

**STANNOPHYLLUM SETOSUM SP. N.,
A REMARKABLE XENOPHYOPHORE
(RHIZOPODEA, PROTOZOA)
FROM THE EASTERN PACIFIC**

by

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Résumé

Un xénophyophore (Rhizopodea, Protozoa) *Stannophyllum setosum* sp. n., provenant des profondeurs abyssales de l'Est-Pacifique, est décrit. Le caractère le plus important est la présence de linelles (c'est-à-dire de fils organiques constituant une partie du test) courts et épais, et ressemblant à des cheveux.

The eastern and central equatorial Pacific seems to be comparatively rich in xenophyophores, 13 species having been reported from this region. However, since only 6 of these have been collected more than twice in the area, it was not surprising that a sample secured by the French Coriolis Expedition (CNEXO - COB) in 1975 and passed on to me as a result of the keen observation of Dr. M. Segonzac of the Sorting Center (CENTOB) of Centre Océanologique de Bretagne (COB), turned out to represent a new species.

For taxonomy, distribution, etc., of the Xenophyophoria, see Tendal 1972.

STANNOPHYLLUM SETOSUM sp. n.

Material

Campagne Coriolis 1975. East Pacific, 131°17'W, 12°52'N. 4915m. One specimen.

Description

The specimen (Plate I, 1) is irregularly elliptical in outline, measuring approximately 60mm x 45mm, and is 4mm thick. The colour is dark green-brown and the consistency is very soft. The two long edges differ somewhat, one being even and rounded, gradually

becoming more ragged in appearance along the short edges, and the other being strongly split up into numerous long tufts of free-hanging linellae (i.e., thin threads forming organic part of the test (Hedley and Rudall, 1974).

Linellae are distributed throughout the body but occur mainly on the surface, where they form a thick easily discernible layer. Close inspection reveals two types of linellae in this layer, viz. short, relatively thick, hair-like ones and long, thin, branching and anastomosing ones.

The hair-like linellae are few. They are flexible, although somewhat stiff, and stand perpendicular to the test surface (Plate I, 2). Their length is up to 1.5mm, with 0.5-1.0mm extending freely. They are scattered over both surfaces of the test and stand at intervals of 0.25-2.0mm, generally 0.7-1.0mm apart. Their diameter is 25-60µm and is even for most of the length, tapering to a point at the free end. Their base is solidly fastened into the surface linella layer by a large number of secondary connections with linellae of the other type. Such anchoring linellae run in all directions from the hair-like ones and in some parts of the specimen these arrangements are so conspicuous as to give the surface a stellar appearance. The hair-like linellae are made of layer upon layer of what seems to be the same material as that constituting common linellae and they have in some cases a central core of small particles, presumably originating from outside the organism. Because of their thickness these linellae are yellow-brown in transmitted light.

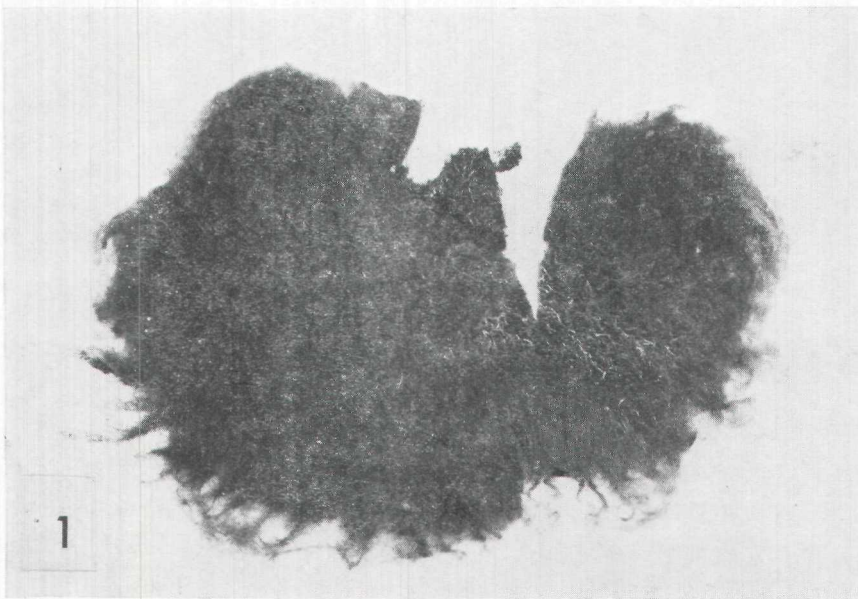
The common linellae are exceedingly numerous, 3-5µm thick (occasionally up to 12.5µm) with frequent branchings, anastomoses and secondary connections to each other. They run in all directions but in general parallel to the test surface.

There are no xenophyae (i.e., foreign particles incorporated in the test).

The preservation is poor and only few cytological details are available. Granellare (i.e., the plasma-containing tubes) measure 60-85µm in diameter. Granellae (i.e., crystals of barium-sulphate) are very numerous inside the granellare tubes and measure up to about 8µm in length. Stercomare (i.e., masses of faecal pellets, stercomata) apparently consist of small stercomata groups arranged in rather vague strings. The diameter of these strings seems generally to be 60-100µm, occasionally up to about 200µm. Stercomata are ellipsoidal and measure up to 20µm in length.

Remarks

The similarity of *Stannophyllnm setosum* sp. n. to *S. mollum* Tenlral, 1972, is very great, the most important difference between them being the presence of hair-like linellae protruding from the surface of the former, as opposed to the smooth surface of the latter. There is also apparently a difference in the organization and dimensions of stercomare, but the condition of the present specimen does not allow a final decision in this matter.



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PLATE I

1. *Stannophyllum setosum* sp. n. Holotype. 1,5 x. The incisions in the upper edge are artificial.
2. The surface of *Stannophyllum setosum* sp. n. Hair-like linellae protruding from surface layer of common linellae. 30 x.

Besides being one of the few species of xenophyophores that are known to be devoid of xenophyae in the test, *S. setosum* shows the unique development of short, thick, hair-like linellae on the surfaces. The most reasonable function that can be attributed to these structures is that they form some sort of support for the pseudopodia. *S. mollum* seems to live on or partly buried in the bottom surface (Lemchc *et al.*, 1976). If *S. setosum* adopts a similar position, the hair-like linellae might help to keep a narrow space open for pseudopodia and water movements over the underside of the animal, and on the upper side help the pseudopodia to reach up into the near bottom water layer. It should be mentioned that *Stannophyllum* species are similar on both sides of the test, and they may be able to turn over under certain circumstances.

Summary

The xenophyophore (Rhizopodea, **Protozoa**) *Stannophyllum setosum* sp. n. is described from abyssal depths in the East Pacific. The most important character is the presence of short, thick, hair-like linellae (i.e., organic threads forming part of the test) protruding perpendicularly from the test surface.

REFERENCES

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