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A revision of the weevil genus *Urometopus* Formánek, 1904 (Coleoptera: Curculionidae: Entiminae) with descriptions of thirty-two new species

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Abstract. A comprehensive taxonomic revision of the genus *Urometopus* Formánek, 1904 is presented. The genus, distributed across the Black Sea Basin, Caucasus, and Alborz, is redefined to comprise 49 species. The subgenus *Phyllobioides* Formánek, 1923 stat. res. et stat. nov., is resurrected from synonymy. New synonyms are established: *Urometopus korgei* Smreczyński, 1970 syn. nov. of *U. rugifrons* (Hochhuth, 1851), and *U. georgicus* (Reitter, 1888) syn. nov. and *U. moczarskii* (Penecke, 1929) syn. nov. of *U. inflatus* (Kolenati, 1859). Thirty-two species are described as new to science. Greater Caucasus: *U. abchasicus* sp. nov., *U. brevis* sp. nov., *U. glabratus* sp. nov., *U. helenae* Yunakov sp. nov., *U. korotyaevi* Yunakov sp. nov., *U. kodoricus* Yunakov sp. nov., *U. nitidirostris* sp. nov., *U. prasolovi* Yunakov sp. nov., *U. validicornis* Yunakov sp. nov., *U. alanicus* sp. nov., *U. armatus* Yunakov sp. nov., *U. kovali* Yunakov sp. nov. Lesser Caucasus: *U. savitskyi* Yunakov sp. nov., *U. musculus* Yunakov sp. nov., *U. hlavaci* Yunakov sp. nov., *U. lederi* sp. nov., *U. sieversi* sp. nov., *U. schneideri* sp. nov. Armenian Highlands: *U. zangezuri* Yunakov sp. nov. Alborz Mountains: *U. hyrcanus* Yunakov sp. nov., *U. chaudoiri* Yunakov sp. nov., *U. sengleti* Yunakov sp. nov., *U. persicus* Yunakov sp. nov. Pontic Mountains: *U. dieckmanni* Yunakov sp. nov., *U. lasistanicus* Yunakov sp. nov., *U. formaneki* Yunakov sp. nov., *U. osellai* Yunakov sp. nov., *U. bohaci* Yunakov sp. nov., *U. virilis* Yunakov sp. nov. Anatolian Plateau: *U. klapperichi* Yunakov sp. nov., *U. behnei* Yunakov sp. nov. Bosphorus: *U. europaeus* Yunakov sp. nov. Lectotypes are designated for: *Urometopus asiaticus* (Formánek, 1910), *U. circassicus* (Reitter, 1888), *U. ferrugineus* (Formánek, 1904), *U. georgicus* (Reitter, 1888), *U. imereticus* (Reitter, 1897), *U. inflatus* (Kolenati, 1859), *U. mingrelicus* (Reitter, 1888), *U. nemorum* L. Arnoldi, 1965, *U. rosti* (Reitter, 1896), *U. rugifrons* (Hochhuth, 1851), *U. strigifrons* (Gyllenhal, 1834), *U. swaneticus* (Reitter, 1897) and *U. talyschensis* (Reitter, 1897). Species richness is highly uneven, with the Western Caucasus forming the main centre of diversity and endemism, and secondary centres in the Central Caucasus, Likhi (Surami) Range, Pontic Mountains, and Alborz; a single endemic species occurs in Dobruja. Distribution patterns highlight three evolutionary processes: Ponto–Crimean disjunctions, Caucasus–Alborz vicariance, and centrifugal speciation through parthenogenesis. The *U. sieversi* group, radiating from the Lesser Caucasus and Surami Range, diversified in the Late Pliocene and underwent a Pleistocene–Holocene adaptive radiation into forest–steppe mosaics. In contrast, the Eastern Caucasus

harbours only young, climatically restricted lineages. Relict species in Crimea and Dobruja indicate faunal links with the Pontic Mountains. Biogeographic and morphological evidence supports a Pontic origin of *Urometopus*, followed by dispersal into the Caucasus and Alborz, shaped by repeated vicariance and peripatric events. The transversal Stavropol–Surami axis played a key role in different stages of diversification and postglacial expansion into Eastern Europe.

Keywords. Omiini, taxonomy, phylogeny, endemism, Euxine Region.

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Introduction

The genus *Urometopus* Formánek, 1904 comprises minute or medium-small Omiini Shuckard, 1840 with a distinct costulation of the head capsule and a feebly setose, subnude or glabrous, brown, shiny integument (Reitter 1913; Borovec 2006). Species are primarily distributed across the Crimean Mountains, the Caucasus, the Pontic Mountains, and the Alborz Mountains (Colonnelli 2011).

The study of *Urometopus* weevils was started by a series of entomological expeditions and collections carried out throughout the 19th century. Early keystone contributions include collections from Crimea by Christian von Steven (1806–1834) and Victor de Motschulsky (1845); from the Caucasus and Talysh Mountains by Friedrich August Kolenati (1843–1844), Hans Leder (1875–1887), Oscar Schneider (1875), and Karl Rost (1880); from the Alborz Mountains by Giacomo Doria and Abdul Kerim (1862–1863, 1874); and from Goek-Dag (near Istanbul) by Eduard von Bodemeyer (1899).

The first described species, *Omius strigifrons* Gyllenhal, 1834, was discovered in Crimea by Christian von Steven (Schoenherr 1834; Yunakov *et al.* 2018). Reitter (1888d, 1897) was the first to classify species of *Omius* with longitudinal striation on the head into a distinct group. Based on material newly collected by H. Leder, he described seven species and provided the first identification key. Reitter following Seidlitz (1868) and Stierlin (1885) erroneously treated *O. strigifrons* Gyllenhal, 1834, *O. rugifrons* Hochhuth, 1851 and *O. inflatus* Kolenati, 1859 as the same species from the Caucasus. Gustav Stierlin (1893) described *Barypeithes longicornis* based on material collected by K. Rost in Abkhazia, but Reitter being unaware of this, subsequently described the same species as *Omius rosti* Reitter, 1896.

Formánek (1904a) adopted Reitter’s morphological framework and established the subgenus *Urometopus* Formánek, 1904 (within *Omius* sensu Seidlitz) to accommodate eight Caucasian species. He affined *Urometopus* with *Rhinomias* Reitter, 1894 and proposed a new identification key, illustrated with aedeagi, and synonymized *Omius rosti* Reitter, 1897 with *Barypeithes longicornis* Stierlin, 1893, creating the new combination *Omius (Urometopus) longicornis* (Stierlin, 1893). He followed Reitter’s interpretation of *Omius inflatus* as a distinct species from the Central Caucasus.

Reitter later (1913) elevated *Urometopus* to genus rank. Formánek (1923) also described *Phyllobioides* as a monotypic genus from Crimea. The subgeneric classification of *Urometopus* has been debated in relation to the status of *Phyllobioides*. Białooki (2007) treated it as a subgenus of *Urometopus*, whereas Colonnelli (2011), following Białooki’s work, reinstated *Phyllobioides* as a junior synonym of *Urometopus* and rejected the validity of its subgeneric partition. Colonnelli also transferred *Urometopus malyi* Obenberger, 1914 to *Otiorhynchus* Germar, 1823. Subsequent descriptions by Penecke (1929), Arnoldi *et al.* (1965), Smreczyński (1970, 1977), Korotyaev (1992), and Colonnelli (2011) brought the total number of recognized species to 20. Osella & Magnano (1986) recorded an unidentified *Urometopus* from Apulia. This curiously breaks the known biogeographic pattern of the genus, which is restricted to

circum-Pontic and Caspian regions and unknown to the supra-Adriatic coast of the Balkan Peninsula. We could not trace the voucher specimen in Giuseppe Osella's collection in Museo Civico di Storia Naturale di Verona.

The majority of species of *Urometopus* were described from single specimens or limited material. Preliminary examinations suggest that in the Caucasus alone, the group may consist of more than 30 local forms, many of which exhibit sharp but localized morphological differences. These weevils appear to be highly sensitive to both climatic and edaphic factors. Depending on microhabitat conditions, different species of *Urometopus* display distinct morphological adaptations. In the Caucasus, where habitats range from dry mountain steppes to humid subtropical forests and alpine meadows, each species seems to be ecologically specialized.

This revision aims to clarify species boundaries and diagnoses of known species, update the identification key, refine the systematics, explore phylogenetic relationships and biogeography, attempts to reconstruct the faunogenesis of the genus and includes the description of new taxa.

Material and methods

Collection data and field work

A total of 2416 specimens of *Urometopus* were analysed in the present study. Specimen or series IDs mentioned in the text and figure captions correspond to those listed in [Supp. file 2](#). The material is derived mostly from natural history museums and private collections, as well as from collections made by the first author in the Caucasus and Crimea.

Depositories

Specimens from the following collections were studied:

AFC	=	Collection of Fernando Angelini, Francavilla Fontana, Italy
AYC	=	Collection of Yuri Arzanov, Rostov-on-Don, Russia
BCC	=	Collection of Christoph Bayer, Berlin, Germany
BFC	=	Collection of Friedhelm Bahr, Viersen, Germany
BPC	=	Collection of Piotr Białooki, Sopot, Poland
BRC	=	Collection of Roman Borovec, Sloupno, Czechia
CEC	=	Collection of Enzo Colonnelli, Rome, Italy
HNHM	=	Hungarian Natural History Museum, Budapest, Hungary
KhDC	=	Collection of Denys Khrapov, Lviv, Ukraine
KGC	=	Collection of George Kakiopoulos, Athens, Greece
KJC	=	Collection of Jiří Krátký, Hradec Králové, Czechia
KUMN	=	Museum of Nature, V.N. Karazin Kharkiv National University, Kharkiv, Ukraine
MCSN	=	Museo civico di Storia naturale Giacomo Doria di Genova, Italy
MCZ	=	Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA
MHNG	=	Muséum d'Histoire naturelle de la Ville de Genève, Switzerland
MMTI	=	Collection of Massimo Meregalli, Torino, Italy
MSNVR	=	Museo Civico di Storia Naturale di Verona, Italy
MTD	=	Museum of Zoology Senckenberg Dresden, Germany
NHMD	=	Natural History Museum of Denmark, Copenhagen, Denmark
NHMUK	=	Natural History Museum London, United Kingdom
NHRS	=	Swedish Museum of Natural History, Stockholm, Sweden
NMNHS	=	National Museum of Natural History, Bulgarian Academy of Sciences, Sofia, Bulgaria
NMPC	=	National Museum Prague, Prague, Czechia

NYC	=	Natural History Collection of Nikolai Yunakov, Institute of Biodiversity, Melrose, Massachusetts, USA
PAC	=	Collection of Attila Podlussány, Budapest, Hungary
SDEI	=	Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany
SMNHL	=	State Museum of Natural History, Lviv, Ukraine
WHC	=	Collection of Herbert Winkelmann, Berlin, Germany
ZIN	=	Zoological Institute, Academy of Sciences, St Petersburg, Russia
ZMA	=	Zoological Museum of the University of Amsterdam, the Netherlands
ZMH	=	Zoological Museum Hamburg, Germany
ZMMU	=	Zoological Museum, Moscow State University, Russia
ZMUN	=	Zoological Museum, University of Oslo, Norway

Geographic data and biodiversity analysis

Ranges of species are mapped using QGIS ver. 3.22.6. Occurrence layer comprises preserved specimens and human observations dataset extracted from the World Entiminae Database and citizen science website ([iNaturalist.org](https://www.inaturalist.org)) respectively. Reconstruction of geographic distribution history was aligned according to the data on geology, paleogeography and paleobotany of the Caucasus (Grossheim 1948; Gvozdetsky 1954; Popov *et al.* 2006; Krijgsman *et al.* 2019). All species were geographically associated according to the mountain classification of Snethlage *et al.* (2022).

A biodiversity analysis was conducted in QGIS. This is based on the presence-absence matrix (PAM) obtained from spatial join procedure of occurrence layer (points) and 50 × 50 km vector grid. The grid extent is a rectangle determined by extreme points of known occurrences. Calculations of species richness and range size were conducted by count per diversity field and per dispersion field respectively. Proportional richness and proportional range size dependency was determined from range-diversity plot (Arita *et al.* 2008).

Historical labels from Turkey were parsed using Bodemeyer (1900), Avgin & Cavazzuti (2011). Itineraries of Hans Leder in the Caucasus were traced using Schneider & Leder (1878), Reitter (1888a, 1888b, 1888c, 1888d, 1889a, 1889b), and Assing (2009). Old toponyms of the Caucasus were identified using Russian historical military maps and toponymic indices (Pagirev 1913; Menitsky & Popova 2007).

Terminology

General terms for body parts follow Lawrence *et al.* (2011), special terms for weevils are from Oberprieler & Zimmerman (2020) and Lyal (2024). Terms related to the male genitalia follow Wanat (2007) and Yunakov (2022), while those for the female terminalia follow Tanner (1927), Howden (1995), and Borovec (2009). Sculpture terminology is adopted from Harris (1979).

Copulatory sclerite

This sclerite armours the gonopore. It is also referred to as the endophallic sclerite. The sclerite consists of a dorsal plate, a flagellar sheath, and supinatory lobes (Figs 7–8).

Lunar sclerite

An acute, thorn-shaped sclerite located posterior to the copulatory sclerite (Fig. 8).

Proximal sclerite

An additional sclerite situated posterior to the copulatory sclerite (Fig. 8).

Lamina of the median lobe

A plate-shaped apical process anterior to the ostium. It may be dorsoventrally flattened (Figs 15E, 22H) or laterally flattened. In the latter case, it may form a caput visible in lateral view (Fig. 11G).

Abbreviations

Head

efr	=	epifrons
ep	=	epistome
fr	=	frons
gs	=	gular suture
hls	=	hypostomal labial sutures
mf	=	median fovea
ms	=	median sulcus
pr-se	=	premental setae
pte	=	pterygia
ptp	=	posterior tentorial pit
td	=	transverse depression

Female terminalia

buc	=	bursa copulatrix
co	=	collum
cr	=	cornu
cxt	=	coxites
no	=	nodulus
ra	=	ramus
fst8-ap	=	spiculum ventrale, internal apodeme of sternite 8
fst8-lm	=	lamina of sternite 8
fst8-se	=	setae of sternite 8
sm	=	spermatheca
ut	=	uterus
va	=	vagina

Male terminalia

cos	=	copulatory sclerite
ls	=	lunar sclerite

Measurements

Standard linear measurements of the body were taken (Figs 1–2) and represented as a range with average value in parentheses (if applicable):

Head

EfrW	=	epifrons width at the level of antennal insertion
ELD	=	longitudinal diameter of eye
RL	=	rostrum length
RW	=	rostrum width
VW	=	vertex width

Body

BL	=	body length
BH	=	body height
BW	=	body width

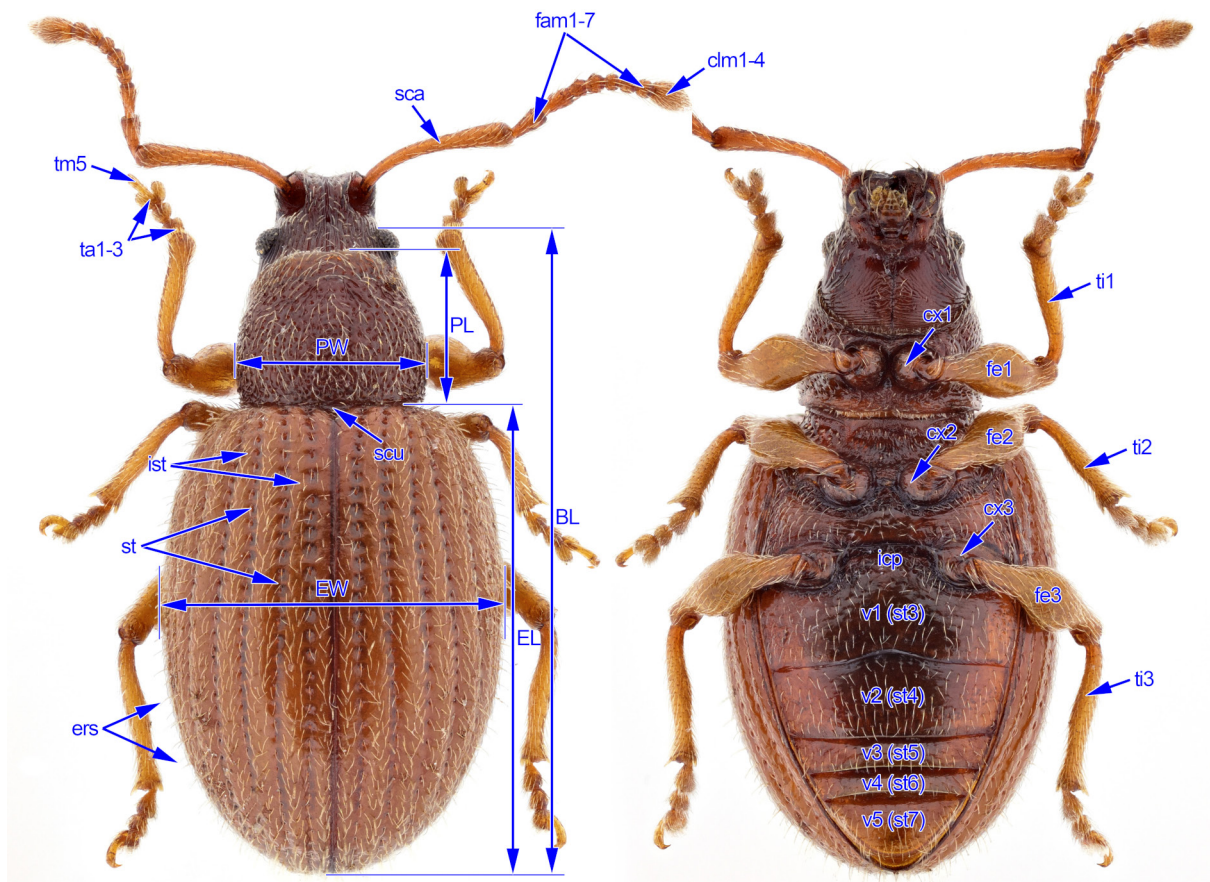


Fig. 1. *Urometopus* Formánek, 1904, general morphology of the body. Abbreviations: BL = body length; BW = body width; EL = elytra length; ers = erect setae; ist = interstriae; PL = pronotum length; PW = pronotum width; sca = scape; scu = scutellum; st = striae.

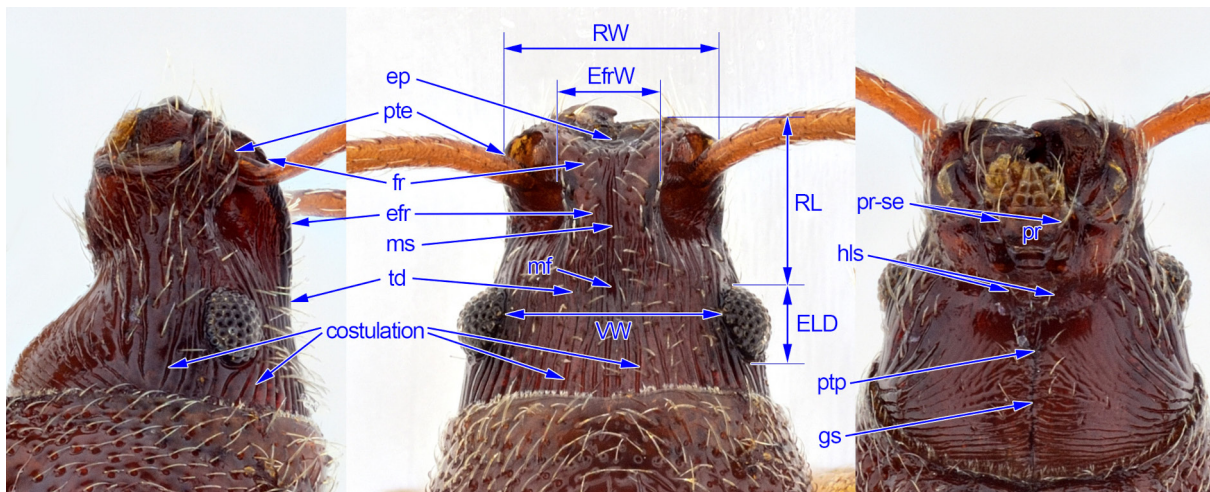


Fig. 2. *Urometopus* Formánek, 1904, general morphology of the head. Abbreviations: efr = epifrons; EfrW = epifrons width at the level of antennal insertion; ELD = longitudinal diameter of eye; ep = epistome; fr = frons; gs = gular suture; hls = hypostomal labial sutures; mf = median fovea; ms = median sulcus; pr-se = premental setae; pte = pterygia; ptp = posterior tentorial pit; RL = rostrum length; RW = rostrum width; td = transverse depression; VW = vertex width.

EL = elytra length
 EW = elytra width
 PL = pronotum length
 PW = pronotum width

Antennae

CL = club length
 CW = club width
 F1–7L = funicular antennomere length
 F1–7W = funicular antennomere width
 SDW = scape distal width
 SL = scape length
 SPW = scape proximal width

Male genitalia

ApL = apodeme length
 PeL = median lobe length
 PeW = median lobe width

Phylogenetic analysis

Taxon sampling and outgroup selection

The dataset includes 53 taxa of *Urometopus*. *Phyllobius pyri* (Linnaeus, 1758) was selected as the outgroup based on prior phylogenetic hypotheses and used to root the resulting trees. *Phyllobius armeniacus* Kirsch, 1878 was used as secondary outgroup and together with *Rhinomias forticornis* (Boheman, 1842), *Bryodaemon hanakii* (Fivaldszky, 1865) and *Exomias pellucidus* (Boheman, 1834) served to test monophyly of *Urometopus*.

Morphological dataset

The initial character matrix consisted of 113 discrete morphological characters, scored for 53 taxa. These included both traditional external morphological traits and quantitative characters derived

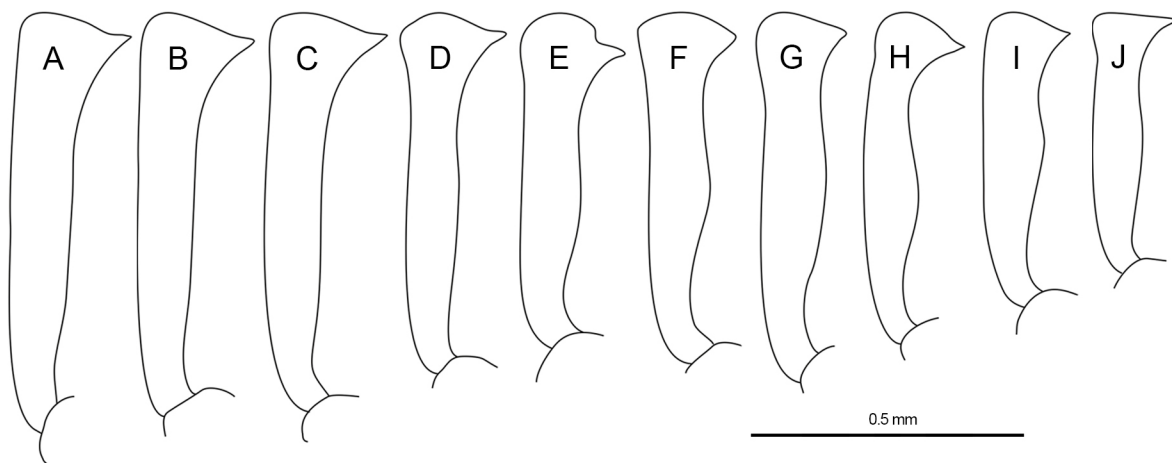


Fig. 3. *Urometopus* Formánek, 1904, protibia. **A.** *U. longicollis* (Reitter, 1897) (Engelmanova Polana). **B.** *U. longicollis* (Agura-Aresh River). **C.** *U. longicollis* (Mt Dzykhva). **D.** *U. longicollis* (Mt Khalatsa). **E.** *U. armatus* Yunakov sp. nov. (Aibga Range). **F.** *U. circassicus* (Reitter, 1888). **G.** *U. korotyaevi* Yunakov sp. nov. **H.** *U. prasolovi* Yunakov sp. nov. **I.** *U. kodoricus* Yunakov sp. nov. **J.** *U. swaneticus* (Reitter, 1897).

from geometric morphometric (GMM) analyses. During the process of iterative recoding, adding and excluding of characters and outgroup taxa (Franz 2013), the number of characters and taxa decreased to 80 and 53 respectively. 52 GMM characters originally gathered from principal component analysis of GPA-standardized landmarks were re-evaluated in order to retain only PCs explaining $\geq 90\%$ of variance. Hence, the GMM dataset was reduced to 22 characters. We decided to exclude *Exomias pellucidus* due to its significant morphological distance in structure of male genitalia and lateral position of rostral scrobes. For *Urometopus bohaci* sp. nov., data on the copulatory sclerite and the presence of a lunar sclerite only became available after submission of the manuscript. Consequently, these characters were not included in either the GMM or the cladistic analyses. However, they were photographed and incorporated into the identification key and species description. For the final matrix see [Supp. file 1](#).

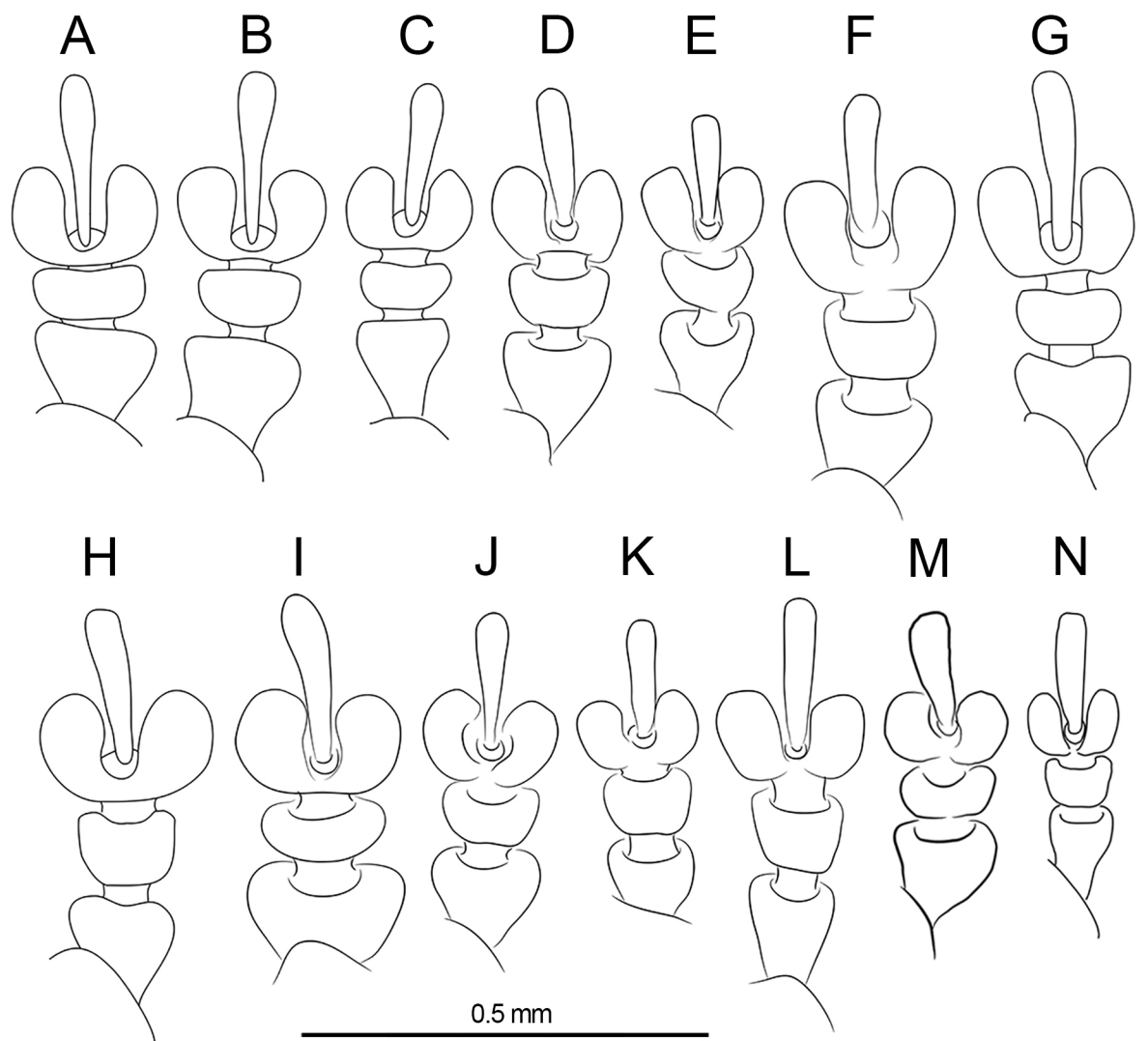


Fig. 4. *Urometopus* Formánek, 1904, protarsus. **A.** *U. circassicus* (Reitter, 1888). **B.** *U. korotyaei* Yunakov sp. nov. **C.** *U. prasolovi* Yunakov sp. nov. **D.** *U. brevis* sp. nov. **E.** *U. glabratus* sp. nov. **F.** *U. nitidirostris* sp. nov. **G.** *U. armatus* Yunakov sp. nov. (Aibga Range). **H.** *U. longicollis* (Reitter, 1897) (Mt Dzykhva). **I.** *U. helenae* Yunakov sp. nov. **J.** *U. kodoricus* sp. nov. **K.** *U. abchasicus* sp. nov. **L.** *U. alanicus* sp. nov. **M.** *U. asiaticus* (Formánek, 1910). **N.** *U. formanekei* Yunakov sp. nov.

Geometric morphometric data collection

Morphometric data were obtained from two key internal reproductive structures:

Spermathecal landmarks (10 homologous landmarks) (Fig. 6A–C) were placed at key anatomical reference points:

Latero-proximal angle of collum

Latero-distal angle of collum

Medio-proximal angle of collum

Medio-distal angle of collum

Medio-proximal angle of ramus

Medio-distal angle of ramus

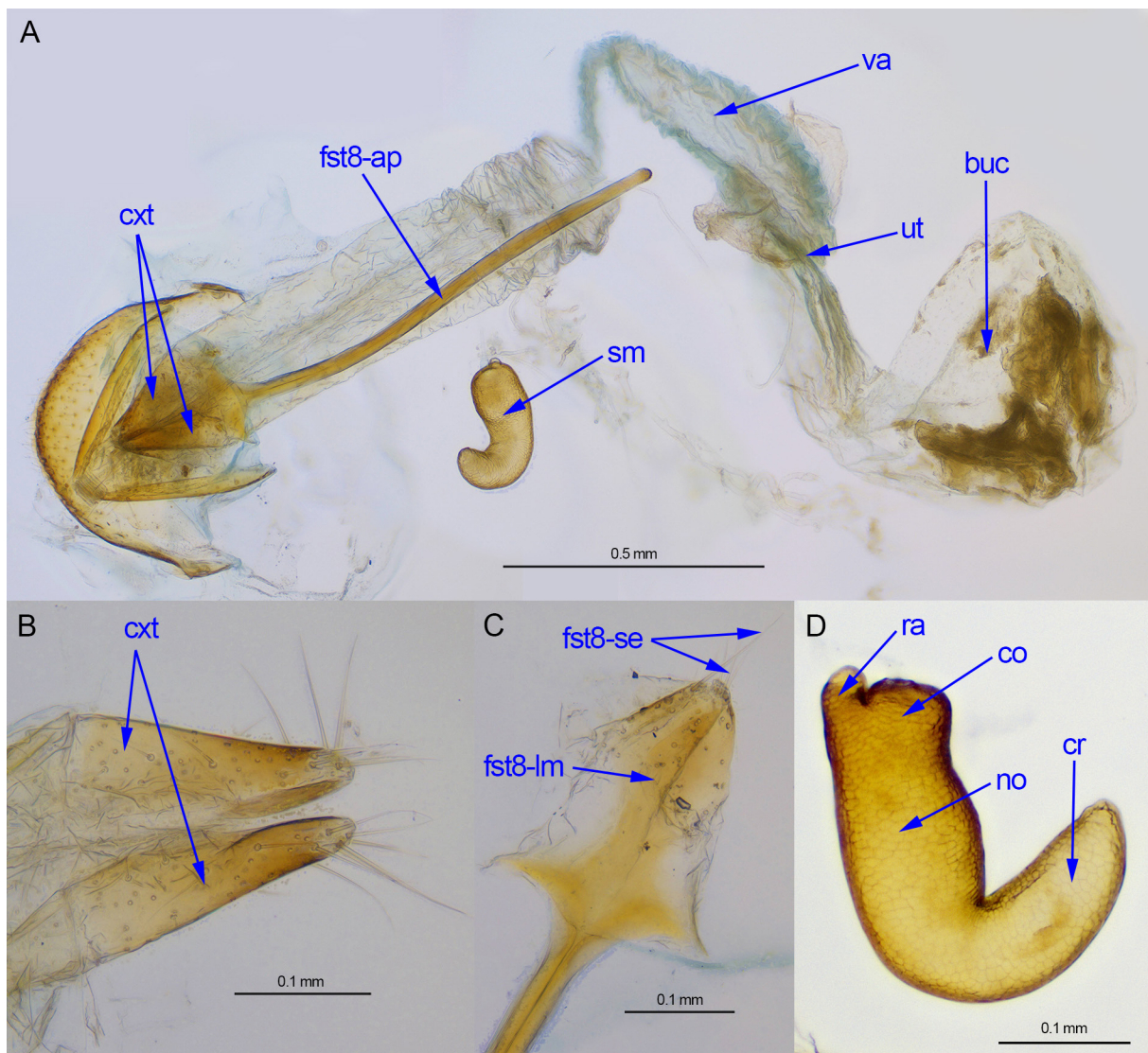


Fig. 5. *Urometopus* Formánek, 1904, female terminalia. **A.** Whole complex. **B.** Ovipositor. **C.** Sternite 8. **D.** Spermatheca. Abbreviations: buc = bursa copulatrix; co = collum; cr = cornu; cxt = coxites; fst8-ap = apodeme of sternite 8; fst8-lm = lamina of sternite 8; fst8-se = setae of sternite 8; no = nodulus; ra = ramus; sm = spermatheca; ut = uterus; va = vagina.

Latero-distal angle of ramus
Latero-proximal angle of ramus
Apical point of velum
Deepest point within cornu

Curves connecting landmarks were digitized with 100 sliding semi-landmarks (slm) (Fig. 6A–C)

Curve 1–2: 10 slm
Curve 3–4: 10 slm
Curve 5–6: 10 slm
Curve 7–8: 10 slm
Curve 8–9: 30 slm
Curve 9–10: 15 slm
Curve 10–1: 15 slm

Copulatory sclerite landmarks (12 homologous landmarks) (Fig. 6D–F) were digitized on the copulatory sclerite

Left proximal angle of dorsal plate
Distal angle of dorsal plate
Right proximal angle of dorsal plate
Deepest point of dorsal plate
Base of flagellar sheath
Apex of flagellar sheath
Medio-proximal angle of left supinatory lobe
Apical point of left supinatory lobe
Latero-proximal angle of left supinatory lobe
Latero-proximal angle of right supinatory lobe
Apical point of right supinatory lobe
Medio-proximal angle of right supinatory lobe

Geometric morphometric analysis

Landmarks and sublandmarks were digitized using tpsDig2 (Rohlf 2006) and aligned in *geomorph* package in R (Adams *et al.* 2025) with a Generalized Procrustes Analysis (GPA). Principal Component Analysis (PCA) was conducted separately for each structure. The leading PCs capturing the majority of shape variation were discretized by quartile binning. Each PC was recoded as a single unordered character with four discrete states (0–3). These GMM characters were merged into the traditional matrix. Distance matrices were generated from PCA scores and used for split analysis visualized in NeighbourNet graphs by neighbour-net algorithm (Bryant & Moulton 2004) using *phangorn* package in R (Schliep 2011) for spermatheca and copulatory sclerite data.

Parsimony analysis in TNT

Phylogenetic reconstruction was conducted in TNT ver. 1.6 (Goloboff *et al.* 2008) using parsimony under implied weighting. The analysis workflow included:

Data input: Combined matrix of 80 characters for 53 taxa using TNT's *xread* command. Missing data coded as '?', inapplicable states as '-'.

Tree search strategy: *mult = replications 300 hold 10*; this generated Wagner trees with 300 replicates followed by Tree Bisection-Reconnection (TBR), holding up to 10 trees per replicate. Consensus and support: strict consensus tree constructed from the set of most parsimonious trees (MPTs)

obtained from each iteration of the analysis. Bootstrap analysis with 1000 replicates: resample boot replications 1000 was used to evaluate stability of tree topology.

Implied weighting. The data collection revealed numerous missing information on one hand due to some specimens are known from unique old museum specimens with damaged genitalia (i.e., *Urometopus*

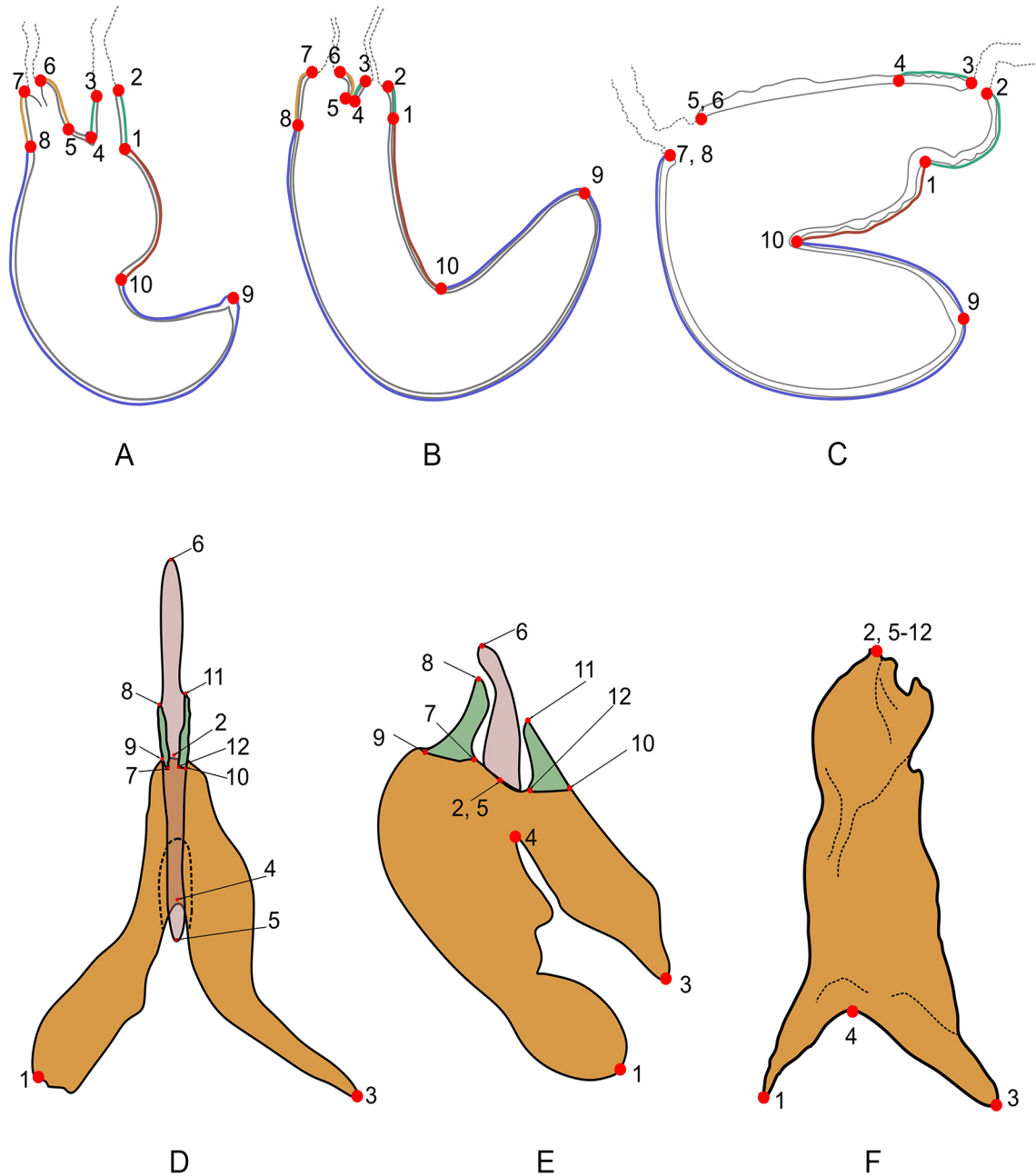


Fig. 6. Geometric morphometrics landmark framework. **A–C.** Spermatheca. **A.** *Urometopus behnei* Yunakov sp. nov. **B.** *U. alanicus* sp. nov. **C.** *Phyllobius armeniacus* Kirsch, 1878. **D–F.** Copulatory sclerite. **D.** *Urometopus alanicus* sp. nov. **E.** *U. abchasicus* sp. nov. **F.** *U. rugifrons* (Hochhuth, 1851). Color lines highlight curves, and points with numbers are standard landmarks (see Material and methods for details).

validicornis sp. nov. and *U. chaudiroidi* sp. nov.); on the other hand, some taxa are known from one sex only (e.g., *Urometopus nemorum* and *U. inflatus*). For purposes to smooth numerous homoplasies and missing data and to increase phylogenetic signal from characters *piwe* option (Goloboff 2013) was implemented using various values of *k* and selected *k* = 12.

Resulting trees and character optimizations were examined in WinClada, with further visualization of phylogenetic, phylogeographic, and character evolution patterns in R using *ape* (Paradis & Schliep 2019), *phytools* (Revell 2024), and *ggtree* (Yu *et al.* 2017).

Results

Phenetic analysis of GMM data yielded dendrograms and NeighbourNet graphs for spermatheca and copulatory sclerite data based on Unweighted Pair Group Method with Arithmetic Mean (UPGMA) clustering algorithm. The graphs have shown incongruence between splits based on spermatheca landmarks compared to spermatheca curves, as well as for copulatory sclerite landmarks. On the other hand, clusters (marked with colours) including *Urometopus rugifrons* and *U. swaneticus*, etc. confirm those clades on phylogenetic tree (Fig. 76). UPGMA of copulatory sclerite revealed *Urometopus rugifrons* which aligned with *Rhinomias forticornis* apart from other *Urometopus*. *Urometopus swaneticus* is clustered with *U. hyrcanus* sp. nov. UPGMA of the spermatheca revealed a cluster of *U. hlavaci* sp. nov.–*U. schneideri* sp. nov. which supports the respective clade on the phylogenetic tree.

Cladistic analysis resulted in a single most parsimonious tree (L: 939, CI: 0.18, RI: 0.42) was obtained from 80 characters and 53 terminal taxa. The tree topology reveal monophyly of the genus *Urometopus* supported by three synapomorphies (5, 6, 41) and two homoplastic character states (24, 32) (Fig. 78). The genus forms two subgenera, monotypic *Phyllobioides* and *Urometopus* s.str., the latter comprises nine clades (Fig. 77). *Phyllobioides* is strongly supported by three autapomorphies (9, 24, 25) in the sculpture of pronotal disc and endophallic armature (Fig. 78).

Description of characters

Characters are non-additive if otherwise stated

1. Body vestiture. Recumbent vestiture: (0) squamose; (1) pilose; (2) reduced. (L: 4, CI: 0.5, RI: 0.67). Recumbent vestiture is independently reduced in the *longicornis* clade and two species within the *circassicus* clade.
2. Body vestiture. Erect setae: (0) present; (1) absent. (L: 4, CI: 0.25, RI: 0.7).
3. Body vestiture. Iridescence of scales: (0) present; (1) vestigial; (2) absent. (L: 4, CI: 0.5, RI: 0.67). Scales are rudimentary present in the *osellai* clade and the *strigifrons* clade.
4. Head. Vertex transverse depression: (0) absent; (1) shallow; (2) deep. (L: 7, CI: 0.29, RI: 0.71).
5. Head. Median fovea: (0) large; (1) small; (2) absent. (L: 3, CI: 0.67, RI: 0.67). Fovea disappears generally in *Urometopus* with exception of *U. korotyaevi* sp. nov.
6. Head. Sculpture of head capsule: (0) punctate; (1) costulate. Additive (L: 1, CI: 1, RI: 1). State 1 is the main synapomorphy of *Urometopus*.
7. Head. Costulation: (0) terminates posteriorly of epifrons; (1) continues on epifrons. (L: 9, CI: 0.11, RI: 0.5).
8. Head. Alveolate sculpture of head: (0) present; (1) absent. (L: 1, CI: 1, RI: 1).

9. Thorax. Pronotum sculpture: (0) punctate; (1) finely punctate; (2) oblong-punctate; (3) rugoso-punctate; (4) reticulate-punctate. Additive. (L: 9, CI: 0.44, RI: 0.17). State 2 is autapomorphy of *U. rugifrons* and state 3 is autapomorphy of *U. klapperichi* sp. nov.
10. Abdomen. Anal ventrite of male: (0) narrowly rounded; (1) truncate; (2) emarginate; (3) deeply emarginate. Additive. (L: 15, CI: 0.2, RI: 0.37).
11. Male terminalia. 8th sternite: (0) hemisternites heavily sclerotized; (1) membranous. Additive. (L: 1, CI: 1, RI: 1).
12. Male terminalia. Median lobe: (0) as long as apodemes; (1) shorter than apodemes; (2) longer than apodemes. (L: 14, CI: 0.14, RI: 0.4).
13. Male terminalia. Median lobe lateral outline: (0) straight; (1) evenly arcuate; (2) sharply arcuate. Additive. (L: 7, CI: 0.29, RI: 0.58).
14. Male terminalia. Median lobe and apodemes lateral outline: (0) evenly arcuate; (1) sharply arcuate. (L: 7, CI: 0.14, RI: 0.4). DELTRAN optimized.
15. Male terminalia. Apical lobes of median lobe (ml-al): (0) absent; (1) present. (L: 1, CI: 1, RI: 1).
16. Male terminalia. Lamina of median lobe (ml-lm): (0) not flattened; (1) flattened. Additive. (L: 2, CI: 0.5, RI: 0.75).
17. Male terminalia. Median lobe shape: (0) oblong; (1) narrowly oblong; (2) linear; (3) lanceolate; (4) hastate. (L: 14, CI: 0.29, RI: 0.33). DELTRAN optimized.
18. Male terminalia. Median lobe lamina dorsal outline: (0) not attenuate; (1) attenuate. (L: 3, CI: 0.33, RI: 0.33). DELTRAN optimized.
19. Male terminalia. Median lobe lamina lateral outline: (0) rounded; (1) acute. (L: 4, CI: 0.25, RI: 0.86).
20. Male terminalia. Caput of median lobe lamina: (0) absent; (1) present. (L: 1, CI: 1, RI: 1). Presence of this structure is main synapomorphy of the *abchasicus* clade.
21. Male terminalia. Median lobe lamina lateral outline: (0) not curved; (1) curved dorsally; (2) curved ventrally. Additive. (L: 5, CI: 0.4, RI: 0.63).
22. Male terminalia. Endophallus: (0) extends far from apodeme apex; (1) shorter or reaches apodeme apex. (L: 1, CI: 1, RI: 1).
23. Male terminalia. Endophallus: order of spiculate fields: (0) uniform; (1) bilateral. (L: 8, CI: 0.13, RI: 0.61).
24. Male terminalia. Endophallus: proximal spiculate fields: (0) absent; (1) spinose; (2) hamate; (3) hamato-squamate; (4) dentate. (L: 13, CI: 0.31, RI: 0.47). DELTRAN optimized.
25. Male terminalia. Endophallus: distal spiculate fields: (0) absent; (1) spinose; (2) hamate; (3) hamato-squamate; (4) dentate. (L: 19, CI: 0.21, RI: 0.35). DELTRAN optimized.
26. Male terminalia. Endophallus: proximal shagreen armature background: (0) absent; (1) present. (L: 10, CI: 0.1, RI: 0.57). ACCTRAN optimized.

27. Male terminalia. Endophallus: distal shagreen armature background: (0) absent; (1) present. (L: 4, CI: 0.25, RI: 0.4).
28. Male terminalia. Endophallus general shape: (0) uniform; (1) with distal sinuses. (L: 6, CI: 0.17, RI: 0.69). State 1 homoplastically appears in the *sieversii*, the *circassicus*, the *strigifrons*, the *abchasicus* and the *inflatus* clades.
29. Male terminalia. Endophallus: proximal sclerite: (0) absent; (1) present. (L: 5, CI: 0.2, RI: 0.2). State 1 homoplastically appears in three species of the *sieversii* clade and in *U. nitidirostris* sp. nov., *U. anaticus* and *U. behnei* sp. nov.
30. Male terminalia. Endophallus: lunar sclerite: (0) absent; (1) well developed; (2) vestigial. (L: 4, CI: 0.5, RI: 0.71). The lunar sclerite shows a homoplastic distribution, appearing independently in the *circassicus* clade (*U. nitidirostris* sp. nov., *U. ferrugineus*) and the *sieversii* clade (Fig. 79). States 1 and 2 represent homoplastic apomorphies within the *sieversii* clade.
31. Male terminalia. Endophallus: copulatory sclerite shape: (0) slim; (1) robust. (L: 8, CI: 0.25, RI: 0.5).
32. Male terminalia. Endophallus: dorsal plate (dp) of copulatory sclerite shape: (0) absent; (1) thorn-shaped; (2) spatulate; (3) V-shaped; (4) phalangiiform. (L: 7, CI: 0.43, RI: 0.6). DELTRAN optimized. State 4 is homoplastic, but within *Urometopus* is unique for *U. rugifrons*.
33. Male terminalia. Endophallus: dorsal plate lobes: (0) absent; (1) short; (2) long. (L: 11, CI: 0.18, RI: 0.4).
34. Male terminalia. Endophallus: dorsal plate lobes: (0) symmetric; (1) asymmetric. (L: 9, CI: 0.11, RI: 0.43).
35. Male terminalia. Endophallus: flagellar sheath: (0) absent; (1) short; (2) long. (L: 9, CI: 0.22, RI: 0.3). States 1 and 2 separate all *Urometopus* s.str. species from *U. rugifrons*.
36. Male terminalia. Endophallus: flagellar sheath: (0) straight; (1) arcuate; (2) strongly arcuate. (L: 3, CI: 0.67, RI: 0). ACCTRAN optimized. State 2 is autapomorphy of *Urometopus asiaticus*.
37. Male terminalia. Endophallus: supinatory lobes of flagellar sheath: (0) absent; (1) present (Figs 7–8, green). (L: 2, CI: 0.5, RI: 0.75).
38. Male terminalia. Endophallus: supinatory lobes of flagellar sheath: (0) short; (1) long. (L: 3, CI: 0.33, RI: 0.86).
39. Male terminalia. Endophallus: supinatory lobes of flagellar sheath: (0) straight; (1) curved. (L: 2, CI: 0.5, RI: 0.83). State 1 is convergently present in *U. kodoricus* sp. nov., the *strigifrons* clade and the *abchasicus* clade.
40. Male terminalia. Endophallus: emargination of supinatory lobe of flagellar sheath: (0) absent; (1) present. (L: 1, CI: 1, RI: 1). State 1 is a synapomorphy of the *abchasicus* clade.
41. Female terminalia. Sternite 8: lamina: (0) broadly acute to subrotund; (1) hastate. (L: 1, CI: 1, RI: 1).
42. Female terminalia. Spermatheca nodulus: (0) not tumid; (1) tumid. (L: 1, CI: 1, RI: 1). State 1 is a main synapomorphy of the *inflatus* clade.

43. Female terminalia. Spermatheca collum: (0) in line with nodulus; (1) curved toward ramus. (L: 11, CI: 0.09, RI: 0.29). State 1 is typical for most species of the *circassicus* clade, but homoplastically appears throughout the tree.

44. Female terminalia. Spermatheca: collum: (0) not tumid; (1) tumid. (L: 4, CI: 0.25, RI: 0.5). State 1 homoplastically appears in the *longicornis*, the *sieversii* and the *circassicus* clades. Within the *sieversii* clade, state 1 is common for *U. zangezuri* sp. nov., *U. lederi* sp. nov., *U. armatus* sp. nov. and *U. longicollis*.

45. Female terminalia. Spermatheca: collum: (0) not papillate; (1) papillate. (L: 3, CI: 0.33, RI: 0.71). DELTRAN optimized. State 1 homoplastically appears in the *daghestanicus* and the *inflatus* clades. Within the *inflatus* clade, state 1 is common for Caucasian and Iranian species and missing in Turkish and Danubian species.

46. Female terminalia. Spermatheca: collum: (0) not enlarged; (1) enlarged. (L: 4, CI: 0.25, RI: 0.57). State 1 homoplastically appears in *U. osellai* sp. nov., the *sieversii* clade and the *circassicus* clade. Within

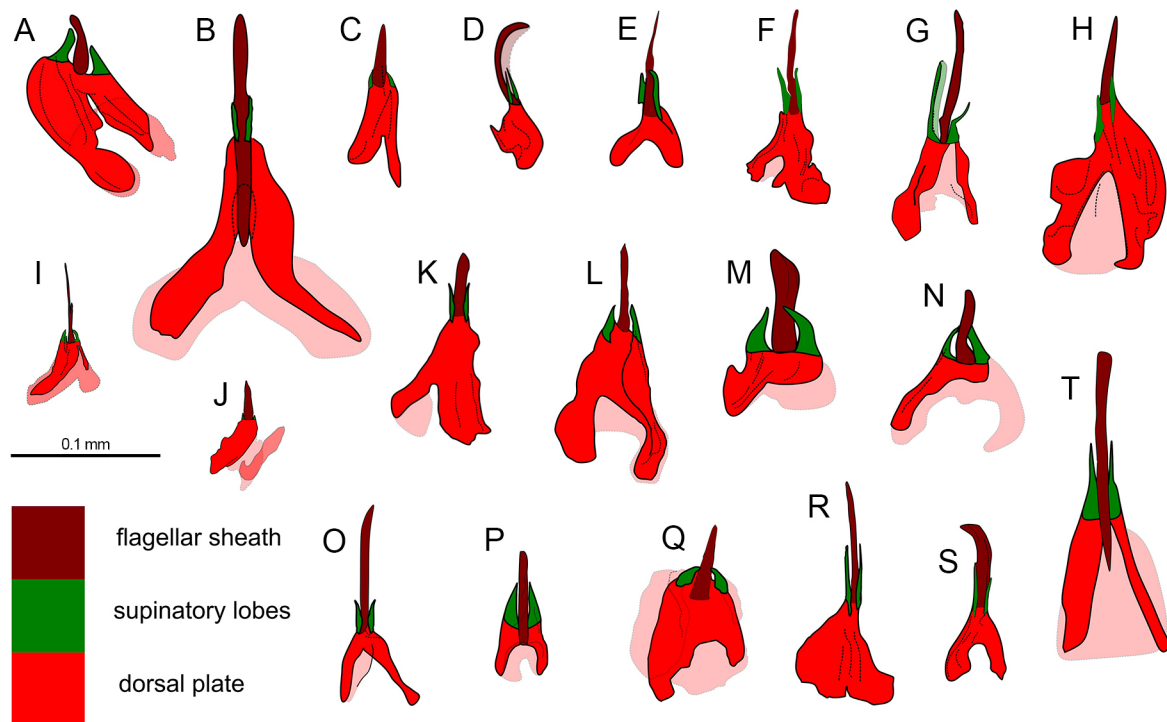


Fig. 7. Copulatory sclerite structure alignment. **A.** *Urometopus abchasicus* sp. nov. (ID29737). **B.** *U. alanicus* sp. nov. (ID29741). **C.** *U. angelinii* Colonnelli, 2011 (ID29952). **D.** *U. asiaticus* (Formánek, 1910) (ID30115). **E.** *U. circassicus* (Reitter, 1888) (ID29719). **F.** *U. dieckmanni* Yunakov sp. nov. (ID29950). **G.** *U. klapperichi* Yunakov sp. nov. (ID29951). **H.** *U. daghestanicus* Korotyaev, 1992 (ID31170). **I.** *U. brevis* sp. nov. (ID31336). **J.** *U. virilis* Yunakov sp. nov. (ID31538). **K.** *U. glabratus* sp. nov. (ID29929). **L.** *U. helenae* Yunakov sp. nov. (ID29767). **M.** *U. hyrcanus* sp. nov. (ID31113). **N.** *U. imereticus* (Reitter, 1897) (ID31213). **O.** *U. korotyaevi* Yunakov sp. nov. (ID29778). **P.** *U. talyschensis* (Reitter, 1897) (ID29850). **Q.** *U. kodoricus* Yunakov sp. nov. (ID29774). **R.** *U. osellai* Yunakov sp. nov. (ID31215). **S.** *U. armatus* Yunakov sp. nov. (ID29751). **T.** *U. lasistanicus* Yunakov sp. nov. (ID29953).

the *sieversii* clade, state 1 is common for *U. zangezuri* sp. nov., *U. lederi* sp. nov., *U. armatus* sp. nov. and *U. longicollis*. Within the *circassicus* clade it is unique for *U. brevis* sp. nov.

47. Female terminalia. Spermatheca: ramus: (0) not enlarged; (1) enlarged. (L: 6, CI: 0.17, RI: 0.17). DELTRAN optimized. State 1 homoplastically appears in *U. nemorum* as well as in the *sieversii* and the *circassicus* clades.

48. Female terminalia. Spermatheca: ramus: (0) not papillate; (1) papillate. (L: 1, CI: 1, RI: 1). State 1 is the main synapomorphy of the *inflatus* clade.

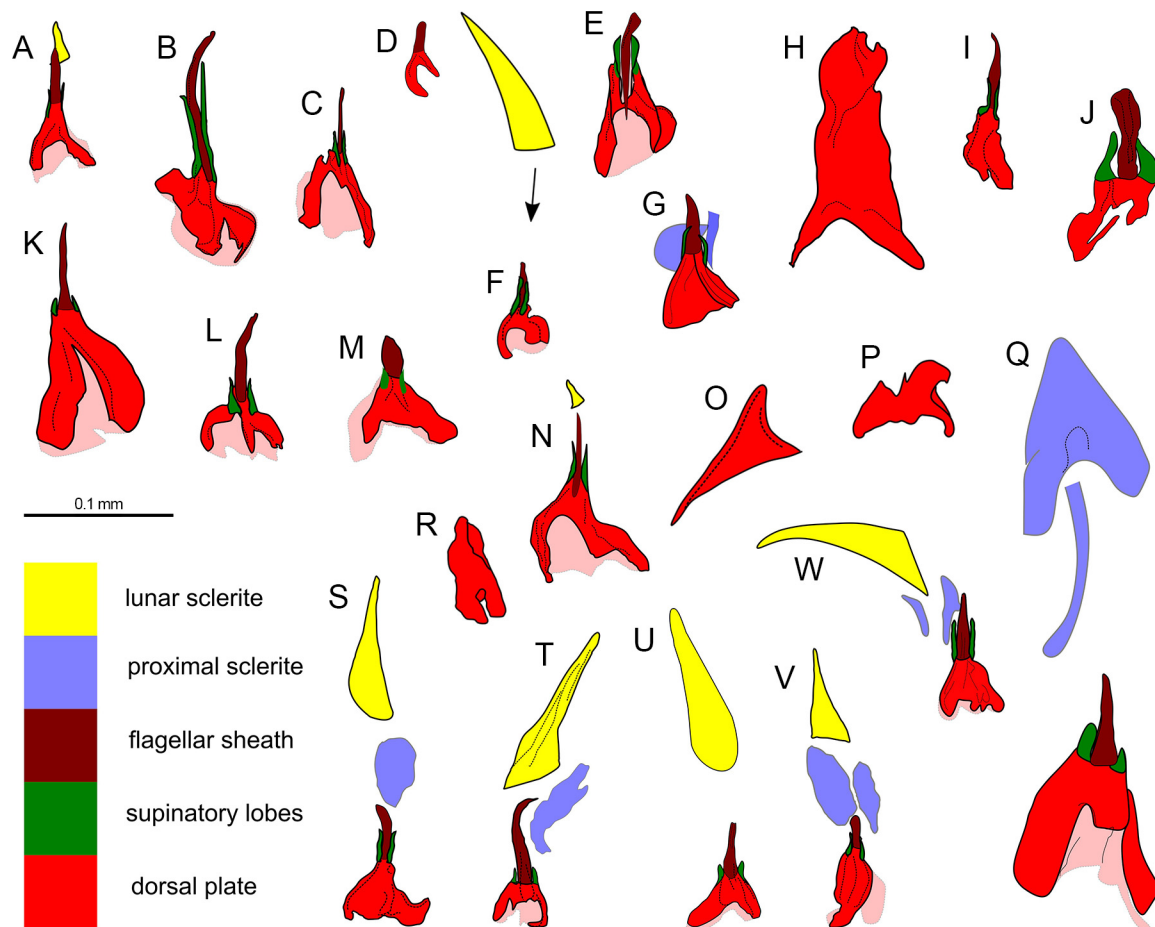


Fig. 8. Copulatory sclerite structure alignment. **A.** *Urometopus longicollis* (Reitter, 1897) (ID29436). **B.** *U. longicornis* (Stierlin, 1893) (ID29811). **C.** *U. mingrelicus* (Reitter, 1888) (ID31266). **D.** *U. penevi* Behne, 1990 (ID29823). **E.** *U. musculus* Yunakov sp. nov. (ID29844). **F.** *U. sieversii* sp. nov. (ID29840). **G.** *U. behnei* Yunakov sp. nov. (ID29817). **H.** *U. rugifrons* (Hochhuth, 1851) (ID29710). **I.** *U. persicus* Yunakov sp. nov. (ID31114). **J.** *U. swaneticus* (Reitter, 1897) (lectotype, ID29846). **K.** *U. strigifrons* (Gyllenhal, 1834) (ID12740). **L.** *U. prasolovi* Yunakov sp. nov. (ID29829). **M.** *U. savitskyi* Yunakov sp. nov. (ID29960). **N.** *U. lederi* sp. nov. (ID29980). **O.** *Phyllobius pyri* (Linnaeus, 1758). **P.** *Bryodaemon hanakii* (Frivaldszky, 1865). **Q.** *U. anaticus* Smreczyński, 1977 (ID29750). **R.** *Rhinomias forticornis* (Boheman, 1842). **S.** *U. zangezuri* Yunakov sp. nov. (ID31454). **T.** *U. nitidirostris* sp. nov. (ID29810). **U.** *U. ferrugineus* (Formánek, 1904) (ID29757). **V.** *U. schneideri* sp. nov. (holotype, ID31171). **W.** *U. hlavaci* Yunakov sp. nov. (ID31196).

49. Female terminalia. Spermatheca: collum/ramus size ratio: (0) 3/1; (1) 2/1; (2) 1/1; (3) 1/2; (4) 1/3; (5) 1/4. (L: 14, CI: 0.36, RI: 0.4). DELTRAN optimized. Within the *sieversii* clade, state 1 is common for *U. zangezuri* sp. nov., *U. lederi* sp. nov., *U. armatus* sp. nov. and *U. longicollis*.

50. Female terminalia. Spermatheca: collum/ramus gap: (0) wide; (1) narrow; (2) absent. (L: 7, CI: 0.29, RI: 0.67). All states are homoplastically appear throughout the tree.

51. Female terminalia. Spermatheca: cornu: (0) rounded; (1) weakly attenuate; (2) attenuate. (L: 12, CI: 0.17, RI: 0.33). DELTRAN optimized. All states are homoplastically appear throughout the tree.

Linear morphometric characters

52. fam1 L/W: (0) 1.62–1.74; (1) 1.75–1.85; (2) > 1.85; (3) ≤ 1.61. (L: 13, CI: 0.15, RI: 0.15).

53. fam3 L/W: (0) > 0.87; (1) ≤ 0.64; (2) 0.65–0.77; (3) 0.78–0.8. (L: 26, CI: 0.12, RI: 0.34).

54. fam4 L/W: (0) > 0.81; (1) ≤ 0.60; (2) 0.61–0.74; (3) 0.75–0.81. (L: 27, CI: 0.11, RI: 0.29).

55. fam3L/fam4L: (0) > 1.14; (1) 1.01–1.14; (2) 0.99–1.00; (3) ≤ 0.98. (L: 20, CI: 0.15, RI: 0.26).

56. tm1W/tm2W: (0) 1; (1) < 1; (2) > 1 and ≤ 1.2; (3) > 1.2. (L: 9, CI: 0.22, RI: 0.22).

57. tm2L/W: (0) ≤ 1.30; (1) 1.31–1.79; (2) 1.80–2.09; (3) ≥ 2.10. (L: 13, CI: 0.23, RI: 0.6).

58. median lobe L/W: (0) 3.6–4.39; (1) > 4.39; (2) < 3.00; (3) 3.01–3.67. (L: 22, CI: 0.14, RI: 0.42).

Geometric morphometrics characters

59–64. PCs from spermatheca landmarks.

65–73. PCs from spermatheca curves.

74–80. PCs from copulatory sclerite landmarks.

Checklist of species

Subgenus *Urometopus* s. str.

***abchasicus* species group**

abchasicus sp. nov. Greater Caucasus

imereticus (Reitter, 1897) Greater Caucasus

swaneticus (Reitter, 1897) Greater Caucasus

hyrcanus Yunakov sp. nov. Alborz Mountains

***circassicus* species group**

angelinii Colonnelli, 2011 Pontic Mountains

brevis sp. nov. Greater Caucasus

circassicus (Reitter, 1888) Greater Caucasus

ferrugineus (Formánek, 1904) Alborz Mountains

glabratus sp. nov. Greater Caucasus

helenae Yunakov sp. nov. Greater Caucasus

kodoricus Yunakov sp. nov. Greater Caucasus

korotyaevi Yunakov sp. nov. Greater Caucasus

nitidirostris sp. nov. Greater Caucasus

prasolovi Yunakov sp. nov. Greater Caucasus

***daghestanicus* species group**

alanicus sp. nov. Greater Caucasus

daghestanicus Korotyaev, 1992 Greater Caucasus

savitskyi Yunakov sp. nov. Lesser Caucasus

***inflatus* species group**

behnei Yunakov sp. nov. Anatolian Plateau

chaudoiri Yunakov sp. nov. Alborz Mountains

inflatus (Kolenati, 1859) Caucasus, Crimea, East European plains

= *georgicus* (Reitter, 1888) syn. nov.

= *moczarskii* (Penecke, 1929) syn. nov.

mingrelicus (Reitter, 1888) Lesser Caucasus

penevi Behne, 1990 Dobruja

sengleti Yunakov sp. nov. Alborz Mountains

talyschensis (Reitter, 1897) Alborz Mountains

***longicornis* species group**

longicornis (Stierlin, 1893) Greater Caucasus

= *rosti* (Reitter, 1896)

persicus Yunakov sp. nov. Alborz Mountains

validicornis Yunakov sp. nov. Caucasus

***osellai* species group**

formaneki Yunakov sp. nov. Pontic Mountains

osellai Yunakov sp. nov. Pontic Mountains

bohaci Yunakov sp. nov. Pontic Mountains

***sieversi* species group**

armatus Yunakov sp. nov. Greater Caucasus

hlavaci Yunakov sp. nov. Lesser Caucasus

lederi sp. nov. Lesser Caucasus

longicollis (Reitter, 1897) Greater Caucasus

sieversi sp. nov. Lesser Caucasus

schneideri sp. nov. Lesser Caucasus

zangezuri Yunakov sp. nov. Armenian Highlands

***strigifrons* species group**

strigifrons (Gyllenhal, 1834) Crimean Mountains

anatolicus Smreczyński, 1977 Pontic Mountains

Urometopus* s. str. *incertae sedis

asiaticus (Formánek, 1910) Pontic Mountains

dieckmanni Yunakov sp. nov. Pontic Mountains

europaeus Yunakov sp. nov. Bosphorus

klapperichi Yunakov sp. nov. Anatolian Plateau

kovali Yunakov sp. nov. Greater Caucasus

lasistanicus Yunakov sp. nov. Pontic Mountains

musculus Yunakov sp. nov. Lesser Caucasus

nemorum L. Arnoldi, 1965 East European plains, Stavropol Upland

virilis Yunakov sp. nov. Pontic Mountains

Subgenus *Phyllobioides* Formánek, 1923 stat. res.

rugifrons (Hochhuth, 1851) Crimean Mountains, Pontic Mountains.
= *korgei* Smreczyński, 1970 syn. nov.

Taxonomy

Class Insecta Linnaeus, 1758
Order Coleoptera Linnaeus, 1758
Superfamily Curculionoidea Latreille, 1802
Family Curculionidae Latreille, 1802
Subfamily Entiminae Schoenherr, 1823
Tribe Omiini Shuckard, 1840

Genus *Urometopus* Formánek, 1904

Omius subgenus *Urometopus* Formánek, 1904a: 17 (type species *Omius imereticus* Reitter, 1897, fixed by subsequent designation (Colonnelli 2011: 676)).

Urometopus – Reitter 1913: 17; 1916: 37 (key to genera). — Lona 1937: 432. — Arnoldi *et al.* 1965: 519 (key). — Borovec 2006: 43 (key to genera); 2013b: 301. — Białooki 2007: 142. — Colonnelli 2011: 676. — Alonso-Zarazaga *et al.* 2023: 301.

Type species

Omius imereticus Reitter, 1897, fixed by subsequent designation.

Differential diagnosis

Urometopus is similar to the other stratobiont genera *Exomias* Bedel, 1883, *Bryodaemon* Podlussány, 1998, *Rhinomias* Reitter, 1894, and *Solarhinomias* Yunakov & Nadein, 2006. *Urometopus* may be related to *Rhinomias*, and shares with it some morphological similarities in shape, sculpture of the head capsule and rostrum, and the shape of the aedeagus. *Urometopus* can easily be distinguished from these genera in the longitudinal costulation of the head dorsum and the hastate shape of the female 8th sternite lamina.

The costulation of the head is well developed in all *Urometopus* and seems to be unique to this genus within Omiini. Meanwhile, a similar development of the longitudinal costulation and striation is known across other tribes of Entiminae. For instance, in some Trachyphloeini, such as the West Palaearctic *Caenopsis fissirostris* (Walton, 1847), there is costulation on the lateral face of the head. In the Australian *Timareta figurata* Pascoe, 1872 the striation is well developed beneath the vestiture, but visible through the scales.

Redescription

MEASUREMENTS (mm). BL: 1.90–3.89, BW: 0.90–2.90, BH: 0.78–1.70.

COLORATION AND VESTITURE. Yellow-brown to dark brown, pronotum and especially head sometimes darker than elytra. Vestiture normally well developed, consists of various sometimes flattened setae and hairs. Setae whitish, yellowish or greyish, erect or suberect, pointed or truncate apically, ordered in more or less regular rows on elytral interstriae (forming setosity). Hairs suberect to recumbent (forming pilosity). Rarely, recumbent vestiture contains narrow, weakly margaritaceous or whitish scales, concentrating near posterior angles of pronotum and forming small spots in the lateral sides and near posterior declivity of elytra (*U. strigifrons*, *U. anaticus*). Sometimes vestiture is almost completely reduced (*U. longicornis*, *U. ferrugineus*, *U. persicus* sp. nov., *U. glabratus* sp. nov.). Vestiture of frons and epifrons consists of

erect setae directed posteriad. Elytra finely pilose. Ventral side of thorax and abdomen covered with very sparse hairs. Anal ventrite with denser pilosity at the apical edge. Interspaces between punctures of elytral striae with piliferous pore.

HEAD. Occiput and vertex with well-developed costulation. Costulation continues on epifrons or terminates immediately before it. Rostrum transverse or as long as wide. Pterygia generally well developed, extends lateral outline of rostrum or not. Rostral scrobe short and dorsally positioned, completely visible from above, not hidden by lateral margin of epifrons. Margins of scrobe terminate behind pterygia. Epistome flat, with vestigial ridge at the sides, with few epistomal setae along the ridge, parepistomal area sparsely setose and gently punctate. Epifrons narrow, in basal part narrower than frons, normally parallel-sided and evenly widened apically from the middle, separated from frons by transverse depression or without it, glabrous or moderately punctate, with or without median sulcus. Frons flat or weakly convex. Buccal cavity completely hidden by prementum. Prementum subcordate, bears 2 pairs of setae near its lateral margin. The *hls* pits rudimentary, not continuous towards *ptp*. Mandibles with small but distinct scar, moderately extending beyond buccal cavity, bear 3 setae. Head with sparse pilosity, consists of light obtuse erect or suberect hairs directed towards the medial axis or epifrons or backwards at the frons. Eyes moderate to large-sized, elliptic or round, moderately or strongly convex.

ANTENNAL SCAPE. Extending beyond the anterior edge of pronotum; funicle robust, with densely joined segments, as long as scape. Funicular segments 1st and 2nd distinctly oblong, longer than other, 1st segment larger than 2nd; 3rd–7th segments transverse or as long as wide. Club ovate, with weakly bounded segments sharply separated from funicle.

THORAX. Pronotum often transverse, distinctly constricted at the anterior and posterior margins and strongly convex at the sides. Disc weakly or strongly convex, gently granulato-punctate or punctate. The sides thinly or coarsely granular. Pleural segments well bounded. Scutellum vestigial, bald, and shiny.

ELYTRA. Often ovate or broadly-ovate, oblong-ovate to almost parallel-sided (*U. rugifrons*), humeral prominences vestigial, lateral contour of elytra in basal third truncated or widely rounded. Strial punctures deep or shallow. Interstriae flat or weakly convex, as wide as dot diameter or a bit wider. Elytral declivity steep or gently sloping. Disc moderately or strongly convex. Basal edge steep, gently sloping or flat.

LEGS. Robust with fine light pilosity. Male trochanters simple, not extending as thorn-like processes. Procoxae convergent. Femora obtuse, often club like swollen in apical third. Fore tibia with interior edge blade like sharpened or narrowly rounded, its apex externally widened in female and in male round or truncate. Anterior row of fore tibia consists of thin spines. Tarsi short and robust, with 2nd segment transverse and 3rd segment with large broad lobes. Fore and hind tibia internally sinuate (especially in male) in apical third and more densely pilose. Middle and hind tibia with moderately developed mucro. Tarsomere 5 extending beyond lobes of 3rd tarsomere, by ½ length of the last one. Claws simple, equal in length, connate in basal half.

ABDOMEN. Moderately fused with thorax and elytra. Abdominal sternite VII in male at the middle convex and usually depressed, apical margin sinuate or obtuse; in female it normally flat, with apical margin rounded.

FEMALE GENITALIA (Fig. 5A). Ovipositor telescopic, coxites moderately sclerotized, bear long apical setae, styli not developed, baculi absent (Fig. 5B). Vagina widened posteriorly. Uterus without sclerotized armature. Bursa copulatrix globose to ellipsoid, without spiculate armature. Sternite VIII (Figs 5C, 27F) with a hastate lamina and a thin, long apodeme lacking a caput; anterior margin of the lamina evenly setose. Spermatheca is highly variable (Figs 5D, 6A–B): in *U. inflatus* species group nodulus tumid; collum and ramus generally enlarged within the *circassicus* species group and the *sieversi* species group.

MALE GENITALIA. Aedeagus strongly sclerotized. Median lobe elongate as long as, shorter or longer than apodemes; lateral margins of median lobe are not connate dorsally. Lamina rounded or attenuate, sometimes tuberculiform dorsally. Endophallus with evenly spread or bilaterally aggregated spiculate fields, with or without lunar sclerite proximally of gonopore. Copulatory sclerite generally well developed but not enlarged, V-shaped, or spatulate, with or without flagellar sheath (Figs 7–8). Tegmen with well-developed parameres connate at base, apodeme $2\times$ as long as width of tegminal ring.

Key to the species of *Urometopus* Formánek, 1904

1. Body bald, glabrous, without visible vestiture 2
 - Body with distinctly visible vestiture 6
2. Antennal funicle robust *Urometopus validicornis* Yunakov sp. nov.
 - Antennal funicle slender 3
3. Ramus of spermatheca significantly smaller than collum. Lamina of median lobe broadly rounded. Eyes moderately convex *Urometopus longicornis* (Stierlin, 1893)
 - Ramus of spermatheca as long as or longer than collum. Lamina of median lobe attenuate or obtuse. Eyes smaller, more convex 4
4. Ramus of spermatheca $4\times$ as long as collum. Species from the Caucasus
 - *Urometopus glabratus* sp. nov.
 - Ramus of spermatheca as long as or $2\times$ as long as collum. Species from Alborz Mountains 5
5. Median lobe narrow, lamina not flattened. Ramus of spermatheca as long as collum. Smaller, BL: 2.21–2.71 mm *Urometopus ferrugineus* Formánek, 1904
 - Median lobe broad, lamina flattened. Ramus of spermatheca $2\times$ as long as collum. Larger, BL: 2.83–3.49 mm *Urometopus persicus* Yunakov sp. nov.
6. Body with long erect linear setae distinctly different from background recumbent vestiture 22
 - Body with fine subrecumbent or appressed pilosity; erect setae, if present, then short and weakly different from background vestiture 7
7. Elytra ovate to oblong-ovate, evidently rounded laterally. Antennal funicle slender (L/W: fam3 = 0.7–0.9, fam4 = 0.7–0.8, fam5 = 0.6–0.7). Medial margin of metatibia in males weakly emarginate. Median lobe narrow $3.3\text{--}10.6\times$ as long as wide. Endophallus with fine spicules 8
 - Elytra oblong, almost parallel-sided. Antennal funicle robust (L/W: fam3 = 0.5, fam4 = 0.5, fam5 = 0.4). Medial margin of metatibia in males deeply emarginate. Median lobe broad, $2.7\times$ as long as wide. Endophallus with large, robust spicules *Urometopus rugifrons* (Hochhuth, 1851)
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 - Species from the Caucasus 11
9. Body with dense recumbent sericeous pilosity. Epifrons separated from vertex by transverse depression. Elytra ovate *Urometopus angelinii* Colonnelli, 2011
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..... *Urometopus armatus* Yunakov sp. nov.
- 13. Epifrons nitid. Median lobe apex broadly rounded (Fig. 23E); endophallus with lunar sclerite
..... *Urometopus nitidirostris* sp. nov.
- Epifrons punctate. Median lobe apex differently shaped: attenuate, with flattened lamina, acute or narrowly rounded (Figs 14E, 15F, 19F); endophallus without lunar sclerite 14
- 14. Median lobe apex differently shaped: attenuate, with flattened lamina 15
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- 15. Epifrons separated from vertex by transverse depression. Aedeagus weakly arcuate
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..... *Urometopus circassicus* (Reitter, 1888) (part 1, sericeous specimens)
- 2nd tarsomere 2 × as wide as long. Median lobe apex weakly attenuate (Fig. 21C)
..... *Urometopus kodoricus* Yunakov sp. nov.
- 18. Median lobe apex in lateral aspect narrowly rounded, not clavate
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- Aedeagus somewhat sinuate, narrowed apically (Fig. 9E) *Urometopus abchasicus* sp. nov.

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– Body larger, BL: 2.32–3.63 mm	24
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– Smaller, BL: 2.34–3.00 mm. Disc of pronotum regularly punctate. Collum of spermatheca shorter than ramus. Lamina of median lobe narrowly rounded	<i>Urometopus dieckmanni</i> Yunakov sp. nov.
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29. Species from the lowlands north of the Caucasus. Spermatheca: ramus enlarged, swollen	<i>Urometopus nemorum</i> L. Arnoldi, 1965
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 - Funicle slender. Median lobe apex acute 44
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49. Median lobe parallel-sided, abruptly narrowed in apical third. Bulgaria *Urometopus penevi* Behne, 1990
 – Median lobe evenly narrowed apically. Turkey *Urometopus behnei* Yunakov sp. nov.

abchasicus species group

This group unites species which share the following synapomorphies: caput of median lobe lamina present; emargination of supinatory lobe of flagellar sheath present.

Urometopus abchasicus sp. nov.

[urn:lsid:zoobank.org:act:C2CCAED-C1F6-4672-835D-3AEEAEF4EB65](https://zoobank.org/urn:lsid:zoobank.org:act:C2CCAED-C1F6-4672-835D-3AEEAEF4EB65)

Figs 4K, 6E, 7A, 9, 73A, 81A–C

Differential diagnosis

This species is closely related to *U. swaneticus*, but differs in the shape of the copulatory sclerite (Figs 6E, 7A, 9F), which has symmetrically attenuate posterior angles and a smaller flagellar sheath; the lateral outline of the median lobe shows a distinct excision posterior to the caput; and the body vestiture is sparser (Figs 9I, 12A, C).

It resembles *U. helenae* sp. nov. but can be distinguished by its smaller body size; elytra with reduced recumbent pilosity and broader interstrial setae; elytral sides more rounded; protibial internal angle acute, strongly mucronate and deeply sinuate; tarsi narrower, with tarsomere 1 as wide as tarsomere 2; median lobe weakly curved, apex slightly narrowed and not flattened.

From *U. nitidirostris* sp. nov. it differs by its smaller body size [BL = 2.10–2.34 (2.24) mm vs 2.42–3.52 (2.86) mm in *U. nitidirostris*]; smaller eyes [VW/ELD = 2.09–2.80 vs 1.73–2.25]; epifrons lacking a median sulcus; rostrum slightly narrowing anteriorly; and elytra wider, ovate [EL/EW = 1.28–1.38 vs 1.29–1.43]. Elytral interstriae are weakly convex, bearing erect, acuminate setae. The median lobe is evenly narrowed towards the apex. The copulatory sclerite is larger, robust, V-shaped, and lacks a flagellar sheath. Endophallus armature consists of diffuse, short spicules not arranged bilaterally.

From *U. circassicus* and *U. korotyaevi* sp. nov. it differs in smaller body size [BL = 2.10–2.34 (2.24) mm vs 2.56–2.96 (2.75) mm in *U. circassicus* and 2.58–3.13 (2.79) mm in *U. korotyaevi*]; interstriae with irregular rows of lanceolate, suberect setae (vs piliiform in *U. circassicus* and *U. korotyaevi*); pterygia not projected; median lobe 0.5 × as long as apodemes; endophallus lacking acuminate spicules; copulatory sclerite robust; spermatheca with collum larger than ramus, cornu elongate and thin, and velum well developed.

Etymology

The name of this Abkhazian endemic is a Latin adjective meaning ‘from Abkhazia’.

Type material

Holotype

GEORGIA – **Abkhazia** • ♂; Bzipi Mt Range, S slope of Mt Dou; 43.2867° N, 40.8942° E; elev. 1200 m; 24 Jun. 2007; N. Yunakov leg.; deciduous forest: *Fagus*, *Rhododendron*; sifting leaf litter; MCZ.

