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ON TWO NEW POLYCHAETES (NEREIDAE : ANNELIDA) FROM ESTUARINE WATERS OF INDIA

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ABSTRACT

In this paper *Lycastonereis indica* Gen. nov., sp. nov. and *Namalycastis fauveli* sp. nov. belonging to the family Nereidae collected from the estuarine localities of Orissa, India, are described. The differentiating characters of *N. fauveli* with the other reported species of the genus are discussed.

Introduction

Polychaetes though practically are marine inhabitants, also occur abundantly in estuarine and brackish waters, the reason being obviously their extreme tolerance to a wide range of salinity. Southern (1921) and Fauvel (1932) recorded many interesting Polychaetes from such habitats of various localities of the country *viz.*, Gangetic West Bengal, Chilka Lake, Adayar estuary, Kerala back waters and the Salt lakes of Calcutta.

During the course of studies on the Polychaetes of Orissa, the author came across some interesting specimens of the family Nereidae. On examination, these have been found to belong to a new genus *Lycastonereis* and two new species *viz.*, *L. indica* and *Namalycastis fauveli*.

The types and the other material dealt here are deposited in the National collections of the Zoological Survey of India, Calcutta.

Lycastonereis Gen. nov.

Body slender and elongated with many segments. Prostomium plate-like with a pair of bulbous palps, a pair of small antenna and two pairs of eyes. Tentacular Cirri small, nearly of equal size and are three pairs only. Two pairs of the tentacular Cirri situated laterally between the prostomium and the first segment, while the third pair is situated on the dorsolateral side of the first segment. Proboscis with a pair of Chitinous jaws, few fleshy papillae. Chitinous paragnaths absent. Parapodia biramous in all the segments. Dorsal and ventral cirri small and not modified. Setae spinigers and falcigers.

Type species : *Lycastonereis indica* sp. nov.

Lycastonereis indica sp. nov.

(Fig. 1 A-D)

Material : Two specimens : Bytarani river beach, Chandbali, Orissa ; Coll.

S. Biswas : 2. 1. 1976. *Holotype*—length 40 mm. width 1-2 mm ; Z. S. I. Reg. No.—An 1201/1 : *Paratype* : 1, Z. S. I., Reg. No.—An 1202/1.

Description : Specimens elongated, very much narrow with many segments. Length 40-45 mm. and width 1-2 mm. Body soft with anterior segments narrow and arranged closer, while the posterior ones are broader. The worm is light brown in colour with some dark brown spots on the dorsal side of the prostomium and few anterior segments. Prostomium plate-like with a pair of bulbous palps, a pair of small antennae and two pairs of eyes. Tentacular cirri three pairs only and are of nearly equal size. Two pairs of cirri are situated laterally between the prostomium and the first segment, while the third pair is situated on the dorso-lateral side of the first segment. Everted proboscis with a

