

On the *Nanophthalmus* fauna of Georgia (Coleoptera: Staphylinidae: Scydmaeninae)

With 24 figures and 1 map

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Abstract

Only two named species of *Nanophthalmus* MOTSCHULSKY, 1851 were previously known from Georgia. A study of mostly recently collected material from Georgia yielded nine additional species, one of them previously described and reported from Georgian territory for the first time, two unnamed (male unknown), and six newly described and illustrated: *Nanophthalmus egriscus* spec. nov. (Zemo Svaneti); *N. svaneticus* spec. nov. (Zemo Svaneti); *N. truncatus* spec. nov. (Racha); *N. brachati* spec. nov. (Kvemo Svaneti); *N. convexus* spec. nov. (Adjara); *N. simplex* spec. nov. (Adjara). The identity and taxonomic status of *N. armeniacus* (REITTER, 1884), a previously probably misinterpreted species, are discussed. The Georgian *Nanophthalmus* species are anophthalmous and locally endemic, three in the Lesser Caucasus and five in the Greater Caucasus west of South Ossetia. Their distributions are mapped. The genus now includes a total of 19 described species.

Taxonomic acts

Nanophthalmus brachati spec. nov. – urn:lsid:zoobank.org:act:839F9CB9-48AD-4468-8C2E-2B938E215426

Nanophthalmus convexus spec. nov. – urn:lsid:zoobank.org:act:8ADC681F-B423-4D3D-AAEE-7FE22C0024E9

Nanophthalmus egriscus spec. nov. – urn:lsid:zoobank.org:act:65510254-39B3-4515-A167-3EE5AA314978

Nanophthalmus simplex spec. nov. – urn:lsid:zoobank.org:act:A80BEF2E-A12F-45FD-95EA-0A49BA3FB407

Nanophthalmus svaneticus spec. nov. – urn:lsid:zoobank.org:act:2D324FFE-B0B5-47B6-86F3-181A88B591D7

Nanophthalmus truncatus spec. nov. – urn:lsid:zoobank.org:act:92C16788-BA1A-4A0F-8871-83658AA468D0

Key words

Coleoptera, Staphylinidae, Scydmaeninae, *Nanophthalmus*, taxonomy, new species, West Palaearctic, Georgia, endemism, distribution map

Zusammenfassung

Lediglich zwei beschriebene Arten der Gattung *Nanophthalmus* MOTSCHULSKY, 1851 waren bislang aus Georgien bekannt. Die Bearbeitung von fast durchweg erst in den letzten Jahren gesammeltem Material aus Georgien ergab neun weitere Arten, davon eine bereits beschrieben und erstmals aus Georgien nachgewiesen, zwei unbenannt (Männchen unbekannt) und sechs neu beschrieben: *Nanophthalmus egriscus* spec. nov. (Zemo Svaneti); *N. svaneticus* spec. nov.

(Zemo Svaneti); *N. truncatus* spec. nov. (Racha); *N. brachati* spec. nov. (Kvemo Svaneti); *N. convexus* spec. nov. (Adjara); *N. simplex* spec. nov. (Adjara). Die Identität und der taxonomische Status des zuvor vermutlich fehlgedeuteten *N. armeniacus* (REITTER, 1884) werden diskutiert. Die aus Georgien nachgewiesenen *Nanophthalmus*-Arten sind anophthalm und lokalendemisch, drei im Kleinen Kaukasus und fünf im Großen Kaukasus westlich von Süd-Ossetien. Ihre derzeit bekannten Verbreitungsgebiete werden anhand einer Karte illustriert. Die Gattung enthält derzeit insgesamt 19 beschriebene Arten.

Schlüsselwörter

Coleoptera, Staphylinidae, Scydmaeninae, *Nanophthalmus*, Taxonomie, neue Arten, Georgien, Endemismus, Verbreitungskarte

Introduction

The scydmaenine tribe Cephenniini is represented in the West Palaearctic region (including Middle Asia) by four genera, *Cephennium* MÜLLER & KUNZE, 1822 (251 named species), *Cephennodes* REITTER, 1884 (three), *Etelea* CSIKI, 1909 (two), and *Nanophthalmus* MOTSCHULSKY, 1851 (13 species) (ASSING & MEYBOHM 2021, SCHÜLKE & SMETANA 2015). Only five named species, two of *Cephennium*, one of *Cephennodes*, and two of *Nanophthalmus* were previously known from Georgia (SCHÜLKE & SMETANA 2015).

The West Palaearctic genus *Nanophthalmus* was partly revised by BESUCHET & VÍT (2000), who keyed and illustrated six of the nine species known at that time. In the meantime, four additional species were described by STEVANOVIĆ (2009, 2011, 2012), who also provided illustrations of the genitalia of the three previously described species that had not been illustrated by BESUCHET & VÍT (2000). Four of the *Nanophthalmus* species are distributed in the Balkans (Croatia, Serbia, Bulgaria, Greece), the remaining nine species have been recorded from the Caucasus region sensu lato, including North-east Turkey (Gümüşhane, Rize), Georgia, Azerbaijan, the Russian part of the Greater Caucasus, and the Crimean Peninsula. An unnamed and probably undescribed species was reported from South Armenia by ASSING & SCHÜLKE (2019). The two species previously reported from Georgia are *Nanophthalmus ditomus* (SAULCY, 1878), which has been reported only from the Suram pass in the eastern Meskheta range (BESUCHET & VÍT 2000), and *N. armeniacus* (REITTER, 1884), which has been recorded from the Suram pass (Lesser Caucasus: northeastern Meskheta Range), Southwest Azerbaijan, and the southern slopes of the Russian part of the West Caucasus (LAZORKO 1962, REITTER 1962, STEVANOVIĆ 2012).

