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# On the genus *Scaphisoma* Leach, 1815 (Coleoptera: Staphylinidae: Scaphidiinae) from Georgia, with description of a new species

I. Löbl

Muséum d'histoire naturelle, case postale 6434, Genève 1211 Switzerland. E-mail: ivan.lobl@bluewin.ch

**Abstract.** Five species of *Scaphisoma* Leach, 1815 are recorded from Georgia. The new species *S. caucasicum* sp. n. is described from Samegrelo-Zemo Svaneti region, and two, *S. assimile assimile* Erichson, 1845 and *S. subalpinum subalpinum* Reitter, 1880 are recorded for Georgia for the first time. The new species can be externally compared with North Korean *S. hapiroense* Löbl, 1968, from which it can be readily distinguished from in the antennomere V shorter than the combined length of the antennomeres III and IV, the very fine pronotal punctation, and the light apical area of the elytra weakly delimited. The aedeagal characters of *S. caucasicum* sp. n. are similar to those of Chinese *S. latro* Löbl, 2000.

**Key words:** shining fungus beetles, new species, new records, Caucasus.

## О роде *Scaphisoma* Leach, 1815 (Coleoptera: Staphylinidae: Scaphidiinae) из Грузии с описанием нового вида

И. Лёбл

Музей естественной истории, Женева 1211 Швейцария. E-mail: ivan.lobl@bluewin.ch

**Резюме.** Пять видов рода *Scaphisoma* Leach, 1815 зарегистрированы в Грузии. Новый вид *S. caucasicum* sp. n. описан из Самегрело-Верхнесванетского региона. *Scaphisoma assimile assimile* Erichson, 1845 и *S. subalpinum subalpinum* Reitter, 1880 указаны для Грузии впервые. Новый вид внешне можно сравнить с северокавказским *S. hapiroense* Löbl, 1968, от которого он легко отличается длиной 5-го антенномера, более короткого, чем 3-й и 4-й антенномеры, вместе взятые, очень тонкой пунктировкой переднеспинки и светлой слабо отграниченной вершиной надкрылий. Эдеагус *S. caucasicum* sp. n. наиболее похож на таковой китайского вида *S. latro* Löbl, 2000.

**Ключевые слова:** члениковидки, новый вид, новые находки, Кавказ.

## Introduction

Iablokoff-Khnzorian [1985] provided an overview of the scaphidiines of former Soviet Union in which he reported seven species from the Caucasus. Detailed distributional data were not given in that paper, and one of the listed species, *Scaphisoma agaricinum* (Linnaeus, 1758), is doubtful as its record may be based on misidentified specimens of the similar *S. simillimum* Löbl, 1970. Subsequently, Khachikov et al. [2010] reported six species of Scaphidiinae from the Republic of Adygea, situated in the north-western part of the Greater Caucasus, near the Georgian border. As to the Georgian members of the group, only four species have been reported from the country: *Scaphium immaculatum* (Olivier, 1790), *Scaphisoma boleti boleti* (Panzer, 1793), *Scaphisoma obenbergeri* Löbl, 1963, and *Scaphisoma simillimum* Löbl, 1970 [Löbl, 2018]. Thus, field work was obviously necessary to assess better the true faunal richness of these beetles in Georgia. The recent extensive collections of Michael Schülke now significantly fill gaps. However, quite unexpected was the finding of a species of *Scaphisoma* Leach, 1815 new to science, quite unrelated with the congeners known from Western Palaearctic and Central Asia.

