

ON A NEW SPECIES OF *SPHAEROSYLLIS*
(POLYCHAETA) FROM THE BEACH
SANDS OF WALTAIR COAST

BY G. CHANDRASEKHARA RAO AND P. N. GANAPATI, F.A.Sc.

(Department of Zoology, Andhra University, Waltair)

Received November 10, 1965

INTRODUCTION

WHILE engaged in the study of the interstitial fauna inhabiting the beach sands of Waltair coast, we have frequently come across several specimens of a tiny polychaete worm belonging to the genus *Sphaerosyllis*. This little-known genus has not previously been reported from the Indian coast. It is found that the worm possesses remarkable features in which it differs from all the known species of the genus and hence is described as a new species under the name *Sphaerosyllis bengalensis*.

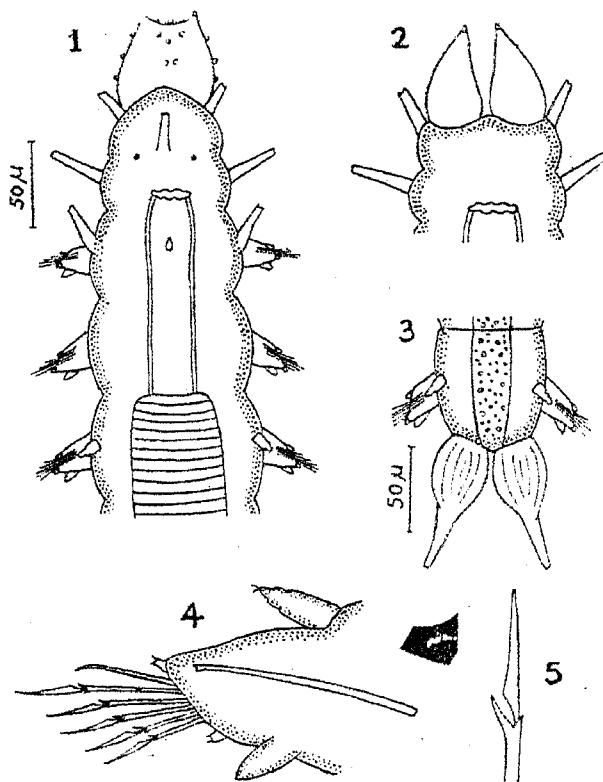
The worms were collected by taking sand samples in a glass beaker and vigorously swirling them with sea-water when the worms were shaken off to the surface. The supernatant water was quickly decanted off into a petri dish from where the worms were picked up with a pipette under a binocular microscope. The animals are best observed in the living condition. The worms were fixed in Bouin's fluid and preserved in 5% formalin containing 2% glycerine.

GENUS: *Sphaerosyllis* CLAPAREDE, 1863

Sphaerosyllis bengalensis n.sp. (Figs. 1-5)

Description.—Body transparent; tapers anteriorly and posteriorly; broadest at one-third of its length from the anterior end and consists of 13-15 setigerous segments. Length varies from 1.1 to 1.3 mm. and width excluding parapodia 0.08 mm. Prostomium fused with the buccal segment and measures as long as its width ($62 \times 62 \mu$). Palps are conical, 60μ long, and bear small papillae. The palps are separated in between ventrally but fused dorsally by a papillated skin. The dorso-median tentacle is 26μ long, situated between a pair of reddish-brown eye-spots. The pair of antero-lateral tentacles is 20μ long and dorso-lateral in position. The pair of tentacular cirri is 36μ long and ventro-lateral in position. Each parapodium

bears two small papillae on its distal end and a dorsal and a ventral conical cirrus. The dorsal cirrus is slightly larger than the ventral cirrus. The first pair of parapodia bear long dorsal cirri resembling the dorso-median tentacle. The dorsal cirri are absent on the second pair of parapodia while they are short on the rest of the succeeding pairs. The parapodium is supported by an acicular seta bifid at the distal end; one simple seta slightly curved and pointed at the distal end and five compound setae with their distal joints lacking serration. Proboscis is 160μ long, bears a conical tooth of 7μ in length and its anterior border is fringed with cusps. The gizzard is 180μ long, with about 22 glandular rings occupying two setigerous segments of the body. Pygidium bears a pair of club-shaped anal cirri measuring about 75μ in length.