The present study is based primarily on material collected during ten recent field trips to Georgia conducted by Volker Brachat (Geretsried), Heinrich Meybohm (Großhansdorf), Michael Schülke (Berlin), and the author since 2015.

Material and methods

The material treated or mentioned in this study is deposited in the following collections:

HNHM	Hungarian Natural History Museum, Budapest (Gy. Makranczy)
MNB	Museum für Naturkunde Berlin (coll. Schülke)
cAss	private collection V. Assing, Hannover

The morphological studies were conducted using Stemi SV 11 (Zeiss) and Discovery V12 (Zeiss) microscopes, and a Jenalab compound microscope (Carl Zeiss Jena). The images were created using digital cameras (Axio-cam ERc 5s, Nikon Coolpix 995), as well as Labscope and Picolay software. The maps were created using MapCreator 2.0 (primap) software.

Body length was measured from the anterior margin of the labrum to the apex of the elytra, pronotal length along midline, pronotal width at its maximal extension, and the length of the aedeagus from the apex of the ventral process to the base of the aedeagal capsule. The “parameral” side (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect. When assessing the relative length of the paramere, the apical setae are not included.

Results

The material examined in the course of the present study included ten species, two of them previously described (one recorded from Georgia for the first time), six newly described, and two unnamed and probably undescribed. Thus, the *Nanophthalmus* fauna of Georgia is currently composed of eight named species, not counting *N. armeniacus* (REITTER, 1884), a name of doubtful identity and status (see the section on *N. armeniacus* in this article). All the Georgian *Nanophthalmus* species are anophthalmous and locally endemic in West Georgia, three in the Lesser Caucasus northeastwards to the Rikoti Pass (between the Gedsamani and Likhi Ranges) and five in the Greater Caucasus west of South Ossetia (Map 1).

Key to the named *Nanophthalmus* species recorded from Georgia

This key does not account for *N. armeniacus*, whose identity and status are currently uncertain and require revision.

1. Male protibiae unmodified, straight, without apical tooth or subapical excavation (Fig. 12). Aedeagus of conspicuously compact shape, particularly in lateral view (Figs 23–24). Western Meskheta Range, Adjara (Map 1). *simplex*
 - Male protibiae curved, mostly with apical tooth and/or with subapical excavation (Figs 7–11). 2
2. Species from the Lesser Caucasus, northeastwards to the Rikoti pass. 3
 - Species distributed in the Greater Caucasus 4
3. Aedeagus smaller, 0.30 mm long; ventral process apically smoothly convex in ventral view (Figs 21–22). Shavsheti Range to the southeast of Khulo, Adjara (Map 1). *convexus*
 - Aedeagus larger, 0.37 mm long; ventral process apically distinctly bisinuate in ventral view (BESUCHET & VÍT 2000: figure 3). Rikoti pass at the border between Imereti and Shida Kartli (Map 1). *ditomus*
4. Body larger and more robust; width of pronotum at least 0.45–0.58 mm. 5
 - Body smaller and more slender; width of pronotum 0.40–0.45 mm. 7
5. Aedeagus smaller, 0.36 mm long, and shaped as in Figs 18–20. Kvemo Svaneti: southern slopes of Svaneti Range (Map 1). *brachati*
 - Aedeagus larger, approximately 0.45 mm long, and of different shape. 6
6. Body larger, width of pronotum 0.54–0.58 mm. Apex of median lobe of aedeagus broader in ventral view (STEVANOVIĆ 2011: figure 1). Russian part of West Caucasus, Abkhazia (Map 1). *robustus*
 - Body smaller, width of pronotum 0.45–0.48 mm. Apex of median lobe of aedeagus more slender in ventral view (Figs 15–16). Zemo Svaneti: northern slopes of Svaneti range (Map 1). *svaneticus*
7. Slightly smaller species; width of pronotum 0.40–0.42 mm. Male protibia with distinct subapical emargination and with apical tooth. Ventral process of aedeagus more slender and with medially obtusely angled apex in ventral view (Figs 13–14). Zemo Svaneti: western slopes of Egrisi Range (Map 1). *egrisicus*
 - Slightly larger species; width of pronotum 0.42–0.45 mm. Male protibia without distinct subapical emargination and without distinct apical tooth. Ventral process of aedeagus broader and with truncate apex in ventral view (Figs 17–18). Racha: upper Rioni valley (Map 1). *truncatus*

Nanophthalmus ditomus (SAULCY, 1878)

(Map 1)

Material examined: Georgia: 2 ♂♂, 1 ♀, Imereti, NW Surami, Rikoti pass, 42°03'40"N, 43°28'59"E, 930 m, stream valley with chestnut and alder, chestnut litter sifted, 24.X.2021, leg. Assing (cAss); 2 ♀♀, same data, but soil-washing (cAss).

