

STUDIES ON NEW OR LITTLE KNOWN POLYCHAETES FROM THE
INDIAN SEAS

4. ON A NEW RECORD OF *SIGAMBRA TENTACULATA* (TREADWELL)
(PILARGIDAE), FROM THE SOUTHWEST COAST OF INDIA
ALONG WITH OBSERVATIONS ON ITS EARLY LARVAL STAGES

ABSTRACT

Sigambra tentaculata (Treadwell) which is known previously from East Atlantic and Western Pacific Ocean is reported from Vizhinjam, southwest coast of India for the first time. The pelagic and benthic larval stages of the species are described and illustrated.

PETTIBONE (1966) revised the Family Pillargidae and included seven genera namely *Ancistrosyllis*, *sigambra*, *Pilargis*, *Cabira*, *Loandalia*, *Sinelmis* and *Otopsis*. The genus *Sigambra* is represented in the Indian Seas by only one species, *S. constricta*, first described from Chilka Lake by Southern (1929) and subsequently reported from the east coast of India by Fauvel (1953) and from the west coast of India by Achari (1969).

The present report of *S. tentaculata* (Treadwell) from Vizhinjam, southwest coast of India is the first record from the Indian region. Besides providing some taxonomical notes on the species, two larval stages of the species are also briefly described here.

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Genus *Sigambra* Muller, 1858

Sigambra Muller, 1858 (Type species: *S. grubii* Muller, 1858 by monotype).

Sigambra Tentaculata (Treadwell) (Fig. 1 a-c)

Ancistrosyllis tentaculata Treadwell, 1941, p. 1, fig. 1-3; Hartman, 1963, p. 13; 1965, p. 71.

Sigambra tentaculata Pettibone, 1966, p. 182, fig. 14-15.

Material: Three specimens with 20 setigerous segments measuring 1.45 mm length and 0.4 mm body width reared from the larvae (0.55 mm × 0.3 mm) collected from the inshore waters off Vizhinjam on 18.8.1971 by operating a half a metre zooplankton net.

Description: Body elongated, flattened dorsoventrally and widest anteriorly; posterior region gradually tapers to pygedral segment; parapodia deeply cut; prostomium variable in shape; palps biarticulate with button like palpophores which appear to be continuous with the prostomium. Proboscis with conical papillae around the

margin and the posterior margin when retracted reaches tentacular segment in ventral aspect. Median antenna extends beyond palps and originates slightly behind the lateral antennae which are smaller. Eyes absent (eyes present in the larval stages). Two pairs of tentacular cirri which are almost similar to lateral antennae. Tentacular segment longer than the median antenna and conspicuously longer than the dorsal cirri of the posterior segments. Parapodia sub-biramous, notopodia conical and notoasciculum curving distally. Hooked notoseta beginning on setiger 4 and

