

## First records of two freshwater Tardigrada species in Slovakia

Peter DEGMA

*Department of Zoology, Faculty of Natural Sciences, Comenius University, Mlynská dolina B-1, SK-84215 Bratislava, Slovakia; tel.: +421 2 60296492, e-mail: degma@fns.uniba.sk*

Ninety Tardigrada species and subspecies have been reported in Slovakia so far (DEGMA, 2003).

During sampling of tardigrades in freshwater habitats of SW and C Slovakia, the two species listed below have been found in Slovakian territory for the first time. Grid reference numbers of the Data-bank of Slovak fauna (=DSF) and geographic coordinates of sampling sites were taken based on the DSF's map (LUČIVJANSKÁ, 1984). All specimens were identified using keys and descriptions in BERTOLANI (1982, 2003), RAMAZZOTTI & MAUCCI (1983) (also in BEASLEY, 1995), BISEROV, (1998), BERTOLANI et al. (1999) and BINDA & PILATO (1999). The whole material was prepared and identified by the author. The specimens were mounted in Hoyer's medium and deposited in the author's collection. The current number of Tardigrada species and subspecies reported in Slovakia is 92.

### Macrobiotidae Thulin, 1928

*Dactylobiotus selenicus* Bertolani, 1981

Material examined: SW Slovakia, Podunajská rovina plain, Bratislava, Štrkovecké jazero lake (7868b) (=DSF), 48°10' N, 17°09' E, 26.X.1999, 1 specimen in a sediment from the 5.2 m depth, leg. E. Tirjaková; SW Slovakia, Podunajská rovina plain, Gabčíkovo, Danube river (8171a), 47°54' N, 17°35' E, 20.IV.2004, 1 specimen in detritus, leg. E. Tirjaková.

Distribution: Europe (Belgium, Italy, Russia – Yaroslavl dist., lake Ladoga, Vologda dist., Gorky dist., Kareliya) (MCINNIS, 1994; VAN ROMPU & DE SMET, 1996; TUMANOV, 1997).

### Hypsibiidae Pilato, 1969

*Thulinus ruffoi* (Bertolani, 1981)

Material examined: Western part of C Slovakia, Vtáčnik Mts, Žarnovica – Revišské Podzámčie, Hron

river (7478c), 48°31' N, 18°44' E, May 1997, 1 specimen in the sediment on the river bottom, leg. E. Tirjaková; SW Slovakia, Podunajská rovina plain, Bratislava, Danube river, Karloveské rameno river branch (7868a), 48°09' N, 17°03' E, 20.IX.1999, 13 specimens (one in simplex stage) in the sediment on the river bottom, leg. M. Mrva; the same place, 30.IX.1999, 8 specimens in a sediment, leg. P. Degma; SW Slovakia, Podunajská rovina plain, Bratislava-Rača, Račiansky potok brook (7768d), 48°12' N, 17°09' E, 9.X.2003, 28 specimens (two in simplex stage) in detritus on a lateral channel bottom, leg. P. Vďačný.

Distribution: Europe (Italy, Germany, Greece, Russia – Tatarstan, Yaroslavl dist., lake Ladoga, Nar'yan-Mar, Kareliya, Novaya Zemlya), Asia (Russia – Taimyr peninsula), N America (U.S.A. – NY) (MCINNIS, 1994; STRAYER et al., 1994; BERTOLANI & REBECCHI, 1996; BISEROV, 1996, 1999; TUMANOV, 1997; DUDITCHEV et al., 1998; SCHUSTER, 2003).

Remark: The occurrence in Turkey (MCINNIS, 1994) evidently refers to *Macrobiotus ruffoi* Maucci, 1973 which is synonym to *M. islandicus* Richters, 1904 according to RAMMAZZOTTI & MAUCCI (1983).

### Acknowledgements

I would like to express my thanks to my colleagues M. MRVA, E. TIRJAKOVÁ and P. VĎACNÝ (Comenius University, Bratislava) for allowing me their samples for the examination. This study was partly supported by the Slovak Scientific Grant Agency (VEGA) as a Project No. 1/0119/03.

### References

- BEASLEY, C. W. 1995. The phylum Tardigrada. Third Edition by G. Ramazzotti and W. Maucci, English Translation. Published by the translator Clark Beasley, Abilene, 1014 pp.