Paratypes

GEORGIA – **Abkhazia** • 1 ♂, 1 ♀; same collection data as for holotype; MCZ • 13 ♂♂, 11 ♀♀; same collection data as for holotype; NYC • 1 ♂, 1 ♀; same collection data as for holotype; SMNHL • 1 ♂, 1 ♀; same collection data as for holotype; KhDC (Fig. 9A, C) • 15 ♂♂, 7 ♀♀; Bzipi Mt Range, Dou Pass; 43.2890° N, 40.8784° E; elev. 1392 m; 25 Jun. 2007; N. Yunakov leg.; deciduous forest: *Fagus*, *Rhododendron*; sifting leaf litter; NYC • 1 ♀; Bzipi Mt Range, Mt Turetskaya Shapka; 43.2859° N, 40.7773° E; elev. 1100 m; 13 Jun. 1986; A.G. Koval leg.; ZIN • 14 ♂♂, 12 ♀♀; Bzipi Riv., mouth of Reshevie Riv.; 43.3387° N, 40.8410° E; elev. 591 m; 28 Jun. 2007; N. Yunakov leg.; deciduous forest: *Fagus*, *Quercus*, *Corylus*; sifting leaf litter; NYC • 1 ♂, 1 ♀; same collection data as for preceding; KUMN • 11 ♂♂, 12 ♀♀; Bzipi Riv., mouth of Reshevie River; 43.3387° N, 40.8410° E; elev. 591 m; 27 Jun. 2007; N. Yunakov leg.; deciduous forest: *Fagus*, *Quercus*, *Pyracantha*; sifting leaf litter; NYC.

Type locality

Georgia, Abkhazia, Bzipi Range, southern slope of Mt Dou.

Description

MEASUREMENTS (mm). BL: 2.10–2.34 (2.24), BW: 1.03–1.3 (1.17), BH: 0.88–1.00 (0.96).

COLORATION AND VESTITURE (Fig. 9A, C). Brown, sparsely pilose; suberect setae elongate, somewhat shorter than width of interstriae, acuminate, narrow, greyish-white, ordered in irregular row on interstriae; recumbent setae very small, piliform, sparsely cover pronotum and elytra; punctures in striae bear tiny, short, recumbent hair (Fig. 9I). Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs: moderately setose; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD SHAPE (Fig. 9B, D). In males parallel-sided to slightly narrowing anteriorly in females; RL/RW = 0.74–0.88. Pterygia not projected. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, 2.4 × as narrow as vertex, flat, without median sulcus, coarsely and shallowly punctate. Vertex without transverse depression. Eyes small, subglobose; VW/ELD = 2.09–2.80. Costulation of head capsule continues on basal part of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle subrobust; funicular antennomeres L/W: fam1 = 1.64, fam2 = 1.28, fam3 = 0.5, fam4 = 0.56, fam5 = 0.47, fam6 = 0.51, fam7 = 0.49; club L/W = 1.71.

THORAX. Pronotum: PL/PW = 0.71–0.85, moderately transverse, convex laterally, widest posteriorly of the middle, moderately constricted anteriorly and posteriorly; disc densely punctate, punctures regular, interspaces between punctures wider than diameter of puncture; sides finely rugoso-punctate. Elytra broadly-ovate; disc flat in males to weakly convex in females; striae deep, interspaces between punctures as long as diameter of puncture; interstriae weakly convex; EL/EW = 1.28–1.38.

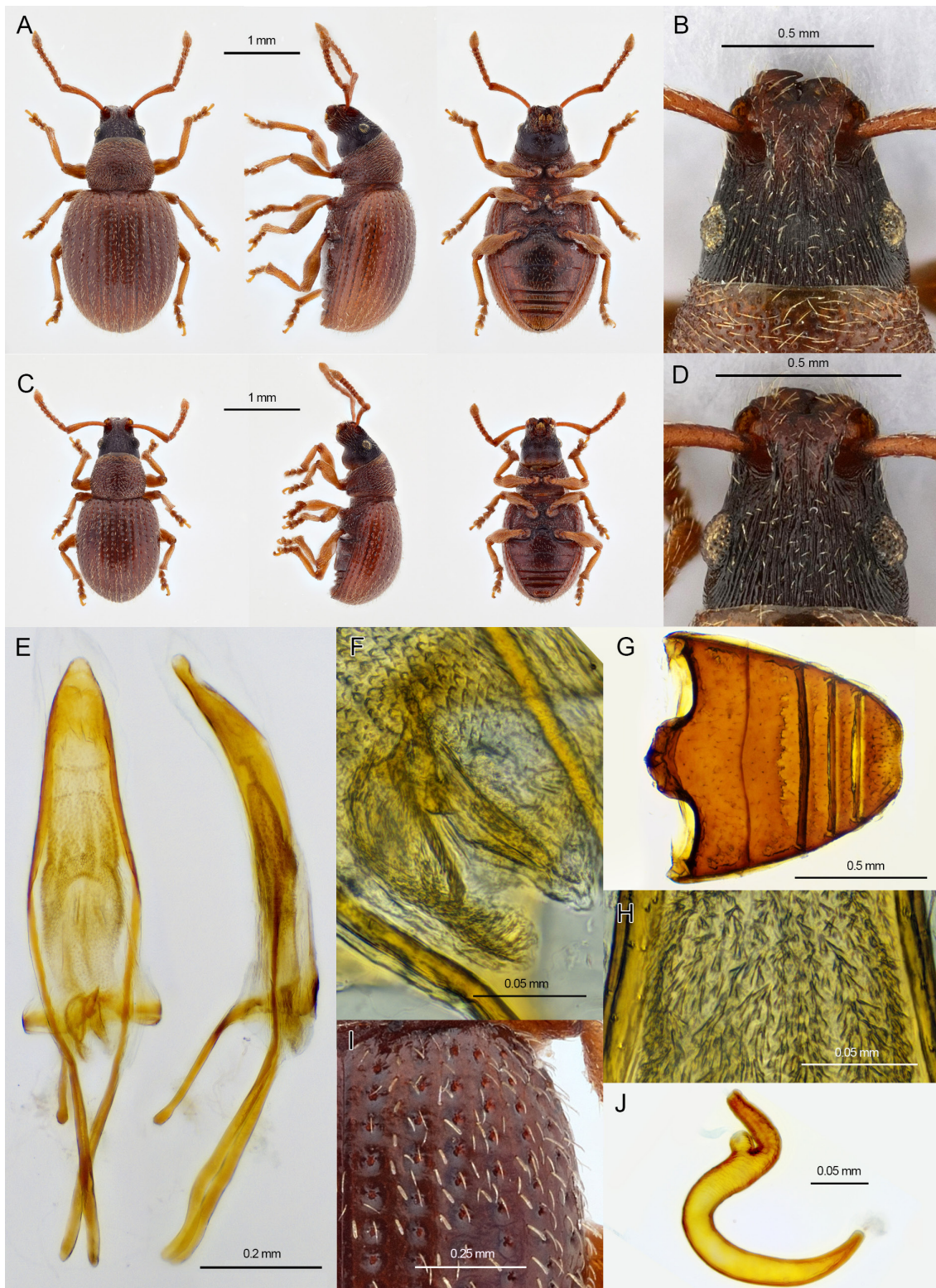


Fig. 9. *Urometopus abchasicus* sp. nov., paratypes, Reshevie River (ID29737, KUMN). **A.** Female habitus, dorsal, lateral and ventral views. **B.** Head of female, dorsal view. **C.** Male habitus, dorsal, lateral and ventral views. **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Copulatory sclerite. **G.** Abdominal ventrites of male. **H.** Endophallic armature. **I.** Elytral vestiture of male. **J.** Spermatheca.

LEGS. Tibiae thick. Protibiae: medial margin in male moderately emarginate in distal $\frac{1}{3}$; mucro strong. Metatibiae: medial margin in males weakly emarginate in distal $\frac{1}{3}$; mucro weak. Tarsi (Fig. 4K): 1st tarsomere as wide as 2nd; 2nd tarsomere $1.7\times$ as wide as long.

ABDOMINAL VENTRITES (Fig. 9G). Anal ventrite of male weakly emarginate.

FEMALE GENITALIA. Spermatheca (Fig. 9J): nodulus not swollen; collum perpendicular to nodulus, attenuate; ramus small, moderately roundly projecting; cornu strongly attenuate.

MALE GENITALIA. Median lobe $0.5\times$ as long as apodemes (Fig. 9E), evenly narrowed apically. Lamina of median lobe roundly attenuate, swollen. Endophallus with short spicules (Fig. 9H) generally dispersed, somewhat condensed bilaterally in proximal part of endophallus. Lunar sclerite absent. Copulatory sclerite (Figs 6E, 7A, 9F) robust, flagellar sheath reduced.

Life history

This species inhabits deciduous forests dominated by *Fagus orientalis* Lipsky and *Quercus* L., with *Rhododendron* L. and *Corylus* L. in the understorey, at elevations of 600–1400 m. It was collected by sifting leaf litter beneath *Rhododendron luteum* Sweet and *Corylus* (Fig. 81A–C).

Distribution

Greater Caucasus: Bzipi Range (Fig. 73A).

Urometopus hyrcanus Yunakov sp. nov.

[urn:lsid:zoobank.org:act:5E919DD5-0B74-4201-BF63-6D65D2BB2165](https://zoobank.org/act:5E919DD5-0B74-4201-BF63-6D65D2BB2165)

Figs 7M, 10, 73A

Differential diagnosis

Urometopus hyrcanus sp. nov. is similar and closely related to *U. imereticus* in overall body shape and structure of the aedeagus, but differs in the following characters: body smaller [BL = 2.46 mm vs 3.08–3.55 mm in *U. imereticus*]; antennal scape sharply curved (vs evenly curved); 2nd segment of antennal funicle shorter than 1st (vs equal in *U. imereticus*); pronotal disc with a fine but distinct glabrous median line (vs absent); pronotum less transverse [PL/PW = 0.80 vs 0.73–0.77]; elytral interstriae with well-defined, short, erect, obtuse setae (vs recumbent piliform vestiture); mucro more distinct; maximal curvature of the aedeagus located anterior to the base of the median lobes (vs between median lobe and apodeme base in *U. imereticus*); caput of median lobe less distinct (Figs 10C, 11G–I).

Etymology

The adjective ‘*hyrcanus*’ highlights the species’ endemism, as it is restricted to the Hyrcanian forest ecoregion, which forms a narrow belt along the mountain ranges of the southern Caspian Sea coast.

Type material

Holotype

AZERBAIJAN – Lankaran-Astara • ♂; “Caspi.–M.–Gebiet, Rasano” [ancient town in ruins, 15 km SW of Lerik]; 38°40′12.0″ N, 48°18′46.0″ E; H. Leder leg.; HNHM (Fig. 10A).

Paratype

AZERBAIJAN – Lankaran-Astara • 1 ♂; same collection data as for holotype; HNHM.

Type locality

Azerbaijan, 15 km southwest of Lerik, Rasano.

Description

MEASUREMENTS (mm). BL: 2.46, BW: 1.24, BH: 0.99.

COLORATION AND VESTITURE (Fig. 10A). Brown; sparsely pilose and weakly setose; erect setae weakly spatulate, shorter than width of interstriae, ordered in regular row; interstriae sparsely covered with recumbent, short, piliform setae. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; scape and funicle with subrecumbent setae; grooming brush on distal $\frac{1}{3}$ of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 10B). Rostrum slightly narrowing anteriorly; RL/RW = 0.82. Pterygia projected. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, $2.3\times$ as narrow as vertex, flat, with narrow median sulcus, longitudinally punctate. Vertex without transverse depression. Eyes moderately convex; VW/ELD = 2.06. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle subrobust; funicular antennomeres L/W: fam1 = 1.74, fam2 = 1.34, fam3 = 0.46, fam4 = 0.50, fam5 = 0.43, fam6 = 0.51, fam7 = 0.45; club L/W = 1.82.



Fig. 10. *Urometopus hyrcanus* Yunakov sp. nov., holotype, ♂ (HNHM). **A.** Habitus, dorsal and lateral views and label. **B.** Head, dorsal view. **C.** Aedeagus, dorsal and lateral views. **D.** Copulatory sclerite, dorsal view. **E.** Copulatory sclerite, lateral view.

THORAX. Pronotum: PL/PW = 0.80, moderately transverse; convex on disc; widest at middle, roundly narrowing anteriorly and weakly constricted posteriorly; densely punctate, punctures regular, interspaces between punctures as wide as or somewhat narrower than diameter of puncture. Elytra ovate; striae deep, interspaces between punctures as long as diameter of puncture; interstriae weakly convex. EL/EW = 1.26.

LEGS. Tibiae: thick. Protibiae: medial margin in male weakly emarginate in distal $\frac{1}{3}$; mucro strong. Metatibiae: medial margin moderately emarginate in distal $\frac{1}{3}$; mucro strong. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere $2.3 \times$ as wide as long.

ABDOMINAL VENTRITES. Anal ventrite of male truncate.

MALE GENITALIA (Fig. 10C). Median lobe $0.77 \times$ as long as apodemes, sharply narrowed apically. Lamina of median lobe attenuate, acute, laterally flattened. Endophallus in proximal part with dense field of long spiniform spicules, distal part with field of very short, tiny spicules. Lunar sclerite absent. Copulatory sclerite asymmetric (Figs 7M, 10D–E), robust, flagellar sheath reduced.

FEMALE. Unknown.

Life history

Unknown.

Distribution

Talysh Mountains (Fig. 73A).

Urometopus imereticus (Reitter, 1897) Figs 7N, 11, 49A–B, 73A

Omius imereticus Reitter, 1897: 201.

Omius (*Urometopus*) *imereticus* – Formánek 1904a: 19.

Urometopus imereticus – Lona 1938: 433. — Borovec 2006: 38; 2013b: 301. — Colonnelli 2011: 676.
— Alonso-Zarazaga *et al.* 2023: 301.

Differential diagnosis

This species is distinguished from all known taxa of *Urometopus* by the following combination of characters: median lobe with a distinct, rounded caput, clearly visible in lateral view (Fig. 11G–I); large body size (BL: 3.08–3.55 mm); vestiture moderately developed, composed of short, recumbent piliform scales, lacking erect setae; pronotum tumid and strongly transverse.

From its closest relative, *U. hyrcanus* sp. nov. from the Talysh Mountains, it further differs by the antennal scape being evenly curved; the 2nd segment of the antennal funicle as long as the 1st; pronotal disc simply punctate, without a fine glabrous median line; mucro less prominent; maximal curvature of the aedeagus situated between the median lobe and the base of the apodemes (in *U. hyrcanus*, anterior to the base of the median lobe); and the caput of the median lobe larger.

Type material

Lectotype (here designated)

GEORGIA – Samegrelo-Zemo Svaneti • ♂; “Caucasus | Swanetien | Leder (Reitter)”; 43.0361° N, 42.6807° E; H. Leder leg.; HHNM (Fig. 49A).

Note

Aedeagus and terminal abdominal segments of lectotype were damaged by museum pests.

Paralectotypes

GEORGIA – **Samegrelo-Zemo Svaneti** • 2 ♀♀; same collection data as for lectotype; HNHN (Fig. 11A).

Additional material examined

GEORGIA – **Imereti** • 1 ♂; near Tkibuli town, S slopes of Nakerala Mt R., S slope of Tskhra-Jvari Mt; 42°19'54.2" N, 43°01'24.1" E; elev. 870 m; 17 Apr.–23 Jun. 2017; D. Fominykh leg.; ZMMU • 1 ♂, 2 ♀♀; 1.5 km W of Mandikori, right bank of Tskhratavisghele River; 42°21'33.40" N, 42°47'48.80" E; elev. 303 m; 17 Apr. 2015; D. Fominykh leg.; ZMMU. – **Samegrelo-Zemo Svaneti** • 1 ♂; “Caucasus | Swantien | Leder (Reitter)”; 43.0361° N, 42.6807° E; H. Leder leg.; MTD (Fig. 11C).

LOCALITY UNKNOWN – 1 ♂; “Kuban”; K. Rost leg.; HNHN.

Type locality

Georgia, “Svanetia” [historical region without certain locality].

Redescription

MEASUREMENTS (mm). BL: 3.08–3.55 (3.27), BW: 1.45–1.88 (1.60), BH: 1.18–1.50 (1.32).

COLORATION AND VESTITURE (Fig. 11A, C). Brown; sparsely pilose. Head vestiture: pilose, setae subrecumbent.

HEAD (Figs 11B, D, 49B). Rostrum in males parallel-sided to slightly narrowing anteriorly in females; RL/RW = 0.73–0.88. Pterygia not projected. Vertex without transverse depression. Eyes moderately convex; VW/ELD = 2.00–2.62. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.61, fam2 = 1.45, fam3 = 0.61, fam4 = 0.67, fam5 = 0.64, fam6 = 0.72, fam7 = 0.59; club L/W = 1.92.

THORAX. Pronotum: PL/PW = 0.73–0.77, transverse. Elytra ovate, EL/EW = 1.27–1.35.

LEGS. Protibiae: medial margin in males weakly emarginate in distal 1/3; mucro moderate. Metatibiae: medial margin in males emarginate in distal 1/3; mucro weak. Tarsi in male robust; 1st tarsomere as wide as 2nd; 2nd tarsomere 1.8 × as wide as long.

ABDOMINAL VENTRITES (Fig. 11F). Anal ventrite of male weakly emarginate.

FEMALE GENITALIA. Spermatheca (Fig. 11E): nodulus weakly swollen; collum reduced, in line with nodulus; ramus reduced, in line with nodulus; cornu strongly attenuate.

MALE GENITALIA. Aedeagus strongly dorso-ventrally arcuate (Fig. 11G); median lobe 2 × as long as apodemes, evenly narrowed apically. Lamina of median lobe attenuate, swollen, narrowly rounded (Fig. 11I). Lunar sclerite absent. Copulatory sclerite slim (Figs 7N, 11H), V-shaped, flagellar sheath reduced.

Life history

Unknown.

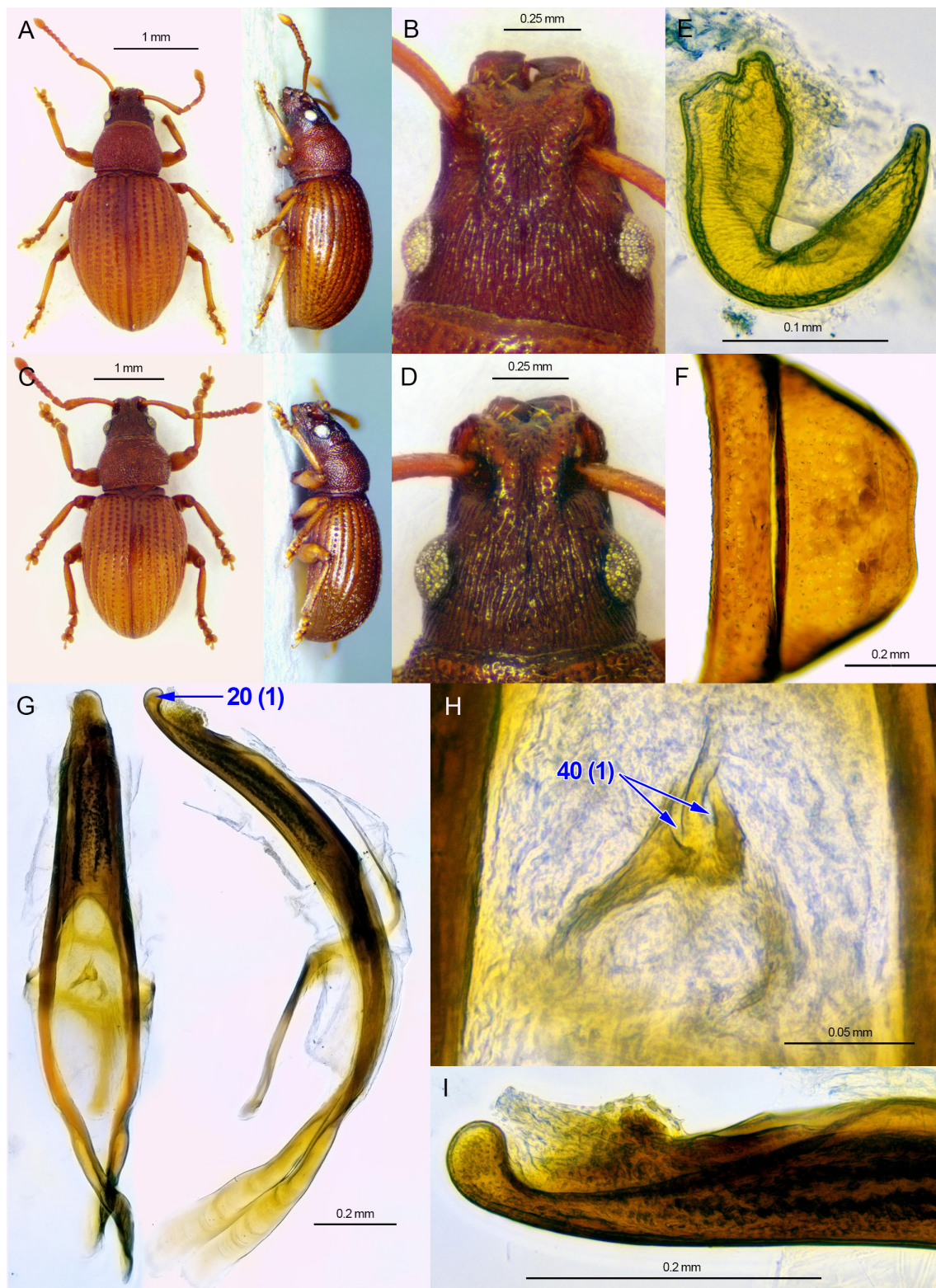


Fig. 11. *Urometopus imereticus* (Reitter, 1897) A–B, E. Paralectotype, ♀ (ID31212, HNHM). A. Habitus, dorsal and lateral views. B. Head of female, dorsal view. C–D, F–I. ID31213. C. Male habitus, dorsal and lateral view (ID31213, MTD). D. Head of male, dorsal view. E. Spermatheca. F. Abdominal ventrites of male. G. Aedeagus, dorsal and lateral view. H. Copulatory sclerite, dorsal view. I. Apical part of aedeagus, lateral view.

Distribution

Greater Caucasus: Racha Range (Fig. 73A).

Urometopus swaneticus (Reitter, 1897)

Figs 3J, 8J, 12, 73A

Omius swaneticus Reitter, 1897: 202.

Omius (*Urometopus*) *swaneticus* – Formánek 1904a: 21.

Urometopus swaneticus – Lona 1938: 433. — Borovec 2013b: 301. — Alonso-Zarazaga *et al.* 2023: 301.

Urometopus svaneticus – Borovec 2006: 38. — Colonnelli 2011: 676.

Differential diagnosis

From *Urometopus kodoricus* sp. nov. it differs in slender legs, fore tibia shape (Fig. 3J) (apical edge obtuse, in *U. kodoricus* – round (Fig. 3I)); less developed mucro; erected setae acute, erect setae obtuse and visible along the elytral surface (in *U. kodoricus* – recumbent and suberect scales piliform, on sides and disc vestigial, noticeable only at the elytral declivity); pterygia not projecting from lateral contour of rostrum; pronotum strongly transverse broadest in the middle, and coarsely punctate at the disc, (in *U. kodoricus* pronotum broadest in posterior half), vestiture of pronotum completely recumbent, with both of the scales types recumbent and suberect at the sides).

This species is closely related to *U. abchasicus* sp. nov., but differs in the shape of the copulatory sclerite (Figs 8J, 12H vs *U. abchasicus*: 6E, 7A, 9F), which has asymmetrically attenuate posterior angles and a larger flagellar sheath; the lateral outline of the median lobe almost without excision posterior to the caput; body vestiture is denser (Fig. 12A, C vs 9I).

From *Urometopus circassicus* and *U. helenae* sp. nov. it differs in small body size and matt integument which bears dense recumbent piliform scales and distinct erect thick obtuse scales rather at elytral declivity, and also in very short and broad rostrum with not protruding pterygia, median lobe with apical part stretched and caput rounded and swollen (instead apical part flattened and acute as in *U. helenae* and *U. circassicus*).

Type material

Lectotype (here designated)

GEORGIA – **Samegrelo-Zemo Svaneti** • ♂; “Kaukasus Swanetien Leder Reitter [printed]” “*swaneticus* m. 1897 [manuscript]” “Holotypus *Omius swaneticus* Reitter” “Coll. Reitter”; 43.0361° N, 42.6807° E; H. Leder leg.; HNHM (Fig. 12C).

Paralectotypes

GEORGIA – **Samegrelo-Zemo Svaneti** • 1 ♂, 1 ♀; same collection data as for lectotype; HNHM (Fig. 12A).

Additional material examined

GEORGIA – **Abkhazia** • 1 ♂, 1 ♀; “Abchasia fl. Kodor A. Zolotarew” “*Omius circassicus* det. A. Solotarew” [Kodori River near Kopchara, see type locality note below]; 43.0704° N, 41.6061° E; [Jul.–Aug. 1910, see type locality note below]; A.P. Zolotarev leg.; ZIN • 1 ♀; “Cauc. occ. Gagry A. Zolotarew VI-910” [probably mislabelled specimen, see note below]; Jun. 1910; A.P. Zolotarev leg.; ZIN.

Type locality

Georgia, “Svanetia” [historical region without certain locality].

Redescription

MEASUREMENTS (mm). BL: 1.91–2.36 (2.19), BW: 1.00–1.23 (1.14), BH: 0.80–1.03 (0.94).

COLORATION AND VESTITURE (Fig. 12A, C). Brown; tomentose, erect and recumbent setae distinct. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; grooming brush on distal 1/3 of medial margin of metatibia vestigial.

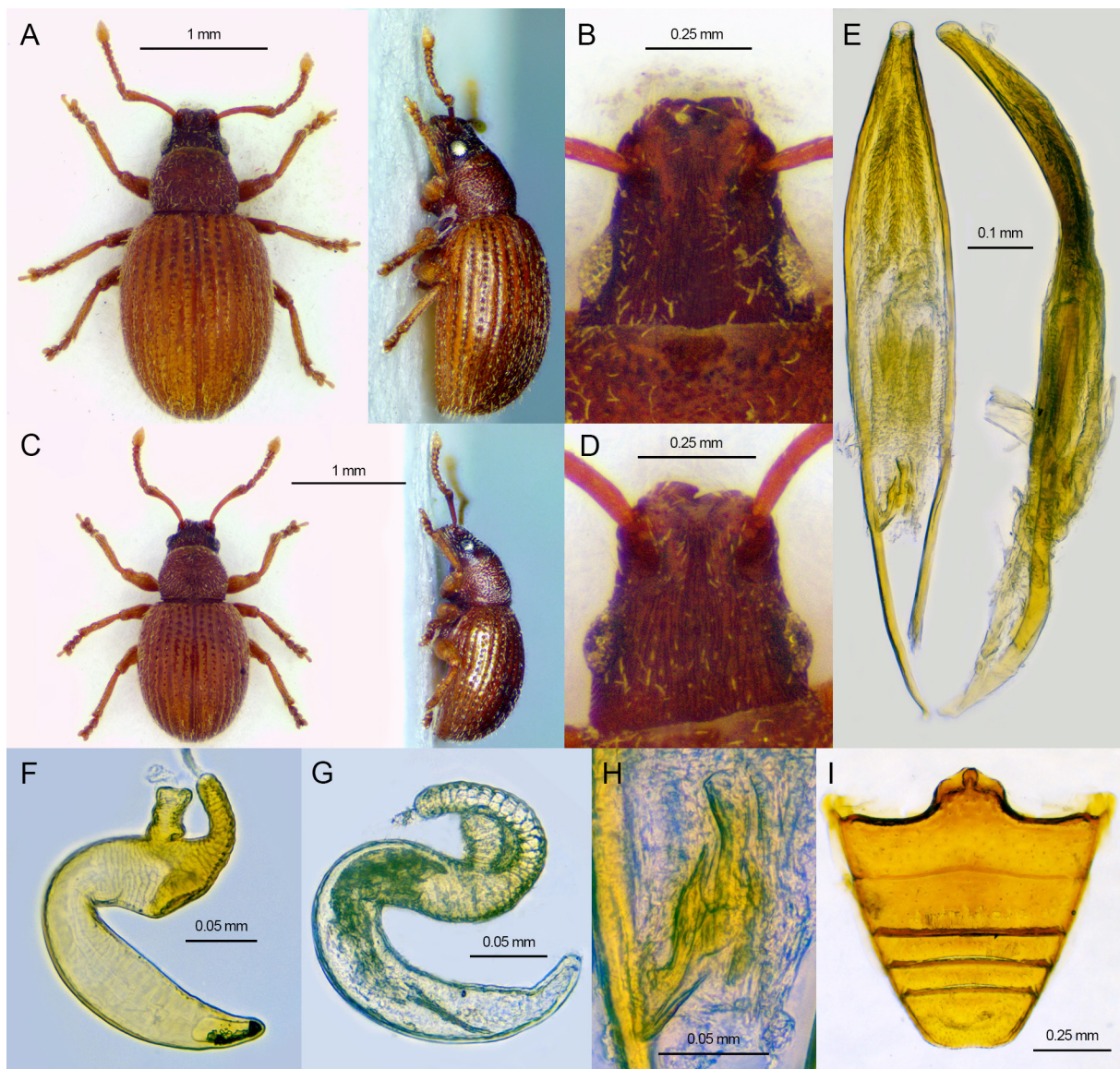


Fig. 12. *Urometopus swaneticus* (Reitter, 1897). **A–B.** Paralectotype, ♀ (ID 30119, HNHM). **C–E,** H–I. Lectotype, ♂ (ID 29846, HNHM). **A.** Habitus, dorsal and lateral views. **B.** Head, dorsal view. **C.** Habitus, dorsal and lateral views. **D.** Head, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F–G.** Variability of the spermatheca. **H.** Copulatory sclerite, dorsal view. **I.** Abdominal ventrites.

HEAD (Fig. 12B, D). Rostrum in males parallel-sided to narrowing anteriorly in females; RL/RW = 0.71–0.80. Pterygia not projected. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, $2 \times$ as narrow as vertex, flat, with median sulcus, parallel-sided. Vertex without transverse depression. Eyes convex; VW/ELD = 2.18–2.64. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle subrobust; funicular antennomeres L/W: fam1 = 1.39, fam2 = 1.28, fam3 = 0.51, fam4 = 0.49, fam5 = 0.44, fam6 = 0.37, fam7 = 0.34; club L/W = 1.63.

THORAX. Pronotum: PL/PW = 0.69–0.80, transverse, disc moderately convex, sides evenly weakly convex, widest at middle, moderately constricted anteriorly and posteriorly; disc densely punctate, punctures irregular, interspaces between punctures as wide as or shorter than diameter of puncture; sides finely rugoso-punctate. Elytra broadly-ovate in males to ovate in females; EL/EW = 1.32–1.35 in females and 1.20–1.25 in males.

LEGS. Tibiae: thick. Protibiae (Fig. 3J): medial margin in male moderately emarginate in distal $\frac{1}{3}$; mucro strong. Metatibiae: medial margin in male not emarginate in distal $\frac{1}{3}$; mucro weak. Tarsi: 1st tarsomere almost ($0.96 \times$) as wide as 2nd; 2nd tarsomere $1.8 \times$ as wide as long.

ABDOMINAL VENTRITES (Fig. 12I). Anal ventrite of male weakly emarginate.

FEMALE GENITALIA. Spermatheca (Fig. 12F–G): nodulus not swollen; collum strongly elongate, curved; ramus strongly roundly projecting, perpendicular to nodulus; cornu strongly attenuate.

MALE GENITALIA. Aedeagus strongly dorso-ventrally arcuate (Fig. 12E); median lobe $2 \times$ as long as apodemes, evenly narrowed apically. Lamina of median lobe attenuate, swollen, narrowly rounded. Endophallus with field of dense short spicules in proximal part and dense tuberculiform spicules in distal part. Lunar sclerite absent. Copulatory sclerite (Figs 8J, 12H) robust, subtriangular, flagellar sheath reduced.

Life history

Unknown.

Distribution

Greater Caucasus: from Kodori Gorge to Svanetia (Fig. 73A).

Specimens from Abkhazia. As recovered from Alexander Zolotarev paper (Zolotarew 1913), he collected near Kopchara, along Kodori River in July–August 1910. A pair of this species together with *U. kodoricus* sp. nov. was presumably collected there as well, without details on habitat. The single female labelled from Gagra most likely originated from the same sampling event in Kodori but was subsequently mislabelled, as Zolotarev stayed in Gagra and visited Kodori Gorge during the same month.

circassicus species group

This group is not supported by any apomorphy but can be delimited by the following homoplastic characters: vertex with shallow transverse depression, collum of spermatheca curved toward ramus, gap between collum and ramus narrow.

Urometopus angelinii Colonnelli, 2011
Figs 7C, 13, 73B

Urometopus angelinii Colonnelli, 2011: 678.

Urometopus angelinii – Borovec 2013b: 301. — Alonso-Zarazaga *et al.* 2023: 301.

Differential diagnosis

This species is similar to *U. anatolicus* and *U. klapperichi* sp. nov. in body and head shape but differs from both in having very dense, completely recumbent pubescence and lacking erect setae. From *U. anatolicus* it further differs by the more robust antennal funicle, longitudinally arcuate epifrons, rugoso-punctate pronotum, and in males, elytra slightly oblong-ovate.

Urometopus angelinii is convergently similar to *U. rugifrons* in the general shape of the head, antennal funicle, and silky pubescent vestiture, but it sharply differs in the structure of both male and female genitalia and in the weakly developed sexual dimorphism of body and legs (Figs 13, 69–71).

Type material (not examined, cited after Colonnelli 2011)

Holotype

TURKEY – **Ordu** • ♂; Akkuş; 40.7961° N, 37.0154° E; 8 Jun. 2009; F. Angelini leg.; MCSN.

Paratypes

TURKEY – **Ordu** • 2 ♀♀; same collection data as for holotype; AFC • 1 ♀; same collection data as for holotype; CEC • 1 ♀; same collection data as for holotype; NMPC.

Additional material examined

TURKEY – **Kastamonu** • 2 ♂♂, 2 ♀♀; S of Inebolu; 41.9523° N, 33.7905° E; elev. 600 m; 18 May 1976; C. Besuchet and Löbl leg.; MMTI (Fig. 13A–B). • 6 ♂♂, 11 ♀♀; same collection data as for preceding; MHNG. – **Ordu** • 1 ♂; Akkuz (Niksar); 40.5921° N, 36.9549° E; 7 Jun. 1969; G. Osella leg.; MMTI • 2 ♀♀; same collection data as for preceding; MSNVR • 1 ♀; Gurgentepe gec., Ordudinl; 40.7898° N, 37.6049° E; 9 Jun. 1969; G. Osella leg.; MMTI.

Type locality

Turkey, Ordu Province, Akkuş.

Redescription

MEASUREMENTS (mm). BL: 2.54–3.47 (2.97), BW: 1.37–1.92 (1.59), BH: 1.08–1.50 (1.25).

COLORATION AND VESTITURE (Fig. 13A–B). Brown; densely silky tomentose without erect setae; recumbent setae pale-greyish, long, piliform, densely cover pronotum and elytra. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 13C–D). Rostrum in males parallel-sided to slightly narrowing anteriorly in females; RL/RW = 0.74–0.84. Pterygia not projected. Vertex transversely depressed. Eyes: VW/ELD = 1.70–2.14. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Funicle slender; funicular antennomeres L/W: fam1 = 1.74, fam2 = 1.48, fam3 = 0.70, fam4 = 0.66, fam5 = 0.57, fam6 = 0.52, fam7 = 0.47; club L/W = 1.67.

THORAX. Pronotum: PL/PW = 0.72–0.78, transverse. Elytra ovate, distinctly rounded laterally, EL/EW = 1.26–1.32.

LEGS. Protibiae and metatibiae: medial margin in males emarginate in distal $\frac{1}{3}$; mucro moderate. Tarsi: tarsomeres in males robust; 1st tarsomere $1.08 \times$ as wide as 2nd; 2nd tarsomere $2 \times$ as wide as long.

ABDOMINAL VENTRITES (Fig. 13G). Anal ventrite of male truncate.

FEMALE GENITALIA. Spermatheca (Fig. 13H): nodulus weakly swollen; collum roundly projecting, curved; ramus roundly projecting, perpendicular to nodulus; cornu strongly attenuate.

MALE GENITALIA. Median lobe $4.5 \times$ as long as wide, $0.5 \times$ as long as apodemes, evenly narrowed apically (Fig. 13I). Lamina of median lobe roundly attenuate. Endophallus with very dense bilateral fields of long spicules in distal part (Fig. 13F). Lunar sclerite absent. Copulatory sclerite (Figs 7C, 13E) slim, V-shaped, flagellar sheath reduced.

Life history

This species lives in beech forests; it was collected by sifting leaf litter.

Distribution

The range of this species runs from Küre to Canik Ranges in the Western Pontic Mountains (Fig. 73B).

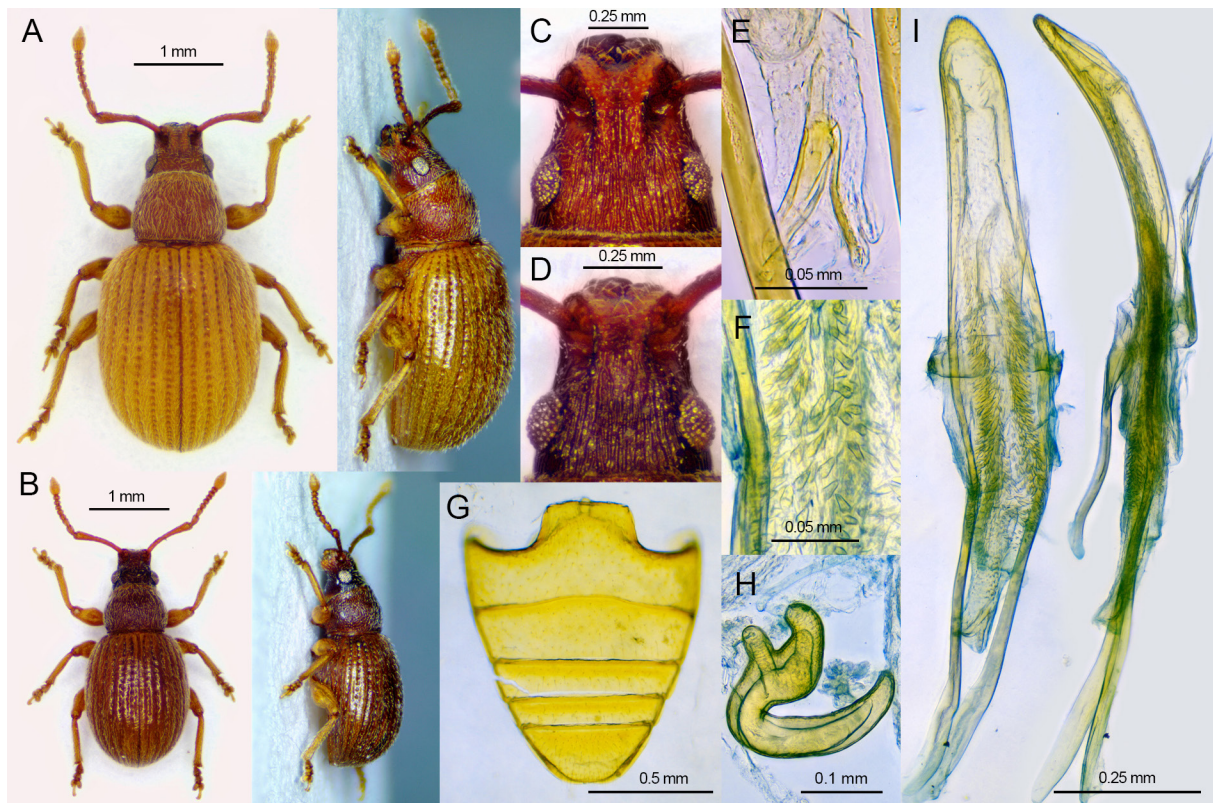


Fig. 13. *Urometopus angelinii* Colonnelli, 2011, Inebolu (ID29952, MMTI). **A.** Female habitus, dorsal and lateral views. **B.** Male habitus, dorsal and lateral views. **C.** Head of female, dorsal view. **D.** Head of male, dorsal view. **E.** Copulatory sclerite, dorsal view. **F.** Endophallic armature. **G.** Abdominal ventrites of male. **H.** Spermatheca. **I.** Aedeagus, dorsal and lateral views.

Urometopus brevis sp. nov.

[urn:lsid:zoobank.org:act:F38216CA-7D4F-4344-BD28-3FF63AA7631F](https://zoobank.org/urn:lsid:zoobank.org:act:F38216CA-7D4F-4344-BD28-3FF63AA7631F)

Figs 4D, 7I, 14, 72A

Differential diagnosis

This species differs from all known West Caucasian taxa by its smaller body size and very short rostrum (Fig. 14B, D). From *U. glabratus* sp. nov. it is distinguished by the well-developed subrecumbent pubescence of the elytra, with the difference between recumbent and suberect setae indistinct (Figs 14I, 18H).

From *U. circassicus* it differs in the distinct transverse depression of the vertex, the evenly convex and strongly transverse pronotum (in *U. circassicus* somewhat tumid), and the more robust funicular segment. The median lobe is as long as the apodemes (in *U. circassicus* somewhat shorter), with the lamina more strongly attenuate (Fig. 14E).

From *U. glabratus* sp. nov. it further differs in the developed body pubescence, the swollen collum of the spermatheca, the attenuate apical plate of the median lobe, and the slightly curved lamina (observable in lateral aspect).

From *U. longicollis* it differs by the matte body, smaller and weakly convex eyes [$VW/ELD = 2.07\text{--}2.45$ (2.26); in *U. longicollis* = $1.69\text{--}2.21$ (1.95)], and a more transverse pronotum [$PL/PW = 0.72\text{--}0.80$ (0.76); in *U. longicollis* = $0.75\text{--}0.94$ (0.85)]. Elytra bear deeper striae and in males are elliptic. The median lobe of the aedeagus is parallel-sided, narrowing in the apical fourth and roundly acute, with the apical lamina attenuate and flattened; the endophallus in its distal part has a field of short spicules. The copulatory sclerite is V-shaped; the collum of the spermatheca is straight, swollen, and not longer than the ramus.

Etymology

The Latin adjective ‘*brevis*’ – ‘short’ highlights the distinctive short body and abbreviated rostrum of this species.

Type material

Holotype

RUSSIA – **Krasnodar** • ♂; Ubinskoye Forestry; 44.7000° N, 38.5500° E; 21 May 1975; V. Belov leg.; ZIN.

Paratypes

RUSSIA – **Krasnodar** • 3 ♂♂; same collection data as for holotype; ZIN (Fig. 14C) • 1 ♂; same collection data as for holotype; 15 May 1975; V. Belov leg.; ZIN • 1 ♀; same collection data as for holotype; 21–24 May 1975; V. Belov leg.; ZIN • 1 ♀; Ubinskoye; 44.7346° N, 38.5310° E; 7 Jul. 1973; V. Belov leg.; ZIN • 1 ♀; Abinsk; 44.8400° N, 38.1000° E; 25 May 1979; B.A. Korotyaev leg.; ZIN (Fig. 14A) • 1 ♂; Arkhipo-Osipovka; 44.3700° N, 38.5100° E; 10 Oct. 1951; K.V. Arnoldi leg.; ZIN • 1 ♀; Tuapse Distr., 15 km N of Pshada, Mt Oblego; 44.5160° N, 38.4797° E; 23 Jun. 1997; V. Gnezdilov leg.; ZIN.

Type locality

Russia, Krasnodar Territory, Ubinskoye Forestry.

Description

MEASUREMENTS (mm). BL: 1.95–2.69 (2.38), BW: 1.25–1.44, BH: 0.81–1.18.

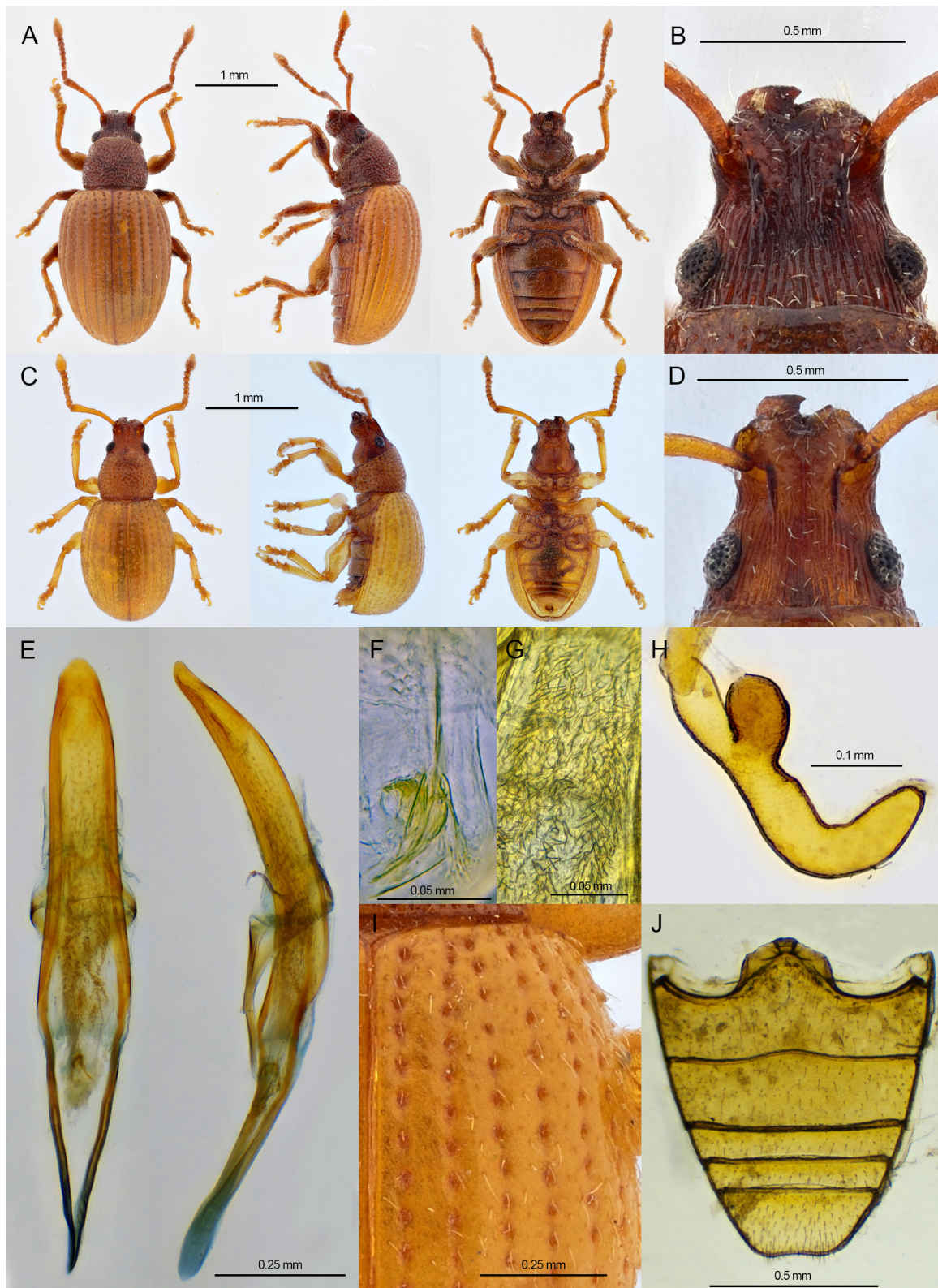


Fig. 14. *Urometopus brevis* sp. nov., paratypes. **A–B, H.** Female (ID29934, ZIN). **C–G, I–J.** Male (ID31336, ZIN). **A.** Habitus, dorsal, lateral, ventral view. **B.** Head, dorsal view. **C.** Habitus, dorsal, lateral, and ventral views. **D.** Head, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Copulatory sclerite, dorsal view. **G.** Endophallic armature. **H.** Spermatheca. **I.** Elytral vestiture. **J.** Abdominal ventrites.

COLORATION AND VESTITURE (Fig. 14A, C, I). Brown; sparsely pilose; interstriae sparsely covered with recumbent, very short, piliform setae; each puncture in striae bears tinier subrecumbent piliform seta. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; grooming brush on distal $\frac{1}{3}$ of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 14B, D). Rostrum slightly narrowing anteriorly; RL/RW = 0.72–0.82. Pterygia projected. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, weakly widened posteriorly, $1.9\times$ as narrow as vertex, weakly arcuate, with narrow median sulcus, coarsely punctate. Vertex transversely depressed. Eyes convex; VW/ELD = 2.07–2.45. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle subrobust; funicular antennomeres L/W: fam1 = 1.57, fam2 = 1.24, fam3 = 0.77, fam4 = 0.74, fam5 = 0.68, fam6 = 0.58, fam7 = 0.59; club L/W = 1.85.

THORAX. Pronotum: PL/PW = 0.72–0.80, transverse, disc not convex, sides evenly weakly convex, widest at middle, moderately constricted posteriorly; disc densely punctate, punctures regular, round, interspaces between punctures flat to weakly convex, as wide as or shorter than diameter of puncture; sides densely punctate. Elytra ovate; disc flat; striae deep, interspaces between punctures as long as diameter of puncture; interstriae weakly convex. EL/EW = 1.27–1.37.

LEGS. Tibiae thick. Protibiae: medial margin in male weakly emarginate in distal $\frac{1}{3}$; mucro very weak. Metatibiae: medial margin in males moderately emarginate in distal $\frac{1}{3}$; mucro well developed. Tarsi (Fig. 4D): tarsomeres in males robust; 1st tarsomere $1.25\times$ as wide as 2nd; 2nd tarsomere $2.10\times$ as wide as long.

ABDOMINAL VENTRITES (Fig. 14J). Anal ventrite of male weakly emarginate.

FEMALE GENITALIA. Spermatheca (Fig. 14H): nodulus not swollen; collum tumid; ramus strongly roundly projecting, in line with nodulus; cornu rounded.

MALE GENITALIA. Median lobe (Fig. 14E) as long as apodemes, evenly narrowed apically. Lamina of median lobe weakly curved dorsally (to be observed in lateral aspect), flattened, evenly narrowed, acute. Endophallus in proximal part with dense field of long spiniform spicules, distal part (Fig. 14G) with field of very short, tiny spicules. Lunar sclerite absent. Copulatory sclerite (Figs 7I, 14F) slim, V-shaped, flagellar sheath long.

Life history

Unknown.

Distribution

The range remains unclear, this species is known from a few localities in the Western Caucasus, from Abinsk and Ubinskaya to Mt Oblego and Arkhipo-Osipovka (Fig. 72A).

Urometopus circassicus (Reitter, 1888)

Figs 3F, 4A, 7E, 15, 72A

Omius circassicus Reitter, 1888d: 262.

Omius (*Urometopus*) *circassicus* – Formánek 1904a: 20.

Urometopus circassicus – Lona 1938: 432. — Borovec 2006: 38; 2013b: 300. — Colonnelli 2011: 676.
— Alonso-Zarazaga *et al.* 2023: 301.

Differential diagnosis

Urometopus circassicus is closely related to *U. helenae* sp. nov. and *U. swaneticus*, but differs from them in its smaller, weakly convex eyes, wider tarsi, denser recumbent pilosity of the elytra, the shape of the median lobe, and (at least in males) generally larger body size. From *U. helenae* it further differs by the strongly transverse 4th–7th funicular segments, weakly rounded elytral sides in males, light-coloured hairs that are distinctly visible, and the erect scales of the elytra.

From *U. korotyaei* it differs in the silky recumbent pilosity of the elytra (Figs 15I, 22G); when erect hairs are present, they are restricted to the elytral declivity. The epifrons is not separated from the vertex by a transverse depression; interstriae are distinctly wider than the puncture diameters; and the aedeagus is only slightly curved, with the apical part of the median lobe directed along the median axis of the aedeagus (not curved upwards and therefore invisible in dorsal view). The internal sac bears a simple, broad spiculate field not divided into two bilateral longitudinal stripes. The spermatheca has a collum hook-like curved, and its longitudinal striation is more delicate. In males, the internal edge of the middle and hind tibiae is sharply sinuate in the apical third, and the apical edge of the anal ventrite is straight, without a deep cavity.

This species is also related to *U. prasolovi* sp. nov. and resembles it in the shape and striation of the head, but differs clearly in the strongly sinuate internal edge of the male hind tibia and in the form of the aedeagus, whose median lobe is more strongly curved ventrally.

Type material

Lectotype (here designated, designation by Jan Fremuth was not published; length: 2.75 mm, width: 1.45 mm)

RUSSIA – **Krasnodar [or Adygea]** • ♀; “Caucas. Occ., Circassien, Leder (Reitter)” [printed, original] “*O. circassicus* m. 1888” [handwritten, original], “Holotypus *Omius circassicus* Reitter, 1888” [red framed standard museum label], “Coll. Reitter” [printed], Lectotypus *Ur. circassicus* Reitt. Fremuth det.”; H. Leder leg.; HNHM (Fig. 15K).

Paralectotypes

RUSSIA – **Krasnodar [or Adygea]** • 3 ♂♂, 2 ♀♀; “Caucas. Occ., Circassien, Leder (Reitter)” [printed, original], “Paratypus *Omius circassicus* Reitter, 1888” [red framed standard museum label], “Coll. Reitter”; H. Leder leg.; HNHM • 1 ♀; “Caucas. Occ., Circassien, Leder (Reitter) [printed, original]”; “*circassicus* Reitt. det. [handwritten]”; HNHM • 1 ♂; “Caucas. Occ., Circassien, Leder (Reitter) [printed, original]”; “Nr 0274 HT Compared Mus. Budapest coll. Reitter *Urometopus circassicus* Reitter Fremuth J. compar. 1987”; “*Urometopus circassicus* Rtt. Fremuth J. det. 2006”; HNHM • 1 ♂, 3 ♀♀; “Circassia Reitter” [printed, original]; “Paratypus *Omius circassicus* Reitter, 1888” [red framed standard museum label], “Coll. Reitter”; H. Leder leg.; HNHM • 1 ♀; golden square; “Circassia Reitter”, “Coll. J. Faust Ankauf 1900”; H. Leder leg.; MTD.

Additional material examined

GEORGIA – **Abkhazia** • 1 ♂, 1 ♀; Gagra env.; 43.3389° N, 40.2422° E; Jun. 1971; R. Rous leg.; MMTI.

RUSSIA – **Adygea Republic** • 1 ♂; Caucasian Nature Reserve, Abago Mt; 43.9031° N, 40.1576° E; 1 Jul. 1934; Anikeev leg.; ZIN • 2 ♂♂, 3 ♀♀; Mt Fisht; 43.9485° N, 39.8853° E; elev. 1800–2500 m; 21 Jul. 1998; Kopecký and Švarc leg.; MMTI • 1 ♂, 2 ♀♀; Kamennomostskii; 44.2976° N, 40.1929° E; 14 Jul. 1998; Kopecký and Švarc leg.; KJC • 1 ♂; Khadzkhokh [Kamennomostskii]; 44.29° N, 40.19° E;

10 May 1979; E.A. Khachikov leg.; AYC • 1 ♀; Mezmai; 44.2° N, 39.96° E; 16 Jul. 1992; Yu.G. Arzanov leg.; AYC • 1 ♂; Mezmai; 44.2° N, 39.96° E; 18 Jul. 1992; Yu.G. Arzanov leg.; AYC • 3 ♂♂, 3 ♀♀; Mezmai; 44.1987° N, 39.9538° E; 22 Jun. 1996; D.G. Kasatkin leg.; NYC • 2 ♂♂, 1 ♀; Skalisty Range; 44.2976° N, 40.1929° E; 14 Jul. 1998; Kopecký and Švarc leg.; KJC. – **Krasnodar** • 2 ♂♂, 2 ♀♀; 15 km SW of Dakhovskaya; 44.1188° N, 40.0958° E; elev. 1300–1600 m; 12 Jun. 1995; A.Yu. Solodovnikov leg.; ZIN • 1 ♂, 1 ♀; 48 km S of Maikop, 8 km SE of Mezmai, Kamyshevanova Polyana; 44.1692° N, 40.0421° E; elev. 1200 m; 21 Jun. 1982; B.A. Korotyaev leg.; ZIN • 2 ♂♂, 3 ♀♀; Mezmai env.; 10–15 Jun. 2010; A. Bondarenko leg.; pitfall traps; ZMMU • 6 specs; Achipsta River valley near Alous Pass; 43.8123° N, 40.5784° E; 26 Jun. 1992–12 Aug. 1992; V. Shchurov leg.; WHC • 3 ♂♂, 1 ♀; Achipsta River valley near Alous Pass; 43.8123° N, 40.5784° E; elev. 1500 m; 28 Jun.–12 Aug. 1992 (Fig. 15C); V. Shchurov leg.; NYC • 1 ♀; Caucasian Nature Reserve, Yuzhnoye Forestry, Pslukh Hut; 43.661° N, 40.3952° E; 16 Jul. 1976; Belov leg.; ZIN • 1 ♂; Caucasian Nature Reserve, Yuzhnoye Forestry, Pslukh Hut; 43.661° N, 40.3952° E; 16 Jul. 1976; N. Nikitsky leg.; ZIN • 9 ♂♂, 8 ♀♀; “Caucas.occ., Circassien, Leder. Reitter. [printed]”; H. Leder leg.; ZIN • 1 ♂; “Circassia”; MTD • 1 ♀; “Kuban Gb.”; MTD • 2 ♂♂, 1 ♀; Mt Shessi; 44.1025° N, 39.5808° E; 26 May–5 Aug. 1993; V. Shchurov leg.; NYC (Fig. 15A) • 1 ♀; near Khosta; 43.5296° N, 39.8646° E; 19 Jun.–8 Aug. 1993; V. Shchurov leg.; WHC • 1 ♂, 1 ♀; near Khosta; 43.5296° N, 39.8646° E; 15 Jun. 2006; Yu.A. Chumachenko leg.; ZIN • 1 ♀; Psebai; 44.1345° N, 40.8118° E; elev. 600 m; 18 Jun. 1995; V.N. Prasolov leg.; ZIN • 1 ♂; Sochi; 43.6114° N, 39.7662° E; ZMUN • 1 ♂, 1 ♀; “Sotschi [= Sochi] Circassia”; 43.6114° N, 39.7662° E; K. Rost leg.; ZMH • 3 ♀♀; Sochi; MTD • 2 ♂♂, 1 ♀; Sochi; Jun. 1967; Picka leg.; MMTI • 1 ♀; Sochi env., Solokhaul; 43.8151° N, 39.6954° E; elev. 380 m; 22 Jun. 1977; R. Rous leg.; BRC • 1 ♂, 1 ♀; Uch-Dere; 43.6594° N, 39.6272° E; A. Starck leg.; MMTI.

LOCALITY UNKNOWN – 1 ♀; “Circassien”; A.P. Zolotarev; HNHM.

Type locality

Russia, Krasnodar Territory [or Adygea], “Circassia” [historical region without certain locality].

Reconstruction of data on type locality

The following conclusions on account of the type series can be applied in the light of a variability analysis: it was likely collected by G. Leder along his route, as specimens with more pronounced erect scales and those without them are present. He probably visited the high-mountain regions both west and east of Fisht, but the majority of the material was likely collected in its vicinity. Three specimens from ZIN labelled as “Caucas. occ., Circassien, Leder (Reitter)” closely match recent collections from the surroundings of Fisht–Oshten Mountain Massif and most of the type series.

Redescription

MEASUREMENTS (mm). BL: 2.56–2.96 (2.75), BW: 1.25–1.58 (1.44), BH: 1.00–1.25 (1.17).

COLORATION AND VESTITURE (Fig. 15A, C, I). Brown; silky pilose; suberect or subrecumbent setae obvious only in posterior declivity, elongate, somewhat shorter than width of interstriae, narrowly truncate, narrow, greyish-yellow, ordered in regular row on interstriae; recumbent setae very small, piliform, densely cover pronotum and elytra; punctures in striae bear short, recumbent hair. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 15B, D). Rostrum in males parallel-sided to slightly narrowing anteriorly in females; RL/RW = 0.77–0.88. Pterygia projected in males, not projected in females. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, 2.4 × as narrow as vertex, flat, with shallow median sulcus, coarsely and shallowly punctate. Vertex without

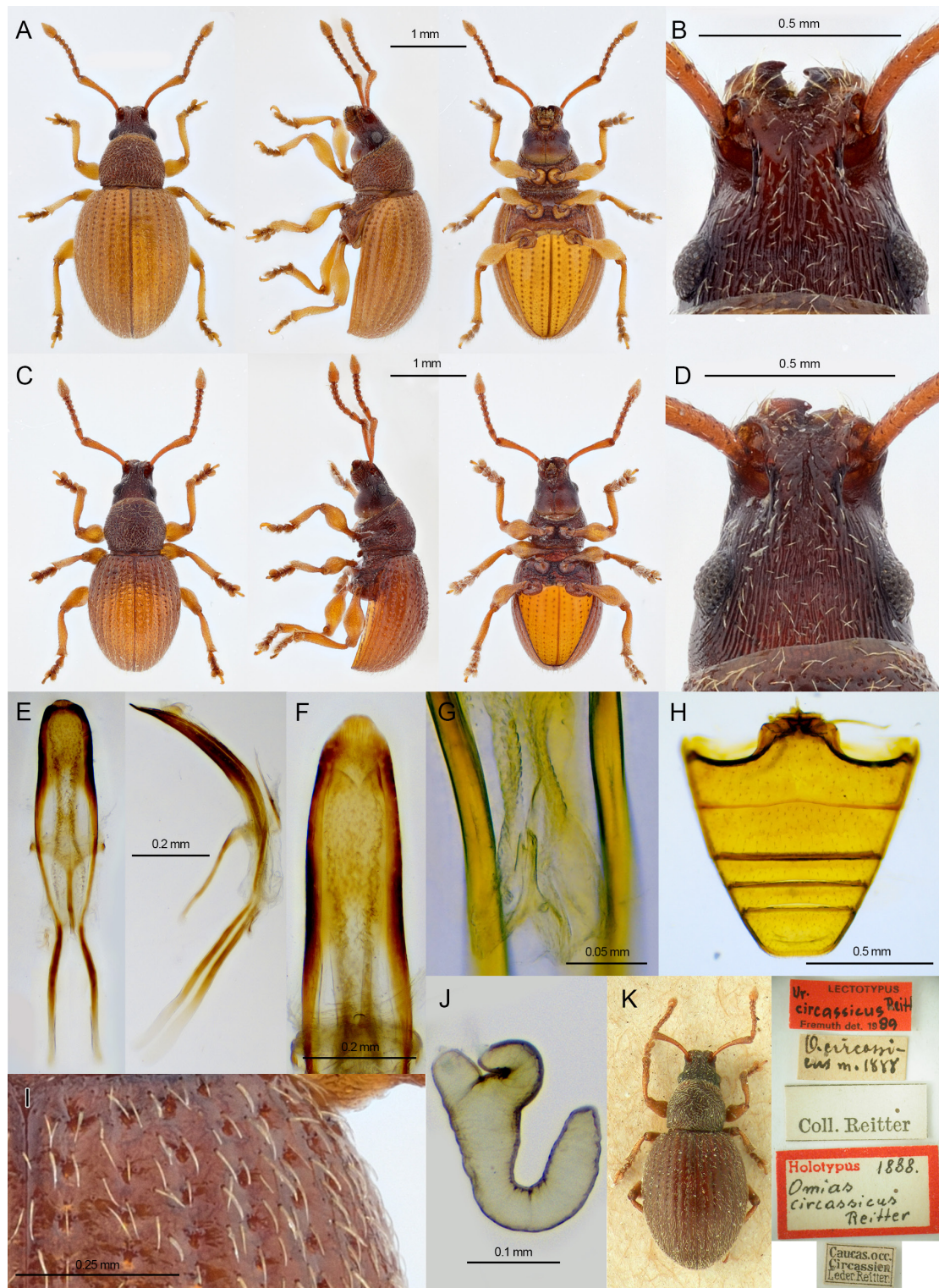


Fig. 15. *Urometopus circassicus* (Reitter, 1888). **A.** Female habitus, dorsal, lateral, ventral views (ID29720, ZIN). **B.** Head of female, dorsal view. **C.** Male habitus, dorsal, lateral, ventral views (ID29726, ZIN). **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Lamina of aedeagus. **G.** Copulatory sclerite, dorsal view. **H.** Abdominal ventrites of male. **I.** Elytral vestiture of male. **J.** Spermatheca. **K.** *Omius circassicus* Reitter, 1888, lectotype, ♀ (HNHM), habitus, dorsal view and labels. Photo credit: by Zoltán György, CC-BY 4.0.

transverse depression. Eyes convex; VW/ELD = 2.03–2.80. Costulation of head capsule continues on epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.72, fam2 = 1.28, fam3 = 0.63, fam4 = 0.57, fam5 = 0.61, fam6 = 0.48, fam7 = 0.42; club L/W = 1.81.

THORAX. Pronotum: PL/PW = 0.71–0.91, moderately transverse, distinctly convex on disc and at sides, widest at middle, moderately constricted posteriorly; disc densely punctate, punctures regular, round, interspaces between punctures as wide as or shorter than diameter of puncture; sides finely rugoso-punctate. Elytra ovate, EL/EW = 1.19–1.33.

LEGS. Femora in males somewhat more clavate than in females. Tibiae thick. Protibiae (Fig. 3F): medial margin in males moderately emarginate in distal $\frac{1}{3}$; mucro weak. Metatibiae: medial margin in males emarginate in distal $\frac{1}{3}$; mucro strong. Tarsi (Fig. 4A): tarsomeres in male robust; 1st tarsomere 1.1 × as wide as 2nd; 2nd tarsomere 2.4 × as wide as long.

ABDOMINAL VENTRITES (Fig. 15H). Anal ventrite of male truncate, flattened.

FEMALE GENITALIA. Spermatheca (Fig. 15J): nodulus not swollen; collum perpendicular to nodulus, attenuate; ramus as long as collum, strongly roundly projecting; cornu weakly attenuate.

MALE GENITALIA. Aedeagus strongly dorso-ventrally arcuate (Fig. 15E). Median lobe 0.67 × as long as apodemes, weakly sinuate. Lamina (Fig. 15F) of median lobe flattened, hastate, obtuse. Endophallus with dense bilateral fields of short spicules. Lunar sclerite absent. Copulatory sclerite (Figs 7E, 15G) slim, V-shaped, flagellar sheath long.

Variability notes

In specimens from the Fisht–Oshten Mountain Massif the vestiture is completely recumbent; those from Mount Shessi have distinctly erect setae along the entire length of the elytral interstriae, while in specimens from Pslukh and Mezmai the erect setae are recognizable only at the posterior declivity of the elytra.

Life history

Urometopus circassicus inhabits deciduous and mixed forests and mountain meadows at elevations from 380 to 2500 m.

Distribution

Greater Caucasus: the main range extends from Fisht–Oshten Mountain Massif to Mt Akhun. The finding of a pair from Gagra env. (Abkhazia, Georgia) requires confirmation as it may be the result of mislabelling (Fig. 72A).

Urometopus ferrugineus (Formánek, 1904)
Figs 8U, 16–17, 73A

Omius (*Urometopus*) *ferrugineus* Formánek, 1904b: 299.

Urometopus ferrugineus – Lona 1938: 433. — Borovec 2006: 38; 2013b: 301. — Colonnelli 2011: 683.
— Alonso-Zarazaga *et al.* 2023: 301.

Differential diagnosis

Due to its glabrous body, *Urometopus ferrugineus* is very similar to *U. longicornis*, but differs from the latter in the following characters: elytra in females less tumid and relatively smaller in proportion to the pronotum; pterygia less protruding from the lateral outline of the rostrum; lateral margins of the epifrons more weakly narrowing posteriorly; and the median lobe evenly narrowed apically, being $0.67 \times$ as long as apodemes (in *U. longicornis* – $0.5 \times$ as long as apodemes).

From *U. persicus* sp. nov. it differs in narrower male tarsi; median lobe narrower and longer, $0.67 \times$ as long as apodemes (in *U. persicus* – $0.77 \times$ as long as apodemes); lamina of median lobe not attenuate and not flattened, with lateral walls less strongly sclerotized; and collum of spermatheca longer than the ramus.

Type material

Lectotype (here designated)

IRAN – **Golestan** • ♂; “Astrabad [= Gorgan] 1877 Kerim” “Museo Civ. Genova” “♂” “*Urometopus ferrugineus* n. sp. M.” “SYNTYPUS *Urometopus ferrugineus* Formánek, 1904”; 1877; A. Kerim leg.; MCSN (Fig. 17A).

Paralectotypes

IRAN – **Golestan** • 1 ♂, 3 ♀♀; same collection data as for lectotype; MCSN (Fig. 17D–E) • 1 ♂, 1 ♀; same collection data as for lectotype; NMPC.

Additional material examined

IRAN – **Mazandaran** • 3 ♂♂, 2 ♀♀; 20 km S of Chalus; 36.5676° N, 51.3778° E; elev. 200 m; 8 Jun. 2005; P. Průdek leg.; MMTI (Fig. 16A, C) • 1 ♂, 1 ♀; 5 km E of Nowshahr; 36.6031° N, 51.5654° E; elev. 1400 m; 31 May–2 Jun. 1976; C. Holzschuh and F. Ressler leg.; MMTI • 1 ♂, 1 ♀; Shah Zeyd env.; 36.2918° N, 52.3513° E; elev. 600 m; 16–17 Jun. 2005; P. Průdek leg.; MMTI.

Type locality

Iran, Astrabad [now Gorgan].

Redescription

MEASUREMENTS (mm). BL: 2.21–2.71 (2.44), BW: 1.17–1.48 (1.33), BH: 0.99–1.24 (1.14).

COLORATION AND VESTITURE (Figs 16A, C, H, 17A, C). Red-brown; glabrous, with hardly visible scattered tiny recumbent piliform setae. On the interstriae of elytra, these setae are ordered into irregular rows; each puncture in striae bears tinier appressed piliform seta. Head vestiture: glabrous, tiny setae appressed. Vestiture of antennae and legs: antennal scape and legs almost bare; grooming brush on distal $\frac{1}{3}$ of medial margin of metatibiae weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Figs 16B, D, 17B). Rostrum slightly narrowing anteriorly; RL/RW = 0.75–0.82. Pterygia projected. Frons U-shaped, nitid, not delimited from epistome by thin V-shaped carina. Epifrons well edged, with median sulcus, parallel-sided. Vertex transversely depressed. Eyes convex, VW/ELD = 1.74–2.46. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.60, fam2 = 1.65, fam3 = 0.81, fam4 = 0.84, fam5 = 0.68, fam6 = 0.59, fam7 = 0.58; club L/W = 1.92.

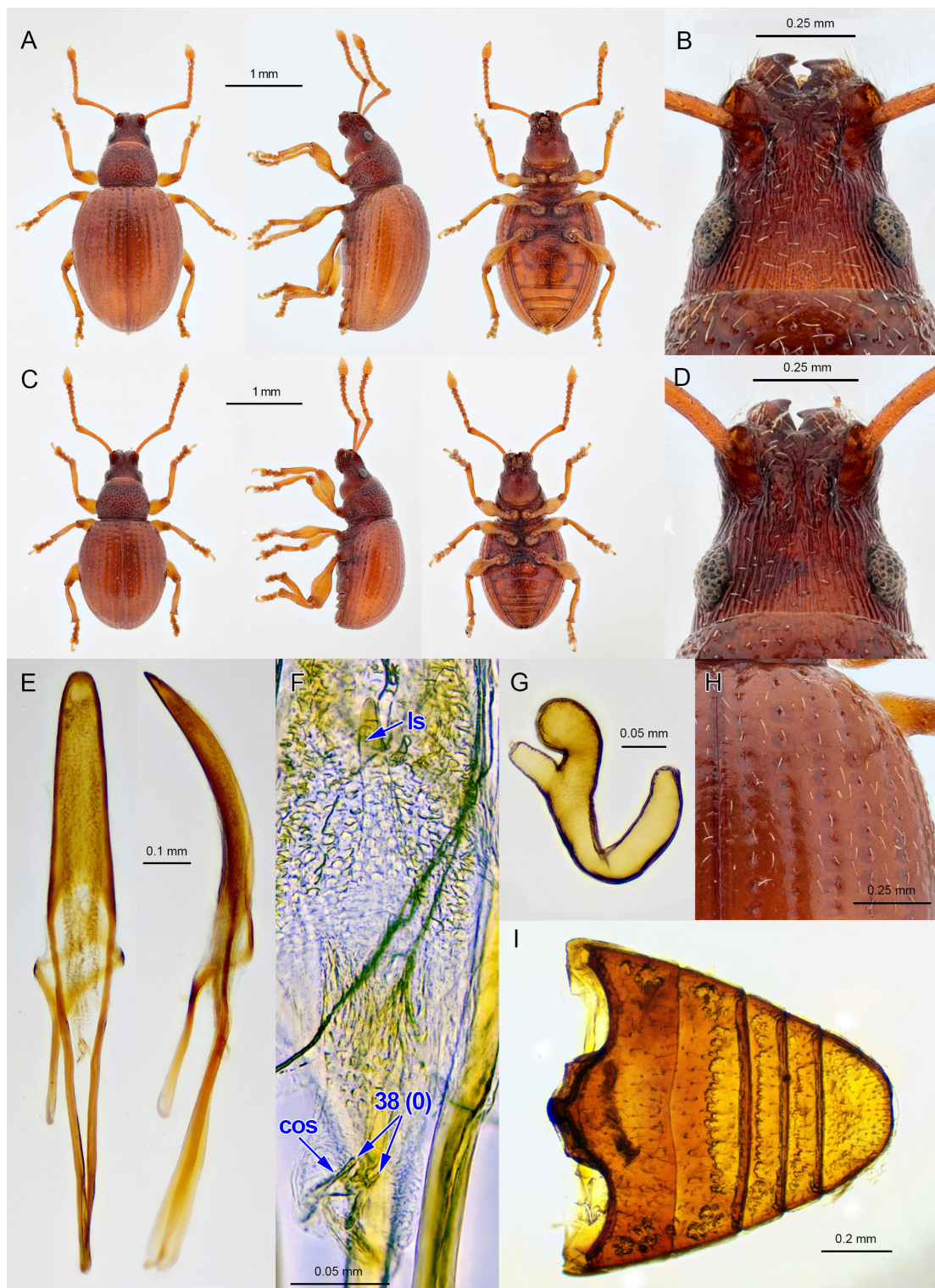


Fig. 16. *Urometopus ferrugineus* (Formánek, 1904). **A.** Female habitus, dorsal, lateral and ventral views (ID29759, MMTI). **B.** Head of female, dorsal view. **C.** Male habitus, dorsal, lateral and ventral views (ID29759, MMTI). **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Sclerites of endophallus, dorsal view (ID29758, MMTI) (the numeric indice refers to the numbers and states of the characters in the character matrix, [Supp. file 1](#)). **G.** Spermatheca. **H.** Elytral vestiture of male. **I.** Abdominal ventrites of male. Abbreviations: cos = copulatory sclerite; ls = lunar sclerite.

THORAX. Pronotum: PL/PW = 0.71–0.83, moderately transverse. Elytra ovate; in females strongly convex on disc, anterior declivity steep; EL/EW = 1.25–1.37.

LEGS. Tibiae slender. Metatibiae: medial margin in males moderately emarginate in distal $\frac{1}{3}$. Tarsi: 1st tarsomere $0.95 \times$ as wide as 2nd, 2nd tarsomere $2 \times$ as wide as long.

ABDOMINAL VENTRITES (Fig. 16I). Anal ventrite of male truncate.

FEMALE GENITALIA. Spermatheca (Fig. 16G): nodulus not swollen; collum tumid, curved; ramus strongly obtusely projecting, as long as collum; cornu weakly attenuate.

MALE GENITALIA. Median lobe (Fig. 16E) $0.67 \times$ as long as apodemes., evenly narrowed apically. Lamina of median lobe obtuse, not flattened. Endophallus with bilateral fields of short spicules. Lunar sclerite straight, narrowly rounded apically (Figs 8U, 16F). Copulatory sclerite slim, spatulate, flagellar sheath well developed.

Life history

Humid deciduous forests from sea level to 600 m a.s.l., in leaf litter. Near Nowshahr this species was collected together with *U. persicus* sp. nov.

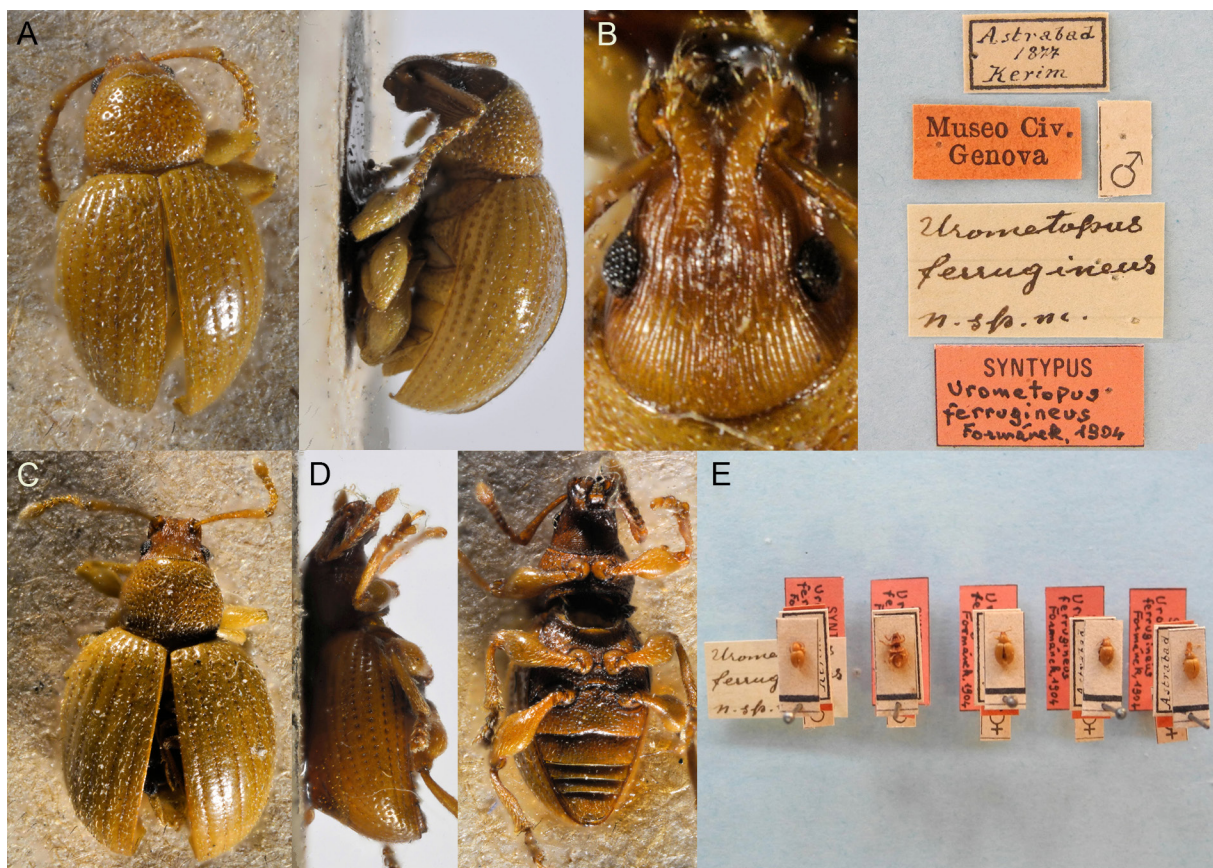


Fig. 17. *Urometopus ferrugineus* (Formánek, 1904). **A–B.** Lectotype, ♂ (MCSN). **A.** Habitus, dorsal and lateral views. **B.** Head, dorsal view and labels. **C.** Paralectotype, ♀ (MCSN), habitus, dorsal view. **D.** Paralectotype, ♂ (MCSN), habitus, lateral and ventral views. **E.** Type series. Photo credit: by Roberto Poggi (MCSN), CC-BY 4.0.

Distribution

Alborz Mountains (Fig. 73A).

Urometopus glabratus sp. nov.

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Figs 4E, 7K, 18, 72A

Differential diagnosis

Urometopus glabratus sp. nov. is similar to *U. longicornis* in its tumid and glabrous body, but differs in smaller and more convex eyes; epifrons more than $2 \times$ as narrow as vertex; pronotum weakly convex laterally, with maximum width at midlength; elytra oblong-ovate (EL/EW: 1.36), parallel-sided in male and weakly broader in the anterior half in female; median lobe parallel-sided, more smoothly narrowing in apical part; apodemes not longer than median lobe.

From *U. longicollis* it differs in smaller size and weakly convex eyes (containing 8–9 ommatidia in ELD); antennal scape distinctly curved, evenly widened distally; funicular antennomere 2 weakly elongate (L/W: 1.58); pronotum weakly convex laterally, disc scarcely punctate, with interspaces $2\text{--}4 \times$ as wide as the puncture diameter; elytra oblong-ovate, parallel-sided in male and weakly broader in the anterior half in female; protibia of both sexes less sinuate along the internal edge; tarsomere 3 slightly wider than tarsomere 2 (tm3W/tm2W: 1.30); median lobe parallel-sided, sharply narrowing in apical part and evenly curved apically in lateral view; spiculate armature well developed.

This new species is similar to *U. brevis* sp. nov. in general appearance, but differs in the following characters: epifrons in proximal part ca $2.5 \times$ as narrow as the width between antennal insertions; elytral striae narrow with punctures small and shallow; interstriae weakly convex, $3 \times$ as wide as striae, with shorter setae. Median lobe of aedeagus narrower and more strongly dorso-ventrally arcuate; lamina of median lobe straight in lateral view; spiculate armature and copulatory sclerite well developed.

From *U. circassicus* and the co-occurring *U. korotyaevi* sp. nov. it differs in the glabrous body with only short piliform setae; rostrum more transverse (RL/RW: 0.75); pronotum weakly convex laterally, with maximum width at midlength; elytra more oblong-ovate.

Urometopus glabratus sp. nov. and *U. nemorum* share a very similar spermatheca (Figs 18I, 66E–I) and are probably related, but the latter has a densely setose and pilose vestiture, a coarsely costulate head, and is represented only by parthenogenetic forms.

Etymology

The Latin adjective ‘*glabratus*’ means ‘glabrous’, highlighting the distinctive nitid hairless body of this species.

Type material

Holotype

RUSSIA – **Krasnodar** • ♂; Black Sea coast, Novorossiysk, Glebovskoye; 44.7052° N, 37.6557° E; 17 Jun. 2011; A.V. Kovalev leg.; MCZ.

