

NEW RECORD OF FIVE ANNELIDS (CLASS : POLYCHAETA) FROM THE MANGROVE HABITAT OF THE SOUTH WEST COAST OF INDIA

ABSTRACT

This short communication reports the new record of five Polychaetous annelids from the mangrove ecosystem of Cochin backwaters, south west coast of India. Literature survey revealed that these polychaete species namely *Marphysa graveleyi*, *Nereis glandicincta*, *Eunice tubifex*, *Branchi CAPITELLA singularis* and *Pista indica* are the first ever record from the mangroves of Indo-Pacific region.

THE LITTORAL area of mangroves support various benthic communities of which a major group of population is constituted by polychaetes. Cochin mangrove area is supported by mixed growth of mangal flora. The dominant species found in the fringing area were *Rhizophora mucronata*, *R. apiculata*, *Avicennia officianalis*, *Acanthus ilicifolius* etc. The area receives mixed semi-diurnal tidal influx daily with an average of one metre. The present study reports observations on five polychaetes in the intertidal area of Cochin mangroves.

The author is greatly indebted to Dr. A. Antony for guidance. Thanks are due to Dr. C.S. Gopinadha Pillai, retired Principal Scientist, Central Marine Fisheries Research Institute for critically going through the manuscript and offering constructive criticism. The author is also grateful to Dr. N. Gopalakrishna Pillai, Scientist, Central Marine Fisheries Research Institute for his help in the identification of the specimens.

MATERIAL AND METHODS

An intensive survey of macrobenthos was carried out for two years from the intertidal region of the mangrove areas of Cochin (Sunil Kumar, 1993). Monthly samples were collected (1989-91) from three stations. Triplicate sediment samples were taken from each tidal level during low tide period, using a corer of

0.04m² area. Samples were pooled and sieved through a 0.5 mm mesh sieve to separate polychaete fauna. Polychaetes were identified by Fauvel (1953).

RESULTS AND DISCUSSION

Five species of polychaetes were reported (Fig. 1).

1. *Marphysa graveleyi* Southern

The species is characterised by numerous segments, bilobed prostomium, two eyes, short tentacles, absence of tentacular cirri, gills with numerous filaments.

2. *Nereis glandicincta* Southern

The species is characterised by numerous segments, head with two short tentacles, two pairs of eyes, two short palps, four pairs of tentacular cirri, the posterior dorsal tentacular cirri long.

3. *Eunice tubifex* Crossland

The species is characterised by numerous segments, bilobed prostomium, short tentacles, gills with numerous filaments.

4. *Branchi CAPITELLA singularis* Fauvel

The species is characterised by conical prostomium without eyes. The first 8-9 segments more larger and swollen than those following. Body slightly enlarged in the thorax. Thorax with dorsal and ventral capillary setae.

5. *Pista indica* Fauvel

The species is characterised by prostomium with eyeless lobe bearing tentacles. Body short and cylindrical, abdomen with numerous segments. Presence of three pairs of bushy gills, all about the same size.

Of these five annelids, the most dominant form in terms of population density was *N. glandicincta* followed by *M. gravelyi*, *E. tubifex*, *B. singularis* and *P. indica*.

The distribution of macrofauna in different mangrove forest of the Indo-pacific region have been reported by Walsh (1967) from Hawaiian mangroves, Machae (1967) and Wells (1983) from Australian mangroves, Machae (1968) from South African mangroves, Sasekumar (1974) from Malaysian mangroves, Frith *et al.* (1976) and Nateewathana and Tantochodok (1984) from mangroves of Thailand, Shokita *et al.* (1989) and Omori (1989) from mangroves of Japan; Bhunia and Choudhury (1981), Nandi and Choudhury (1983), Choudhury *et al.* (1984), Misra and Choudhury (1985) and Patra *et al.* (1988) from Sunderban mangroves and Padmakumar (1984) from mangroves of Bombay in India. While comparing the present assesment with those published from the above cited work of mangrove ecosystem, it is suggested that the wide occurrence of *M. gravelyi*, *N. glandicincta*, *E. tubifex*, *B. singularis* and *P. indica* in the mangrove habitats of Cochin area is the first record from Indo-pacific mangrove biotope. But another species of *Marphysa* (*M. mossambica*) has been recorded from South African mangroves (Machae, 1968), mangroves of Phuket island in Thailand (Frith *et al.*, 1976) and Sunderban mangroves in India (Misra and Choudhury, 1985). Some other opportunistic species encountered at Cochin during the period of study were not considered for the new record,

since these species have showed no inter-relationship and adaptation to mangrove soil habitat and being drastically eliminated by

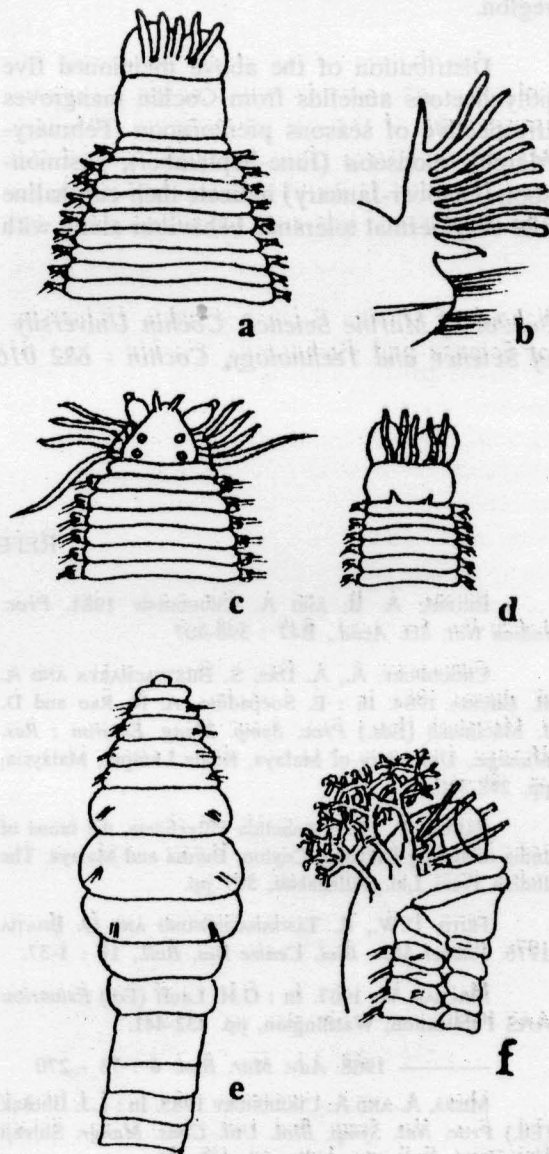


FIG. 1 Anterior part of polychaetes, a. *M. gravelyi*, b. gill of *M. gravelyi*, c. *N. glandicincta*, d. *E. tubifex*, e. *B. singularis*, f. *P. indica*.

the effect of wide fluctuations of salinity. The other remaining polychaete species recorded during the present study were also reported from various mangrove systems of Indo-Pacific region.

Distribution of the above mentioned five polychaetous annelids from Cochin mangroves irrespective of seasons premonsoon (February-March), monsoon (June-September), postmonsoon (October-January) indicate their euryhaline and eurythermal tolerance behaviour along with

the physiological adaptability to survive in the distinct intertidal habitat. The abundant supply of food material derived from putrified mangrove vegetation together with suitable texture of soil seemed to be furnishing an excellent additional habitat for these species. The absence of these polychaetes in other geographical mangrove areas may suggest the existence of incomplete records throughout the Indian subcontinent as well as other part of the world pertain to the inadequacy of extensive survey.

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