Figs. 1-5. *Sphaerosyllis bengalensis* n.sp. Fig. 1. Anterior region, dorsal view. Fig. 2. Head, ventral view. Fig. 3. Posterior region, dorsal view. Fig. 4. Parapodium. Fig. 5. Compound seta showing terminal blade.

Sexes are separate and the males are usually smaller than the females. The eggs are borne in eighth to tenth setigerous segments. The eggs are heavily yolked and limited to a small number. After the liberation of the eggs, embryos were seen developing attached to the genital segments until the juveniles are released.

Remarks.—Among the known species of the genus *Sphaerosyllis*, the present form approaches *S. minima* Hartmann-Schroder (1960) in the structure of the tentacles and parapodia but differs from it in the number of eyes and the shape of the palps and anal cirri. The anterior end of the animal is very remarkable in the structure of the relatively long prostomium, the presence of only two eyes (all other species have four or six or none) and the long palps which are separated ventrally but fused dorsally by a papillated skin.

Diagnostic features.—Minute worms 1.1 to 1.3 mm. long, with 13-15 setigerous segments long prostomium bearing two long conical palps separated ventrally but fused dorsally by a papillated skin, with a pair of reddish-brown eyes; and the pygidium bearing a pair of club-shaped anal cirri.

Locality.—Palm Beach (Intertidal Zone), Waltair, India.

Holotype.—Deposited in Zoology Museum, Andhra University, Waltair.

Ecology.—The worms usually occur in coarse and medium sand 15 cm. below surface near half-tide level and could be obtained throughout the year in fair numbers. The temperature in the habitat varies from 26° to 30° C. while the salinity ranges from 24 to 34‰. The worms are sluggish and omnivorous in their diet. They are highly thigmotactic and adhere firmly to the sand grains when there is a commotion in the environment.

Among the various interstitial animals occurring in the same habitat, some of the common species are the following: the ciliates *Tracheloraphis phoenicopterus* (Vohn) and *Epiclindes ambiguus* (O. F. Muller); the hydrozoan coelenterate *Halammohydra octopodides* Remane; the turbellarian *Baltoplana magna* Karling; the nematodes *Enoploides harpax* Wieser, *Cynura papillata* Gerlach, *Tricoma* sp., *Metepsilonema* sp. and *Desmoscolex bengalensis* Timm; the gastrotrichs *Dactylopodalia* sp., *Thaumastoderma heideri* Remane, *Tetranchyroderma* sp., and *Xenotrichula velox* Remane; the kinorhynch *Cateria styx* Gerlach; the archiannelid *Diurodrilus benazzii* Gerlach; the polychaete *Hesionides arenarius* Friedrich; the ostracod *Microcythere subterranea* Hartmann, the copepods *Arenopontia subterranea* Kunz., *Arenopontia* sp., and *Sewellina reductus* Krishnaswamy and the acarine *Halacarus anomalus* Trouessart.

ACKNOWLEDGMENTS

A few specimens of the worm, together with its drawings and description, were sent to Dr. Gesa Hartmann-Schroder, Zoologisches Staatsinstitut und

Zoologisches Museum, Hamburg-13, Germany. We are indebted to her for confirming the identification of the species as new to science and also for her valuable comments.

REFERENCES

Hartmann-Schroder, G. ... "Polychaeten aus dem roten Meer," *Kieler Meeresforsch.*, 1960, **16**(1), 69-125.
Rao, G. C. and Ganapati, P. N. "The interstitial fauna inhabiting the beach sands of Waltair coast" (in press).