Paratypes

RUSSIA – **Krasnodar** • 1 ♀; 10 km SE of Dzhubga, 3 km E of Lermontovo; 44.2988° N, 38.7901° E; 11–12 Jun. 1988; B.A. Korotyaev leg.; ZIN • 1 ♂; Goryachy Klyuch; 44.6300° N, 39.0900° E; 4 May 1973; B.A. Korotyaev leg.; ZIN • 1 ♀; Krasnyi Les; 45.1782° N, 38.4087° E; 21 Jun. 1953; K.V. Arnoldi leg.; ZIN • 1 ♀; Krasnyi Les; 45.1782° N, 38.4087° E; 22 Jun. 1953; K.V. Arnoldi leg.; ZIN • 1 ♂,

1 ♀; Novorossiisk, 3 km ESE of Glebovskoye; 44.6984° N, 37.6779° E; 19 Jun. 2011; A.V. Kovalev leg.; NYC (Fig. 18A, C) • 1 ♀; “N.Rossisk [= Novorossiysk] Starck” “Coll. J. Faust Ankauf 1900”; 44.7383° N, 37.7481° E; A. Starck leg.; MTD • 1 ♀; Krymskiy Distr., Nizhnebakanskaya, Barabasheva Shchel River; 44.856222° N, 37.844376° E; elev. 82 m; 22 May 2023; I.A. Zabaluev leg.; leaf litter near trunk of *Populus alba*; ZMMU.

Type locality

Russia, Krasnodar Territory, Glebovskoye.

Description

MEASUREMENTS (mm). BL: 2.37–3.27 (2.75), BW: 1.15–1.63 (1.39), BH: 0.93–1.30 (1.10).

COLORATION AND VESTITURE (Fig. 18A, C, H). Red-brown; glabrous, with hardly visible or weakly developed scattered tiny recumbent and suberect piliform setae. On the interstriae of elytra, these setae are ordered into irregular rows; each puncture in striae bears tinier appressed piliform seta. Head vestiture: glabrous, tiny setae appressed. Vestiture of antennae and legs: antennal scape and legs almost bare; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 18B, D). Rostrum slightly narrowing anteriorly; RL/RW = 0.72–0.89. Pterygia projected. Frons U-shaped, nitid, not delimited from epistome by thin V-shaped carina. Epifrons well edged, 2.2 × as narrow as vertex, flat, parallel-sided. Vertex transversely depressed. Eyes convex; VW/ELD = 1.94–2.50. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.92, fam2 = 1.65, fam3 = 0.80, fam4 = 0.73, fam5 = 0.61, fam6 = 0.62, fam7 = 0.59; club L/W = 1.82.

THORAX. Pronotum: PL/PW = 0.85–0.87, weakly wider than long, disc convex, sides evenly weakly convex, widest at middle, moderately constricted posteriorly; disc densely punctate, punctures regular, round, interspaces between punctures flat, as wide as or shorter than diameter of puncture; sides densely punctate. Elytra ovate; disc flat; striae shallow, interspaces between punctures as long as diameter of puncture; interstriae flat; EL/EW = 1.31–1.44.

LEGS. Tibiae thick. Protibiae: medial margin in male weakly emarginate in distal 1/3; mucro weak. Metatibiae: slightly curved posteriorly, medial margin in males not emarginate; mucro weak. Tarsi (Fig. 4E): 1st tarsomere as wide as 2nd; 2nd tarsomere 2 × as wide as long.

ABDOMINAL VENTRITES (Fig. 18J). Anal ventrite of male truncate, its apical margin densely setose.

FEMALE GENITALIA. Spermatheca (Fig. 18I): nodulus weakly swollen; collum short, round, in line with nodulus; ramus clavate, 4 × as long as collum; cornu moderately attenuate.

MALE GENITALIA. Median lobe (Fig. 18E) as long as apodemes, evenly narrowed apically. Lamina of median lobe straight (to be observed in lateral aspect), weakly attenuate, narrowly rounded. Endophallus with dense field of long spicules somewhat condensed bilaterally (Fig. 18G). Lunar sclerite absent. Copulatory sclerite (Figs 7K, 18F) slim, spatulate, flagellar sheath long.

Life history

Unknown.



Fig. 18. *Urometopus glabratus* sp. nov. **A–B, I.** Paratype, ♀ (ID31858, NYC). **A.** Habitus, dorsal, lateral and ventral views. **B.** Head, dorsal view. **C–D, H, J.** Paratype, ♂ (ID29929, NYC) **C.** Habitus, dorsal and lateral views. **D.** Head, dorsal view. **E–G.** Holotype, ♂ (MCZ). **E.** Aedeagus, dorsal and lateral views. **F.** Copulatory sclerite, dorsal view. **G.** Endophallic armature. **H.** Elytral vestiture. **I.** Spermatheca. **J.** Abdominal ventrites.

Distribution

The range remains unclear, this species is known from a few localities in the Western Caucasus, from Novorossiysk and Krasnyi Les to Lermontovo and Goryachy Klyuch (Fig. 72A).

Urometopus helenae Yunakov sp. nov.

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Figs 4I, 7L, 19–20, 72A, 81D–H

Differential diagnosis

Urometopus helenae sp. nov. is closely related to *U. circassicus* and *U. prasolovi* sp. nov. in body and head shape, and in structure of median lobe. From *U. circassicus* it differs in its tomentose vestiture, consisting of dense suberect hairs on the elytral interstriae along the entire length; elytra parallel-sided in males, in females broadly convex to parallel-sided at the sides (in *U. circassicus* elytra ovate, sides strongly convex); first tarsomere of males strongly widened anteriorly; apical edge of male anal ventrite distinctly sinuate; armature of internal sac and aedeagus strongly curved ventrally. It may be readily distinguished from *U. prasolovi* by the less sinuate male protibia (along the internal edge), distinctly sinuate male anal ventrite, coarser punctation of the pronotum, distinct median sulcus of epifrons, and more robust legs: femora strongly clavate, tarsi very broad (second segment $2 \times$ as wide as long). Elytral vestiture consists of denser recumbent hairs.

Specimens from Gagra resemble those from Gega in the shape of the head and pronotum, the main structure of the aedeagus, sculpture and vestiture of body, and abdominal sternites (intercoxal process of ventrite III broad; male anal ventrite noticeably convex in posterior half, apical edge slightly sinuate). Compared to small specimens of *U. helenae* sp. nov., they hardly differ in body shape, but are easily separated by the shape of the median lobe, the apex of which is neither acute nor narrowed.

From *U. swaneticus* it differs in its robust legs, fore tibia with apical edge rounded (obtuse in *U. swaneticus*), mucro less developed, and erect setae acute and piliform – vestigial on sides and disc, noticeable only at the elytral declivity (in *U. swaneticus* erect setae obtuse and visible over the entire elytral surface). Pterygia not projecting beyond lateral contour of rostrum. Pronotum feebly transverse, finely and sparsely punctate at disc, broader in posterior half (in *U. swaneticus* strongly transverse and broadest at midlength). Vestiture of pronotum completely recumbent (in *U. swaneticus* a mixture of recumbent and suberect scales on sides).

From *U. swaneticus* and *U. abchasicus* sp. nov. it also differs in the hastate apex of the median lobe with a flat lamina (Figs 19F, 20F); in *U. swaneticus* and *U. abchasicus* the lamina is not flat and bears a well-developed caput, clearly visible in lateral view (Figs 9E, 12E).

Etymology

This species is named in honour of Dr Elena G. Sergeeva (Tufts University, USA) who significantly helped the first author in field work in the Caucasus and facilitated his laboratory research.

Type material

Holotype

GEORGIA – **Abkhazia** • ♂; Gega Gorge; 43.4286° N, 40.4475° E; elev. 500 m; 12 Jul. 2007; N. Yunakov leg.; wet terrace 2, mixed forest: *Fagus*, *Abies*, *Ilex*, *Prunus*, *Acer*; sifting leaf litter; MCZ.

Paratypes

GEORGIA – **Abkhazia** • 2 ♂♂, 5 ♀♀; same collection data as for holotype; NYC (Fig. 19A, C) • 1 ♂, 1 ♀; same collection data as for holotype; KUMN • 1 ♀; Lake Ritsa; 43.4731° N, 40.5391° E; elev.

900 m; 21 Jun. 1986; J. Strejček leg.; MMTI • 1 ♂, 1 ♀; Akhalsheni; 43.1177° N, 41.0192° E; elev. 500 m; 6 Jun. 1981; J. Strejček leg.; MMTI • 1 ♂, 1 ♀; same collection data as for preceding; 9 Jun. 1981; MMTI • 1 ♀; Akhalsheni; 43.1177° N, 41.0192° E; elev. 500 m; Jun. 1979; R. Rous leg.; BRC • 2 ♀♀; same collection data as for preceding; MMTI • 1 ♂, 1 ♀; Gagra env.; Jun. 1971; R. Rous leg.; MMTI • 1 ♂, 1 ♀; Gagra; 43.2922° N, 40.2716° E; A.P. Zolotarev leg.; ZIN • 1 ♂; “Cauc. occ. | Gagry [= Gagra]”; 43.2922° N, 40.2716° E; A.P. Zolotarev leg.; MTD • 5 ♂♂; Gagra Range, Mt Mamdzishkha; 43.3053° N, 40.3271° E; elev. 1689 m; 10 Jul. 2009; N. Yunakov leg.; tree line zone, deciduous forest; NYC • 1 ♂, 1 ♀; same collection data as for preceding; SMNHL (Fig. 20A, C) • 1 ♂; Gagra Range, Mt Mamdzishkha; 43.2644° N, 40.3738° E; elev. 825 m; 15 Jul. 2009; N. Yunakov leg.; deciduous forest: *Carpinus*, *Fagus*, *Cornus*; NYC • 1 ♀; same collection data as for preceding; KhDC • 1 ♂; “Bzyb Abchasien”; SDEI • 1 ♀; Gudauta Distr., Cherkesskoye Forestry; 43.4339° N, 40.4460° E; 17 Aug. 1986; A. Podlussány leg.; PAC • 1 ♀; Mcara, Bzipi Mt Range; 43.1599° N, 40.7679° E; 22 Jun. 1973; J. Vorisek leg.; MMTI • 1 ♂, 1 ♀; same collection data as for preceding; elev. 600 m; 12 Jun. 1981; J. Strejček leg.; MMTI • 1 ♀; Miusera Nature Reserve, mouth of Riapshi River; 43.1620° N, 40.4188° E; elev. 34 m; 1 Jul. 2008; N. Yunakov leg.; NYC • 4 ♂♂, 8 ♀♀; Miusera Nature Reserve, mouth of Riapshi River; 43.1659° N, 40.4221° E; elev. 75 m; 4 Jul. 2008; N. Yunakov leg.; NYC • 1 ♀; Miusera Nature Reserve, mouth of Riapshi River; 43.1685° N, 40.4219° E; elev. 35 m; 17 Jul. 2009; N. Yunakov leg.; NYC • 1 ♂; same collection data as for preceding; KhDC • 1 ♂, 1 ♀; Pitsunda; 43.1835° N, 40.3594° E; 1 Jun. 1969; Z. Kučera leg.; MMTI • 1 ♂, 2 ♀♀; Gagra; 43.2922° N, 40.2716° E; A.P. Zolotarev leg.; HNHM • 1 ♀; same collection data as for preceding; MMTI • 1 ♂; “Abchasien | Kaukas.[us]” “W.H. Muche, Dadeberg, Ankauf”; MTD.

Type locality

Georgia, Abkhazia, Gega Gorge.

Description

MEASUREMENTS (mm). BL: 2.09–2.86 (2.49), BW: 1.03–1.48 (1.22), BH: 0.78–1.13 (0.93).

COLORATION AND VESTITURE (Figs 19A, C, K, 20A, C, K). Chestnut brown; tomentose, erect setae slightly developed, recumbent setae distinct. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Figs 19B, D, 20B, D). Rostrum in males parallel-sided to slightly narrowing anteriorly in females; RL/RW = 0.75–0.89. Pterygia not projected or projected. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Anterolateral angles in larger and more robust male specimens may be denticulate and somewhat extend beyond outline of rostrum, in androgynous male specimens this character is not distinct. Epifrons well edged, 1.6–1.9 × as narrow as vertex, flat, with median sulcus, parallel-sided. Vertex without transverse depression. Eyes convex; VW/ELD = 1.92–2.70. Costulation of head capsule continues on epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.47, fam2 = 1.37, fam3 = 0.57, fam4 = 0.45, fam5 = 0.35, fam6 = 0.40, fam7 = 0.35; club L/W = 1.85.

THORAX. Pronotum: PL/PW = 0.73–0.90, moderately transverse, convex laterally, widest at middle or somewhat posteriorly of the middle, moderately constricted anteriorly and posteriorly; disc densely punctate to rugoso-punctate, punctures regular to irregular, interspaces between punctures wider to shorter than diameter of puncture; sides finely rugoso-punctate. Elytra parallel-ovate in males to ovate in females, EL/EW = 1.24–1.37.

LEGS. Femora in males somewhat more clavate than in females. Tibiae thick. Protibiae: medial margin in male weakly emarginate in distal 1/3; mucro weak. Metatibiae: medial margin in males moderately



Fig. 19. *Urometopus helenae* Yunakov sp. nov., paratypes from Gega Gorge (ID31374, KUMN). A. Female habitus, dorsal, lateral and ventral views. B. Head of female, dorsal view. C. Male habitus, dorsal, lateral and ventral views. D. Head of male, dorsal view. E. Aedeagus, dorsal and lateral views. F. Lamina of aedeagus. G. Copulatory sclerite, dorsal view. H. Endophallic armature. I. Spermatheca. J. Abdominal ventrites of male. K. Elytral vestiture of male.

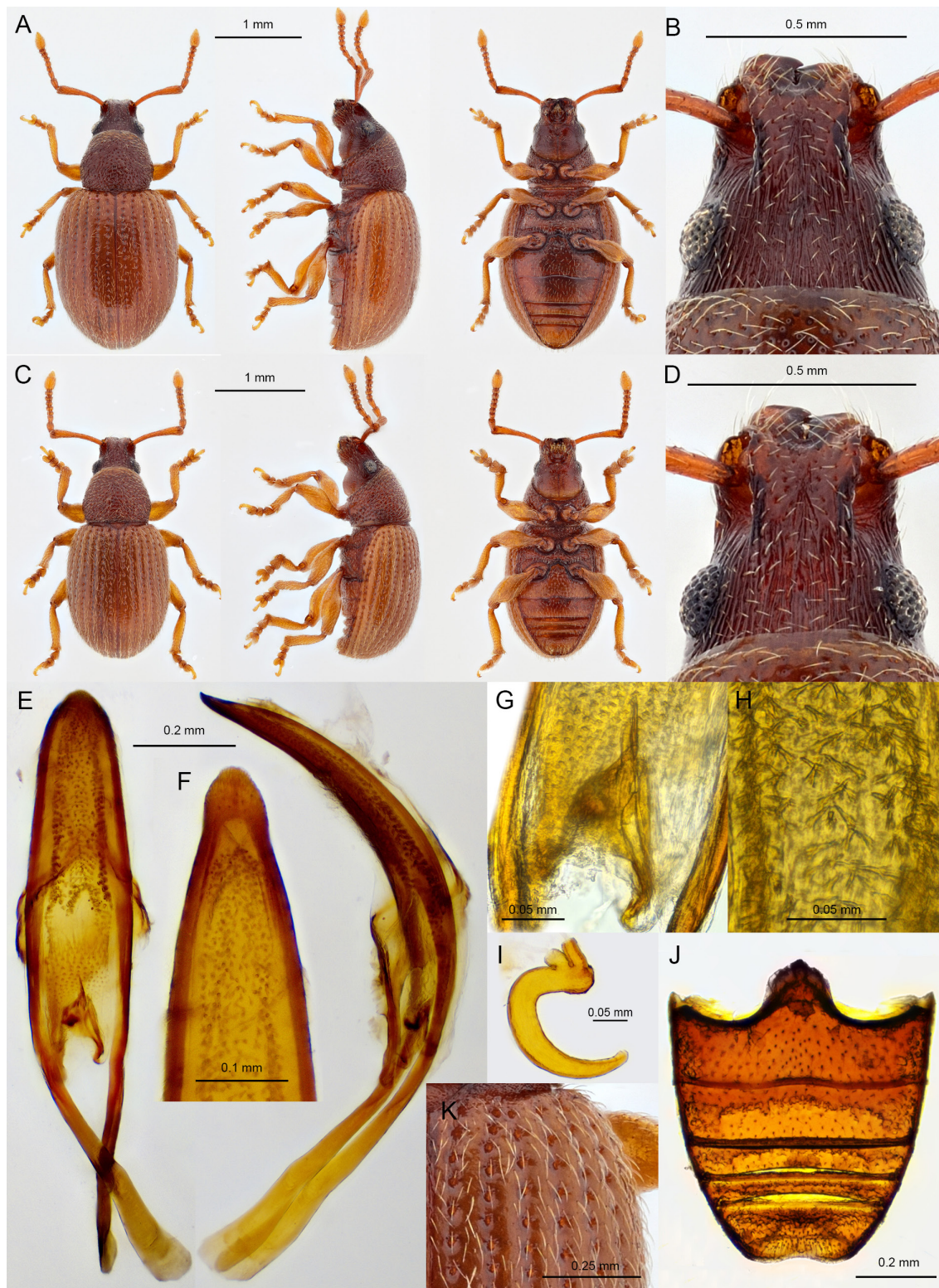


Fig. 20. *Urometopus helenae* Yunakov sp. nov., paratypes from Mt Mamdzishkha (ID29832, KUMN). **A.** Female habitus, dorsal, lateral and ventral views. **B.** Head of female, dorsal view. **C.** Male habitus, dorsal, lateral and ventral views. **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Lamina of aedeagus. **G.** Copulatory sclerite, dorsal view. **H.** Endophallic armature. **I.** Spermatheca. **J.** Abdominal ventrites of male. **K.** Elytral vestiture of male.

emarginate in distal $\frac{1}{3}$; mucro weak. Tarsi (Fig. 4I): tarsomeres in male robust; 1st tarsomere evidently transverse, $1.3 \times$ as wide as 2nd; 2nd tarsomere $2.3 \times$ as wide as long.

ABDOMINAL VENTRITES (Figs 19J, 20J). Anal ventrite of male weakly emarginate.

FEMALE GENITALIA. Spermatheca (Figs 19I, 20I): nodulus not swollen; collum perpendicular to nodulus, attenuate; ramus as long as collum, strongly roundly projecting; cornu strongly attenuate.

MALE GENITALIA. Aedeagus strongly dorso-ventrally arcuate (Figs 19E, 20E); median lobe as long as apodemes, evenly narrowed apically. Lamina of median lobe (Figs 19F, 20F) hastate, flattened, narrowly rounded. Endophallus with short spicules (Figs 19H, 20H) generally dispersed, somewhat condensed bilaterally in proximal part of endophallus. Lunar sclerite absent. Copulatory sclerite (Figs 7L, 19G, 20G) robust, flagellar sheath reduced.

Life history

This species lives in deciduous (*Carpinus* L., *Fagus orientalis*, *Castanea sativa* Mill.) and mixed (*Fagus* L., *Abies* Mill., *Acer* L.) forests with *Rhododendron ponticum* L., *Prunus laurocerasus* L. and *Ilex colchica* Pojark. Understorey at elevations from 30 to 1700 m; can usually be collected by sifting leaf litter (Fig. 81D–H).

Distribution

Greater Caucasus from Gagra Range to Gumista River (Fig. 72A).

Urometopus kodoricus Yunakov sp. nov.

[urn:lsid:zoobank.org:act:A142446C-8E15-4EA6-A44B-3B793D608087](https://zoobank.org/urn:lsid:zoobank.org:act:A142446C-8E15-4EA6-A44B-3B793D608087)

Figs 3I, 4J, 7Q, 21, 72A, 82A

Differential diagnosis

Urometopus kodoricus sp. nov. is closely related to *U. helenae* sp. nov. in shape of head and pronotum, main structure of aedeagus, sculpture and vestiture of body, abdominal sternites (intercoxal process of ventrite III broad, anal male ventrite noticeably convex in posterior half, apical edge slightly sinuate.). From small specimens of *U. helenae* it hardly differs in body shape but easily distinguished by shape of median lobe, its apex neither acute nor narrowed.

From *U. swaneticus* it differs in robust legs, fore tibia shape (apical margin round, in *U. swaneticus* – obtuse); less developed mucro; erected setae acute, piliform, on sides and disc vestigial, noticeable only at the elytral declivity (in *U. swaneticus* erect setae obtuse and visible along the elytral surface); pterygia not projecting from lateral contour of rostrum; pronotum feebly transverse and finely sparsely punctate at the disc (it broader in posterior half; pronotum in *U. swaneticus* strongly transverse, broader in the middle), vestiture of pronotum completely recumbent (in *U. swaneticus* with both of the scales types recumbent and suberect at the sides).

Etymology

The name of this species is an adjective derived from the name of the Kodori River.

Type material

Holotype

GEORGIA – **Abkhazia** • ♂; “Abchasia, fl. Kodor” [Kodori River near Kopchara, see type locality note below]; 43.0704° N, 41.6061° E; [Jul.–Aug. 1910, see type locality note below]; A.P. Zolotarev leg.; ZIN (Fig. 21A).

Type locality

Georgia, Abkhazia, Kodori Gorge, near Kopchara. Reconstruction of type locality: Alexander Zolotarev collected near “Ropschara” [misspelling for = Kopchara, = Kobchara, = Kuabchara] in ca Jul.–Aug. 1910 (Zolotarew 1913; Kurnakov 1962); year comes from publication and coincides with date from other labels. Mr Zolotarev was in Gagra in July 1910.

Description

MEASUREMENTS (mm). BL: 2.19, BW: 1.13, BH: 0.90.

COLORATION AND VESTITURE (Fig. 21A). Brown; tomentose, erect setae slightly developed, recumbent setae distinct. Head vestiture: pilose. Vestiture of antennae and legs moderately setose; grooming brush on distal $\frac{1}{3}$ of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 21B). Rostrum slightly narrowing anteriorly; RL/RW = 0.74. Pterygia slightly projected. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, $1.9\times$ as narrow as vertex, flat, with median sulcus, parallel-sided. Vertex without transverse depression. Eyes convex; VW/ELD = 2.09. Costulation of head capsule terminates posteriorly of epifrons.

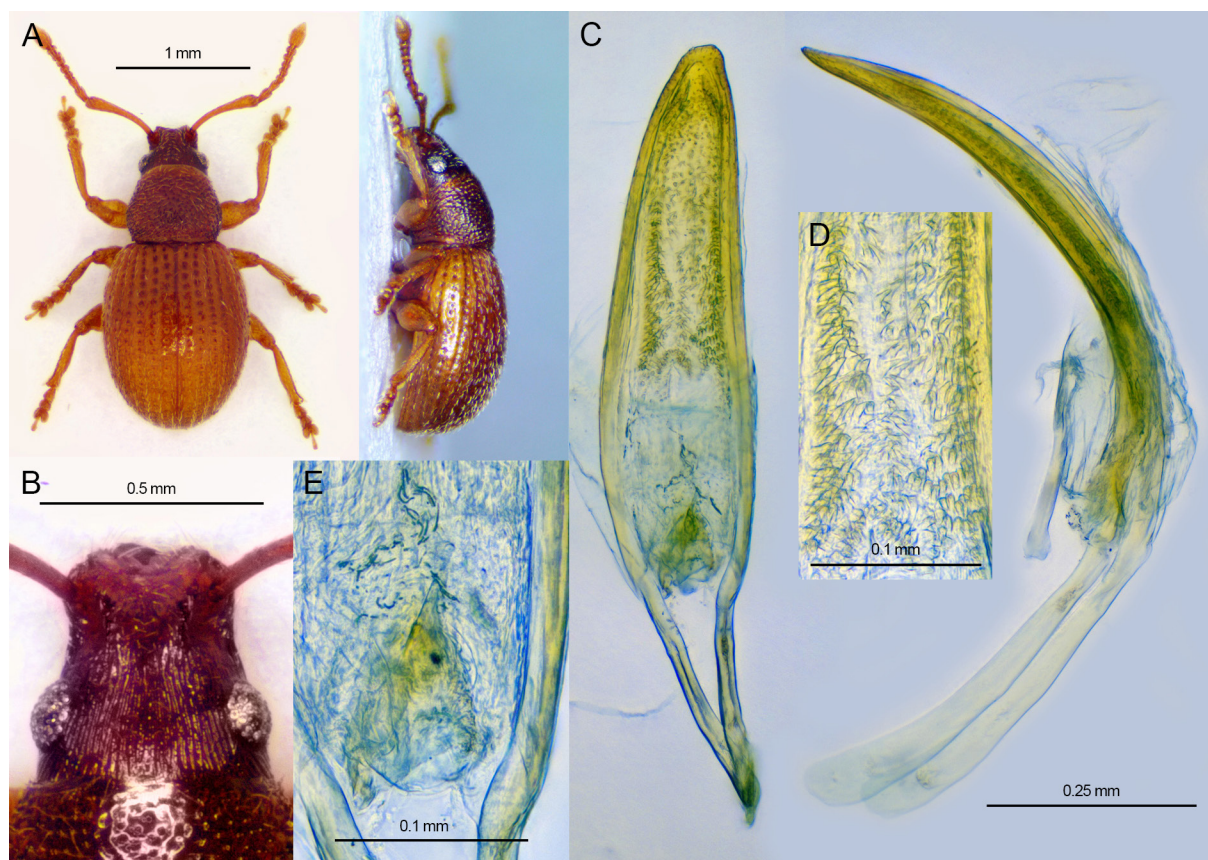


Fig. 21. *Urometopus kodoricus* Yunakov sp. nov., holotype, ♂ (ZIN). **A.** Habitus, dorsal and lateral views. **B.** Head, dorsal view. **C.** Aedeagus, dorsal and lateral views. **D.** Endophallic armature. **E.** Copulatory sclerite, dorsal view.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.49, fam2 = 1.15, fam3 = 0.50, fam4 = 0.45, fam5 = 0.45, fam6 = 0.45, fam7 = 0.36; club L/W = 1.82.

THORAX. Pronotum: PL/PW = 0.79, moderately transverse, convex laterally, somewhat posteriorly of the middle; moderately constricted anteriorly and posteriorly; disc densely punctate. Elytra ovate, EL/EW = 1.24.

LEGS. Tibiae thick. Protibiae (Fig. 3I): medial margin in male weakly emarginate in distal $\frac{1}{3}$; mucro weak. Metatibiae: medial margin in males moderately emarginate in distal $\frac{1}{3}$; mucro weak. Tarsi (Fig. 4J): 1st tarsomere almost ($0.98 \times$) as wide as 2nd; 2nd tarsomere $2 \times$ as wide as long.

ABDOMINAL VENTRITES. Anal ventrite of male truncate.

MALE GENITALIA. Aedeagus (Fig. 21C) strongly dorso-ventrally arcuate; median lobe as long as apodemes; evenly narrowed apically. Lamina of median lobe weakly attenuate, narrowly rounded. Endophallus with dense field of short spicules (Fig. 21D) condensed bilaterally. Lunar sclerite absent. Copulatory sclerite (Figs 7Q, 21E) asymmetric, robust, flagellar sheath long.

FEMALE. Unknown.

Life history

Inhabits submontane deciduous forests of Kodori Gorge (Fig. 82A).

Distribution

Greater Caucasus: Kodori Gorge (Fig. 72A).

Urometopus korotyaevi Yunakov sp. nov.

[urn:lsid:zoobank.org:act:B2131616-D5F2-4151-911D-583879A67EC9](https://zoobank.org/act:B2131616-D5F2-4151-911D-583879A67EC9)

Figs 3G, 4B, 7O, 22, 72A

Differential diagnosis

From closely related *U. circassicus* this new species differs in the following characters: well-developed pterygia in males; distinctly erect setae of interstriae present along the entire length of elytra (in *U. circassicus* erect setae absent or weakly developed only at the elytral declivity); epifrons separated from vertex by a transverse depression; interstriae as wide as the punctures; antennae thinner, 1st funicular segment $1.3 \times$ as long as 2nd segment; 3rd–7th funicular segments less transverse; aedeagus slightly curved, with apical part of median lobe curved upwards and clearly visible in dorsal view (Fig. 22H); internal sac armature consisting of two bilateral longitudinal spiculate fields; spermatheca with collum simple, not hook-like curved; longitudinal striation coarse; medial margin of meso- and metatibiae weakly sinuate in apical third; apical margin of male anal ventrite deeply sinuate.

Urometopus korotyaevi sp. nov. is also related to *U. prasolovi* sp. nov. in having erect pilosity and coarse elytral punctuation, but differs in the slightly sinuate internal edge of male fore tibia, the pronotal disc coarsely granulate-punctate, and the shape of the median lobe, the apical plate of which is not curved upwards.

Etymology

This species is named in honour of Dr Boris A. Korotyaev (ZIN), a renowned Russian expert on weevils. He played a significant role in shaping the first author's professional development as a teacher, mentor, and supervisor.

Type material

Holotype

RUSSIA – **Krasnodar** • ♂; 3 km S of Ilsky, right bank of Il River; 44.8055° N, 38.5515° E; elev. 150 m; 14 Jun. 2007; N. Yunakov leg.; dry deciduous forest: *Quercus*, *Carpinus*; sifting leaf litter; MCZ.

Paratypes

GEORGIA – **Abkhazia** • 2 ♂♂; Gagra env.; 43°20'20" N, 40°14'32" E; Jun. 1971; R. Rous leg.; MMTI • 1 ♀; Pitsunda; 43.1618° N, 40.3495° E; Jun. 1969; Z. Kučera leg.; MMTI.

RUSSIA – **Krasnodar** • 1 ♂, 1 ♀; same collection data as for holotype; MCZ • 48 ♂♂, 55 ♀♀; same collection data as for holotype; NYC • 1 ♂, 1 ♀; same collection data as for holotype; KhDC • 1 ♂, 1 ♀; same collection data as for holotype; KUMN (Fig. 22A, C) • 1 ♂, 1 ♀; same collection data as for holotype; SMNHL • 2 ♀♀; Anapa Distr., 4 km E of Sukko, valley of Sukko River; 44.789142° N, 37.479438° E; elev. 65 m; 15 May 2023; I.A. Zabaluev leg.; sifting leaf litter; ZMMU • 2 ♂♂, 12 ♀♀; Novorossiysk; 44.7179° N, 37.7167° E; 1 Jun. 1982; J. Bohac leg.; BRC • 3 ♂♂, 3 ♀♀; Novorossiysk, near Vasiljevka, Ozereika River; 44.724682° N, 37.658048° E; elev. 50 m; 15 May 2023; I.A. Zabaluev leg.; sifting leaf litter; ZMMU • 1 ♂; 2 km W of Abrau-Dyurso, Dyurso River; 15 May 2023; 44.708656° N, 37.562564° E; elev. 30 m; ZMMU • 2 ♂♂, 5 ♀♀; Abinsk Distr., S of Erivansky, Bugundyr River; 44.773308° N, 38.201747° E; elev. 120 m; 21 May 2023; I.A. Zabaluev leg.; sifting leaf litter; ZMMU • 3 ♂♂, 4 ♀♀ and 2 unsexed specs; Seversky Distr., Planchesckaya Shchel, Afips River; 1 Apr.–17 Jun. 2013; A. Bondarenko leg.; pitfall traps; ZMMU • 3 ♂♂, 2 ♀♀; Lazarevskoye; 43.9150° N, 39.3562° E; 14 Jul. 1987; Yu.V. Zayats leg.; ZIN • 1 spec.; Moldovka; 43.4606° N, 39.9569° E; elev. 400 m; 29 May 1985; R. Borovec leg.; BRC • 1 ♂, 1 ♀; same collection data as for preceding; M. Košťál leg.; ZIN • 1 ♀; same collection data as for preceding; PAC • 7 ♂♂, 3 ♀♀; 15 km E of Adler near Sochi; 43.5636° N, 39.9948° E; elev. 500 m; 29–31 May 1985; R. Borovec leg.; BRC • 1 ♂, 5 ♀♀, 6 unsexed specs; same collection data as for preceding; MMTI • 3 ♂♂; near Fanagoreyskaya, valley of Psekups River; 44.5158° N, 39.1274° E; 4 Jun. 1991; G.E. Davidian leg.; *Fagus* forest; ZIN • 1 ♂, 1 ♀; near Khosta; 43.5296° N, 39.8646° E; 15 Jun. 2006; Yu.A. Chumachenko leg.; AYC • 2 ♂♂, 2 ♀♀; Novorossiysk; 44.7179° N, 37.7167° E; 1 Jun. 1982; J. Boháč leg.; MMTI • 1 ♂; near Verkhnebakanskiy; 44.8406° N, 37.6365° E; 7 Jun. 1990; V.I. Gusarov leg.; ZIN • 2 ♂♂, 2 ♀♀; same collection data as for preceding; 8–10 Jun. 1990; V.I. Gusarov leg.; ZIN • 1 ♂; Goryachyi Klyuch env.; 44.6359° N, 39.0947° E; 28 Jun. 1999; V.G. Knysh leg.; KUMN • 3 ♀♀; Sochi env., Matsesta; 43.5459° N, 39.7971° E; 5 Jun. 1967; J. Strejček leg.; BRC • 1 ♀; same collection data as for preceding; 19 Jun. 1986; J. Strejček leg.; BRC • 1 ♂; Sochi env., Mt Akhun; 43.5452° N, 39.8408° E; elev. 500–900 m; 2 Jun. 1967; J. Strejček leg.; BRC • 1 ♂; same collection data as for preceding; MMTI • 1 ♂, 2 ♀♀; same collection data as for preceding; 3 Jun. 1967; J. Strejček leg.; BRC • 2 ♂♂; same collection data as for preceding; MMTI • 1 ♀; same collection data as for preceding; Jun. 197[3]; Z. Kučera leg.; MMTI • 6 ♂♂, 7 ♀♀; same collection data as for preceding; 20 Jun. 1977; R. Rous leg.; BRC • 2 ♂♂, 1 ♀; same collection data as for preceding; MMTI • 7 ♂♂, 8 ♀♀; same collection data as for preceding; 20 Jun. 1986; J. Strejček leg.; BRC • 1 ♂; same collection data as for preceding; MMTI • 1 ♂; Sochi env., Primorje; 43.5524° N, 39.7736° E; 6 Jun. 1967; R. Rous leg.; BRC • 3 ♀♀; Sochi env.; 43.5701° N, 39.7934° E; Jul. 1967; R. Rous leg.; BRC • 1 ♂, 1 ♀; Sochi; 43.57° N, 39.79° E; 1 Jun. 1982; Purkyně leg.; MMTI • 1 ♂; Krasnaya Polyana env., Mt Achishkho; 43.7080° N, 40.1198° E; elev. 1200–1800 m; 9 Jun. 1967; J. Strejček leg.; BRC • 3 ♂♂, 2 ♀♀; Krasnaya Polyana env., Mt Achishkho; 43.6956° N, 40.1045° E; elev. 1200 m; 10 Jun. 1967; J. Strejček leg.; BRC • 1 ♂; same collection data as

for preceding; MMTI • 1 ♂; Adler; 43.4606° N, 39.9475° E; H.M. Lgocki leg.; NMPC • 1 ♀; Uch-Dere; 43.6903° N, 39.5995° E; A. Starck leg.; NMPC.

Type locality

Russia, Krasnodar Territory, 3 km S of Ilsky.

Description

MEASUREMENTS (mm). BL: 2.58–3.13 (2.79), BW: 1.25–1.53 (1.36), BH: 1.13–1.20 (1.15).

COLORATION AND VESTITURE (Fig. 22A, C, G). Brown; densely pilose, distinctly setose. Head vestiture: setose, setae erect. Vestiture of antennae and legs moderately setose; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 22B, D). Rostrum slightly narrowing anteriorly; RL/RW = 0.77–0.84. Pterygia projected in males, slightly projected in females. Frons U-shaped, nitid, strongly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, 2.3 × as narrow as vertex, flat, with shallow median sulcus, coarsely and shallowly punctate. Vertex transversely depressed. Eyes convex; VW/ELD = 2.17–3.00. Costulation of head capsule continues on epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 2.02, fam2 = 1.76, fam3 = 0.82, fam4 = 0.71, fam5 = 0.69, fam6 = 0.67, fam7 = 0.47; club L/W = 1.70.

THORAX. Pronotum: PL/PW = 0.71–0.87, moderately transverse, weakly convex laterally, widest at middle, moderately constricted posteriorly; disc rugoso-punctate, punctures irregular, interspaces between punctures shorter than diameter of puncture; sides finely rugoso-punctate. Elytra ovate; EL/EW = 1.28–1.39.

LEGS. Femora of males more clavate than in females. Tibiae slender. Protibiae (Fig. 3G): medial margin in males weakly emarginate in distal 1/3; mucro weak. Metatibiae: medial margin in males weakly emarginate in distal 1/3; mucro weak. Tarsi (Fig. 4B): 1st tarsomere somewhat (1.17 ×) wider than 2nd; 2nd tarsomere 1.8 × as wide as long.

ABDOMINAL VENTRITES (Fig. 22J). Anal ventrite of male emarginate, with bilateral bunches of long piliform setae.

FEMALE GENITALIA. Spermatheca (Fig. 22I): nodulus not swollen; collum in line with nodulus, moderately roundly projecting; ramus moderately roundly projecting; cornu roundly attenuate.

MALE GENITALIA. Aedeagus (Fig. 22H) strongly dorso-ventrally arcuate; median lobe as long as apodemes; evenly narrowed apically. Lamina of median lobe attenuate, flattened, narrowly rounded, curved dorsally. Endophallus with dense field of long spicules condensed distally. Lunar sclerite absent. Copulatory sclerite (Figs 7O, 22E–F) slim, spatulate, flagellar sheath well developed.

Life history

This species lives in deciduous (*Fagus*, *Quercus*, *Carpinus*) forests at elevations from 150 to 1800 m; it can usually be collected by sifting leaf litter.

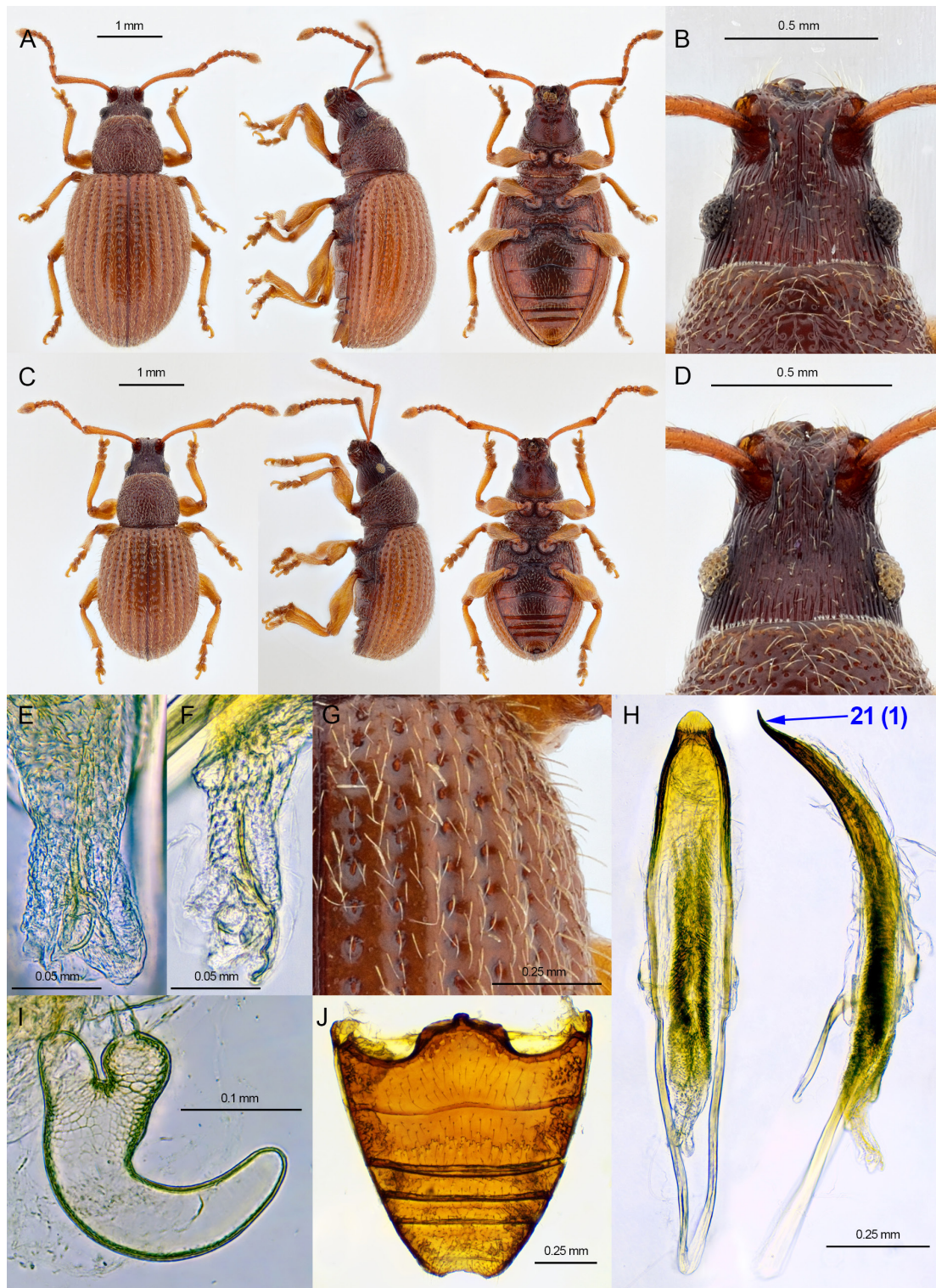


Fig. 22. *Urometopus korotyaevi* Yunakov sp. nov., paratypes from 3 km S of Ilsky (ID31913, KUMN). **A.** Female habitus, dorsal, lateral and ventral views. **B.** Head of female, dorsal view. **C.** Male habitus, dorsal, lateral and ventral views. **D.** Head of male, dorsal view. **E.** Copulatory sclerite, dorsal view. **F.** Copulatory sclerite, lateral view. **G.** Elytral vestiture of male. **H.** Aedeagus, dorsal and lateral views (these numeric indices refer to the numbers and states of the characters in the character matrix, [Supp. file 1](#)). **I.** Spermatheca. **J.** Abdominal ventrites of male.

Distribution

Western Caucasus: the main range extends from Novorossiysk to Mzymta River (Fig. 72A). Two males from the vicinity of Gagra and one female from Pitsunda (Abkhazia, Georgia) require confirmation, as may be the result of mislabelling.

Urometopus nitidirostris sp. nov.

[urn:lsid:zoobank.org:act:FEACEC30-7AC9-4BC1-9ACB-AEE0C3D48AA2](https://zoobank.org/act:FEACEC30-7AC9-4BC1-9ACB-AEE0C3D48AA2)

Figs 4F, 8T, 23, 72A

Differential diagnosis

Urometopus nitidirostris sp. nov. distinctly differs from *U. circassicus* in the following characters: epifrons narrower, glabrous, distinctly longitudinally arcuate, delimited from vertex by a strong transverse depression; elytra evenly and densely covered with subrecumbent piliform setae; interstriae bearing rows of short, narrow, obtuse setae; 2nd funicular segment almost as long as 1st [in *U. circassicus* shorter than 1st]; metatibiae in males less sinuate in distal third; tarsi narrower, 1st and 2nd tarsomeres triangular [in *U. circassicus* transverse]; pronotum not tumid [in *U. circassicus* somewhat tumid in males]; median lobe with apex neither flattened nor attenuate; endophallus with distinct lunar sclerite.

From *U. longicollis* it differs in more robust body shape; pronotum not tumid; rostrum shorter; eyes smaller; vestiture of body dense; legs shorter; tibiae less mucronate; metatibiae not arcuate in distal third; median lobe $0.77\times$ as long as apodemes, with apex rounded, not attenuate.

From *U. abchasicus* sp. nov. it differs in larger body [BL = 2.42–3.52 (2.86) vs 2.10–2.34 (2.24) in *U. abchasicus*] and eyes [VW/ELD = 1.73–2.25; in *U. abchasicus*. VW/ELD = 2.09–2.80]; epifrons with median sulcus; aedeagus parallel-sided; median lobe $0.77\times$ as long as apodemes; lamina of median lobe rounded, without club-shaped formation at apex (in lateral aspect); endophallus with bilateral spiculate fields, lunar sclerite well developed; copulatory sclerite slim with well-developed flagellar sheath; spermatheca with collum curved.

Etymology

The compound Latin adjective is derived from ‘*nitidus*’ – ‘shiny’ and ‘*rostrum*’ – ‘snout, beak’, and means ‘having a shiny snout’, highlighting the distinctive appearance of this species.

Type material

Holotype

GEORGIA – **Abkhazia** • ♂; Kodori Range, Mt Tsastou; 42.9444° N, 41.7977° E; elev. 2157 m; 28 Jul. 2011; N. Yunakov leg.; MCZ.

Paratypes

GEORGIA – **Abkhazia** • 3 ♂♂, 5 ♀♀; same collection data as for holotype; MCZ • 2 ♂♂; Kodori Range, Mt Tsastou; 42.9430° N, 41.8114° E; elev. 2087 m; 14 Jul. 2011; N. Yunakov leg.; tree line zone; grass/leaf litter under *Rhododendron caucasicum*; NYC • 6 ♂♂, 3 ♀♀; Kodori Range, Mt Tsastou; 42.9454° N, 41.7930° E; elev. 2174 m; 15 Jul. 2011; N. Yunakov leg.; NYC • 1 ♂, 1 ♀; same collection data as for preceding; KUMN (Fig. 23A, C) • 1 ♂, 1 ♀; same collection data as for preceding; KhDC • 14 ♂♂, 8 ♀♀; Kodori Range, Mt Tsastou; 42.9424° N, 41.8023° E; elev. 2099 m; 16 Jul. 2011; N. Yunakov leg.; NYC • 3 ♂♂, 3 ♀♀; Kodori Range, Mt Tsastou; 42.9438° N, 41.8056° E; elev. 2094 m; 16 Jul. 2011; N. Yunakov leg.; alpine zone; beating; NYC • 8 ♂♂, 9 ♀♀; Kodori Range, Mt Tsastou; 42.9394° N, 41.8028° E; elev. 1987 m; 16 Jul. 2011; N. Yunakov leg.; tree line zone; beating; NYC • 2 ♂♂, 9 ♀♀; Kodori Range, Mt Tsastou; 42.9399° N, 41.8028° E; elev. 1998 m; 17 Jul. 2011; N. Yunakov leg.; tree

line zone; leaf litter sifted; NYC • 4 ♂♂, 3 ♀♀; Kodori Range, Mt Tsastou; 42.9348° N, 41.8033° E; elev. 1758 m; 19 Jul. 2011; N. Yunakov leg.; *Fagus* forest; leaf litter near rotten trunk; sifted; NYC • 3 ♂♂, 1 ♀; Kodori Range, Mt Tsastou; 42.9370° N, 41.8038° E; elev. 1913 m; 19 Jul. 2011; N. Yunakov leg.; *Fagus* forest; beating; NYC • 5 ♂♂, 10 ♀♀; Kodori Range, Mt Tsastou; 42.9544° N, 41.7824° E; elev. 2670 m; 25 Jul. 2011; N. Yunakov leg.; alpine zone; under stones; NYC • 2 ♂♂, 5 ♀♀; Kodori Range, Mt Tsastou; 42.9444° N, 41.7906° E; elev. 2170 m; 28 Jul. 2011; N. Yunakov leg.; NYC • 1 ♀; Kodori Range, Achirasra Locality [area near Mt Tsastou]; 42.9498° N, 41.7894° E; elev. 2300 m; 17 Jul. 1932; ZIN.

Type locality

Georgia, Abkhazia, Kodori Range, Mt Tsastou.

Description

MEASUREMENTS (mm). BL: 2.42–3.52 (2.86), BW: 1.13–1.81 (1.45), BH: 0.94–1.52 (1.16).

COLORATION AND VESTITURE (Fig. 23A, C, H). Brown; setose and densely pilose; suberect setae elongate, somewhat shorter than width of interstriae, narrow, obtuse, greyish-white, ordered in irregular row on interstriae; recumbent setae very small, piliform, densely cover pronotum and elytra; punctures in striae bear tiny, short, recumbent hair. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 23B, D). Rostrum parallel-sided; RL/RW = in females 0.83–0.86; in males 0.78. Pterygia not projected. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, ca 2 × as narrow as vertex, slightly longitudinally convex, with median sulcus, parallel-sided. Vertex transversely depressed. Eyes convex; VW/ELD = 1.73–2.25. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.78, fam2 = 1.51, fam3 = 0.73, fam4 = 0.64, fam5 = 0.53, fam6 = 0.52, fam7 = 0.52; club L/W = 1.77.

THORAX. Pronotum: PL/PW = 0.71–0.85, moderately transverse, distinctly convex on disc and at sides, widest at middle, moderately constricted posteriorly; disc densely punctate, punctures regular, round, interspaces between punctures as wide as or shorter than diameter of puncture; sides finely rugoso-punctate. Elytra elliptic in males to orbicular-ovate in females; EL/EW = 1.29–1.43.

LEGS. Tibiae slender. Protibiae: medial margin in males weakly emarginate in distal 1/3; mucro weak. Metatibiae: medial margin in males emarginate in distal 1/3; mucro strong. Tarsi (Fig. 4F): 1st tarsomere as wide as 2nd; 2nd tarsomere 1.96 × as wide as long.

ABDOMINAL VENTRITES (Fig. 23K). Anal ventrite of male truncate.

FEMALE GENITALIA. Spermatheca (Fig. 23I–J): nodulus not swollen; collum short, obtuse, curved; ramus roundly projecting, narrow, perpendicular to nodulus; cornu strongly attenuate.

MALE GENITALIA. Aedeagus strongly dorso-ventrally arcuate (Fig. 23E); median lobe 0.77 × as long as apodemes, parallel-sided and weakly sinuate. Lamina of median lobe rounded, not flattened. Endophallus with bilaterally condensed fields of dense long spicules (Fig. 23G). Lunar sclerite present, with microspicules in basal part. Copulatory sclerite (Figs 8T, 23F) slim, spatulate, flagellar sheath well-developed.



Fig. 23. *Urometopus nitidirostris* sp. nov., paratypes (ID29805, KUMN). **A.** Female habitus, dorsal, lateral and ventral views. **B.** Head of female, dorsal view. **C.** Male habitus, dorsal, lateral and ventral views. **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Sclerites of endophallus, dorsal view. **G.** Endophallic armature. **H.** Elytral vestiture of male. **I–J.** Variability of spermatheca. **K.** Abdominal ventrites of male. Abbreviations: cos = copulatory sclerite; ls = lunar sclerite.

Life history

This species lives in upper zone of deciduous beech forests with understorey, subalpine shrublands (*Rhododendron caucasicum* Pall., *Prunus laurocerasus* L.) and alpine zone at elevations from 1700 to 2670 m; it usually can be collected by sweeping and beating various vegetation, and sifting leaf litter. In the subalpine zone, beetles were collected from *Rhododendron caucasicum* (Fig. 82F–H).

Distribution

Greater Caucasus: Kodori Range (Fig. 72A).

Urometopus prasolovi Yunakov sp. nov.

[urn:lsid:zoobank.org:act:3105AAED-62ED-452F-B6BE-4220CF3184B6](https://zoobank.org/urn:lsid:zoobank.org:act:3105AAED-62ED-452F-B6BE-4220CF3184B6)

Figs 3H, 4C, 8L, 24, 72A

Differential diagnosis

From *U. circassicus* and *U. korotyaevi* sp. nov. this species distinctly differs in the deeply sinuate medial margin of the male protibia and the median lobe with simply acute, non-flattened lamina.

From *U. circassicus* it further differs in the presence of well-developed erect setae on interstriae along their entire length [in *U. circassicus* erect setae absent or weakly developed at elytral declivity]; recumbent vestiture of elytral interstriae less developed; median lobe weakly arcuate ventrally, apex not flattened; funicular segments 1 and 2 more elongate; tarsi of males narrower, with 1st tarsomere as wide as 2nd [in *U. circassicus* 1st tarsomere 1.1 × as wide as 2nd].

From *U. korotyaevi* sp. nov. it further differs in the strongly sinuate medial margin of the male protibia.

Etymology

This species is named after the late Mr Vladimir N. Prasolov (1943–2014, St Petersburg), Russian amateur entomologist who contributed significantly to the study and discovery of new weevil species in the Caucasus.

Type material

Holotype

RUSSIA – **Krasnodar** • ♂; 12 km N of Lazarevskoye; 44.0255° N, 39.3364° E; 27 May 1995; A.Yu. Solodovnikov leg.; forest; sifting leaf litter; ZIN.

Paratypes

RUSSIA – **Krasnodar** • 1 ♂, 1 ♀; same collection data as for holotype; ZIN (Fig. 24C) • 2 ♂♂, 2 ♀♀; Khodz River valley, Mostovsky; 44.4150° N, 40.7384° E; 16 May 1996; A.Yu. Solodovnikov leg.; ZIN (Fig. 24A) • 1 ♀; Mt Shchotka, N of Tuapse; 44.4922° N, 38.9792° E; 21 Jun. 1986; A.S. Zamotajlov leg.; ZIN • 2 ♂♂, 1 ♀; Psebai; 44.1419° N, 40.8140° E; 16 Jun. 1995; V.N. Prasolov leg.; ZIN • 1 ♂; Psebai; 44.1419° N, 40.8140° E; 18 Jun. 1995; V.N. Prasolov leg.; ZIN • 1 ♀; Sochi; 43.6163° N, 39.7756° E; A.P. Zolotarev leg.; ZIN • 5 ♂♂, 4 ♀♀; Sochi env., Solokhaul; 43.8151° N, 39.6954° E; 2 Jun.–12 Aug. 1992; V. Shchurov leg.; WHC • 1 ♀; Sochi, Mt Akhun; 43.6124° N, 39.9157° E; 24 May 1993; A.I. Rubchenya leg.; ZIN • 1 ♂; Sochi, Mt Akhun, Vorontsovka; 43.6124° N, 39.9157° E; 27 May 1993; A.I. Rubchenya leg.; ZIN.

Type locality

Russia, Krasnodar Territory, 12 km north of Lazarevskoye.

Description

MEASUREMENTS (mm). BL: 2.12–2.71 (2.40), BW: 1.03–1.5 (1.24), BH: 0.88–1.18 (1.03).

COLORATION AND VESTITURE (Fig. 24A, C, H). Brown; sparsely pilose; suberect setae elongate, somewhat shorter than width of interstriae, narrowly truncate, narrow, greyish-white, ordered in irregular row on interstriae; recumbent setae very small, piliform, sparsely cover pronotum and elytra; punctures in striae bear tiny, short, recumbent hair. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; grooming brush on distal $\frac{1}{3}$ of medial margin of metatibia weakly developed, containing short pale subrecumbent piliform setae.

HEAD (Fig. 24B, D). Rostrum in males parallel-sided to slightly narrowing anteriorly in females; RL/RW = 0.73–0.82. Pterygia projected. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, 1.9–2.3 $\times$ as narrow as vertex, flat, with median sulcus, parallel-sided. Vertex transversely depressed. Eyes convex; VW/ELD = 1.92–2.42. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.74, fam2 = 1.70, fam3 = 0.70, fam4 = 0.60, fam5 = 0.47, fam6 = 0.44, fam7 = 0.41; club L/W = 1.85.

THORAX. Pronotum: PL/PW = 0.76–0.88, moderately transverse, distinctly convex on disc and at sides, widest at middle, moderately constricted posteriorly; disc densely punctate, punctures regular, round, interspaces between punctures as wide as or shorter than diameter of puncture; sides finely rugoso-punctate. Elytra ovate in males to broadly-ovate in females: EL/EW = 1.22–1.31 in females and 1.29–1.40 in males.

LEGS. Tibiae slender. Protibiae (Fig. 3H): medial margin in male strongly emarginate in distal $\frac{1}{3}$; mucro strong. Metatibiae: medial margin in males emarginate in distal $\frac{1}{3}$; mucro strong. Tarsi (Fig. 4C): 1st tarsomere as wide as 2nd; 2nd tarsomere 2.19 $\times$ as wide as long.

ABDOMINAL VENTRITES (Fig. 24K). Anal ventrite of male truncate.

FEMALE GENITALIA. Spermatheca (Fig. 24I): nodulus not swollen; collum curved; ramus narrowly projecting, perpendicular to nodulus, as long as collum; cornu strongly attenuate.

MALE GENITALIA. Median lobe as long as apodemes (Fig. 24E); parallel-sided and weakly sinuate. Lamina of median lobe simply acute, neither flattened nor attenuate. Endophallus with dense field of long spicules condensed bilaterally (Fig. 24J). Lunar sclerite absent. Copulatory sclerite slim, spatulate, flagellar sheath well developed (Figs 8L, 24F–G).

Life history

Unknown.

Distribution

The range of this species is still not fully clear, it is found in a few localities of Western Caucasus from Mt Shchotka northeastward to Mostovsky and Psebai and southward to Sochi (Fig. 72A).



Fig. 24. *Urometopus prasolovi* Yunakov sp. nov., paratypes. **A.** Female habitus, dorsal, lateral, and ventral views (ID29826, ZIN). **B.** Head of female, dorsal view. **C.** Male habitus, dorsal, lateral, and ventral views (ID29827, ZIN). **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Copulatory sclerite, dorsal view. **G.** Copulatory sclerite, lateral view. **H.** Elytral vestiture of male. **I.** Spermatheca. **J.** Endophallic armature. **K.** Abdominal ventrites of male.

daghestanicus species group

This group is not supported by any apomorphy but can be delimited by the following homoplastic characters: Median lobe lateral outline straight, collum of spermatheca curved toward ramus.

Urometopus alanicus sp. nov.

[urn:lsid:zoobank.org:act:D18C1233-0688-41D5-9C33-9379152AE5B0](https://zoobank.org/urn:lsid:zoobank.org:act:D18C1233-0688-41D5-9C33-9379152AE5B0)

Figs 4L, 6B, D, 7B, 25, 74B

Differential diagnosis

This new species is similar to *U. inflatus* in general appearance due to the strongly developed erect pilosity of the elytra. It differs from *U. inflatus* in the following characters: rostrum conically narrowed anteriorly; pterygia projected from the lateral outline of the rostrum; eyes larger; antennae slender and longer; pronotal sculpture less coarse; spermatheca nodulus not tumid (Fig. 25I). The structure of the endophallic armature reflects affinity with *U. daghestanicus*, as the copulatory sclerite bears a distinct flagellar sheath and bifurcate dorsal plate.

From *U. longicornis* it differs in the following characters: pterygia weakly projected from the lateral outline of the rostrum; eyes more convex; pronotum with denser and larger punctures, especially on disc where the distance between punctures does not exceed their diameter; interspaces between punctures convex, forming asymmetrical folds; elytra more evenly rounded laterally; striae with deeper punctures; interstriae well convex, bearing long erect setae; copulatory sclerite larger; ramus of spermatheca larger than collum, collum weakly developed, nodulus not swollen and as wide as cornu.

From *U. daghestanicus* it differs in the following characters: pterygia more strongly projected from the lateral outline of the rostrum; spermatheca with ramus and collum connate, aligned with nodulus; median lobe shorter than apodemes.

From *U. nemorum* it differs in pronotum more transverse [PL/PW = 0.67–0.83 (0.75); in *U. nemorum* PL/PW = 0.81–0.86 (0.84)]; elytra orbicular (Fig. 25A vs 66A, C) and short ramus of spermatheca (Fig. 25I vs 66E–I).

Etymology

The adjective ‘*alanicus*’ highlights the species’ distribution in Alania – a medieval kingdom in the North Caucasus, and the modern Republic of North Ossetia–Alania.

Type material

Holotype

RUSSIA – **North Ossetia** • ♂; basin of Ardon River, Mt Khunrat-Khokh, Shubi; 42.9154° N, 44.1778° E; elev. 1050 m; 2 Aug. 1984; S.K. Alekseev leg.; meadow; ZIN.

Paratypes

RUSSIA – **Kabardino-Balkaria** • 1 ♂, 1 ♀; Khasaut River; 19–22 Jun. 1972; elev. 1650 m; Vorisek leg.; MMTI. – **Karachay-Cherkessia** • 1 ♂; “Cauc. bor. Teberda”; Jun. 1912; MMTI. – **North Ossetia** • 3 ♂♂, 1 ♀; same collection data as for holotype; 30 Jun. 1984; ZIN (Fig. 25C) • 2 ♂♂, 6 ♀♀; Alagir; 43.0308° N, 44.1975° E; 7 Jul. 1997; D.G. Kasatkin leg.; NYC (Fig. 25A) • 1 ♂; Balta; 42.9250° N, 44.6286° E; A.P. Zolotarev leg.; ZIN • 2 ♀♀; Balta; 42.9250° N, 44.6286° E; Shchukin leg.; KUMN • 1 ♂; Balta; 42.9250° N, 44.6286° E; A.P. Zolotarev leg.; ZIN • 1 ♀; basin of Ardon River, Mt Khunrat-Khokh, 6 km S of Alagir, Fassalugarda-My-Don River; 42.9871° N, 44.1986° E; elev. 850 m; 27 Jun. 1984; S.K. Alekseev leg.; *Taxus*; ZIN • 2 ♂♂, 1 ♀; Koban; 42.9162° N, 44.4853° E; 14 Jun. 1978;

N.G. Agnaeva leg.; ZIN • 1 ♂; “Mont prope Wladikavkas”; A.P. Zolotarev leg.; MMTI • 1 ♂, 1 ♀; “North Ossetia”; 30–31 Jul. 2009; ZMMU • 7 ♂♂, 6 ♀♀; “North Ossetia”; 31 Jul.–1 Aug. 2009; elev. 2280 m; ZMMU.

Type locality

Russia, North Ossetia, Mt Khunrat-Khokh.

Description

MEASUREMENTS (mm). BL: 2.76–3.08 (2.89), BW: 1.30–1.75 (1.49), BH: 1.13–1.25 (1.21).

COLORATION AND VESTITURE (Fig. 25A, C, G). Brown, erect setae distinct, pale-greyish, narrow, long, obtuse, on pronotum suberect, on elytra as long as interstriae width, form regular row on interstriae of elytra; recumbent setae very small, piliform; punctures of striae bear subrecumbent hair. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 25B, D). Rostrum in males parallel-sided to slightly narrowing anteriorly in females; RL/RW = 0.78–0.87. Pterygia weakly projected from the lateral outline of the rostrum. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, 1.7–1.9 × as narrow as vertex, flat, without median sulcus, striate. Vertex without transverse depression. Eyes large, moderately convex; VW/ELD = 1.56–2.36. Costulation of head capsule continues on epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 2.03, fam2 = 1.75, fam3 = 0.88, fam4 = 0.86, fam5 = 0.72, fam6 = 0.49, fam7 = 0.67; club L/W = 2.15.

THORAX. Pronotum: PL/PW = 0.67–0.83, transverse, convex on disc, widest at the middle, roundly narrowing anteriorly and posteriorly; disc densely coarsely punctate, punctures regular, interspaces between punctures narrower than diameter of puncture; sides finely rugoso-punctate. Elytra ovate in males to orbicular in females; disc convex: EL/EW = 1.18–1.28 in females and 1.28–1.42 in males.

LEGS. Femora in both sexes moderately clavate. Tibiae slender. Protibiae: medial margin in male moderately emarginate in distal 1/3; mucro strong. Metatibiae: medial margin in males weakly emarginate in distal 1/3; mucro strong. Tarsi (Fig. 4L): 1st tarsomere oblong-triangular, as wide as 2nd; 2nd tarsomere 1.3 × as wide as long.

ABDOMINAL VENTRITES (Fig. 25F). Anal ventrite of male truncate.

FEMALE GENITALIA. Spermatheca (Figs 6B, 25I): nodulus not swollen; collum reduced, in line with nodulus; ramus short, obtuse, connate with collum, in line with nodulus; cornu rounded.

MALE GENITALIA. Median lobe (Fig. 25E) 0.67 × as long as apodemes, parallel-sided. Lamina of median lobe obtusely narrowed. Endophallus with very dense bilateral fields of long spicules. Lunar sclerite absent. Copulatory sclerite large (Figs 6D, 25H), V-shaped, flagellar sheath long.

Life history

Unknown.

Distribution

Greater Caucasus: from Teberda (Karachay-Cherkessia) to Balta (North Ossetia) (Fig. 74B).



Fig. 25. *Urometopus alanicus* sp. nov., paratypes. **A.** Female habitus, dorsal, lateral, and ventral views (ID29739, NYC). **B.** Head of female, dorsal view. **C.** Male habitus, dorsal, lateral, and ventral views (ID29741, ZIN). **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Abdominal ventrites of male. **G.** Elytral vestiture of male. **H.** Copulatory sclerite. **I.** Spermatheca.

Urometopus daghestanicus Korotyaev, 1992
Figs 7H, 26–27, 74B

Urometopus daghestanicus Korotyaev, 1992: 812.

Urometopus daghestanicus – Colonnelli 2011: 683. — Borovec 2013b: 301. — Alonso-Zarazaga *et al.* 2023: 301.

Differential diagnosis

Urometopus daghestanicus is similar to *U. inflatus* in general appearance but differs in the following characters: elytra more rotund; epifrons narrower; eyes larger and less convex; pronotal disc with coarse, irregular sculpture (in *U. inflatus* punctures sparse, interspaces broader and glabrous); nodulus of spermatheca not swollen, collum strongly attenuate.

From *U. alanicus* sp. nov. it differs in the following characters: pterygia less strongly projected from the lateral outline of the rostrum; median lobe not shorter than apodemes; bilateral fields of endophallus with sparse spicules; copulatory sclerite spatulate; collum and ramus of spermatheca well developed and not connate; cornu attenuate.

Type material

Holotype

RUSSIA – **Daghestan** • ♂; forest NE of Khasavyurt; 43.2742° N, 46.6282° E; 13 May 1992; B.A. Korotyaev leg.; ZIN (Fig. 27C).

Paratypes

RUSSIA – **Daghestan** • 1 ♀; same collection data as for holotype; ZIN • 1 ♂; same collection data as for holotype; V.N. Prasolov leg.; ZIN (Fig. 27A).

Additional material examined

RUSSIA – **Daghestan** • 1 ♂, 1 ♀; 20 km S of Buynaksk, Arkas Pass; 42.6628° N, 47.1491° E; elev. 2000 m; 19 Jun. 1963; S.I. Medvedev leg.; alpine meadow; KUMN (Fig. 26A, D).

Type locality

Russia, Daghestan, forest NE of Khasavyurt.

Redescription

MEASUREMENTS (mm). BL: 2.28–2.61, BW: 1.20–1.55, BH: 0.98–1.25.

COLORATION AND VESTITURE (Figs 26A, D, G, 27A, C). Yellowish-brown; erect and recumbent setae distinct. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; scape and funicle with subrecumbent setae.

HEAD (Figs 26B–C, 27B, D). Rostrum slightly narrowing anteriorly; RL/RW = 0.75–0.79. Pterygia not projected. Vertex without transverse depression. Eyes large, moderately convex; VW/ELD = 1.93–2.02. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.58, fam2 = 1.46, fam3 = 0.69, fam4 = 0.69, fam5 = 0.48, fam6 = 0.44, fam7 = 0.50; club L/W = 1.74.

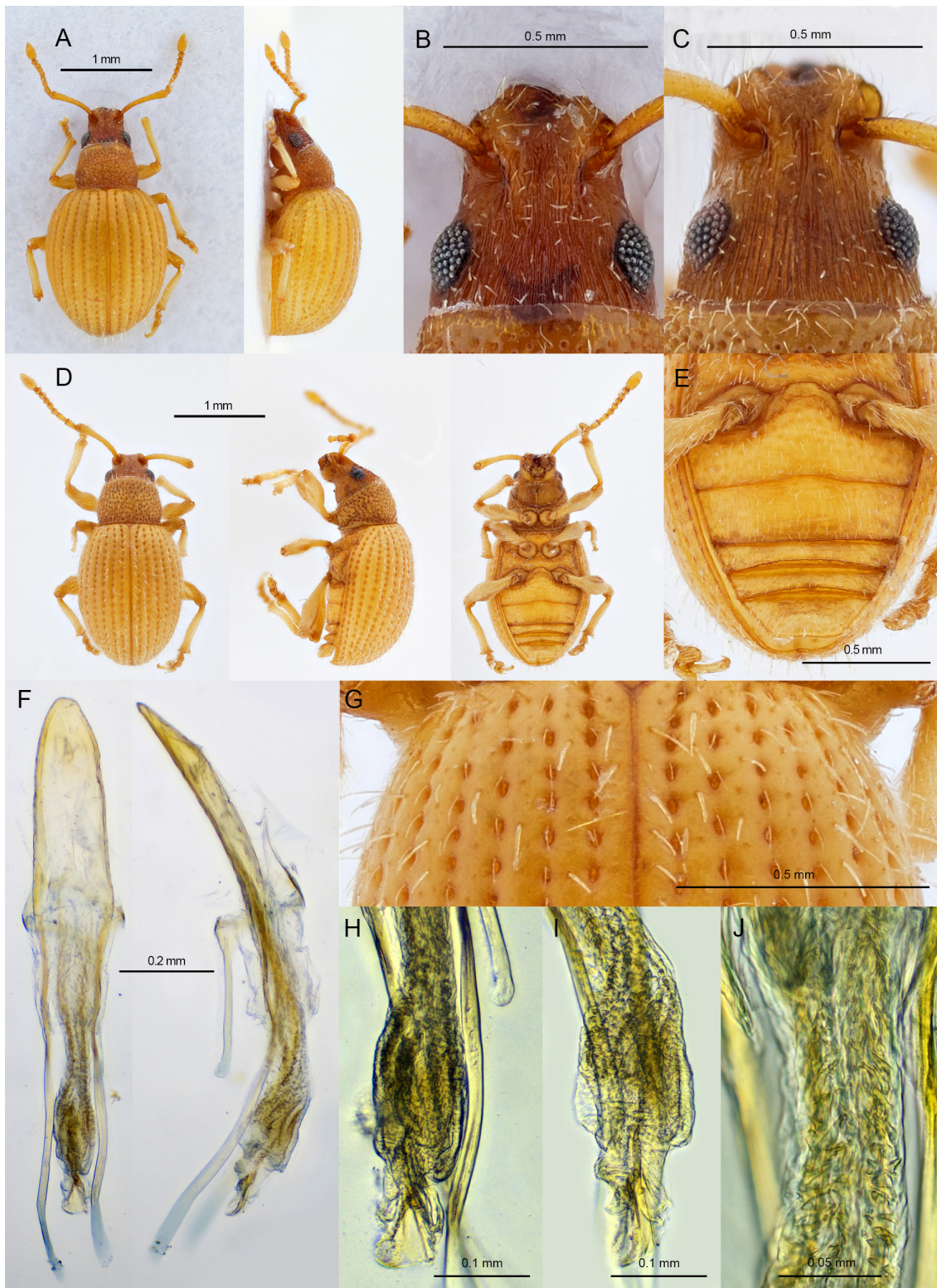


Fig. 26. *Urometopus daghestanicus* Korotyaev, 1992, specimens from Arkas Pass (ID31170, KUMN). **A.** Female habitus, dorsal and lateral views. **B.** Head of female, dorsal view. **C.** Head of male, dorsal view. **D.** Male habitus, dorsal, lateral and ventral views. **E.** Abdominal ventrites of male. **F.** Aedeagus, dorsal and lateral views. **G.** Elytral vestiture of male. **H.** Copulatory sclerite, dorsal view. **I.** Copulatory sclerite, lateral view. **J.** Endophallic armature.

THORAX. Pronotum: PL/PW = in females 0.65–0.71, in males 0.73–0.74, transverse. Elytra ovate in males to orbicular in females; EL/EW = 1.20–1.35.

LEGS. Tibiae slender, moderately mucronate; median margin moderately emarginate in distal $\frac{1}{3}$. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere 1.8 × as wide as long.

ABDOMINAL VENTRITES (Fig. 26E). Anal ventrite of male truncate.

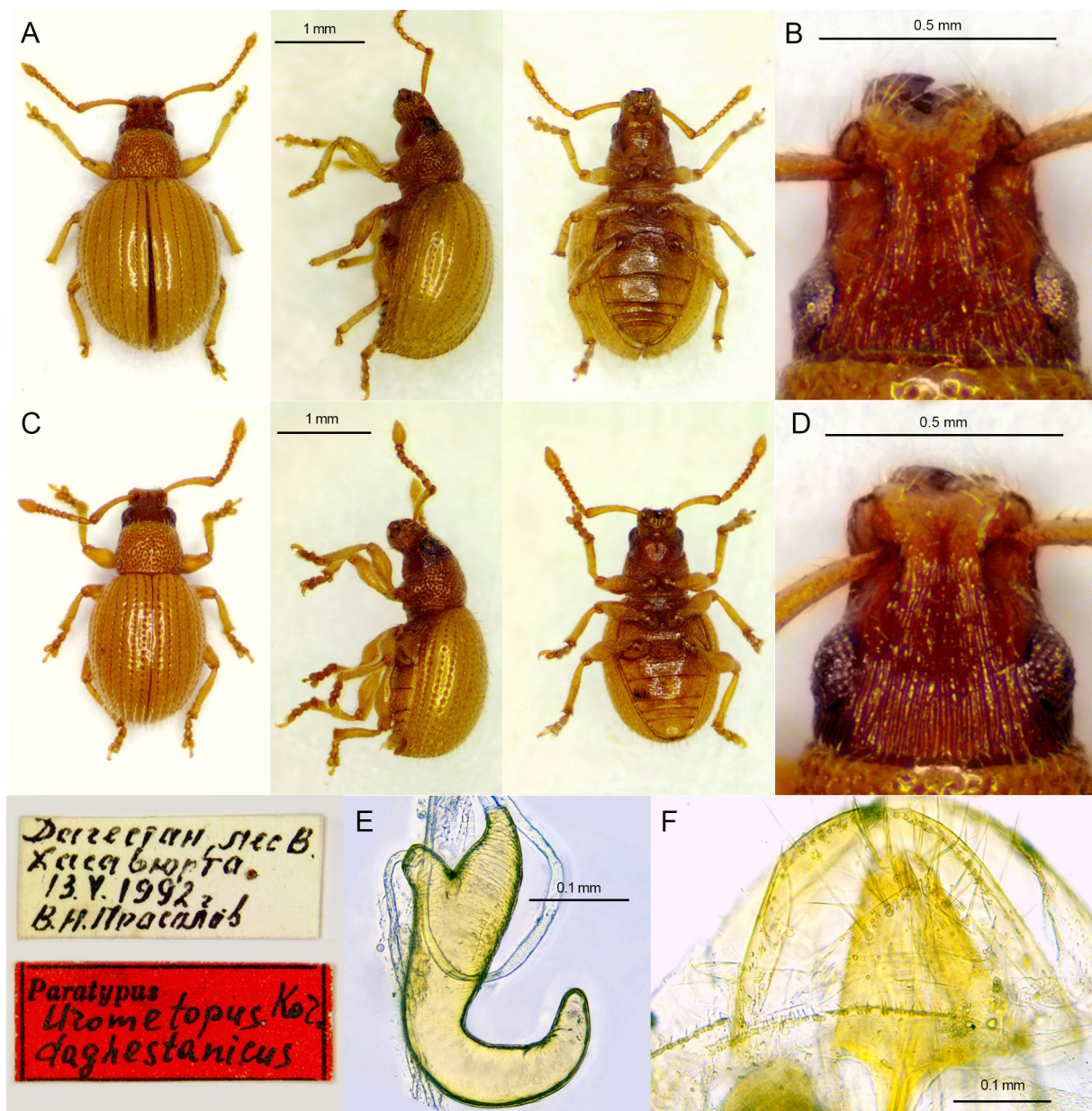


Fig. 27. *Urometopus daghestanicus* Korotyaev, 1992, paratypes from Khasavyurt (ZIN). **A.** Female habitus, dorsal, lateral, and ventral views. **B.** Head of female, dorsal view. **C.** Male habitus, dorsal, lateral, ventral views and labels. **D.** Head of male, dorsal view. **E.** Spermatheca. **F.** Apical part of female sternite 8.

FEMALE GENITALIA. Spermatheca (Fig. 27E): nodulus not swollen; collum in line with nodulus, obtusely attenuate; ramus perpendicular to nodulus, obtusely projecting; cornu attenuate.

MALE GENITALIA. Median lobe (Fig. 26F) as long as apodemes, evenly narrowed apically. Lamina of median lobe obtuse. Endophallus with bilateral fields of short spicules (Fig. 26J). Lunar sclerite absent. Copulatory sclerite (Figs 7H, 26H–I) slim, spatulate, flagellar sheath well developed.

Life history

Urometopus daghestanicus inhabits deciduous forests and mountain meadows at elevations from 100 to 2000 m.

Distribution

Eastern Caucasus: Daghestan (Fig. 74B).

Urometopus savitskyi Yunakov sp. nov.

[urn:lsid:zoobank.org:act:44A876A7-AF3A-436D-A6A6-269E2B2A67C5](https://zoobank.org/act:44A876A7-AF3A-436D-A6A6-269E2B2A67C5)

Figs 8M, 28, 74B

Differential diagnosis

This species differs from *U. anatolicus* in the following characters: rostrum elongate and narrower; pronotum more transverse, without pale lanceolate scales on its sides; elytra ovate, less tumid, without recumbent pale or margaritaceous lanceolate scales on interstriae; with denser and shorter erect setae. From *U. inflatus* it differs in larger eyes, shape of head with abruptly separated rostrum, more transverse pronotum; ramus and collum of spermatheca not papillate, nodulus weakly swollen (Fig. 28F).

Etymology

This species is named after Dr Vladimir Yu. Savitsky (ZMMU) in recognition of his significant contributions to the study of weevils in the Caucasus and for collecting the type specimens.

Type material

Holotype

ARMENIA – Shirak • ♂; Javakheti Range, near Gukasian [= Ashotsk]; 41.0916° N, 43.9477° E; elev. 2400–2900 m; 5–7 Jul. 2000; M. Savitsky and V. Savitsky leg.; ZMMU (Fig. 28C).

Paratypes

ARMENIA – Shirak • 1 ♂, 1 ♀; same collection data as for holotype; ZMMU (Fig. 28A).

Type locality

Armenia, Javakheti Range, near Ashotsk.

Description

MEASUREMENTS (mm). BL: 2.40–3.00, BW: 1.27–1.59, BH: 1.10–1.28.

COLORATION AND VESTITURE (Fig. 28A, C). Yellowish-brown, setose and moderately pilose; erect setae yellowish-grey, narrow, somewhat spatulate, obtuse, as long as width of interstriae, ordered in regular row; interstriae sparsely covered with recumbent, very short, piliform setae; each puncture in striae bears tinier subrecumbent piliform seta. Head vestiture setose. Vestiture of antennae and legs setose; scape and funicle with suberect setae; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 28B, D). Rostrum in males parallel-sided to narrowing anteriorly in females; RL/RW = 0.81–0.86. Pterygia not projected. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, $1.9\times$ as narrow as vertex, flat, without median sulcus, coarsely punctate. Vertex without transverse depression. Eyes moderately convex; VW/ELD = 1.70–1.98. Costulation of head capsule continues on epifrons.

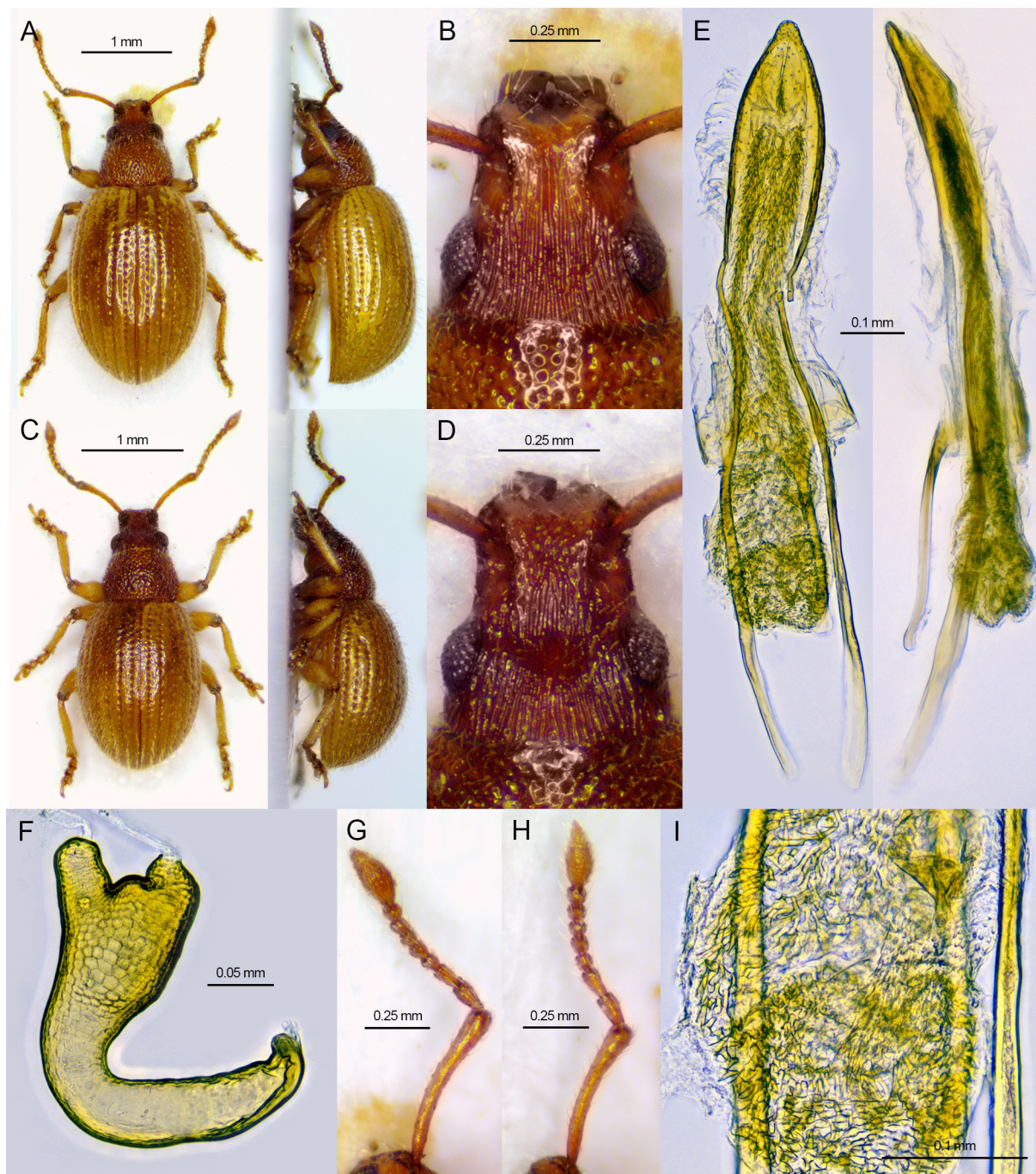


Fig. 28. *Urometopus savitskyi* Yunakov sp. nov. **A–B, F–G.** Paratype, ♀ (ZMMU). **C–E, H–I.** Holotype, ♂ (ZMMU). **A, C.** Habitus, dorsal and lateral views. **B.** Head, dorsal view. **D.** Head, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Spermatheca. **G–H.** Antenna. **I.** Endophallic armature.

