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from the water bodies of Karelia

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Brief Communication

A NEW SPECIES OF THE GENUS TATRIELLA

(OLIGOCHAETA, LUMBRICULIDAE)

FROM THE WATER BODIES OF KARELIA

by

V.I. Popchenko

Petrozavodsk State University

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The species of the genus Tatriella Hrabe that is described in /295*
this report was found in 1968 in a stream flowing into Lake Koverlambu
in southern Karelia. Until now, no representatives of the genus Tat-
riella had been discovered in waters of the USSR.

I express my profound gratitude to V.V. Izosimov and T.E. Timm
for their review of the preparations and their valuable advice.

Tatriella longiatriata Popchenko sp. n.

Description: Small worms: body length, 10–18 mm; greatest dia-
meter (in the region of the clitellum), 0.7 mm; number of segments, 56–
70. The color of worms fixed in alcohol is white with a rose tint.

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

The prostomium is elongated, rounded on the end, and its length exceeds its width at the base by 1.5 times. The anterior segments from II through VII are biannulate, the anterior ring being wider than the posterior ring. The integuments of the body are smooth (see the figure, A)¹. The dorsal and ventral setae are monotypic. Each bundle contains 2 thin, S-shaped curved, pointed, single-toothed setae (the tooth is very recurved) 70-95 μ m long, with a prominent distal nodule (B).

The clitellum is indistinct, located on segments VIII-XIV. There is a solitary male sexual opening that lies medially in the posterior part of segment X (behind the ventral setae). It is situated in the middle of a noticeable depression and it is surrounded by a layer of muscles in the shape of a cup. There is a single pair of female pores on intersegmental groove XI/XII. The spermathecal pore is solitary and medial and on the ventral side behind the setae of segment VIII (C). The body wall is rather thick (see the table).

The pharynx, beginning with segment II, gradually widens, transforms into a thin gullet, which, reaching segment V, transforms into a broad thin-walled stomach. From segment VIII the intestine is covered with a layer of chloragogen cells. The annular blood vessels are long, thin, and form loops. There are blind lateral vessels.

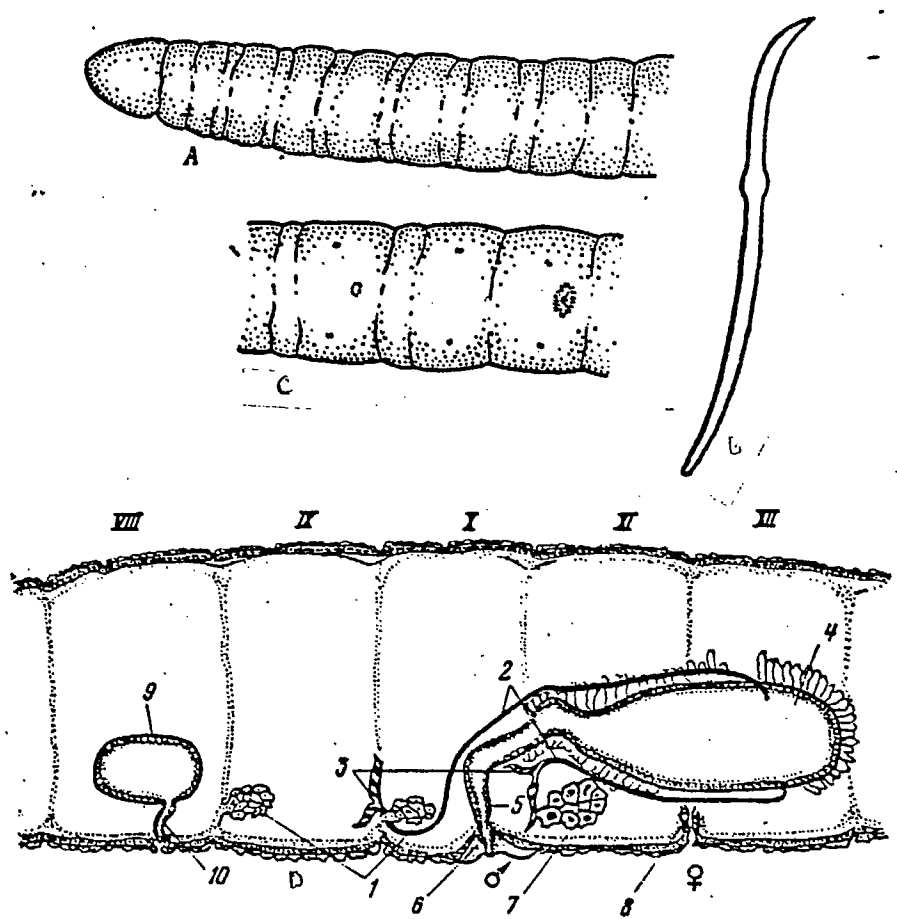
There are 2 pairs of testes, on the ventral side of segments IX and X; they are fastened to dissepiments VIII/IX and IX/X. The vasa deferentia are slightly curved, thin, and long; the right one is one third longer than the left one. They open into a single atrium (into

¹ Capital letters in brackets refer to the figure.

its proximal part): the right one in the proximal third of the atrium; the left one in the proximal fourth. The atrium is unpaired and consists of an elongated cylindrical ampulla, which is 136 X 646 m in size and located along the body in segment XII and 2/3 in segment XI, and a coiled, long (300 m), rather broad (68 m) duct ending in a small (34 X 80 m) penis widened in the middle. The walls of the atrium are 34-40 m thick and they consist of a muscle layer (20-25 m) and an epithelium (14-15 m). The atrium is covered on the outside with a thick layer of elongated prostatic cells (D).