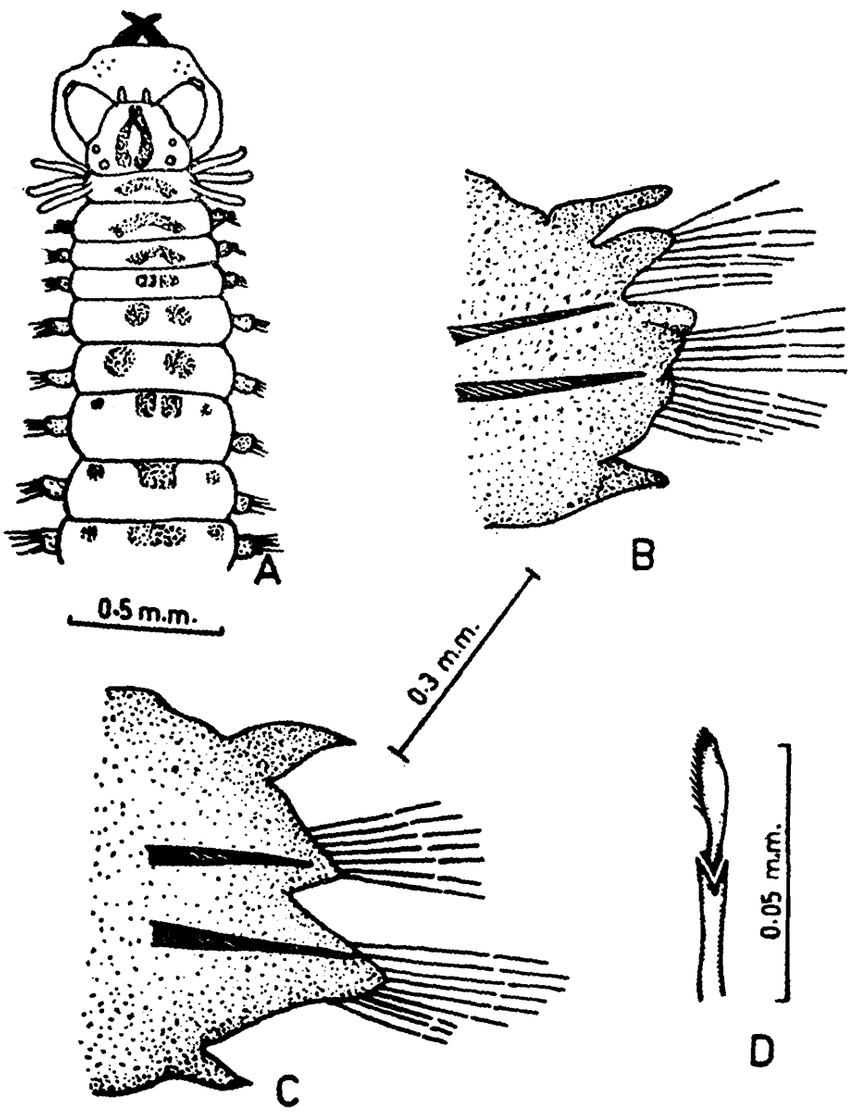

Fig. 1. A-D. *Lycastonereis indica* : A. anterior end showing everted proboscis ; B. anterior parapodium ; C. posterior parapodium ; D. heterogomph falciger.

pair of light brown coloured, transperent chitinous jaws, and without any chitinous paragnaths. Oral ring of the proboscis with few fleshy papillae. First segment apodus. Feet biramous allover. Anterior parapodia with two ligules in each ramus. Dorsal ramus with homogomph spinegers and the ventral ramus possesses homogomph, hemigomph spinigers and heterogomph falcigers with oar-shaped end pieces. In the parapodia of the mid region the size of the ligules in both rami decrease thus bringing the posterior parapodia with each ramus having a single ligule. The type of setae in the posterior parapodia are similar to that described for the anterior parapodia. Dorsal cirri are slightly bigger than the ventral cirri. The tail ends of both the specimens could not be observed as they are devoid of their posterior tips.

Remarks : The characters of the present specimens have been found to fall in between those of the two genera viz., *Nereis* Linnaeus and *Lycastopsis* (Augner). The former is characterised by having 4 pairs of tentacular cirri, biramous para-podia and chitinous paragnaths, while the latter with 3 pairs of cirri, Uniramous parapodia and without any chitinous paragnaths. However, Hartmann (1959) merged *Lycastopsis* with *Namanereis* Chamberlin. The genus *Namanereis* is characterised by the presence of 3 or 4 pairs of tentacular cirri, Uniramous parapodia, uniform type of dorsal cirri in all the feet and the absence of Chitinous paragnaths in the proboscis. Thus the present specimens with 3 pairs of tentacular cirri, biramous parapodia and without any chitinous paragnaths appears to be new and hence a separate genus is proposed.

Namalycastis fauveli sp. nov.

(Fig. 2 A-E)

Material : 5 specimens ; Bytarani river beach, Haripur, Chandbali, Orissa ; Coll. *S. Biswas* ; 4. 1. 1976. *Holotype*—length 55 mm ; width 2 mm ; Z. S. I. Regd. No. An 1203/1 ; *Paratypes*-4 ; Z. S. I. Regd. No. An 1204/1.

Description : Slender, elongated worms with many segments. Length 40-60 mm ; width 2-3 mm. Body light brown coloured without any markings. All segments are of nearly uniform breadth except those of the extreme posterior ones which shows proliferation of new segments. Prostomium broad with bulbous palps, a pair of very small antenna. Two eyes on each side of the prostomium and are arranged closely. Four pairs of the tentacular cirri, the longest touching the first setigerous segment. Proboscis with a pair of chitinous jaws. Chitinous paragnaths or fleshy papillae absent. Parapodia uniramous all through. Anterior parapodia with a small dorsal cirrus : Notopodia represented by an aciculum and 1-2 homogomph spinigers, while Neuropodia with a single ligule supported by the aciculam, many heterogomph spinigers and heterogomph falcigers. The ventral cirri is smaller than the dorsal cirri. The heterogomph falcigers of the neuropodia present a unique structure and thus a diagnostic feature to the species. In the heterogomph falcigers, of the two limbs at the forked end of the lower piece, one is short while the other, very long and its size being more than half of the end piece, sometimes nearly equal to the size of the end piece. Towards the posterior end the parapodia exhibits a different structure by having an expanded dorsal cirri with pointed ends. Dorsal ramus of