ANTENNAE (Fig. 28G–H). Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.95, fam2 = 1.63, fam3 = 0.67, fam4 = 0.80, fam5 = 0.72, fam6 = 0.62, fam7 = 0.59; club L/W = 2.06.

THORAX. Pronotum: PL/PW = 0.64–0.68, transverse; convex on disc; widest at middle, roundly narrowing anteriorly and weakly constricted posteriorly; densely punctate, punctures regular, interspaces between punctures narrower than diameter of puncture. Elytra ovate; disc flat; striae deep, interspaces between punctures as long as diameter of puncture; interstriae weakly convex; EL/EW = 1.29–1.43.

LEGS. Protibiae: medial margin in male weakly emarginate in distal $\frac{1}{3}$; mucro moderate. Metatibiae: medial margin in male weakly emarginate in distal $\frac{1}{3}$; mucro moderate. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere 1.8 × as wide as long.

ABDOMINAL VENTRITES. Anal ventrite of male truncate, weakly convex.

FEMALE GENITALIA. Spermatheca (Fig. 28F): nodulus weakly swollen; collum curved, weakly projecting, narrow; ramus narrowly projecting, perpendicular to nodulus, somewhat longer than collum; cornu strongly attenuate.

MALE GENITALIA. Median lobe (Fig. 28E) 0.67 × as long as apodemes, roundly narrowed apically. Lamina of median lobe narrowly rounded. Endophallus with dense field of long spicules condensed bilaterally (Fig. 28I). Lunar sclerite absent. Copulatory sclerite (Fig. 8M) robust, subtriangular, flagellar sheath short.

Life history

Specimens were collected in mountain grassland zone at 2400–2900 m a.s.l.

Distribution

The range remains unclear, this species is known only from the type locality in the Javakheti Range of the Lesser Caucasus (Fig. 74B).

inflatus species group

The group is characterized by two synapomorphies: spermatheca nodulus tumid, ramus papillate; and homoplastic character: spermatheca collum papillate.

Urometopus chaudi Yunakov sp. nov.

[urn:lsid:zoobank.org:act:024AB9A4-02ED-4F77-9C1F-C063771483A3](https://zoobank.org/act:024AB9A4-02ED-4F77-9C1F-C063771483A3)

Figs 29, 74B

Differential diagnosis

This species is similar to *U. inflatus* and *U. talyschensis* in shape of head but differs from them in thin tibiae of male; dense recumbent pilosity of elytral interstriae; elytra broadly-ovate; anal ventrite not foveolate apically.

Etymology

This species is named after Baron Maximilien de Chaudoir, famous entomologist and pioneer explorer of the Caucasus in 1845.

Type material

Holotype

IRAN – Gilan • ♂; 70 km NW of Bandar-e Pahlavi Assalem; 37.7295° N, 48.9094° E; elev. 300 m; 18 May 1974; C. Holzschuh and F. Ressler leg.; NHMUK (Fig. 29A).

Type locality

Iran, 70 km NW of Bandar-e Pahlavi Assalem.

Description

MEASUREMENTS (mm). BL: 2.49, BW: 1.42, BH: 1.14.

COLORATION AND VESTITURE (Fig. 29A). Chestnut brown; tomentose and setose; erect and recumbent setae silver-grey; erect setae narrow, obtuse, somewhat shorter than width of elytral interstriae, setae on posterior declivity shorter than those on sides; recumbent setae piliform, somewhat shorter than erect setae. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; scape and funicle with recumbent setae; grooming brush on distal $\frac{1}{3}$ of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 29B). Rostrum slightly narrowing anteriorly; RL/RW = 0.79. Pterygia slightly projected. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, $2.2\times$ as narrow as vertex, flat, with narrow median sulcus, striate. Vertex without transverse depression. Eyes small, convex; VW/ELD = 2.46. Costulation of head capsule continues on epifrons.

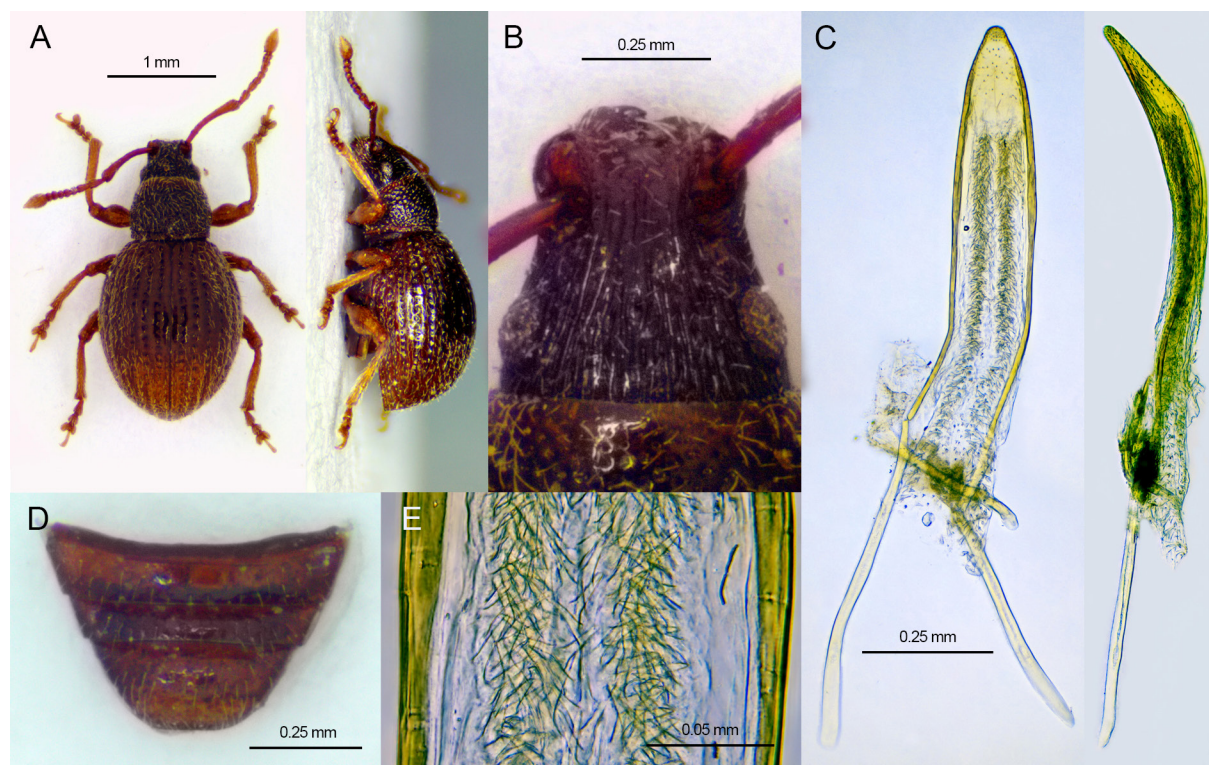


Fig. 29. *Urometopus chaudoiri* Yunakov sp. nov., holotype, ♂, (NHMUK). **A.** Habitus, dorsal and lateral views. **B.** Head, dorsal view. **C.** Aedeagus, dorsal and lateral views. **D.** Abdominal ventrites. **E.** Endophallic armature.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.96, fam2 = 1.55, fam3 = 1.00, fam4 = 0.87, fam5 = 0.62, fam6 = 0.60, fam7 = 0.67; club L/W = 1.82.

THORAX. Pronotum: PL/PW = 0.75, transverse, disc not convex, sides evenly weakly convex, widest at middle, moderately constricted posteriorly; disc densely punctate, punctures regular, round, interspaces between punctures weakly convex, as wide shorter than diameter of puncture; sides densely punctate. Elytra orbicular-ovate; disc weakly convex; striae deep, interspaces between punctures shorter than diameter of puncture; interstriae strongly convex; EL/EW = 1.22.

LEGS. Tibiae slender. Protibiae: medial margin in male weakly emarginate in distal $\frac{1}{3}$; mucro very moderate. Metatibiae: medial margin weakly emarginate in distal $\frac{1}{3}$; mucro moderate. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere $1.9 \times$ as wide as long.

ABDOMINAL VENTRITES (Fig. 29D). Anal ventrite of male truncate.

MALE GENITALIA. Median lobe $0.5 \times$ as long as apodemes, evenly narrowed apically (Fig. 29C). Lamina of median lobe evenly narrowed, narrowly rounded. Endophallus with very dense bilateral fields of long spicules (Fig. 29E). Lunar and copulatory sclerite unknown, (specimen, received for this study has a damaged endophallus).

FEMALE. Unknown.

Life history

Unknown.

Distribution

The range remains unclear, this species is known only from the type locality in Talysh Mountains in Iran (Fig. 74B).

Urometopus behnei Yunakov sp. nov.

[urn:lsid:zoobank.org:act:FA9F87D1-F6FD-46D4-BC1C-B54ED4D6AEB2](https://zoobank.org/act:FA9F87D1-F6FD-46D4-BC1C-B54ED4D6AEB2)

Figs 6A, 8G, 30, 74A

Differential diagnosis

This species is similar to *U. inflatus* in shape of body and head but differs from the latter in narrow epifrons, punctures of pronotal disc in male less dense; elytra less tumid, anterior and posterior declivities not abrupt; a gap between ramus and collum of spermatheca narrow. From *Urometopus dieckmanni* sp. nov. it differs in thinner hairs of pubescence; absence of margaritaceous piliform scales, scarce punctuation and glabrous interspaces between punctures of pronotal disc; nodulus of spermatheca strongly tumid, ramus and collum papillate (Fig. 30F).

Etymology

This species is named after the late Mr Lutz Behne (1956–2024), German entomologist and expert in weevils who contributed to the knowledge of the genus *Urometopus*.

Type material

Holotype

TURKEY – Bilecik • ♂; Pazaryeri Distr., Sarıdayı; 39.9330° N, 29.8464° E; elev. 1178 m; 23 May 2009; M. Nabozhenko leg.; MCZ (Fig. 30C).

Paratypes

TURKEY – **Bilecik** • 1 ♀; same collection data as for holotype; MCZ • 1 ♀; same collection data as for holotype; NYC (Fig. 30A) • 1 ♀; Nazifpaşa; 40.0427° N, 29.7563° E; elev. 1000 m; 14 Jul. 1972; M. Osella and G. Osella leg.; MMTI. – **Bursa** • 1 ♀; Bursa; 19 Jun. 1967; C. Besuchet leg.; MMTI.

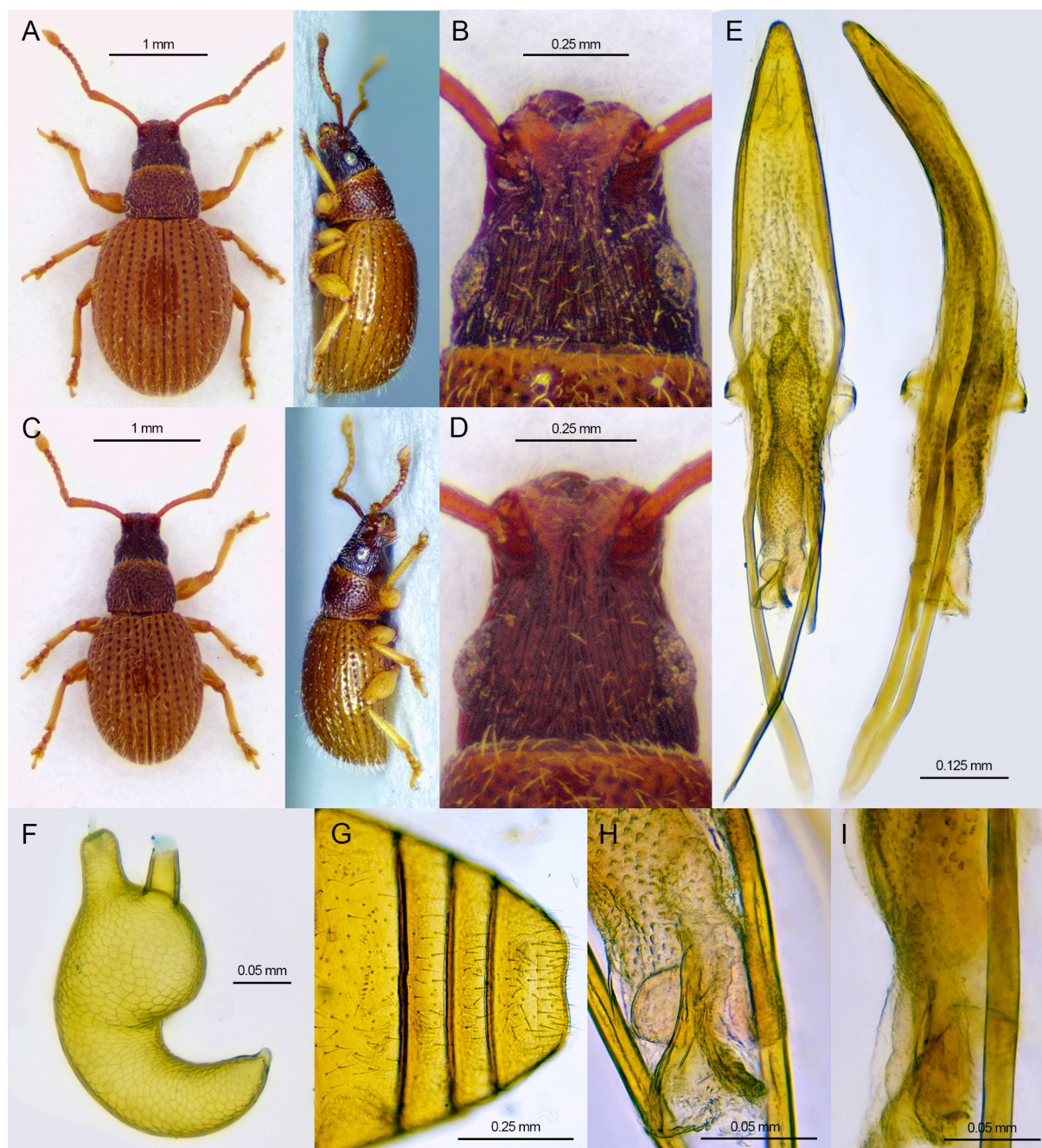


Fig. 30. *Urometopus behnei* Yunakov sp. nov. **A–B, F.** Paratype, ♀ (ID31553, MCZ). **C–E, G–I.** Holotype, ♂ (MCZ). **A, C.** Habitus, dorsal and lateral views. **B, D.** Head, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Spermatheca. **G.** Abdominal ventrites. **H–I.** Copulatory sclerite, dorsal and lateral views.

Type locality

Turkey, Bilecik Province, Sarıdayı.

Description

MEASUREMENTS (mm). BL: 2.22–2.66, BW: 1.15–1.50, BH: 0.85–1.20.

COLORATION AND VESTITURE (Fig. 30A, C). Chestnut brown; setose and pilose; erect setae elongate, as long as width of interstria, narrow, obtuse, greyish-yellow, ordered in rows on interstriae; appressed setae very small, piliform, sparsely cover pronotum and elytra; punctures in striae bear long recumbent hair. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose, setae subrecumbent; grooming brush on distal $\frac{1}{3}$ of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 30B, D). Rostrum slightly narrowing anteriorly; RL/RW = 0.80–0.86. Pterygia projected in males, not projected in females. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, $2.4 \times$ as narrow as vertex, flat, with narrow median sulcus, coarsely and shallowly punctate. Vertex without transverse depression. Eyes moderately convex; VW/ELD = 1.77–2.33. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.58, fam2 = 1.49, fam3 = 1.10, fam4 = 0.86, fam5 = 0.79, fam6 = 0.61, fam7 = 0.53; club L/W = 1.76.

THORAX. Pronotum: PL/PW = 0.72–0.76, transverse; weakly convex or flat at disc; widest at middle, roundly narrowing anteriorly and weakly constricted posteriorly; disc densely punctate, punctures regular, interspaces between punctures as wide as diameter of puncture; sides finely rugoso-punctate. Elytra ovate; disc in male flat, in female convex; striae deep, interspaces between punctures in male shorter than or in female as long as diameter of puncture; interstriae weakly convex; EL/EW = 1.22–1.28.

LEGS. Tibiae slender. Protibiae: medial margin in male moderately emarginate in distal $\frac{1}{3}$; mucro moderate. Metatibiae: medial margin in male weakly emarginate in distal $\frac{1}{3}$; mucro moderate. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere $1.7 \times$ as wide as long.

ABDOMINAL VENTRITES (Fig. 30G). Anal ventrite of male weakly emarginate.

FEMALE GENITALIA. Spermatheca (Figs 6A, 30F): nodulus tumid; collum obtusely projecting; ramus obtusely projecting as long as collum; cornu weakly attenuate.

MALE GENITALIA. Median lobe $0.67 \times$ as long as apodemes (Fig. 30E), evenly narrowed apically. Lamina of median lobe narrowly rounded. Endophallus armature with distal field of short triangular imbricate spicules. Lunar sclerite absent. Copulatory sclerite (Figs 8G, 30H–I) large, V-shaped, flagellar sheath reduced.

Life history

Unknown.

Distribution

The range remains unclear, this species is known only from the type locality near Sarıdayı (Bilecik Province, Turkey) (Fig. 74A).

***Urometopus inflatus* (Kolenati, 1859)**

Figs 31–32, 74A, 83E–F, 84

Omius inflatus Kolenati, 1859: 421.

Omius georgicus Reitter, 1888d: 263. **Syn. nov.**

Omius (Urometopus) moczarskii Penecke, 1929: 139. **Syn. nov.**

Omius inflatus – Marseul 1873: 567.

Omius strigifrons var. *inflatus* – Stierlin 1885: 98.

Omius (Urometopus) inflatus – Formánek 1904a: 22.

Omius (Urometopus) georgicus – Formánek 1904a: 22.

Urometopus georgicus – Lona 1938: 433. — Korotyaev 1992: 812. — Borovec 2006: 38; 2013b: 301.
— Colonnelli 2011: 676. — Alonso-Zarazaga *et al.* 2023: 301.

Omius moczarskii – Lona 1938: 429.

Urometopus moczarskii – Arnoldi *et al.* 1965: 521 (key). — Behne 1990: 138 (lectotype designation).
— Colonnelli 2011: 684. — Borovec 2013b: 301. — Yunakov *et al.* 2018: 275.

Urometopus inflatus – Borovec 2006: 38; 2013b: 301. — Colonnelli 2011: 683. — Alonso-Zarazaga *et al.* 2023: 301.

non *Omius strigifrons* auct nec Gyllenhal, 1834 – Seidlitz 1868: 59. — Stierlin 1885: 98. — Reitter 1888d: 263.

non *Omius strigifrons* var *rugifrons* auct. nec Hochhuth – Stierlin 1885: 98.

Differential diagnosis

This species is very similar and related to *U. talyschensis*, differs from it by pterygia not projected from lateral outline of head and nodulus of spermatheca strongly swollen.

From *U. daghestanicus* it well differs in elongate elytra, broad epifrons, smaller eyes, spermatheca with swollen nodulus and large ramus. From *U. sieversi* sp. nov. it differs epifrons without transverse depression, scarce punctures of pronotal disc, and less convex eyes, spermatheca with swollen nodulus and wide gap separating ramus and collum (Fig. 31G–J).

Type material (*Omius inflatus* Kolenati, 1859)

Lectotype (here designated)

LOCALITY UNKNOWN – ♀; “Caucasus”; Kolenati; NHMD 1787113 (Fig. 32A–B).

Paralectotype

LOCALITY UNKNOWN – 1 ♀; “Caucasus”; Kolenati; NHMD 1787108 (Fig. 32C–D).

Type material (*Omius georgicus* Reitter, 1888)

Lectotype (here designated)

LOCALITY UNKNOWN – ♀; “Kaukasus Leder” “*O. georgicus* m Reitt.” “Coll. Reitter”; H. Leder; HNHM (Fig. 32E–F).

Paralectotypes

LOCALITY UNKNOWN – 8 ♀♀; “Kaukasus Leder” “Coll. Reitter”; H. Leder; HNHM • 1 ♀; golden square, “Caucasus Reitter”, “*georgicus* Reitter”, “coll. J. Faust Ankauf 1900”, “Type”; MTD (Fig. 32G–I).

Type material (*Urometopus moczariskii* Penecke, 1929)

Lectotype

UKRAINE – **Chernivtsi** • ♀; “Bukowina, Czernovitz”; 48.3318° N, 25.9861° E; K.A. Penecke; MTD (Fig. 31C–D).

Paralectotypes

UKRAINE – **Chernivtsi** • 10 ♀♀; same collection data as for lectotype; MTD.

Additional material examined

ARMENIA – **Aragatsotn** • 2 ♀♀; N of Erevan, Mt Arayi Lerr; 40.4129° N, 44.4777° E; elev. 1800–2500 m; 18–19 Jun. 2000; M. Savitsky and V. Savitsky leg.; **ZIN** • 24 ♀♀; Antarat, Amberd River; 40.3584° N, 44.2529° E; elev. 1602 m; 1 Jun. 2024; R. Bekchiev leg.; NYC. – **Tavush** • 4 ♀♀; Dilijan; 40.7355° N, 44.8582° E; 5 Jun. 1988; S. Becvar leg.; BPC.

AZERBAIJAN – **Khizi** • 1 ♀; Altağac; 40.8593° N, 48.9451° E; elev. 1200 m; 21–23 Jun. 1996; W. Schawaller leg.; MMTI. – **Shamakhi** • 1 ♀; Pirkuli; 40.7867° N, 48.5994° E; elev. 1200 m; 10 Jun. 1979; V. Švihla leg.; MMTI.

GEORGIA – **Ajaria** • 2 ♀♀; Batumi; 41.5998° N, 41.7047° E; 13 Jun. 1975; R. Rous leg.; MMTI. – **Kakheti** • 1 ♀; Tbatani; 42.2846° N, 45.2181° E; H. Leder leg.; HNHM. – **Kvemo Kartli** • 2 ♀♀; Bolnisi Distr., Madneuli; 41.4667° N, 44.5500° E; 27 May 1988; A. Cholokava and B.A. Korotyaev leg.; Carpinus forest; **ZIN** (Fig. 31A–B) • 1 ♀; Manglisi; 41.7017° N, 44.3679° E; Sievers G.; **ZIN** • 1 ♀; Martkopi; 41.7836° N, 45.0167° E; H. Leder leg.; MMTI • 3 ♀♀; Martkopi; 41.7836° N, 45.0167° E; H. Leder leg.; **ZIN** • 2 ♀♀; Martkopi; 41.7836° N, 45.0167° E; H. Leder leg.; MTD. – **Tbilisi** • 2 ♀♀; Tbilisi env.; R. Rous leg.; Jun. 1975; MMTI.

MOLDOVA – **Călărași** • 2 ♀♀; Bahmut; 47.3227° N, 28.1141° E; 13 Jun. 1955; V.I. Talicki leg.; *Fagus* forest with bush; **ZIN**.

ROMANIA – **Vaslui** • 1 ♀; Puscasi, W of Vaslui; 46.6169° N, 27.6434° E; 10 Jun. 2004; P. Białooki leg.; **BRC** • 1 ♀; same collection data as for preceding; NHMUK.

RUSSIA – **Daghestan** • 2 ♀♀; Buinakskiy Pass, north of highway; 42.9381° N, 47.3594° E; 26 May 1991; G.E. Davidian leg.; **ZIN** • 1 ♀; “Daghestan [possibly near Derbent] / Leder (Reitter)”; H. Leder leg.; **MCZ** • 5 ♀♀; same collection data as for preceding; MTD. – **Kabardino-Balkaria** • 1 ♀; Nalchik; 43.4590° N, 43.5970° E; 30 Jun. 1967; N. Nikitsky leg.; **ZIN**. – **Karachay-Cherkessia** • 1 ♀; “aul Sentinsky, Kubanskaya oblast [Teberda]”; 43.6365° N, 41.8660° E; N.N. Bogdanov-Katjkov leg.; **ZIN** • 1 ♂; “Cauc. bor. Teberda”; Jun. 1912; MMTI. – **North Ossetia** • 1 ♀; 2 km N of Zintzar, Sadon-Unal Depression; 42.9045° N, 44.1674° E; elev. 1000 m; 7 Jun. 1984; S.K. Alekseev leg.; oak forest; **ZIN** • 1 ♀; Ossetia [probably near Vladikavkaz]; 43.0131° N, 44.7100° E; A.P. Zolotarev leg.; MTD • 1 ♀; Uruk River; 1 Aug. 1993; V. Shchurov leg.; WHC. – **Orenburg** • 10 ♀♀; Tyulgansky Distr., Tugustemir; 52.5548° N, 56.0899° E; 25 Jun. 2014; A.M. Shapovalov leg.; NYC • 3 ♀♀; same collection data as for preceding; ZMMU. – **Stavropol** • 1 ♀; Stavropol; V. Lutshnik leg.; **ZIN** • 1 ♀; Pyatigorsk; May 1912; HNHM • 1 ♀; Pyatigorsk, Mt Beshtau; 44.071682° N, 43.050779° E; elev. 650 m; 16 May 2022; I.A. Zabaluev leg.; in leaf litter near trunk of *Ulmus pumila*; ZMMU • 2 ♀♀; Lermontov, Mt Ostraya; 44.115896° N, 42.999416° E; elev. 800 m; 7 May 2023; I.A. Zabaluev leg.; in leaf litter; ZMMU.

TURKEY – **Ardahan** • 4 ♀♀; 50 km N of Ardahan, near Posof; 41.5105° N, 42.7252° E; 28 Jun. 2002; G. Kakiopoulos leg.; KGC.

UKRAINE – Crimea • 1 ♀; Ağarmış Mt Range, Molla-Çokrak source; 45.0208° N, 35.0321° E; elev. 446 m; 12 May 2012; N. Yunakov leg.; mixed forest; sifting leaf litter under *Corylus*; NYC • 1 ♀; Kubalaç Mt Range, Aülü-Kaya Mt.; 45.0421° N, 34.7875° E; elev. 398 m; 16 May 2012; N. Yunakov



Fig. 31. A–B, E–L. *Urometopus inflatus* (Kolenati, 1859), ♀. A–B, E, G. Madneuli (ID29764, ZIN). A. Body. B. Head. C–D. *Omias moczarskii* Penecke, 1929, lectotype, ♀ (MTD), body, head and labels. E. Elytral vestiture. F. Elytral vestiture, Panivtsi (ID31875, KhDC). G. Spermatheca. H. Spermatheca, Antarut (ID31195, NYC). I. Spermatheca, Tugustemir (ID23641, NYC). J–L. Panivtsi (ID31689, KhDC). J. Spermatheca (these numeric indices refer to the numbers and states of the characters in the character matrix, [Supp. file 1](#)). K. Body. L. Head.

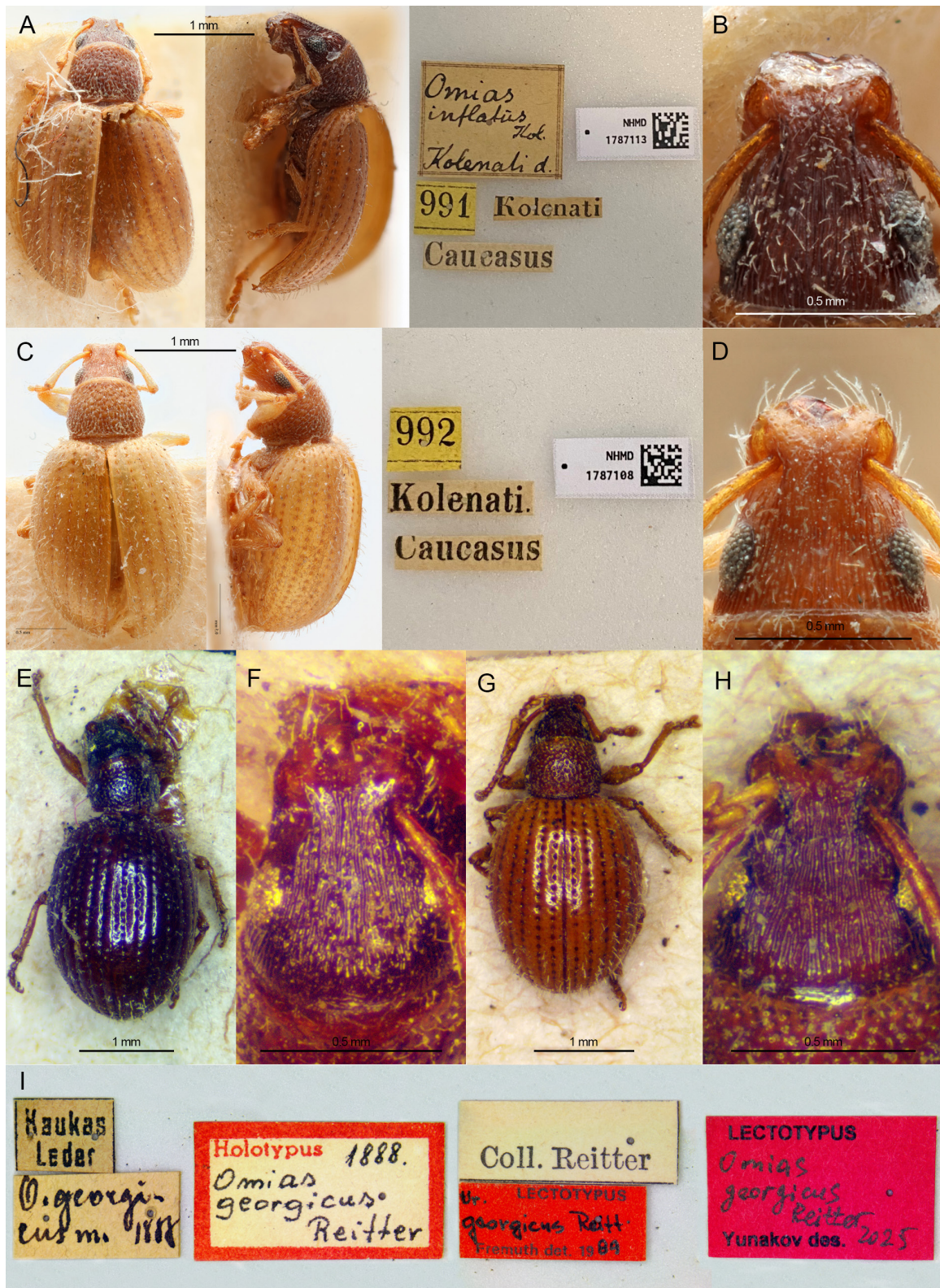


Fig. 32. *Urometopus inflatus* (Kolenati, 1859), ♀. **A–B.** *Omius inflatus*, lectotype, (NHMD), body, labels, and head. **C–D.** *Omius inflatus*, paralectotype (NHMD), body, labels, and head. **E–F.** *Omius georgicus* Reitter, 1888, lectotype (HNHM), body and head. **G–H.** *Omius georgicus*, paralectotype (ID31495, HNHM), body and head. **I.** *Omius georgicus*, lectotype (HNHM). Labels.

leg.; mixed forest; sifting leaf litter under *Corylus*; NYC • 2 ♀♀; Karadag Nature Reserve; 44.9369° N, 35.2214° E; elev. 286 m; 22 May 1984; A.K. Zagulyaev leg.; mixed forest; sifting leaf litter; ZIN. – **Khmelnyskiy** • 3 ♀♀; Panivtsi; 48.639653° N, 26.596426° E; 22 May–14 Jun. 2025; H. Myktynets leg.; edge of deciduous forest; pitfall trap; KhDC (Fig. 31K–L) • 1 ♀; same collection data as for preceding; 48.637911° N, 26.597231° E; rock outcrops; KhDC • 3 ♀♀; same collection data as for preceding; 14 Jun.–4 Jul. 2025; KhDC. – **Luhansk** • 1 ♀; Dovhe; 48.6428° N, 39.0397° E; 5 Jun. 1952; K.V. Arnoldi leg.; deciduous forest in ravine; ZIN. – **Lviv** • 1 ♀; 2.2 km SW of Yaseniv; 49.9482° N, 25.0165° E; elev. 378 m; 12 Jun.–11 Jul. 2021; D. Khrapov and R. Panin leg.; steppe; pitfall trap; KhDC • 2 ♀♀; Lysa Hora Reserve; 49.7972° N, 24.7272° E; 9 Jun. 1997; J. Szypula leg.; MMTI. – **Ternopil** • 1 ♀; 1.5 km E Markova; 49.157117° N, 25.067612° E; 2 May–14 Jun. 2021; D. Khrapov and R. Panin leg.; deciduous forest; pitfall trap; KhDC. – **Vinnytsia** • 6 ♀♀; 2 km W of Bondurivka, Karmeliukove Podillia National Park; 48.313247° N, 29.204974° E; 7 Jun.–2 Jul. 2025; N.Yu. Polchaninova leg.; edge of deciduous forest; pitfall trap; KhDC. • 7 ♀♀; 3 km E of Dubivka, Karmeliukove Podillia National Park; 48.286274° N, 29.166171° E; 7 Jun.–2 Jul. 2025; N.Yu. Polchaninova leg.; logged area in a deciduous forest; pitfall trap; KhDC.

LOCALITY UNKNOWN – 1 ♀; “Caucasus”; ZMH • 1 ♀; “Kaukasus Leder”; H. Leder leg.; MCZ • 1 ♀; “Caucasus”; 1896; L. Młokosiewicz leg.; HNHM • 1 ♀; “Caucasus”; 1897; L. Młokosiewicz leg.; HNHM.

Type locality

“Caucasus” without certain data. According to Kolenati’s itineraries in the Caucasus during his expedition in 1843–1844 (Kolenati 1859), the beetles were likely collected in extent between (from west to east) Stavropol, Vladikavkaz, Mt Kazbek to southern Daghestan and Azerbaijan and southward. On the other hand, Kolenati (1845) explicitly listed the Coleoptera composition by the elevation belts he studied in the Caucasus, emphasizing prevalence of “*Omius*” in “Regio Alpina” at 1200–1700 m a.s.l.

Redescription

MEASUREMENTS (mm). BL: 2.41–3.05 (2.69), BW: 1.23–1.60 (1.46), BH: 1.00–1.38 (1.21).

COLORATION AND VESTITURE (Fig. 31E–F). Brown to dark brown; erect and recumbent setae distinct. Head vestiture: setose, setae erect.

HEAD (Figs 31B, D, L, 32B, D, F, H). Rostrum slightly narrowing anteriorly to parallel-sided; RL/RW = 0.70–0.88. Pterygia not projected. Vertex without transverse depression. Eyes convex; VW/ELD = 2.00–3.00. Costulation of head capsule continues on epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.75, fam2 = 1.64, fam3 = 0.74, fam4 = 0.87, fam5 = 0.54, fam6 = 0.56, fam7 = 0.48; club L/W = 1.93.

THORAX. Pronotum: PL/PW = 0.62–0.76, transverse. Elytra ovate to orbicular-ovate, strongly convex, EL/EW = 1.28–1.36.

LEGS. Femora slender. Median margin of protibiae and metatibiae: moderately emarginate in distal 1/3; mucro weak. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere 1.47 × as wide as long.

FEMALE GENITALIA. Spermatheca (Fig. 31G–J): nodulus tumid; collum weakly projecting, narrow, in line with nodulus; ramus weakly projecting, narrow, perpendicular to nodulus; cornu strongly attenuate.

MALE. Unknown.

Remarks

The examination of syntypes of *Omius inflatus* Kolenati, 1859 (Fig. 32A–D), *Omius georgicus* Reitter, 1888 (Fig. 32E–I), and *Urometopus moczarskii* Penecke, 1929 (Fig. 31C–D), along with a broad analysis of additional material and variability, has revealed the existence of a single species distributed across a vast range from the East European Plains to the Transcaucasus. While remote populations exhibit some degree of external morphological variability, particularly in the shape of the elytra and vestiture, they share a remarkably stable spermathecal structure (Fig. 31G–J). Based on these findings, *Urometopus inflatus* is recognized as the senior synonym of *U. georgicus* and *U. moczarskii*.

Urometopus inflatus is a parthenogenetic species that likely originated from a common ancestor with the amphigonic *U. talyschensis*, which is endemic to the Talysh Mountains. Males of *U. inflatus* are not yet detected except for a single unverified sample from Mt Dzhalgan in southern Daghestan (iNaturalist observation ID195768105). A remarkably similar distribution pattern is observed in *Polydrusus inustus* Germar, 1823 whose males were likewise found in the same locality near Dzhalgan (Korotyaev *et al.* 2003). Due to its parthenogenetic reproduction, *U. inflatus* has achieved a broad geographic range.

Life history

This species lives in deciduous forests; can usually be collected by sweeping, sifting leaf litter and pitfall traps (Figs 83E–F, 84).

Distribution

Eastern Caucasus and Transcaucasus, the Crimean Mountains, plains of East Europe from Podolia to Southern Ural (Fig. 74A–B).

***Urometopus mingrelicus* (Reitter, 1888)**
Figs 8C, 33–34, 74B

Omius mingrelicus Reitter, 1888d: 264;

Omius mingrelicus – Reitter 1897: 201.

Omius (Urometopus) mingrelicus – Formánek 1904a: 21.

Urometopus mingrelicus – Lona 1938: 433. — Borovec 2006: 38; 2013b: 301. — Colonnelli 2011: 676.
— Alonso-Zarazaga *et al.* 2023: 301.

Differential diagnosis

The structure of the spermatheca in *Urometopus mingrelicus* is similar to that of *U. inflatus*. In the shape of the elytra and head, especially in females, this species also resembles *U. inflatus*, but differs in the vestigial recumbent piliform scales and the very short erect setae, which are distinct only on the posterior declivity of the elytra (in *U. inflatus* erect setae are well developed along the elytra).

From sympatric *U. lederi* it differs in the absence of a transverse depression between epifrons and vertex; pronotal disc more densely punctate; spermatheca with swollen nodulus; and in pilosity characters, as noted above in comparison with *U. inflatus*.

It is similar to *U. circassicus* in the presence of recumbent pubescence, but differs in the coarsely rugoso-punctate pronotal disc, the more scarce pilosity of the elytra, the shape of the median lobe lacking a flattened lamina, and in the spermatheca with a swollen nodulus.

Material examined

Lectotype (here designated)

GEORGIA – **Shida Kartli** • ♂; Meskisches Gb. [= Likhi Range]; 42.0130° N, 43.5091° E; H. Leder leg.; HNHM (Fig. 33C).

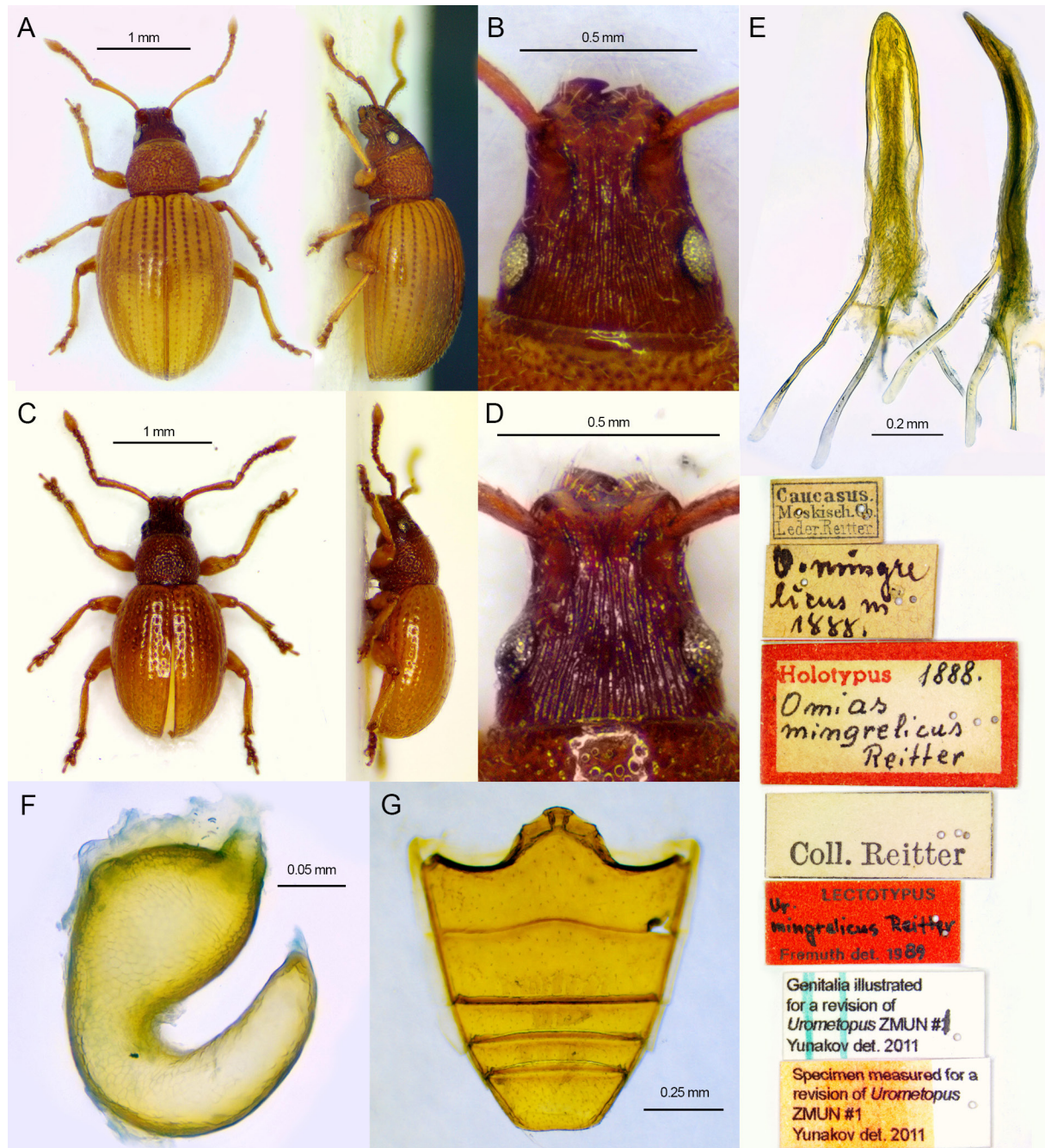


Fig. 33. *Urometopus mingrelicus* (Reitter, 1888). A–B, F. Paralectotype, ♀ (HNHM). C–E, G. Lectotype, ♂ (HNHM). A. Habitus, dorsal and lateral view. B. Head, dorsal view. C. Habitus, dorsal and lateral views. D. Head, dorsal view. E. Aedeagus, dorsal, lateral view and labels. F. Spermatheca. G. Abdominal ventrites.

Paralectotypes

GEORGIA – **Shida Kartli** • ♂; same collection data as for lectotype; HNHM. – **Samtskhe-Javakheti** • 1 ♀; “Caucasus Abastuman” [Abastumani, Meskheti Range]; 41.7525° N, 42.8319° E; H. Leder leg.; “*mingrelicus* Type; ♀; *mingrelicus* m”; HNHM.

LOCALITY UNKNOWN – 2 ♀♀; “Kaukas[us]”; H. Leder leg.; HNHM (Fig. 33A) • 2 ♂♂; “Caucasus”; H. Leder leg.; MTD (Fig. 34A).

Type locality

Georgia, Likhi Range.

Notes on type material and type locality

In the original description, Reitter (1888d) specified the type locality as “Am Surampass, im Meskischen Gebirge” [Suram Pass, Meskian Mountains] but later (Reitter 1897) he wrote, “Mingrelien” [Mingrelia] the land far north-west from Suram Pass. Formánek (1904a) did not mention Meskian Mountains and specified “Mingrelien”. One female originates from Abastumani (Meskheti Range).

In Johann Faust’s collection (MTD) the first author found two males labelled “Caucasus Leder” apparently rewritten by Faust from the original printed label of Leder “Kaukasus Leder” (possibly received as exchange or purchased from Edmund Reitter). In Reitter’s collection (HNHM), additionally

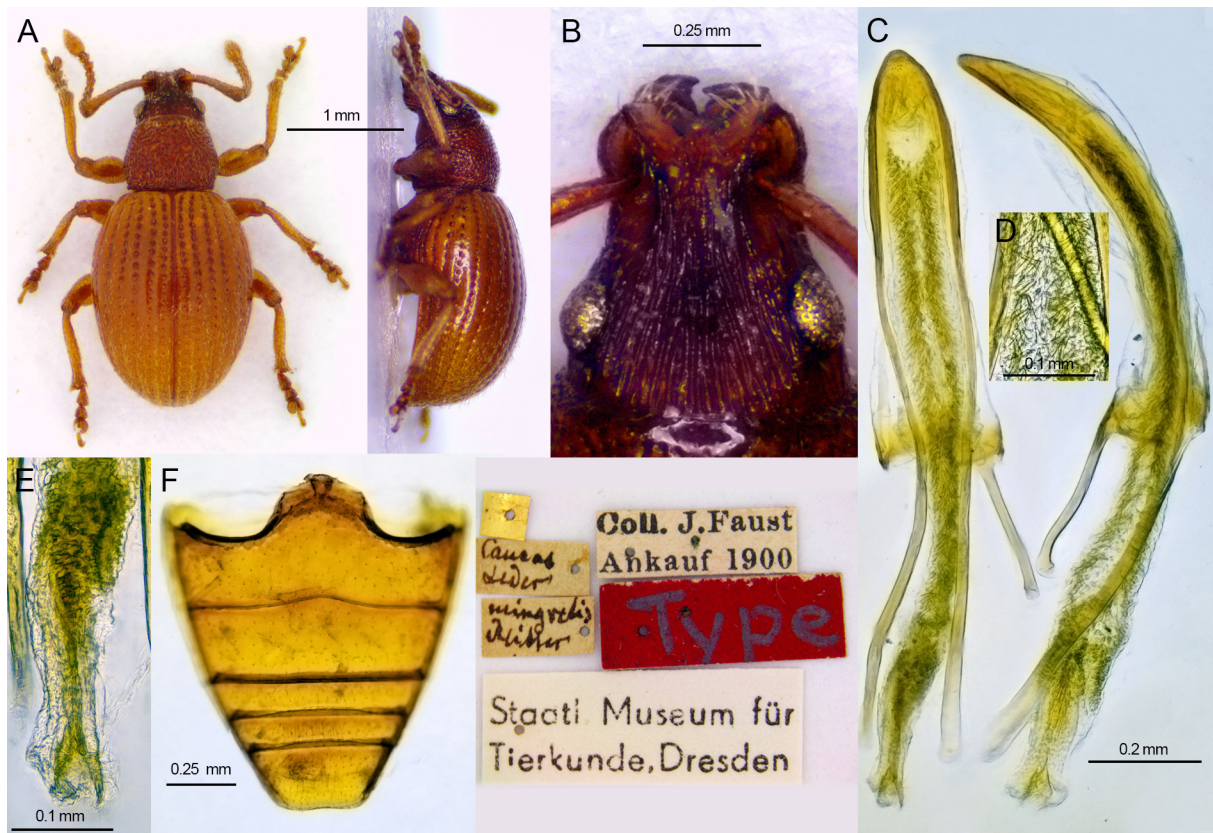


Fig. 34. *Urometopus mingrelicus* (Reitter, 1888), paralectotype, ♂ (MTD). **A.** Habitus, dorsal and lateral views. **B.** Head, dorsal view. **C.** Aedeagus, dorsal and lateral views. **D.** Endophallic armature. **E.** Copulatory sclerite, dorsal view. **F.** Abdominal ventrites and labels.

to the male with specimens of Reitter, there are two females possibly later assigned as syntypes by the museum's curator in Budapest.

Assing (2009) assigned the localities of Leder labelled as “Meskisches Gebirge” to the Likhi Range [42.19° N, 43.49° E].

Redescription

MEASUREMENTS (mm). BL: 2.33–2.95, BW: 1.15–1.50, BH: 0.88–1.25.

COLORATION AND VESTITURE (Figs 33A, C, 34A). Yellow brown to chestnut brown; sparsely pilose. Head vestiture: subpilose.

HEAD (Figs 33B, D, 34B). Rostrum slightly narrowing anteriorly; RL/RW = 0.77–0.87. Pterygia projected. Vertex without transverse depression. Eyes: VW/ELD = 1.90–2.30. Costulation of head capsule continues on epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.97, fam2 = 1.68, fam3 = 0.82, fam4 = 0.76, fam5 = 0.68, fam6 = 0.65, fam7 = 0.60; club L/W = 1.91.

THORAX. Pronotum: PL/PW = 0.71–0.79. Elytra ovate, EL/EW = 1.21–1.30.

LEGS. Protibiae and metatibiae: medial margin in males weakly emarginate in distal $\frac{1}{3}$; mucro moderate. Tarsi: 1st tarsomere 0.95 × as wide as 2nd; 2nd tarsomere 1.9 × as wide as long.

ABDOMINAL VENTRITES (Figs 33G, 34F). Anal ventrite of male truncate.

FEMALE GENITALIA. Spermatheca (Fig. 33F): nodulus tumid; collum weakly projecting, narrow, in line with nodulus; ramus reduced; cornu strongly attenuate.

MALE GENITALIA. Median lobe (Figs 33E, 34C) 0.77 × as long as apodemes, evenly narrowed apically. Lamina of median lobe narrowly rounded. Endophallus with bilaterally condensed fields of dense long spicules (Fig. 34D), distal part with smaller field of more dense long spicules and sparse tuberculiform spicules. Lunar sclerite absent. Copulatory sclerite (Figs 8C, 34E) slim, V-shaped, flagellar sheath weakly developed.

Life history

Unknown.

Distribution

The range remains unclear, this species is known from Likhi Range and Meskheta Range in the Lesser Caucasus (Fig. 74B).

Urometopus penevi Behne, 1990
Figs 8D, 35, 74A

Urometopus penevi Behne, 1990: 137.

Urometopus penevi – Borovec 2006: 38; 2013b: 301. — Colonnelli 2011: 684. — Alonso-Zarazaga *et al.* 2023: 301.

Differential diagnosis

This species is similar to *U. nemorum* and *U. inflatus* in the presence of subrecumbent piliform setae on the striae and interstriae of the elytra, but differs from both in the thicker and obtuse erect setae on the interstriae. From *U. inflatus* it further differs in the narrower epifrons and larger eyes. From *U. nemorum* it sharply differs in the shape of the spermatheca (Figs 35F, 66E–I).

It resembles *U. strigifrons* and *U. anatolicus* in the shape of the head, antennae, and body, but differs in the following characters: erect setae thicker, shorter, and distinctly obtuse; a distinct subrecumbent vestiture of long piliform setae present on both striae and interstriae, giving the elytral vestiture a denser appearance; lanceolate margaritaceous scales absent; sides of pronotum without appressed scales. From *U. strigifrons* it further differs in the scarcer punctuation of the pronotal disc, less distinct pterygia in males, and in males the epifrons distinctly narrowed posteriorly.

Type material

Holotype

BULGARIA – Dobrich • ♂; “NO Bulg. Dabrava/ 20 km O Tolbuchin [= Dobrich]”; 43.5312° N, 28.0886° E; 4 May–19 Jun. 1987; L. Penev leg.; DEL.

Paratypes

BULGARIA – Dobrich • 1 ♂; same collection data as for holotype; deciduous forest: *Quercus robur* and *Q. pedunculiflora*; pitfall trap; BRC (Fig. 35C) • 1 ♂; same collection data as for preceding; MTD • 1 ♀; same collection data as for preceding; 19 Jun.–8 Jul. 1987; L. Penev leg.; ZIN • 1 ♀; same collection data as for preceding; MTD • 1 ♀; same collection data as for preceding; NHMUK (Fig. 35A).

Type locality

Bulgaria, Dabrava [20 km E of Dobrich].

Redescription

MEASUREMENTS (mm). BL: 2.33–2.74, BW: 1.24–1.50, BH: 1.01–1.18.

COLORATION AND VESTITURE (Fig. 35A, C). Brown; setose and pilose, erect and recumbent setae distinct. Head vestiture: pilose, setae subrecumbent.

HEAD (Fig. 35B, D). Rostrum in males parallel-sided to narrowing anteriorly in females; RL/RW = 0.81–0.82. Pterygia not projected. Vertex with shallow transverse depression. Eyes: VW/ELD = 1.76–2.17. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.81, fam2 = 1.59, fam3 = 0.74, fam4 = 0.64, fam5 = 0.54, fam6 = 0.51, fam7 = 0.52; club L/W = 1.88.

THORAX. Pronotum: PL/PW = 0.68–0.70, transverse. Elytra ovate: EL/EW = 1.30–1.33.

LEGS. Protibiae and metatibiae: medial margin in males weakly emarginate in distal 1/3; mucro moderate. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere 1.8 × as wide as long.

ABDOMINAL VENTRITES. Anal ventrite of male weakly emarginate.

FEMALE GENITALIA. Spermatheca (Fig. 35F): nodulus tumid; collum roundly projecting, narrow, perpendicular to nodulus; ramus roundly projecting, $2\times$ as long as collum, perpendicular to nodulus; cornu strongly attenuate.

MALE GENITALIA. Median lobe as long as apodemes (Fig. 35E); parallel-sided and weakly sinuate. Lamina of median lobe attenuate, narrowly rounded. Endophallus with field of sparse short spicules in proximal part and dense tuberculiform spicules in distal part. Lunar sclerite absent. Copulatory sclerite (Figs 8D, 35G) very small, slim, spatulate, flagellar sheath weakly developed.

Life history

Urometopus penevi lives in oak forests.

Distribution

The range remains unclear, this species is known only from the type locality in Danubian Plain in Bulgaria (Fig. 74A).

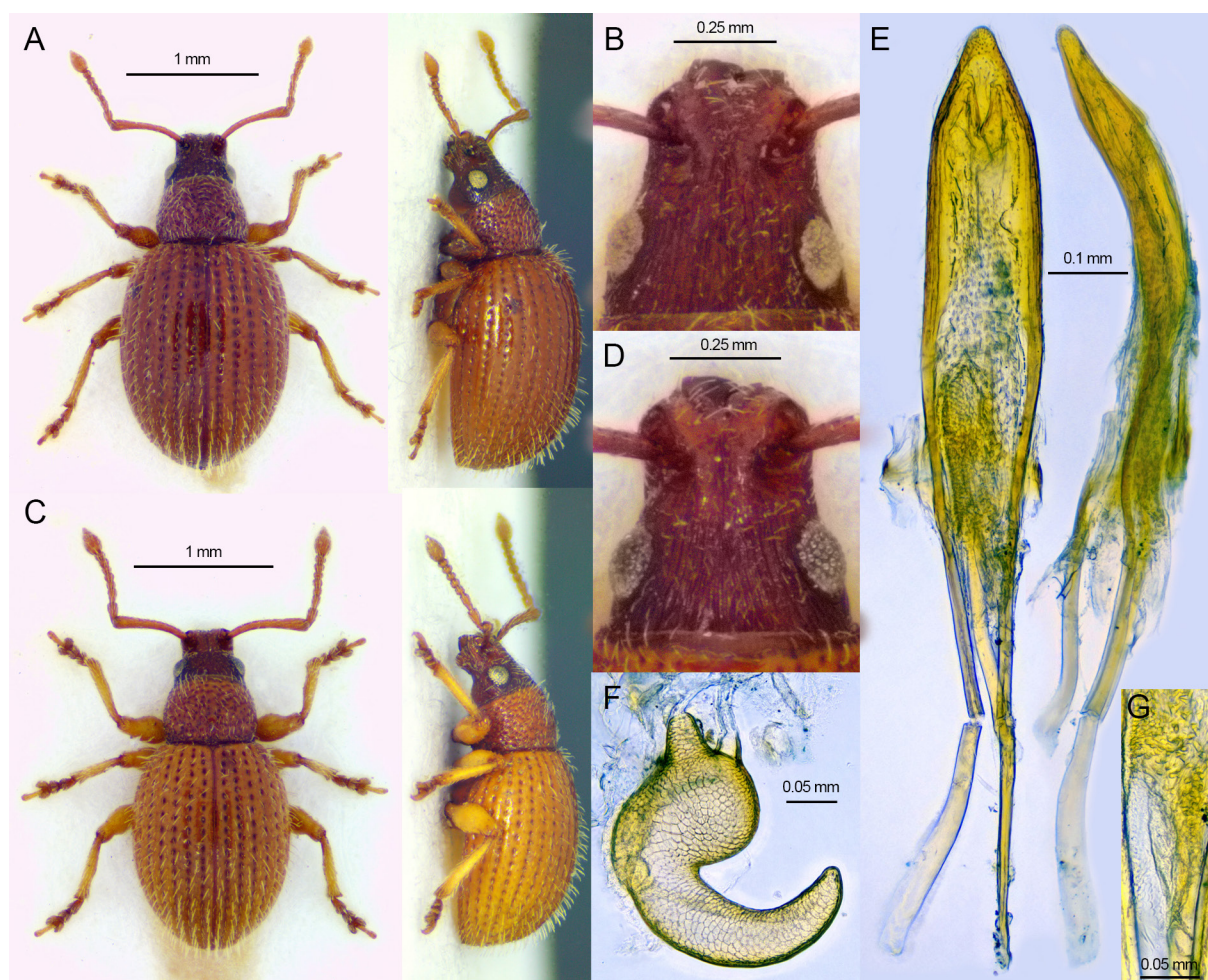


Fig. 35. *Urometopus penevi* Behne, 1990, paratypes. **A–B, F.** ♀ (ID29821, NHMUK). **C–E, G.** ♂ (ID29823, BRC). **A.** Habitus, dorsal and lateral views. **B.** Head, dorsal view. **C.** Habitus, dorsal and lateral views. **D.** Head, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Spermatheca. **G.** Copulatory sclerite, dorsal view.

Urometopus sengleti Yunakov sp. nov.

[urn:lsid:zoobank.org:act:F75DDB63-B8BE-4946-BE24-942C32D3EB13](https://zoobank.org/urn:lsid:zoobank.org:act:F75DDB63-B8BE-4946-BE24-942C32D3EB13)

Figs 36, 74B

Differential diagnosis

Urometopus sengleti sp. nov. is closely related to *U. talyschensis* and shares with it most of the external habitus characters and general shape of spermatheca, but differs from the latter in globose elytra with strongly convex disc, narrower epifrons and sparsely punctate pronotum; ramus of spermatheca perpendicular to collum.

Etymology

This species is named after Dr Antoine Senglet (1927–2015), Swiss entomologist and arachnologist who collected this species.

Type material

Holotype

IRAN – **Tehran** • ♀; Pol-e-Zanguleh; 36.2167° N, 51.3167° E; elev. 2300 m; 12 Aug. 1973; A. Senglet leg.; MHNG.

Paratype

IRAN – **Tehran** • 4 ♀♀; same collection data as for holotype; MHNG • 2 ♀♀; same collection data as for holotype; MMTI (Fig. 36A).

Type locality

Iran, Tehran Province, Pol-e-Zanguleh.

Description

MEASUREMENTS (mm). BL: 2.79–2.82, BW: 1.53, BH: 1.24–1.29.

COLORATION AND VESTITURE (Fig. 36A). Yellow-brown; erect and recumbent setae distinct; erect setae yellowish-grey, narrow and somewhat flattened, pointed and obtuse, somewhat shorter than width of interstriae, ordered in regular row; interstriae sparsely covered with recumbent piliform setae; each puncture in striae bears tinier subrecumbent piliform seta. Head vestiture: setose, setae erect. Vestiture of

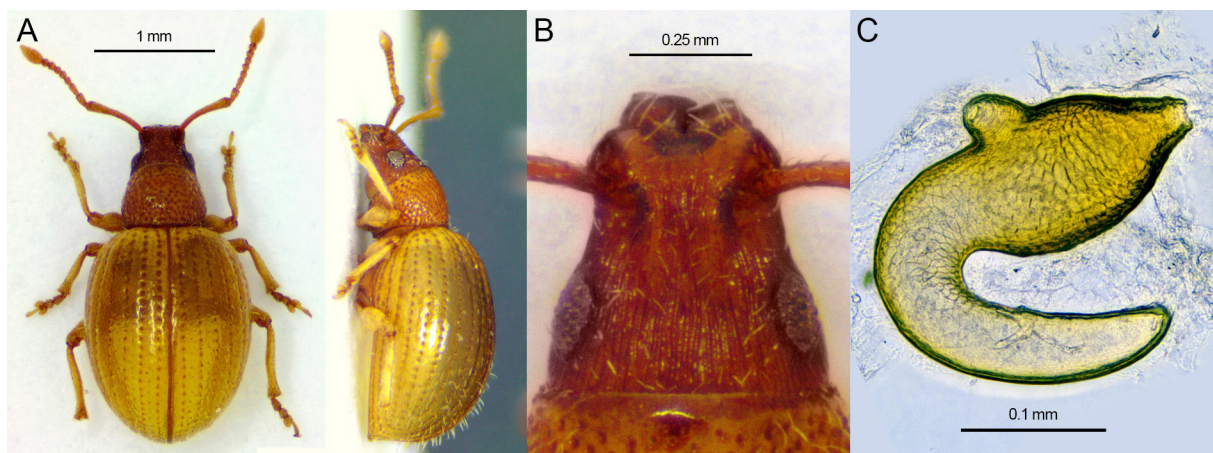


Fig. 36. *Urometopus sengleti* Yunakov sp. nov., paratype, ♀ (MMTI). **A.** Habitus, dorsal and lateral views. **B.** Head, dorsal view. **C.** Spermatheca.

antennae and legs setose; scape and funicle with recumbent setae; grooming brush on distal $\frac{1}{3}$ of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 36B). Rostrum slightly narrowing anteriorly; RL/RW = 0.74–0.79. Pterygia projected. Frons: U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, parallel-sided, $2 \times$ as narrow as vertex, flat, without median sulcus, striate. Vertex without transverse depression. Eyes moderately convex; VW/ELD = 1.95–2.00. Costulation of head capsule continues on epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.61, fam2 = 1.80, fam3 = 0.85, fam4 = 0.79, fam5 = 0.75, fam6 = 0.73, fam7 = 0.65; club L/W = 1.87.

THORAX. Pronotum: PL/PW = 0.77–0.82, moderately transverse; convex on disc; widest at middle, roundly narrowing anteriorly and weakly constricted posteriorly; sparsely punctate, punctures irregular, interspaces between punctures wider than diameter of puncture. Elytra orbicular-ovate, strongly convex, EL/EW = 1.25.

LEGS. Tibiae slender. Medial margin of protibiae and metatibiae moderately emarginate; mucro weak. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere $1.8 \times$ as wide as long.

FEMALE GENITALIA. Spermatheca (Fig. 36C): nodulus moderately tumid; collum weakly projecting, narrow, in line with nodulus; ramus weakly projecting, narrow, perpendicular to nodulus; cornu strongly attenuate.

MALE. Unknown.

Life history

Unknown.

Distribution

Alborz Mountains (Fig. 74B).

Urometopus talyschensis (Reitter, 1897) stat. rev.
Figs 7P, 37–38, 74B

Omius georgicus var. *talyschensis* Reitter, 1897: 201.

Urometopus talyschensis (synonym of *Urometopus georgicus*) – Lona 1938: 433. — Borovec 2006: 38; 2013b: 301. — Colonnelli 2011: 683. — Alonso-Zarazaga *et al.* 2023: 301.
Urometopus talyschensis (valid) – Korotyaev 1992: 812.

Differential diagnosis

Urometopus talyschensis is very similar to *U. inflatus* and differs from it by shorter erect setae on elytral interstriae, projected pterygia, a less tumid nodulus, and a more weakly delimited collum of the spermatheca.

Type material

Lectotype (here designated)

AZERBAIJAN – **Lankaran-Astara** • ♀; “Caspi.-M.-Gebiet Liryk [= Lerik] Leder (Reitter)” “v. *talyschensis*” “Coll. Reitter”; 38.7683° N, 48.4023° E; H. Leder leg.; HNHM (Fig. 38A).

Paralectotypes

AZERBAIJAN – **Lankaran-Astara** • 3 ♂♂, 1 ♀; same collection data as for lectotype; HNHN (Fig. 38B) • 1 ♀; Lankaran; 38.7528° N, 48.7605° E; H. Leder leg.; HNHN.

Additional material examined

AZERBAIJAN – **Lankaran-Astara** • 1 ♂, 1 ♀; 29 km on Road Lankaran–Lerik; 38.7669° N, 48.5758° E; 1 Apr. 2001; T. Lackner leg.; BPC (Fig. 37A, C) • 1 ♂, 1 ♀; Astara Distr., Istisu, W of Astara; 38.7854° N, 48.7367° E; 2–6 Jun. 1996; W. Schawaller leg.; MMTI • 2 ♂♂, 2 ♀♀; Istisu; 38.9681° N, 48.5462° E; 10–13 May 2001; T. Lackner leg.; KJC • 1 ♂, 1 ♀; same collection data as for preceding; NYC • 1 ♂, 1 ♀; Linkoran Distr., Alekseevka [= Dastatuk]; 38.6866° N, 48.7418° E; 18 May 1976; N. Nikitsky leg.; ZIN • 2 ♂♂; Linkoran Distr., Avrora; 38.6554° N, 48.7943° E; 28 Apr. 2001; Yu.M. Marusik leg.; ZIN • 1 ♂; Linkoran Distr., Bilasar; 38.6300° N, 48.6836° E; 19 May 1976; N. Nikitsky leg.; ZIN • 1 ♀; Linkoran Distr., Bilasar; 38.6300° N, 48.6836° E; 26 May 1976; Belov leg.; ZIN • 1 ♀; Talysh; Korb leg.; MMTI • 1 ♀; Talysh, Mt Angolovi-Band; 38.6535° N, 48.6744° E; elev. 1100 m; 4 Jun. 1936; K.V. Arnoldi leg.; ZIN • 1 ♀; Lerik; 38.7683° N, 48.4023° E; H. Leder leg.; MTD • 1 ♀; Talysh; 38.7683° N, 48.4023° E; H. Leder leg.; MTD.

IRAN – **Gilan** • 1 ♂, 1 ♀; near Asalem; 37.6311° N, 48.7908° E; elev. 1800 m; 9 Jun. 1975; A. Senglet leg.; MMTI (Fig. 38C) • 1 ♂, 2 ♀♀; same collection data as for preceding; MHNG. – **Mazandaran** • 1 ♀; Elburs Mts, Rudbarek; 36.484° N, 51.128° E; elev. 1000 m; 31 Jul. 1969; N. Micheida leg.; MSNVR.

LOCALITY UNKNOWN – 1 ♂; “Caucasus Reitter”; MMTI.

Mislabeled specimens

LOCALITY UNKNOWN – 10 ♂♂; “Caucasus Circassia”; MMTI • 1 ♂; “Caucasus Meskisches Gb. Leder Reitter [printed]”; BRC.

Type locality

Azerbaijan, Lerik.

Redescription

MEASUREMENTS (mm). BL: 2.24–3.21, BW: 1.17–1.73, BH: 0.87–1.37.

COLORATION AND VESTITURE (Figs 37A, C, J, 38A–C). Yellow brown to dark brown; erect and recumbent setae distinct; erect setae yellowish-grey, narrow and somewhat flattened, pointed and obtuse, somewhat shorter than width of interstriae, ordered in regular row; interstriae sparsely covered with recumbent piliform setae; each puncture in striae bears tinier subrecumbent piliform seta. Head vestiture: setose, setae erect. Vestiture of antennae and legs setose; scape and funicle with suberect setae; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Figs 37B, D, 38D–F). Rostrum narrowing anteriorly; RL/RW = 0.74–0.91.

PTERYGIA PROJECTED. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, widened posteriorly, 1.7 × as narrow as vertex, flat, without median sulcus, striate. Vertex without transverse depression. Eyes moderately convex; VW/ELD = 2.08–2.67. Costulation of head capsule continues on epifrons.

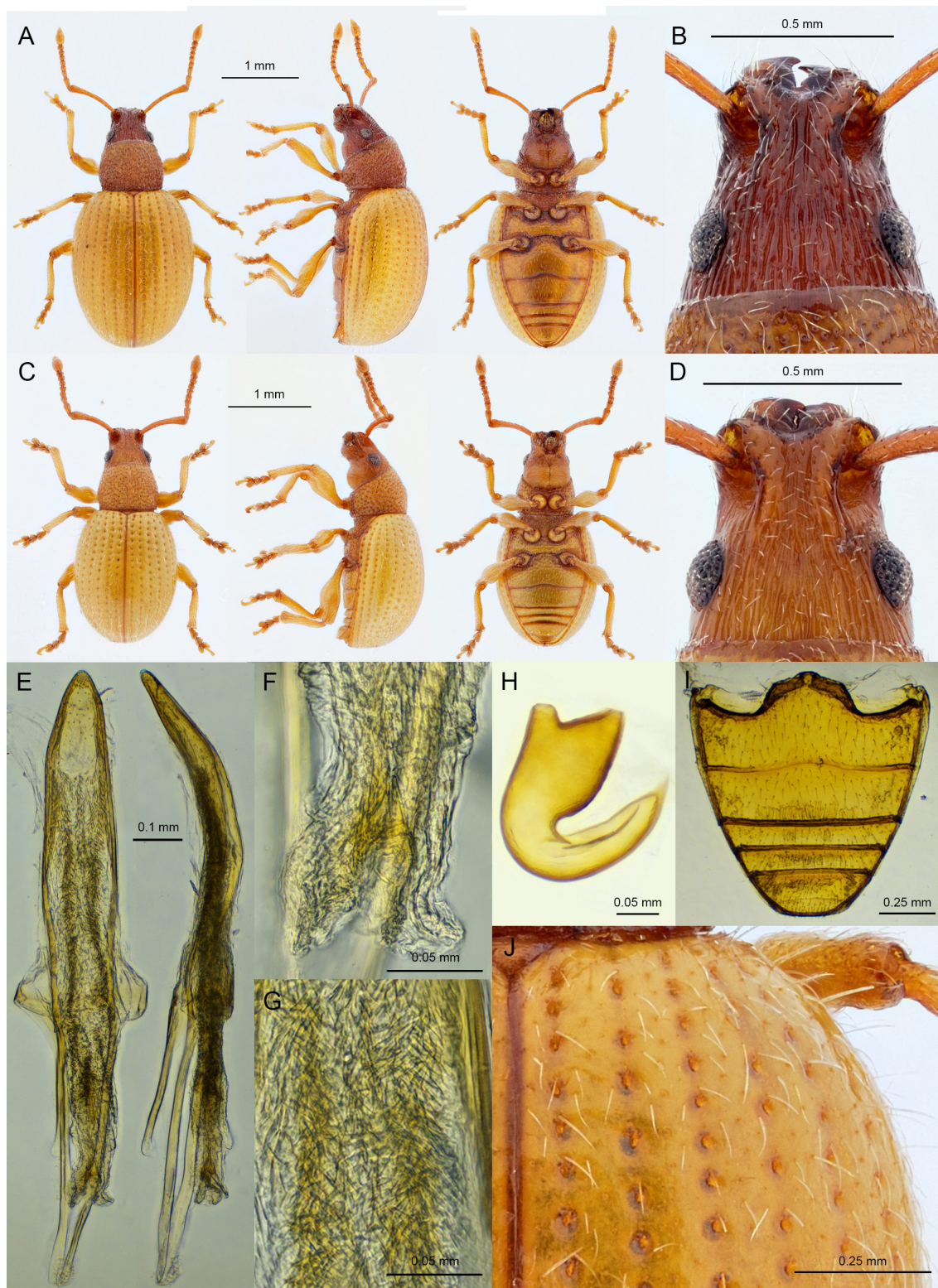


Fig. 37. *Urometopus talyschensis* (Reitter, 1897) stat. rev., 29 km on Road Lankaran-Lerik (ID29850, BPC). **A.** Female habitus, dorsal, lateral and ventral views. **B.** Head of female, dorsal view. **C.** Male habitus, dorsal, lateral and ventral views. **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Copulatory sclerite, dorsal view. **G.** Endophallic armature. **H.** Spermatheca. **I.** Abdominal ventrites of male. **J.** Elytral vestiture of male.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.68, fam2 = 1.43, fam3 = 0.81, fam4 = 0.74, fam5 = 0.64, fam6 = 0.52, fam7 = 0.57; club L/W = 1.65.

THORAX. Pronotum: PL/PW = 0.71–0.82, transverse; disc flat; widest at middle, in males weakly rounded, in females rounded anteriorly and weakly constricted posteriorly; wrinkly-punctate, punctures irregular, interspaces between punctures narrower than diameter of puncture. Elytra ovate to orbicular-ovate, EL/EW in females = 1.23–1.37, in males = 1.27–1.30.

LEGS. Protibiae: medial margin in male weakly emarginate in distal 1/3; mucro moderate. Metatibiae: medial margin in males weakly emarginate in distal 1/3; mucro moderate. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere 1.9 × as wide as long.

ABDOMINAL VENTRITES (Fig. 37I). Anal ventrite of male truncate.

FEMALE GENITALIA. Spermatheca (Fig. 37H): nodulus moderately tumid; collum weakly projecting, narrow, in line with nodulus; ramus weakly projecting, narrow, perpendicular to nodulus; cornu attenuate.

MALE GENITALIA (Fig. 37E). Median lobe 0.67 × as long as apodemes, evenly narrowed apically. Lamina of median lobe attenuate, narrowly rounded. Endophallus with field of dense short spicules (Fig. 37G)

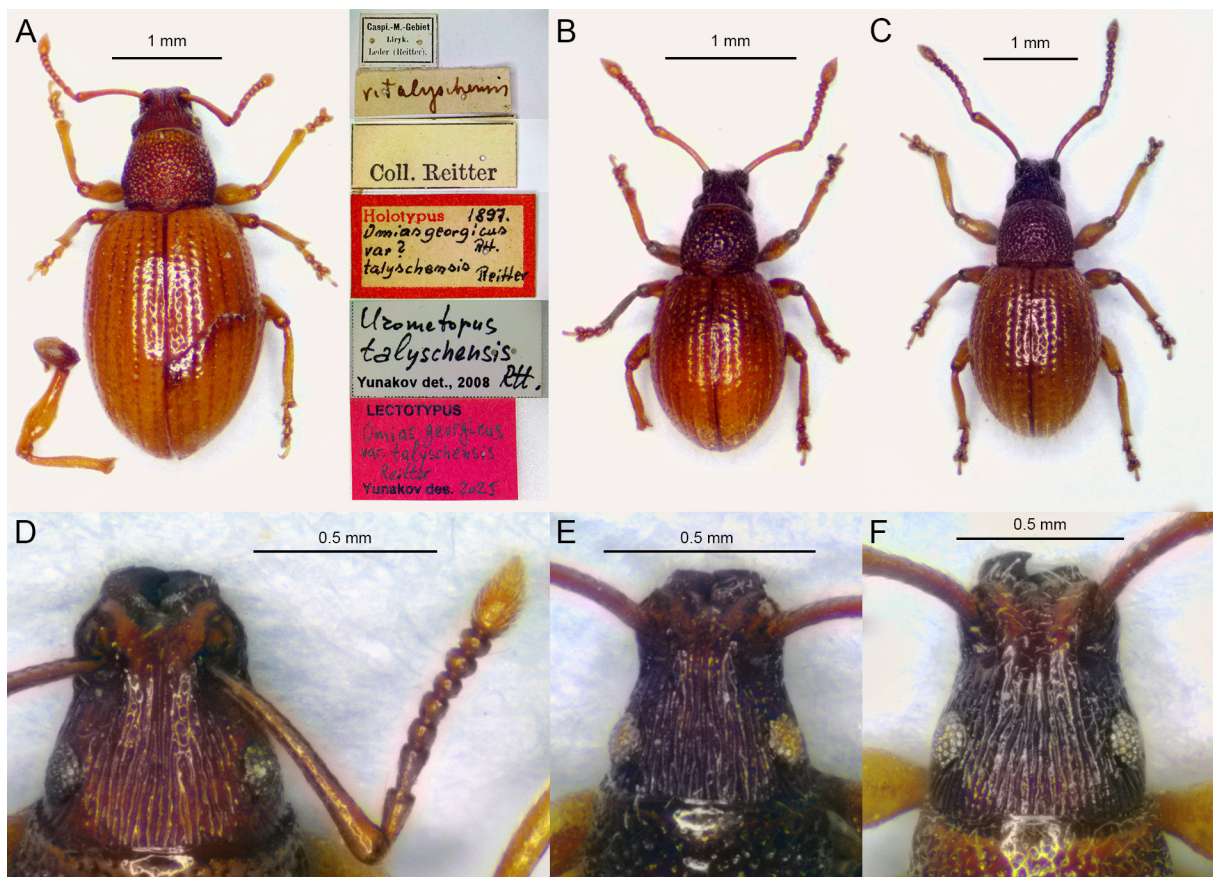


Fig. 38. *Urometopus talyschensis* (Reitter, 1897) stat. rev. **A, D.** Lectotype, ♀ (ID31154, HNHN). **B, E.** Paralectotype, ♂ (ID31155, HNHN). **C, F.** Male from Asalem (ID29857, MMTI). **A–C.** Habitus, dorsal view and labels (lectotype). **D–F.** Head, dorsal view.

condensed bilaterally in proximal part and dense tuberculiform spicules in distal part. Lunar sclerite absent. Copulatory sclerite (Figs 7P, 37F) slim, spatulate, flagellar sheath well developed.

Life history

Unknown.

Distribution

Alborz Mountains (Fig. 74B).

Remarks

Urometopus talyschensis was originally treated as a variety of *U. georgicus* (= *U. inflatus*). Then it was synonymized with the latter (Lona 1938; Colonnelli 2011; Borovec 2013b) or as distinct species (Korotyaev 1992). A combination of weakly visible but distinct differences in sculpture and vestiture of the body, along with the shape of spermatheca, allows us to separate this form as a different species.

An unverified report on the iNaturalist citizen science platform (observation ID 195768105) suggests the presence of this bisexual species on Mt Dzhalgan (near Derbent, Daghestan, Russia), based on the finding of a male specimen: “RD-23-DZhS-01 Russia, Republic of Daghestan, Derbentsky District, Dzhalgan Mt.; lon 48.257, lat 42.031 (accuracy ~100 m); 2023-05-31; Grebennikov K.A. leg.” This male exhibits weak vermiculated punctuation of pronotal dorsum and erect setae are short on elytral interstriae, typical for *U. talyschensis* from Lerik rather than for *U. inflatus* in Leder’s material from “Daghestan”. Given that secure identification of this species from photographs is nearly impossible, we nevertheless exclude this record from our analysis pending examination of the original material from Daghestan (Fig. 74. see red circle with question mark).

longicornis species group

The group is characterized by two homoplastic characters: body vestiture reduced, transverse depression of vertex shallow.

Urometopus longicornis (Stierlin, 1893) Figs 8B, 39, 50, 73A

Barypeithes longicornis Stierlin, 1893: 410.

Omius rosti Reitter, 1896: 77. Synonymized by Formánek 1904a: 19.

Omius (*Urometopus*) *longicornis* – Formánek 1904a: 19.

Urometopus longicornis – Lona 1938: 433. — Borovec 2006: 38; 2013b: 301. — Colonnelli 2011: 676.
— Alonso-Zarazaga *et al.* 2023: 301.

Differential diagnosis

This species clearly differs from all West Caucasian species, except for *U. glabratus* sp. nov., in glabrous body almost lacking vestiture and strongly tumid elytra of females; pterygia strongly protruded from lateral outline of rostrum; pronotal punctuation and coarse scarce at disc; punctures of elytral striae very small. From *U. glabratus* it differs in epifrons moderately narrowing posteriorly, wider; eyes larger and less convex [VW/ELD = 1.53–2.36 (1.95); in *U. glabratus* VW/ELD = 1.94–2.50 (2.22)]; antennal scape evenly widened apically, thinner and feebly curved; pronotum widest posteriorly of middle, more transverse: [PL/PW = 0.67–0.80 (0.74); in *U. glabratus* PL/PW = 0.85–0.87 (0.86)]; elytra elliptic in males and orbicular in females; median lobe of aedeagus parallel-sided; apical part blunted; endophallus with needle-shaped spicules, copulatory sclerite smaller; ramus of spermatheca smaller than collum.

Type material (*Barypeithes longicornis*)

Lectotype (here designated)

GEORGIA – **Abkhazia** • ♂; “Abchasien Rost”; SDEI [lectotype labelled by Jan Fremuth; however, the designation has not been published].

Type material (*Omiastrosti*)

Lectotype (here designated)

GEORGIA – **Abkhazia** • ♀; “Abchasien Rost” [handwritten, original] “Kaukasus Abchasien leg. Rost” [handwritten, secondary] “*Barypeithes rosti* m. 1895” [handwritten, original] “Holotypus *Omiastrosti* Reitter, 1896” [red framed standard museum label], “*longicornis* Stierl., Coll. Reitter” “*Urometopus longicornis* Fremuth det., 1987”, “Lectotypus *Omiastrosti* Reitter Yunakov des. 2009”; HNHN (Fig. 50A–B).

Paralectotype

GEORGIA – **Abkhazia** • 1 ♀; golden square, “Abchasien Reitter”, “Rosti Reitter”, coll. J. Faust Ankauf 1900, “Type”, “B. Rosti m. Abchasien Rost”, “*Brachysoma Rosti* Reitt.”, “Staatl. Museum fuer / Tierkunde, Dresden”; K. Rost leg.; MTD (Fig. 50C–D).

Additional material examined

GEORGIA – **Abkhazia** • 10 ♂♂, 6 ♀♀; Gagra Range, Mt Mamdzishkha; 43.3053° N, 40.3271° E; elev. 689 m; 10 Jul. 2009; N. Yunakov leg.; tree line zone, deciduous forest; sifting leaf litter; NYC (Fig. 39A, C) • 1 ♀; Gagra Range, SW slope of Mt Mamdzishkha; 43.3057° N, 40.3047° E; elev. 1300–1400 m; 27 Jul.–19 Aug. 1984; A.G. Koval leg.; ZIN • 2 ♂♂; Gagra Range, S slope of Mt Mamdzishkha; 43.2941° N, 40.3331° E; elev. 1500 m; 25 Jun. 1984; A.G. Koval leg.; ZIN • 1 ♀; W spur of Mt Arabika; 43.4244° N, 40.2504° E; elev. 1300–1700 m; 8 Jun. 1991; G.E. Davidian leg.; ZIN • 2 ♂♂, 2 ♀♀; Mcara pr. Gudauta; 43.1599° N, 40.7679° E; elev. 600 m; 12 Jun. 1981; J. Strejček leg.; MMTI • 1 ♀; 10 km N of Gudauta; 43.2194° N, 40.6319° E; 25 May 1975; L. Zombori leg.; ZIN • 2 ♀♀; same collection data as for preceding; HNHN • 1 ♂; Gudauta Distr., near Mzara, Mzara River, Zashirbara Mt.R.; 43.1649° N, 40.8029° E; elev. 575–620 m; 15 May–3 Jul. 2014; I.A. Solodovnikov leg.; *Fagus* forest; ZMMU • 1 ♂; Sukhumi; MMTI • 3 ♂♂, 1 ♀; “Abchasia”; ZIN. – **Ajaria** • 1 ♀; Batumi; 41.6006° N, 41.7129° E; ZIN.

