

THE FIRST RECORD OF ALIEN SPECIES *LIMNODRILUS MAUMEENSIS* BRINKHURST ET COOK, 1966 (OLIGOCHAETA, TUBIFICIDAE) FROM RUSSIA

©2021 A.A. Prokin^{a,*}, O.M. Potyutko^{b,**}

^aPapanin Institute for Biology of Inland Waters, Russian Academy of Sciences, Borok, Nekouzsky District, 152742 Yaroslavl Oblast, Russia.

^bYu.A. Izrael Institute of Global Climate and Ecology, Glebovskaya str., 20b Moscow, 10725 Russia.

e-mail: *prokina@mail.ru; **oleg.potyutko@gmail.com

Received February 18, 2021; revised April 23, 2021; accepted August 18, 2021

Abstract: Nearctic species *Limnodrilus maumeensis* Brinkhurst et Cook, 1966 (Oligochaeta, Tubificidae) recorded from Russia for the first time from the Don River near Rostov-on-Don. Variations of penis sheath of sexually mature specimens are measured and illustrated by photographs. Data on macrozoobenthos community in the sampling site are provided, including species composition, number and biomass of the species.

Key words: Oligochaeta; alien species; *Limnodrilus*; Don River; penis sheath; variations

DOI: 10.35885/1996-1499-2021-14-3-65-66

Introduction

Nearctic species *Limnodrilus maumeensis* Brinkhurst et Cook, 1966 (Oligochaeta, Tubificidae) has never been recorded from Russia before. In the native part of the species range it is common and widespread to the east of Mississippi River, mainly in Great Lakes Basin in the United States and Canada [Brinkhurst, 1986; Brinkhurst and Jamieson, 1971; Hiltunen, 1969; Kathman and Brinkhurst, 1998; Krieger and Stearns, 2010; Milligan, 1997; Stimpson et al., 1982 etc.]. In the secondary invasive part of the range in Eurasia this species was recorded from Great Britain [Milligan, 1997], but this record is doubtful according to van Haaren and Soors [2013], the Netherlands [van Haaren, 2002; van Haaren and Soors, 2013] and South Korea [Lee and Jung, 2016].

According to Kathman and Brinkhurst [1998] and Stimpson et al. [1982] *L. maumeensis* inhabits organically polluted waters.

Materials and Methods

This study is based on sample of macrozoobenthos collected in Russia, Rostov-on-Don, the Don River, 34.5 km (40.208711N, 39.697302E) upstream of the mouth, in August, 15 2015 by E.V. Parfyonova.

Macrozoobenthos was sampled with a Petersen grab (capture area - 0.025 m²; two liftings of

sediments). All collected materials were filtered through a sieve with a mesh size of 200×200 μm and preserved in 4% formaldehyde. Fresh weight of specimens was determined after removal of surface moisture (drying on a filter paper until wet spots disappeared), using a WT-100 torsion balance (weighing accuracy - 0.1 mg).

This is an excerpt of the article “The First Record Of Alien Species *Limnodrilus maumeensis* Brinkhurst et Cook, 1966 (Oligochaeta, Tubificidae) From Russia”. Full text of the paper is published in Russian Journal of Biological Invasions.

DOI: 10.31857/S207511172104XXXXYY

Rerences

- Brinkhurst R.O. Guide to the freshwater aquatic microdrile oligochaetes of North America. Ottawa: Department of Fisheries and Oceans, 1986. 259 p.
- Brinkhurst R.O., Jamieson B.G.M. Aquatic Oligochaeta of the World. Edinburgh: Oliver and Boyd, 1971. 860 p.
- Dumnicka E., Jabłońska-Barna I., Rychter A. The first record of a new alien species *Limnodrilus cervix* Brinkhurst, 1963 (Annelida, Clitellata) in the Vistula Lagoon (southern Baltic Sea) // Oceanologia. 2014. V. 56(1). P. 151–158. <https://doi.org/10.5697/oc.56-1.151>
- Gusakov V.A., Sylaieva A.A. *Bratislavia dadayi* (Michaelsen 1905) (Annelida, Clitellata, Naididae): discovery of an alien oligochaete in a technogenic fresh water body in Ukraine // Zootaxa. 2019. V. 4711(2). P. 349–365. <https://doi.org/10.11646/zootaxa.4711.2.7>
- Hiltunen J.K. Distribution of oligochaetes in western Lake Erie, 1961 // Annales de Limnologie. 1969. V. 14. P. 260–264.

