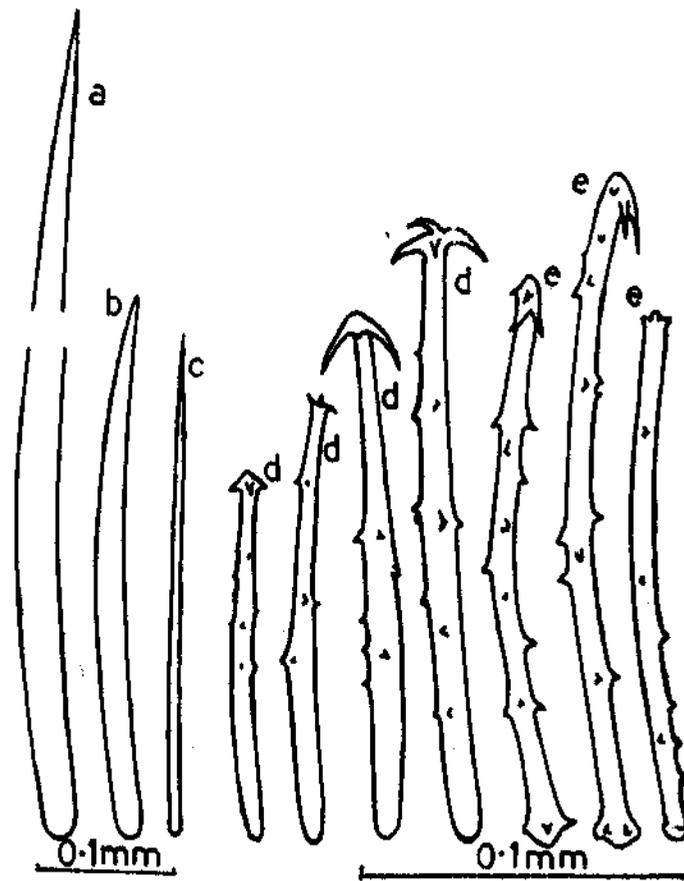
Description : Sponge attached to the substratum by rounded or angulated stalk. Branches often foliaceous, growing in a bushy pattern often free or fused

Fig. 1. *Endectyon lamellosa* sp. nov.—spicules : a. long style ; b. stout style ; c. hair-like style ; d. acanthostyles (different types) and e. acanthostrongyles (different types).

together. Both surfaces of the branch are velvety in appearance ; and the thickness may vary from 4-5 mm. Growing tips of the branches often cut up into radiating ridges. Measurements of the specimens are given in Table 1.

TABLE 1. *Measurements of the specimens (in mm)*

Reg. Nos.	Total		Details of growth	Stalk	
	Height	Width		Height	Width
CMFRI-S.55A	100	140	Branches fused	15	10
CMFRI-S.55B	83	115	Branches free	Incomplete	Incomplete
CMFRI-S.55C	52	55	Branches fused	13	6
CMFRI-S.55D	150	120	Branches free	30	15

Colour : Sandy grey when dry.

Consistency : Hard and incompressible.

Oscules and pores are not traceable. Surface minutely hispid due to the presence of styles arising from the tip of ascending fibres in a plumose fashion.

Skeleton : It is typical of the genus. Axial and extra axial parts are well differentiated and the thickness of the axial part is about 1/3rd of the entire thickness of the lamella. Extra axial fibres are well developed and the spongin content is rather high in relation to that of the axial part. Spicules are plumosely arranged in the extra-axial fibres. These fibres arise from the axial part at an angle to the latter, and are interconnected either by solitary spicules or spicular fibres in a scalary form pattern. In the stalk proper the axial part is well developed at the expense of the extra-axial part and the individual fibres are very difficult to make out. Both acanthostrongyles and acanthostyles echinate the fibres at an angle, and are profusely met with at the peripheral parts of the specimen.

Spicules : 1. Long styles: Slightly curved and sharply pointed, base evenly rounded or rarely oxeote. Size 0.88-1.05 (0.94 mm) \times 0.021-0.037 (0.026 mm) (Averages are given in parentheses). 2. Stout styles: Stout, slightly curved and sharply pointed, base evenly rounded or oxeote. Size 0.528-0.773 (0.635 mm) \times 0.021-0.029 (0.026 mm). 3. Hair like styles: Straight and sharply pointed. This can only be the younger forms of the previous types of styles. Size 0.25-0.466 (0.411 mm) \times 0.002 mm. 4. Acanthostyles: Graphnel like; terminal spines sharp and recurved but sometimes blunt and rudimentary. Base evenly rounded or with spines (about 2%). Partial or total suppression of spines from the shaft also is noted. Size 0.113-0.188 (0.154 mm) \times 0.004-0.008 (0.006 mm). 5. Acanthostrongyles: Both ends with rudimentary spines. Shaft slightly curved and sparsely spined or even tuberculated. These spicules are rarely noted. Size 0.27 \times 0.006 mm.

Remarks : The present new species, in growth form, resembles very much with *E. telssieri* Cabioch (1968) from Roscoff and *E. delaubenselsi* Burton (1930) from Plymouth, but differs from these in spicular constitution and measurements.

Key to the Indian species of Endectyon

1. Branches lamellar, with both acanthostyles and acanthostrongyles *E. lamellosu* n. sp.
- Branches finger shaped, branches perfectly circular in cross section 2
2. Styles two types, larger measuring 0.5 mm or more in length *E. fruticosa* (Dendy)
- Styles, only one type, always measuring less than 0.4 mm in length *E. thurstoni* (Dendy)

Central Marine Fisheries
Research Institute,
Cochin.

P. A. THOMAS

REFERENCES

- BURTON, M. 1930. *J. Mar. Biol. Ass. U.K.*, 16 : 489-587.
- CABIOCH, L. 1968. *Cah. Biol. mar.*, 9 : 211-246.
- DENDY, A. 1887. *Ann. Mag. nat. Hist.*, 5 (20) : 146-153.
- SCHMIDT, E. O. 1870. *Grundzuge einer Spongien-Fauna des Atlantischen Gebietes. Leipzig, Wilhelm Engelmann*, 4 : 1-88.
- THOMAS, P. A. 1968. Studies on sponges, Ph.D. Thesis, University of Kerala.
- . 1969. *Bull. Cent. Mar. Fish. Res. Inst.*, 7 : 13-21.