Type locality

Georgia, Abkhazia [without certain data].

Redescription

MEASUREMENTS (mm). BL: 2.41–2.84 (2.64), BW: 1.2–1.68 (1.40), BH: 1.15–1.3 (1.22).

COLORATION AND VESTITURE (Figs 39A, C, G, 50A, C). Red-brown; glabrous, with hardly visible scattered tiny recumbent piliform setae. Each puncture in striae bears tinier appressed piliform seta. Head vestiture: glabrous, tiny setae appressed. Vestiture of antennae and legs: antennal scape and legs almost bare; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Figs 39B, D, 50B, D). Rostrum narrowing anteriorly; RL/RW = 0.73–0.81. Pterygia projected. Frons U-shaped, nitid, not delimited from epistome by carina. Epifrons well edged, flat, moderately narrowing posteriorly. Vertex transversely depressed. Eyes moderately convex; VW/ELD = 1.53–2.36. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.82, fam2 = 1.56, fam3 = 0.76, fam4 = 0.76, fam5 = 0.55, fam6 = 0.66, fam7 = 0.55; club L/W = 2.10.

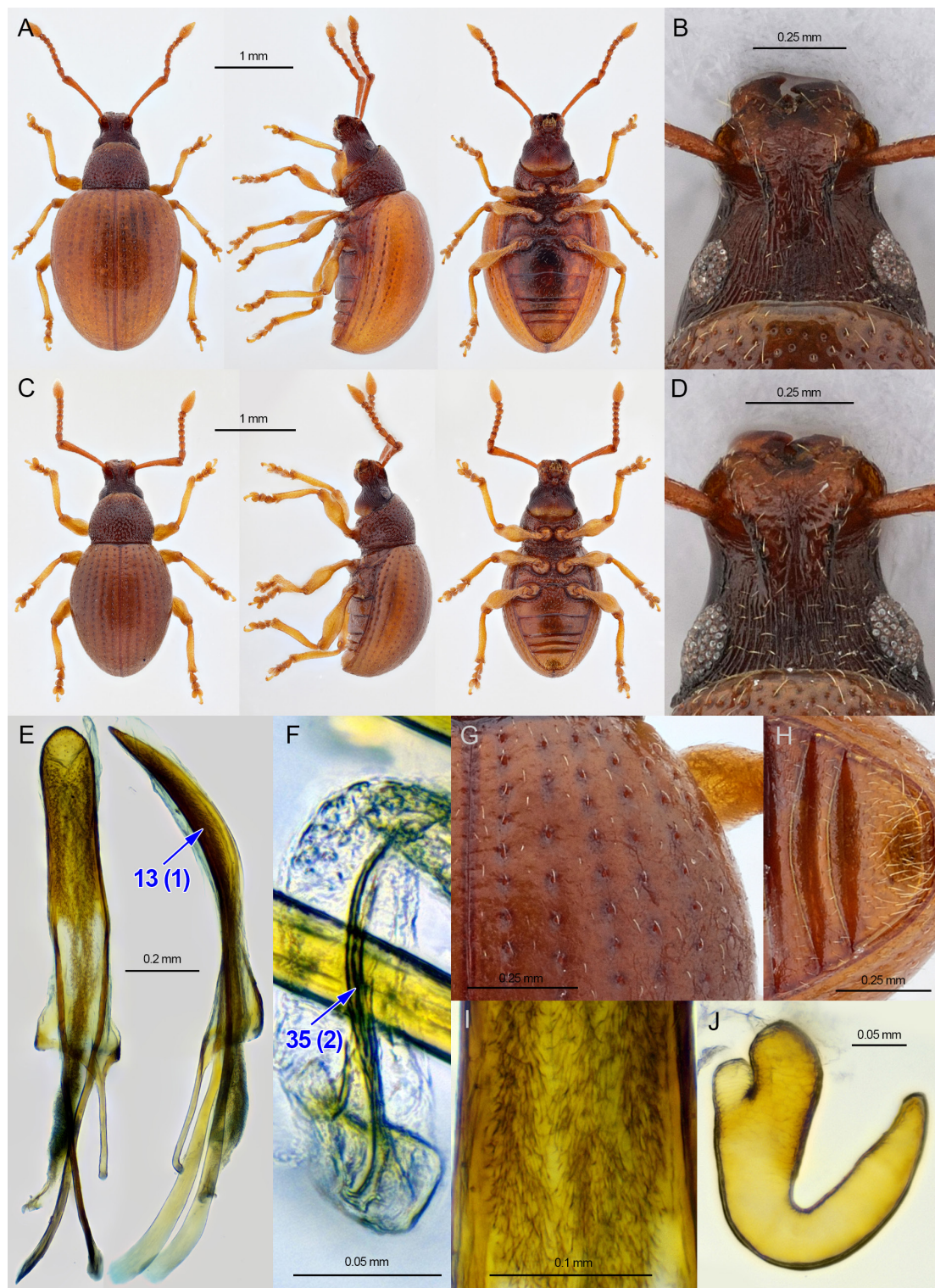


Fig. 39. *Urometopus longicornis* (Stierlin, 1893), Mt Mamdzishkha (ID29811, NYC). **A.** Female habitus, dorsal, lateral and ventral views. **B.** Head of female, dorsal view. **C.** Male habitus, dorsal, lateral and ventral views. **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Copulatory sclerite, dorsal view. **G.** Elytral vestiture of male. **H.** Abdominal ventrites of male. **I.** Endophallic armature. **J.** Spermatheca. The numeric indices in E–F refers to the numbers and states of the characters in the character matrix, [Supp. file 1](#)).

THORAX. Pronotum: PL/PW = 0.67–0.80, transverse. Elytra broadly-elliptic in males to orbicular-ovate in females, EL/EW = 1.19–1.35.

LEGS. Femora of both sexes moderately clavate. Protibiae moderately mucronate. Metatibiae: medial margin in males moderately emarginate in distal $\frac{1}{3}$. Tarsi: 1st tarsomere as wide as 2nd, 2nd tarsomere $1.8\times$ as wide as long.

ABDOMINAL VENTRITES (Fig. 39H). Anal ventrite of male truncate.

FEMALE GENITALIA. Spermatheca (Fig. 39J): nodulus not swollen; collum enlarged, tumid, rounded, in line with nodulus; ramus weakly roundly projecting, significantly smaller than collum; cornu strongly attenuate.

MALE GENITALIA (Fig. 39E). Median lobe $0.67\times$ as long as apodemes, parallel-sided and weakly sinuate. Lamina of median lobe rounded. Endophallus with bilaterally condensed fields of dense long spicules (Fig. 39I). Lunar sclerite absent. Copulatory sclerite (Figs 8B, 39F) slim, spatulate, flagellar sheath well-developed.

Life history

This species lives in mixed and deciduous (*Fagus*, *Abies*) forests with *Rhododendron ponticus* L., *Prunus laurocerasus* L. and *Ilex colchica* Pojark. understorey at elevations from 400 to 1700 m; usually it can be sifted from leaf litter (Fig. 82E).

Distribution

Greater Caucasus from Gagra Range to Bzipi Range. A single historical find from Batumi requires confirmation (Fig. 73A).

Note

The descriptions of *Barypeithes longicornis* and *Omius rosti* appear to be based on specimens from the same series collected by Karl Rost in Abkhazia during his expedition to the Caucasus in 1890.

Urometopus persicus Yunakov sp. nov.

[urn:lsid:zoobank.org:act:C556884D-6CB1-4DD8-B178-64434F245879](https://zoobank.org/urn:lsid:zoobank.org:act:C556884D-6CB1-4DD8-B178-64434F245879)

Figs 8I, 40, 73A

Differential diagnosis

This species is very similar to *U. ferrugineus* and *U. longicornis* but differs in the following characters: tarsi of male significantly broader (1st tarsomere $1.2\times$ as wide as 2nd, 2nd tarsomere $2.5\times$ as wide as long, vs *U. ferrugineus* with 1st tarsomere as wide as 2nd and 2nd tarsomere $1.9\times$ as wide as long); median lobe heavily sclerotized, broader and shorter, $0.77\times$ as long as apodemes (in *U. ferrugineus* – $0.67\times$ as long as apodemes); lamina of median lobe attenuate, flattened dorso-ventrally; collum of spermatheca shorter than ramus (in *U. ferrugineus* – collum longer than ramus).

Etymology

The adjective '*persicus*' highlights the species' distribution in Persia – the historical name for Iran.

Type material

Holotype

IRAN – **Mazandaran** • ♂; 5 km E of Nowshahr; 36.6132° N, 51.5311° E; elev. 1400 m; 31 May–2 Jun. 1976; C. Holzschuh and F. Ressler leg.; NHMUK (Fig. 40B).

Paratypes

IRAN – **Gilan** • 1 ♀; Hasan Kiadeh; 37.4092° N, 49.9129° E; 11 Jun. 1915; B. Iljin leg.; ZIN. – **Golestan** • 1 ♀; Gorgan; 36.7921° N, 54.4550° E; 18–19 Apr. 1974; C. Holzschuh and F. Ressler leg.; MMTI. – **Mazandaran** • 2 ♀♀; same collection data as for holotype; NHMUK (Fig. 40A).

Type locality

Iran, Mazandaran Province, 5 km E of Nowshahr.

Description

MEASUREMENTS (mm). BL: 2.83–3.49 (3.16), BW: 1.43–1.97 (1.80), BH: 1.18–1.53 (1.43).



Fig. 40. *Urometopus persicus* Yunakov sp. nov. **A, C, F.** Paratype, ♀ (ID31114, NHMUK). **B, D–E, G.** Holotype, ♂ (NHMUK). **A–B.** Habitus, dorsal, lateral, and ventral views. **C–D.** Head, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Spermatheca. **G.** Copulatory sclerite, dorsal view.

COLORATION AND VESTITURE (Fig. 40A–B). Chestnut brown; glabrous, with hardly visible scattered tiny recumbent piliform setae. On the interstriae of elytra, these setae are ordered into irregular rows; each puncture in striae bears tinier appressed piliform seta. Head vestiture: glabrous, tiny setae appressed. Vestiture of antennae and legs: antennal scape and legs almost bare; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 40C–D). Rostrum narrowing anteriorly; RL/RW = 0.75–0.84. Pterygia projected. Frons U-shaped, nitid, not delimited from epistome by carina. Epifrons well edged, with median sulcus, parallel-sided. Vertex transversely depressed. Eyes convex, VW/ELD = 1.91–2.32. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.79, fam2 = 1.67, fam3 = 0.84, fam4 = 0.78, fam5 = 0.67, fam6 = 0.61, fam7 = 0.62; club L/W = 1.90.

THORAX. Pronotum: PL/PW = 0.72–0.87, moderately transverse. Elytra in male broadly-elliptic, disc weakly convex; in females orbicular-ovate and strongly convex on disc, anterior declivity steep; EL/EW = 1.22–1.31.

LEGS. Femora in males strongly clavate. Metatibiae: medial margin in male moderately emarginate in distal 1/3. Tarsi: tarsomeres in male robust; 1st tarsomere 1.2 × as wide as 2nd, 2nd tarsomere 2.5 × as wide as long.

ABDOMINAL VENTRITES. Anal ventrite of male truncate.

FEMALE GENITALIA. Spermatheca (Fig. 40F): nodulus weakly swollen; collum roundly projecting, short, in line with nodulus; ramus narrowly projecting, 2 × as long as collum, perpendicular to nodulus; cornu strongly attenuate.

MALE GENITALIA (Fig. 40E). Median lobe 0.77 × as long as apodemes, parallel-sided. Lamina of median lobe strongly attenuate, narrowly flattened, rounded. Endophallus with sparse short spicules somewhat condensed bilaterally. Lunar sclerite absent. Copulatory sclerite (Figs 8I, 40G) slim, spatulate, flagellar sheath well developed.

Life history

Humid deciduous forests from sea level to 1400 m a.s.l., in leaf litter. Near Nowshahr this species was collected together with *U. ferrugineus*.

Distribution

Alborz Mountains (Fig. 73A).

Urometopus validicornis Yunakov sp. nov.

[urn:lsid:zoobank.org:act:1210329F-ACDA-45E9-A65B-DA6D27519731](https://zoobank.org/act:1210329F-ACDA-45E9-A65B-DA6D27519731)

Fig. 41

Differential diagnosis

This species differs from all known species of the Southern Caucasus in the glabrous body lacking vestiture and robust antennal funicle. From *U. mingrelicus* it also differs in transverse funicular antennomeres 3–7; deep median sulcus of epifrons; pronotum laterally and dorsally tumid; scarce punctuation of pronotal disc.

Etymology

The name is the Latin adjective ‘*validicornis*’, it highlights the robust antennae of this species.

Type material

Holotype

LOCALITY UNKNOWN – ♂; “Caucasus Reitter”; “*longicornis* Stierl. Coll. Reitter” “*Urometopus longicornis* Strl. Fremuth det. 1987” “coll. Podlussány A.”; HNHM (Fig. 41A).

Note

The holotype was probably collected by Hans Leder.

Type locality

“Caucasus” without certain data.

Description

MEASUREMENTS (mm). BL: 2.47, BW: 1.26, BH: 1.01.

COLORATION AND VESTITURE (Fig. 41A). Brown, glabrous; with hardly visible scattered tiny recumbent piliform setae. Head vestiture: glabrous, tiny setae appressed. Vestiture of antennae and legs: antennal scape and legs barely setose; grooming brush on distal ¼ of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

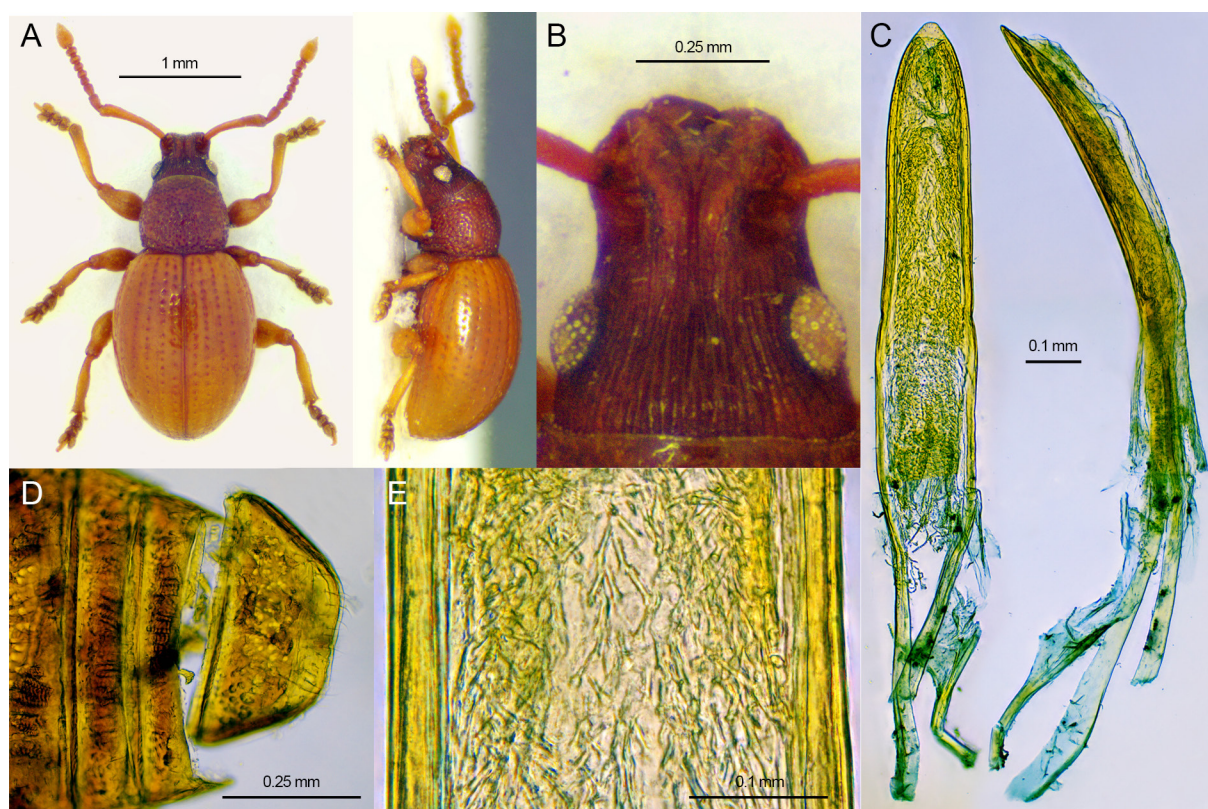


Fig. 41. *Urometopus validicornis* Yunakov sp. nov., holotype, ♂ (HNHM). **A.** Habitus, dorsal and lateral views. **B.** Head, dorsal view. **C.** Aedeagus, dorsal and lateral views. **D.** Abdominal ventrites. **E.** Endophallic armature.

HEAD (Fig. 41B). Rostrum parallel-sided; RL/RW = 0.78. Pterygia projected. Frons U-shaped, nitid, not delimited from epistome by carina. Epifrons well edged, with median sulcus, parallel-sided. Vertex transversely depressed. Eyes convex; VW/ELD = 1.93. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle subrobust; funicular antennomeres L/W: fam1 = 1.55, fam2 = 1.09, fam3 = 0.46, fam4 = 0.56, fam5 = 0.45, fam6 = 0.50, fam7 = 0.57; club L/W = 1.64.

THORAX. Pronotum: PL/PW = 0.81, moderately transverse. Elytra broadly-ovate: EL/EW = 1.32.

LEGS. Protibiae moderately mucronate. Metatibiae: medial margin hardly emarginate in distal $\frac{1}{3}$. Tarsi: tarsomeres in male robust; 1st tarsomere as wide as 2nd; 2nd tarsomere 2.5 $\times$ as wide as long.

ABDOMINAL VENTRITES (Fig. 41D). Anal ventrite of male truncate.

MALE GENITALIA (Fig. 41C). Median lobe 0.77 $\times$ as long as apodemes, parallel-sided. Lamina of median lobe evenly narrowed apically, narrowly rounded. Endophallus with field of dense short spicules (Fig. 41E) in proximal part and dense tuberculiform spicules in distal part. Lunar and copulatory sclerites are unknown [specimen, received for this study, has damaged endophallus].

FEMALE. Unknown.

Life history

Unknown.

Distribution

The range remains unknown; this species is known only from the Caucasus without certain data.

osellai species group

The group is characterized by two homoplastic characters: median lobe hastate, spermatheca collum/ramus size ratio = 2/1.

Urometopus bohaci Yunakov sp. nov.

[urn:lsid:zoobank.org:act:71FFD4CF-43AE-4169-8EC1-8B7EC70DC4D5](https://zoobank.org/act:71FFD4CF-43AE-4169-8EC1-8B7EC70DC4D5)

Figs 42, 73B

Differential diagnosis

This species is very similar to *U. inflatus* and *U. talyschensis* in shape of body and head but differs from the latter in thin tibiae and less clavate femora, well-developed erect pilosity of pronotum; collum and ramus of spermatheca connate, nodulus not swollen, cornu strongly attenuate.

It is also similar to *U. behnei* sp. nov. in general appearance and vestiture, but can be distinguished by the following characters: pterygia in male not projected; hairs in punctures of striae shorter; epifrons parallel-sided, striate; pronotum less transverse, disc of pronotum rugoso-punctate; eyes more convex; nodulus of spermatheca not swollen, cornu strongly attenuate.

Etymology

This species is named after the late Dr Jaroslav Boháč (1952–2023), Czech entomologist who collected the holotype of this species.

Type material

Holotype

TURKEY – **Artvin** • ♂; Artvin; 41.1800° N, 41.8300° E; 14 Jul. 1976; J. Boháč leg.; NHMUK (Fig. 42C).

Paratypes

TURKEY – **Artvin** • 1 ♀; same collection data as for holotype; NHMUK (Fig. 42A) • 1 ♂, 1 ♀; Artvin; 13 May 1967; C. Besuchet leg.; MMTI • 1 ♀; Yalnızçam Gecidi [Pass] near Şavşat; 41.171014° N, 42.346233° E; elev. 1800–2200 m; 20–21 Jun. 1999; T. Lackner leg.; KJC.

Type locality

Turkey, Artvin.

Description

MEASUREMENTS (mm). BL: 2.07–2.76, BW: 1.14–1.50, BH: 0.99–1.23.

COLORATION AND VESTITURE (Fig. 42A, C). Brown; setose and pilose; erect setae elongate, as long as width of interstria, narrow, obtuse, greyish-yellow, ordered in rows on interstriae; appressed setae very small, piliform, sparsely cover pronotum and elytra; punctures in striae bear short recumbent hair. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; grooming brush

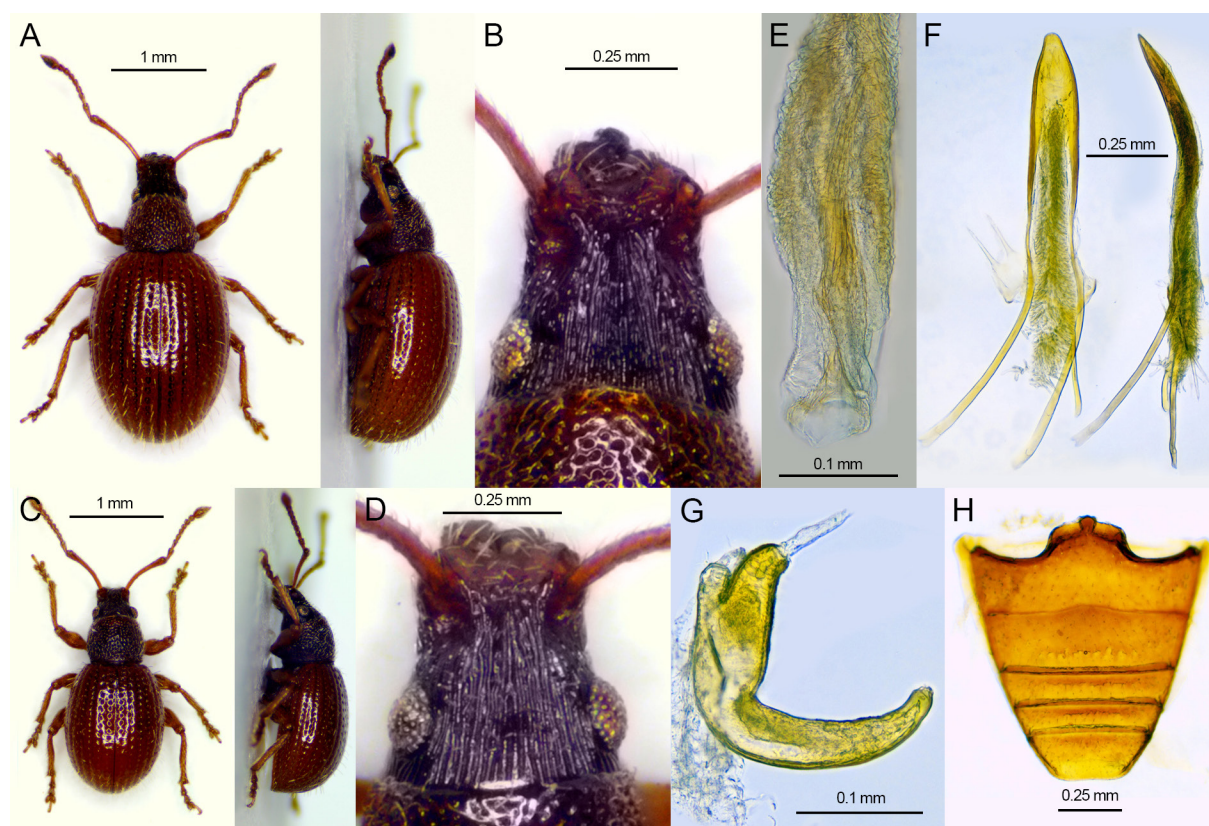


Fig. 42. *Urometopus bohaci* Yunakov sp. nov. **A–B, G.** Paratype, ♀ (NHMUK). **C–D, F, H.** Holotype, ♂ (NHMUK). **E.** Paratype, ♂ (MMTI). **A, C.** Habitus, dorsal and lateral views. **B, D.** Head, dorsal view. **E.** Copulatory and lunar sclerite, dorsal view. **F.** Aedeagus, dorsal and lateral views. **G.** Spermatheca. **H.** Abdominal ventrites.

on distal $\frac{1}{3}$ of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 42B, D). Rostrum slightly narrowing anteriorly; RL/RW = 0.80–0.88. Pterygia not projected. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, $2.1\text{--}2.2\times$ as narrow as vertex, flat, with narrow median sulcus, striate. Vertex without transverse depression. Eyes convex; VW/ELD = 2.20–2.53. Costulation of head capsule continues on epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.75, fam2 = 1.43, fam3 = 0.79, fam4 = 0.74, fam5 = 0.69, fam6 = 0.66, fam7 = 0.65; club L/W = 1.87.

THORAX. Pronotum: PL/PW = 0.74–0.79, transverse; weakly convex or flat at disc; widest at middle, roundly narrowing anteriorly and weakly constricted posteriorly; disc densely punctate, punctures regular, interspaces between punctures narrower than diameter of puncture; sides finely rugoso-punctate. Elytra ovate; disc in male flat, in female convex; striae deep, interspaces between punctures in male shorter than or in female as long as diameter of puncture; interstriae weakly convex; EL/EW = 1.27–1.33.

LEGS. Tibiae slender; medial margin of protibia and metatibia in male moderately emarginate in distal $\frac{1}{3}$; mucro moderate. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere $2.2\times$ as wide as long.

ABDOMINAL VENTRITES. Anal ventrite of male truncate (Fig. 42H).

FEMALE GENITALIA. Spermatheca (Fig. 42G): nodulus not swollen; collum obtusely projecting, in line with nodulus; ramus obtusely projecting $0.5\times$ as long as collum, and is in line with the latter; cornu strongly attenuate.

MALE GENITALIA (Fig. 42F). Median lobe $0.67\times$ as long as apodemes, parallel-sided. Lamina of median lobe evenly narrowed, narrowly rounded. Endophallus with very dense long spicules condensed in distal part. Lunar sclerite large, straight. Copulatory sclerite slim, spatulate, flagellar sheath with well-developed, supinatory lobes short (Fig. 42E).

Life history

This species is known from elevations of 1800–2200 m.

Distribution

The range remains unclear; this species is known only from the type locality and Yalnızçam Pass in Armenian Mountains near Artvin (Fig. 73B).

Urometopus osellai Yunakov sp. nov.

[urn:lsid:zoobank.org:act:01534AB6-88F1-4E6D-8473-AD2760FECDA8](https://zoobank.org/act:01534AB6-88F1-4E6D-8473-AD2760FECDA8)

Figs 7R, 43, 73B

Differential diagnosis

Urometopus osellai sp. nov. differs from all known species in its small body [BL: 1.90–2.70 mm]. It is similar to *U. dieckmanni* sp. nov. but differs from the latter in the following characters: rostrum shorter; thin antennae; more dense pubescence of elytra, interstriae with confused rows of erect setae; glabrous interspaces and less density of punctures of pronotal disc; lamina of median lobe attenuate (Fig. 43E); collum of spermatheca larger than ramus (Fig. 43G) (in *U. dieckmanni* collum significantly smaller than ramus).

Etymology

This species is named after the late Dr Giuseppe Bartolomeo Osella (1936–2022), famous Italian entomologist and expert in weevils, who first collected it.

Type material

Holotype

TURKEY – **Kastamonu** • ♂; Ilgazdagi gecidi; 41.0580° N, 33.7346° E; elev. 1800–2300 m; 6–10 Jul. 1972; M. Osella and G. Osella leg.; MSNVR.

Paratypes

TURKEY – **Kastamonu** • 4 ♂♂, 4 ♀♀; same collection data as for holotype; MSNVR • 1 ♂; same collection data as for holotype; MMTI • 1 ♂; same collection data as for holotype; NYC • 1 ♀; Ilgaz daglari, Ilgazdagi; 41.0646° N, 33.7428° E; elev. 1800–2000 m; 6 Jul. 1996; C. Bayer, T. Winkelmann and H. Winkelmann leg.; BRC • 2 ♂♂, 2 ♀♀; Ilgaz daglari, Ilgazdagi; 41.0646° N, 33.7428° E; elev. 1800–2000 m; 7 Jul. 1996; Ch. Bayer leg.; BCC (Fig. 43C) • 1 ♂; same collection data as for preceding; MMTI • 2 ♂♂, 2 ♀♀; Ilgazdagi gecidi; 41.0536° N, 33.7180° E; elev. 2300 m; 20 Jul. 1975; G. Osella leg.; MMTI • 1 ♂, 2 ♀♀; same collection data as for preceding; BRC (Fig. 43A) • 4 ♀♀; same collection data as for preceding; MSNVR.

Type locality

Turkey, Ilgaz Mountains.

Description

MEASUREMENTS (mm). BL: 1.90–2.70 (2.23), BW: 1.07–1.41 (1.20), BH: 0.84–1.17 (0.96).

COLORATION AND VESTITURE (Fig. 43A, C). Chestnut brown; setose and sparsely squamose; suberect setae yellowish-grey, narrow and somewhat flattened, pointed and obtuse, somewhat shorter than width of interstriae, ordered in irregular row; interstriae sparsely covered with recumbent, piliform, curved, margaritaceous scales; each puncture in striae bears tinier subrecumbent piliform seta. Head vestiture: setose, setae suberect. Vestiture of antennae and legs setose; scape and funicle with subrecumbent setae; grooming brush on distal ⅓ of medial margin of metatibia vestigial.

HEAD (Fig. 43B, D). Rostrum in males parallel-sided to narrowing anteriorly in females; RL/RW = 0.73–0.83. Pterygia projected in males, slightly projected in females. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, parallel-sided, 1.6 × as narrow as vertex, flat, with narrow median sulcus, coarsely punctate. Vertex without transverse depression. Eyes moderately convex; VW/ELD = 1.74–2.02. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.28, fam2 = 1.18, fam3 = 0.69, fam4 = 0.62, fam5 = 0.61, fam6 = 0.53, fam7 = 0.52; club L/W = 1.81.

THORAX. Pronotum: PL/PW = 0.64–0.80, transverse; weakly convex on disc; widest at middle, roundly narrowing anteriorly and posteriorly; wrinkly-punctate, punctures irregular, interspaces between punctures wider to narrower than diameter of puncture. Elytra ovate; disc weakly convex; striae shallow, interspaces between punctures as long as diameter of puncture; interstriae flat; EL/EW = 1.17–1.35.

LEGS. Tibiae: short and thick. Protibiae: medial margin in male weakly emarginate in distal ⅓; mucro moderate. Metatibiae: medial margin in males weakly emarginate in distal ⅓; mucro moderate. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere 2 × as wide as long.

ABDOMINAL VENTRITES (Fig. 43I). Anal ventrite of male truncate.

FEMALE GENITALIA. Spermatheca (Fig. 43G): nodulus not swollen; collum short, obtuse, in line with nodulus; ramus long, geniculate, obtuse, in line with nodulus; cornu roundly attenuate.

MALE GENITALIA (Fig. 43E). Median lobe as long as apodemes; parallel-sided and weakly sinuate. Lamina of median lobe attenuate, narrowly rounded. Endophallus with field of sparse short spicules in distal part (Fig. 43H). Lunar sclerite absent. Copulatory sclerite (Figs 7R, 43F) slim, spatulate, flagellar sheath well developed.

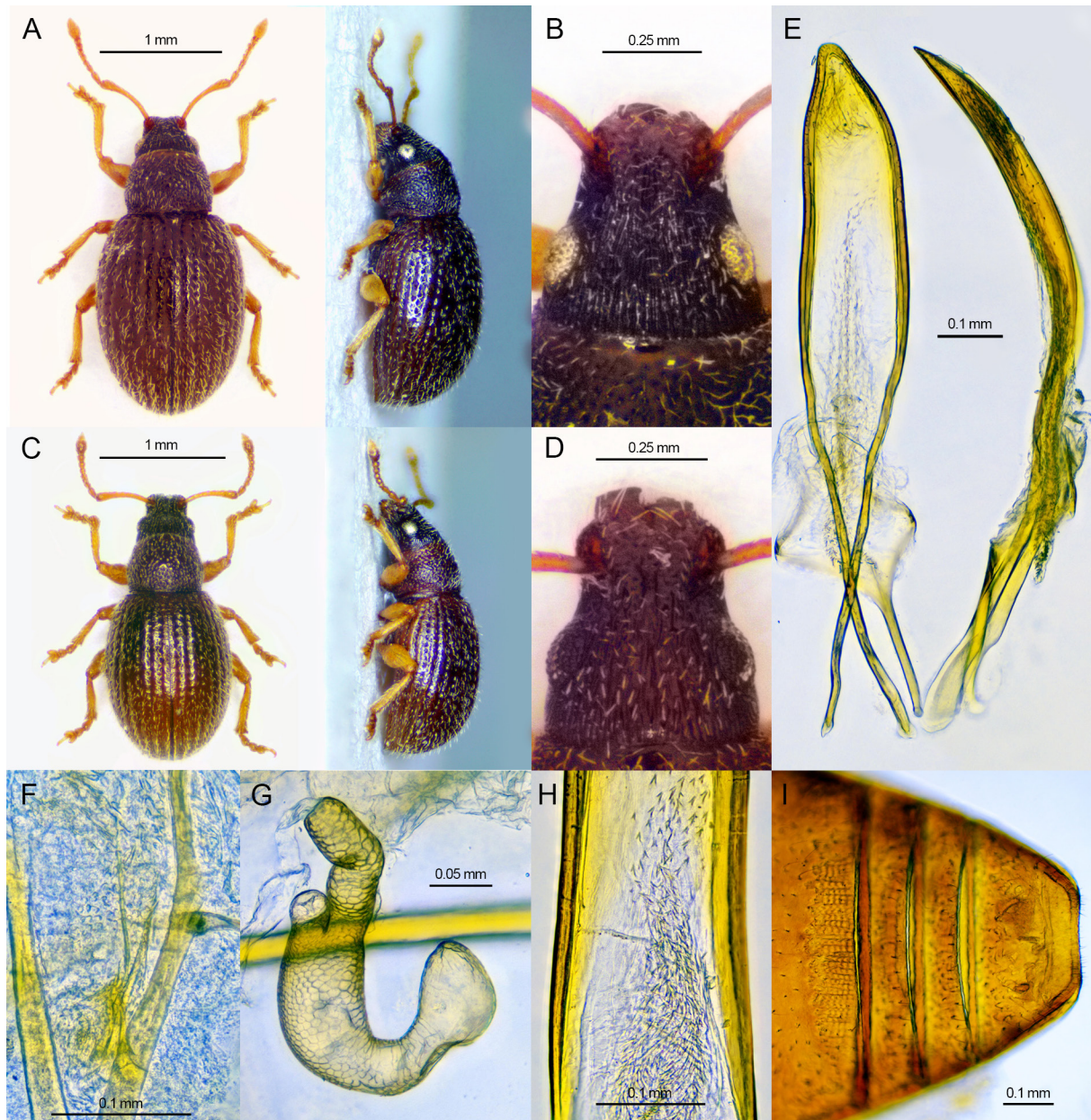


Fig. 43. *Urometopus osellai* Yunakov sp. nov., paratypes. **A–B, G.** ♀ (ID29819, BRC). **C–F, H–I.** ♂ (ID31214, BCC). **A, C.** Habitus, dorsal and lateral views. **B, D.** Head, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Copulatory sclerite, dorsal view. **G.** Spermatheca. **H.** Endophallic armature. **I.** Abdominal ventrites.

Notes

The differences demonstrated in the pair *U. dieckmanni* sp. nov. and *U. osellai* sp. nov. are similar to those of the pair *U. helenae* sp. nov. and *U. kovali* sp. nov.

Life history

Unknown.

Distribution

The range remains unclear; this species is known from few localities in Ilgaz Mountains (northwestern Anatolia, Turkey) (Fig. 73B).

Urometopus formaneki Yunakov sp. nov.

[urn:lsid:zoobank.org:act:0D8E23BD-B461-4A2A-A91C-CCBC627806AA](https://zoobank.org/urn:lsid:zoobank.org:act:0D8E23BD-B461-4A2A-A91C-CCBC627806AA)

Figs 4N, 44, 73B

Differential diagnosis

This species is similar to *U. dieckmanni* sp. nov. and *U. behnei* sp. nov. in general shape and size of body. From both species it differs in confused erect setae, vestigial mucro, and male metatibiae evenly widened distally; anal ventrite of male deeply emarginate (Fig. 44G). From *U. dieckmanni* it differs in smoother pubescence, absence of margaritaceous piliform scales, tumid and glabrous disc of pronotum, and flat attenuate lamina of median lobe (Figs 44F, 60E). From *U. behnei* it differs in oblong-ovate elytra, erect setae acute, 2nd funicular segment almost as long as 1st segment, disc of pronotum longitudinally convex, and nodulus of spermatheca not tumid (Figs 30F, 44E).

Etymology

This species is named after Romuald Formánek (1857–1927), famous Czech expert in weevils.

Type material

Holotype

TURKEY – **Sakarya** • ♂; road Geyve – Adapazari; 40.6034° N, 30.3253° E; 27 May 1967; C. Besuchet leg.; NHMUK (Fig. 44C).

Paratypes

TURKEY – **Sakarya** • 2 ♀♀; same collection data as for holotype; MMTI (Fig. 44A) • 3 ♀♀; same collection data as for holotype; MSNVR.

Type locality

Turkey, Sakarya Province, road between Geyve and Adapazari.

Description

MEASUREMENTS (mm). BL: 2.03–2.90 (2.51), 1.02–1.45 (1.27), BH: 0.83–1.20 (1.04).

COLORATION AND VESTITURE (Fig. 44A, C). Chestnut brown; sparsely pilose; erect setae as long as or somewhat shorter than width of interstriae, ordered in irregular row; recumbent setae sparsely cover pronotum and interstriae. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; scape and funicle with suberect setae; grooming brush on distal 1/3 of medial margin of metatibiae weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 44B, D). Rostrum slightly narrowing anteriorly; $RL/RW = 0.80\text{--}0.87$. Pterygia projected in males, not projected in females. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, $2.3 \times$ as narrow as vertex, flat, with narrow median sulcus, coarsely and shallowly punctate. Vertex without transverse depression. Eyes moderately convex; $VW/ELD = 1.74\text{--}2.47$. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W : fam1 = 1.85, fam2 = 1.63, fam3 = 0.55, fam4 = 0.58, fam5 = 0.54, fam6 = 0.56, fam7 = 0.55; club $L/W = 1.84$.

THORAX. Pronotum: $PL/PW = 0.81\text{--}0.85$, moderately transverse; weakly convex on disc; widest at middle, roundly narrowing anteriorly and weakly constricted posteriorly; densely punctate, punctures regular, interspaces between punctures as wide as or somewhat narrower than diameter of puncture. Elytra oblong-ovate; disc flat; striae in male deep, interspaces between punctures as long as diameter of puncture; interstriae weakly convex; $EL/EW = 1.27\text{--}1.37$.

LEGS. Tibiae: thick. Protibiae: medial margin in male moderately emarginate in distal $\frac{1}{3}$; mucro invisible. Metatibiae: medial margin not emarginate; mucro invisible. Tarsi (Fig. 4N): 1st tarsomere as wide as 2nd; 2nd tarsomere $2 \times$ as wide as long.

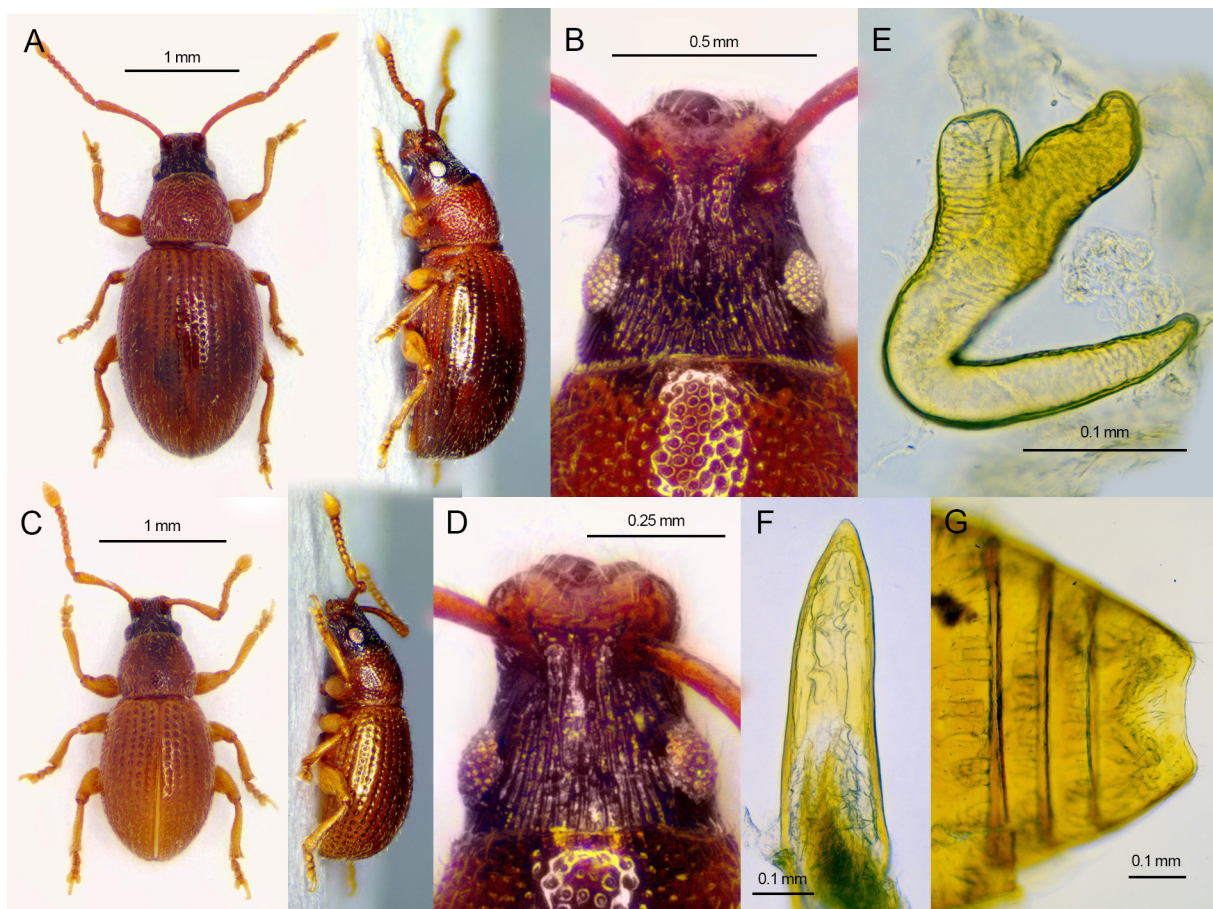


Fig. 44. *Urometopus formaneki* Yunakov sp. nov. A–B, E. Paratype, ♀ (MMTI). C–D, F–G. Holotype, ♂ (NHMUK). A, C. Habitus, dorsal and lateral views. B, D. Head, dorsal view. E. Spermatheca. F. Aedeagus, dorsal view. G. Abdominal ventrites.

ABDOMINAL VENTRITES (Fig. 44G). Anal ventrite of male deeply emarginate.

FEMALE GENITALIA. Spermatheca (Fig. 44E): nodulus not swollen; collum acutely projecting, in line with nodulus; ramus weakly obtusely projecting, $0.5 \times$ as long as collum; cornu attenuate.

MALE GENITALIA. Median lobe (Fig. 44F) $3.3 \times$ as long as wide, evenly narrowed apically. Lamina of median lobe weakly attenuate, acute. Endophallus armature with long spicules. Lunar and copulatory sclerites [unknown, specimen, received for this study, has damaged endophallus].

Life history

Unknown.

Distribution

The range remains unclear; this species is known only from the type locality in Sakarya Province, Turkey (Fig. 73B).

sieversi species group

The group is characterized by two homoplastic characters: transverse depression of vertex shallow, lunar sclerite of endophallus well developed.

Urometopus armatus Yunakov sp. nov.

[urn:lsid:zoobank.org:act:6F63B80C-B3EE-4254-AB78-6D04B13DD973](https://zoobank.org/act:6F63B80C-B3EE-4254-AB78-6D04B13DD973)

Figs 3E, 4G, 7S, 45, 72B

Differential diagnosis

It is related to *U. longicollis* and significantly differs in interstriae of elytra with distinct suberect truncate setae; male metatibiae not arcuate, protibiae and metatibiae strongly mucronate, mucro extended proximally (Fig. 3E); females with rostrum shorter, eyes less convex, elytra oblong-ovate (in *U. longicollis* – ovate); apex of median lobe attenuate (Figs 45H vs 48E).

Etymology

The Latin adjective ‘*armatus*’ means ‘armed’, highlighting the distinctively mucronate tibiae in males of this species.

Type material

Holotype

RUSSIA – **Krasnodar** • ♂; west part of Aibga Range; 43.6484° N, 40.2286° E; elev. 2000 m; 28 Jul. 2001; A.Yu. Solodovnikov leg.; alpine zone; under stones; ZIN (Fig. 45B).

Paratypes

GEORGIA – **Samegrelo-Zemo Svaneti** • 9 ♂♂, 4 ♀♀; “Svanetia CAUCASUS Dr Veselý”; 43.0361° N, 42.6807° E; H. Veselý leg.; MMTI (Fig. 45A) • 1 ♂, 1 ♀; same collection data as for preceding; NYC • 1 ♂, 1 ♀; same collection data as for preceding; Purkyně leg.; MMTI.

Type locality

Russia, Krasnodar Territory, Aibga Range.

Description

MEASUREMENTS (mm). BL: 2.78–3.03 (2.89), BW: 1.25–1.45 (1.33), BH: 1–1.08 (1.04).

COLORATION AND VESTITURE (Fig. 45A–B). Chestnut brown; erect and recumbent setae distinct; elytral interstriae with scattered tiny appressed piliform setae and a row of short, suberect, weakly spatulate, obtuse setae; pronotum tomentose. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; grooming brush not developed.

HEAD (Fig. 45C–D). Rostrum slightly narrowing anteriorly; RL/RW = 0.81–0.83. Pterygia projected in males, not projected in females. Frons U-shaped, nitid, sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, 2.4–2.5 × as narrow as vertex, flat, with median sulcus, coarsely and shallowly punctate. Vertex transversely depressed. Eyes large, moderately convex; VW/ELD = 2.20–2.31. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, strongly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.85, fam2 = 1.59, fam3 = 0.64, fam4 = 0.6, fam5 = 0.5, fam6 = 0.58, fam7 = 0.42; club L/W = 1.84.

THORAX. Pronotum: PL/PW = 0.83–0.91, moderately transverse; weakly convex on disc; widest at middle, roundly narrowing anteriorly and weakly constricted posteriorly; disc densely punctate, punctures regular, interspaces between punctures as wide as diameter of puncture; sides finely rugoso-punctate.

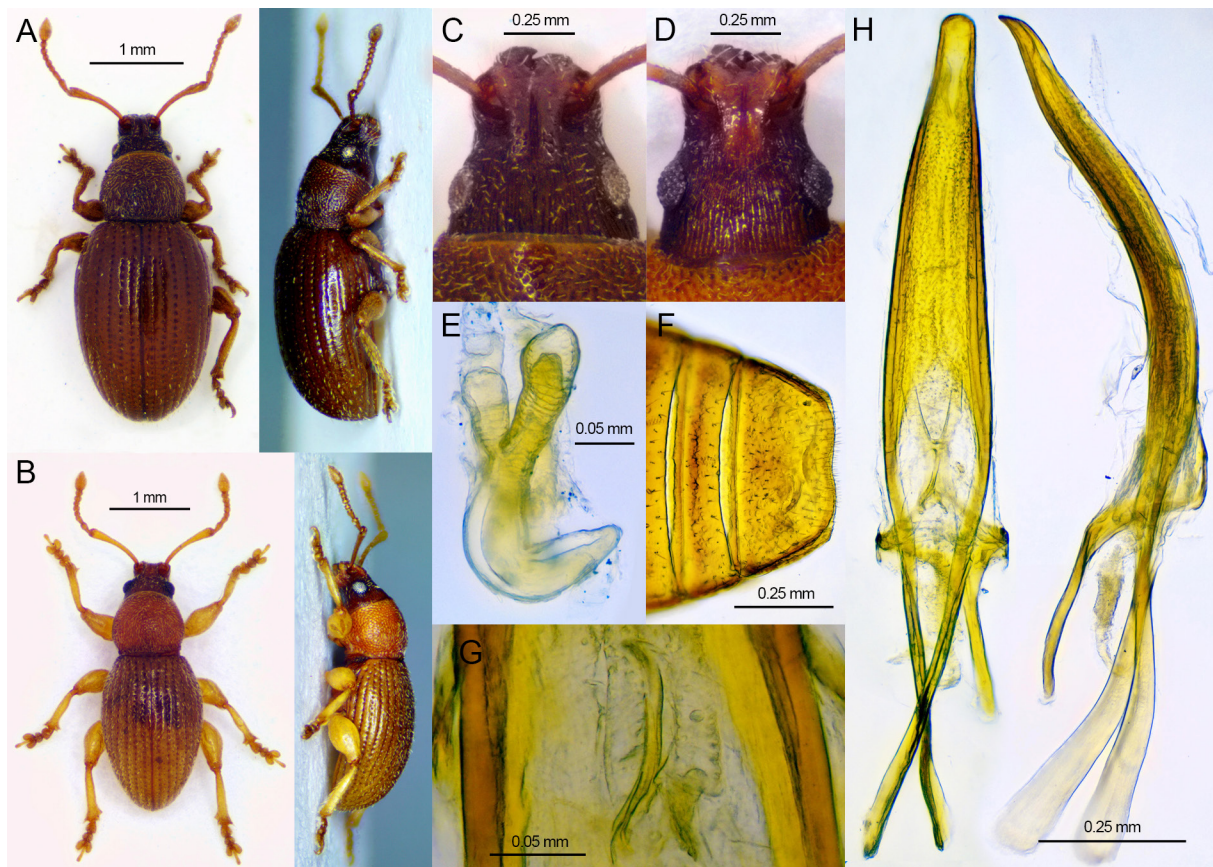


Fig. 45. *Urometopus armatus* Yunakov sp. nov. A, C, E. Paratype, ♀ (MMTI). B, D, F–H. Holotype, ♂ (NHMUK). A–B. Habitus, dorsal and lateral views. C–D. Head, dorsal view. E. Spermatheca. F. Abdominal ventrites. G. Copulatory sclerite, dorsal view. H. Aedeagus, dorsal and lateral views.

Elytra elliptic in males to oblong-ovate in females; disc flat; striae deep, interspaces between punctures shorter than diameter of puncture; interstriae weakly convex. EL/EW = 1.34–1.44.

LEGS. Femora in males strongly clavate. Tibiae thick. Protibiae (Fig. 3E): medial margin in male moderately emarginate in distal $\frac{1}{3}$; mucro strong, attenuate. Metatibiae: medial margin not emarginate; mucro strong, attenuate. Tarsi (Fig. 4G): tarsomeres in males robust; 1st tarsomere $1.2 \times$ as wide as 2nd; 2nd tarsomere $1.8 \times$ as wide as long.

ABDOMINAL VENTRITES (Fig. 45F). Anal ventrite of male weakly emarginate.

FEMALE GENITALIA. Spermatheca (Fig. 45E): nodulus not swollen; collum strongly roundly projecting, in line with nodulus; ramus strongly roundly projecting, $0.67 \times$ as long as collum; cornu weakly attenuate.

MALE GENITALIA (Fig. 45H). Median lobe as long as apodemes, evenly narrowed apically. Lamina of median lobe attenuate, obtuse, weakly curved ventrally. Endophallus with short spicules generally dispersed. Lunar sclerite absent. Copulatory sclerite (Figs 7S, 45G) slim, V-shaped, flagellar sheath well developed.

Life history

This species inhabits the alpine zone and is known from 2000 m a.s.l.

Distribution

West Caucasus. This species is known from a single find in Aibga Range and old small series from Svanetia without certain geolocation (Fig. 72B).

Urometopus lederi sp. nov.

[urn:lsid:zoobank.org:act:BC0E3AD1-A803-4A7B-B806-A162330E8B63](https://zoobank.org/act:BC0E3AD1-A803-4A7B-B806-A162330E8B63)

Figs 8N, 46–47, 72B

non *Omius strigifrons* [partim] auct. nec Gyllenhal, 1834 – Leder 1879: 453.

non *Omius inflatus* auct. nec Kolenati, 1859. – Reitter 1897: 201.

Differential diagnosis

Urometopus lederi sp. nov. is similar to *U. strigifrons* in head shape, erect pilosity of elytral interstriae, and to some extent in lateral scales of the pronotum, but it differs significantly in elongate elytra and larger, less convex eyes. It may also be confused with *U. sieversi* sp. nov., but can be easily distinguished by larger, less convex eyes and the shape of the spermatheca, with an enlarged collum (Fig. 46C vs 52F).

From *U. inflatus* it differs in the presence of a transverse depression between the epifrons and vertex; erect pilosity is very prominent on the pronotum and elytra; and in the shape of the aedeagus and spermatheca, with nodulus not tumid and collum enlarged (Fig. 46C vs 31G–J).

From *U. schneideri* sp. nov. it differs in longer and denser elytral and pronotal setae, less convex eyes, a weakly dorso-ventrally arcuate aedeagus (in lateral view), endophallus with a field of sparse spicules, weakly developed lunar sclerite, well-developed flagellar sheath of copulatory sclerite, and a spermatheca with a swollen collum much larger than the ramus (Fig. 46C vs 51H).

Etymology

This species is named after its first collector, Mr Hans Leder (1843–1921), German naturalist and entomologist, prominent pioneer explorer of the Caucasus in the 19th century.

Type material

Holotype

GEORGIA – **Shida Kartli** • ♂; “Caucasus / Meskisches Gb. [= Likhi Range] / Leder Reitter [printed]” “Samml. K.F. Hartmann Ankauf 1941 1”; 42.0035° N, 43.4987° E; H. Leder leg.; MTD.

Paratypes

GEORGIA – **Shida Kartli** • 5 ♀♀; same collection data as for holotype; MTD • 2 ♂♂; same collection data as for holotype; HNHN • 1 ♂; same collection data as for holotype; HNHN, ID29981 (Fig. 47C) • 1 ♀; same collection data as for holotype; HNHN, ID29982 (Fig. 47A) • 1 ♂; same collection data as for holotype; MMTI • 3 ♂♂; same collection data as for holotype; KUMN, ID31859 (Fig. 46D) • 1 ♂; same collection data as for holotype; ZIN • 2 ♂♂, 2 ♀♀; “Kaukasus, Meskien [= Likhi Range]”; 42.0035° N, 43.4987° E; MTD (Fig. 46A).

LOCALITY UNKNOWN • 5 ♂♂; “Kaukasus / Leder [printed]”; H. Leder leg.; ZIN • 5 ♂♂, 1 ♀; same collection data as for preceding; H. Leder leg.; MTD • 1 ♂; same collection data as for preceding; H. Leder leg.; MMTI • 2 ♂♂, 2 ♀♀; same collection data as for preceding; H. Leder leg.; coll. V. Kodric; MHNG • 1 ♂, 1 ♀; Kaukasus / Leder (Reitter); H. Leder leg.; coll. V. Kodric; MHNG • 3 ♂♂; “Kaukas[us] / Leder [printed]”; H. Leder leg.; KUMN, ID31860 • 2 ♂♂, 2 ♀♀; same collection data as for preceding; ZMA.

Mislabelled specimen

LOCALITY UNKNOWN – 1 ♂; “Caucas. bor. Kislowodsk Leder leg.” [this specimen is from Likhi Range in Georgia!]; MMTI.

Type locality

Georgia, Likhi Range.

Remarks on the species concept

Urometopus lederi sp. nov. was collected in abundance in the Likhi Range by Hans Leder. It was apparently misidentified as *U. strigifrons* and later as *U. inflatus*, since the types of these species had not been examined by earlier authors. Our re-examination of the type material demonstrates that it represents a distinct, previously unrecognized species that has been confused with others for more than a century. We therefore provide its description below.

Description

MEASUREMENTS (mm). BL: 2.33–3.13, BW: 1–1.6, BH: 0.78–1.3.

COLORATION AND VESTITURE (Figs 46A, D, I, 47A, C). Yellowish-brown; setose and evidently pilose; erect setae yellowish-grey, narrow, piliform, pointed, as long as or longer than width of interstriae, ordered in irregular row; interstriae densely covered with recumbent and subrecumbent, long, piliform setae; each puncture in striae bears long subrecumbent piliform seta. Head vestiture: strongly setose. Vestiture of antennae and legs setose; scape and funicle with suberect setae; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Figs 46B, E, 47B, D). Rostrum in males parallel-sided to slightly narrowing anteriorly in females; RL/RW = 0.71–0.86. Pterygia projected. Frons U-shaped, nitid, weakly sloped anteriorly, delimited from epistome by thin V-shaped carina. Epifrons well edged, 2–2.2 × as narrow as vertex, flat, with narrow median sulcus, coarsely punctate. Vertex transversely depressed. Eyes moderately convex; VW/ELD = 2.07–2.69. Costulation of head capsule terminates posteriorly of epifrons.

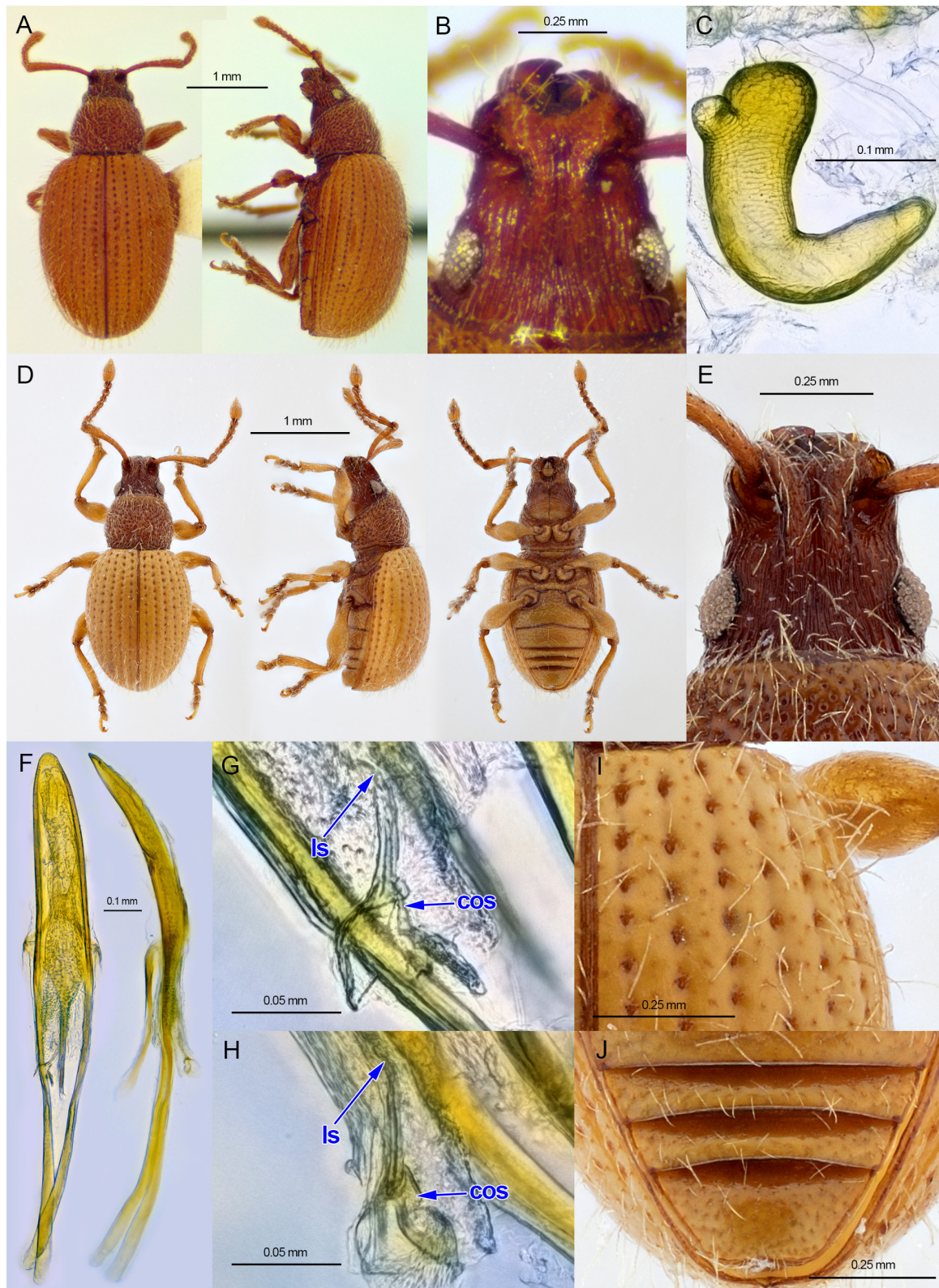


Fig. 46. *Urometopus lederi* sp. nov., paratypes. **A–C.** ♀ (ID31255, MTD). **D–J.** ♂ (ID31859, KUMN). **A, D.** Habitus. **B, E.** Head, dorsal view. **C.** Spermatheca. **F.** Aedeagus, dorsal and lateral views. **G–H.** Copulatory sclerite, dorsal and lateral views. **I.** Elytral vestiture. **J.** Abdominal ventrites. Abbreviations: cos = copulatory sclerite; ls = lunar sclerite.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.82, fam2 = 1.47, fam3 = 0.84, fam4 = 0.82, fam5 = 0.71, fam6 = 0.73, fam7 = 0.68; club L/W = 1.90.

THORAX. Pronotum: PL/PW = 0.72–0.87, moderately transverse; convex on disc; widest somewhat posteriorly of middle, roundly narrowing anteriorly and weakly constricted posteriorly; densely rugoso-punctate, punctures regular, interspaces between punctures as wide as or somewhat narrower than



Fig. 47. *Urometopus lederi* sp. nov., paratypes. **A–B, G.** ♀ (ID29982, HNHM). **C–F.** ♂ (ID29981, HNHM). **A, C.** Habitus, dorsal, lateral, and ventral views. **B, D.** Head, dorsal view. **E.** Copulatory sclerite, dorsal view. **F.** Abdominal ventrites. **G.** Spermatheca.

diameter of puncture. Elytra ovate; convex on disc; striae deep, interspaces between punctures as long as diameter of puncture; interstriae weakly convex; EL/EW = 1.29–1.44.

LEGS. Protibiae: medial margin weakly emarginate in distal $\frac{1}{3}$; mucro strong. Metatibiae: medial margin in males emarginate in distal $\frac{1}{3}$; mucro strong. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere $2\times$ as wide as long.

ABDOMINAL VENTRITES (Figs 46J, 47F). Anal ventrite of male truncate.

FEMALE GENITALIA. Spermatheca (Figs 46C, 47G): nodulus not swollen; collum enlarged, tumid, rounded, in line with nodulus, significantly larger than ramus; ramus weakly roundly projecting, significantly smaller than collum; cornu strongly attenuate.

MALE GENITALIA (Fig. 46F). Median lobe as long as apodemes; parallel-sided and weakly sinuate. Lamina of median lobe narrowed apically, narrowly obtuse. Endophallus with field of sparse short tuberculate spicules in distal part. Lunar sclerite small (Fig. 46G–H). Copulatory sclerite (Figs 8N, 46G–H, 47E) slim, spatulate, flagellar sheath well developed.

Life history

This species inhabits leaf litter in a beech forest belt with *Rhododendron* understorey. It was collected in May together with *Solarhinomias caucasicus* (Stierlin, 1877) (Leder 1879: 453).

Distribution

Lesser Caucasus: Likhi Range (Fig. 72B).

Urometopus longicollis (Reitter, 1897)
Figs 3A–D, 4H, 8A, 48, 49C–D, 72B, 82B–D

Omius longicollis Reitter, 1897: 201.

Omius (*Urometopus*) *longicollis* – Formánek 1904a: 23.

Urometopus longicollis – Lona 1938: 433. — Borovec 2006: 38; 2013b: 301. — Colonnelli 2011: 676.
— Alonso-Zarazaga *et al.* 2023: 301.

Differential diagnosis

Urometopus longicollis significantly differs from all known species in large body size [BL: 2.95–3.77 (3.24) mm], large eyes, ovate elytra in females and oblong-ovate elytra in males, very long legs and antennae, strongly developed mucro of protibia, and strongly sinuate metatibia. From *U. longicornis* this species also significantly differs in the well-developed sparse pubescence of the body. Mature imago bicolored, with legs and antennae yellowish-brown versus a black or dark-brown body and head.

Type material

Holotype

LOCALITY UNKNOWN – ♂; “Caucasus Leder”; H. Leder leg.; HNHM (Fig. 49C).

Additional material examined

GEORGIA – **Abkhazia** • 59 ♂♂, 73 ♀♀; 25 km NNE of Sukhumi, Mt Dzykhva; 43.2136° N, 41.0844° E; elev. 1600 m; 17 Jul. 2008; N. Yunakov leg.; meadow in deciduous forest: *Fagus*, *Rhododendron*; sweeping; NYC • 2 ♂♂, 2 ♀♀; same collection data as for preceding; KhDC • 1 ♂; 25 km NNE of Sukhumi, Mt Dzykhva; 43.2119° N, 41.1011° E; elev. 2000 m; 19 Jul. 2008; N. Yunakov

leg.; deciduous forest: *Fagus*, *Rhododendron*; sweeping; NYC • 3 ♂♂, 3 ♀♀; 25 km NNE of Sukhumi, Mt Dzykhva; 43.2258° N, 41.1283° E; elev. 2200 m; 20 Jul. 2008; N. Yunakov leg.; alpine zone; sweeping; NYC • 17 ♂♂, 21 ♀♀; 25 km NNE of Sukhumi, Mt Dzykhva; 43.2247° N, 41.1386° E; elev. 2500 m; 22 Jul. 2008; N. Yunakov leg.; alpine zone; sweeping; NYC • 6 ♂♂, 10 ♀♀; 25 km NNE of Sukhumi, Mt Dzykhva; 43.2258° N, 41.1283° E; elev. 2200 m; 24 Jul. 2008; N. Yunakov leg.; alpine zone; sifting leaf litter under *Rhododendron*; NYC • 14 ♂♂, 11 ♀♀; 25 km NNE of Sukhumi, Mt Dzykhva; 43.2305° N, 41.1136° E; elev. 1800 m; 25 Jul. 2008; N. Yunakov leg.; deciduous forest: *Fagus*, *Abies*; sweeping; NYC • 2 ♀♀; 25 km NNE of Sukhumi, Mt Dzykhva; 43.2136° N, 41.0844° E; elev. 1600 m; 26 Jul. 2008; N. Yunakov leg.; deciduous forest: *Fagus*, *Rhododendron*; beating; NYC • 3 ♂♂, 3 ♀♀; 25 km NNE of Sukhumi, Mt Dzykhva; 43.2136° N, 41.0844° E; elev. 1600 m; 18 Jul. 2008; N. Yunakov leg.; meadow in deciduous forest: *Fagus*, *Rhododendron*; sweeping; NYC • 1 ♂; 25 km NNE of Sukhumi, Mt Dzykhva; 43.2258° N, 41.1283° E; elev. 2000 m; 12 Jul. 1981; V.I. Gusarov leg.; ZIN • 2 ♂♂, 1 ♀; Aguripsta River, mouth of Agura-Aresh River; 43.4720° N, 40.7427° E; elev. 1383 m; 1 Jul. 2007; N. Yunakov leg.; deciduous forest; sifting; NYC • 1 ♂; Avadhara; 43.4998° N, 40.6633° E; elev. 1500 m; 2 Jul. 2007; N. Yunakov leg.; mixed forest: *Fagus*, *Abies*; sweeping; NYC • 1 ♀; Avadhara; 43.5206° N, 40.6378° E; elev. 1500–2000 m; 4 Jun. 1990; Feucl leg.; BRC • 1 ♂, 1 ♀; Avadhara, Avadhara River; 43.5206° N, 40.6378° E; elev. 1600 m; 14 Jun. 1984; A. Konstantinov leg.; ZIN • 113 ♂♂, 62 ♀♀; Bagri-Yashta Mt R., Anchkho Pass; 43.4777° N, 40.7079° E; elev. 2000 m; 2 Jul. 2007; N. Yunakov leg.; deciduous forest: *Fagus*; sweeping; NYC • 1 ♂; same collection data as for preceding; sifting leaf litter; NYC • 1 spec.; Bagri-Yashta Mt R., near Anchkho Pass; 43.4778° N, 40.7078° E; elev. 1800 m; 2 Jul. 2007; K.S. Nadein leg.; *Fagus-Carpinus* forest; sweeping; KUMN • 23 ♂♂, 13 ♀♀; Bagri-Yashta Mt R., SW slope of Anchkho Mt, Didghal; 43.4653° N, 40.6643° E; elev. 1900–2100 m; 4 Jul. 2007; N. Yunakov leg.; subalpine zone; sweeping; NYC • 40 ♂♂, 21 ♀♀; Bagri-Yashta Mt R., trail Avatkharā–Didghal; 43.4839° N, 40.6576° E; elev. 1500–1700 m; 4 Jul. 2007; N. Yunakov leg.; mixed forest: *Fagus*, *Abies*; sweeping; NYC • 2 ♂♂, 2 ♀♀; same collection data as for preceding; KhDC (Fig. 48A, C) • 1 ♂, 1 ♀; same collection data as for preceding; SMNHL • 3 specs; Bagri-Yashta Mt R., trail from Avadhara to Didgal locality; 43.4839° N, 40.6575° E; elev. 1500–1800 m; 4 Jul. 2007; K.S. Nadein leg.; mixed forest: *Fagus*, *Abies*; sweeping; KUMN • 2 specs; same collection data as for preceding; subalpine meadow; sweeping; KUMN • 9 ♂♂, 7 ♀♀; Bagri-Yashta Mt R., trail from Avadhara to Pyv; 43.4941° N, 40.6741° E; elev. 1500–1900 m; 5 Jul. 2007; N. Yunakov leg.; mixed forest: *Fagus*, *Abies*; sweeping; NYC • 1 ♂, 1 ♀; same collection data as for preceding; KhDC • 20 specs; Ritsynsky National Park, Avadhara; 43.5000° N, 40.6667° E; elev. 1495 m; 23–26 Jul. 2011; I. Retezar, S. Bebia, E. Podlussány and A. Podlussány leg.; HNHN • 1 ♂; Kopchara; 43.0704° N, 41.6061° E; elev. 1980 m; A.P. Zolotarev leg.; alpine zone; MMTI. – **Racha-Lechkhumi and Kvemo Svaneti** • 2 ♂♂, 3 ♀♀; Svanetia, Kali env., Inguri River; 42.9462° N, 42.8946° E; elev. 2200 m; 8 Jul. 1975; J. Vorisek leg.; forest zone; MMTI • 1 ♂, 2 ♀♀; Dvaleti Range, SW spur of Mt Khalatsa; 42.5619° N, 43.8050° E; elev. 2500–3000 m; 22 Aug. 1987; G.E. Davidian leg.; ZIN • 1 ♀; Kutais [Governorate], Racha [Uyezd]; 42.8652° N, 43.3443° E; MMTI.

RUSSIA – **Krasnodar** • 2 ♂, 2 ♀♀; Engelmanova Polyana; 43.6158° N, 40.4750° E; elev. 1500 m; 12–13 Jun. 1974; J. Vorisek leg.; MMTI • 2 ♂♂, 2 ♀♀; same collection data as for preceding; BRC.

Type locality

“Caucasus” [without certain data].

Redescription

MEASUREMENTS (mm). BL: 2.95–3.77 (3.24), BW: 1.27–1.97 (1.55), BH: 1.10–1.62 (1.29).

COLORATION AND VESTITURE (Figs 48A, C, J, 49C). Body red-brown to dark brown, legs brown to yellow-brown; teneral imagoes unicolored yellowish-brown to pale brown; subpilose, erect setae slightly

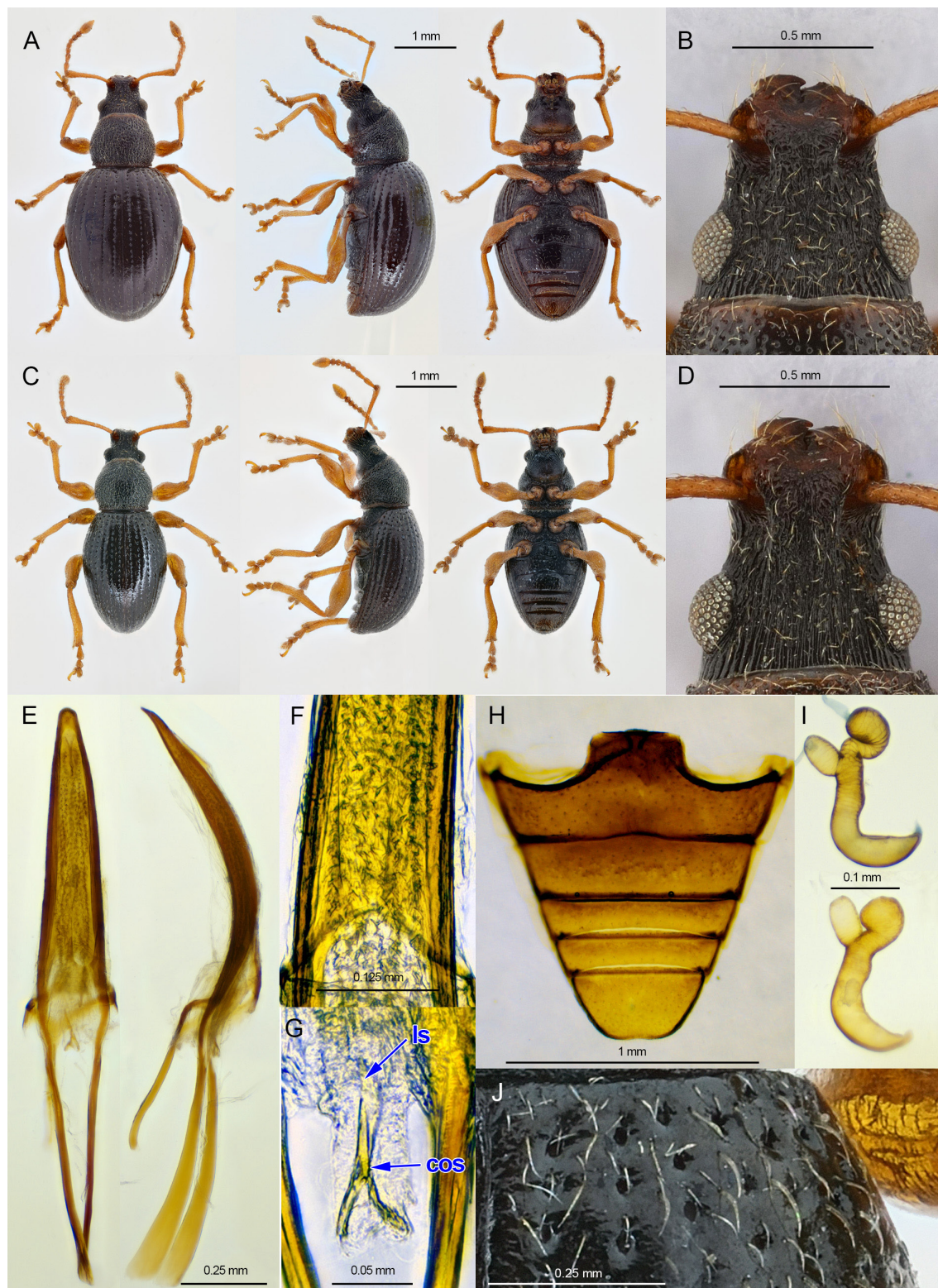


Fig. 48. *Urometopus longicollis* (Reitter, 1897), Avatkhara (ID29426, NYC). **A.** Female habitus, dorsal, lateral and ventral views. **B.** Head of female, dorsal view. **C.** Male habitus, dorsal, lateral and ventral views. **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Endophallic armature. **G.** Copulatory sclerite, dorsal view. **H.** Abdominal ventrites of male. **I.** Variability of the spermatheca. **J.** Elytral vestiture of male. Abbreviations: cos = copulatory sclerite; ls = lunar sclerite.

developed recumbent setae vestigial. Head vestiture: subpilose. Vestiture of antennae and legs moderately setose; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Figs 48B, D, 49D). Rostrum slightly narrowing anteriorly; $RL/RW = 0.76\text{--}0.93$. Pterygia projected. Vertex transversely depressed. Eyes large, moderately convex; VW/ELD in males = $1.69\text{--}1.82$ in females = $2.05\text{--}2.21$. Costulation of head capsule terminates posteriorly of epifrons. Antennae. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W : fam1 = 2.2, fam2 = 2.19, fam3 = 0.96, fam4 = 0.81, fam5 = 0.78, fam6 = 0.71, fam7 = 0.46; club $L/W = 1.63$.

THORAX. Pronotum: $PL/PW = 0.75\text{--}0.94$. Elytra elliptic in males to ovate in females $EL/EW = 1.23\text{--}1.49$.

LEGS. Femora in males strongly clavate. Protibiae (Fig. 3A–D) strongly mucronate. Metatibiae: medial margin strongly arcuate; moderately mucronate. Tarsi (Fig. 4H): 1st tarsomere $1.1\times$ wider than 2nd, 2nd tarsomere $1.5\times$ as wide as long.

ABDOMINAL VENTRITES (Fig. 48H). Anal ventrite of male weakly emarginate, densely setose.

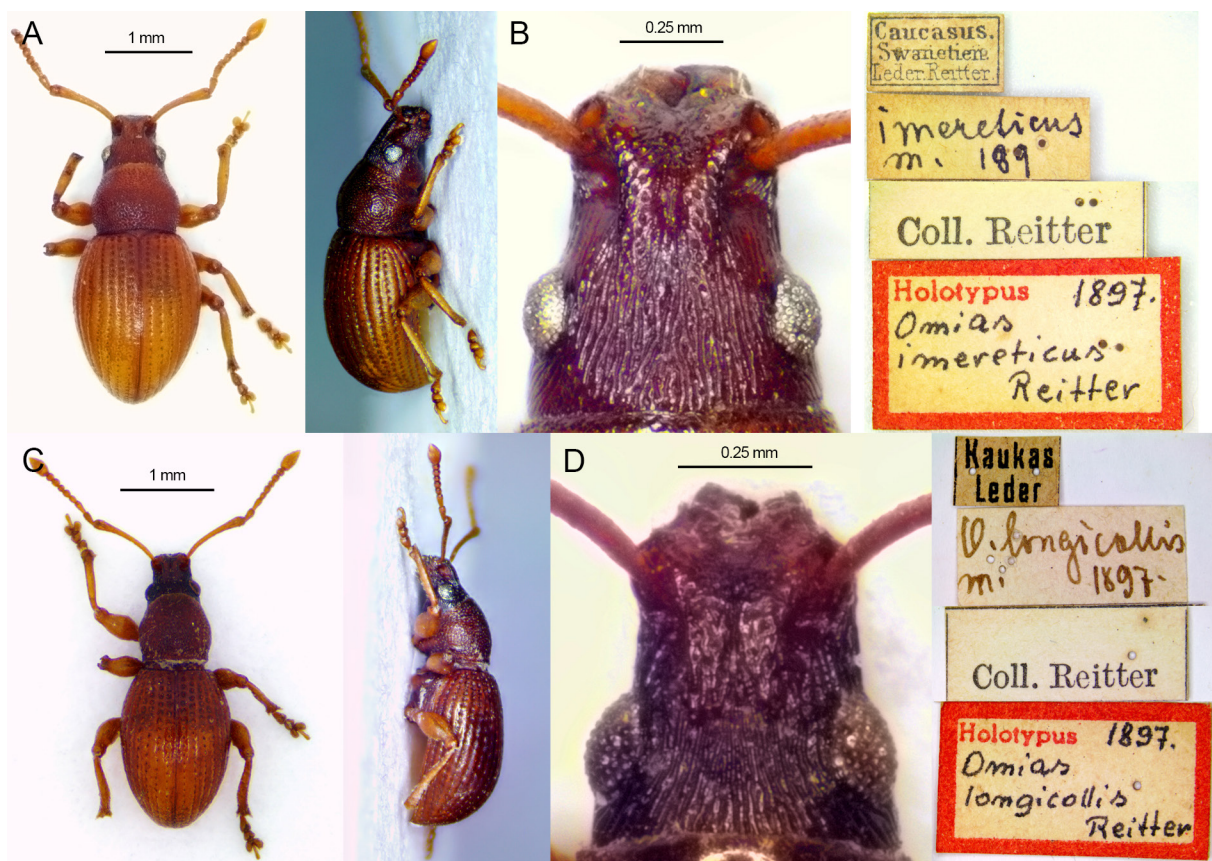


Fig. 49. *Urometopus* Formánek, 1904, type specimens. **A–B.** *U. imereticus* (Reitter, 1897), lectotype, ♂ (HNHM). **A.** Habitus, dorsal and lateral views. **B.** Head dorsal view and labels. **C–D.** *U. longicollis* (Reitter, 1897), holotype, ♂ (HNHM). **C.** Habitus, dorsal and lateral views. **D.** Head dorsal view and labels.