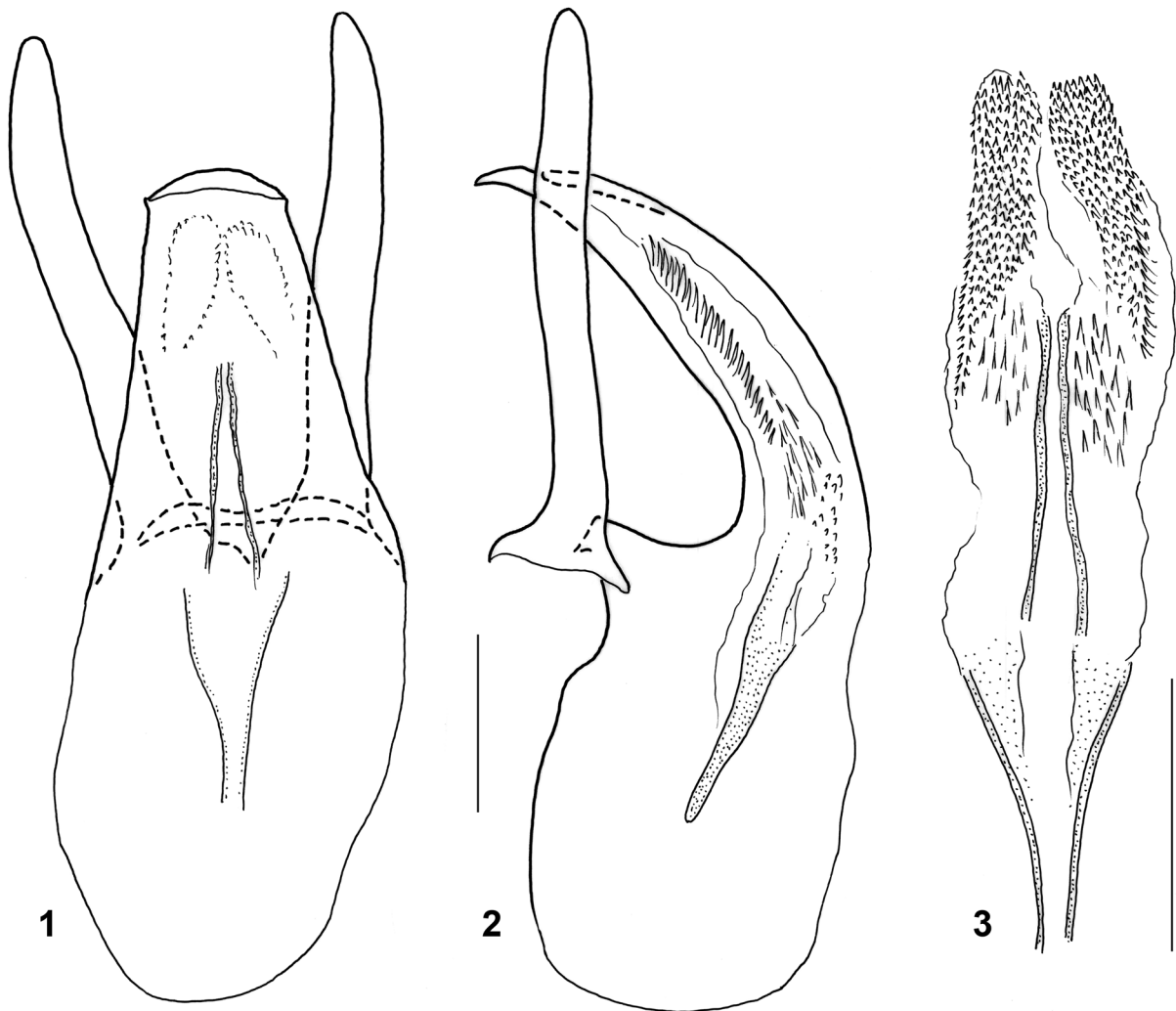
## Material and methods

The specimens are housed in the collections of Michael Schülke (Berlin, Germany) that will be deposited in the Museum für Naturkunde (ZMB, Berlin, Germany), and in the Muséum d'histoire naturelle (MHNG, Geneva, Switzerland). The locality data of the holotype are given verbatim. All other specimens are from Georgia and were found in sifted samples: this information is not repeated under the respective paragraphs. An antenna and the aedeagus of the holotype have been dissected and embodied in Euparal. The given body length is measured from the anterior pronotal margin to the inner apical angles of the elytra.

### *Scaphisoma caucasicum* sp. n. (Figs 1–3)

**Material.** Holotype, ♂ (ZMB): "GEORGIA [GE2021-60]: Svaneti, N Martvili, Lebarde valley, 42°37'13"N, 42°22'45"E, 510 m, track margin, mushrooms sifted, 17.X.2021, leg. M. Schülke".

**Description.** Length 1.87 mm, width 1.25 mm. Head, pronotum and hypomere dark brown to reddish-brown. Elytra darker than pronotum on prevailing surface, becoming lighter posterior middle, and near lateral margins becoming lighter



Figs 1–3. *Scaphisoma caucasicum* sp. n., aedeagus.

1–2 – aedeagus: 1 – dorsal view, 2 – lateral view; 3 – internal sac. Scale bars 0.1 mm.

Рис. 1–3. *Scaphisoma caucasicum* sp. n., эдеагус.

