

GLOSSOTHELEPUS, A NEW GENUS OF THELEPINAE
(POLYCHAETA: TEREPELLIDAE) FROM THE
GULF OF CALIFORNIA, MEXICO

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Abstract. — A new genus of Thelepinae, *Glossothelepus*, is described from deep water off Mexico, with the type species *G. mexicanus*, n. sp. The genus is closely related to *Decathelepus* Hutchings and *Rhinothelepus* Hutchings from Australia, and *Telothelepus* Day from South Africa.

While examining material in the collections of the Allan Hancock Foundation, an undescribed genus was found. Dr. Kristian Fauchald had already separated this material, recognizing it as a new genus. We are thankful to Dr. Fauchald for allowing us to describe the new genus, which extends the distribution of those genera of Thelepinae with expanded tentacular lobes.

Glossothelepus, new genus

Diagnosis. — Expanded tentacular lobe with numerous buccal tentacles; dorsal buccal lobe T-shaped, and thickened. Numerous sessile simple branchial filaments on segments 2 and 3. Notopodia from segment 3, continuing for at least 23 segments. Notosetae smooth-tipped, narrow-winged, broad-bladed capillaries. Neurosetae from setiger 7, arranged in single rows, avicular.

Type species. — *Glossothelepus mexicanus*.

Etymology. — The generic name is a combination of the Greek 'glossos,' a tongue, and 'thelepus' and refers to the expanded glandular tentacular lobe.

Glossothelepus mexicanus, new species

Fig. 1

Holotype. — AHF Poly 1449, posteriorly incomplete, 10 mm length, 1.2 mm maximum width, 23 setigers, Sta P51-59 (N15136-F3205): 25°31'5"N, 109°31'5"W;

9 fms. Paratypes: 1 spec. USNM 98572 posteriorly incomplete, 15 mm length, 2.5 mm maximum width, 20 setigers, Sta 496-36 (F3115): 23°21'55"N, 109°24'40"W: 80 fms, mud; 1 spec. AM W 199659 posteriorly incomplete, 20 mm length, 2 mm maximum width, 20 setigers, Sta 1732-49 (F3101): 23°24'45"N, 109°23'50"W to 23°24'30"N, 109°24'00"W; 50 fms; sand and mud. All material from Fraile Bay, Gulf of California, Mexico.

Description. — Body pale yellow, stout, with long golden setae. Prostomium with expanded tentacular lobe with convoluted margins, dorsally T-shaped, thickened, almost papillate, from which some tentacles arising (Fig. 1a); ventrally forming elongate upper lip (Fig. 1b). Large numbers of grooved buccal tentacles of 2 types; few, thick, slightly bulbous ones resembling those found in Polycirrinae, and more numerous thin ones. Eye spots absent.

Ventrum of peristomium thickened, slightly ridged, with maximum width in anterior-posterior axis, forming discrete glandular pad. Segment 2 wedge-shaped laterally, connected ventrally by very narrow strip, almost completely hidden by peristomium and thickened ridge of segment 3. Anterior lateral margins of segments 2 and 3 slightly thickened, glandular, but not forming discrete lateral folds. Ventrum of setigerous segments 1-8 slightly more glandular than subsequent segments, also slight-