- Kathman R.D., Brinkhurst R.O. Guide to the Freshwater Oligochaetes of North America. Tennessee: Aquatic Resources Center, 1998. 264 p.
- Krieger K.A., Stearns A.M. Atlas of the aquatic oligochaete worms (Annelida: Clitellata: Microdrili) recorded at the Old Woman Creek National Estuarine Research Reserve, Ohio. Tiffin: Ohio Department of Natural Resources, 2010. 32 p.
- Lee J., Jung J. Faunistic survey on freshwater annelids from Korea // Journal of Species Research. 2016. V. 5(3). P. 279–288. <https://doi.org/10.12651/JSR.2016.5.3.279>
- Milbrink G., Timm T. 2001. Distribution and dispersal capacity of the Ponto-Caspian tubificid oligochaete *Potamothrix moldaviensis* Vejdovský et Mrázek, 1903 in the Baltic Sea Region // Hydrobiologia. 2001. V. 463. P. 93–102. <https://doi.org/10.1023/A:1013139221454>
- Milligan M.R. Identification manual for the aquatic Oligochaeta of Florida. Vol. 1. Freshwaters oligochaetes. Sarasota: Center for Systematics and Taxonomy, 1997. 182 pp.
- Panov V.E, Alexandrov B., Arbačiauskas K., Binimelis R., Copp G.H., Grabowski M., Lucy F., Leuven R.S.E.W., Nehring S., Paunović M., Semenchenko V., Son M.O. Assessing the risks of aquatic species invasions via European inland waterways: from concepts to environmental indicators // Integrated Environmental Assessment and Management. 2009. V. 5(1). P. 110–126. https://doi.org/10.1897/IEAM_2008-034.1
- Pantle R, Buck H. Die biologische Überwachung der Gewässer und Darstellung Ergebnisse // Gas und Wasserfach. 1955. V. 96. P. 604–624.
- Soors J., van Haaren T., Timm T., Speybroeck J. *Bratislava dadayi* (Michaelsen, 1905) (Annelida: Clitellata: Naididae): a new non-indigenous species for Europe, and other non-native annelids in the Schelde estuary // Aquatic Invasions. 2013. V. 8(1). P. 37–44. <http://dx.doi.org/10.3391/ai.2013.8.1.04>.
- Stimpson K.S., Klemm D.J., Hiltunen J.K. A guide to the freshwater Tubificidae (Annelida: Clitellata: Oligochaeta) of North America. Cincinnati: U.S. Environmental Protection Agency, 1982. 61 p.
- Timm, T. A guide to the freshwater Oligochaeta and Polychaeta of Northern and Central Europe // Lauterbornia. 2009. V. 66. P. 1–235.
- Timm T., Martin, P. Class Clitellata: Subclass Oligochaeta. In: Rogers, D.C. & Thorp, J.H. (Eds.), Thorp and Covich's Freshwater Invertebrates. V. IV. Keys to Palaearctic Fauna. London–San Diego–Cambridge–Kidlington: Academic Press, 2019. P. 364–483.
- van Haaren T. Eight species of aquatic Oligochaeta new for the Netherlands (Annelida) // Nederlandse Faunistische Mededelingen. 2002. V. 16. P. 39–56.
- van Haaren T., Soors J. Aquatic Oligochaeta of the Netherlands and Belgium. Zeist: KNNV Publishing, 2013. 302 p. <https://doi.org/10.1163/9789004278097>
- Woodiwiss F.S. The biological system of stream classification used by the Trent River Board // Chemistry & Industry. 1964. V. 11. P. 443–447.