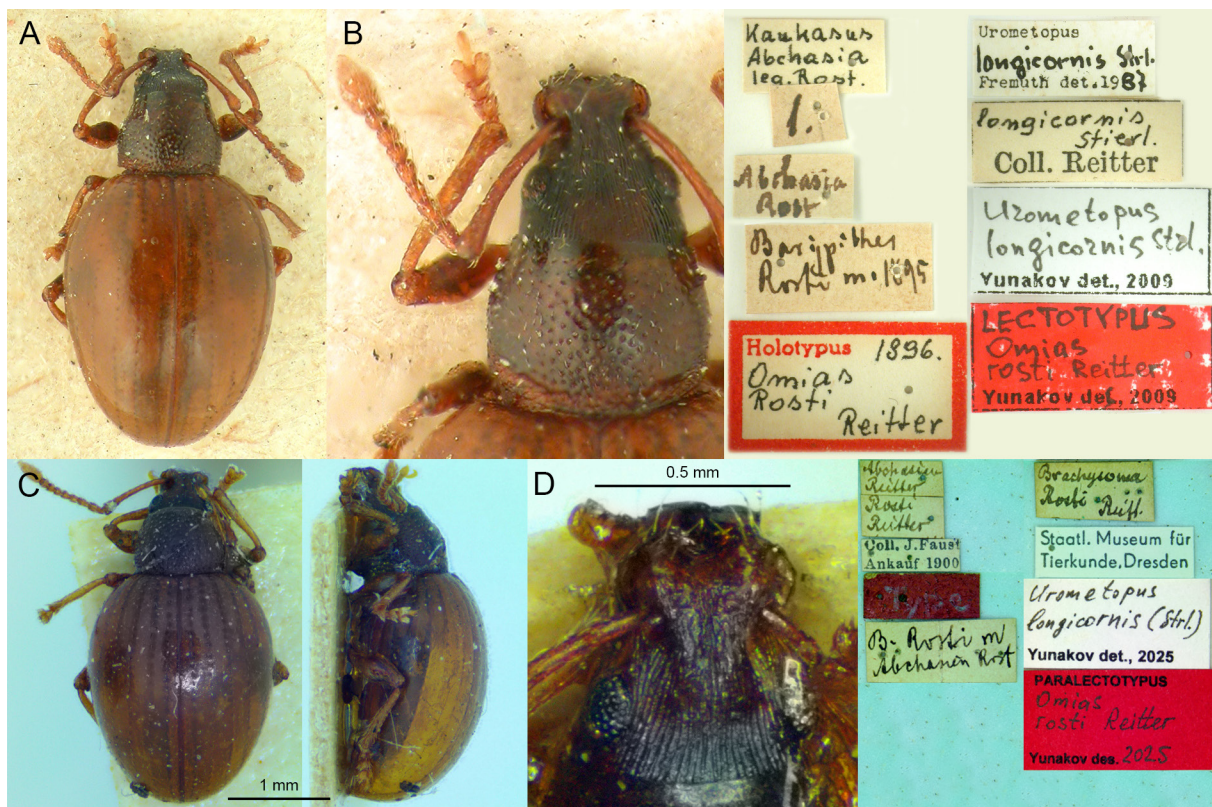


Fig. 50. *Urometopus* Formánek, 1904, type specimens. **A–B.** *Omias rosti* Reitter, 1896, lectotype, ♀ (HNHM). **A.** Habitus. **B.** Head, dorsal view, and labels. **C–D.** *O. rosti*, paralectotype, ♀ (MTD). **C.** Habitus, dorsal and lateral views. **D.** Head dorsal view and labels. Photo credit for A–B: by Zoltán György (HNHM), CC-BY 4.0.

FEMALE GENITALIA. Spermatheca (Fig. 48I): nodulus not swollen; collum sinuate, perpendicular to nodulus, roundly projecting; ramus strongly roundly projecting, as long as collum; cornu attenuate.

MALE GENITALIA (Fig. 48E). Aedeagus attenuate, as long as apodemes. Lamina of median lobe roundly acute. Endophallus with field of dense long spicules in proximal part (Fig. 48F). Lunar sclerite absent. Copulatory sclerite (Figs 8A, 48G) slim, V-shaped, flagellar sheath well developed.

Life history

This species lives in mixed forests (*Fagus orientalis* Lipsky, *Carpinus*, *Abies nordmanniana* (Steven) Spach), subalpine shrublands (*Rhododendron caucasicum* Pall., *Prunus laurocerasus* L.) and alpine zone at elevations from 1400 to 3000 m (Fig. 82B–D); it usually can be collected by sweeping and beating various vegetation, and sifting leaf litter.

Distribution

Southern macro slope of the Greater Caucasus from Aibga Range to Dvaleti Range (Fig. 72B).

Urometopus schneideri sp. nov.

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Figs 8V, 51, 72B

non *Omias strigifrons* [partim] auct. nec Gyllenhal, 1834 – Schneider & Leder 1878: 14.

Differential diagnosis

Urometopus schneideri sp. nov. is related and very similar to *U. lederi* sp. nov. and *U. sieversi* sp. nov. in the shape of its head and erect pilosity of the body. From *U. lederi* it differs in smaller and strongly convex eyes; aedeagus strongly dorso-ventrally arcuate (in *U. lederi* evenly arcuate); endophallus with field of dense spicules; lunar sclerite well developed; flagellar sheath of copulatory sclerite reduced; collum of spermatheca as long as ramus, both equal in size.

From *U. sieversi* sp. nov. it differs in median lobe attenuate, endophallus without bilateral spiculate fields, pronotum with distinct posterior constriction.

From *U. hlavaci* sp. nov. it differs in weakly sulcate epifrons; shallow transverse depression of vertex; pterygia evidently projected from lateral outline of rostrum; pronotum sparsely punctate; metatibiae with stronger mucro; stronger emarginate medially; weakly developed lunar sclerite of endophallus (Figs 51F, 54H).

Etymology

This species is named after Prof. Oscar Schneider (1841–1903), German entomologist and explorer of the Caucasus in late 19th century.

Type material

Holotype

GEORGIA – **Samtskhe-Javakheti** • ♂; “Tiflis, 1196” [presumably Tiflis Governorate, slopes of Mt Shav nabada]; [41.6215° N, 43.7060° E]; [presumably 30 Jun. 1875]; [presumably Oscar Schneider leg.]; MTD (Fig. 51C).

Paratypes

GEORGIA – **Samtskhe-Javakheti** • 2 ♂♂, 1 ♀; same collection data as for holotype; MTD (Fig. 51A) • 1 ♂; Borjomi [Trialeti Range near Borzhomi]; 41.8332° N, 43.4206° E; O. Schneider leg.; MTD.

LOCALITY UNKNOWN • 1 ♂; “Kaukas.”; O. Schneider leg.; MTD.

Type locality

Georgia, “Tiflis” [presumably Tiflis Governorate, slopes of Mt Shav nabada]. Oscar Schneider described a horse trip through Tiflis Governorate on June 30th, 1875 where he together with Gustav Radde, Gustav Sievers, Ferdinand Morawitz, Karl Fixsen collected a series of “*Omyas strigifrons*” on the western slope of Shav nabada volcano (Schneider & Leder 1878).

Description

MEASUREMENTS (mm). BL: 1.99–2.49 (2.24), BW: 1.03–1.44 (1.21), BH: 0.84–1.03 (0.95).

COLORATION AND VESTITURE (Fig. 51A, C). Brown; setose and weakly pilose; erect setae yellowish-grey, narrow and somewhat flattened, obtuse, as long as width of interstriae, ordered in regular row; interstriae sparsely covered with recumbent, very short, piliform setae; each puncture in striae bears tinier subrecumbent piliform seta. Head vestiture: setose. Vestiture of antennae and legs setose; scape and funicle with suberect setae; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 51B, D). Rostrum in males parallel-sided to slightly narrowing anteriorly in females; RL/RW = 0.78–0.79. Pterygia projected. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, 2.2 × as narrow as vertex, flat, without or with

narrow median sulcus, coarsely punctate. Vertex transversely depressed. Eyes strongly convex; VW/ELD = 2.17–2.44. Costulation of head capsule terminates posteriorly of epifrons.

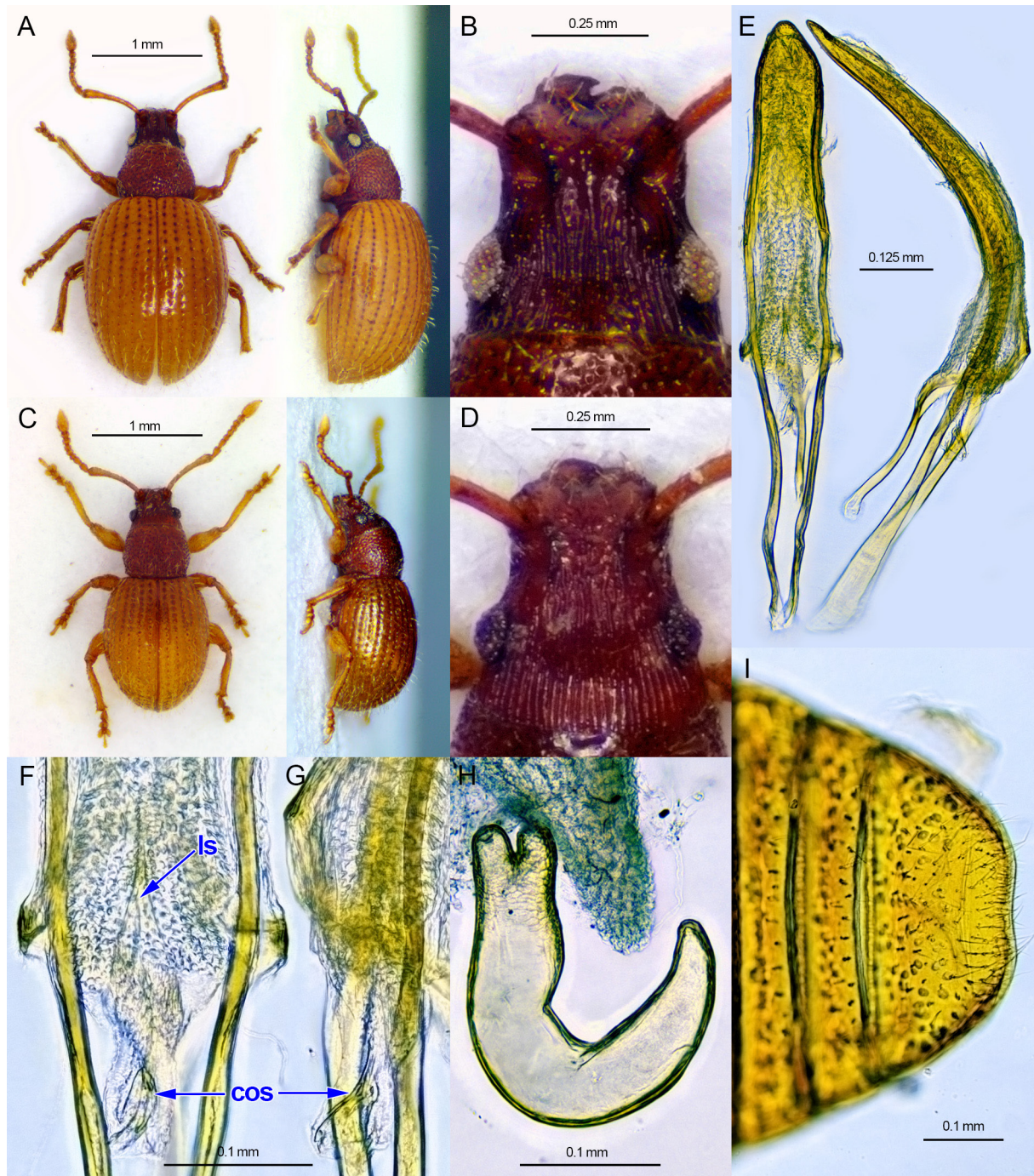


Fig. 51. *Urometopus schneideri* sp. nov. **A–B, H.** Paratype, ♀ (ID31171, MTD). **C–G, I.** ♂ (ID31171, MTD). **A, C.** Habitus, dorsal and lateral views. **B, D.** Head, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Sclerites of endophallus, dorsal view. **G.** Sclerites of endophallus, lateral view. **H.** Spermatheca. **I.** Abdominal ventrites. Abbreviations: cos = copulatory sclerite; ls = lunar sclerite.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.64, fam2 = 1.34, fam3 = 0.72, fam4 = 0.71, fam5 = 0.66, fam6 = 0.61, fam7 = 0.67; club L/W = 1.78.

THORAX. Pronotum: PL/PW = 0.70–0.81, moderately transverse; convex on disc; widest at middle, roundly narrowing anteriorly and weakly constricted posteriorly, in female anterior constriction also evidently developed; densely punctate, punctures regular, interspaces between punctures as wide as or somewhat narrower than diameter of puncture. Elytra ovate; convex on disc; striae deep, interspaces between punctures as long as diameter of puncture; interstriae weakly convex. EL/EW = 1.26–1.34.

LEGS. Protibiae: medial margin weakly emarginate in distal $\frac{1}{3}$; mucro strong. Metatibiae: medial margin in males emarginate in distal $\frac{1}{3}$; mucro strong. Tarsi: 1st tarsomere as wide as 2nd, 2nd tarsomere 2.2 × as wide as long.

ABDOMINAL VENTRITES (Fig. 51I). Anal ventrite of male weakly emarginate.

FEMALE GENITALIA. Spermatheca (Fig. 51H): nodulus not swollen; collum weakly projecting, narrow, in line with nodulus; ramus weakly projecting, narrow, in line with nodulus, as long as collum; cornu strongly attenuate.

MALE GENITALIA (Fig. 51E). Aedeagus strongly dorso-ventrally arcuate; median lobe as long as apodemes; parallel-sided, weakly sinuate. Lamina of median lobe evenly narrowed apically, narrowly rounded. Endophallus with dense field of short spicules condensed bilaterally. Lunar sclerite moderate, straight, acute. Copulatory sclerite (Figs 8V, 51F–G) slim, spatulate, flagellar sheath reduced.

Life history

It was collected under lava blocks together with *Otiorhynchus* (*Pavesiella*) *aemulus* Marseul, 1878 (Schneider & Leder 1878: 14).

Distribution

Lesser Caucasus (Fig. 72B).

Urometopus sieversi sp. nov.

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Figs 8F, 52–53, 72B

Differential diagnosis

This new species is similar to *U. lederi* sp. nov. in the shape of its head and erect pilosity of the body but differs from the latter in its shorter body, more transverse rostrum, smaller and strongly convex eyes; median lobe shorter (PeL/AL = 0.6; in *U. lederi* – 0.8) and widened in apical half; endophallus with distinctly developed bilateral spiculate fields, spicules elongate, lunar sclerite larger (Figs 8F, 53D); collum of spermatheca slender, not swollen (Fig. 52F).

From *U. schneideri* sp. nov. it differs in the median lobe rounded, endophallus with bilateral spiculate fields, pronotum with indistinct posterior constriction.

Etymology

This species is named after Dr Alfred Gustav Sievers (1843–1898), Russian-German entomologist and pioneer explorer of the Caucasus in the 19th century.

Type material

Holotype

GEORGIA – Kvemo Kartli • ♂; Martkopi; 41.7836° N, 45.0167° E; 26 Jun. 1880; G. Sievers leg.; ZIN.

Paratypes

GEORGIA – Kvemo Kartli • 5 ♂♂, 1 ♀; same collection data as for holotype; ZIN (Fig. 53A) • 2 ♀♀; same collection data as for holotype; MTD • 1 ♀; Manglisi; 41.7017° N, 44.3679° E; 1879; G. Sievers



Fig. 52. *Urometopus sieversi* sp. nov., paratypes, Borzhomi (ID29842, ZIN). **A.** Female habitus, dorsal, lateral and ventral views. **B.** Male habitus, dorsal, lateral and ventral views. **C.** Head of female, dorsal view. **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Spermatheca. **G.** Elytral vestiture of male.

leg.; ZIN. – **Samtskhe-Javakheti** • 1 ♂; Borjomi; 41.8316° N, 43.3878° E; N.S. Branskyj leg.; ZIN • 2 ♂♂, 6 ♀♀; same collection data as for preceding; H.M. Lgocki leg.; ZIN (Fig. 52A–B).

LOCALITY UNKNOWN • 1 ♀; Caucasus [Schneider]; MTD.

Type locality

Georgia, Kvemo Kartli Province, Martkopi.

Description

MEASUREMENTS (mm). BL: 2.09–2.99 (2.41), BW: 1.08–1.58 (1.26), BH: 0.88–1.3 (1.02).

COLORATION AND VESTITURE (Figs 52A–B, G, 53A). Brown; setose and weakly pilose; erect setae yellowish-grey, narrow and somewhat flattened, obtuse, as long as width of interstriae, ordered in regular row; interstriae sparsely covered with recumbent, very short, piliform setae; each puncture in striae bears tinier subrecumbent piliform seta. Head vestiture: setose. Vestiture of antennae and legs setose; scape and funicle with suberect setae; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Figs 52C–D, 53B). Rostrum slightly narrowing anteriorly; RL/RW = 0.71–0.89. Pterygia projected in males, slightly projected in females. Frons U-shaped, nitid, weakly sloped anteriorly, delimited from epistome by thin V-shaped carina. Epifrons well edged, 2.4 × as narrow as vertex, flat, without or with

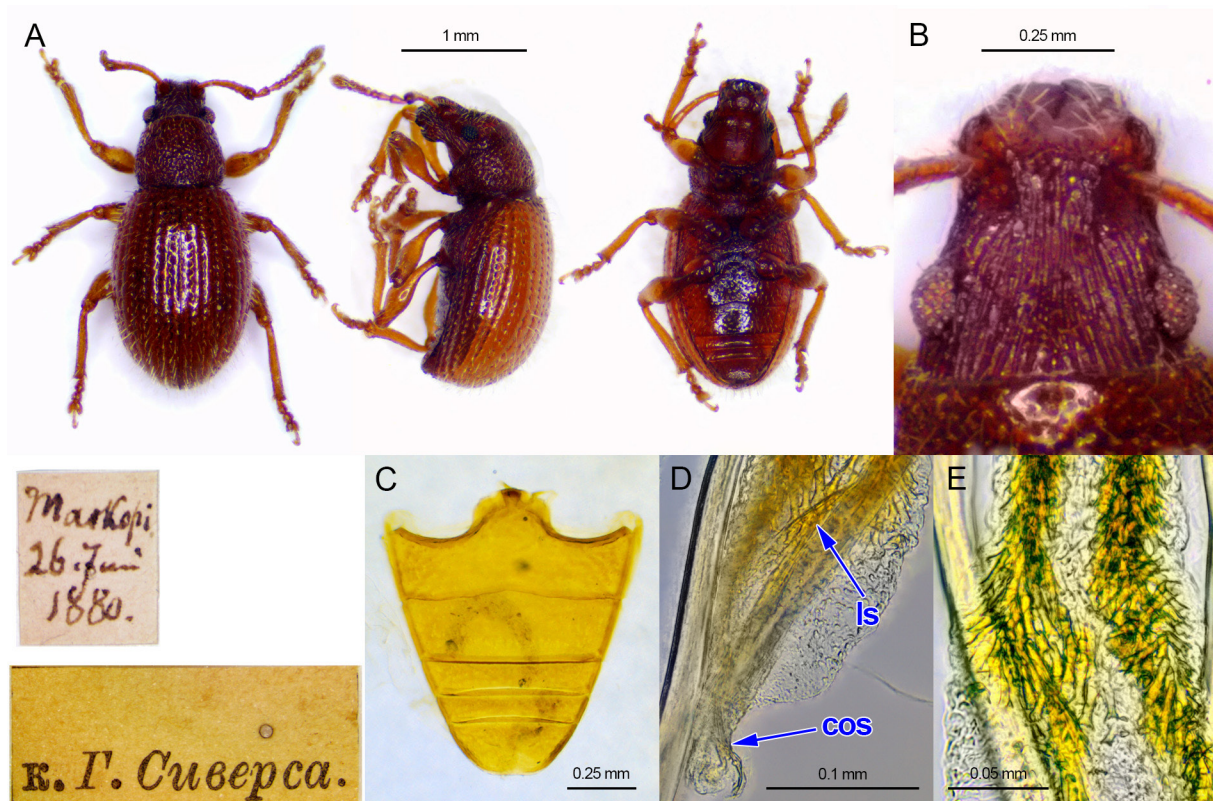


Fig. 53. *Urometopus sieversi* sp. nov., paratype, Martkopi (ID31340, ZIN). **A.** Male habitus, dorsal, lateral, ventral views and labels. **B.** Head of male, dorsal view. **C.** Abdominal ventrites of male. **D.** Copulatory sclerite, lateral view. **E.** Endophallic armature. Abbreviations: cos = copulatory sclerite; ls = lunar sclerite.

narrow median sulcus, coarsely punctate. Vertex transversely depressed. Eyes strongly convex; VW/ELD = 2.20–2.90. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.6, fam2 = 1.57, fam3 = 0.58, fam4 = 0.57, fam5 = 0.5, fam6 = 0.48, fam7 = 0.45; club L/W = 1.84.

THORAX. Pronotum: PL/PW = 0.71–0.85, moderately transverse; convex on disc; widest somewhat posteriorly of middle, roundly narrowing anteriorly and weakly constricted posteriorly; densely rugoso-punctate, punctures irregular, interspaces between punctures as wide as or somewhat narrower than diameter of puncture. Elytra ovate; convex on disc; striae deep, interspaces between punctures shorter than diameter of puncture; interstriae weakly convex; EL/EW = 1.35–1.60 in females and 1.25–1.40 in males.

LEGS. Protibiae: medial margin weakly emarginate in distal $\frac{1}{3}$; mucro strong. Metatibiae: medial margin in males emarginate in distal $\frac{1}{3}$; mucro moderate. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere 2.3 × as wide as long.

ABDOMINAL VENTRITES (Fig. 53C). Anal ventrite of male truncate.

FEMALE GENITALIA. Spermatheca (Fig. 52F): nodulus not swollen; collum attenuate, elongate, in line with nodulus, almost equals in size with ramus; ramus weakly projecting, narrow, in line with nodulus, somewhat shorter than collum; cornu strongly attenuate.

MALE GENITALIA (Fig. 52E). Median lobe as long as apodemes; parallel-sided, weakly sinuate. Lamina of median lobe narrowly rounded. Endophallus with dense field of long spicules (Fig. 53E) condensed bilaterally. Lunar sclerite moderate, straight, acute. Copulatory sclerite (Figs 8F, 53D) slim, spatulate, flagellar sheath well developed.

Life history

Unknown.

Distribution

Lesser Caucasus (Fig. 72B).

Urometopus hlavaci Yunakov sp. nov.

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Figs 8W, 54, 72B

Differential diagnosis

This new species is closely related and very similar to *U. schneideri* sp. nov. and *U. sieversi* sp. nov. in the shape of the head and the erect pilosity of the body. From *U. sieversi* it differs in having a denser metatibial grooming brush, a depressed anal ventrite, and an endophallus with a large lunar sclerite. From *U. schneideri* it differs in the sharply sulcate epifrons, a strongly developed transverse depression of the vertex, non-projected pterygia, densely punctate pronotum, metatibiae less mucronate and weakly emarginate medially, and a larger lunar sclerite of the endophallus (Figs 53D, 54H).

This species is also very similar to *U. zangezuri* sp. nov. in the shape of the body and head, but differs in having shorter, thicker, and obtuse erect setae on the elytral interstriae; a straight apical margin of the anal ventrite in males; a less sinuate medial margin of the male metatibiae; a more coarsely punctate

pronotum; a parallel-sided median lobe; and an endophallus with coarser spicules and a larger lunar sclerite (Figs 54E, 55E).

Etymology

This species is named after Peter Hlaváč, Slovakian entomologist studying beetles of the Caucasus, who kindly provided specimens for this research.

Type material

Holotype

ARMENIA – **Tavush** • ♂; Haghrtsin Monastery; 40.8017° N, 44.8888° E; elev. 1436 m; 29 May 2024; R. Bekchiev leg.; NMNHS (Fig. 54B).

Paratypes

ARMENIA – **Shirak** • 2 ♂♂, 1 ♀; Javakheti Ridge, near Gukasian [= Ashotsk]; 41.0711° N, 43.9295° E; elev. 2400–2900 m; 5–7 Jul. 2000; M. Savitsky and V. Savitsky leg.; ZMMU. – **Tavush** • 4 ♂♂, 2 ♀♀; same collection data as for holotype; NMNHS • 3 ♂♂, 3 ♀♀ (1 ♂, 1 ♀ in 96% ethanol); same collection data as for preceding; MCZ • 2 ♂♂, 2 ♀♀; same collection data as for preceding; NYC (Fig. 54A).

Type locality

Armenia, Tavush Province, Haghrtsin Monastery.

Description

MEASUREMENTS (mm). BL: 1.91–3.02 (2.34), BW: 0.90–1.23 (1.05), BH: 0.77–0.92 (0.86).

COLORATION AND VESTITURE (Fig. 54A–B). Yellowish-brown; setose and weakly pilose; erect setae yellowish-grey, narrow and somewhat flattened, obtuse, as long as width of interstriae, ordered in regular row; interstriae sparsely covered with recumbent, very short, piliform setae; each puncture in striae bears tinier subrecumbent piliform seta. Head vestiture: setose, setae erect. Vestiture of antennae and legs setose; scape and funicle with subrecumbent setae; grooming brush on distal ⅓ of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 54C–D). Rostrum slightly narrowing anteriorly; RL/RW = 0.75–0.79. Pterygia projected in males, not projected in females. Frons U-shaped, nitid, weakly sloped anteriorly, delimited from epistome by thin V-shaped carina. Epifrons well edged, $2.2 \times$ as narrow as vertex, flat, with narrow median sulcus, coarsely punctate. Vertex transversely depressed. Eyes moderately convex; VW/ELD = 2.00–2.44. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle subrobust; funicular antennomeres L/W: fam1 = 1.70, fam2 = 1.53, fam3 = 0.69, fam4 = 0.80, fam5 = 0.68, fam6 = 0.64, fam7 = 0.61; club L/W = 1.88.

THORAX. Pronotum: PL/PW = 0.68–0.77, transverse; convex on disc; widest posteriorly of middle, roundly narrowing anteriorly and weakly constricted posteriorly; densely punctate, punctures regular, interspaces between punctures as wide as or somewhat narrower than diameter of puncture. Elytra ovate; disc flat; striae deep, interspaces between punctures as long as diameter of puncture; interstriae weakly convex. EL/EW = 1.27–1.42.

LEGS. Tibiae: thick. Protibiae: medial margin in male weakly emarginate in distal ⅓; mucro strong. Metatibiae: medial margin in males not emarginate in distal ⅓; mucro moderate. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere $2 \times$ as wide as long.

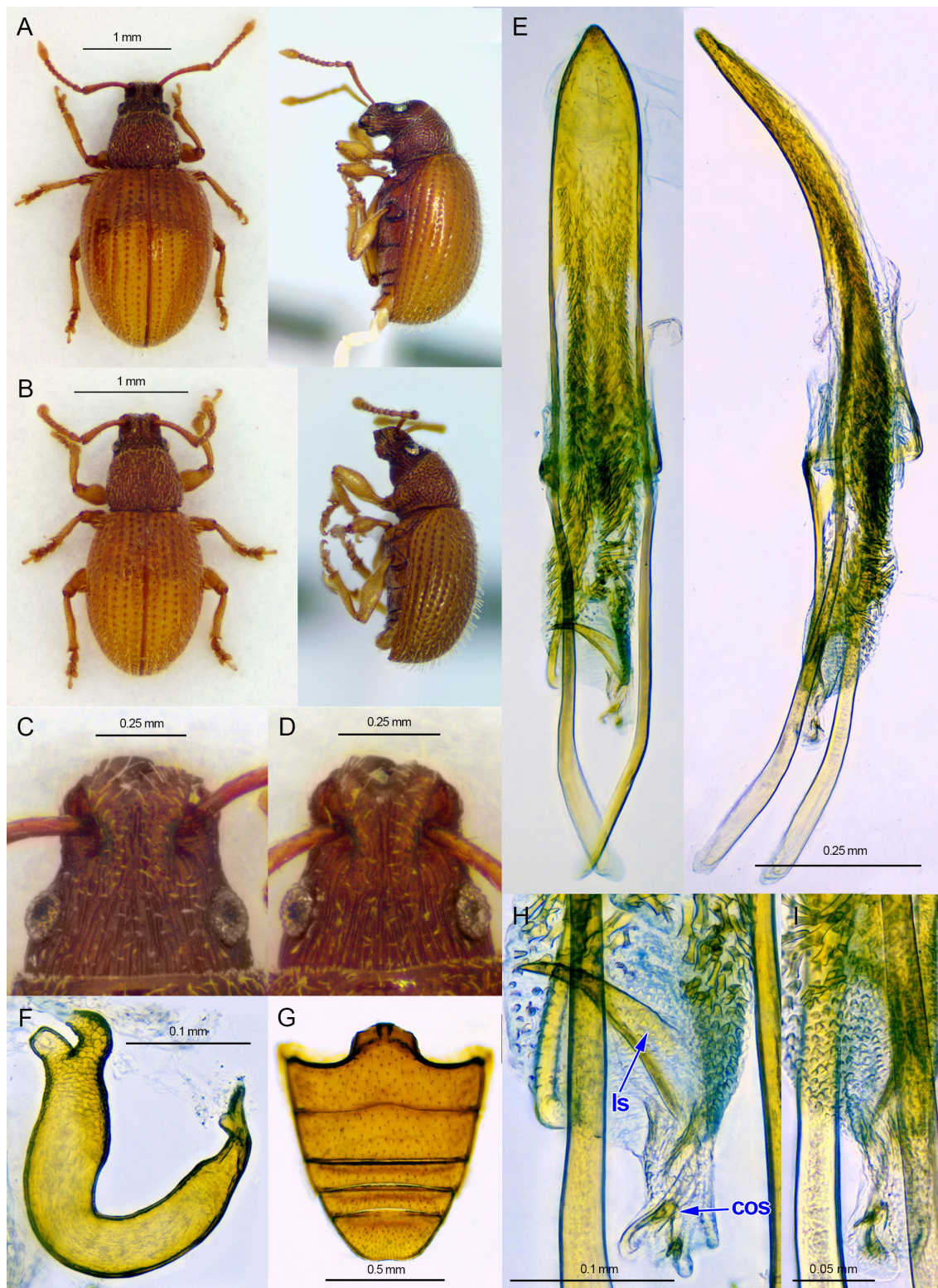


Fig. 54. *Urometopus hlavaci* Yunakov sp. nov., Haghrtsin Monastery. **A, C, F.** Paratype, ♀ (ID31946, NMNHS). **B, D–E, G–I.** Holotype, ♂ (NMNHS). **A–B.** Habitus, dorsal and lateral views. **C–D.** Head, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Spermatheca. **G.** Abdominal ventrites. **H.** Sclerites of endophallus, dorsal view. **I.** Same structures in lateral view. Abbreviations: cos = copulatory sclerite; ls = lunar sclerite.

ABDOMINAL VENTRITES (Fig. 54G). Anal ventrite of male truncate, with shallow apical depression.

FEMALE GENITALIA. Spermatheca (Fig. 54F): nodulus not swollen; collum curved, narrow, obtuse; ramus obtusely projecting; cornu strongly attenuate.

MALE GENITALIA (Fig. 54E). Median lobe $0.67 \times$ as long as apodemes, parallel-sided. Lamina of median lobe narrowed apically, acute. Endophallus with dense field of long spicules condensed bilaterally. Lunar sclerite (Fig. 54H) robust, feebly arcuate, acute. Copulatory sclerite (Figs 8W, 54H–I) slim, spatulate, flagellar sheath well developed.

Life history

This species occurs from upper mountain forest to alpine zones at 1400–2900 m a.s.l.

Distribution

Lesser Caucasus (Fig. 72B).

Urometopus zangezuri Yunakov sp. nov.

[urn:lsid:zoobank.org:act:E8CB5E0F-BB1F-46D5-B244-618D737529F9](https://zoobank.org/urn:lsid:zoobank.org:act:E8CB5E0F-BB1F-46D5-B244-618D737529F9)

Figs 8S, 55, 72B

Differential diagnosis

This species differs from *U. anaticus* and *U. inflatus* in the following characters: rostrum very short; epifrons narrowing posteriorly; pronotum glabrous and finely punctate; body with dense erect and subrecumbent pubescence; second funicular segment significantly shorter than the first. From *U. anaticus* it also differs in the absence of margaritaceous lanceolate scales on the elytral interstriae.

This species is very similar to *U. hlavaci* sp. nov. in the shape of body and head, but differs in the following characters: erect setae on the elytral interstriae longer, finer, and piliform; apical margin of anal ventrite in male distinctly sinuate; medial margin of metatibiae in male more strongly sinuate; pronotum finely punctate; median lobe sinuate, with finer spicules and smaller lunar sclerite of the endophallus (Figs 54E, H–I, 55E–F).

Etymology

The name ‘*zangezuri*’ is a genitive noun formed from the Zangezur Range, a part of Armenian Mountains, to highlight the distribution of this species.

Type material

Holotype

ARMENIA – Syunik • ♂; Zangezur Range, S slope of Mt Khisirdag, above Kochbek Pass; 39.7081° N, 45.7376° E; elev. 2850–2950 m; 19 Jul. 2000; V.Yu. Savitsky leg.; ZMMU (Fig. 55B).

Paratypes

ARMENIA – Syunik • 1 ♂, 2 ♀♀; same collection data as for holotype; ZMMU (Fig. 55A).

Type locality

Armenia, Zangezur Range, S slope of Mt Khisirdag.

Description

MEASUREMENTS (mm). BL: 2.09–2.76 (2.35), BW: 1.03–1.40 (1.15), BH: 0.88–1.18 (0.98).

COLORATION AND VESTITURE (Fig. 55A–B). Yellowish-brown; setose and weakly pilose; erect setae yellowish-grey, narrow, pointed, as long as width of interstriae, ordered in irregular row; interstriae sparsely covered with recumbent, very short, piliform setae; each puncture in striae bears tinier subrecumbent piliform seta. Head vestiture: setose. Vestiture of antennae and legs setose; scape and funicle with suberect setae; grooming brush on distal $\frac{1}{3}$ of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 55C–D). Rostrum in males parallel-sided to narrowing anteriorly in females; RL/RW = in females 0.75–0.79; in males 0.69–0.72. Pterygia not projected. Frons U-shaped, nitid, weakly sloped anteriorly, delimited from epistome by thin V-shaped carina. Epifrons well edged, $1.9\text{--}2.0\times$ (at base) and

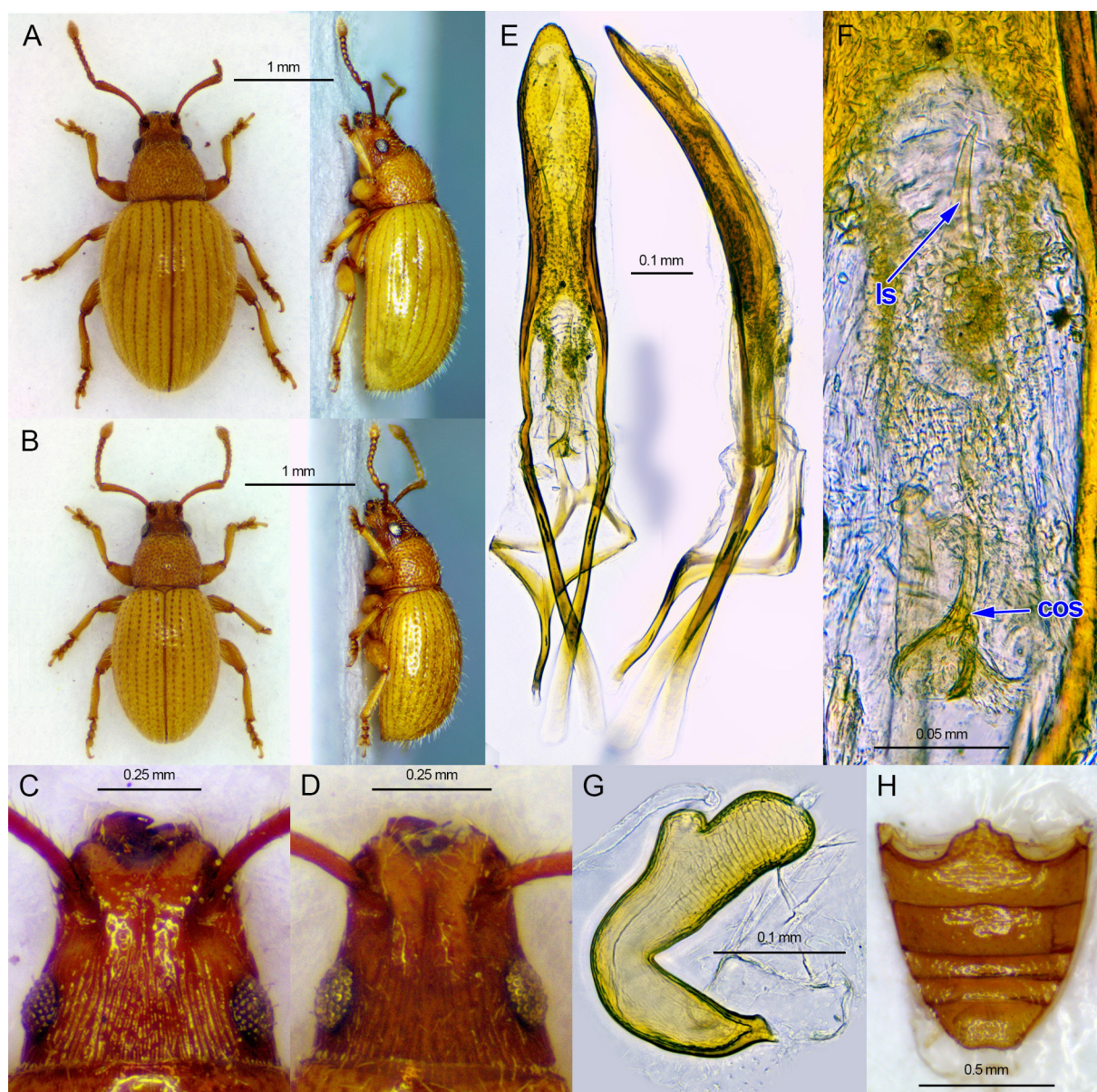


Fig. 55. *Urometopus zangezuri* Yunakov sp. nov. **A, C, G.** Paratype, ♀ (ZMMU). **B, D–F, H.** Holotype, ♂ (ZMMU). **A–B.** Habitus, dorsal and lateral views. **C–D.** Head, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Sclerites of endophallus, dorsal view. **G.** Spermatheca. **H.** Abdominal ventrites. Abbreviation: cos = copulatory sclerite; ls = lunar sclerite.

1.52–1.61 × (at level of antennal insertion) as narrow as vertex, flat, with narrow median sulcus, coarsely punctate. Vertex transversely depressed. Eyes moderately convex; VW/ELD = 2.00–2.50. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.84, fam2 = 1.43, fam3 = 0.70, fam4 = 0.64, fam5 = 0.57, fam6 = 0.49, fam7 = 0.49; club L/W = 1.56.

THORAX. Pronotum: PL/PW = 0.67–0.74, transverse; convex on disc; widest posteriorly of middle, roundly narrowing anteriorly and weakly constricted posteriorly; densely punctate, punctures regular, interspaces between punctures as wide as or somewhat narrower than diameter of puncture. Elytra ovate; disc flat; striae shallow, interspaces between punctures as long as diameter of puncture; interstriae weakly convex. EL/EW = 1.30–1.46.

LEGS. Protibiae: medial margin in male weakly emarginate in distal 1/3; mucro moderate. Metatibiae: medial margin in male emarginate in distal 1/3; mucro moderate. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere 2 × as wide as long.

ABDOMINAL VENTRITES (Fig. 55H). Anal ventrite of male weakly emarginate.

FEMALE GENITALIA. Spermatheca (Fig. 55G): nodulus not swollen; collum enlarged, tumid, rounded, in line with nodulus; ramus weakly roundly projecting, significantly smaller than collum; cornu strongly attenuate.

MALE GENITALIA (Fig. 55E). Median lobe as long as apodemes; parallel-sided, weakly sinuate. Lamina of median lobe weakly attenuate, flattened, narrowly rounded. Endophallus with dense field of short spicules condensed bilaterally. Lunar sclerite large, straight, elongate, acute. Copulatory sclerite slim, spatulate, flagellar sheath well developed (Figs 8S, 55F).

Life history

This species occurs in the alpine zone at 2850–2950 m a.s.l.

Distribution

The range remains unclear; this species is known only from the type locality in the Zangezur Range in the Armenian Mountains (Fig. 72B).

strigifrons species group

The group is characterized by three homoplastic characters: iridescence of scales vestigial, endophallic spiculate fields uniform, male terminalia, copulatory sclerite with dorsal plate lobes long; and shares with the *abchasicus* species group the robust copulatory sclerite with curved supinatory lobes of the flagellar sheath.

Urometopus strigifrons (Gyllenhal, 1834)

Figs 8K, 56–57, 74A

Omius strigifrons Gyllenhal 1834 in Schoenherr, 1834: 503.

Omius strigifrons – Seidlitz 1868: 59. — Lindeman 1871: 285. — Reitter 1897: 200.

Omius (Urometopus) strigifrons – Formánek 1904a: 24.

Urometopus strigifrons – Lona 1938: 433. — Arnoldi *et al.* 1965: 520 (key). — Borovec 2006: 38; 2013b: 301. — Colonnelli 2011: 684. — Yunakov *et al.* 2018: 275. — Alonso-Zarazaga *et al.* 2023: 301.

Differential diagnosis

From *U. anatolicus* it differs in the convex epifrons separated from the vertex; elytra in males oblong-ovate (in *U. anatolicus* – broadly ovate); pterygia strongly extending from the lateral outline of the head (in *U. anatolicus* – not or weakly extending); antennal funicle of females more robust; pronotum finely rugoso-punctate (in *U. anatolicus* – punctate).

It is similar to *U. klapperichi* sp. nov. in the shape of head and aedeagus, but differs in having elytra with sparse recumbent piliform or narrowly lanceolate margaritaceous scales (in *U. klapperichi* – with dense recumbent pubescence formed by white piliform scales); punctures of pronotal disc not elongate.

From *U. nemorum* and *U. inflatus* it differs in the sides of pronotum and elytra, which bear only scarce patches of pale or margaritaceous lanceolate scales.

From *U. nemorum* it also distinctly differs in the dense punctures of the pronotal disc; elytra without short piliform setae on striae and interstriae; interstriae with rows of thicker and more obtuse erect setae; ramus of spermatheca weakly developed (Figs 56K, 66E–I).

From *U. inflatus* it also differs in the shape of the spermatheca: nodulus not tumid; pterygia strongly developed; distance between eyes narrower [VW/ELD = 1.70–2.08; in *U. inflatus* VW/ELD = 2.00–3.00] (Figs 31B, 56B).

Type material

Lectotype (here designated)

UKRAINE – **Crimea** • ♀; ‘----- Steven’, ‘Type’ ‘Riksmuseum Stockholm’ ‘Typus’ ‘185 / 88’; Ch. Steven leg.; NHRS, NHRS-JLKB 000078630 (Fig. 57A–C).

Note

Our colleague Vladimir Savitsky kindly searched for other possible syntypes of *Omiias strigifrons* in Christian Steven’s collection housed in ZMMU, but without result.

Additional material examined

TURKEY • 1 ♀; “Ankara N. Tosya E. İnegöl Dağı”; 40.9114° N, 35.0692° E; 9 Jul. 1996; Ch. Bayer leg. MMTI.

UKRAINE – **Crimea** • 5 ♂♂, 5 ♀♀; 5 km E of Perevalne, Egerlik Suv River sources; 44.8306° N, 34.3795° E; elev. 900 m; 18 Jun. 2002; N. Yunakov leg.; *Fagus* forest; sifting leaf litter; ZIN • 1 ♂; same collection data as for preceding; 21 Jun. 2002; ZMUN • 1 ♀; same collection data as for preceding; 30 Jun. 2002; ZMUN • 1 ♂, 1 ♀; 5.5 km ES of Perevalne, Dolgorukovska Yaila Mt Range, Egerlik Suv River sources; 44.8306° N, 34.37956° E; elev. 899 m; 9 Jun. 2010; N. Yunakov leg.; *Fagus* forest; sifting leaf litter; ZMUN • 36 ♂♂, 33 ♀♀; same collection data as for preceding; NYC • 1 ♂, 1 ♀; same collection data as for preceding; KhDC (Fig. 56A, C) • 18 ♂♂, 23 ♀♀; Dolgorukovska Yaila Mt Range, SW slope of Mt Çalbaş; 44.8400° N, 34.36596° E; elev. 842 m; 9 Jun. 2010; N. Yunakov leg.; mixed nemoral forest; sifting leaf litter; NYC • 2 ♂♂, 3 ♀♀; same collection data as for preceding; KhDC • 1 ♂, 1 ♀; same collection data as for preceding; SMNHL • 1 ♂, 2 ♀♀; same collection data as for preceding; KUMN • 1 ♀; Simferopol; G. Kakhovsky leg.; ZIN.



Fig. 56. *Urometopus strigifrons* (Gyllenhal, 1834), Egerlik Suv River, (ID31925, KUMN). **A.** Female habitus, dorsal, lateral and ventral views. **B.** Head of female, dorsal view. **C.** Male habitus, dorsal, lateral and ventral views. **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Endophallic armature. **G.** Abdominal ventrites of male. **H.** Elytral vestiture of male. **I.** Copulatory sclerite, dorsal view. **J.** Copulatory sclerite, lateral view. **K.** Spermatheca.

Type locality

Ukraine, Crimea [without certain data]. The original label of the lectotype was apparently unclear, prompting the scribe to write: “----- Steven” (Fig. 57C). Gyllenhal subsequently cited the type locality as “Tauria forte [probably Tauria]” (Schoenherr 1834), likely because the majority of Steven’s collecting sites were in Crimea – although he had also collected in adjacent regions, including the Caucasus (Nordmann 1865; Lindemann 1885). As visible in the drawer of the Natural History Museum in Stockholm, two bottom labels are present: the older reads “9/ *strigifrons* / Schh. / Bhm. 12”, and the newer one states “*Omiad* / *strigifrons* (Schh.) Gyll. / in Sch 2, 503 / Tauria” (Fig. 57D–E). The newer label clearly assigns the type locality as Tauria, and was likely clarified by Ch. Steven after the specimen’s initial labelling. Nevertheless, this information appears to have been overlooked by later authors.

Remarks on the species concept

Seidlitz (1868), who examined the *Omiad strigifrons* specimen from Schoenherr’s collection, concluded it was conspecific with the Caucasian *O. inflatus* Kolenati, 1859. He also treated specimens from “Kiew” [Hochhuth] and “Oestreich” [Wiener Zoologisches Cabinet] as aberrant forms within *O. strigifrons*. This synonymy with the Caucasian species was subsequently accepted by Schneider & Leder (1878). However, the material examined by Seidlitz apparently belonged to three different taxa: the Ponto-Crimean *U. strigifrons*, as well as the more widespread *U. inflatus* and *U. nemorum*. Consequently, his conclusions led to significant confusion in the species concept among later authors.

Redescription

MEASUREMENTS (mm). BL: 2.32–3.63 (2.88), BW: 1.30–2.06 (1.63), BH: 1.03–1.68 (1.30).



Fig. 57. *Urometopus strigifrons* (Gyllenhal, 1834). A–D. Lectotype, ♀ (NHRS). A–B. Habitus, dorsal and lateral views. C. Specimen labels. D. Bottom label. E. Bottom label NHRS-JLKB000078627 from another drawer. Photo credit: by María Alejandra Álvarez (NHRS), CC-BY 4.0.

COLORATION AND VESTITURE (Figs 56A, C, H, 57A–B). Brown; setose and pilose, erect setae distinct; recumbent lanceolate curly margaritaceous scales sparse, somewhat clustered on sides of pronotum, particularly near its posterior angles. Forehead with suberect setae.

HEAD (Fig. 56B, D). Rostrum parallel-sided; RL/RW = 0.73–0.81. Pterygia projected in males, not projected in females. Vertex transversely depressed. Eyes round, hemispherical; VW/ELD = 1.70–2.08. Costulation of head capsule continues on epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.93, fam2 = 1.45, fam3 = 1.00, fam4 = 0.91, fam5 = 0.92, fam6 = 0.76, fam7 = 0.7; club L/W = 1.88.

THORAX. Pronotum: PL/PW = 0.72–0.85, moderately transverse. Elytra orbicular-ovate EL/EW = 1.15–1.30.

LEGS. Protibiae and metatibiae: medial margin in males emarginate in distal 1/3; mucro moderate. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere 1.6× as wide as long.

ABDOMINAL VENTRITES (Fig. 56G). Anal ventrite of male truncate.

FEMALE GENITALIA. Spermatheca (Fig. 56K): nodulus not swollen; collum broad, reduced, in line with nodulus; ramus short, narrow, in line with nodulus; cornu roundly attenuate.

MALE GENITALIA (Fig. 56E). Median lobe 0.67× as long as apodemes, rounded laterally. Lamina of median lobe attenuate, narrowly rounded. Endophallus with field of dense short spicules in proximal part and dense tuberculiform spicules in distal part (Fig. 56F). Lunar sclerite absent. Copulatory sclerite (Figs 8K, 56I–J) robust, V-shaped, flagellar sheath long.

Life history

Urometopus strigifrons lives in leaf litter of mountain deciduous forests (Fig. 83G, H).

Distribution

Until recently, this species was considered endemic to the Crimean Mountains and known exclusively from the Salğır River basin. However, a recent examination of additional material in the MMTI collection revealed a single female from the Pontic Mountains (İnegöl Dağı) (Fig. 74A).

Urometopus anatolicus Smreczyński, 1977

Figs 8Q, 58, 74A

Urometopus anatolicus Smreczyński, 1977: 392.

Urometopus anatolicus – Białooki 2007: 143. — Colonnelli 2011: 681. — Borovec 2013b: 300. — Alonso-Zarazaga *et al.* 2023: 301.

Differential diagnosis

It is closely related to *U. strigifrons*, differs from the latter by the following characters: epifrons flat, not separated from vertex; elytra in males broadly ovate (in *U. strigifrons* – ovate); pterygia not or weakly extending from lateral outline of head (in *U. strigifrons* – strongly extending); antennal funicle of females more robust; pronotum punctate (in *U. strigifrons* – finely rugoso-punctate); recumbent vestiture sparser, lanceolate curly margaritaceous scales clustered in fuzzy macula on elytral interstriae (in *U. strigifrons* evenly dispersed).

From *U. klapperichi* sp. nov. it differs in the shape of the aedeagus: apex not attenuate (Figs 58E vs 62H); endophallus with proximal sclerite (Fig. 8Q).

Type material

Holotype

TURKEY – **Samsun** • ♀; “Turque Samsun entre Samsun et Kavak, 27 km de Samsun”; 20 May 1967; W. Wittmer leg.; MHNG (Fig. 58J–K).

Additional material examined

TURKEY – **Bolu** • 1 ♀; Bolu; 40.7590° N, 31.5768° E; 5 Jun. 1966; Klapperich leg.; MMTI • 1 ♂; Bolu dag, Kaynasli; 40.7931° N, 31.3092° E; 21 Jun. 1947; MMTI • 1 ♂, 1 ♀; road Bolu–Yeniçağa; 40.7393° N, 31.8684° E; 24 May 1967; C. Besuchet leg.; MMTI (Fig. 58A) • 1 ♂; road Düzce–Akçakoca; 41.0016° N, 31.1888° E; 26 May 1967 (Fig. 58C); C. Besuchet leg.; MMTI • 1 ♂, 1 ♀; road Konuralp – Akçakoca; 40.9938° N, 31.1867° E; elev. 400 m; 15 May 1976; C. Besuchet and I. Löbl leg.; MMTI • 2 ♂♂, 7 ♀♀; same collection data as for preceding; MHNG.

Type locality

Turkey, Samsun Province, between Samsun and Kavak.

Redescription

MEASUREMENTS (mm). BL: 2.68–3.63 (3.03), BW: 1.49–2.05 (1.68), BH: 1.20–1.70 (1.36).

COLORATION AND VESTITURE (Fig. 58A, C, J). Brown; elytra distinctly setose; erect setae yellowish, narrow, as long as width of interstria, ordered in regular row on elytral interstriae; with margaritaceous appressed lanceolate scales somewhat clustered in fuzzy macula on elytral interstriae and sides of pronotum. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 58B, D). Rostrum slightly narrowing anteriorly; RL/RW = 0.77–0.85. Pterygia not projected to weakly projected. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, 2 × as narrow as vertex, flat, without or with median sulcus, coarsely and shallowly punctate. Vertex without transverse depression. Eyes large, moderately convex; VW/ELD = 1.57–2.19. Costulation of head capsule continues on epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly slightly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.90, fam2 = 1.67, fam3 = 0.80, fam4 = 0.86, fam5 = 0.71, fam6 = 0.65, fam7 = 0.62; club L/W = 1.93.

THORAX. Pronotum: PL/PW = 0.69–0.78, transverse; widest at middle, roundly narrowing anteriorly and weakly constricted posteriorly; disc densely punctate, punctures regular, interspaces between punctures as wide as diameter of puncture; sides finely rugoso-punctate. Elytra orbicular-ovate; disc weakly convex; striae deep, interspaces between punctures as long as diameter of puncture; interstriae weakly convex. EL/EW = 1.21–1.36.

LEGS. Tibiae slender. Protibiae: medial margin in male moderately emarginate in distal 1/3; mucro moderate. Metatibiae: medial margin in males weakly emarginate in distal 1/3; mucro weak. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere 1.9 × as wide as long.

ABDOMINAL VENTRITES (Fig. 58F). Anal ventrite of male truncate.

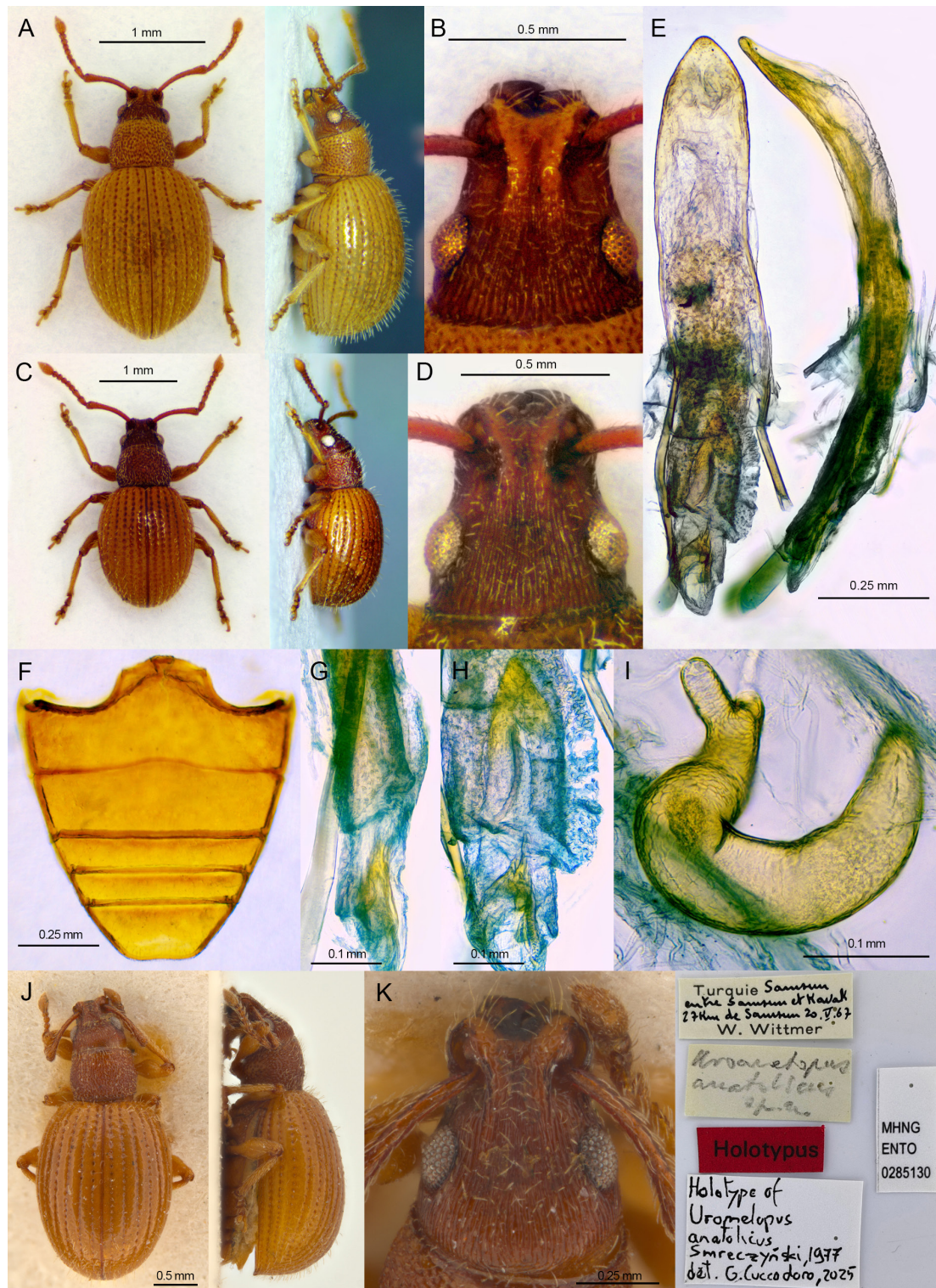


Fig. 58. *Urometopus anatolicus* Smreczyński, 1977. **A.** Female habitus, dorsal and lateral views (ID29749, MMTI). **B.** Head of female, dorsal view. **C.** Male habitus, dorsal and lateral views (ID29750, MMTI). **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Abdominal ventrites of male. **G.** Copulatory sclerite, dorsal view. **H.** Copulatory sclerite, lateral view. **I.** Spermatheca. **J–K.** Holotype, ♀ (MHNG). **J.** Habitus, dorsal and lateral views. **K.** Head, dorsal view and labels. Photograph by Giulio Cuccodoro (MHNG), CC-BY 4.0.

FEMALE GENITALIA. Spermatheca (Fig. 58I): nodulus not swollen; collum reduced, in line with nodulus; ramus roundly projecting; cornu attenuate.

MALE GENITALIA (Fig. 58E). Median lobe $0.5 \times$ as long as apodemes, parallel-sided. Lamina of median lobe narrowly rounded. Endophallus armature short spicules generally dispersed in distal part of endophallus; with large asymmetric proximal sclerite. Lunar sclerite absent. Copulatory sclerite (Figs 8Q, 58G–H) asymmetric, robust, flagellar sheath reduced.

Notes

Description of the male and the distribution of *Urometopus anatolicus* published recently (Colonnelli 2011) are apparently based on misidentified specimens belonging to *U. dieckmanni* sp. nov.

Life history

Unknown.

Distribution

The range runs from Köroğlu to Canik Mountains in Turkey. Bialooki (2007) has reported this species to occur northeast of Abant Lake. According to available material, there are two species, namely *U. dieckmanni* sp. nov. and *U. rugifrons* and no specimen of *U. anatolicus* was found (Fig. 74A).

Urometopus s.str. incertae sedis

Urometopus asiaticus (Formánek, 1910)
Figs 4M, 7D, 59, 73B

Omius asiaticus Formánek, 1910: 242.

Omius asiaticus – Lona 1938: 427.

Urometopus asiaticus – Colonnelli 2011: 682. — Borovec 2013b: 300. — Alonso-Zarazaga *et al.* 2023: 301.

Differential diagnosis

Urometopus asiaticus differs from other known species by the following characters: body elongate with oblong-ovate elytra and recumbent pubescence without erect setae; 1st tarsomere of male broadly-triangular. This species especially differs from other known taxa in prominently shaped male genitalia: median lobe very narrow and long, $2 \times$ as long as apodemes.

Type material

Lectotype (here designated)

TURKEY – **Istanbul** • ♂; “Asia - minor / Goek-Dagh / v. Bodemeyer [printed]” “*Omius asiaticus* m.” “asiaticus / Type” “coll. Reitter” “Paratypus *Omius asiaticus* Formánek”; 40.9881° N, 29.5006° E; [Apr. 1899]; E. [Eduard] von Bodemeyer leg.; HNHM (Fig. 59G–H).

Paralectotypes

TURKEY – **Istanbul** • 2 ♂♂; same collection data as for lectotype; HNHM.

Additional material examined

TURKEY – **Istanbul** • 1 ♂; “v. Bodemeyer Klein Asien Alem-Dagh”; 41.0613° N, 29.2323° E; A.R.E. [Eduard] von Bodemeyer leg.; KUMN • 1 ♂; “Asia - minor Goek-Dagh v. Bodemeyer”; 40.9881° N, 29.5006° E; [Apr. 1899]; E. [Eduard] von Bodemeyer leg.; KUMN (Fig. 59A) • 1 ♂; “Asia

- minor Goek-Dagh v. Bodemeyer" "66" *Brachysomus formaneki* Rtttr"; 40.9881° N, 29.5006° E; [Apr. 1899]; E. [Eduard] von Bodemeyer leg.; KUMN • 1 ♂; same collection data as for preceding; MTD.

Type locality

Turkey, Goek-Dagh (hill southeast of Istanbul). Locality and collection date were recovered from Bodemeyer (1900).



Fig. 59. *Urometopus asiaticus* (Formánek, 1910). A–F. Male from Goek-Dagh (ID30115, KUMN). A. Habitus, dorsal, lateral and ventral views. B. Head, dorsal view. C. Aedeagus, dorsal and lateral views. D. Copulatory sclerite, dorsal view. E. Abdominal ventrite. F. Elytral vestiture. G–H. Lectotype, ♂ (HNHM). G. Dorsal and lateral habitus. H. Head, dorsal view and labels. The numeric indices in C–D refers to the numbers and states of the characters in the character matrix, [Supp. file 1](#).

Redescription

MEASUREMENTS (mm). BL: 2.17–2.41 (2.29), BW: 1.14–1.19 (1.17), BH: 0.86–0.90 (0.88).

COLORATION AND VESTITURE (Fig. 59A, F–G). Brown; sparsely silky pilose, erect setae absent, recumbent setae distinct. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs.

HEAD (Fig. 59B, H). Rostrum slightly narrowing anteriorly; RL/RW = 0.79–0.86. Pterygia projected. Vertex without transverse depression. Eyes: VW/ELD = 1.62–1.93. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.74, fam2 = 1.44, fam3 = 0.86, fam4 = 0.81, fam5 = 0.70, fam6 = 0.65, fam7 = 0.75; club L/W = 1.63.

THORAX. Pronotum: PL/PW = 0.81–0.89, moderately transverse; disc moderately convex; widest at middle, roundly narrowing anteriorly and constricted posteriorly; densely punctate, punctures regular, interspaces between punctures as wide as diameter of puncture. Elytra oblong-ovate, distinctly rounded on sides, EL/EW = 1.23–1.39.

LEGS. Tarsomeres in male robust; 1st tarsomere 1.2 × as wide as 2nd (Fig. 4M); 2nd tarsomere 2.8 × as wide as long.

ABDOMINAL VENTRITES (Fig. 59E). Anal ventrite of male truncate.

MALE GENITALIA (Fig. 59C). Median lobe very narrow, strongly elongate, 10.6 × as long as wide, 2 × as long as apodemes. Lamina of median lobe attenuate, narrowly rounded. Endophallus with very dense long spicules condensed in distal part. Lunar sclerite absent. Copulatory sclerite (Figs 7D, 59D) slim, spatulate, flagellar sheath well developed.

FEMALE. Unknown.

Life history

Unknown.

Distribution

This extremely rare species is known only from Gök Dağ (321 m a.s.l.) and Alem Dağı (442 m a.s.l.), the hills around Istanbul, Turkey (Fig. 73B).

Urometopus dieckmanni Yunakov sp. nov.

[urn:lsid:zoobank.org:act:1D1715F0-07A8-456D-94F0-57DAEDE52DFA](https://zoobank.org/act:1D1715F0-07A8-456D-94F0-57DAEDE52DFA)

Figs 7F, 60, 73B

Differential diagnosis

This species is similar to *U. bohaci* sp. nov. and *U. inflatus* in the shape of the head and features of the body pubescence. From *U. inflatus* it differs in the smaller size of males [BL: 2.22–2.34 mm vs 2.45–2.88 mm in *U. inflatus*]; posterior declivity of elytra with arcuate margaritaceous piliform scales (in *U. inflatus* with simple pale piliform scales); nodulus of spermatheca not swollen.

From *U. bohaci* sp. nov. it differs in weakly convex eyes; antennal funicle more robust [fam7 = 0.56 vs 0.65 in *U. bohaci*]; shorter and thicker erect setae of elytral interstriae; lamina of median lobe broadly rounded, not attenuate; endophallus with weakly developed spiculate field, spicules short; ramus of spermatheca larger than collum.

From *U. behnei* sp. nov. it differs in thicker pubescent setae; presence of margaritaceous piliform scales; denser punctuation and less glabrous interspaces between punctures of pronotal disc; nodule of spermatheca not swollen; lamina of median lobe broadly rounded, not attenuate; endophallus with weakly developed spiculate field; copulatory sclerite more slender.

From *U. osellai* sp. nov. it differs in longer rostrum; more robust antennae; sparser pubescence of elytra, interstriae with regular rows of erect setae; pronotal disc with denser punctures and less glabrous interspaces; lamina of median lobe not attenuate; collum of spermatheca smaller than ramus.

Etymology

This species is named after Dr Lothar Dieckmann (1920–1990), famous German entomologist and expert in weevils.

Type material

Holotype

TURKEY – **Bolu** • ♂; Abant Gölü; 40.6036° N, 31.2901° E; elev. 1400–1600 m; 29 Jun.–3 Jul. 1972; G. Osella leg.; MSNVR.

Paratypes

TURKEY – **Bolu** • 2 ♀♀; same collection data as for holotype; MSNVR • 2 ♂♂, 2 ♀♀; same collection data as for holotype; MMTI (Fig. 60A, C) • 1 ♀; Abant Gölü; 40.6036° N, 31.2901° E; elev. 1450 m; 24 Jun. 1969; G. Osella leg.; MSNVR • 1 ♂; same collection data as for preceding; MMTI • 1 ♀; Abant Gölü; 40.6036° N, 31.2901° E; elev. 1500 m; 18 Jul. 1971; G. Osella leg.; MSNVR.

Type locality

Turkey, near Abant Lake.

Description

MEASUREMENTS (mm). BL: 2.34–3.00, BW: 1.14–1.53 (1.31), BH: 0.86–1.21 (1.01).

COLORATION AND VESTITURE (Fig. 60A, C). Brown; setose and sparsely pilose; erect setae, elongate, narrow, obtuse, as long as width of interstria, silver-grey, ordered in rows on interstriae; posterior declivity and sides of elytra sparsely covered with arcuate margaritaceous piliform, curved scales; punctures in striae bear very short recumbent hair. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose, setae subrecumbent; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 60B, D). Rostrum in males parallel-sided to slightly narrowing anteriorly in females; RL/RW = 0.79–0.82. Pterygia not projected. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, 2 × as narrow as vertex, flat, with narrow median sulcus, coarsely and shallowly punctate. Vertex without or with very shallow transverse depression. Eyes moderately convex; VW/ELD = 1.79–1.91. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.67, fam2 = 1.41, fam3 = 0.79, fam4 = 0.66, fam5 = 0.56, fam6 = 0.56, fam7 = 0.56; club L/W = 1.72.

THORAX. Pronotum: PL/PW = 0.81–0.84, moderately transverse; weakly convex on disc; widest at middle, roundly narrowing anteriorly and weakly constricted posteriorly; disc densely punctate, punctures regular, interspaces between punctures as wide as diameter of puncture; sides finely rugoso-punctate.

Elytra ovate; disc flat; striae deep, interspaces between punctures as long as diameter of puncture; interstriae weakly convex; EL/EW = 1.32–1.35.

LEGS. Tibiae slender. Protibiae: medial margin in male moderately emarginate in distal $\frac{1}{3}$; mucro moderate. Metatibiae: medial margin in males weakly emarginate in distal $\frac{1}{3}$; mucro moderate. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere 1.7 $\times$ as wide as long.

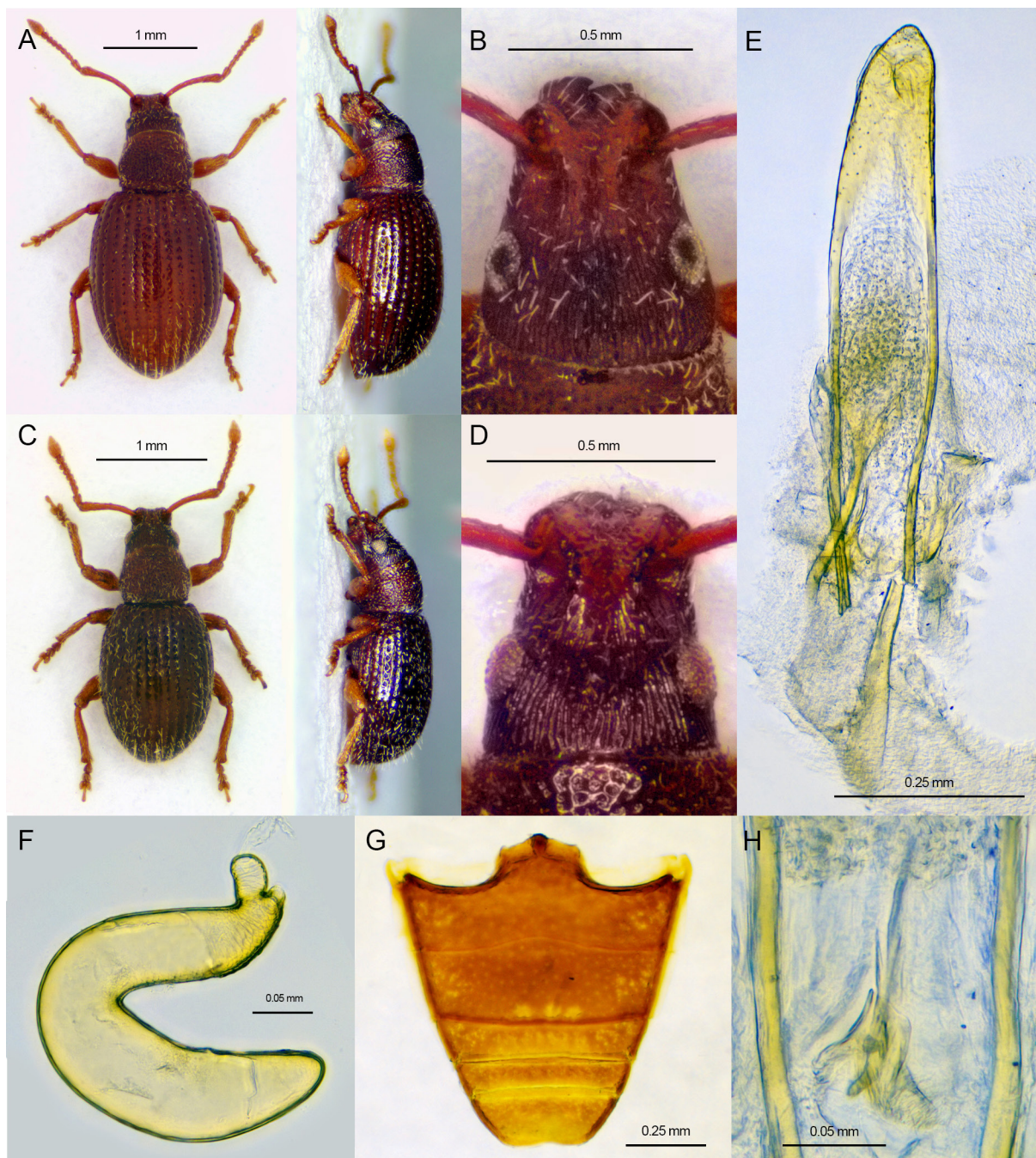


Fig. 60. *Urometopus dieckmanni* Yunakov sp. nov., paratypes (ID29950, MMTI). **A.** Female habitus, dorsal and lateral views. **B.** Head of female, dorsal view. **C.** Male habitus, dorsal and lateral views. **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal view. **F.** Spermatheca. **G.** Abdominal ventrites of male. **H.** Copulatory sclerite, dorsal view.

ABDOMINAL VENTRITES (Fig. 60G). Anal ventrite of male weakly emarginate.

FEMALE GENITALIA. Spermatheca (Fig. 60F): nodulus not swollen; collum reduced; ramus roundly projecting, significantly larger than collum, perpendicular to nodulus; cornu roundly attenuate.

MALE GENITALIA. Median lobe as long as apodemes, evenly narrowed apically. Lamina of median lobe narrowly rounded. Endophallus with distally condensed field of short spicules along its medial axis. Lunar sclerite absent. Copulatory sclerite (Figs 7F, 60H) slim, spatulate, flagellar sheath well developed.

Life history

Unknown.

Distribution

The range remains unclear; this species is known only from the type locality near Lake Abant (northwestern Anatolia, Turkey) (Fig. 73B).

Urometopus europaeus Yunakov sp. nov.

[urn:lsid:zoobank.org:act:4895A970-E4EE-44AF-B1D2-5019A614BDC7](https://zoobank.org/act:4895A970-E4EE-44AF-B1D2-5019A614BDC7)

Figs 61, 73B

Differential diagnosis

This species differs from *U. anatolicus* in oblong-ovate elytra; disc of pronotum rugoso-punctate; very scattered recumbent pilosity, pale lanceolate scales absent; collum somewhat larger than ramus, attenuate, cornu larger (Figs 58I, 61C).

Etymology

The name highlights origin of the single known specimen, from the European part of Turkey.

Type material

Holotype

TURKEY – **Istanbul** • ♀; Istanbul, Belgrad Forest; 41.1872° N, 28.9677° E; Merkl leg.; HNHM (Fig. 61A).

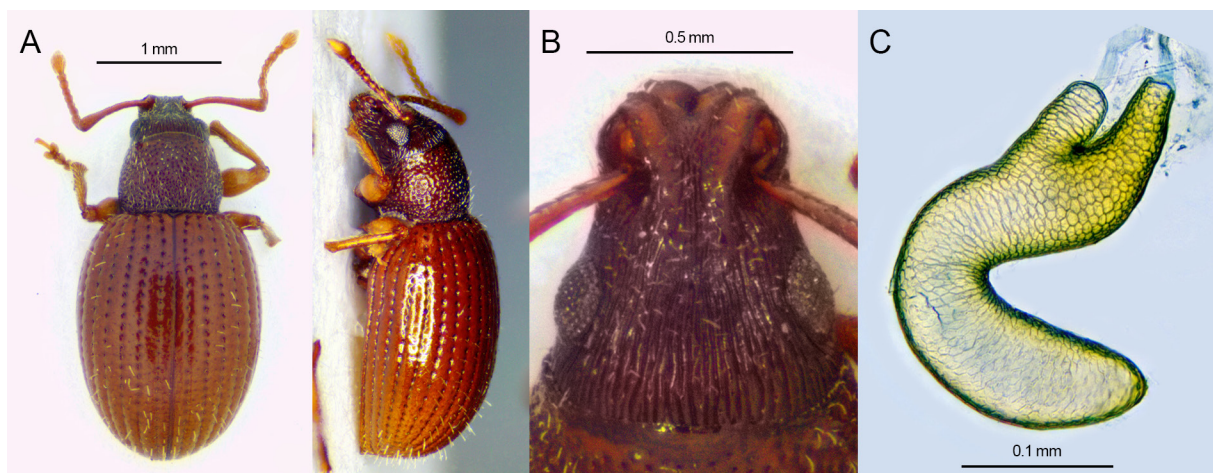


Fig. 61. *Urometopus europaeus* Yunakov sp. nov., holotype, ♀ (HNHM). **A.** Habitus, dorsal and lateral views. **B.** Head dorsal view. **C.** Spermatheca.

Type locality

Turkey, Belgrad Forest in Istanbul.

Description

MEASUREMENTS (mm). BL: 3.07, BW: 1.69, BH: 1.29.

COLORATION AND VESTITURE (Fig. 61A). Brown; setose and pilose; pronotum with sparse subrecumbent narrow setae; erect setae elongate, as long as width of interstria, narrow, obtuse, silver-grey, ordered in rows on interstriae; posterior declivity with very sparse appressed, narrow, curved whitish scales; punctures in striae bear very short recumbent hair. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose, setae subrecumbent; grooming brush on distal $\frac{1}{3}$ of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 61B). Rostrum distinctly narrowing anteriorly; $RL/RW = 0.83$. Pterygia not projected. Frons U-shaped, nitid, weakly sloped anteriorly, delimited from epistome by very thin V-shaped carina. Epifrons well edged, $2.2 \times$ as narrow as vertex, flat, coarsely and shallowly punctate. Vertex without transverse depression. Eyes moderately convex; $VW/ELD = 1.90$. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.92, fam2 = 1.71, fam3 = 1.19, fam4 = 0.93, fam5 = 0.74, fam6 = 0.71, fam7 = 0.71; club L/W = 2.03.

THORAX. Pronotum: $PL/PW = 0.78$, transverse; weakly convex on disc; widest posteriorly of middle, roundly narrowing anteriorly and weakly constricted posteriorly; disc densely rugoso-punctate, punctures irregular, interspaces between punctures as narrower than diameter of puncture; sides finely punctate. Elytra ovate; disc weakly convex; striae deep, interspaces between punctures as long as diameter of puncture; interstriae weakly convex. $EL/EW = 1.26$.

LEGS. Tibiae slender. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere $1.7 \times$ as wide as long.

FEMALE GENITALIA. Spermatheca (Fig. 61C): nodulus not swollen; collum sharply attenuate; ramus strongly projecting; cornu roundly attenuate.

MALE. Unknown.

Life history

Unknown.

Distribution

The range remains unclear; this species is known only from the type locality in Belgrad Forest in Istanbul, Turkey (Fig. 73B).

Urometopus klapperichi Yunakov sp. nov.

[urn:lsid:zoobank.org:act:5CBA5177-32C4-45CA-9355-70C1CDA22816](https://zoobank.org/act:5CBA5177-32C4-45CA-9355-70C1CDA22816)

Figs 7G, 62A–J, 73B

Differential diagnosis

It is similar to *U. strigifrons* in the shape of body and head, erect pilosity and shape of aedeagus but differs by elytra with dense recumbent pubescence formed by white piliform scales (in *U. strigifrons* – elytral

interstriae mostly bald, with fewer recumbent piliform or narrowly lanceolate scales clustered in fuzzy macula); punctures of pronotal disc elongate; collum of spermatheca not abbreviated, as long as ramus.

Urometopus klapperichi sp. nov. is also similar to *U. anaticus* in general appearance of body, shape of rostrum and features of erect pilosity but differs from it in following characters: antennal funicle slender; eyes less convex; pterygia extending from lateral outline of head; epifrons separated from vertex by shallow but well-defined transverse depression; interstriae densely covered with recumbent piliform arcuate scales; absence of lanceolate scales; pronotum of males rugoso-punctate (in *U. anaticus* – punctate).

Etymology

This species is named after Johann Friedrich Klapperich (1913–1987), German entomologist who collected this species.

Type material

Holotype

TURKEY – **Bursa** • ♂; “İnegöl kaplıcaları [Oylat Thermal Springs]”; 39.9200° N, 29.5800° E; 16 May 1966; Klapperich leg.; MSNVR.

Paratypes

TURKEY – **Bursa** • 2 ♀♀; same collection data as for holotype; MSNVR • 2 ♂♂, 1 ♀; same collection data as for holotype; MMTI (Fig. 62A, C).

Type locality

Turkey, Bursa Province, İnegöl kaplıcaları [Oylat Thermal Springs].

Description

MEASUREMENTS (mm). BL: 2.85–3.57 (3.15), BW: 1.56–1.96 (1.70), BH: 1.23–1.56 (1.35).

COLORATION AND VESTITURE (Fig. 62A, C). Brown; setose and sparsely squamose; erect setae yellowish-grey, narrow and somewhat flattened, pointed and obtuse, as long as width of interstriae, ordered in regular row; interstriae sparsely covered with recumbent, lanceolate, curved, margaritaceous scales; each puncture in striae bears tinier subrecumbent piliform seta. Head vestiture: setose, setae erect. Vestiture of antennae and legs setose; scape and funicle with suberect setae; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 62B, D). Rostrum in males parallel-sided to slightly narrowing anteriorly in females; RL/RW = 0.75–0.83. Pterygia slightly projected. Frons U-shaped, nitid, weakly sloped anteriorly, delimited from epistome by thin V-shaped carina. Epifrons well edged, parallel-sided, 1.8 × as narrow as vertex, flat, with narrow median sulcus, coarsely punctate. Vertex transversely depressed. Eyes moderately convex; VW/ELD = 1.33–1.55, 2.08 in females. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 2.05, fam2 = 1.66, fam3 = 0.97, fam4 = 0.84, fam5 = 0.74, fam6 = 0.64, fam7 = 0.69; club L/W = 2.06.

THORAX. Pronotum: PL/PW = 0.75–0.76, transverse; convex on disc; widest at middle, roundly narrowing anteriorly and weakly constricted posteriorly; longitudinally wrinkly-punctate, punctures irregular, interspaces between punctures narrower than diameter of puncture (Fig. 62J). Elytra ovate; disc weakly convex; striae shallow, interspaces between punctures as long as diameter of puncture; interstriae flat. EL/EW = 1.19–1.31

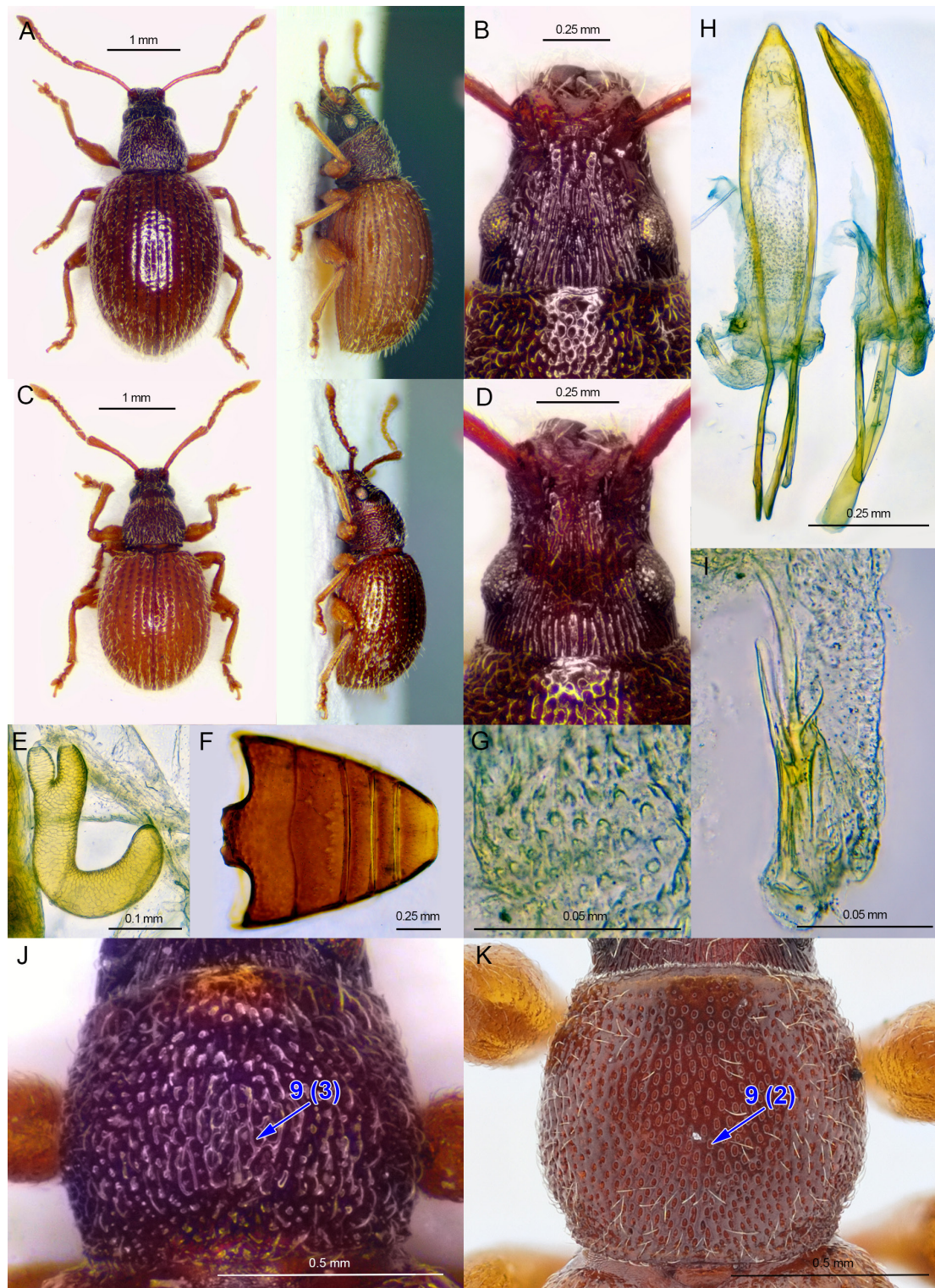


Fig. 62. *Urometopus* morphology. A–J. *Urometopus klapperichi* Yunakov sp. nov., paratypes (ID29951, MMTI). A. Female habitus, dorsal and lateral views. B. Head of female, dorsal view. C. Male habitus, dorsal and lateral views. D. Head of male, dorsal view. E. Spermatheca. F. Abdominal ventrites of male. G. Endophallic armature. H. Aedeagus, dorsal and lateral views. I. Copulatory sclerite, dorsal view. J. Pronotal sculpture. K. *Urometopus rugifrons* (Hochhuth, 1851), pronotal sculpture. The numeric indices in C–D refers to the numbers and states of the characters in the character matrix, [Supp. file 1](#).

