A NEW SPECIES OF THE GENUS HELIX FROM THE LESSER CAUCASUS (SW GEORGIA)

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Abstract Helix goderdziana sp. nov. is described from the Lesser Caucasus, south-western Georgia. Its habitat is a humid montane forest. This is the largest species of Helix known so far.

Key words  Land snails, Lesser Caucasus, Helix, new species.

INTRODUCTION

The genus Helix Linnaeus, 1758 includes the largest snails of the family Helicidae, and probably the largest terrestrial pulmonates in western Eurasia. It is distributed in northern Africa and Eurasia. Three species of Helix have been so far recorded from Georgia: H. lucorum (Linnaeus, 1758) and H. vulgaris (Rossmässler, 1839), both widely distributed in western Eurasia, and H. buchi (L. Pfeiffer, 1853) which is endemic to the western part of the Caucasus Ecoregion sensu Mittermeier et al. (2004). A further five species are known from Asia Minor, the region south-west of the southern Caucasus: H. figulina (Ross, 1839), H. pericalla (Kobelt et Rolle, 1896), H. cheikliensis (Zilch, 1952), H. cincta (Muller, 1774), and H. pomatia (Linnaeus, 1758) (Schütt, 2001; http://www.biolib.cz/en/taxon/id269332); none of those, however, have been recorded from the north-eastern part of Turkey adjacent to Georgia.

Three very large helicid snails were collected on June 25th, 2006 by two of the authors (LM and DT) in south-western Georgia, at an elevation of between 1540 and 1595 m. a.s.l. (Fig. 1). Helix buchi or other known Caucasian representatives of the genus have never been recorded from this area. Our specimens differ from all other large members of the genus found in the Caucasus and Asia Minor and represent a new species which we describe below.

Helix goderdziana sp. nov. (Figs 2-4)

Holotype 1 shell (n10), Zoological Research Institute (ZRI), Tbilisi, Georgia.

Paratypes 2 specimens: subadult shell (n8) and shell + soft parts (n9): Zoological Research Institute (ZRI), Tbilisi, Georgia.

Type locality South-Western Georgia, just east of the Goderdzi Pass (see Fig. 1, 41°39’N, 42°36’E), the junction of the Meskheti and Shavsheti Ranges, basin of the Dzindzisu River (left tributary of the Mtkvari-Kura River).

Derivation of name The new species is named for its type locality - Goderdzi Pass.

Diagnosis Shell larger than in any other species of the genus Helix, somewhat similar to that of Helix buchi from which it differs in a taller shell (61 mm compared to at most 54 mm in H. buchi; Likharev & Rammelmeier, 1952) and light yellowish-brown foot (dark grey to almost black in H. buchi). Digitiform glands shorter than any other Helix from the Caucasus Region. Flagellum much longer than in

Fig. 1 Map showing the type locality of Helix goderdziana sp. nov.
Fig. 2 From left to right: shells of *Helix goderdziana* sp. nov., holotype (ZRI n0010); paratype (ZRI n0009); *Helix buchi* from Borjomi Gorge, central Georgia (ZRI b0025); *Helix lucorum*, Tbilisi, Georgia (ZRI l0004).

Fig. 3 Left – live *Helix buchi*, right – live *Helix goderdziana* sp. nov. (paratype n0009)

Table 1 Shell measurements of the holotype and two paratypes of *Helix goderdziana* sp. nov. (all measurements in mm)

<table>
<thead>
<tr>
<th>Specimen #</th>
<th>Shell height</th>
<th>Shell width</th>
<th>Aperture height</th>
<th>Aperture width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holotype n0010</td>
<td>61</td>
<td>60</td>
<td>40</td>
<td>34</td>
</tr>
<tr>
<td>Paratype n0009</td>
<td>57</td>
<td>60</td>
<td>40</td>
<td>33</td>
</tr>
<tr>
<td>Paratype n0008 (subadult)</td>
<td>47</td>
<td>50</td>
<td>36</td>
<td>30</td>
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</table>
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**Description**  Shell (Fig. 2), conic-globular, with 4.5 rapidly increasing whorls 1.5 of which form embryonic shell; apex blunt, conical; shell unevenly radially ribbed, sculpture similar to that of Helix buchi. Body whorl very wide, slightly descending. Aperture very large (height 40 mm, width 34 mm), short oval, oblique, resembling that of Helix buchi but different from that of other Helix species of the region. Shell height up to 61 mm, shell width up to 60 mm (for measurements of the types see Table 1). Foot light yellowish-brown (Fig. 3). Penial papilla large, spindle-shaped. Flagellum 2.4 times as long as penis with epiphallus. Spermaphethica diverticulum 1.75 times shorter than the section of the spermaphethica duct beyond the bifurcation point (Fig. 4).

**Ecology**  The macrohabitat is a montane spruce forest (dominant tree *Picea orientalis*), on the southern slopes of the Meskheti Mountain Range and the north-eastern slopes of the Shavsheti Mountain Range. It is a humid area, with the annual precipitation of ca 1200-1400 mm (Vladimirov et al., 1991). The microhabitat is a very damp vicinity of small montane brooks, mostly surrounded by alder trees (*Alnus barbata*), with logs and liverworts on the margins of the brooks (Fig. 5). The snail is found in habitats different from those of Helix buchi: the latter species is found exclusively in broadleaf, mostly beach forests, away from from streams or brooks (Skarlato & Starobogatov, 1984).

**Acknowledgements**  The fieldwork was financed by CEPF within the project “Transboundary Conservation-Oriented Study and Conservation of the Western Lesser Caucasus Endemic species - Caucasian salamander (Mertensiella caucasica)”. We are grateful to Ugur Kaya, Irina Serbinova and Alexander Goderdize for their assistance during fieldwork.

**References**