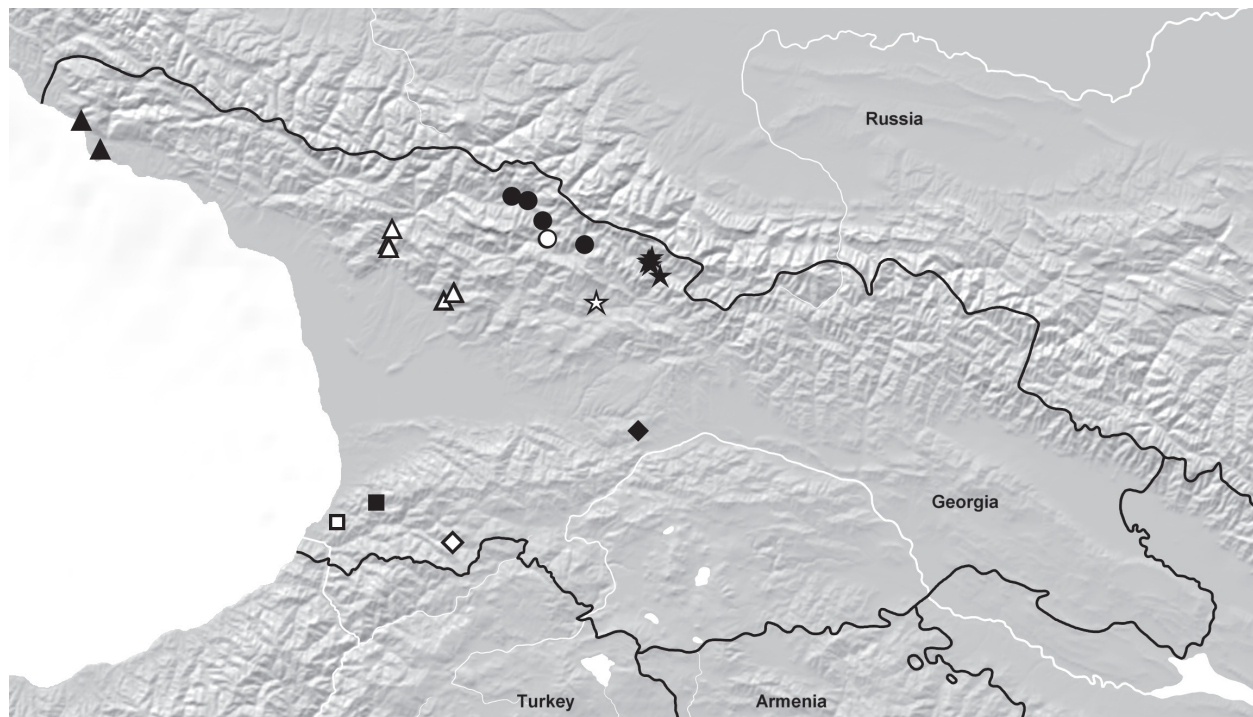
Comment: This species was revised, redescribed, and illustrated by BESUCHET & VÍT (2000). Based on circumstantial evidence, *N. armeniacus* is probably conspecific with, and consequently a junior synonym of *N. ditomus*; for details see the section on *N. armeniacus* below.

The above specimens represent the first recent records with specified localities. All the material reported by BESUCHET & VÍT (2000) had been collected in the 19th century. The known distribution is confined to the environs of the Rikoti pass in the Suram range, West Georgia (Map 1).

Nanophthalmus armeniacus (REITTER, 1884)

Cephennium armeniacum REITTER, 1884: 84.

Comment: The original description is based on an unspecified number of syntypes from “Caucasus: Suram-pass und Helenendorf bei Elisabethpol” (REITTER 1884), i.e., from the Rikoti pass in the northeastern extension of the Meskheta Range in West Georgia and from a locality the Southwest Azerbaijan. The species was subsequently reported also from several localities in the Krasnodar region (region between Tuapse and Sochi, environs of Krasnaya Polyana, Babuk-Aul) by LAZORKO (1962) and STEVANOVIĆ (2012). The illustrations of the aedeagus in LAZORKO (1962) and STEVANOVIĆ (2012) are based on material from the Krasnodar region. A lectotype has not been designated. Syntypes of *N. armeniacus* were not found in the Reitter collection at the HNHM (see the section on *Nanophthalmus* sp. 3 below). As has been shown recently (ASSING & SCHÜLKE 2017), the historical record from “Helenendorf”, today Göygöl in Azerbaijan, is highly doubtful. Several species described from this



Map 1: Distributions of *Nanophthalmus* species in Georgia: *N. robustus* (black triangles); *N. egriscus* (white triangles); *N. svaneticus* (black circles); *N. brachati* (white circle); *N. truncatus* (black stars); *N. sp. 1* (white star); *N. ditomus* (black diamond); *N. convexus* (white diamond); *N. simplex* (black square); *N. sp. 2* (white square).

locality have more western distributions and are absent from Azerbaijan.

