



Vertigo botanicorum sp. nov. (Gastropoda: Pulmonata: Vertiginidae)—a new whorl-snail from the Russian Altai Mountains

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Abstract

Vertigo botanicorum sp. nov. is described from the Russian Altai Mountains. The species was recorded in 8 out of 118 study sites and totally 21 live individuals and 15 empty shells were collected. It is a medium-sized *Vertigo* species living in various tall-forb meadows, shrubby and forest habitats; avoiding only dry and strictly open sites. Mostly it was found in rather acidic sites of higher altitudes (above 1300 m a.s.l.).

Key words: *Vertigo*, terrestrial microgastropods, new species, southern Siberia, distribution, ecology

Introduction

The terrestrial snail genus *Vertigo* O.F. Müller, 1774 includes approximately 70 described living species distributed mainly throughout the Holarctic, with the global diversity centre of the genus in North America (see Nekola & Coles 2010) and with ca. 30 species distributed in Eurasia (Pokryszko 2003; von Proschwitz 2007; Pokryszko *et al.* 2009; Sysoev & Schileyko 2009). The members of this genus have ovoid to cylindrical shells that generally range between 1.5 and 3 mm in height and have a rounded aperture with 0–9 lamellae at maturity.

Vertigo species of particular geographical and palaeontological interest have recently been found to be commonly distributed in Central Asia (Pokryszko & Horsák 2007, Meng 2008, White *et al.* 2008, Horsák *et al.* 2010). Several of these are typical fossils in Central European glacial deposits and were previously known extant from only limited areas in Europe. In the course of ecological and palaeoecological research at 118 sites in the Russian Altai Mountains in August 2005 and July 2006, an undescribed species within the genus *Vertigo* was discovered.

Sites inventoried for snails were distributed along an approximately 300 km-long NNW–SSE transect (49°56'–52°19'N, 85°35'–88°31'E, 260–2570 m a.s.l.), running across the Russian part of the Altai Mountains in the Altai Republic, a part of the Russian Federation, in southern Siberia (Fig. 1). The sites were selected to include the whole regional range of habitat types as determined by physiognomy and dominant plant species. Along the transect there is a steep climatic gradient of decreasing continentality from dry and cold conditions in the south-eastern part to relatively wet and warm conditions in the northern foothills (for details see Horsák *et al.* 2010). The wide climatic amplitude and range of habitat types of the sites studied make it possible to delimitate the new species' ecological requirements. For full locality information see Appendix 1. Further information on the study area and sites, sampling protocol and other methodologies are available in Horsák *et al.* (2010). All adult and undamaged shells (n=22) found at all eight sites were used for measurements and description of the conchological variability. Institutional abbreviations: DBZB—Department of Botany and Zoology, Masaryk University, Brno, Czech Republic; NMWP—Natural History Museum, Wrocław University, Wrocław, Poland; NMPC—National Museum, Prague, Czech Republic.