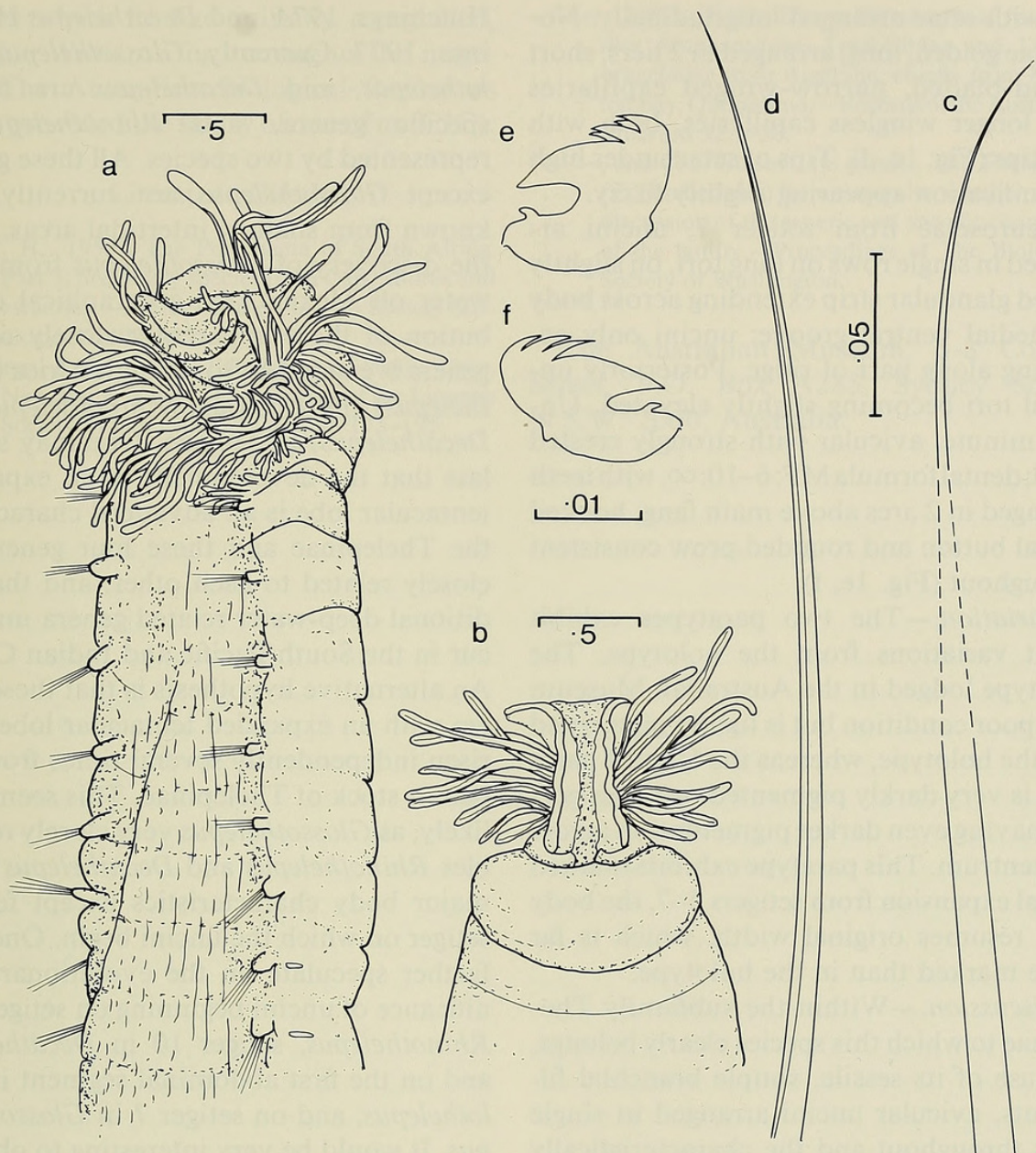


Fig. 1. *Glossothelepus mexicanus*: a, Holotype, head end, dorsolateral view; b, Head end, ventral view; c, d, Paratype (AM) long and short notosetae respectively; e, f, Paratype (AM), uncini from setiger 8 and setiger 19, respectively. Scales in mm.

ly granular in appearance. Thin medial ventral glandular stripe occurring along rest of body; stripe segmented, each segment having an additional intrasegmental fissure. Segmentation becoming more distinct posteriorly. Dorsum appearing slightly reticulate, especially anteriorly.

Branchiae consisting of numerous sessile filaments on segments 2 and 3. Each branchia consisting of laterally arranged group

of sessile filaments with distinct medial gap. Segment 2 with approximately 20 filaments on each side arranged on arc-shaped thickened ridge, more laterally arranged than those on segment 3. Segment 3 with about 15 filaments on each side.

Notosetae from segment 3, continuing for at least 23 segments. First pair of notosetae inserted at angle, in contrast to others. Notopodia elongate, flattened, rectangular po-

dia with setae arranged longitudinally. Noto- and neurosetae golden, long, arranged in 2 tiers, short broad-bladed, narrow-winged capillaries and longer wingless capillaries, both with fine tips (Fig. 1c, d). Tips of setae under high magnification appearing slightly fuzzy.

Neurosetae from setiger 7, uncini arranged in single rows on long tori, on slightly raised glandular strip extending across body to medial ventral groove; uncini only occurring along part of ridge. Posteriorly uncinal tori becoming slightly elevated. Uncini minute, avicular with strongly crested head; dental formula MF: 6-10:∞, with teeth arranged in 2 arcs above main fang; hooked dorsal button and rounded prow consistent throughout (Fig. 1e, f).

Variation.—The two paratypes exhibit slight variations from the holotype. The paratype lodged in the Australian Museum is in poor condition but is lightly pigmented like the holotype, whereas the USNM paratype is very darkly pigmented, with setigers 1-3 having even darker pigmentation across the ventrum. This paratype exhibits marked lateral expansion from setigers 5-7, the body then resumes original width, which is far more marked than in the holotype.

Discussion.—Within the subfamily Thelepininae to which this species clearly belongs, because of its sessile, simple branchial filaments, avicular uncini arranged in single rows throughout and the characteristically Thelepininae-like uncini, the setiger on which the noto- and neurosetae begin is considered to be an important generic character (Hutchings and Glasby in press). No existing described genus in the subfamily has noto- and neurosetae beginning on segment 3 and neurosetae on setiger 7, and for this reason, this species is described in the new genus *Glossothelepus*. Within the Thelepininae, at least two distinct groups can be recognised, one group of genera with a compact prostomium, the other group with an expanded tentacular lobe. *Glossothelepus* clearly belongs to this latter group, which also includes *Telothelepus* Day, 1955, *Rhinothelepus*

Hutchings, 1974, and *Decathelepus* Hutchings, 1977. Currently, *Glossothelepus*, *Telothelepus*, and *Decathelepus* are monospecific genera, and *Rhinothelepus* is represented by two species. All these genera except *Glossothelepus* are currently only known from shallow intertidal areas. With the discovery of *Glossothelepus* from deep water off Mexico, the geographical distribution of these apparently closely related genera is expanded from South Africa (*Telothelepus*) and Australia (*Rhinothelepus* and *Decathelepus*) to Mexico. One may speculate that the development of an expanded tentacular lobe is an advanced character in the Thelepininae and these four genera are closely related to each other, and that additional deep-water related genera may occur in the South Pacific and Indian Ocean. An alternative hypothesis is that these genera with an expanded tentacular lobe have arisen independently several times from the parent stock of Thelepininae. This seems unlikely, as *Glossothelepus* very closely resembles *Rhinothelepus* and *Decathelepus* in all major body characteristics except for the setiger on which the uncini begin. One may further speculate on the evolutionary significance of uncini beginning on setiger 6 in *Rhinothelepus*, setiger 10 in *Decathelepus* and on the first abdominal segment in *Telothelepus*, and on setiger 7 in *Glossothelepus*. It would be very interesting to observe the feeding behavior in these genera, since presumably the uncini are used to retain the animal in its burrow.

Etymology.—The name given by Dr. Fauchald has been retained and refers to the geographical location where the animal was collected.

Habitat.—Deep water, in sand and muddy substrata.

Distribution.—Gulf of California, Mexico.

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