Nanophthalmus species are anophthalmous and generally have very restricted distributions, as is confirmed also by the results of the present paper. In consequence, what has been referred to as *Nanophthalmus armeniacus* probably represents a mix of two or three species. Since the other species known from Georgia all appear to have allopatric distributions, at least the syntypes from “Surampass” are most likely conspecific with the types of *N. ditomus*, which were found in the same locality. A revision of type material is required to clarify and unambiguously define the identity and status of *N. armeniacus*. For the purpose of the present paper, this name is preliminarily regarded as a synonym of *N. ditomus*.

Nanophthalmus robustus ROUBAL, 1913

(Map 1)

Material examined: Georgia: 1 ♂, Gagra env., VI.1971, leg. Rous (cAss); 1 ♂, “Agrba”, VI.1969, leg. Rous (cAss).

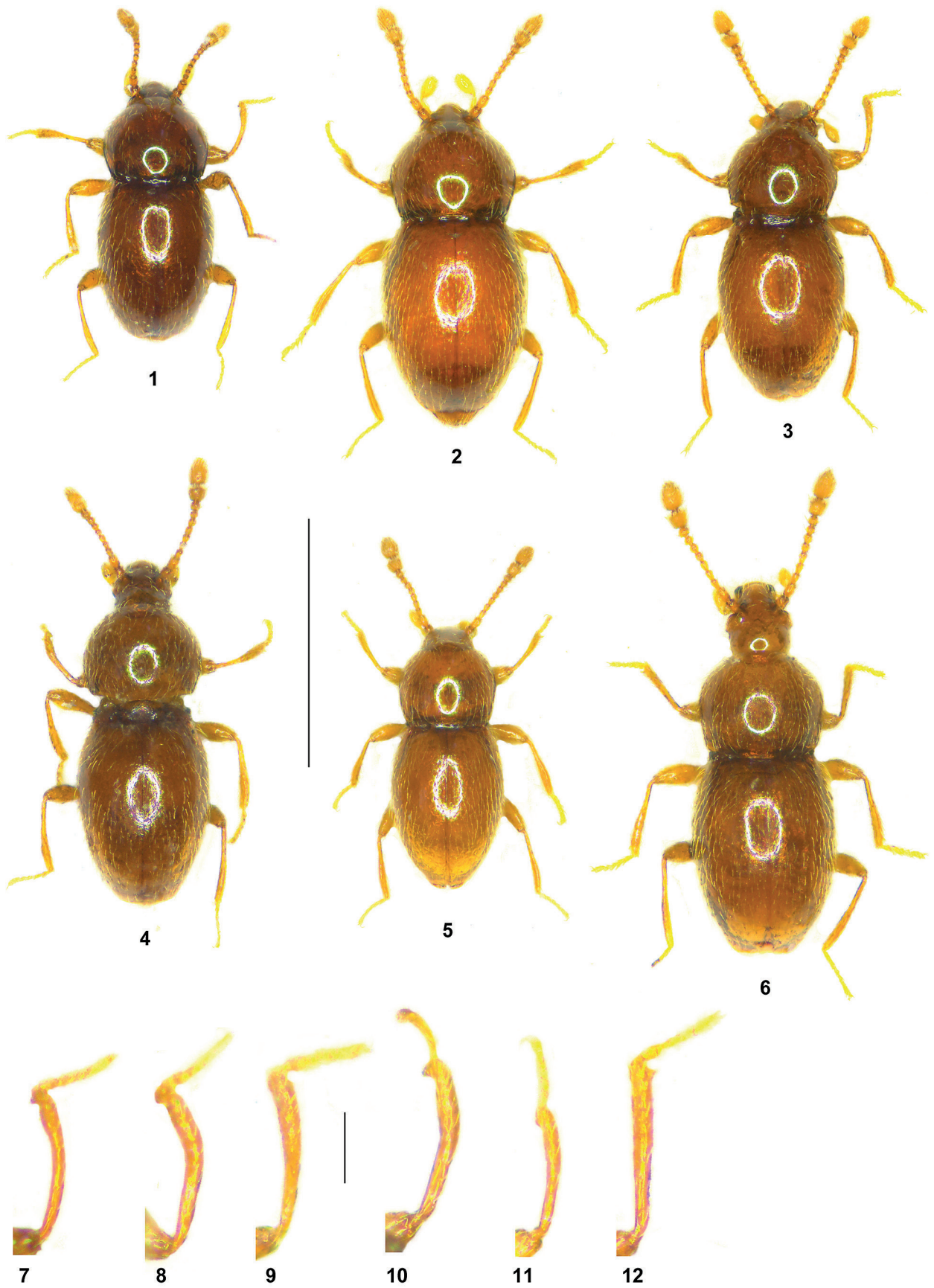
Comment: This species was originally described based on material from the environs of Krasnaya Polyana, Krasnodar region, and subsequently reported from two additional localities in the Russian Northwest and Southwest Caucasus (STEVANOVIĆ 2011). The above specimens represent the first records from Georgia (Abkhazia) (Map 1). The aedeagus was illustrated by STEVANOVIĆ (2011).

Nanophthalmus egriscus spec. nov.