LEGS. Tibiae slender. Protibiae: medial margin in male weakly emarginate in distal $\frac{1}{3}$; mucro moderate. Metatibiae: medial margin in males weakly emarginate in distal $\frac{1}{3}$; mucro moderate. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere $1.9 \times$ as wide as long.

ABDOMINAL VENTRITES (Fig. 62F). Anal ventrite of male truncate.

FEMALE GENITALIA. Spermatheca (Fig. 62E): nodulus not swollen; collum strongly projecting, narrow, in line with nodulus; ramus strongly projecting, narrow, in line with nodulus; cornu roundly attenuate.

MALE GENITALIA. Median lobe (Fig. 62H) as long as apodemes; evenly narrowed apically. Lamina of median lobe weakly attenuate. Endophallus with sparse field of short spicules (Fig. 62G). Lunar sclerite absent. Copulatory sclerite (Figs 7G, 62I) robust, V-shaped, flagellar sheath long.

Life history

Unknown.

Distribution

The range remains unclear; this species is known only from the type locality near İnegöl hot springs in Bursa Province of Turkey (Fig. 73B).

Urometopus kovali Yunakov sp. nov.

[urn:lsid:zoobank.org:act:626098A2-BD6D-4A77-AC92-A44653C3403E](https://zoobank.org/act:626098A2-BD6D-4A77-AC92-A44653C3403E)

Figs 63, 73B

Differential diagnosis

Urometopus kovali sp. nov. is an odd-looking species from the Western Caucasus. It is somewhat similar to *U. inflatus* in the shape of the head. *Urometopus kovali* differs sharply from both *U. helenae* sp. nov. and *U. inflatus* in the very short and broad erect setae, and in the shape of the spermatheca, with collum and ramus obtuse and subequal.

From *U. helenae* sp. nov. it further differs in the following characters: rostrum subconical; erect setae on elytra scattered, widened and obtuse apically; eyes larger and less convex [VW/ELD = 1.95–2.11; in *U. helenae*: 2.08–2.70 (2.37)]; pronotum coarsely punctate.

Etymology

This species is named after Dr Alexander G. Koval (Institute of Plant Protection, Saint Petersburg, Russia) who has significantly contributed to the collection of weevils in the Caucasus.

Type material

Holotype

GEORGIA – Abkhazia • ♀; Gagra Mt Range, Mt Mamdzishkha; 16 Jun.–21 Jul. 1984; A.G. Koval leg.; pitfall trap; ZIN (Fig. 63A).

Paratype

GEORGIA – Abkhazia • ♀; same data as for holotype; ZIN.

Type locality

Georgia, Abkhazia, Mt Mamdzishkha.

Description

MEASUREMENTS (mm). BL: 2.30–2.66, BW: 1.28–1.46, BH: 0.97–1.14.

COLORATION AND VESTITURE (Fig. 63A). Brown; distinctly setose, appressed setae sparse. Head vestiture: pilose. Vestiture of antennae and legs moderately setose; grooming brush on distal $\frac{1}{3}$ of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 63B). Rostrum narrowing anteriorly; $RL/RW = 0.76\text{--}0.81$. Pterygia not projected. Frons U-shaped, nitid, flat, not delimited from epistome by thin V-shaped carina. Epifrons well edged, $1.9\text{--}2.1 \times$ as narrow as vertex, flat, without median sulcus, parallel-sided. Vertex without transverse depression. Eyes convex; $VW/ELD = 1.95\text{--}2.11$. Costulation of head capsule continues on epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W : fam1 = 1.49, fam2 = 1.27, fam3 = 0.68, fam4 = 0.75, fam5 = 0.67, fam6 = 0.63, fam7 = 0.51; club $L/W = 1.54$.

THORAX. Pronotum: $PL/PW = 0.72$, moderately transverse, weakly convex laterally, widest at middle, moderately constricted posteriorly; disc rugoso-punctate, punctures regular, interspaces between punctures shorter than diameter of puncture; sides finely rugoso-punctate. Elytra ovate, $EL/EW = 1.29\text{--}1.32$.

LEGS. Tarsi: 1st tarsomere $0.95 \times$ as wide as 2nd; 2nd tarsomere $1.7 \times$ as wide as long.

FEMALE GENITALIA. Spermatheca (Fig. 63C): nodulus not swollen; collum roundly projecting, in line with nodulus; ramus roundly projecting, as long as collum; cornu strongly attenuate.

MALE. Unknown.

Life history

Unknown.

Distribution

Greater Caucasus. This species is known only from the type locality at Mt Mamdzishkha (Gagra Range) (Fig. 73B).

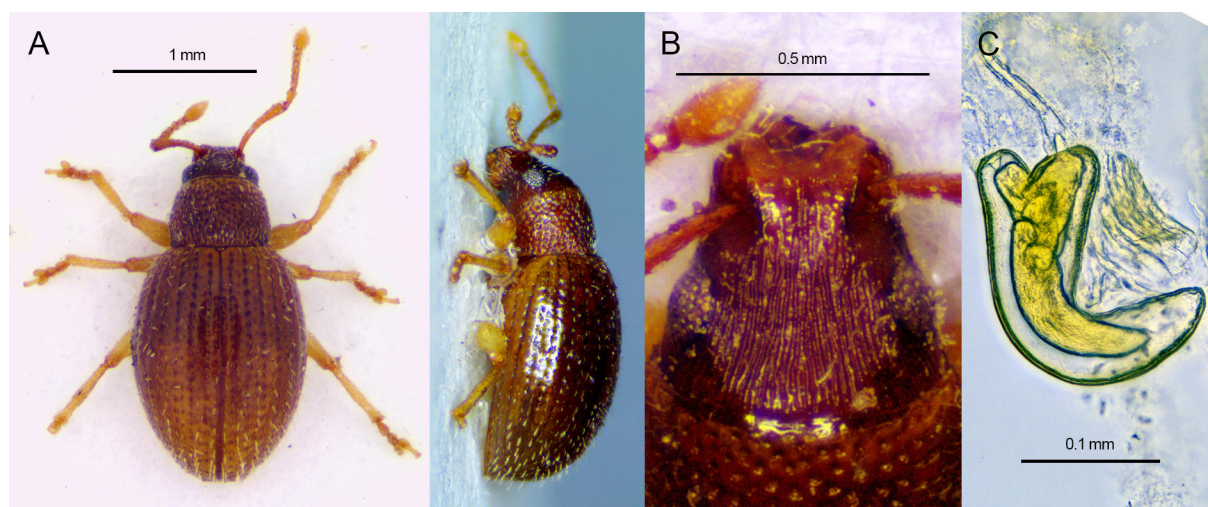


Fig. 63. *Urometopus kovali* Yunakov sp. nov., holotype, ♀ (ZIN). A. Habitus, dorsal and lateral views. B. Head dorsal view. C. Spermatheca.

Urometopus lasistanicus Yunakov sp. nov.

[urn:lsid:zoobank.org:act:2D6DE5AB-8B2C-4696-8B9E-05120DA321BB](https://doi.org/10.21203/rs.3.rs-1204321/v1)

Figs 7T, 64, 73B

Differential diagnosis

This species is similar to *U. anatolicus* in general appearance of body, shape of rostrum and features of pilosity but differs from it in the smaller size [BL: 2.43–2.67 vs 2.68–3.63 mm in *U. anatolicus*] and the following characters: antennal funicle slender; eyes ovate, less convex (in *U. anatolicus* – round and strongly convex); absence of silver recumbent lanceolate scales on elytral interstriae and sides of pronotum; elytra oblong-ovate, less convex; lateral outline of pronotum with well-visible erect setae (in *U. anatolicus* these setae are recumbent or slightly erect); pronotum finely and densely punctate (in *U. anatolicus* pronotum coarsely punctate).

Etymology

The new species name refers to its origin from Lasistan, a region in northeastern Turkey.

Type material

Holotype

TURKEY – Artvin • ♂; Yalnızçam gecidi; 41.0877° N, 42.2468° E; 8 Jul. 1971; G. Osella leg.; MSNVR.

Paratypes

TURKEY – Artvin • 4 ♀♀; Yalnızçam gecidi; 41.0877° N, 42.2468° E; 8 Jul. 1971; G. Osella leg.; MSNVR • 2 ♂♂; Yalnızçam gecidi; 41.0877° N, 42.2468° E; 8 Jul. 1971; G. Osella leg.; MMTI (Fig. 64C) • 1 ♂, 3 ♀♀; Yalnızçam gecidi; 41.0877° N, 42.2468° E; elev. 2500 m; 8 Jul. 1971; P.M. Brignoli leg.; MMTI (Fig. 64A). – Trabzon • 1 ♀; Maçka; 40.8149° N, 39.6083° E; 18 Jul. 1971; elev. 750 m; G. Osella leg.; MMTI.

Type locality

Turkey, Artvin Province, Yalnızçam gecidi.

Description

MEASUREMENTS (mm). BL: 2.43–2.67, BW: 1.25–1.46, BH: 0.96–1.16.

COLORATION AND VESTITURE (Fig. 64A, C). Brown; elytra and pronotum distinctly setose; erect setae yellowish, obtuse, almost as long as width of interstria, ordered in regular row on elytral interstriae; appressed setae very small, curved, sparse, more obvious on posterior declivity and lateral sides of elytra; pronotum also covered with subrecumbent setae. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 64B, D). Rostrum in males parallel-sided to slightly narrowing anteriorly in females; RL/RW = 0.75–0.78. Pterygia not projected. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, 1.9 (in males), 2.2 (in females) × as narrow as vertex, flat, without or with shallow median sulcus, coarsely and shallowly punctate. Vertex without transverse depression. Eyes large, moderately convex; VW/ELD = 1.58–1.90. Costulation of head capsule continues on epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.68, fam2 = 1.63, fam3 = 0.91, fam4 = 0.76, fam5 = 0.57, fam6 = 0.48, fam7 = 0.43; club L/W = 1.78.

THORAX. Pronotum: PL/PW = in female 0.66, in males 0.75–0.76, transverse, convex on disc, widest posteriorly of the middle, roundly narrowing anteriorly and posteriorly; disc densely punctate, punctures regular, interspaces between punctures as wide as diameter of puncture; sides finely rugoso-punctate. Elytra ovate; disc weakly convex in female; striae deep, interspaces between punctures as long as diameter of puncture; interstriae flat in female to weakly convex in males. EL/EW = 1.26–1.31.

LEGS. Tibiae: thick. Protibiae: medial margin in male moderately emarginate in distal $\frac{1}{3}$; mucro moderate. Metatibiae: medial margin in males weakly emarginate in distal $\frac{1}{3}$; mucro weak. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere 1.8 × as wide as long.

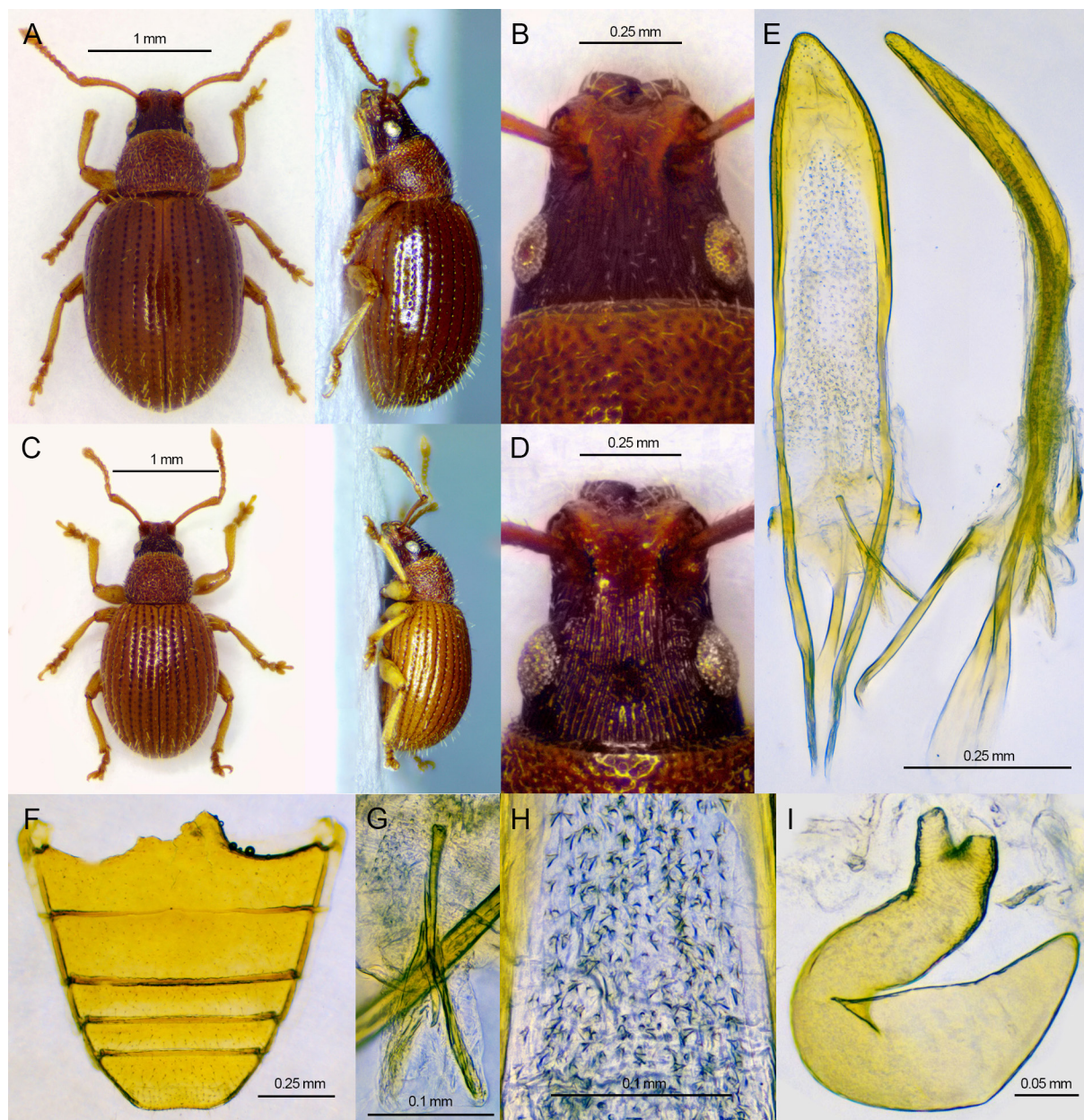


Fig. 64. *Urometopus lasistanicus* Yunakov sp. nov., paratypes. **A.** Female habitus, dorsal and lateral views (ID29955, MMTI). **B.** Head of female, dorsal view. **C.** Male habitus, dorsal and lateral views (ID29953, MMTI). **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Abdominal ventrites of male. **G.** Copulatory sclerite, dorsal view. **H.** Endophallic armature. **I.** Spermatheca.

ABDOMINAL VENTRITES (Fig. 64F). Anal ventrite of male truncate.

FEMALE GENITALIA. Spermatheca (Fig. 64I): nodulus not swollen; collum reduced, in line with nodulus; ramus obtusely projecting; cornu attenuate.

MALE GENITALIA. Median lobe (Fig. 64E) $0.67\times$ as long as apodemes, evenly narrowed apically. Lamina of median lobe attenuate, narrowly rounded. Endophallus armature (Fig. 64H) consists of short spicules generally dispersed. Lunar sclerite absent. Copulatory sclerite (Figs 7T, 64G) slim, V-shaped, flagellar sheath well developed.

Life history

Unknown.

Distribution

The range remains unclear; this species is known only from the type locality in Yalnızçam Mountains, northeastern Turkey (Fig. 73B).

Urometopus musculus Yunakov sp. nov.

[urn:lsid:zoobank.org:act:28E32276-1872-4551-B9D7-F4AC2142867C](https://zoobank.org/urn:lsid:zoobank.org:act:28E32276-1872-4551-B9D7-F4AC2142867C)

Figs 8E, 65, 74B

Differential diagnosis

In the shape of the head this species is similar to *U. talyschensis*, but differs in its elongate elytra; finely and densely punctate pronotal disc; weakly developed erect vestiture; and endophallus armature with spicules not aggregated in bilateral fields.

From *U. lederi* sp. nov. it differs in the absence of a transverse depression on the vertex; denser and finer punctures in the elytral striae and pronotal disc; broader epifrons; anal ventrite less sinuate; median lobe shorter, $0.6\times$ as long as apodemes (in *U. lederi* – $0.8\times$); tegmen not sinuate dorsally (in *U. lederi* distinctly sinuate); copulatory sclerite with a thick flagellar sheath (Figs 46G–H, 47E, 65D–E).

Etymology

The name ‘*musculus*’ is a Latin diminutive noun derived from ‘*mus*’ (‘mouse’), meaning ‘little mouse’. It refers to the circumstances of collection, as the only known specimen was found in a burrow of the common vole *Microtus arvalis* (Pallas, 1778).

Type material

Holotype

GEORGIA – Samtskhe-Javakheti • ♂; “Грузия. Родионовка [= Paravani] / Богдановск. р-на / 6.VII. [1]975, Н. Дарская” “в гнезде полёвки *Microtus arvalis*”; 41.4427° N, 43.8564° E; 6 Jul. 1975; N.F. Darskaya leg.; ZIN.

Type locality

Georgia, Samtskhe-Javakheti Province, Paravani.

Description

MEASUREMENTS (mm). BL: 2.48, BW: 1.24, BH: 1.01.

COLORATION AND VESTITURE (Fig. 65A). Brown, legs light brown; body setose, erect and recumbent setae distinct; erect setae whitish-grey, narrow, obtuse, as long as width of interstriae; each puncture in striae

bears tinier appressed piliform seta. Head vestiture: setose, setae suberect. Vestiture of antennae and legs setose; scape and funicle with recumbent setae; grooming brush on distal $\frac{1}{3}$ of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 65B). Rostrum parallel-sided; $RL/RW = 0.85$. Pterygia slightly projected. Frons U-shaped, nitid, delimited from epistome by carina. Epifrons well edged, weakly narrowed posteriorly, $2 \times$ as narrow as vertex, flat, without median sulcus, coarsely punctate, punctures elongated longitudinally. Vertex without transverse depression. Eyes moderately convex; $VW/ELD = 2.08$. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W : fam1 = 1.79, fam2 = 1.45, fam3 = 0.69, fam4 = 0.63, fam5 = 0.57, fam6 = 0.52, fam7 = 0.52; club $L/W = 1.84$.

THORAX. Pronotum: $PL/PW = 0.77$, transverse; convex on disc; widest somewhat posteriorly of middle, roundly narrowing anteriorly and weakly constricted posteriorly; densely punctate, punctures regular, interspaces between punctures as wide as or somewhat narrower than diameter of puncture. Elytra oblong-ovate; disc flat; striae shallow, interspaces between punctures as long as diameter of puncture; interstriae weakly convex. $EL/EW = 1.42$.

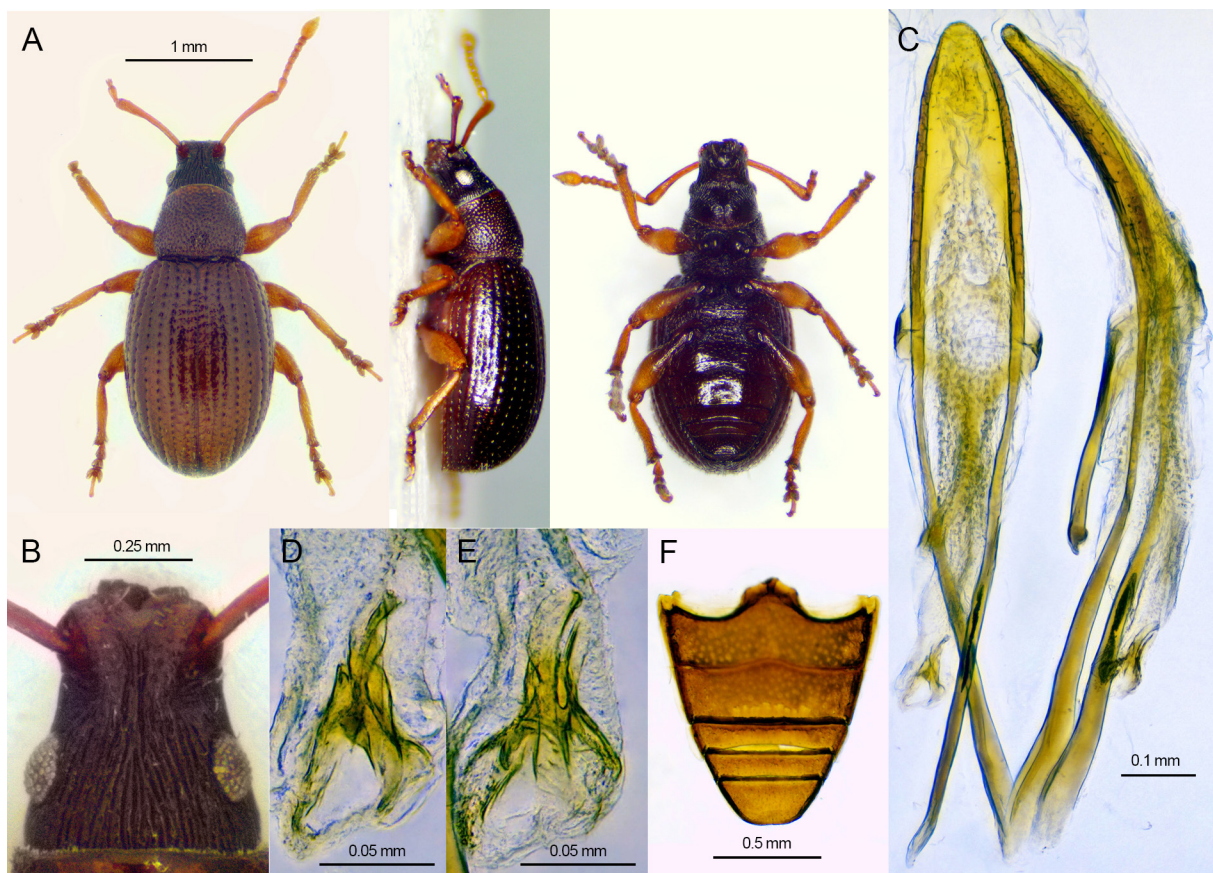


Fig. 65. *Urometopus musculus* Yunakov sp. nov., holotype, ♂ (ZIN). **A.** Habitus, dorsal, lateral and ventral views. **B.** Head, dorsal view. **C.** Aedeagus, dorsal and lateral views. **D.** Copulatory sclerite, dorsal view. **E.** Copulatory sclerite, lateral view. **F.** Abdominal ventrites.

LEGS. Protibiae: medial margin evidently emarginate in distal $\frac{1}{3}$; mucro strong. Metatibiae: medial margin weakly emarginate in distal $\frac{1}{3}$; mucro strong. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere $2\times$ as wide as long.

ABDOMINAL VENTRITES (Fig. 65F). Anal ventrite of male truncate, with shallow apical depression.

Female. Unknown.

MALE GENITALIA. Median lobe (Fig. 65C) $0.67\times$ as long as apodemes, evenly narrowed apically. Lamina of median lobe weakly attenuate, narrowly rounded. Endophallus with field of sparse, short, hamate spicules in distal part. Lunar sclerite absent. Copulatory sclerite (Figs 8E, 65D–E) slim, V-shaped, flagellar sheath weakly developed.

Life history

The beetle was collected from the nest of the common vole (*Microtus arvalis*).

Distribution

The range remains unclear; this species is known only from the type locality in the Lesser Caucasus (Fig. 74B).

Urometopus nemorum L. Arnoldi, 1965
Figs 66–67, 74A

Urometopus nemorum L. Arnoldi 1965 in Arnoldi *et al.*, 1965: 521.

Urometopus nemorum – Yunakov *et al.* 2012: 63; 2018: 276. — Borovec 2013b: 301. — Kolov & Korotyayev 2017: 404. — Alonso-Zarazaga *et al.* 2023: 301.

Differential diagnosis

From *Urometopus strigifrons* it differs in the following characters: pronotum scarcely punctate, interspaces between punctures narrower than diameter of puncture; sides of pronotum and elytra without margaritaceous lanceolate scales; interstriae with scarce but distinct subrecumbent piliform setae; erect setae of interstriae narrower.

Urometopus nemorum differs from *U. inflatus* in being mostly larger and having a light brown body with black or dark-brown head; erect setae on interstriae of elytra narrower and pointed; funicle somewhat narrower; interstriae without or with very weakly developed subrecumbent pubescence; spermatheca with enlarged ramus, collum small but well-developed, nodulus not tumid.

Urometopus nemorum and the Northwestern Caucasian *U. glabratus* sp. nov. are very similar in the shape of the spermatheca (Figs 18I, 66E–I) that may reflect a relationship. On the other hand, *U. nemorum* has an intensive setose and pilose vestiture of body, a coarsely costulate head, and is represented only by a parthenogenetic form, while *U. glabratus* sp. nov. has vestigial vestiture and is represented by amphigonic populations.

Type material

Lectotype (here designated) (Fig. 67A–C)

UKRAINE – **Donetsk** • ♀; “Татьяновка [= Tetyanivka], лес / Святогорск. Дон. / Арнольди 3 vii 937” “Syntypus *Urometopus nemorum* L. Arn.” “Lectotypus *Urometopus nemorum* L. Arn. 1965 Yunakov des. 2025”; 49.0342° N, 37.5954° E; 3 Jul 1937; L.V. Arnoldi leg.; ZIN.

Paralectotypes

RUSSIA – **Voronezh** • 3 ♀♀; “Ст. Сомово Ю.-В. / ж.-д. Воронежск. / лесн. оп. станция” [Somovo Railway Station = Voronezh forest research station; = Biological station of Voronezh State University]; [51.8136° N, 39.3853° E]; *Urometopus* / sp. nov. *nemorum* / L. Arnoldi det.; ZIN (Fig. 67E–F). [One syntype of this series is conspecific with *U. inflatus*. See discussion below.]

UKRAINE – **Donetsk** • 1 ♀; “лес Засака Святогорск. Донецк. Арнольди [15] VI[I] 939” [forest Zaseka Svyatogorsk. Donetsk. Arnoldi 15.V.1939]; 15 Jun. 1939; L.V. Arnoldi leg.; “Syntypus *Urometopus nemorum* L. Arn.”; ZIN • 3 ♀♀; 7 km SW of Svyatohirsk, Bohorodychne env.; 49.0261° N, 37.4961° E; 23 Jun. 1964; L.V. Arnoldi and A.K. Chistyakova leg.; floodland deciduous forest with *Quercus*; in moss; ZIN.

Additional material examined

RUSSIA – **Bashkortostan** • 1 ♀; Rakitovka; 54.4225° N, 55.9089° E; 17 May 2025; Sh. Murtazin leg.; iNaturalist 281854598 • 1 ♀; Blagoveshchenskiy Distr., N of Pavlovka; 55.4498° N, 56.5231° E; 19 Jun. 2023; V. Khabibullin leg.; iNaturalist 270383098. – **Krasnodar** • 1 ♀; Abinsk Distr., Sosnova Roshcha, Khabl River; 44.720151° N, 38.350903° E; 20–21 May 2023; I.A. Zabaluev leg.; forest edge, night sweeping; ZMMU • 1 ♀; near Fanagoreyskaya, valley of Psekups River; 44.5158° N, 39.1274° E; 4 Jun. 1991; G.E. Davidian leg.; *Fagus* forest; ZIN. – **Moscow** • 3 ♀♀; Zaraisk Distr., near Novoselki, Osetr River; 54.8168° N, 38.8770° E; 5–8 Jun. 2025; K.P. Tomkovich leg.; meadow on slope; ZMMU • 1 ♀; Kurebino; 54.4333° N, 38.5956° E; 10 Jun. 2023; Sh. Murtazin leg.; iNaturalist 203790770. – **Nizhniy Novgorod** • 1 ♀; 56.2659° N, 43.8863° E; 12 Jun. 2023; M. Yazykov leg.; iNaturalist 167025345. – **Rostov** • 1 ♀; Ust-Donetsk Distr., Nizhnokundrichenskaya; 47.7498° N, 40.9627° E; 12 Jun. 2019; E. Khachikov leg.; ZMMU. – **Ryazan** • 1 ♀; Semion; 56.2659° N, 43.8863° E; 21 Jun. 2024; M. Gorbunova leg.; iNaturalist 237645339. – **Saratov** • 27 ♀♀; Tatishchev Distr., Vyazovka env.; 51.787452° N, 45.762905° E; I.A. Zabaluev leg.; ZMMU. – **Stavropol** • 2 ♀♀; Stavropol; 45.0200° N, 42.0000° E; V. Lutshnik leg.; ZIN • 4 ♀♀; Pyatigorsk, Mt Beshtau; 44.071682° N, 43.050779° E; elev. 650 m; 16 May 2022; I.A. Zabaluev leg.; in leaf litter near trunk of *Ulmus pumila*; ZMMU. – **Tatarstan** • 1 ♀; Teplyi Klyuch; 55.9912° N, 49.0976° E; 19 Jun. 2022; D. Ivanov leg.; iNaturalist 122617790 • 1 ♀; Sheremetevka; 55.3888° N, 51.5415° E; 24 May 2023; R. Kutushev leg.; iNaturalist 163633266.

UKRAINE – **Chernihiv** • 1 ♀; Dmytrivka; 17 May 2020; E. Yakubovsky leg.; sweeping; KhDC. – **Dnipro** • 2 ♀♀; 12 km N of Novomoskovsk, Vilne; 48.7291° N, 35.2934° E; 18 May 1951; D.S. Shapiro leg.; ravine; KUMN. – **Donetsk** • 1 ♀; Samsonove, Khomutovskiy Step Nature Reserve; 47.2969° N, 38.1828° E; 26 May 1948; S.I. Medvedev leg.; ravine; KUMN. – **Kharkiv** • 1 ♀; 23 km SE of Balakliia, Protopopivka; 49.2512° N, 36.9414° E; 21 Jun. 1952; S.I. Medvedev leg.; sands in mixed forest; KUMN • 1 ♀; 23 km W of Izyum, Petrivske, Siverskiy Donets River; 49.1852° N, 36.9191° E; 6–8 Jun. 2009; Yu.A. Guglya leg.; floodland meadow; sweeping; KUMN • 1 ♀; Chuhuiv; 49.8291° N, 36.7171° E; 29 Jun. 1997; A.N. Drogvalenko leg.; grass litter; KUMN • 1 ♀; Chuhuiv; 49.8291° N, 36.7171° E; 1 Jun. 1995; A.N. Drogvalenko leg.; sifting leaf litter; KUMN • 1 ♀; Chuhuiv; 49.8291° N, 36.7171° E; 27 Jul. 1991; A.N. Drogvalenko leg.; ravine; KUMN • 1 ♀; Chuhuiv; 49.8291° N, 36.7171° E; 19 May 1996; A.N. Drogvalenko leg.; under stone; KUMN • 1 ♀; Chuhuiv; 49.8291° N, 36.7171° E; 30 Jun. 1996; A.N. Drogvalenko leg.; under stone; KUMN • 1 ♀; 13 km NE of Derhachi, Pytomnyk; 50.1725° N, 36.2654° E; 26 May 1996; D.V. Vovk leg.; KUMN • 1 ♀; Dvorichanske Forestry; 49.8586° N, 37.7204° E; 25 Jun. 1961; V.S. Solodovnikova leg.; meadow near forest; KUMN • 1 ♀; Dvorichanske Forestry, Oskol River; 49.8586° N, 37.7204° E; 24 Jun. 1961; V.S. Solodovnikova leg.; KUMN • 1 ♀; Kharkiv, Pavlovo Pole, Sarzhin Yar; 50.0277° N, 36.2366° E; 27 May 1996; S. Stolar leg.; deciduous forest; KUMN • 1 ♀; SEE env. of Kharkiv, Rogan; 49.9011° N, 36.4183° E; elev. 150 m; 3 Jun. 1995; N. Yunakov leg.; KUMN • 1 ♀; same collection data as for preceding; 7 Jun. 1998; N. Yunakov leg.; KUMN • 2 ♀♀; same collection data as for preceding; 18 Jun. 2000; N. Yunakov

leg.; ZIN • 6 ♀♀; 17 km SSW of Velykyi Burluk, Nesterivka; 49.9045° N, 37.3171° E; 10 Jun. 1997; V. Grubnik leg.; KUMN (Fig. 66C) • 7 ♀♀; same collection data as for preceding; 5 Jul. 2012; N.Yu. Polchaninova and T.V. Zhebina leg.; KUMN • 33 ♀♀; same collection data as for preceding; 23 Jun. 2013; N.Yu. Polchaninova and T.V. Zhebina leg.; KUMN • 68 ♀♀; same collection data as for preceding; 7 Jun. 2013; N.Yu. Polchaninova and T.V. Zhebina leg.; KUMN • 1 ♀; 12 km S of Zmiiv, near Sukha Homilsha, Homilsha River; 49.5549° N, 36.3505° E; 7 Jun. 1975; V.S. Solodovnikova leg.; floodland; KUMN • 4 ♀♀; 7 km S of Zmiiv, Haidary, Biological Station of Kharkiv University; 49.6250° N, 36.3253° E; elev. 150 m; 23 Jun. 2001; A.N. Drogvalenko leg.; deciduous forest; KUMN • 1 ♀; 7 km S of Zmiiv, Haidary, Biological Station of Kharkiv University; 49.6250° N, 36.3253° E; elev. 150 m; 24 May 2001; A.N. Drogvalenko leg.; deciduous forest; KUMN. – **Kyiv** • 1 ♀; Kyiv, Holosiivskyi National Park; 50.3949° N, 30.5091° E; 23 May 2025; V. Strenad leg.; iNaturalist 302110574. – **Luhansk** • 5 ♀♀; 12 km NE of Luhansk, Luhanskyi Nature Reserve, Stanychno-Luhanskyi Division; 48.7475° N, 39.3628° E; 28 Jun. 1998; V.V. Martynov leg.; pitfall trap; KUMN • 2 ♀♀; same collection data as for preceding; SMNHL. – **Poltava** • 1 ♀; Poltava; 6 Apr. 2012; O. Pozharov leg.; forest shelter belt; sweeping; KhDC. – **Volyn** • 2 ♀♀; Turiisk; 51.1009° N, 24.5295° E; 17 Jun. 2021; P.L. Voitko leg.; light trap; KhDC (Fig. 66A).

Type locality

Ukraine, Donetsk Province, Tetyanivka.

Remarks on the species concept

Our examination of the syntype series of *U. nemorum* revealed heterogeneous content. One of the three syntypes from Somovo is conspecific with *U. inflatus*. To maintain nomenclatural stability and to fix the concept of *Urometopus nemorum*, we designate the syntype from Tetyanivka as the lectotype, as it best reflects the generally accepted species concept.

Redescription

MEASUREMENTS (mm). BL: 2.73–3.43 (3.08), BW: 1.39–1.80 (1.61), BH: 1.10–1.40 (1.27).

COLORATION AND VESTITURE (Figs 66A, C, J–K, 67A, D). Yellow-brown to chestnut brown, head frequently dark brown to black, distinctly darker than elytra; setose and subpilose; erect and recumbent setae distinct. Head vestiture: setose, setae suberect.

HEAD (Figs 66B, D, 67B, E). Rostrum slightly narrowing anteriorly to parallel-sided; RL/RW = 0.76–0.86. Pterygia slightly projected. Vertex without transverse depression. Eyes: VW/ELD = 1.89–2.24. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, evenly arcuate and widened apically; funicle slender; funicular antennomeres L/W: fam1 = 1.87, fam2 = 1.90, fam3 = 0.87, fam4 = 0.73, fam5 = 0.67, fam6 = 0.55, fam7 = 0.49; club L/W = 1.81.

THORAX. Pronotum: PL/PW = 0.81–0.86. Elytra ovate EL/EW = 1.29–1.38.

LEGS. Tibiae and femora slender. Tarsi: 1st tarsomere as wide as 2nd; 2nd tarsomere 1.7 × as wide as long.

FEMALE GENITALIA. Spermatheca (Fig. 66E–I): nodulus weakly swollen; collum short, obtuse, in line with nodulus; ramus clavate, 2–4 × as long as collum; cornu moderately attenuate.

MALE. Unknown.



Fig. 66. *Urometopus nemorum* L. Arnoldi, 1965, ♀. **A.** Habitus, dorsal, lateral and ventral views, Volyn Prov. (ID31452, KhDC). **B.** Head dorsal view, Volyn Prov. **C.** Habitus, dorsal, lateral, ventral views, Kharkiv Prov. **D.** Head dorsal view, Kharkiv Prov. **E–I.** Variability of the spermatheca per region. **E.** Kharkiv. **F.** Turiisk. **G.** Nesterivka. **H.** Chuhuiv. **I.** Nesterivka. **J–K.** Variability of the elytral vestiture.

Life history

Urometopus nemorum is a parthenogenetic species that inhabits deciduous forests, forest steppes and meadows. In Stavropol Territory it co-occurs with *U. inflatus* (Figs 84G–H, 85). It can be usually collected by sifting leaf litter and sweeping. It is known as a species injurious to strawberry and also feeding on wild *Fragaria vesca* L. (Kolov & Korotyaev 2017).

Urometopus nemorum is widespread in the foothills of the North and Northwestern Caucasus and in the plains of Eastern Europe, from Volyn Province in Ukraine eastward through Saratov Province in Russia and north to the upper reaches of the Volga and Kama Rivers. It was recently reported as an introduced species injurious to strawberry in Kazakhstan (Kolov & Korotyaev 2017). The specimen from Udmurtia (Yunakov *et al.* 2012) requires re-examination (Fig. 74A).

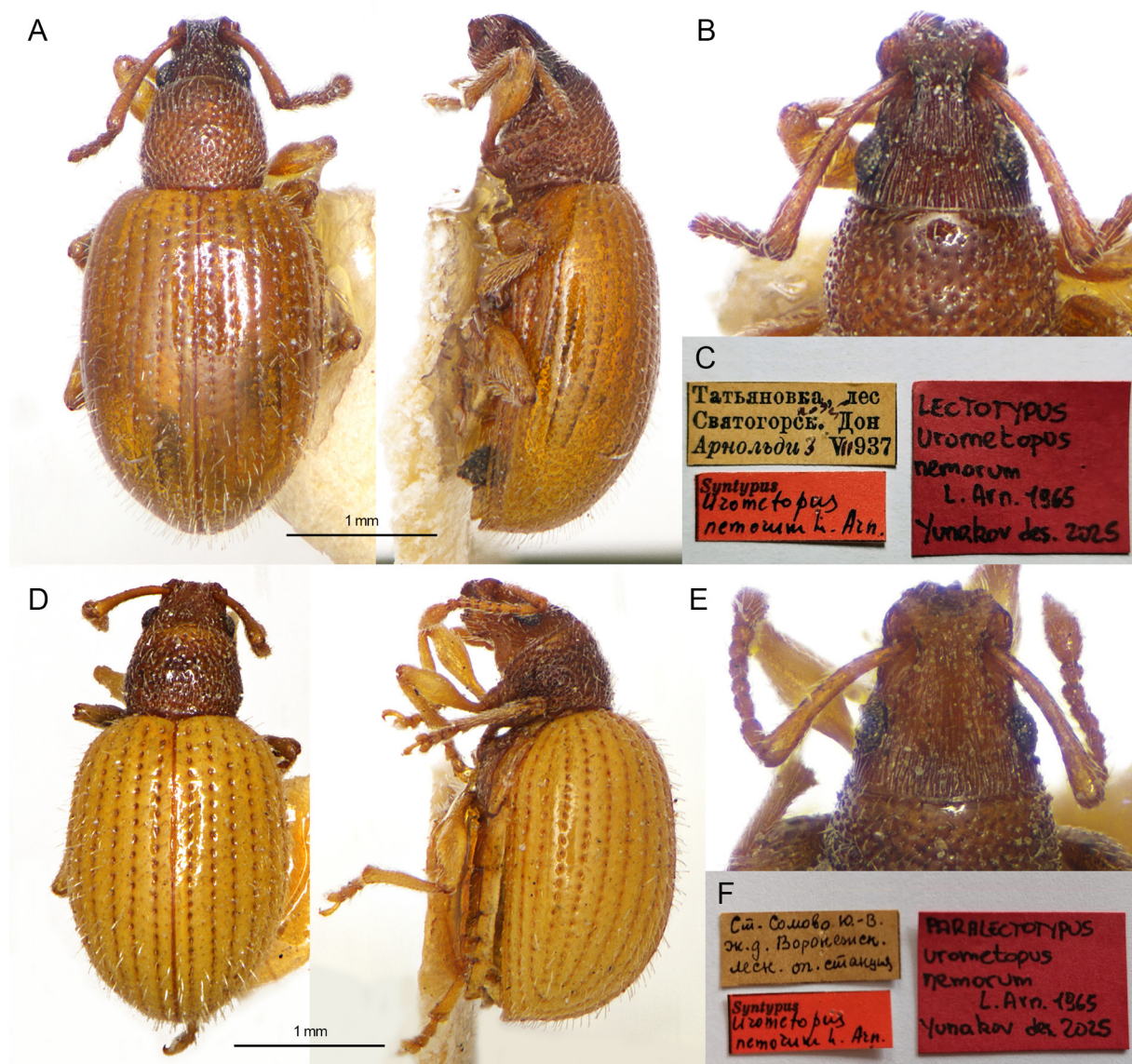


Fig. 67. *Urometopus nemorum* L. Arnoldi, 1965, ♀. **A–C.** Lectotype (ZIN). **D–F.** Paralectotype, Somovo (ID31939, ZIN). **A.** Habitus, dorsal and lateral views. **B, E.** Head, dorsal view. **C, F.** Labels. **D.** Habitus, dorsal and lateral views. [This paralectotype is identified here as *U. inflatus* (Kolenati, 1859).]

Urometopus virilis Yunakov sp. nov.

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Figs 7J, 68, 73B

Differential diagnosis

Urometopus virilis sp. nov. differs from all known species of the genus in the shape of the aedeagus with a strongly attenuate apex of the median lobe and short apodemes (Fig. 68E). From *U. anatolicus* it also differs in the following characters: antennal scape short and thicker, funicle robust, 2nd funicular antennomere shorter than 1st (in *U. anatolicus* – as long as 1st funicular antennomere); legs shorter; erect setae thinner and denser; absence of lanceolate scales; recumbent hairs very thin; pronotum less densely punctate; eyes less convex; elytra oblong-ovate, less convex.

Etymology

The name of this new species is derived from the Latin adjective ‘*virilis*’, meaning ‘masculine’, in reference to the distinctly well-developed aedeagus compared to other species of the genus *Urometopus*.

Type material

Holotype

TURKEY – **Samsun** • ♂; “Turchia Bafra (Samsun) 19.v.1967 Besuchet”; 41.5648° N, 35.9310° E; 19 May 1967; C. Besuchet leg.; MSNVR.

Paratypes

TURKEY – **Amasya** • 1 ♀; “Amasya Boyabat Gölü” [? Lake Borabay]; elev. 1100 m; 4 Jun. 1969; G. Osella leg.; MMTI. – **Samsun** • 1 ♂, 1 ♀; same collection data as for holotype; MSNVR • 2 ♂♂, 1 ♀; same collection data as for holotype; MMTI (Fig. 68A, C).

Type locality

Turkey, Samsun Province, Bafra.

Description

MEASUREMENTS (mm). BL: 2.60–3.10, BW: 1.28–1.66, BH: 1.07–1.34.

COLORATION AND VESTITURE (Fig. 68A, C). Yellowish-brown; sparsely pilose; erect setae as long as or somewhat shorter than width of interstriae, ordered in irregular row; recumbent setae sparsely cover pronotum and interstriae; each puncture in striae bears long ($\frac{1}{2}$ length of interstitial erect seta) subrecumbent piliform seta. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs moderately setose; scape and funicle with subrecumbent setae; grooming brush on distal $\frac{1}{3}$ of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Fig. 68B, D). Rostrum in males parallel-sided to narrowing anteriorly in females; RL/RW = 0.73–0.82. Pterygia not projected. Frons U-shaped, nitid, weakly sloped anteriorly, not delimited from epistome by thin V-shaped carina. Epifrons well edged, weakly narrowed posteriorly, 1.6× as narrow as vertex, flat, with narrow median sulcus, coarsely and shallowly punctate. Vertex without transverse depression. Eyes moderately convex; VW/ELD = 1.69–1.94. Costulation of head capsule continues on epifrons.

ANTENNAE. Scape reaches anterior margin of pronotum, straight, thick; funicle robust; funicular antennomeres L/W: fam1 = 1.59, fam2 = 1.69, fam3 = 1.04, fam4 = 1.21, fam5 = 1.07, fam6 = 0.91, fam7 = 0.53; club L/W = 1.28.

THORAX. Pronotum: PL/PW = 0.75–0.83, moderately transverse; weakly convex on disc; widest at middle, weakly constricted anteriorly and posteriorly; sparsely punctate, punctures regular, interspaces between punctures as wide as or wider than diameter of puncture. Elytra ovate; disc weakly convex; striae in male deep, interspaces between punctures as long as diameter of puncture; interstriae weakly convex; EL/EW = 1.22–1.32.

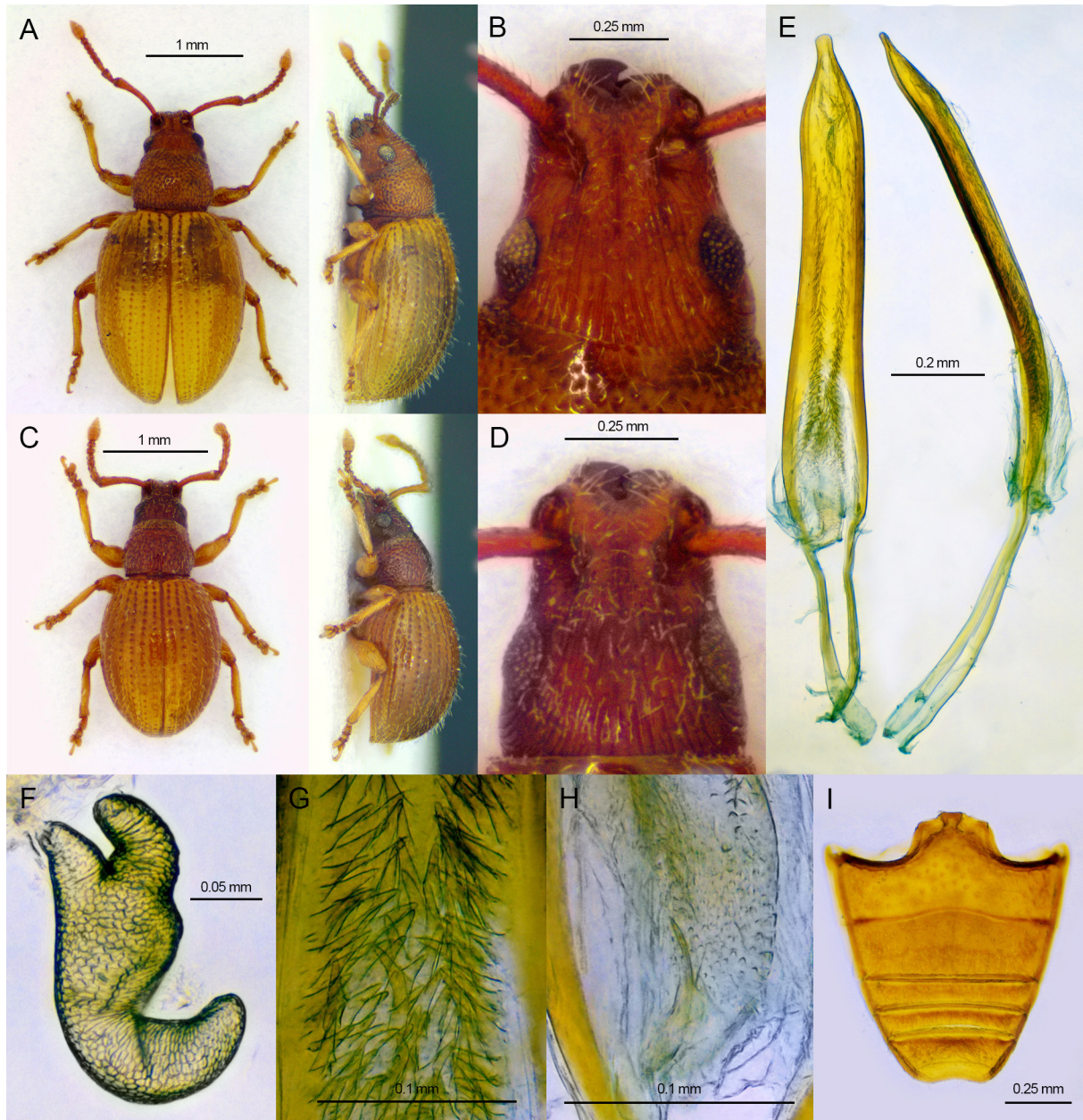


Fig. 68. *Urometopus virilis* Yunakov sp. nov., paratypes. **A–B, F.** ♀ (ID31275, MMTI). **C–E, G–I.** ♂ (ID29947, MMTI). **A, C.** Habitus, dorsal and lateral views. **B, D.** Head, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Spermatheca. **G.** Endophallic armature. **H.** Copulatory sclerite, dorsal view. **I.** Abdominal ventrites.

LEGS. Tibiae: thick. Protibiae: medial margin in male moderately emarginate in distal $\frac{1}{3}$; mucro strong. Metatibiae: medial margin emarginate; mucro moderate. Tarsi: tarsomeres in males robust; 1st tarsomere as wide as 2nd; 2nd tarsomere $2.6 \times$ as wide as long.

ABDOMINAL VENTRITES. Anal ventrite of male weakly emarginate (Fig. 68I).

FEMALE GENITALIA. Spermatheca: nodulus weakly swollen; collum roundly projecting, curved; ramus attenuate, in line with nodulus; cornu rounded (Fig. 68F).

MALE GENITALIA. Median lobe $1.3 \times$ as long as apodemes, parallel-sided and weakly sinuate, at the level of ostium somewhat wider than at the middle. Lamina of median lobe strongly attenuate, narrowly obtuse (Fig. 68E). Endophallus with very dense bilateral fields of long spicules (Fig. 68G). Lunar sclerite absent. Copulatory sclerite slim, spatulate, flagellar sheath well-developed (Fig. 68H).

Life history

Collected at an elevation of 1100 m.

Distribution

The range remains unclear; this species is known from the type locality near Bafra in Samsun Province and from Lake Borabay in Amasya Province of Turkey (Fig. 73B).

Subgenus *Phyllobioides* Formánek, 1923 stat. rev. et stat. nov.

Phyllobioides Formánek, 1923: 109, type species *Phyllobioides crassicornis* Formánek, 1923 by original monotypy.

Phyllobioides – Arnoldi *et al.* 1965: 521. — Yunakov 1999: 137; 2003: 6. — Białooki 2007: 143. — Borovec 2013a: 70 (as synonym of *Urometopus*). — Colonnelli 2011: 676. — Alonso-Zarazaga *et al.* 2023: 301.

Differential diagnosis

Elytra oblong, antennal funicle robust, body silky pilose. From *Urometopus* s. str. it clearly differs in following characters: pronotum disc sculpture oblong-punctate; proximal and distal spiculate fields of endophallus coarsely dentate; copulatory sclerite robust, subtriangular, dorsal plate phalangiform.

Discussion on taxonomic status

Following Białooki (2007), who assumed the distinctiveness of *Phyllobioides* and its possible subgeneric status, and Colonnelli (2011), who rejected this idea and synonymized *Phyllobioides* with *Urometopus*, we conducted a cladistic analysis that demonstrated strong support for the morphological distinctness and monophyly of *Phyllobioides*, based on the structure of the male genitalia and the sculpture of the pronotum (Fig. 78).

Urometopus (Phyllobioides) rugifrons (Hochhuth, 1851)

Figs 6F, 8H, 62K, 69–71, 73B, 75A

Omius rugifrons Hochhuth, 1851: 52.

Omius rugosifrons Marseul, 1873: 567 (unjustified replacement name)

Phyllobioides crassicornis Formánek, 1923: 109. Synonymized by Arnoldi *et al.* 1965: 521.

Urometopus korgei Smreczyński, 1970: 125. **Syn. nov.**

Omius rugifrons – Seidlitz 1868: 60.

Phyllobioides rugifrons – Lona 1938: 501. — Arnoldi *et al.* 1965: 521. — Yunakov 1999: 137; 2003: 6. — Białooki 2007: 144.

Urometopus korgei – Borovec 2006: 38; 2013b: 301. — Colonnelli 2011: 682. — Alonso-Zarazaga *et al.* 2023: 301.

Phyllobioides korgei – Białooki 2007: 143.

Urometopus rugifrons – Colonnelli 2011: 677. — Borovec 2013b: 301. — Yunakov *et al.* 2018: 276. — Alonso-Zarazaga *et al.* 2023: 301.

non *Omius strigifrons* auct. nec Gyllenhal 1834 – Stierlin 1885: 98.

non *Omius* (*Urometopus*) *strigifrons* auct. nec Gyllenhal 1834 – Formánek 1904a: 24.

Differential diagnosis

Urometopus rugifrons is well defined from all known species by larger body; strongly elongate, parallel-sided elytra; robust antennae, particularly funicular segments; coarsely dentate armature of endophallus (Figs 69E, H, 70E, H) and absence of flagellar sheath in copulatory sclerite (Figs 8H, 69F–G).

Type material (*Omius rugifrons*)

Lectotype (here designated)

UKRAINE – **Crimea** • ♂; “Tauria” “*Omius rugifrons* Hochh.” “LECTOTYPUS *Omius rugifrons* Hochhuth, 1851, N.N. Yunakov des. 2025”; [1845]; [V. de Motschulsky leg.]; ZMMU (Fig. 71E, G).

Paralectotype

UKRAINE – **Crimea** • 1 ♀; “Tauria” “*Omius rugifrons* Hochh.” “PARALECTOTYPUS *Omius rugifrons* Hochhuth, 1851, N.N. Yunakov des. 2025”; [1845]; [V. de Motschulsky leg.]; ZMMU (Fig. 71F, H–I).

Collection year of V. de Motschulsky in Crimea was recovered after Krivokhatsky (2013).

Type material (*Phyllobioides crassicornis*)

Holotype (not examined, cited after Colonnelli 2011: 677)

UKRAINE – **Crimea** • ♀; Gurzuf; Apr. 1913; NMPC.

Additional material examined

TURKEY – **Bolu** • 1 ♂, 2 ♀♀; SE slope of Abant Lake; 40.6004° N, 31.2821° E; elev. 1400 m; 17 Jun. 2000; G. Kakiopoulos leg.; beating *Juniperus* twigs; KGC • 1 ♂; 9 km N of Mengen; 41.0707° N, 32.0629° E; elev. 750 m; 23 May 1976; C. Besuchet and I. Löbl leg.; MHNG. – **Kastamonu** • 1 ♀; Ilgaz Dag; 41.0580° N, 33.7346° E; elev. 1800 m; 1 Jul. 1973; G. Osella leg.; MMTI (Fig. 71A) • 1 ♀; Ilgaz Dag; 41.0580° N, 33.7346° E; elev. 1800–2000 m; 11 Jul. 1996; Bayer and Winkelmann leg.; BRC • 1 ♀; Ilgaz Dag; 41.0580° N, 33.7346° E; 1931; Staněk leg.; MMTI • 1 ♀; Ilgaz Dag; 41.0580° N, 33.7346° E; elev. 2300 m; 20 Jul. 1975; G. Osella leg.; MSNVR • 1 ♀; Ilgaz Dag; 41.0580° N, 33.7346° E; elev. 1800–2000 m; 6–10 Jul. 1972; M. Osella and G. Osella leg.; MSNVR • 1 ♀; Ilgaz Dag; 41.0580° N, 33.7346° E; elev. 1800 m; Jul. 1973; M. Osella and G. Osella leg.; MSNVR • 1 ♀; same collection data as for preceding; Jul. 1972; G. Osella leg.; MSNVR. – **Sinop** • 1 ♀; Dranaz Dag; 41.6993° N, 34.8722° E; 3 Jun. 1969; G. Osella leg.; MSNVR • 1 ♀; Dranaz Dag; 41.6993° N, 34.8722° E; Jul. 1973; A. Casale leg.; MSNVR • 4 ♂♂, 3 ♀♀; Dranaz Dag; 41.6993° N, 34.8722° E; elev. 1300 m; 10 Jul.–1 Aug. 1976; A. Vigna leg.; NHMUK • 1 ♂, 1 ♀; Lala, near Sinop; 41.8731° N, 35.0653° E; 20 May 1976; C. Besuchet and I. Löbl leg.; MMTI • 12 ♂♂, 4 ♀♀; same collection data as for preceding; MHNG • 1 ♂, 3 ♀♀; 23 km N of Boyabat; 41.6725° N, 34.7894° E; 20 May 1976; C. Besuchet and I. Löbl leg.; MHNG. – **Zonguldak** • 4 ♂♂, 10 ♀♀; S of Zonguldak; 41.3981° N, 31.8332° E; elev. 500 m; 16 May 1976; C. Besuchet and I. Löbl leg.; MHNG • 33 ♂♂, 8 ♀♀; same collection data as for preceding; 23 May 1976; MHNG.

UKRAINE – **Crimea, Alushta** • 6 ♂♂, 2 ♀♀; Chatyr Dag Mt Range, Kutuzovskoye lake env.; 44.7397° N, 34.3353° E; elev. 843 m; 26 May 2010; N. Yunakov leg.; NYC • 1 spec.; Crimean Nature Reserve, Almsinskoe Forestry, Su-At; 44.7914° N, 34.2569° E; elev. 809 m; 21 Jun. 1981; A.G. Shatrovski; KUMN • 4 specs; W slope Chatyr Dag Mt Range, sources of Kosa River; 44.7747° N, 34.2608° E; elev. 800 m; 23 Jun. 2003; N. Yunakov leg.; KUMN. – **Crimea, Bakhchisarai** • 6 specs; Bolshoi Canyon Nature Reserve, Mt Süürü-Kaya; 44.5183° N, 33.9744° E; elev. 737 m; 6 May 1999; N. Yunakov leg.; KUMN. – **Crimea, Bilohirsk** • 2 specs; Kubalaç Mt Range, Mt Ayulu-Kaya; 45.0450° N, 34.8068° E; elev. 579 m; 15 May 2012; N. Yunakov leg.; ZMUN. – **Crimea, Islam Terek** • 1 ♂, 1 ♀; Agarmysh Mt Range; 45.0302° N, 35.0405° E; 15 May 1976; V.B. Pyshkin leg.; ZIN. – **Crimea, Sevastopol** • 1 ♀; Oboronne [= Qamara], John the Baptist's springs; 44°30'52.0" N, 33°39'54.7" E; 1 Jun. 2021; I. Turbanov leg.; in leaf litter; ZMMU. – **Crimea, Simferopol** • 1 spec.; 11 km SE of Perevalne, Tyrke Mt Range, N slope of Stol-Gora Mt; 44.8244° N, 34.4492° E; elev. 1100 m; 29 Jun. 2002; N. Yunakov leg.; ZMUN • 1 spec.; 11.5 km EES of Perevalne, Su-At River, Vodopoi Locality; 44.8406° N, 34.4556° E; elev. 900 m; 24 Jun. 2002; N. Yunakov leg.; ZMUN • 4 specs; 11.5 km EES of Perevalne, Su-At River, Vodopoi Locality; 44.8406° N, 34.4556° E; elev. 900 m; 25 Jun. 2002; N. Yunakov leg.; ZMUN • 3 specs; 11.5 km EES of Perevalne, Burulcha River basin, Su-At River source, Vodopoi locality; 44.8406° N, 34.4556° E; elev. 900 m; 25 Jun. 2002; N. Yunakov leg.; ZMUN • 8 specs; 11.5 km EES of Perevalne, Su-At River, Vodopoi locality; 44.8406° N, 34.4556° E; elev. 900 m; 25 Jun. 2002; N. Yunakov leg.; ZMUN • 6 ♂♂, 7 ♀♀; 13 km SSE of Simferopol, Krasnolesye env.; 44.8283° N, 34.2135° E; elev. 544 m; 14 Jun. 2010; N. Yunakov leg.; NYC • 1 ♀; same collection data as for preceding; KhDC (Fig. 69A) • 1 ♀; 13 km SSE of Simferopol, Krasnolesye env.; 44.8283° N, 34.2136° E; elev. 544 m; 14 Jun. 2010; N. Yunakov leg.; ZMUN • 3 ♂♂; 13 km SSE of Simferopol, Krasnolesye env.; 44.8286° N, 34.2183° E; elev. 500 m; 15 Jun. 2010; N. Yunakov leg.; NYC • 5 specs; 8 km EES of Perevalne, Dolgorukovska Yaila Mt Range, source of Malaya Burulcha River; 44.8406° N, 34.4117° E; elev. 900 m; 19 Jun. 2002; N. Yunakov leg.; ZMUN • 7 specs; 8 km EES of Perevalne, Dolgorukovska Yaila Mt Range, source of Malaya Burulcha River; 44.8406° N, 34.4117° E; elev. 900 m; 20 Jun. 2002; N. Yunakov leg.; ZMUN • 2 specs; 8 km EES of Perevalne, Dolgorukovska Yaila Mt Range, source of Malaya Burulcha River; 44.8406° N, 34.4117° E; elev. 900 m; 25 Jun. 2002; N. Yunakov leg.; ZMUN • 1 ♂, 10 ♀♀; Chatyr Dag Mt Range, Orlinoje Canyon; 44.8173° N, 34.3097° E; elev. 687 m; 7 Jun. 2010; N. Yunakov leg.; ZMUN • 4 ♂♂, 15 ♀♀; Chatyr Dag Mt Range, Orlinoje Canyon; 44.8208° N, 34.3188° E; elev. 539 m; 7 Jun. 2010; N. Yunakov leg.; NYC • 1 ♂, 1 ♀; same collection data as for preceding; MCZ • 1 ♂; same collection data as for preceding; KhDC • 2 ♂♂, 1 ♀; 8 km ESE of Perevalne, Dolgorukovska Yaila Mt Range, source of Malaya Burulcha River; 44.8406° N, 34.4117° E; elev. 900 m; 16 Jun. 2010; N. Yunakov leg.; NYC • 2 ♀♀; Kessler Forest; 44.9053° N, 34.1969° E; elev. 460 m; 10 Jun. 2010; N. Yunakov leg.; NYC. – **Crimea, Yalta** • 1 ♂; Ai-Petrinskaya Yaila Mt Range; 44.4613° N, 34.0610° E; 15 Jun. 2004; A. Khaustov leg.; KUMN • 1 ♂; Cape Martian Nature Reserve; 44.5097° N, 34.2486° E; elev. 116 m; 25 Jan. 2002; A. Khaustov leg.; NYC • 1 ♂, 2 ♀♀; Cape Martian Nature Reserve; 44.5091° N, 34.2527° E; elev. 26 m; 20 May 2010; N. Yunakov leg.; NYC • 4 ♂♂, 5 ♀♀; Cape Martian Nature Reserve; 44.5131° N, 34.2533° E; elev. 126 m; 21 May 2010; N. Yunakov leg.; NYC • 1 ♂, 1 ♀; same collection data as for preceding; KhDC (Fig. 69C) • 1 ♂, 1 ♀; same collection data as for preceding; SMNHL • 3 ♀♀; Cape Martian Nature Reserve; 44.5136° N, 34.2500° E; elev. 140 m; 22 May 2010; N. Yunakov leg.; ZMUN • 1 ♂; Cape Martian Nature Reserve; 44.5086° N, 34.2400° E; elev. 112 m; 23 May 2010; N. Yunakov leg.; NYC • 3 ♂♂, 5 ♀♀; Cape Martian Nature Reserve; 44.5106° N, 34.2488° E; elev. 117 m; 24 May 2010; N. Yunakov leg.; ZMUN • 1 ♂, 1 ♀; Cape Martian Nature Reserve; 44.5086° N, 34.2439° E; elev. 127 m; 30 Apr. 2012; N. Yunakov leg.; NYC • 1 ♂, 1 ♀; Nikita; 44.5111° N, 34.2333° E; elev. 450 m; 15 Jun. 2002; A. Khaustov leg.; KUMN.

Type locality

Ukraine, Crimea [without certain data].

Remarks on the species concept

Urometopus korgei exhibits individual variability in external morphology and body size, probably related to elevation, a pattern similar to that observed in the Crimean *U. rugifrons*. However, the shape of the aedeagus, the armature of the endophallus (Figs 69E–H, 70E–H), and the shape of the spermatheca (Figs 69J, 71C–D) show an identity between the Crimean and Pontic populations. The examination of a large representative series of *U. korgei* from the type locality in Ilgaz Mountains (Fig. 71A–B) has confirmed its conspecificity with the Crimean *U. rugifrons*. Accordingly, *U. korgei* is here treated as a new synonym of *U. rugifrons*.

Redescription

MEASUREMENTS (mm). BL: 2.35–3.89 (3.06), BW: 1.11–1.81 (1.35), BH: 0.82–1.17 (0.99).

COLORATION AND VESTITURE. Yellow-brown to chestnut brown, rarely dark brown; silky pilose; suberect setae elongate, somewhat shorter than width of interstriae, acuminate, narrow, greyish-yellow, ordered in irregular row on interstriae; recumbent setae very small, piliform, densely cover pronotum and elytra; punctures in striae bear short, recumbent hair. Head vestiture: pilose, setae subrecumbent. Vestiture of antennae and legs: densely pilose; setae recumbent; grooming brush on distal 1/3 of medial margin of metatibia weakly developed, contains short pale subrecumbent piliform setae.

HEAD (Figs 69B, D, 70B, D, 71B). Slightly narrowing anteriorly or parallel-sided, RL/RW = 0.79–0.97. Pterygia projected. Frons U-shaped, nitid, not delimited from epistome by carina. Epifrons well edged, slightly longitudinally convex, with median sulcus, parallel-sided. Vertex VW/ELD = 1.75–2.36. Eyes convex. Costulation of head capsule terminates posteriorly of epifrons.

ANTENNAE (Figs 69K–L, 70K–L). Scape reaches anterior constriction of pronotum, evenly arcuate and widened apically; funicle robust; funicular antennomeres L/W: fam1 = 1.57, fam2 = 1.25, fam3 = 0.53, fam4 = 0.52, fam5 = 0.45, fam6 = 0.52, fam7 = 0.47; club L/W = 1.88.

THORAX. Pronotum (Fig. 62K): PL/PW = 0.78–0.93, moderately transverse, in males tumid; convex on disc and at sides, widest posteriorly of the middle, moderately constricted anteriorly and posteriorly; disc densely punctate, punctures regular somewhat oblong elliptic, interspaces between punctures less than longer diameter of puncture; sides finely rugoso-punctate. Elytra (Figs 69A, C, 70A, C, 71A) oblong, almost parallel-sided; disc flat; striae deep, interspaces between punctures as long as diameter of puncture; interstriae weakly convex; EL/EW = 1.35–1.62.

LEGS. Femora in males strongly clavate. Tibiae thick. Protibiae and metatibiae: medial margin in males evidently emarginate in distal 1/3; mucro strong. Tarsi: 1st tarsomere 1.1 × as wide as 2nd; 2nd tarsomere 2.6 × as wide as long.

ABDOMINAL VENTRITES (Figs 69I, 70J). Anal ventrite of male emarginate.

FEMALE GENITALIA. Spermatheca: nodulus weakly swollen; collum roundly projecting; ramus weakly roundly projecting; cornu strongly attenuate (Figs 69J, 70I).

MALE GENITALIA (Figs 69E, 70E). Median lobe strongly dorso-ventrally arcuate, 2.7 × as long as wide, 0.77 × as long as apodemes, weakly rounded laterally. Lamina of median lobe weakly attenuate, acute. Endophallus armature with bilateral fields of robust thorn-shaped spicules (Figs 69H, 70H). Lunar sclerite absent. Copulatory sclerite robust, subtriangular, dorsal plate phalangiform, flagellar sheath absent (Figs 69F–G, 70F–G).

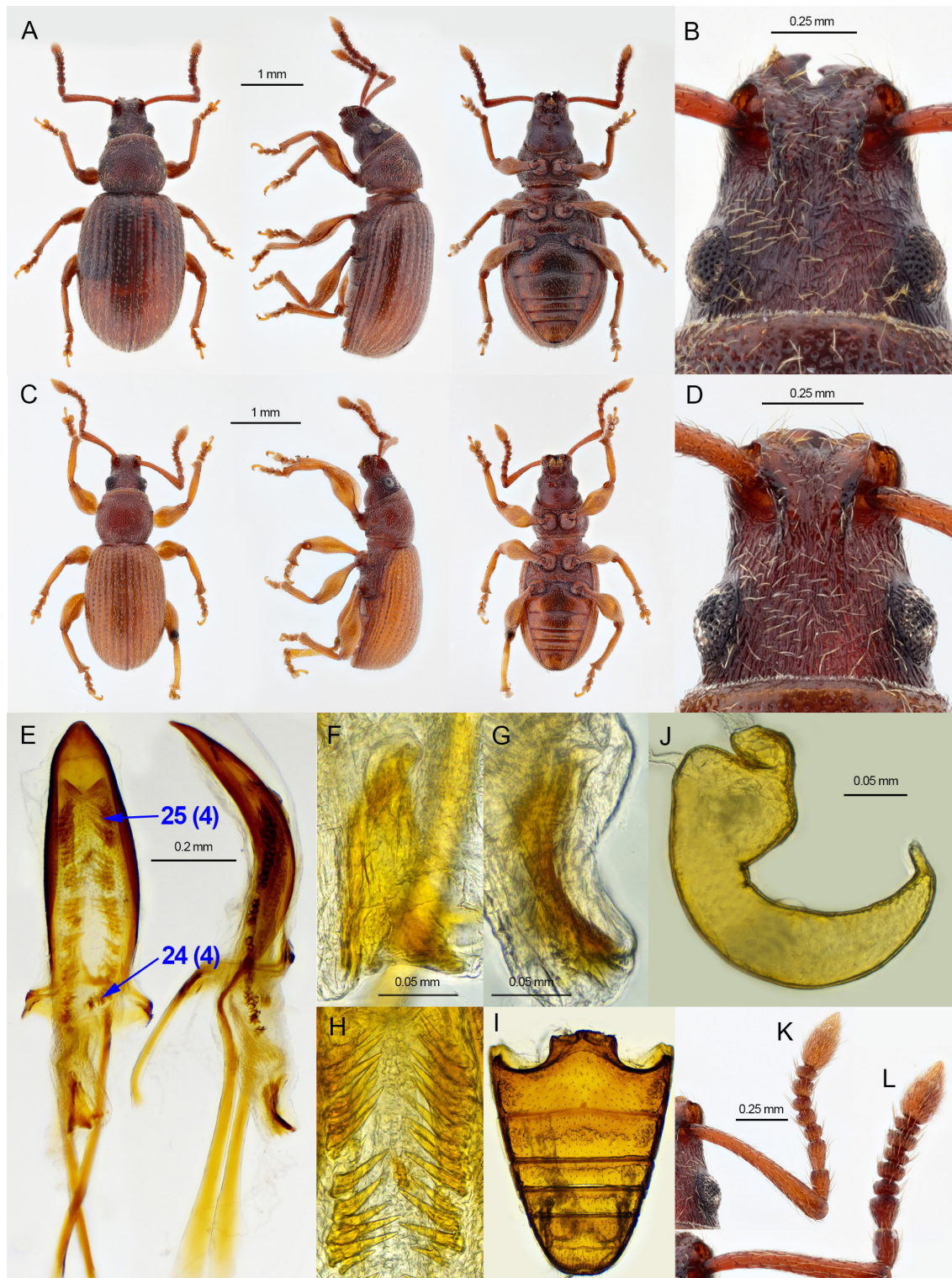


Fig. 69. *Urometopus rugifrons* (Hochhuth, 1851), Crimea. **A.** Female habitus, dorsal, lateral and ventral views (ID4400, NYC). **B.** Head of female, dorsal view. **C.** Male habitus, dorsal, lateral and ventral views (ID7299, NYC). **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal and lateral views (the numeric indices refer to the numbers and states of the characters in the character matrix, [Supp. file 1](#)). **F.** Copulatory sclerite, dorsal view. **G.** Copulatory sclerite, lateral view. **H.** Endophallic armature. **I.** Abdominal ventrites. **J.** Spermatheca. **K.** Antenna of male. **L.** Antenna of female.

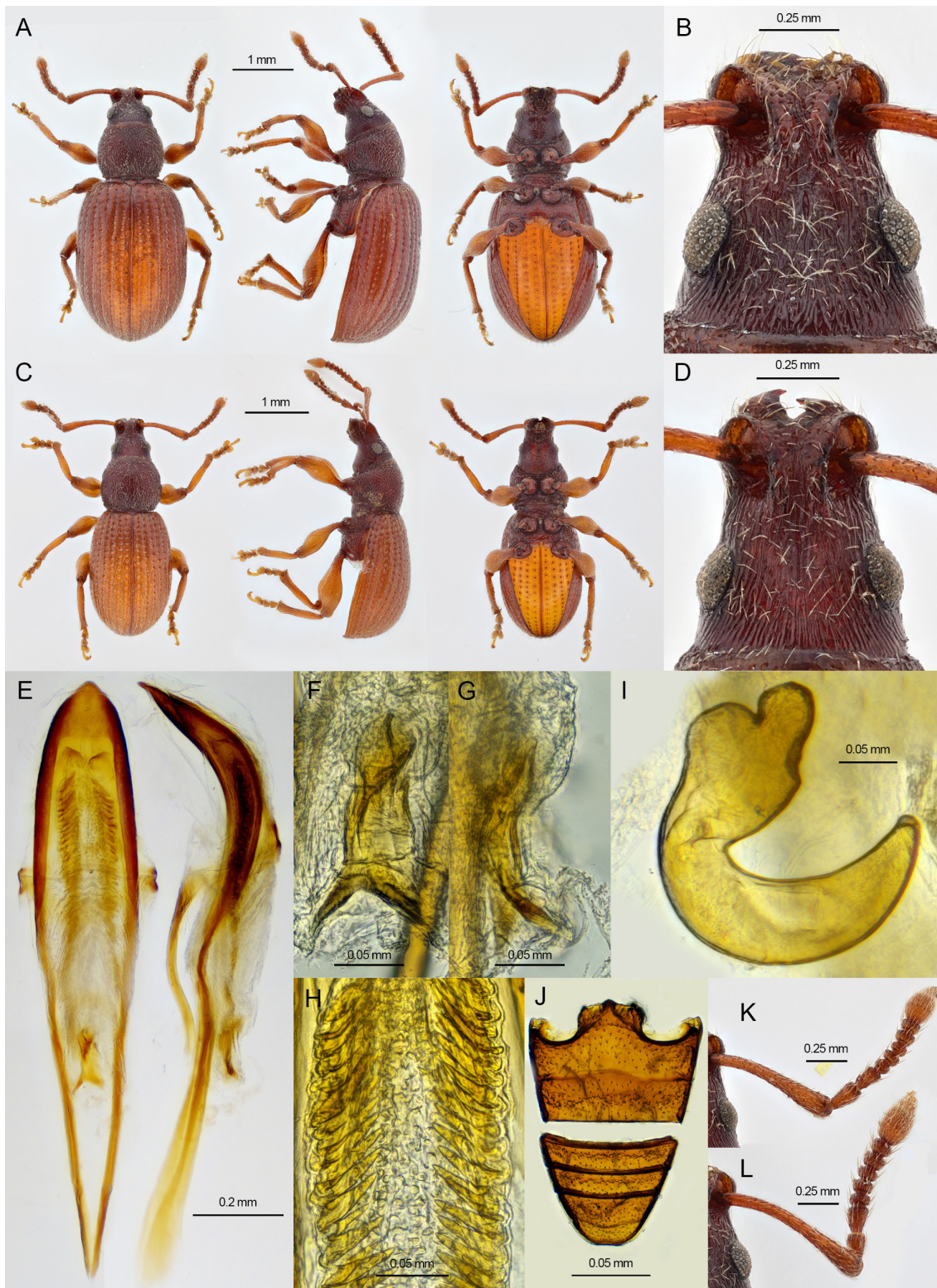


Fig. 70. *Urometopus rugifrons* (Hochhuth, 1851), Dranaz Dag (ID29710, NHMUK). **A.** Female habitus, dorsal, lateral and ventral views. **B.** Head of female, dorsal view. **C.** Male habitus, dorsal, lateral and ventral views. **D.** Head of male, dorsal view. **E.** Aedeagus, dorsal and lateral views. **F.** Copulatory sclerite, dorsal view. **G.** Copulatory sclerite, lateral view. **H.** Endophallic armature. **I.** Spermatheca. **J.** Abdominal ventrites of male. **K.** Antenna of male. **L.** Antenna of female.

Life history

In Crimea, *Urometopus rugifrons* lives in coastal forests with *Arbutus andrachne* L. and mountain deciduous and mixed forests (*Quercus*, *Fagus*, *Carpinus*, *Pinus*), from 26 to 1100 m a.s.l., and is usually collected by sifting leaf litter (Fig. 83A–D). The first author observed the beetles feeding on leaves of *Primula* at night. In the Crimea on Kubalaç Range it co-occurs with *U. inflatus* (Fig. 83E–F). In Turkey, it occurs strictly in mountains from 1300 to 2300 m a.s.l. Several cases of syntopy of *U. rugifrons* were revealed in Turkey: in Ilgaz Mountains it lives together with *U. osellai* sp. nov.; on southeastern slopes near Lake Abant (Bolu Prov., Turkey) it co-occurs with *U. dieckmanni* sp. nov., and was collected in open grasslands with scattered bushes by beating twigs of *Juniperus* sp. (George Kakiopoulos pers. com.).

Distribution

This relict species has a modern disjunctive range divided between the Crimean and Western Pontic Mountains which once occupied the western arc of the Black Sea from the Pontic Mountains to Dobruja and the Crimea while the latter ones were connected by dry shelf during the Last Glacial Maximum (Figs 73B, 75A).

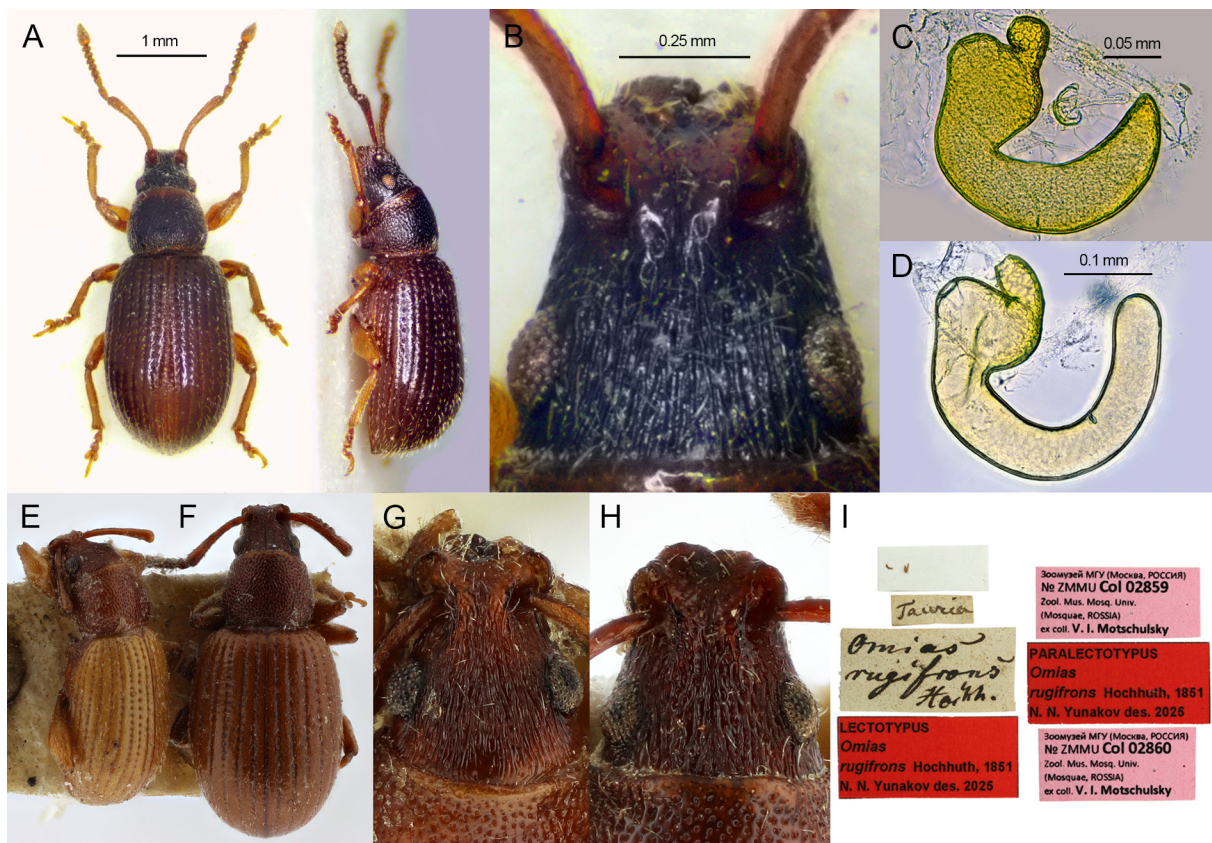


Fig. 71. *Urometopus rugifrons* (Hochhuth, 1851). A–B. ♀, Ilgaz Dag (ID29712, MMTI) [topotype of *U. korgei* Smreczyński, 1970]. A. Body, dorsal and lateral views. B. Head, dorsal view. C–D. Spermatheca of specimens from Ilgaz Dag (MMTI). E. *Omius rugifrons* Hochhuth, 1851, lectotype, ♂ (ZMMU). F. *Omius rugifrons*, paralectotype, ♀ (ZMMU). G. *Omius rugifrons*, lectotype, head. H. *Omius rugifrons*, paralectotype, head. I. *Omius rugifrons*, lectotype and paralectotype labels. Photographs E–I by Vladimir Savitsky (ZMMU), CC-BY 4.0.