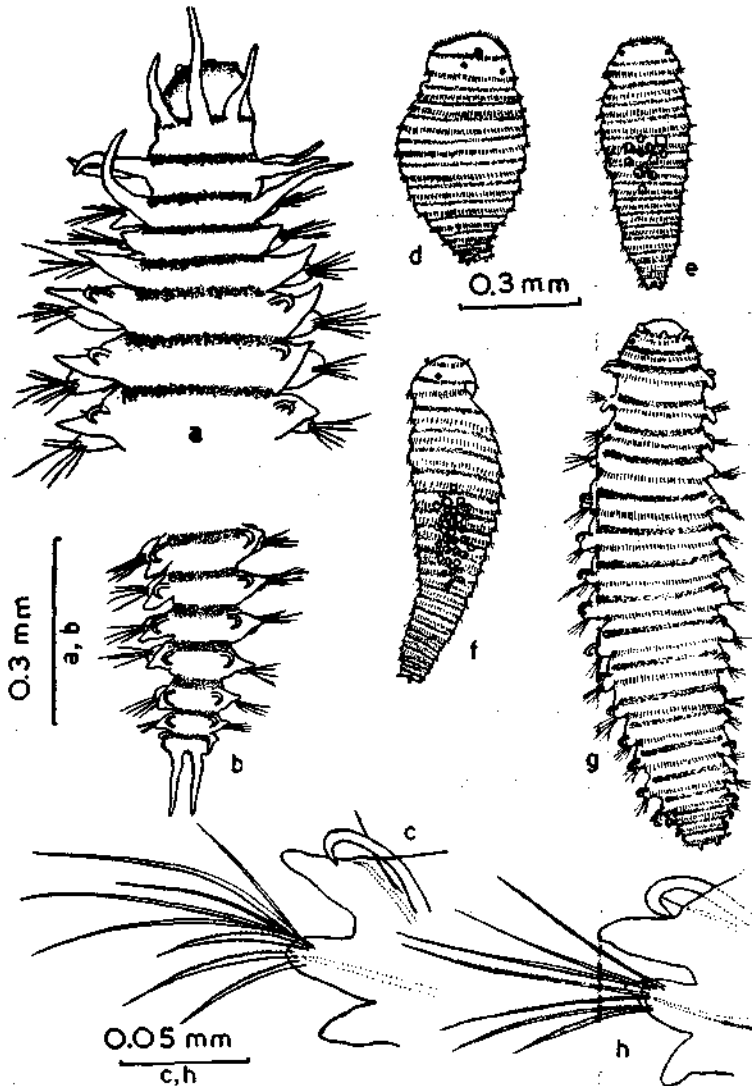


Fig. 1. *Sigambra tentaculata* (Treadwell): a. Anterior region, dorsal view; b. Posterior region showing pygidium; c. Parapodium of fourth setiger; d, e. Larva I (Pelagic stage) dorsal view; f. Larva I (Pelagic stage) lateral view; g. Larva II (Benthic stage) and h. Parapodium of Larva II (Fourth setiger).

present upto the posterior most setigerous segment. A capillary seta also present in most of the segments along with hooked notosetae, whereas in *S. constricta* the hooked setae begin at about setigers 30-40. Dorsal cirri extend beyond setal lobes. Neurosetae 5-14, variable in length, longer ones smooth capillaries and shorter ones spinous (fig. 1 c). Ventral cirrus lacking on setiger 2 and shorter than setal lobes when present. Pigidium bears two long anal cirri. Segmental intestinal caeca prominently visible. The young specimens agrees well with the figures of a specimen of 14 setigerous segment from Port Aransas figured by Pettibone (1966). *Colour*: Pale yellow with transverse yellow bands of granular pigments in each segments; yellow bands prominent both in the young and larval forms.

Larva I (Fig. 1d,e,f): Planktonic; highly phototrophic; 0.55 to 0.85 mm long and 0.25 to 0.3 mm broad. Two prominent eyes present, larva resembles the late metatrochophore of *Spio setosa* with the exception of the presence of yellow transverse band of granular pigments alternating with the circular bands of cilia in each segments and two continuous ciliated ring round the prostomium in the anterior and posterior region of the eye. A median reddish patch of cells probably sensory in function present in the mid anterior region of eye. A similar patch also present in the posterior end of the pygidial segment. Anal cirri just buds off in the pygidial segment in the later stage larvae. Larva actively move about and highly contractile for about five to eight days and reaches the benthic stage.

Larvae II (Fig. 1g,h): Benthic; ciliation in the early stages are still retained and gives a similarity to some of the forms in Dorvillidae. Larva measures 1.25 mm long and 0.3 mm broad with 16 setigerous segments. Eye present. Prostomium and tentacular segment well demarcated. Palps not differentiated. Antennae appear as buds. Tentacles just developing. Dorsal cirri of first setiger not differentiated from the posterior ones. Hooked setae developed from the fourth setiger to the posterior most segment. Anal cirri just budding off from the pygidial segment. Intestinal caeca prominent. Proboscis with marginal conical papillae.

Remarks 35 live larvae of the species obtained from the plankton on 18.8.1971 were reared in the laboratory in glass troughs (2 litres capacity) containing fresh sea water for a period of 22 days. At the end of the experiment 3 specimens each having 20 setigerous segments survived.

It is observed that all the larval characters in the early stages are retained even in the 16 setigerous segment stage.

The larvae resemble more or less with the larvae and adults of *Ophryotrocha puerilis* in general appearance. In the presence of the cilia even in the 16 setigerous stage and the bud-like developing tentacles, the larva of *S. tentaculata* has more affinity with that of *O. puerilis*.

Distribution: Off New England, Chesapeake Bay, Gulf of Mexico (Texas), north eastern South America, Southern California. Intertidal to 1300 metres off Vizhinjam, south west coast of India.

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