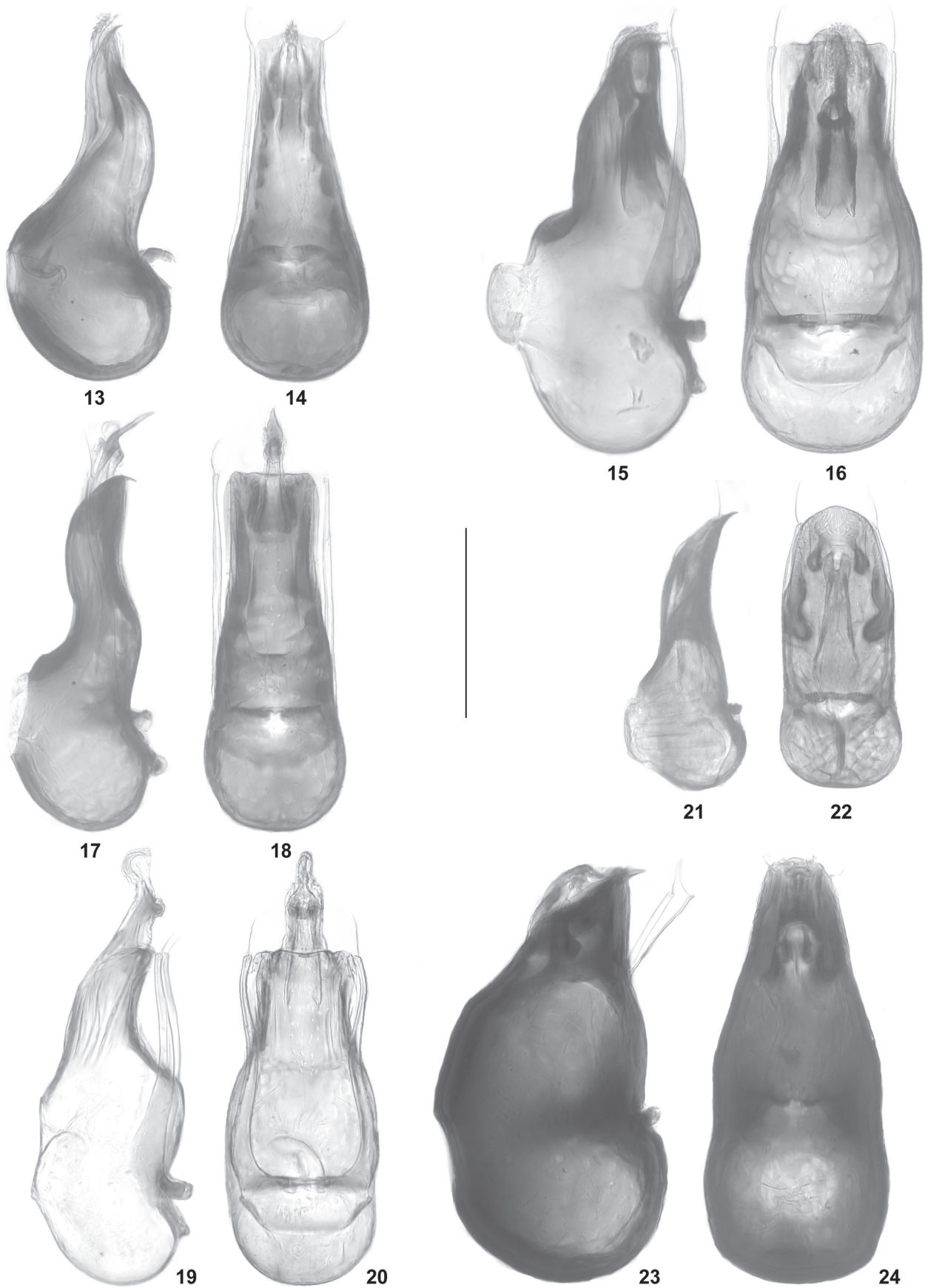
urn:lsid:zoobank.org:act:65510254-39B3-4515-A167-3EE5AA314978

(Figs 1, 7, 13–14, Map 1)

Type material examined: Holotype ♂: “GEORGIA [44] – Zemo Svaneti, N Jvari, 42°49'58"N, 42°01'28"E 620 m, stream valley, 9.VIII.2021, V. Assing / Holotypus ♂ *Nanophthalmus egriscus* sp. n., det. V. Assing 2021” (cAss). Paratypes: 2 ♂♂, 2 ♀♀: “GEORGIA [62] – Zemo Svaneti, N Jvari, 42°49'58"N, 42°01'28"E, 620 m, stream valley, 18.X.2021, V. Assing” (cAss); 1 ♂, 3 ♀♀: “GEORGIA [45] – Zemo Svaneti, N Jvari, 42°49'02"N, 42°01'54"E, 600 m, stream valley, 9.VIII.2021, V. Assing” (cAss); 2 exs.: “GEORGIA [GE2021-61]: Zemo Svaneti, N Jvari, 42°49'02"N, 42°01'54"E, 600 m, stream valley with mixed deciduous forest, litter sifted, 18.X.2021, leg. M. Schülke” (MNB); 1 ♀: “GEORGIA [47] – Zemo Svaneti, N Jvari, 42°53'53"N, 42°02'54"E 570 m, stream valley, 9.VIII.2021, V. Assing” (cAss); 1 ♂: “GEORGIA [56] – Zemo Svaneti, N Martvili, Lebarde valley, 42°37'54"N, 42°24'28"E, 580 m, 16.X.2021, V. Assing” (cAss); 1 ♀: “GEORGIA [58] – Zemo Svaneti, N Martvili, Lebarde valley, 42°37'51"N, 42°24'20"E, 540 m, 17.X.2021, V. Assing” (cAss); 1 ex.: “GEORGIA [GE2021-58]: Zemo Svaneti, N Martvili, Lebarde valley, 42°37'51"N 42°24'20"E, 540 m, decid. forest with rocks, litter sifted, 17.X.2021, M. Schülke” (MNB); 1 ♂: “GEORGIA [GE2021-52a]: Zemo Svaneti, N Martvili, Lebarde valley, 42°35'54"N, 42°21'02"E, 400 m, margin of mixed for., litter sifted, 15.VIII.2021, M. Schülke” (MNB).



