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NEW SPECIES OF NAIDIDS

(OLIGOCHAETA, NAIDIDAE)

by

T.V. Akinshina

Three new species of naidids (Family Naididae) were found in /136* bottom samples from the zoobenthos that were collected in the Angara River and in Angara reservoirs (Bratsk and Ust'-Ilim). Permanent preparations were prepared by clarifying the worms and mounting them in dammar gum. The holotypes and a portion of the paratypes of the species described are preserved in the collection of the Zoological Institute of the USSR Academy of Sciences (Leningrad). The remaining type material is in the collection of the Scientific Research Institute of Biology (Irkutsk).

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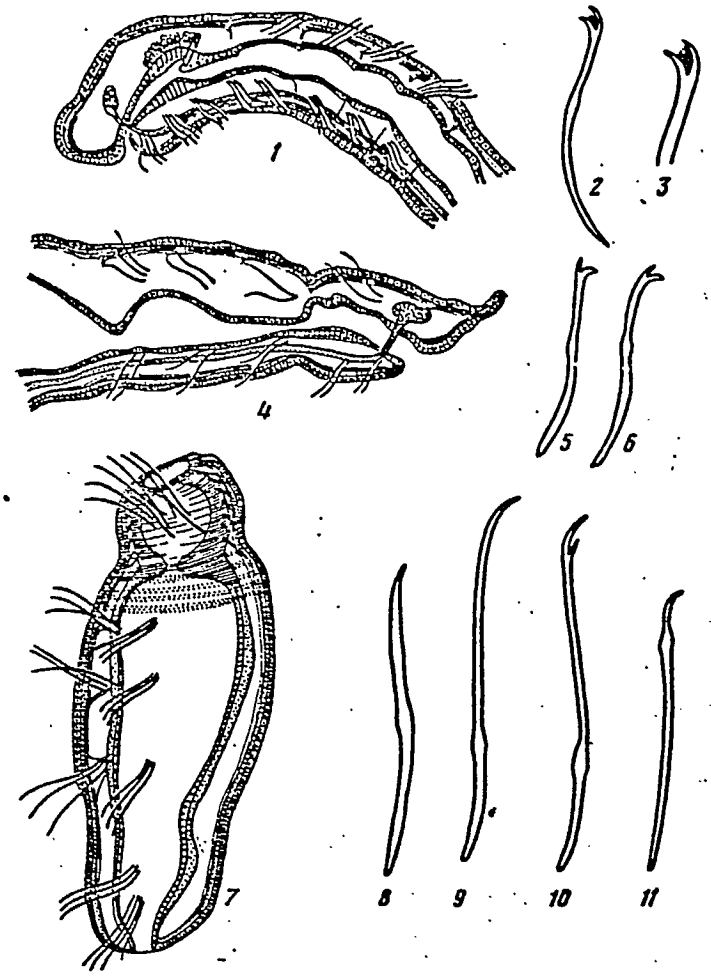
* Numbers in right-hand margin refer to corresponding page in Russian text--Translator.



Uncinais golyschkinae sp. n. (1-3)
Amphichaeta mostrifera sp. n. (4-6)
Chaetogaster intermedius sp. n. (7-11)

1, 4, 7: general view of the worm
2, 5, 8, 9: ventral seta of 2nd segment
3: ventral seta of 3rd segment
6: ventral seta of 6th segment
10: ventral seta of 5th segment
11: penial seta

Uncinais golyschkinae Akinschina, sp. n.

(Figure, 1-3)

Material: Bratsk Reservoir; Svirsk; depth of 1.8 m; silted sand, detritus; 9 June 1979, 30 specimens. Holotype No. 1/45721 - incomplete specimen consisting of 29 segments; length 4.00 mm; diameter 0.25 mm. Paratype No. 2/45722, also incomplete specimen. Both worms sexually immature.