1–2 – эдеагус: 1 – вид сверху, 2 – вид сбоку; 3 – внутренний мешок. Масштабные линейки 0.1 мм.

posterior basal third, light brown on entire apical fourth. Ventral side of thorax and ventrites I to IV dark reddish-brown. Abdominal apex yellowish. Femora about as dark as pronotum, tibiae lighter, reddish, tarsi and antennomeres I and II yellowish, following antennomeres light brown. Length/width ratios of the antennomeres as: III 16 : 8, IV 27 : 7, V 34 : 8, VI 35 : 10, VII 48 : 15, VIII 38 : 10, IX 48 : 15, X 46 : 15, XI 55 : 15. Pronotum with evenly rounded lateral margins, lateral margin carinae concealed in dorsal view, disc not microsculptured, densely and very finely punctate, punctures mostly well delimited, visible at 20 times magnification, puncture intervals mostly about 3 to 5 times as large as puncture diameters; lateral striae impunctate; pubescence distinct. Exposed tip of scutellum minute, narrow, longer than wide. Elytra each with weakly rounded lateral margin, moderately narrowed apically, lateral margin carina nearly entirely concealed, exposed only near base in dorsal view; apical margin truncate, lacking crenulation at inner angle, inner angle not prominent, about at level of outer angle in dorsal view; sutural margin not raised, adsutural area flat, narrowed apically, with fine puncture row, and additional very fine punctures forming second row in anterior third, sutural stria shallow, curved along base to form basal stria extended about to mid-width of basal margin; disc not microsculptured, with punctation mostly

dense and rather coarse, puncture intervals mostly slightly larger to about twice as large as puncture diameters, punctures becoming much fine near base and along lateral stria; lateral stria distinctly punctate. Hypomera smooth. Mesepimeron about as long as interval between its tip and mesocoxa. Metaventrite not microsculptured, slightly convex between mesocoxae, flattened on apicomedian area; finely and densely punctate on median area smooth centre excepted, lacking impressions. Punctuation on area between mesocoxa and metacoxa distinctly coarser than that on apicomedian area of metaventrite, anteriolateral surface of metaventrite nearly smooth. Submesocoxal area 0.05 mm, about as fourth of shortest interval to metacoxa. Submesocoxal line convex, finely punctate. Metanepisternum strongly narrowed anteriorly, broadly rounded at angles, in plan with metaventrite. Tibiae straight. Exposed abdominal tergites with very microsculpture consisting of very short striae and punctures. Exposed ventrites with strigulate microsculpture. Ventrite I with punctation about as fine as that on apicomedian area of metaventrite. Submetacoxal area 0.08 mm, about as fourth of interval to apical margin; submetacoxal line convex, finely punctate.

Male characters. Protarsomeres I to III slightly widened, mesotarsomeres not widened. Aedeagus (Figs 1–3) 0.56 mm

long. Median lobe symmetrical, basal bulb weakly sclerotized, apical process strongly sclerotized, as long as basal bulb, strongly inflexed, with tip bent, acute in lateral view, not visible in dorsal view. Ostium subapical, overlapped by short dorsal plate. Articular process inconspicuous. Parameres slightly sinuate, nearly evenly wide in dorsal and lateral views, without lobes. Internal sac with proximal V-shaped plate-like structure, two very narrow admesal rods, very weakly sclerotized spines at each side of apical parts of rods, and two densely, well sclerotized apical spine bunches.

**Differential diagnosis.** *Scaphisoma caucasicum* sp. n. falls in the key to the Palaearctic species of *Scaphisoma* [Löbl, 1970] to *S. hapiroense* Löbl, 1968, couplet 33. This species was described and is known only from North Korea. Though the male characters of *S. hapiroense* remain unknown, the new species may be readily distinguished from it by the antennomere V shorter than the combined length of the antennomeres III and IV, the very fine pronotal punctation, and the light apical area of the elytra weakly delimited. The aedeagal characters of *S. caucasicum* sp. n. are similar to those of *S. latro* Löbl, 2000, currently known only from the Chinese provinces of Hubei and Sichuan [Löbl, 2000, 2018, 2019]. However, *S. latro* is distinguished by the much shorter apical process of the median lobe and the internal sac lacking V-shaped structure and rods.

**Distribution.** Georgia: Svaneti.

**Etymology.** The species epithet is an adjective derive from the Caucasus, where the species occurs.

#### *Scaphisoma assimile assimile* Erichson, 1845

**Material.** 1 ex. [GE19-41] (ZMB), Adjara, Meshekhti Range, NE Batumi, Mtirala NP, 41°40'35"N / 41°52'29"E, 330 m, deciduous forest / rhododendron, litter, 18.07.2019 (M. Schülke); 1 ex. [GE2021-02] (ZMB), Racha, E Ambrolauri, SE Oni, Tskhmori, 42°32'08"N / 43°29'38"E, 1320 m, moist deciduous forest with predominant alder and forest margin, 23.07.2021 (M. Schülke); 4 ex. [GE2021-03] (ZMB), 1 ex. (MHNG), Racha, E Ambrolauri, SE Oni, Tskhmori, 42°32'36"N, / 43°28'35"E, 1120 m, deciduous forest with predominant alder, litter near stream, 23.07.2021 (M. Schülke); 1 ex. [GE21-09] (ZMB), Racha, NE Oni, W Glola, 42°41'47"N / 43°35'04"E, 1140 m, mixed forest margin, litter, 25.07.2021 (M. Schülke).