Figs 1–12: *Nanophthalmus egriscus* (1, 7), *N. svaneticus* (2, 8), *N. truncatus* (3, 9), *N. brachati* (4, 10), *N. convexus* (5, 11), and *N. simplex* (6, 12). 1–6 – male habitus in dorsal view; 7–12 – male protibia. Scale bars: 1–6: 1.0 mm; 7–12: 0.1 mm.



Figs 13–24: *Nanophthalmus egriscus* (13–14), *N. svaneticus* (15–16), *N. truncatus* (17–18), *N. brachati* (19–20), *N. convexus* (21–22), and *N. simplex* (23–24). Aedeagus in lateral and in ventral view. Scale bar: 0.2 mm.

Etymology: The specific epithet is an adjective derived from Egrisi, the name of the mountain range where the species was discovered.

Description: Body length 1.05–1.13 mm; length of pronotum 0.35–0.38 mm; width of pronotum 0.40–0.42 mm. Male habitus as in Fig. 1. Colouration: body reddish to reddish-brown.

Eyes completely reduced. Other external characters not distinctive.

♂: protibia (Fig. 7) smoothly curved, subapically emarginate, and apically with dentiform projection; aedeagus (Figs 13–14) 0.38 mm long; median lobe strongly sinuate in lateral view and rather narrow in ventral view; apex of ventral process in ventral view nearly truncate, very weakly produced in the middle; dorsal compressor plate very small; parameres apically not reaching apex of median lobe, each with one long apical seta.

Comparative notes: This species is distinguished from *N. armeniacus* sensu STEVANOVIĆ (2012) by a smaller and more slender aedeagus with the apex not convex, the parameres apically nearly reaching the apex of the median lobe, and apical internal structures of different shapes. It differs from *N. ditomus* by slightly larger body size and a longer and much more slender aedeagus (ventral view) with apical internal structures of different shapes.

For illustrations of the aedeagi of *N. armeniacus* and *N. ditomus* see STEVANOVIĆ (2012) and BESUCHET & VÍT (2000), respectively.

Distribution and natural history: The type specimens were collected in three geographically close localities to the east of Jvari Reservoir in the western slopes of Egrisi Range and in one locality in the Tekhuri river valley in the southwestern part of the Egrisi Range, Samegrelo-Zemo Svaneti, Northwest Georgia (Map 1). They were found by sifting leaf litter (15 specimens) or by soil-washing (two specimens) in stream valleys with mixed deciduous forests at altitudes of 400–620 m.

Nanophthalmus svaneticus spec. nov.

urn:lsid:zoobank.org:act:2D324FFE-B0B5-47B6-86F3-181A88B591D7
(Figs 2, 8, 15–16, Map 1)

Type material examined: Holotype ♂: “N43°02'13 E42°44'20 (13), Georgien Svaneti, Mestia–Hatsvali 1620 m, Brachat & Meybohm 27.6.2017 / Holotypus ♂ *Nanophthalmus svaneticus* sp. n., det. V. Assing 2021” (cAss). Paratypes: 2 ♂♂, 2 ♀♀: same data as holotype (cAss); 1 ♂: “N42°56'03 E42°55'05, GG Zemo Svaneti, Kala 1750 m (33), I. Meybohm 29.7.2016” (cAss); 1 ♂: “N43°01'06 E42°49'41, GG Zemo Svaneti (31), Ipari 2 km n 1670 m, I. Meybohm 29.7.2016” (cAss); 1 ♂: “N43°01'08 E42°49'52 (15), Georgien Svaneti Mestia–Ushguli 3 km N Ipari 1750 m, Brachat & Meybohm 28.6.2017” (cAss);

1 ♀: “N42°49'58 E43°09'35, GG Zemo Svaneti (37), Koruldashi 8 km s 1430 m, I. Meybohm 1.8.2016” (cAss).

Etymology: The specific epithet is an adjective derived from Svaneti, the name of the mountain range where the species was collected.

Description: Body length 1.2–1.3 mm; length of pronotum 0.36–0.40 mm; width of pronotum 0.45–0.48 mm. Male habitus as in Fig. 2. Colouration: body reddish to reddish-brown. Other external characters not distinctive.

♂: protibia (Fig. 8) rather sharply bent approximately at middle, subapically weakly emarginate, and apically with rather small dentiform projection; aedeagus (Figs 15–16) approximately 0.45 mm long; median lobe strongly sinuate in lateral view; apex of ventral process in ventral view nearly truncate; parameres apically nearly reaching apex of median lobe, each with one long apical seta.