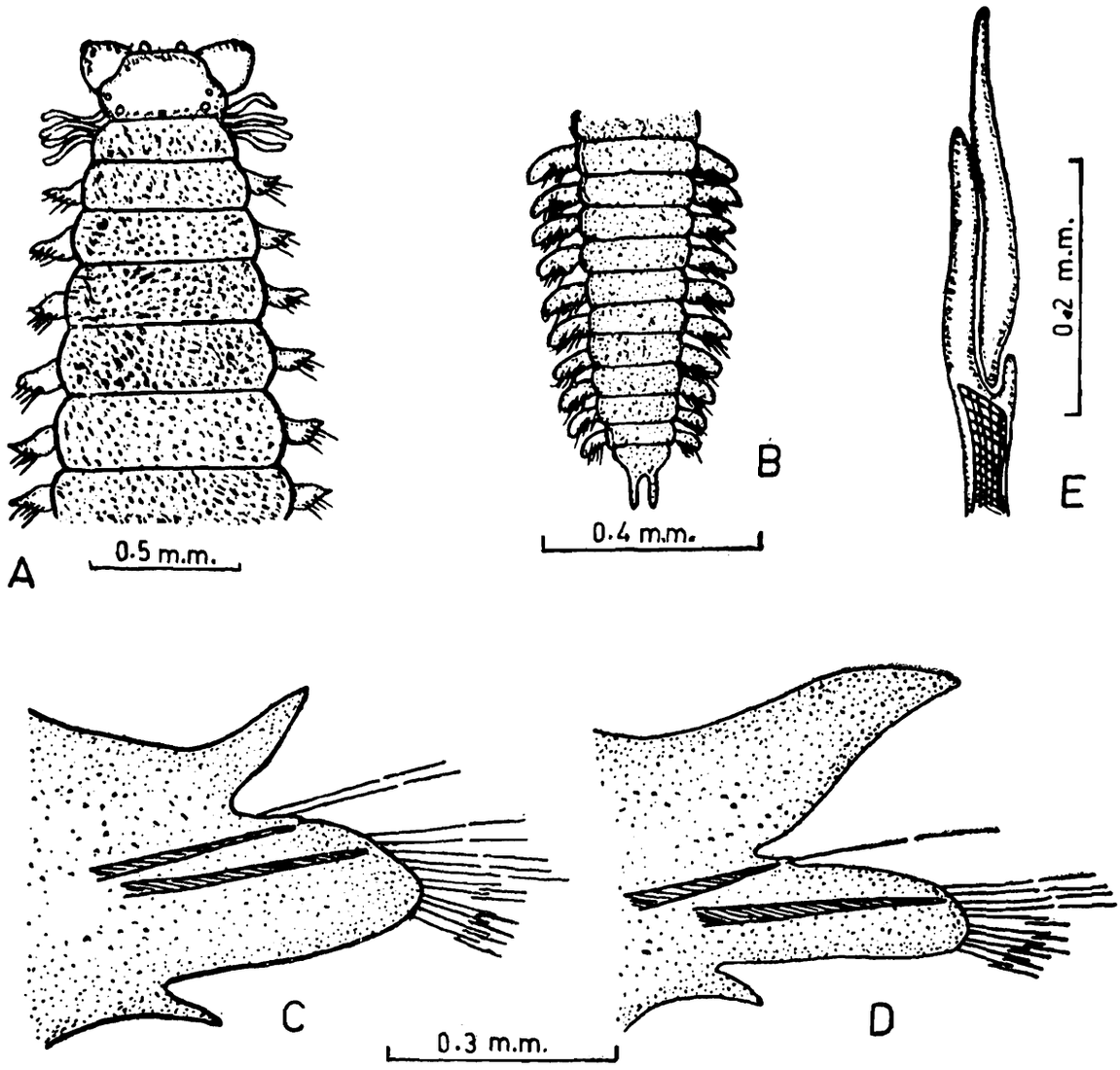

Fig. 2. A-E. *Namalycastis fauveli* : A. anterior end ; B. posterior end ; C. anterior parapodium ; D. posterior parapodium ; E. heterogomph falciger.

the posterior feet with a single homogomph spiniger and an aciculum, ventral ramus with heterogomph spinigers and heterogomph falcigers of the type as seen in the anterior parapodia. Ventral cirri small. A pair of annal cirri at the posterior end.

Remarks : The present *N. fauveli* appears closer to *N. rigida* Pillai, reported from the brackish water localities of Philippines, in the body size, arrangement of eyes, shape of the posterior dorsal cirri and the number of notosetae in the anterior segments. However, *N. rigida* is characterised by the cloven prostomium at its anterior tip, absence of notosetae in the posterior segments and the presence of medullary columns within the shafts of heterogomph spinigers and falcigers. The widely distributed *N. indica* (Southern) differs from the present *N. fauveli* from its bigger size, narrow and pointed posterior dorsal cirri, and simple type of heterogomph falcigers. The only common feature among these two species is the number of notopodial setae. *N. merukensis* (Horst) reported

from New Guinea and Thailand is quite different from the present material by its larger size (150-200 mm length, 20-22 mm width) and the presence of 6-8 notopodial setae. The present material appears different from *N. abiuma* (Grube) recorded from estuarine habitats of Florida. According to Pillai (1965) in *N. abiuma* the anterior part of prostomium is cloven into two halves, the eyes on each side are nearly coalscent and notopodial setae are absent generally. *N. tirtea* Winterbourn reported from a point in Tirtea river, 74 kms. away from its confluence point to the sea, in Newzealand is also different from *N. fauveli* by having only 3 pairs of tentacular cirri, absence of eyes and dorsal cirri.

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