**Notes.** The nominotypical subspecies is widely distributed throughout Western, Central and Eastern Europe. Now it is found in Georgia which is the first record of this species in this country.

#### *Scaphisoma boleti boleti* (Panzer, 1793)

**Material.** 1 ex. [GE19-43] (ZMB), Imereti, Meskheti Range, SE Sairme, 41°52'07"N / 42°46'53"E, 1820 m, degraded forest with predominant spruce, mushrooms / bark, 20.07.2019 (M. Schülke); 1 ex. [GE19-45] (MHNG), Imereti, Meskheti Range, N Sairme, 41°58'54"N / 42°47'21"E, 370 m, stream valley with chestnut, alder and rhododendron, litter, 21.07.2019 (M. Schülke); 8 ex. [GE2021-60] (ZMB), Svaneti, N Martvili, Lebarde valley, 42°37'13"N / 42°22'45"E, 510 m, track margin, mushrooms sifted, 17.10.2021 (M. Schülke).

**Notes.** The range of the nominotypical subspecies covers nearly all Europe and extends to the Asian part of Turkey.

#### *Scaphisoma simillimum* Löbl, 1970

**Material.** 1 ex. [GE19-08] (ZMB), Samtskhe-Javakheti, Trialet Range, N Bakuriani, 1150 m, E Tsaghveri, 41°47'25"N, 43°32'27"E, mixed

forest, litter sifted, 8.07.2019 (M. Schülke); 1 ex. [GE19-13] (ZMB), Samtskhe-Javakheti, Trialet Range, SE Borjomi, 950 m, 41°48'38"N / 43°26'15"E, grassy forest margin with Fagus, Crataegus, and bushes, litter, 9.07.2019 (M. Schülke); 1 ex. [GE19-29] (ZMB), Adjara, Meskheti Range, NW Khulo, 41°42'46"N / 42°19'52"E, 920 m, stream valley with hazelnut, litter, 14.07.2019 (M. Schülke); 3 ex. [GE19-51] (ZMB, MHNG), Imereti, NW Bagdati, 42°08'52"N / 42°45'43"E, 120 m, oak forest, bark of dead oak trees with mushrooms, 24.07.2019 (M. Schülke); 1 ex. [GE21-03] (MHNG), Racha, E Ambrolauri, SE Oni, Tskhmori, 42°32'36"N / 43°28'35"E, 1120 m, deciduous forest with predominant alder, litter near stream, 23.07.2021 (M. Schülke); 3 ex. [GE2021-37] (ZMB), Zemo Svaneti, NW Khaishi, 43°01'26"N / 42°05'50"E, 1430 m, mixed forest, litter near rotten trunks and logs, 6.08.2021 (M. Schülke); 1 ex. [GE2021-40] (ZMB), Zemo Svaneti, NW Khaishi, 43°01'16"N / 42°06'14"E, 1360 m, mixed forest near dead trunks and logs, 7.08.2021 (M. Schülke); 2 ex. [GE2021-36a] (ZMB), Zemo Svaneti, NW Khaishi, 43°01'28"N / 42°05'42"E, 1440 m, mixed forest, litter near rotten logs and trunks, 11.08.2021 (M. Schülke); 2 ex. [GE2021-54] (ZMB, MHNG), Imereti, N Kutaisi, Sataplia Nature Reserve, 42°18'58"N / 42°39'30"E, 330 m, mixed deciduous forest with large rocks, litter, 16.08.2021 (M. Schülke); 1 ex. [GE2021-72] (ZMB), Imereti, NW Surami, Rikoti Pass, 42°03'40"N / 43°28'59"E, 930 m, stream valley, chestnut litter, 24.10.2021 (M. Schülke).

**Notes.** The range of this species is likely restricted. Currently, the species is known only from Eastern Turkey, Armenia and Georgia.

#### *Scaphisoma subalpinum subalpinum* Reitter, 1880

**Material.** 1 ex. [GE21-37] (ZMB), Zemo Svaneti, NW Khaishi, 43°01'26"N / 42°05'50"E, 1430 m, mixed forest, litter near rotten logs and trunks, 6.08.2021 (M. Schülke).

**Notes.** The range of the nominotypical subspecies extends from West Europe to Siberia. Now it is found in Georgia, which is the first record of this species in this country.

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