Description: Prostomium massive, round. Covers thin, smooth. Dorsal side of 2nd-4th segments have characteristic distension. Eyes are absent. Pharynx and pharyngeal pocket in 2nd-4th segments; no distinct abdominal expansion; chloragogen tissue begins from dissepiment 5/6. The ventral setae begin with the 2nd segment, dorsal with the 6th. Setae of the dorsal and ventral bundles are identical in shape, forked [bidentate] with forks of equal length, but with a thinner distal fork. All setae have 2-4 intermediate denticles each, clearly discernable during immersion. The nodule is distal. Ventral bundles contain 4-6 setae each, dorsal, 3-5; length 93 m. The reproductive system has not been studied since sexually mature individuals were not encountered.

Differential diagnosis: This species belongs to the genus Uncinais since it has 5 larval segments; the dorsal bundles begin with the 6th segment. The setae of the dorsal and ventral bundles are identical in shape, forked [bidentate]. There are no hair-like setae. This new species differs from the previously known species U. uncinata Oersted and U. minor Sokolskaja in the Angara River, the Angara reservoirs, and Lake Baikal in the following features: (1) the presence of intermediate denticles in the forked setae of the ventral and dorsal

bundles, (2) the lack of eyes, (3) setae of the same sizes in the larval and postlarval segments (the setae of the postlarval segments of U. uncinata are shorter, while those of U. minor are shorter and thicker than those of the larval segments), and (4) distal and proximal forks of the setae of identical length (U. uncinata has the distal fork longer than the proximal; in the larval segments of U. minor the upper fork is longer than the proximal, while in the postlarval segments it is shorter). The similarity between U. golyschkinae sp. n. and U. uncinata finds expression in the presence of the characteristic distension on the dorsal side of the anterior end of the body. Common to U. golyschkinae and U. minor is the distal location of the nodulus of the setae.

The species has been named in honor of R.A. Golyshkina, who researched the bottom fauna of the Angara River and its reservoirs.

Amphichaeta rostrifera Akinschina, sp. n.

(Figure, 4-6)

Material: Angara River; Angarsk; depth of 0.20-1.75 m; gravel, sand, higher aquatic vegetation; 9 July 1974, 11 specimens (including the holotype and the paratype). Middle course of the Angara River (0.5 km above the mouth of the river Vikhoreva - 35 km below its mouth); depth of 2.0-4.6 m; graven-and-sand bottom partially silted; 19-25 June 1973, 19 specimens: Ust'-Ilim Reservoir (section of Dubynino - 0.5 km below the mouth of the river Vikhoreva); depth of 3.8-8.0 m; sand, gravel, algae; 8 August 1975, 23 specimens; 20 August 1976, 7 specimens. Holotype No. 1/45717 - single sexually immature individual of

11 segments; length of 0.92 mm; diameter of 0.15 mm. Paratype No. 2/45718 - single sexually immature individual.

Description: Prostomium well developed, triangular, extended into proboscis. Body's 3rd segment elongated. Eyes are lacking. Covers thin, transparent. Segmentation distinct; 3rd-4th segments separated by clearly visible constriction. Pharynx and pharyngeal pocket in 2nd-3rd segments. Chloragogen tissue begins from dissepiment 4/5. In the anterior section of the body, the dorsal and ventral circulatory vessels are well developed. There is a loop of blood vessels at the base of the prostomium.

The setae in the ventral and dorsal bundles are monotypic forked [bidentate] with a slightly distal nodulus. The distal fork of the setae is thinner and somewhat shorter than the proximal fork. The ventral bundles of the 2nd-3rd segments each contain 3 setae 59 μm long; those of the 4th-5th segments, each 2 setae 59 μm long. The dorsal bundles begin with the 3rd segment and they contain 3 setae each in the 3rd segment and 2 each in the 4th and 5th. The length of the setae is 53 μm. There are 3 setae 61-67 μm long each in the 6th and subsequent segments. The reproductive system has not been studied due to the lack of sexually mature specimens. /138

Differential diagnosis: The (1) presence of an elongated 3rd segment, (2) the inception of abdominal setae bundles with the 2nd segment and dorsal bundles with the 3rd, (3) monotypic forked setae in the dorsal and abdominal bundles, and (4) the absence of eyes -- these are the features of this species that allow us to assign it to the genus Amphichaeta. In body size and in the shape and length of its setae, A. rostrifera sp. n. is similar to A. leydigi Tauber, which is also

encountered in the Angara and its reservoirs. It differs from it in the smaller number of setae in its 2nd and 3rd segments (A. leydigi has 4 each in the ventral bundles and 5 setae each in the dorsal bundles) and in the presence of a probiscus. It differs from the Baikal species A. magna Sokolskaja in its smaller dimensions and in the presence of a probiscus, in the smaller number and size of setae, and in the proportions of their distal and proximal forks (A. magna has a distal fork that is shorter, equal to, or longer than the proximal fork in different segments). A. rostrifera differs from all other known representatives of this species in the presence of a probiscus and in the characteristics of its setal apparatus.