Comparative notes: *Nanophthalmus svaneticus* is distinguished from *N. egrisicus* by a more robust body with a broader pronotum, more distinctly bent and apically only shallowly emarginate male protibiae, and a much larger and more robust aedeagus of different shape.

Distribution and natural history: The material was found in several localities in the northern slopes of the Svaneti Range, to the south and east of Mestia, Zemo Svaneti, Northwest Georgia (Map 1). The specimens were sifted from litter in hazelnut forests on moist slopes, in a secondary mixed forest, and in a moist mixed deciduous forest (Meybohm pers. comm.). The altitudes range from 1430 to 1750 m.

Nanophthalmus truncatus spec. nov.

urn:lsid:zoobank.org:act:92C16788-BA1A-4A0F-8871-83658AA468D0
(Figs 3, 9, 17–18, Map 1)

Type material examined: Holotype ♂: “GEORGIA [67] – Racha N Oni, E Ghebi, 42°45'54"N, 43°31'36"E, 1450 m, litter sifted, 22.X.2021, V. Assing / Holotypus ♂ *Nanophthalmus truncatus* sp. n., det. V. Assing 2021” (cAss). Paratypes: 6 ♂♂, 6 ♀♀: same data as holotype (cAss); 1 ♂: “GEORGIA [73] – Racha N Oni, E Ghebi, 42°45'45"N, 43°31'04"E 1410 m, litter sifted, 27.X.2021, V. Assing” (cAss); 1 ♂: “N42°46'51 E43°32'53 (18), Georgien Racha, Ghebi westl. 1590 m, Meybohm & Brachat 18.6.2021” (cAss); 1 ♀ [probably teneral]: “N42°45'09 E43°32'11, Georgien Racha (73), Ghebi 1310 m 29.5.2018, Brachat & Meybohm” (cAss); 1 ♀: “N42°46' E43°32' (19), Georgien Racha (19), Ghebi westl. 1450 m, Brachat & Meybohm 18.6.2021” (cAss); 1 ♂: “N42°42'16 E43°35'41, Georgien Racha (72), Glola W 1170 m 28.5.2018, Brachat & Meybohm” (cAss).

Etymology: The specific epithet is the past participle of the Latin verb *truncare* and alludes to the apically truncate ventral process of the aedeagus (ventral view).

Description: Body length 1.1–1.2 mm; length of pronotum 0.35–0.37 mm; width of pronotum 0.42–0.45 mm. Male habitus as in Fig. 3. Colouration: body reddish to brown. Other external characters not distinctive.

♂: protibia smoothly curved at apical third, without distinct subapical emargination and without apical tooth; aedeagus (Figs 17–18) 0.38 mm long; median lobe sinuate in lateral view and rather slender in ventral view; apex of ventral process truncate in ventral view; parameres apically nearly reaching apex of median lobe, each with one long apical seta.

Comparative notes: *Nanophthalmus truncatus* differs from *N. svaneticus* and *N. egriscicus* by the shapes of the male protibiae and of the aedeagus, from the former additionally by a smaller and more slender body.

Distribution and natural history: The species was collected in several geographically close localities near Ghebi and Glola in the upper Rioni river valley, Racha, Northwest Georgia (Map 1). The specimens were sifted from litter in a moist hazelnut forest, a very old beech forests, and in mixed deciduous forests at altitudes of 1170–1590 m. One of the females collected in May is apparently slightly teneral.

Nanophthalmus brachati spec. nov.

urn:lsid:zoobank.org:act:839F9CB9-48AD-4468-8C2E-2B938E215426
(Figs 4, 10, 19–20, Map 1)

Type material examined: Holotype ♂: “N42°51'19 E42°56'38 (9), Georgien Kvemo Svaneti, Chvelpi–Latpari Pass 2100 m, Meybohm & Brachat 15.6.2021 / Holotypus ♂ *Nanophthalmus brachati* sp. n., det. V. Assing 2021” (cAss). Paratype ♀: “GEORGIA [GE2021-20]: Kvemo Svaneti, E Likheti [recte: Lentekhi], mountain track Chvelpi–Latpari pass, 42°51'28"N, 42°56'42"E, 2200 m, mont. *Betula* and *Acer* for. with rhododendron, litter sifted, 30.VII.2021, Schülke” (MNB).

Etymology: This species is dedicated to Volker Brachat (Geretsried), specialist of Pselaphinae, who collected the holotype.

Description: Body length 1.3–1.4 mm; length of pronotum 0.39–0.40 mm; width of pronotum 0.48 mm. Male habitus as in Fig. 4. Colouration: body brown. Other external characters not distinctive.

♂: protibia (Fig. 10) distinctly bent at middle, dilated in apical half, and apically with a pronounced tooth-shaped process; aedeagus (Figs 19–20) 0.36 mm long; median

lobe strongly sinuate in lateral view, rather broad and apically dilated in ventral view; apex of ventral process nearly truncate in ventral view; parameres sinuate in ventral view, apically nearly reaching apex of median lobe, each with one long apical seta.