There is a single pair of ovaries in segment XI. The ovary funnels are on dissepiment XI/XII. The ovisac reaches segment XXI. The spermatheca is single, on the ventral side of segment VIII. It consists of a small egg-shaped ampulla, 340 X 272 m in size, and a short (120 m) well-isolated duct. The walls of the ampulla of the spermatheca are 51 m thick and they consist of a muscle layer (20-25 m) and an inner epithelium (26-31 m). The anterior seminal sac is formed by dissepiment VIII/IX and it ends in segment VIII, while the posterior sac extends to the end of somite XX.

Diagnosis: The prostomium is elongated and rounded on the end. The anterior segments from II through VII are biannular. The setae are single-toothed, thin, and curved like an S, with a strongly recurved tooth and a well-developed nodule in the distal part. The clitellum is indistinct, on segments VIII-XIV. The male pore is single and lies /296 medially in the posterior part of segment X behind the ventral setae. A single pair of female pores is in intersegmental groove XI/XII. The spermathecal pore is solitary, medial, and on the ventral side behind



Tatriella longiatriata sp. n.

- A = external appearance
- B = seta
- C = genital segments from the ventral side
- D = reproductive apparatus
 - 1 = testes
 - 2 = vasa deferentia
 - 3 = seminal funnels
 - 4 = ampulla of the atrium
 - 5 = efferent duct of the atrium
 - 6 = penis
 - 7 = ovary
 - 8 = ovary funnel
 - 9 = ampulla of the spermatheca
 - 10 = efferent duct and opening of spermatheca
- VIII-XII = segments

the setae of segment VIII. The pharynx is in segment II; it gradually widens and transforms into a thin gullet, which transforms into a wide stomach from segment V. The intestine, from segment VIII, is covered with a layer of chloragogen cells. The annular blood vessels are long and form loops; there are blind lateral vessels. Two pairs of testes are in segments XI and X. A single pair of ovaries is in segment XI. Two pairs of seminal funnels are in the ventral part on dissepiments IX/X and X/XI. The vasa deferentia are thin and long; the right one is one third longer than the left one. They open into a single atrium, the left one in the proximal quarter of the atrium and the right one in the proximal third. The atrium is unpaired and consists of a cylindrical elongated ampulla, located longitudinally in segments XI and XII, and a long, twisting duct that ends in a small penis. Externally, the atrial ampulla is covered with a thick layer of prostatic cells. The walls of the atrium are relatively thick. The spermatheca is solitary, on the ventral side of segment VIII. It consists of a small egg-shaped ampulla and a well-isolated duct. There is a pair of ovary funnels on dissepiment XI/XII. The body length is 10-18 mm; the diameter in the region of the clitellum is 0.7 mm; the number of segments is 56-70.

Tatriella longiatriata sp. n.

Thickness of body-wall layers
in sexually mature individuals

Body-wall layers	Thickness up to clitellum, m	Thickness in re- gion of clitel- lum, m
Epithelium	8-10	17-19
Annular muscles	3-4	5
Longitudinal muscles	18	28-34

Ecology: It is found in small swampy water bodies rich in humic substances, in coarsely detrital peaty muds, and among the root networks of aquatic macrophytes (flow less than 0.1 m/sec; demersal t³ 5-14.3; pH = 5.4-5.8; HCO₃ = 1.2-4.1 mg/L; permanganate oxidizability 19.3-21 mg O₂/L). Sexually mature individuals are encountered in May-June.

Material: Holotype: preparation 82-1 (clarified specimen); body length, 10 mm; diameter in region of clitellum, 0.6 mm; number of segments, 62; stream flowing into Lake Koverlambu (basin of Lake Onega, South Karelia), 62 11'S., 33 58'E.; depth of 0.2 m; dark brown peaty mud among the root networks of aquatic vegetation; 21 May 1968 (Popchenko). Paratype: series of sections T. 1. = 1, 1/2, 1/3, 1/4; body length, 18 mm; diameter in the region of the clitellum, 0.7 mm; number of segments, 70; same locality as above. The holotype and the paratype are preserved in the museum of the Department of Zoology and Darwinism, Petrozavodsk University.

Distinctive features: This species differs from the type species of the genus, Tatriella slovenica Hr., in its very long cylindrical atrial ampulla, stopping in segment XII, the point the vasa deferentia open into the atrium, the presence of prostatic cells over the entire ampulla of the atrium (in T. slovenica the prostatic lining is present only on part of the atrial duct), the shape of the spermatheca, and in its smaller body size.

**A NEW SPECIES OF THE GENUS *TATRIELLA*
(OLIGOCHAETA, LUMBRICULIDAE) FROM WATER BODIES OF KARELIA**

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Summary

Tatriella longiatriata sp. n. was found in a brook falling in the Koverlambu Lake (the Onega Lake basin, South Karelia). It differs from the typical representative of the genus *Tatriella slovenica* Hrabé by a very long, coming in XII segment cylindrical atrial ampulla, fall of gonoducts into it, presence of prostatic facing all over the atrial ampulla, form of spermatheca and lesser body length.