Chaetogaster intermedius Akinschina, sp. n.

(Figure, 7-11)

Material: Ust'-Ilim Reservoir; sections Dubynino - 3 km above the mouth of the River Vikhoreva; depth of 32 m; sand, gravel, silted sand; 4 July 1977, 9 specimens (including the holotype and the paratype). Angara River; 5 km below the mouth of the river Vikhoreva; depth of 5.7 m; gravel, sand; 21 June 1973, 1 specimen. Holotype No. 1/45719 - single individual of 8 segments; length 0.50 mm; diameter 0.20 mm. Paratype No. 2/45720. Sexually immature worms.

Description: Prostomium is absent; there is a notch along the dorsal margin of the oral funnel. The body covers with tiny spidermal papillae with bottom particles stuck to them. The epidermal papillae are situated in transverse rows. The pharynx is powerful and occupies the 2nd and 3rd segments.

Dorsal bundles of setae are absent; there are only two ventral rows. The setae of the ventral bundles differ from each other. The setae of the 2nd segment are of two types: (1) unforked [monodentate], finely pointed, with a hook-like curved distal end, with a proximal nodule, 4-6 per bundle, and 120 m long, and (2) unforked, thicker, with a very acuminate distal end and a central or distal nodule, 1 per bundle, and 93 μm long. Beginning with the 5th segment the setae are forked [bidentate], with a shorter and thinner proximal fork, with a proximal nodule, 3-4 per bundle, 99 μm long. In the 6th segment of a sexually mature worm there are two penial setae with an unforked distal end curved like a hook, with a strongly distal and quite pronounced nodule; they are 69 μm long.

The spermatheca is globular or oval; the efferent duct is short. The ampulla of the atrium is also globular; the ejaculatory duct is short, covered with prostatic cells, and enters the ampulla of the atrium apically.

Differential diagnosis: The presence of such features as (1) the rudimentary prostomium, (2) the complete absence of dorsal setae and the absence of ventral setae in the 3rd-4th segment, (3) an elongated 2nd segment, and (4) a powerful pharynx occupying the 2nd-3rd segments, make it possible to assign this species to the genus Chaetogaster. In body build these worms are similar to Ch. langi Bretscher. They differ from it in the presence of a notch along the dorsal margin of the oral funnel, in the body covers with tiny epidermal papillae that have bottom particles stuck to them, and in the presence of different unforked setae in the 2nd segment. The simple unforked setae of the 2nd segment of Ch. intermedius sp. n. are similar in shape to those of Ch. setosus Svetlov, but the latter has only unforked setae.

The presence of different setae, unforked and forked, in a single specimen was indicated for Chaetogaster sp. from the Aral Sea [Gavrilov and Semernoi, 1974]: on the 2nd segment, the setae are bifurcated, with the distal fork longer than the proximal; on the subsequent segments the setae are unforked. This species differs from all other representatives of the genus Chaetogaster [Sperber, 1948-1950] in the structure of the setal apparatus and in the structure of the covers.

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Summary

Uncinais golyschkinae sp. n. differs from the known species of the genus by the absence of eyes and presence of intermediate denses in bidentate setae of the dorsal and ventral bundles. The main diagnostic feature of *Amphichaeta rostrifera* sp. n. is the presence of a snout, not known previously in worms of the genus *Amphichaeta. Chaetogaster intermedius* sp. n. is characterized by the originality of body covers with minute epidermal papillae glued around with ground particles and by the presence of mono- and bidentate setae of different types in different body segments. The new species were found in the Angara River, Bratsk and Ust-Ilimsk Water Reservoirs.