Comparative notes: *Nanophthalmus brachati* is distinguished from *N. svaneticus*, its geographically closest congener, by the shape of the male protibiae and by the shape of the smaller aedeagus.

Distribution and natural history: The type specimens were collected in two close localities in the south slopes of the Svaneti Range, Kvemo Svaneti, Northwest Georgia (Map 1). The specimens were sifted from litter in montane forests with birch, maple, hazelnut, *Sorbus*, and rhododendron at altitudes of 2100 and 2200 m.

Nanophthalmus convexus spec. nov.

urn:lsid:zoobank.org:act:8ADC681F-B423-4D3D-AAEE-7FE22C0024E9
(Figs 5, 11, 21–22, Map 1)

Type material examined: Holotype ♂: “N41°34'23 E42°25'06 (6), Georgien Adjara, Skhalta-Tal, 970 m, Brachat & Meybohm 22.6.2017 / Holotypus ♂ *Nanophthalmus convexus* sp. n., det. V. Assing 2021” (cAss).

Etymology: The specific epithet (Latin, adjective) alludes to the apically convex ventral process of the aedeagus (ventral view).

Description: Small and slender species; body length 1.05 mm; length of pronotum 0.33 mm; width of pronotum 0.39 mm. Male habitus as in Fig. 5. Colouration: body pale-reddish. Other external characters not distinctive.

♂: protibia weakly curved at apical third, apically with small tooth; aedeagus (Figs 21–22) small, 0.30 mm long; median lobe apically convex in ventral view and with internal structures of distinctive shapes; parameres straight in ventral view, not reaching apex of median lobe, each with one long apical seta.

Comparative notes: *Nanophthalmus convexus* is distinguished from all other species by a smaller and more slender body, the modifications of the male protibiae, and by a smaller aedeagus of distinctive shape with differently shaped internal structures.

Distribution and natural history: The type locality is situated in the northern slopes of the Shavsheti Range, to the southeast of Khulo, Adjara, Southwest Georgia (Map 1). The specimen was sifted from litter in a deciduous forest at an altitude of 970 m.

Nanophthalmus simplex spec. nov.

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(Figs 6, 12, 23–24, Map 1)

Type material examined: Holotype ♂: “N41°44'15 E41°59'01 (3), Georgien Adjara, Kintrishi Nat. Park 430 m, Brachat & Meybohm 10.6.2021 / Holotypus ♂ *Nanophthalmus simplex* sp. n., det. V. Assing 2021” (cAss).

Etymology: The specific epithet (Latin, adjective: simple) alludes to the unmodified protibiae.

Description: Body length 1.4 mm; length of pronotum 0.40 mm; width of pronotum 0.48 mm. Male habitus as in Fig. 6. Colouration: body pale-reddish. Other external characters not distinctive.

♂: protibia (Fig. 12) straight, unmodified; aedeagus (Figs 23–24) 0.45 mm long, strongly sclerotized, and of robust shape, particularly in lateral view; parameres thin, nearly reaching apex of median lobe, each with one long apical seta.

Comparative notes: Among the Georgian representatives of the genus, *N. simplex* is characterized particularly by unmodified male protibiae and a conspicuously robust and compact aedeagus.

Distribution and natural history: The type locality is situated in the Kintrishi Nature Reserve, some 30 km to the east-northeast of Batumi, in the western Meskheta Range, Adjara (Map 1). The holotype was sifted from litter in a deciduous forest with chestnut, beech, rhododendron, and *Hypericum* at an altitude of 430 m.

Nanophthalmus sp. 1

(Map 1)

Material examined: Georgia: Racha: 1 ♀, Likheti, 42°35'32"N, 43°13'35"E, 800 m, 27.V.2018, leg. Brachat & Meybohm (cAss).

Comment: The above female probably represents an undescribed species.

Nanophthalmus sp. 2

(Map 1)

Material examined: Georgia: Adjara: 1 ♀, 7 km NE Batumi, 41°39'05"N, 41°45'51"E, 550 m, 9.VI.2021, leg. Brachat & Meybohm (cAss).

Comment: The above female most likely represents an undescribed species.

Nanophthalmus sp. 3

Material examined: 1 ♂: “Caucasus, Leder. Reitter. / Holotypus *Cephennium armeniacum* Reitter, 1884 [curator label] / *armeniacus* Rtt., Cl. Besuchet det. III.1957 / *Nanophthalmus armeniacus* Reitt.” (HNHM); 1 ♂: “Caucasus, Leder. Reitter. / Paratypus *Cephennium rotundicolle* Reitter, 1881 [curator label] / *armeniacus* Rtt., Cl. Besuchet det. III.1957” (HNHM); 1 ♂, 1 ♀: “Caucasus. Swanetien. Leder. Reitter. / Coll. Reitter / Paratypus *Cephennium rotundicolle* Reitter, 1881 [curator label] / *armeniacus* Rtt., Cl. Besuchet det. III.1957” (HNHM).

Comment: The above material is conspecific with *Nanophthalmus armeniacus* sensu STEVANOVIĆ (2012). The specimens do not have type status, despite the curator labels attached to them. The whereabouts of the syntypes of *N. armeniacus* are uncertain. They may be in the collections of the Muséum National d'Histoire Naturelle Paris. For additional comments see the section on *N. armeniacus* above.

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