*continued on p. 594*

continued from p. 576

- BERTOLANI, R. 1982. Guide per il riconoscimento delle specie animali delle acque interne italiane. 15. Tardigradi (Tardigrada). Consiglio nazionale delle ricerche, Verona, 106 pp.
- BERTOLANI, R. 2003. *Thulinus*, new generic name substituting for *Thulinia* Bertolani, 1981 (Tardigrada, Eutardigrada). *Zootaxa* **314**: 1–4.
- BERTOLANI, R. & REBECCHI, L. 1996. The tardigrades of Emilia (Italy). II. Monte Rondinaio. A multi-habitat study on a high altitude valley of the northern Apennines. *Zool. J. Linn. Soc.* **116**: 3–12.
- BERTOLANI, R., MARLEY, N. J. & NELSON, D. R. 1999. Re-description of the genus *Thulinia* (Eutardigrada: Hypsibiidae) and of *Thulinia augusti* (Murray, 1907) comb. n. *Zool. Anz.* **238**: 139–145.
- BINDA, M. G. & PILATO, G. 1999. *Dactylobiotus lombardoi* sp. n. (Eutardigrada: Macrobiotidae) from Tierra del Fuego, with a Key to the *Dactylobiotus*-species. *Zool. Anz.* **238**: 147–155.
- BISEROV, V. I. 1996. Tardigrades of the Taimyr peninsula with descriptions of two new species. *Zool. J. Linn. Soc.* **116**: 215–237.
- BISEROV, V. I. 1998. Tardigrada of the Komandorskiye Islands, with a description of *Dactylobiotus dervizi* sp. n. (Eutardigrada, Macrobiotidae). *Entomol. Mitt. Zool. Mus. Hamburg* **12 (158)**: 327–336.
- BISEROV, V. I. 1999. A review of the Tardigrada from Novaya Zemlya, with descriptions of three new species, and an evaluation of the environment in this region. *Zool. Anz.* **238**: 169–182.
- DEGMA, P. 2003. First records of six Hypsibiidae species (Tardigrada, Eutardigrada) in Slovakia. *Biologia, Bratislava* **58**: 1003–1005.
- DUDITCHEV, A. L., GOLUBEV, A. I. & BISEROV, V. I. 1998. Novye dannye o faune tikhokhodok (Tardigrada) zapadnoĭ chasti Tatarstana [New data about fauna of Tardigrada from west Tatarstan], pp. 129–133. In: (Utkin, N. A. (ed.) *Bespozvonochnye zhivotnye Yuzhnogo Zauralya i soprodelnykh territorii* [Invertebrates of Southern Transuralia and adjacent territories], Kurgan.
- LUČIVJANSKÁ, V. 1984. Databanka Fauny Slovenska. Mapovacie štvorce a orografické celky Slovenska (mapa 1: 500 000). Slovenský úrad geodézie a kartografie, Bratislava.
- MCINNES, S. J. 1994. Zoogeographic distribution of terrestrial/freshwater tardigrades from current literature. *J. Natur. Hist.* **28**: 257–352.
- RAMAZZOTTI, G. & MAUCCI, W. 1983. Il phylum Tardigrada (III edizione riveduta e aggiornata). *Mem. Ist. Idrobiol.* **41**: 1–1016.
- SCHUSTER, R. 2003. Faunistische und ökologische Untersuchungen an Tardigraden des Schwarzwalds (Deutschland). *Acta Biol. Benrodis* **12**: 147–192.
- STRAYER, D., NELSON, D. R. & O'DONNELL, E. B. 1994. Tardigrades from shallow groundwaters in Southeastern New York, with the first record of *Thulinia* from North America. *Trans. Am. Microsc. Soc.* **113**: 325–332.
- TUMANOV, D. V. 1997. Tikhokhodki v bentosnykh soobshchestvakh presnovodnykh vodoemov severozapada Rossii [Tardigrades in freshwater benthic communities in northwestern Russia]. *Tr. Zool. Inst. RAN (Proc. Zool. Inst. St-Petersburg)* **272**: 330–333.
- VAN ROMPU, E. A. & DE SMET, W. H. 1996. Additions to the tardigrade fauna of Belgium. *Biol. Jaarb. Dodonaea* **63**: 76–91.

Received July 7, 2004  
Accepted August 10, 2004