Discussion

Biodiversity of Urometopus

Species richness

The distribution of *Urometopus* spans a broad territory encompassing the Black Sea periphery, the Caucasian Isthmus, and the southern coast of the Caspian Sea. Species richness is highly uneven across this range, with the highest concentration occurring in the Western Caucasus – particularly between the Fisht Massif and the Bzyb Range, and in the Psekups River basin – where it reaches up to 4 species per grid cell (Fig. 75D, brown-red cells). In the Central Caucasus, south of Mount Elbrus, and in the Likhi Range – the central massif linking the Lesser and Greater Caucasus – richness peaks at up to 3 species per cell. The eastern part of the Greater and Lesser Caucasus and the eastern part of the Armenian Mountains, despite the presence of local endemics, exhibit a comparatively low biodiversity. Additional centres of diversity are located in the Crimea, the Pontic Mountains and the Alborz; however, species richness in these regions is less concentrated and does not exceed 2 species per cell.

Range size and endemism

Patterns of endemism only partially overlap with those of species richness, potentially due to sampling bias. The most pronounced endemism is observed in Dobruja, the Bosphorus region, the western Anatolian Plateau, the Lesser Caucasus, and the Kodori Basin of the Greater Caucasus. While the North Caucasus and Lesser Caucasus also harbour numerous endemic species (Fig. 75E, red cells), the widespread occurrence of *Urometopus inflatus* in these areas reduces the median proportional range size per grid cell, thus masking localized endemism in aggregated metrics (Fig. 75E, pale blue to blue cells). Overall, the correlation between species range size and local richness is weak, likely reflecting both ecological heterogeneity and under-sampling in certain regions (Fig. 75F).

Endemism declines sharply north of the Kuban and Terek River basins, where it drops to zero. This abrupt boundary corresponds to the northernmost limit of species richness.

Geographic distribution and speciation

The genus *Urometopus* is primarily distributed across the mountainous regions surrounding the eastern Black Sea and the southern Caspian Sea basins. Its range spans the Greater and Lesser Caucasus, the Talysh Mountains, the Alborz Mountains of northern Iran, the Pontic Mountains of northern Anatolia, and isolated highland areas of the Anatolian Plateau. Distinctive species occur in the Crimea, Dobruja, and the western margin of the Podolian Upland, forming a discontinuous but biogeographically coherent arc, shaped by past climatic shifts, tectonic uplift, and ecological specialization (Figs 72–74).

Disjunction

Two notable examples of disjunctive distribution occur within *Urometopus*. The plesiotypic *Urometopus* (*Phyllobioides*) *rugifrons* exhibits a disjunctive range between the Crimean Mountains and the Western Pontic Mountains (Fig. 75A). This relict species likely once had a continuous distribution across the western arc of the Black Sea – from the Pontic Mountains through Dobruja to the Crimean Mountains – facilitated by land connections via a dry shelf during several events in the Pleistocene (Krijgsman *et al.* 2019). This hypothesis is also endorsed by the same distributional pattern in other weevils, such as *Brachysomus rhinomioides* Košťál, 1992, *Otiorhynchus formaneki* Reitter, 1913, and *Otiorhynchus frater* Stierlin, 1861, which have a similar distribution pattern (Yunakov 1998, 2022; Yunakov & Nazarenko 2003; Yunakov *et al.* 2018).

Its early divergence, indicated by a unique copulatory sclerite morphology, aligns it with the Alpine–Dinaride–Carpathian genus *Rhinomias*, and may suggest affinities with the hypothetical ancestor of

Urometopus. This is further supported by its generalized habitus, including oblong elytra, and a likely substratobiontic or hortobiontic ecology.

Urometopus longicornis presents another disjunction, with its range fragmented across the southern Caucasus by the Rioni Depression, separating Abkhazian and Ajarian populations (Fig. 75B). This pattern may reflect the historical extent of the Rioni Bay, which persisted as a marine inlet well into the Quaternary.

Vicariance

Vicariant distribution in *Urometopus* reflects a centrifugal speciation pattern (Brown 1957), with amphigonic populations confined to the genus' core range and parthenogenetic populations expanding into peripheral regions. In the *inflatus* clade, bisexual species (*U. talyschensis*, *U. mingrelicus*) persist in the Caucasus and Talysh, whereas the parthenogenetic *U. inflatus* occupies a broad range from the Podolian Upland to the southern Urals. Its occurrence in the Kubalaç Range of the Crimea likely represents a Late Pleistocene colonization event from the Kuban–Taman region via exposed shelf corridors during the Last Glacial Maximum.

Interestingly, the major river valleys of the southern Caucasus – Rioni, Kura, and Aras – lack any *Urometopus* records. This may be due to persistent inundation during the Middle–Late Pliocene (e.g., Rioni Bay and Kura Gulf; Popov *et al.* 2006), coupled with the present arid climate of the lower Kura–Aras Basin.

Another vicariant group is represented by the *abchasicus* clade, where *U. hyrcanus* sp. nov. from northern Talysh is paired with several closely allied species occurring along the southern slopes of the Greater Caucasus – from Racha Range (*U. imereticus*), Svaneti Range (*U. swaneticus*), to Kodori Gorge (*U. swaneticus*), and Bzyb River Basin (*U. abchasicus* sp. nov.) (Fig. 73A).

Notably, no amphigonic species have been found to cross either Terek River valley in the northeastern Caucasus or the Kuban River valley in the northwest. The distribution of *U. daghestanicus* and *U. glabratus* sp. nov. terminates sharply at this geographic barrier.

Caucasus–Alborz vicariance

The disjunctive Caucasian *U. longicornis* has a vicarious counterpart, *U. persicus* sp. nov., in the Alborz Mountains. These species are separated by the Armenian Highlands and the Lesser Caucasus, which appear to form an ecological barrier. Similarly, *U. glabratus* sp. nov. from the northwestern Caucasus has a distant vicariant, *U. ferrugineus*, also found in the Alborz (Fig. 73A).

Crimean–Pontic vicariance

This vicariance pattern is represented by two species: the disjunct Ponto-Crimean *U. strigifrons* and its close relative *U. anatolicus*, which is endemic to the Pontic Mountains (Fig. 74A).

Peripatric speciation (Figs 75C, 80)

East Pontic–Western Caucasian–Alborz Chain

A strongly divergent group, the *circassicus* clade, likely resulted from serial radiation events. These began with the divergence of *U. nitidirostris* sp. nov. on Kodori Range of the Greater Caucasus and *U. angelinii* in East Pontic Range. A subsequent split gave rise to *U. prasolovi* sp. nov. and *U. glabratus* sp. nov. in the Greater Caucasus and *U. ferrugineus* in the Alborz. Later divergence near the Fisht Massif likely led to *U. glabratus*, *U. circassicus*, and westward species such as *U. korotyaevi* sp. nov. and *U. brevis* sp. nov.

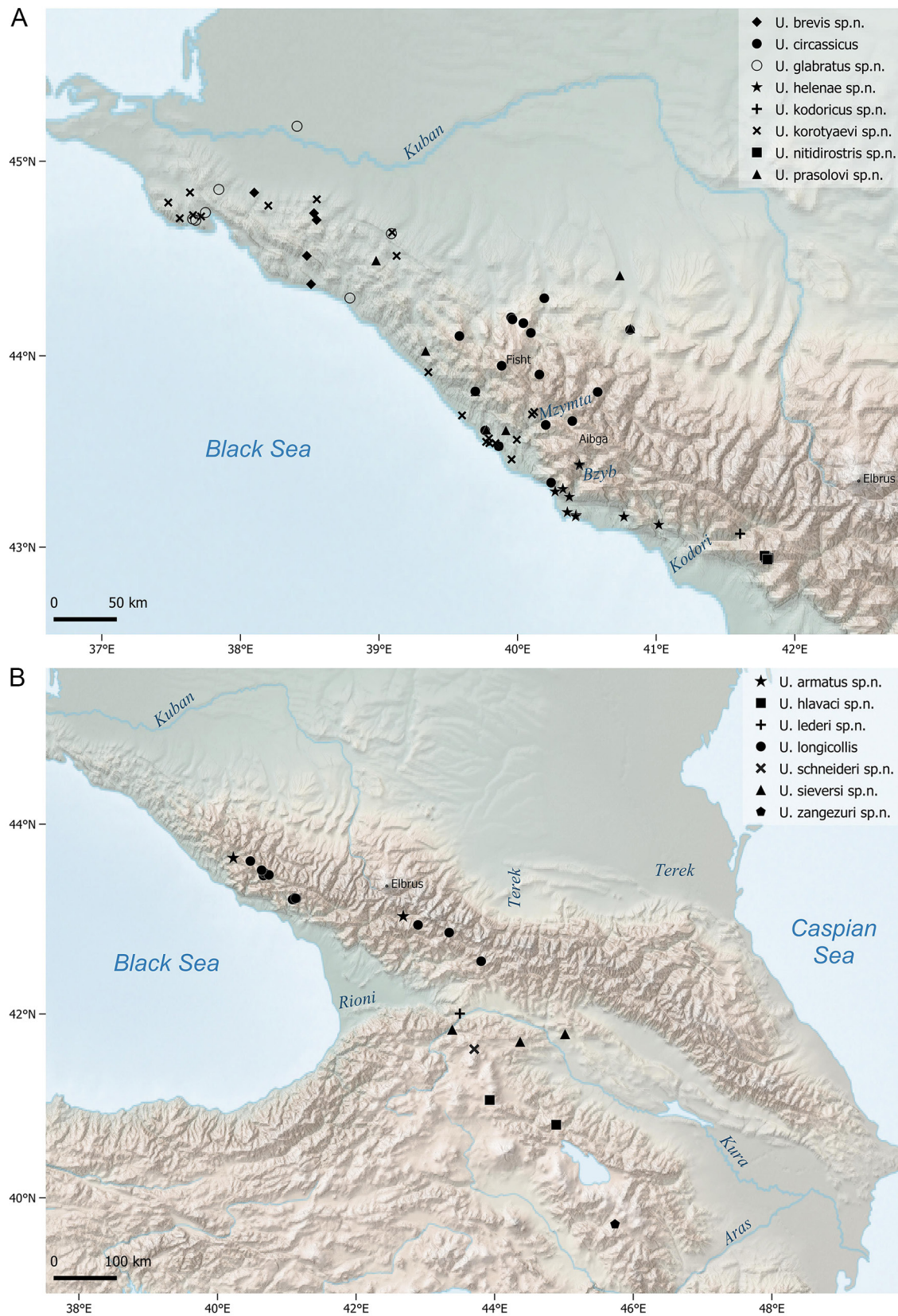


Fig. 72. *Urometopus* Formánek, 1904. Occurrence maps.

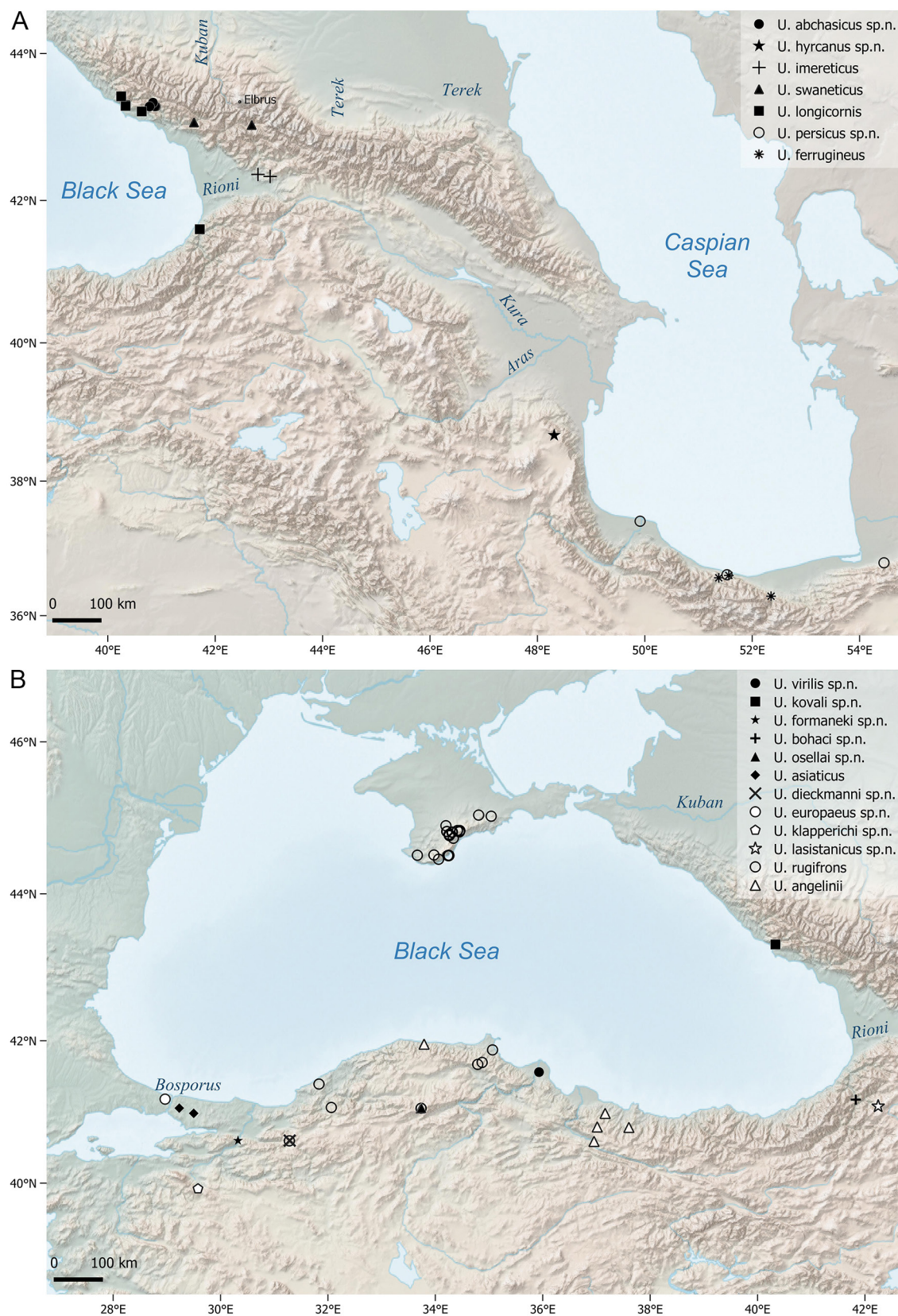


Fig. 73. *Urometopus* Formánek, 1904. Occurrence maps.

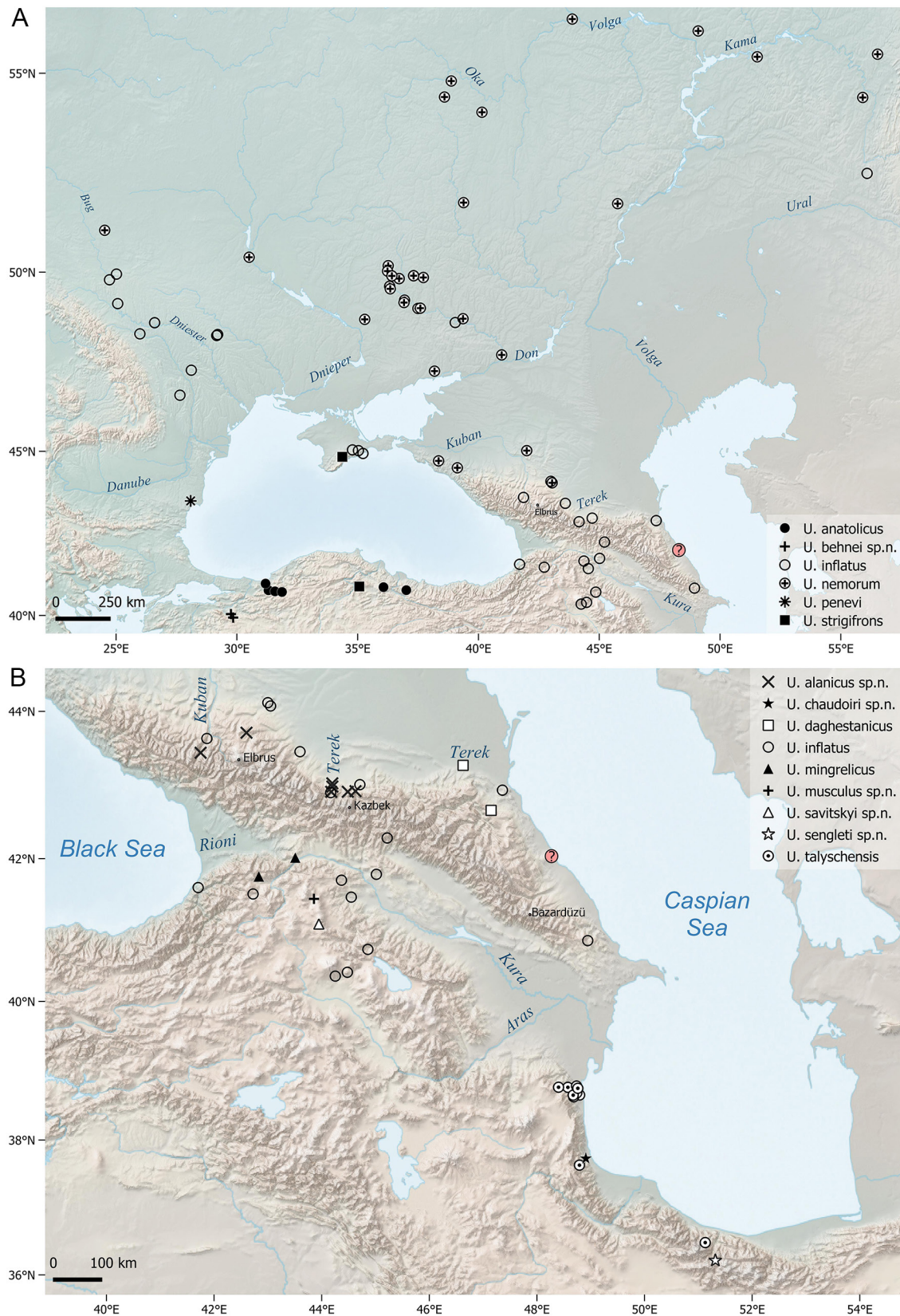


Fig. 74. *Urometopus* Formánek, 1904. Occurrence maps. The question mark indicates an unverified finding of a male of either *U. talyschensis* (Reitter, 1897) or *U. inflatus* (Kolenati, 1859).

The Abkhazian ranges, where stratobionts *U. helenae* sp. nov. and *U. kodoricus* sp. nov. occur, as well as the hortobiont *U. nitidirostris* sp. nov., are among the oldest parts of the Western Caucasus. *Urometopus nitidirostris* is restricted to high altitudes (1700–2670 m), while *U. helenae* and *U. kodoricus* are found in lower mountain Colchian forests and mixed broadleaf forests (35–500 m, rarely up to 825–1680 m).

Armenian–Lesser Caucasus–Western Caucasus Chain

The *sieversii* clade traces radiation from the Lesser Caucasus and Surami (Likhi) Range, forming a connection with the Greater Caucasus. This group includes *U. sieversii* sp. nov. (Trialeti Range), *U. hlavaci* sp. nov. (Javakheti Range), *U. zangezuri* sp. nov. (Zangezur Range), *U. schneideri* sp. nov. (Mt Shav nabada), and *U. lederi* sp. nov. (Likhi Range). Divergence likely began in the Late Pliocene, following Neogene volcanic activity in this region, e.g., Mt Shav nabada, Zangezur Range (Gvozdetsky 1954; Popov *et al.* 2006) and continued in the Pleistocene–Holocene, driven by alternating stadials and interstadials that reshaped forest–grassland mosaics (Messenger *et al.* 2008; Joannin *et al.* 2010; Robles *et al.* 2022) and stable period in the Late Pleistocene (Antonosyan *et al.* 2024). Ecologically, members of this clade are leaf litter stratobionts in deciduous forests (*U. lederi*), opportunistic stratobionts in leaf/grass litter (*U. hlavaci*) or grass litter stratobionts of highland steppes (*U. schneideri*, *U. zangezuri*).

Subsequent radiation along the Central and Western Caucasus – from the Dvaleti Range (Mt Khalatsa) to Mt Dzykhva and the Aibga Range – led to the emergence of highly specialized subalpine and alpine hortobionts *U. longicollis* and *U. armatus* sp. nov., characterized by an arachnoid appearance (Figs 72B, 77).

Dobrujean–Anatolian–Caucasian–Alborz Chain

The *inflatus* clade and its sister group (*U. daghestanicus*, *U. alanicus* sp. nov. and *U. savitskyi* sp. nov.) illustrate an expansive peripatric pattern, represented by stratobionts with limited morphological diversity. The clade comprises two subclades:

A western subclade with *U. penevi* (Dobruja) and *U. behnei* sp. nov. (Anatolian Plateau).

A larger Caucaso–Alborzian subclade including *U. mingrelicus* (Mingrelia), the widespread parthenogenetic *U. inflatus*, and three Alborzian species: *U. talyschensis*, *U. chaudoiri* sp. nov., and *U. sengleti* sp. nov.

According to unverified data from iNaturalist (observation ID 195768105), *U. talyschensis* or a closely related, as yet undescribed species may occur in southern Daghestan (Mt Dzhalgan near Derbent). If confirmed, this would indicate that *U. talyschensis* has a disjunctive distribution, with populations isolated by the Kura–Aras Depression, alternatively it may be amphigonic population of *U. inflatus*.

Isolated lineage: Bosphorus ‘orphan’ species

Urometopus asiaticus, found near the Bosphorus, is both geographically and morphologically isolated. Its unique aedeagus and copulatory sclerite structures distinguish it from all other species of *Urometopus*. However, its generalized body form shares similarities with *U. rugifrons*, hinting at a potentially ancient lineage.

Syntopy

Several cases of syntopic occurrence were observed in Pontic Mountains, Caucasus, and the Crimean Mountains. *Urometopus inflatus* was found co-occurring with *U. rugifrons* in the Kubalaç Range (Crimea) and with *U. nemorum* in Stavropol and Mt Ostraya (North Caucasus). *Urometopus rugifrons* was also recorded in syntopy with *U. dieckmanni* sp. nov. near Lake Abant and with *U. osellai* sp. nov. in Ilgaz Dag; both are within the Western Pontic Mountains.

Conclusions

The origin of *Urometopus* is likely associated with the mountainous regions along the southwestern and western coasts of the Black Sea including the Crimean and Pontic Mountains (Figs 75C, 80). This assumption is supported by the occurrence of the monotypic subgenus *Phyllobioides*, plesiotypic species of the *circassicus* group (*U. angelinii*) and ‘orphan’ *Urometopus asiaticus* and *U. virilis* sp. nov., both of which also exhibit plesiotypic morphology. The Greater and Lesser Caucasus have been occupied by younger, evolutionarily distinct lineages at different periods.

The Western Caucasian fauna has a heterogeneous origin, composed primarily of the youngest *circassicus* group, *abchasicus* group, and species of *sieversii* group. The latter originated in the Lesser Caucasus and colonized the Greater Caucasus via the Surami Bridge, which connects these two mountain systems.

The Eastern Caucasus harbours lower species richness than the Western Caucasus, reflecting its drier climate. Its fauna consists of the *daghestanicus* group and the *U. inflatus* group, the only *Urometopus* known from north macroslopes of the Greater Caucasus Range to the east of Mount Elbrus. The latter species group is represented here by the parthenogenetic *U. inflatus* and the amphigonic *U. sp. cf. inflatus* on Mt Dzhalgan near Derbent.

The *sieversii* group highlights the role of the Lesser Caucasus as a centre of diversification. Divergence began in the Late Pliocene, linked to volcanic activity, and was reinforced by Pleistocene–Holocene climatic oscillations. Ecological diversification within the clade, from forest litter to highland steppe stratobionts, underscores the Lesser Caucasus as a key driver of adaptive radiation and a biogeographic bridge to the Greater Caucasus.

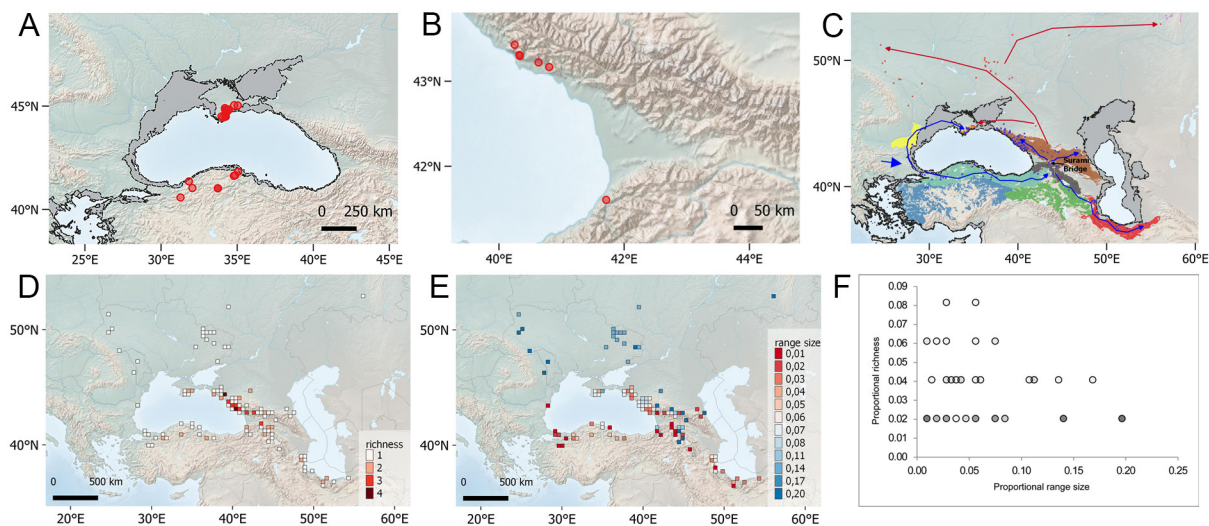


Fig. 75. Spatial patterns. **A.** Disjunction of *Urometopus rugifrons* (Hochhuth, 1851). **B.** Disjunction of *U. longicornis* (Stierlin, 1893). **C.** Hypothetical scenario of *Urometopus* Formánek, 1904 faunogenesis. For biogeographic region colours, see legend in Fig. 79. Blue arrows indicate primary dispersal pathways during the initial speciation. Red arrows indicate secondary expansion of parthenogenetic *U. inflatus* (Kolenati, 1859) and *U. nemorum* L. Arnoldi, 1965. Paleoenvironment in **A**, **C**: LGM paleoshoreline (-120 m, ca 22 Ma) in grey, dashed. **D–F.** Biodiversity analysis. **D.** Species richness. **E.** Mean proportional range size (endemism). **F.** Relationship between proportional species richness per 50 × 50 km cell and mean proportional range size of the species.

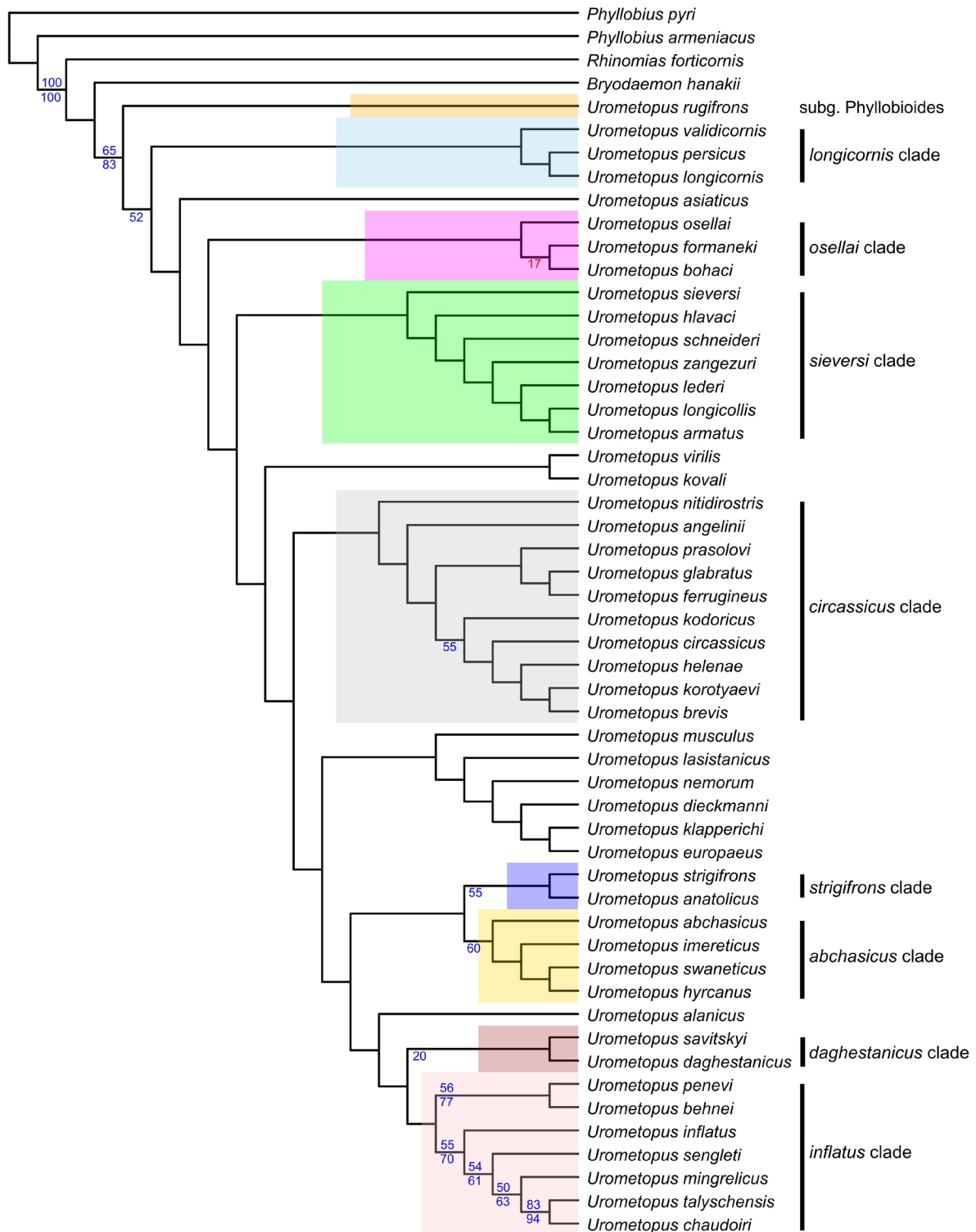


Fig. 77. Most parsimonious tree from cladistic analysis of *Urometopus* Formánek, 1904 matrix (see the [Supp. file 1](#); L: 939, CI: 0.18, RI: 0.42). Legend: numbers above nodes indicate Bootstrap values, numbers under nodes indicate Jackknife (p = 36) values (red numbers are GV values).

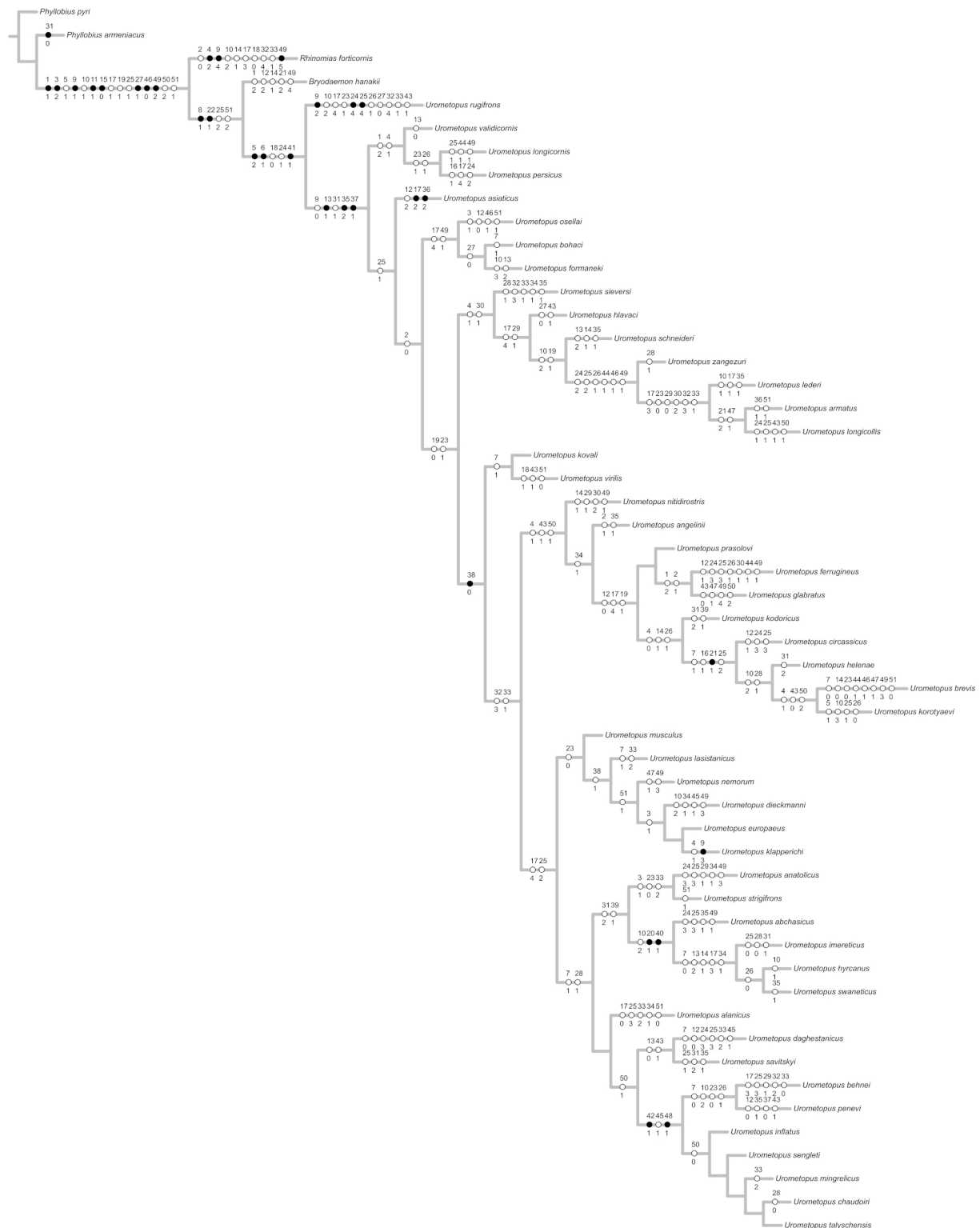


Fig. 78. Most parsimonious tree from the cladistic analysis of the *Urometopus* Formánek, 1904 matrix (Supp. file 1; L = 939, CI = 0.18, RI = 0.42) with preferred character-state optimizations (Agnarsson & Miller 2008): ACCTRAN for characters 26, 36; DELTRAN for characters 14, 17, 18, 24, 25, 32, 47, 49, 51. Black circles = unique, non-homoplasious transformations; white circles = homoplasious transformations. Numbers above and below circles denote character and state, respectively.

The Alborz Mountains fauna, similar to that of the Western Caucasus, is composed of the same groups. It shares with the latter both older components of the *longicornis* species group and younger components of the *circassicus* group and the *abchasicus* group, and additionally includes members of the *U. inflatus* species group.

The Crimean fauna has a heterogeneous composition, derived from three distinct groups and likely established at different times. Although *Urometopus rugifrons* shows plesiomorphic features differing from other species, its Crimean populations are not distinct from those in the Pontic Mountains, suggesting a relatively recent isolation. This disjunctive Ponto–Crimean distribution pattern is known among other weevil species from the genera *Brachysomus* Schoenherr, 1823 and *Otiorhynchus* Germar, 1822. The *strigifrons* group is well separated into two probably relict species: disjunctive *U. strigifrons*, from the Crimean and Pontic Mountains and the endemic *U. anatolicus*, widespread only in the Pontic Mountains. The parthenogenetic *U. inflatus* appears to have colonized the Crimea relatively recently, during the Pleistocene, via a land bridge over the exposed shelf.

The fauna of Dobruja is represented by a single bisexual species, *U. penevi*, which is likely also a relict.

The fauna of the East European plains, from Podolia to the Ural Mountains, consists exclusively of two parthenogenetic species, *U. nemorum* and *U. inflatus*, both of which colonized the region in the very recent past. The phylogenetic relationships of *U. nemorum* remain unclear. An initial hypothesis of its close relationship to *U. glabratus* sp. nov. and *U. brevis* sp. nov., based on comparative morphological observations of the spermatheca, is not supported by the results of a parsimony analysis, and requires additional study.

An important role in the faunogenesis of *Urometopus* in the Greater Caucasus and Eastern European Plain is attributed to the transversal Stavropol–Surami axis. Different segments of this axis were pivotal

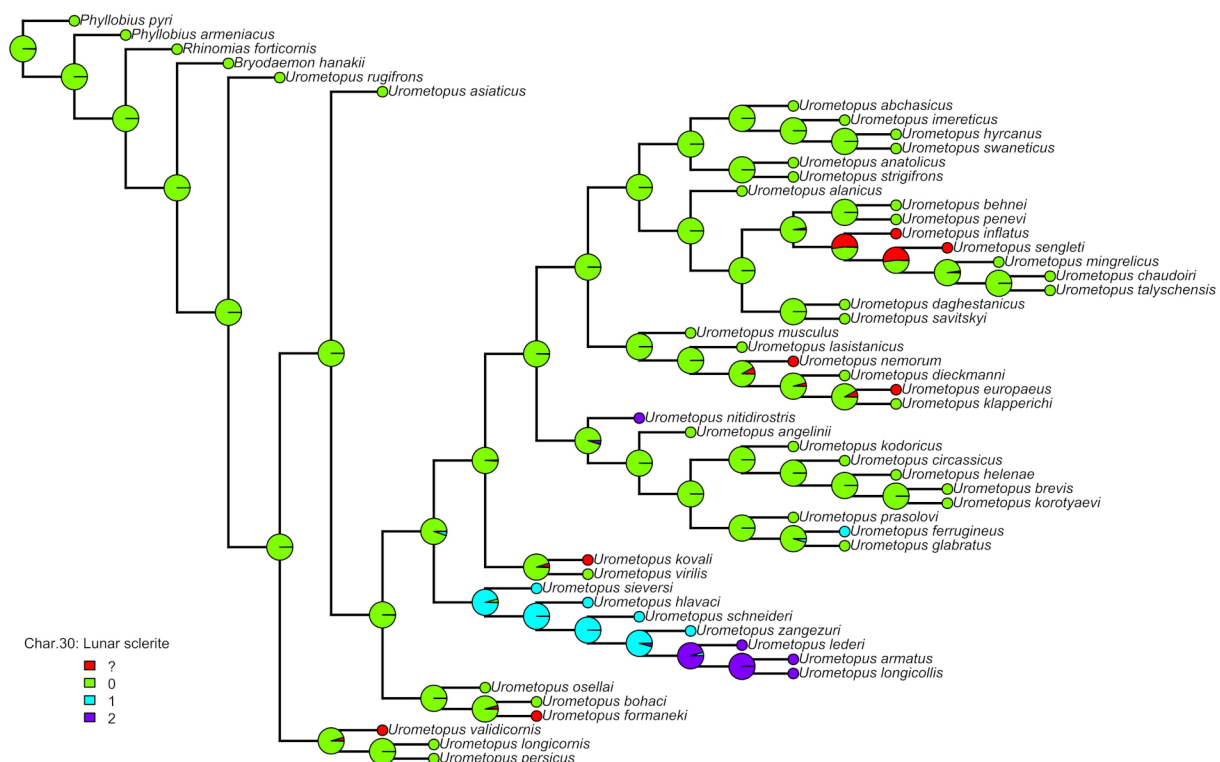


Fig. 79. Character evolution analysis. Lunar sclerite (Char. 30).

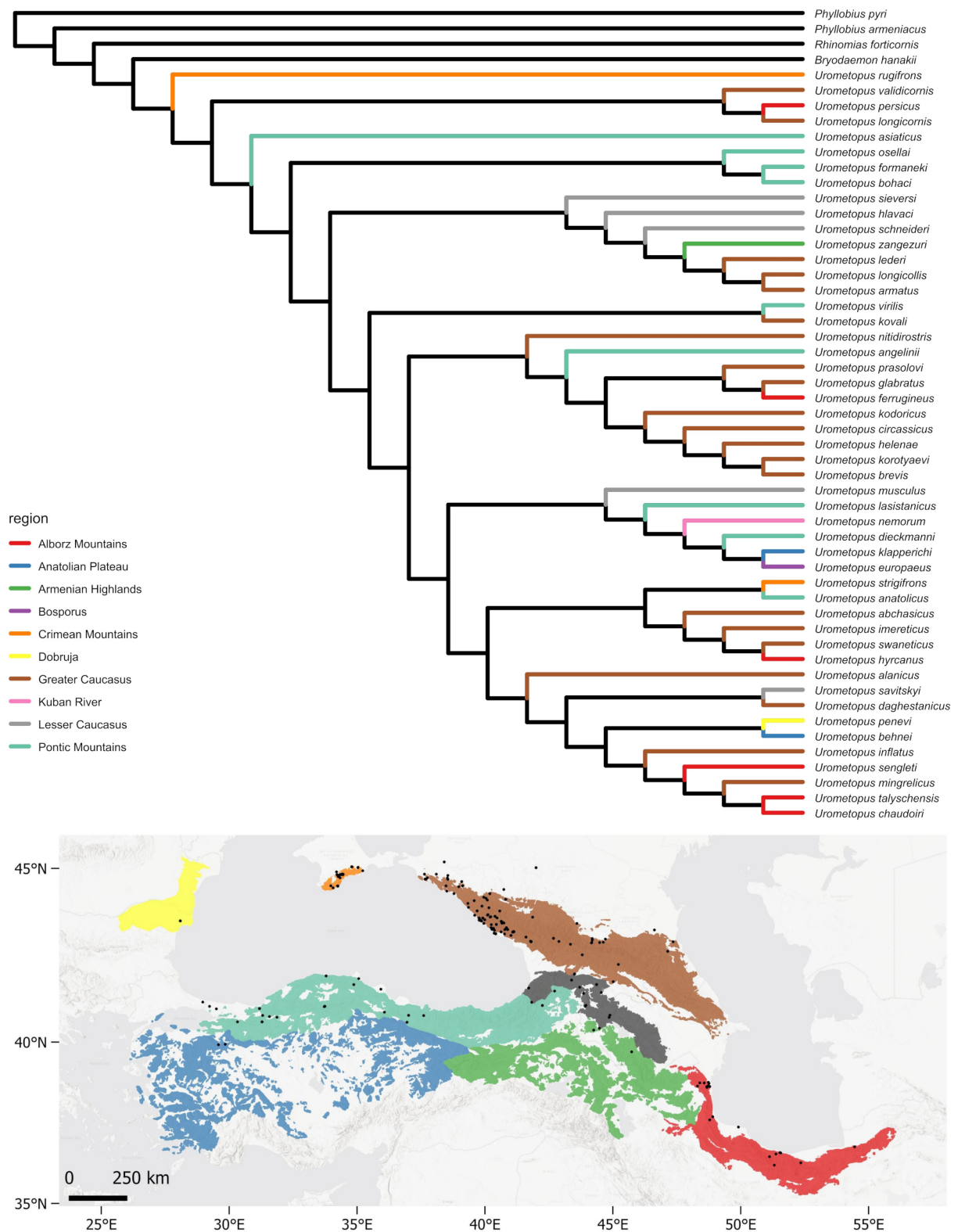


Fig. 80. Phylogeographic reconstruction. Occurrence map extent is cropped to the centres of biodiversity of *Urometopus* Formánek, 1904.

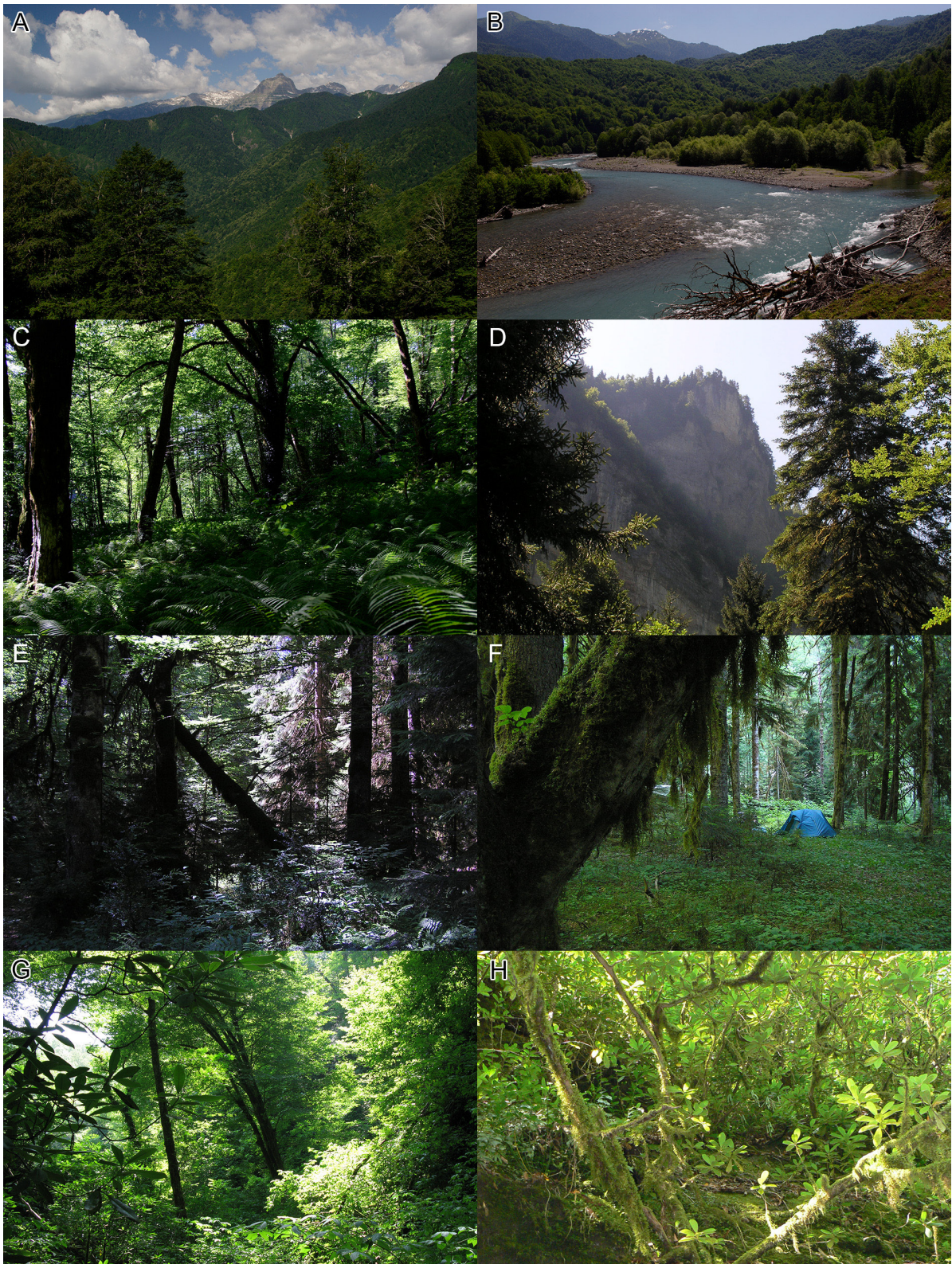


Fig. 81. Habitats of *Urometopus* Formánek, 1904 in the Caucasus. **A.** *U. abchasicus* sp. nov., Dou Pass, deciduous forest zone. **B.** *Urometopus abchasicus*, Bzipi Gorge. **C.** *U. abchasicus*, Reshevie River, deciduous forest. **D.** *U. helenae* Yunakov sp. nov., Gega Gorge. **E–F.** *U. helenae*, Gega Gorge mixed forest structure. **G–H.** *Urometopus helenae*, Miusera, Euxine-Colchic broadleaf forest.

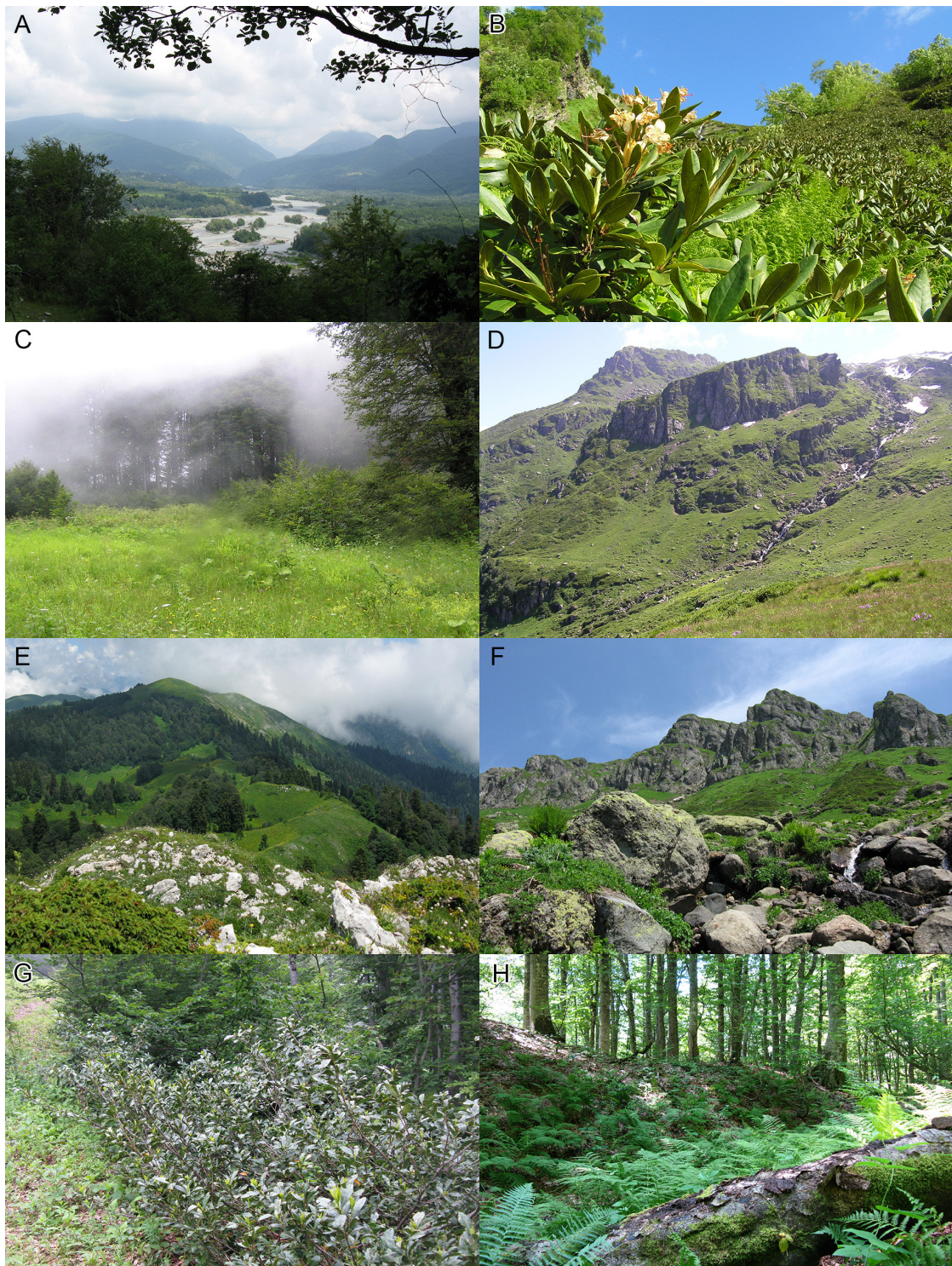


Fig. 82. Habitats of *Urometopus* Formánek, 1904 in the Caucasus. **A.** *U. kodoricus* Yunakov sp. nov., Kodori River. **B.** *U. longicollis* (Reitter, 1897), Anchkho Pass, subalpine zone with *Rhododendron caucasicum* Pall. **C.** *U. longicollis*, Mt Dzykhva, deciduous forest zone. **D.** *U. longicollis*, Mt Dzykhva. **E.** *U. longicornis* (Stierlin, 1893), Gagra Range, Mt Mamdzishkha, mixed forest zone. **F.** *U. nitidirostris* sp. nov., Kodori Range, Mt Tsastou, alpine zone with *Rh. caucasicum*. **G.** *U. nitidirostris* sp. nov., Kodori Range, Mt Tsastou, subalpine zone with *Prunus laurocerasus* L. **H.** *U. nitidirostris* sp. nov., Kodori Range, Mt Tsastou, deciduous forest zone.

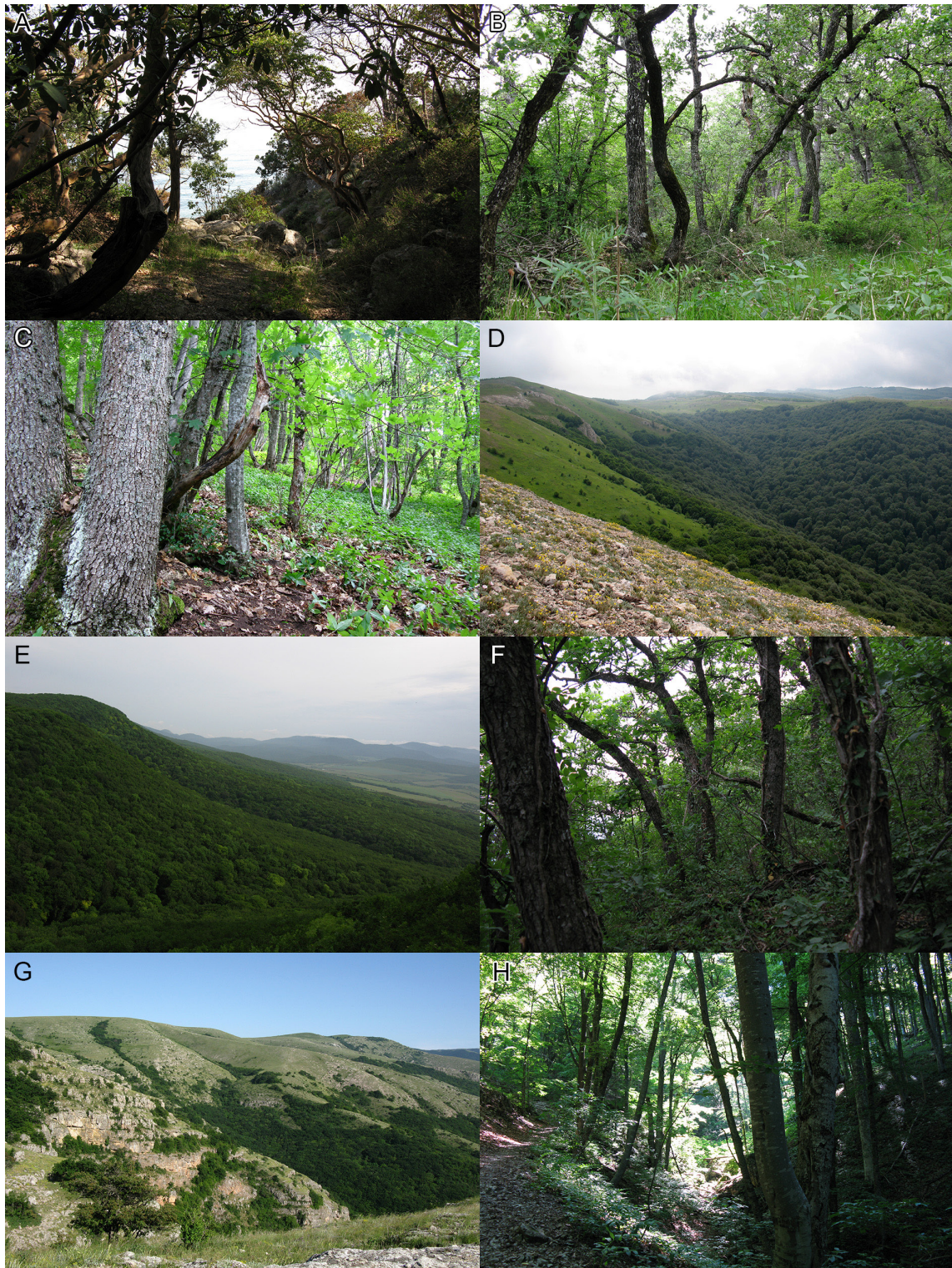


Fig. 83. Habitats of *Urometopus* Formánek, 1904 in the Crimea. **A.** *U. rugifrons* (Hochhuth, 1851), Cape Martian, lower forest zone with *Arbutus andrachne* L. **B.** *U. rugifrons*, Cape Martian, middle forest zone with *Quercus pubescens*. **C.** *U. rugifrons*, Chatyr Dag, deciduous forest. **D.** *U. rugifrons*, Tyrke Range, montane forest steppe. **E.** *U. inflatus* (Kolenati, 1859) and *U. rugifrons*, Kubalaç Range. **F.** *U. inflatus* and *U. rugifrons*, Kubalaç Range, deciduous forest. **G.** *U. strigifrons* (Gyllenhal, 1834) deciduous forest at Mt Çalbaş slopes. **H.** *U. strigifrons*, deciduous forest zone along Egerlik Suv River.

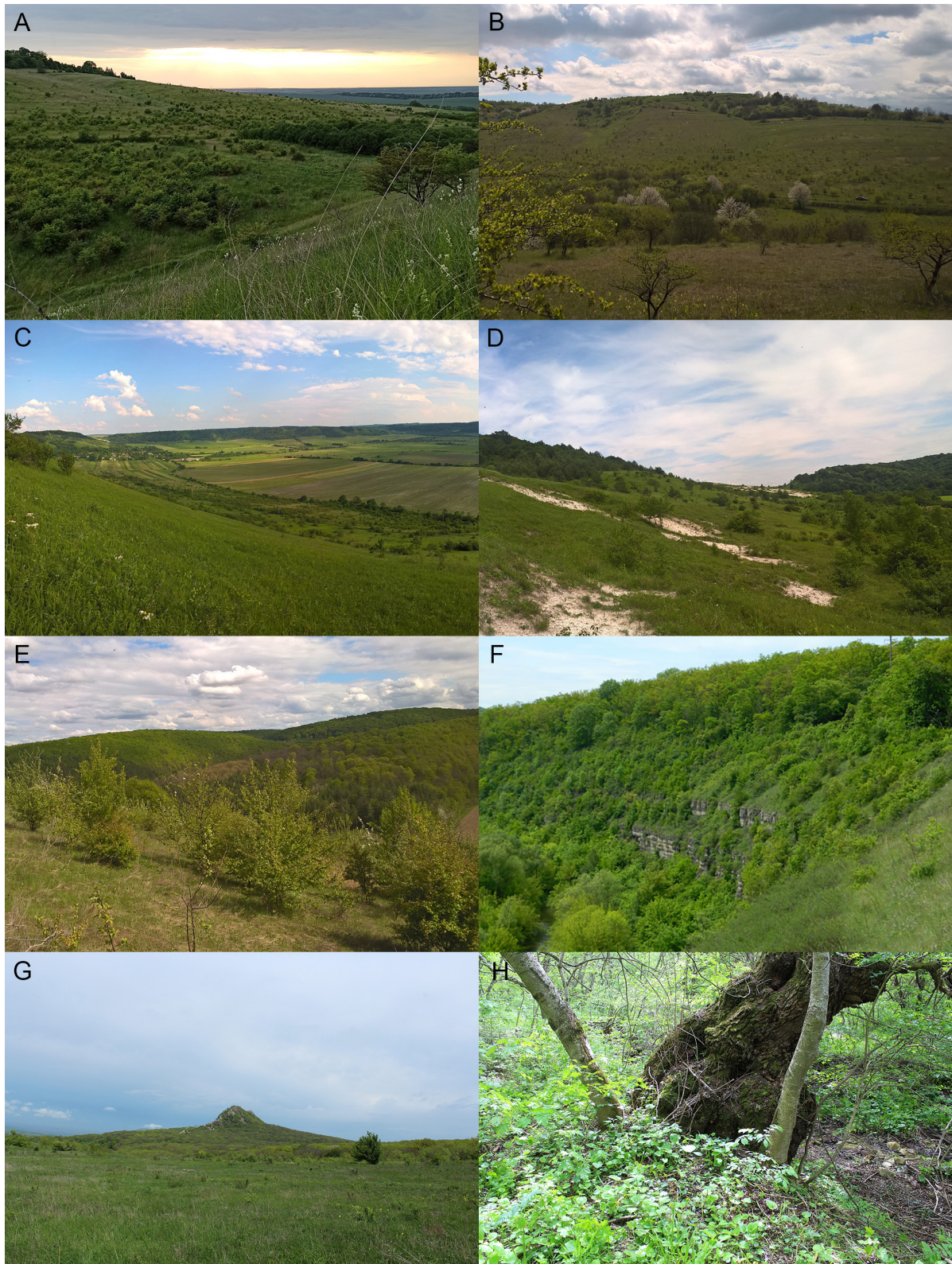


Fig. 84. Habitats of *Urometopus inflatus* (Kolenati, 1859) in Podolian Upland and North Caucasus. **A–B.** Yaseniv near Pidhirtsi, steppe site. **C–D.** Lysa Hora Reserve, forest edge. **E.** Markova, oak forest. **F.** Panivtsi near Kamianets Podilskyi, forest edge. **G–H.** Mt Ostraya, syntopy with *U. nemorum* L. Arnoldi, 1965. Photographs CC-BY 4.0 by Nina Polchaninova (F), Ilya Zabaluev (G–H).

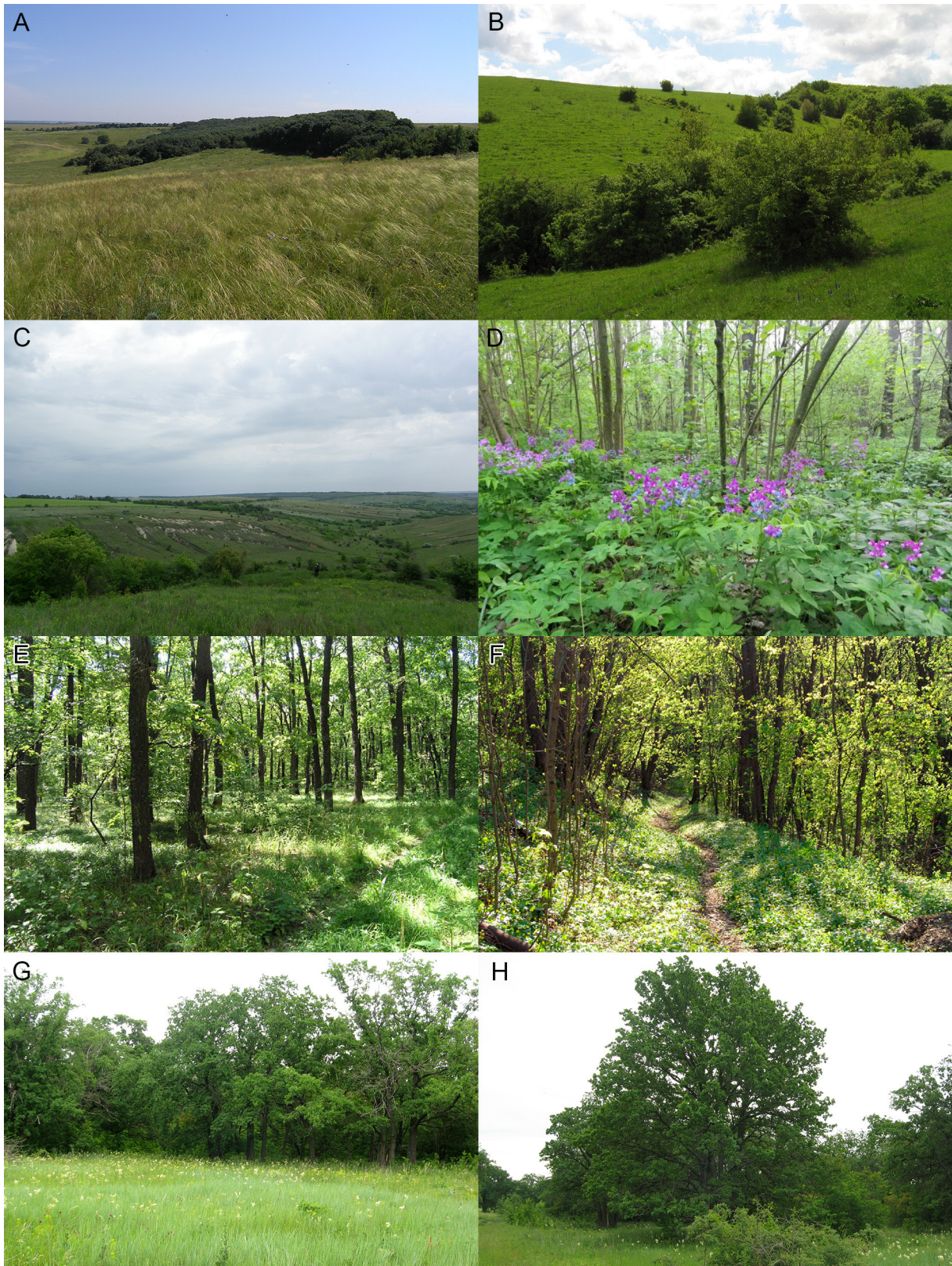


Fig. 85. Habitats of *Urometopus nemorum* L. Arnoldi, 1965. **A–B.** Velykyi Burluk, forest steppe, ravine forest. **C–D.** Dvorichna, forest steppe, ravine forest. **E–F.** Gaidary, floodland oak forest. **G–H.** Saratov, floodland oak forest. Photo credits, CC-BY 4.0 by Tatyana Atemasova (A–F), Ilyia Zabaluev (G–H).

at different evolutionary stages. The Surami Range acted as a key corridor since the early phases of *Urometopus* diversification in the Caucasus during the Pliocene, whereas the Stavropol Upland facilitated the expansion of *Urometopus* into the Eastern European Plains during the Late Pleistocene–Holocene.

Potentially undersampled ranges on the southern macroslope of the Greater Caucasus may harbour unknown species within those lineages that exhibit a more pronounced interspecific morphological hiatus. These include the *inflatus* group and *sieversii* groups, which may have diverged on the Egrisi Range (particularly Askhi Plateau) and the Lechkhumi Range. Both of these ranges are clearly separated from the “Surami Bridge” by the deep gorges of the Tskhenistskali and Rioni rivers. It is also possible that unknown species from the *abchasicus* group occur in these ranges. The *circassicus* group might consist of unknown species in Abkhazia and Mingrelia eastward from Kelasuri River.

In the Eastern Caucasus, southern Daghestan – particularly the Samur Forest and Mt Dzhalgan – may likewise harbour undescribed species of the *inflatus* group and *daghestanicus* group.

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References

- Adams D., Collyer M., Kaliontzopoulou A. & Baken E. 2025. Geomorph: Software for geometric morphometric analyses. R package version 4.0.10.
Available from <https://cran.r-project.org/package=geomorph> [accessed 31 Dec. 2024].
- Agnarsson I. & Miller J.A. 2008. Is ACCTRAN better than DELTRAN? *Cladistics* 24 (6): 1032–1038.
<https://doi.org/10.1111/j.1096-0031.2008.00229.x>
- Alonso-Zarazaga M.A., Barrios H., Borovec R., Bouchard P., Caldara R., Colonnelli E., Gültekin L., Hlaváč P., Korotyaev B., Lyal C.H.C., Machado A., Meregalli M., Pierotti H., Ren L., Sánchez-Ruiz M., Sforzi A., Silfverberg H., Skuhrovec J., Trýzna M., Velázquez de Castro A.J. & Yunakov N. 2023. *Cooperative Catalogue of Palaearctic Coleoptera Curculionoidea*, 2nd ed. Monografías electrónicas 14, Sociedad Entomológica Aragonesa.
- Antonosyan M., Roberts P., Aspaturyan N., Mkrtchyan S., Lucas M., Boxleitner K., Jabbour F., Hovhannisyan A., Cieřlik A., Sahakyan L., Avagyan A., Spengler R., Kandel A.W., Petraglia M., Boivin N., Yepiskoposyan L. & Amano N. 2024. Multiproxy evidence for environmental stability in the Lesser Caucasus during the Late Pleistocene. *Quaternary Science Reviews* 330: 108559.
<https://doi.org/10.1016/j.quascirev.2024.108559>
- Arita H.T., Christen J.A., Rodríguez P. & Soberón J. 2008. Species diversity and distribution in presence-absence matrices: Mathematical relationships and biological implications. *The American Naturalist* 172 (4): 519–532. <https://doi.org/10.1086/590954>
- Arnoldi L.V., Zaslavskij V.A. & Ter-Minassian M.E. 1965. Family Curculionidae. In: Bei-Bienko G.Y. (ed.) *Key to Insects of European Part of USSR. Volume 2. Coleoptera and Strepsiptera*: 485–621. Nauka, Moscow, Leningrad.
- Assing V. 2009. A revision of *Ceranota* Stephens, subgenus of *Aleochara* Gravenhorst (Coleoptera: Staphylinidae: Aleocharinae). *Beiträge zur Entomologie* 59 (2): 355–422.
<https://doi.org/10.21248/contrib.entomol.59.2.355-422>
- Avgin S.S. & Cavazzuti P. 2011. The studies made on Turkish Carabinae with checklist and bibliography (Coleoptera: Carabidae). *Turkish Journal of Zoology* 35 (3): 403–432.
<https://doi.org/10.3906/zoo-0905-13>
- Behne L. 1990. *Urometopus penevi* sp. n., eine neue Rüsselkäferart aus Bulgarien (Insecta, Coleoptera, Curculionidae: Otiorhynchinae). *Reichenbachia* 27 (25): 137–138.
- Białooki P. 2007. On new taxa of Entiminae (Coleoptera: Curculionidae) from Turkey and South-Eastern Europe. *Annales of Upper Silesian Museum, Entomology* 14–15: 135–195.

- Bodemeyer E. von 1900. *Quer durch Klein-Asien in den Bulghar-Dagh: Eine naturwissenschaftliche Studien-Reise*. Die Druck und Verlags-Aktien Gesellschaft Vormals Dölter, Emmendingen.
<https://doi.org/10.5962/bhl.title.34272>
- Borovec R. 2006. Taxonomic notes on the tribe Omiini, with description of one new genus and species, and with revision of genera *Anemophilus* and *Euplatus* (Coleoptera: Curculionidae: Entiminae). *Klapalekiana* 42: 1–44.
- Borovec R. 2009. Revision of the Palaearctic supraspecific taxa of the tribe Trachyploeini (Coleoptera: Curculionidae: Entiminae). *Klapalekiana* 45: 1–97.
- Borovec R. 2013a. Curculionidae: Entiminae: Omiini, NEW ACTS and COMMENTS. In: Löbl I. & Smetana A. (eds) *Catalogue of Palaearctic Coleoptera, Vol. 8*: 70. Brill, Leiden.
- Borovec R. 2013b. Omiini. In: Löbl I. & Smetana A. (eds) *Catalogue of Palaearctic Coleoptera, Vol. 8*: 296–301. Brill, Leiden.
- Brown W.L. Jr 1957. Centrifugal speciation. *Quarterly Review of Biology* 32 (3): 247–277.
<https://doi.org/10.1086/401875>
- Bryant D. & Moulton V. 2004. Neighbor-Net: An agglomerative method for the construction of phylogenetic networks. *Molecular Biology and Evolution* 21 (2): 255–265.
<https://doi.org/10.1093/molbev/msh018>
- Colonnelli E. 2011. Notes on the taxonomy of *Urometopus* with description of a new species from northern Turkey (Coleoptera: Curculionidae). *Acta Entomologica Musei Nationalis Pragae* 51 (2): 675–686.
- Formánek R. 1904a. Zur näheren Kenntnis der Gattungen *Barypithes* Duval und *Omius* Schönherr sensu Seidlitz. *Münchener Koleopterologische Zeitschrift* 2: 16–28.
Available from <https://www.biodiversitylibrary.org/page/35504368> [accessed 31 Dec. 2024].
- Formánek R. 1904b. Ein neuer *Barypithes* und zwei neue *Omius*. *Münchener Koleopterologische Zeitschrift* 2: 297–300. Available from <https://www.biodiversitylibrary.org/page/35504633> [accessed 31 Dec. 2024].
- Formánek R. 1910. Zwei neue paläarktischen Curculioniden. *Wiener Entomologische Zeitung* 29: 242–244. Available from <https://www.biodiversitylibrary.org/page/12086327> [accessed 31 Dec. 2024].
- Formánek R. 1923. Zwei neue europäische Rüsselkäfergattungen. *Wiener Entomologische Zeitung* 40: 108–110. Available from <https://www.biodiversitylibrary.org/page/11969849> [accessed 31 Dec. 2024].
- Franz N.M. 2013. Anatomy of a cladistic analysis. *Cladistics* 30 (3): 294–321.
<https://doi.org/10.1111/cla.12042>
- Goloboff P.A. 2013. Extended implied weighting. *Cladistics* 30 (3): 260–272.
<https://doi.org/10.1111/cla.12047>
- Goloboff P.A., Farris J.S. & Nixon K. 2008. TNT, a free program for phylogenetic analysis. *Cladistics* 24 (5): 774–786. <https://doi.org/10.1111/j.1096-0031.2008.00217.x>
- Grossheim A.A. 1948. *Rastitelnyi pokrov Kavkaza*. Moskovskoe obschestvo ispytatelei prirody, Moscow.
- Gvozdetsky N.A. 1954. *Physical Geography of the Caucasus, Vol. 1: General Part. The Greater Caucasus*. Moscow University Press, Moscow. [In Russian.]
- Harris R.A. 1979. A glossary of surface sculpturing. *Occasional Papers in Entomology. California Department of Food and Agriculture, Bureau of Entomology* 28: 1–31.
Available from <https://zenodo.org/record/26215#.Wyz2ZbhCm9Y> [accessed 31 Dec. 2024].

- Hochhuth I.H. 1851. Beiträge zur näheren Kenntniss der Rüsselkäfer Russlands, enthaltend Beschreibung neuer Genera und Arten, nebst Erläuterungen noch nicht hinlänglich bekannter Curculioniden des Russischen Reichs. *Bulletin de la Société Impériale des Naturalistes de Moscou* 24: 3–102. Available from <https://www.biodiversitylibrary.org/page/44111080> [accessed 31 Dec. 2024].
- Howden A.T. 1995. Structures related to oviposition in Curculionoidea. *Memoirs of the Entomological Society of Washington* 14: 53–100.
- Joannin S., Ollivier V., Chataigner C., Nahapetyan S., Djamalian G., Chabalier J.B. & Scaillet S. 2010. Early Pleistocene climate cycles in continental deposits of the Lesser Caucasus of Armenia inferred from palynology, magnetostratigraphy, and $^{40}\text{Ar}/^{39}\text{Ar}$ dating. *Earth and Planetary Science Letters* 291 (1–4): 149–161. <https://doi.org/10.1016/j.epsl.2010.01.007>
- Kolenati F.A. 1845. *Meletemata entomologica. Fasc. I. Insecta Caucasi cum distributione geographica. Coleopterorum Pentamera carnivora*. Imperialis Academiae Scientiarum, Saint Petersburg. <https://doi.org/10.5962/bhl.title.51370>
- Kolenati F.A. 1859. Meletemana Entomologica. Curculiona Caucasi et Vicinorum. Fasc. VII. *Bulletin de la Société impériale des Naturalistes de Moscou* 31 (4) [1858]: 395–504. Available from <https://www.biodiversitylibrary.org/page/44170197> [accessed 31 Dec. 2024].
- Kolov S.V. & Korotyaev B.A. 2017. On establishing of two weevils (Coleoptera, Curculionidae: Entiminae) damaging fruit and berry crops in Southeastern Kazakhstan. *Entomological Review* 97: 404–405. <https://doi.org/10.1134/S0013873817030149>
- Korotyaev B.A. 1992. New and little known species of weevils (Coleoptera: Curculionidae) from Russia and neighbouring countries. *Entomologicheskoe Obozrenie* 71 (4): 807–832.
- Korotyaev B.A., Ismailova M.S. & Meleshko J.Y. 2003. A new species of the weevil genus *Polydrusus* Germ. (Coleoptera, Curculionidae) from Inner Dagestan. *Entomologicheskoe Obozrenie* 82 (2): 437–443.
- Krijgsman W., Tesakov A., Yanina T., Lazarev S., Danukalova G., Van Baak C.G.C., Agustí J., Alçiçek M.C., Aliyeva E., Bista D., Bruch A., Büyükmeriç Y., Bukhsianidze M., Flecker R., Frolov P., Hoyle T. M., Jorissen E. L., Kirscher U., Korić S.A., ... & Wesselingh F.P. 2019. Quaternary time scales for the Pontocaspian domain: Interbasinal connectivity and faunal evolution. *Earth-Science Reviews* 188: 1–40. <https://doi.org/10.1016/j.earscirev.2018.10.013>
- Krivokhatsky V.A. 2013. *Priklyucheniya zhizni Viktora Ivanovicha Motschulskogo, opisannoye im samim*. KMK, Moscow–St Petersburg. [In Russian.]
- Kurnakov V.N. 1962. Contribution à la faune des Carabiques du Caucase. IV. Nouveaux Carabiques du Caucase. *Revue française d'Entomologie* 29 (1): 32–43.
- Lindeman K.E. 1871. Obzor geograficheskogo rasprostraneniia zhukov Rossiiskoi Imperii. *Trudy Russkago entomologicheskago obshchestva* 6: 41–366.
- Lindemann K.E. 1885. Dritter Bericht über den Bestand meines Herbariums. *Bulletin de la Société impériale des naturalistes de Moscou* 61: 37–92. Available from <https://www.biodiversitylibrary.org/page/40198961> [accessed 31 Dec. 2024].
- Leder H. 1879. Beitrag zur kaukasischen Käfer-Fauna. *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien* 29: 451–488. Available from <https://www.biodiversitylibrary.org/page/42813789> [accessed 31 Dec. 2024].
- Lona C. 1937 Curculionidae: Otiorrhynchinae II. In: Schenkling S. (ed.) *Coleopterorum Catalogus. Pars 160*: 227–412.. W. Junk, The Hague.

- Lona C. 1938. Curculionidae: Otiorrhynchinae III. In: Schenkling S. (ed.) *Coleopterorum Catalogus. Pars 162*: 413–600. W. Junk, The Hague.
- Lawrence J.F., Ślipiński A., Seago A.E., Thayer M.K., Newton A.F. & Marvaldi A.E. 2011. Phylogeny of the Coleoptera based on morphological characters of adults and larvae. *Annales Zoologici* 61 (1): 1–217. <https://doi.org/10.3161/000345411X576725>
- Lyal C.H.C. (ed.) 2024. Glossary of Weevil Characters. International Weevil Community Website. Available from <https://www.curculionoidea.org/glossary> [accessed 31 Dec. 2024].
- Menitsky Yu.L. & Popova T.N. 2007. *Caucasus: Geographic Names and Objects. Alphabetical Index to Five-verst Map of the Caucasus Region*. M. & V. Kotlyarov, Nalchik. [In Russian.]
- Messenger E., Lordkipanidze D., Ferring C.R. & Deniaux B. 2008. Fossil fruit identification by SEM investigations, a tool for palaeoenvironmental reconstruction of Dmanisi site, Georgia. *Journal of Archaeological Science* 35 (10): 2715–2725. <https://doi.org/10.1016/j.jas.2008.04.026>
- Nordmann A. von. 1865. *Christian Steven, der Nestor der Botaniker*. Buchdruckerei der Kaiserlichen Universität, Moscow.
- Osella G. & Magnano L. 1986. I coleotteri attelabidi e curculionidi a diffusione transadriatica. *Biogeographia* 10 (1): 701–792. <https://doi.org/10.21426/B610110254>
- Marseul S.A. 1873. Monographie des Otiorrhynchides d’après les travaux de MM. les docteurs Seidlitz & Stierlin, coordonnés par M. S.-A. de Marseul. Partie 2. *L’Abeille* 11: 453–748. Available from <https://www.biodiversitylibrary.org/page/47543651> [accessed 31 Dec. 2024].
- Oberprieler R.G. & Zimmerman E.C. 2020. *Australian Weevils (Coleoptera: Curculionoidea). Volume IV*. CSIRO Publishing, Melbourne.
- Pagirev D.D. 1913. *Alphabetical Index to Five-verst Map of the Caucasus Region Published by Military Topography Department*. K.P. Kozlovsky, Tiflis. [In Russian.]
- Paradis E. & Schliep K. 2019. “ape 5.0: an environment for modern phylogenetics and evolutionary analyses in R.” *Bioinformatics* 35: 526–528. <https://doi.org/10.1093/bioinformatics/bty633>
- Penecke K.A. 1929. Ein *Urometopus* aus der Bukovina (Curcul.). *Coleopterologisches Centralblatt* 4: 137–140.
- Popov S.V., Shcherba I.G., Ilyina L.B., Nevesskaya L.A., Paramonova N.P., Khondkarian S.O. & Magyar I. 2006. Late Miocene to Pliocene palaeogeography of the Paratethys and its relation to the Mediterranean. *Palaeogeography, Palaeoclimatology, Palaeoecology* 238: 91–106. <https://doi.org/10.1016/j.palaeo.2006.03.020>
- Reitter E. 1888a. Coleopteren aus Circassien, gesammelt von Hans Leder im Jahre 1887, beschrieben von E. Reitter im Mödling. I Theil. *Wiener Entomologische Zeitung* 7: 19–26. Available from <https://www.biodiversitylibrary.org/page/11985832> [accessed 31 Dec. 2024].
- Reitter E. 1888b. Coleopteren aus Circassien, gesammelt von Hans Leder im Jahre 1887. IV Theil. *Wiener Entomologische Zeitung* 7: 169–180. Available from <https://www.biodiversitylibrary.org/page/11985984> [accessed 31 Dec. 2024].
- Reitter E. 1888c. Coleopteren aus Circassien, gesammelt von Hans Leder im Jahre 1887. VI. Theil. *Wiener Entomologische Zeitung* 7: 231–238. Available from <https://www.biodiversitylibrary.org/page/11986048> [accessed 31 Dec. 2024].
- Reitter E. 1888d. Coleopteren aus Circassien, gesammelt von Hans Leder im Jahre 1887. VII Theil. *Wiener Entomologische Zeitung* 7: 259–274. Available from <https://www.biodiversitylibrary.org/page/11986076> [accessed 31 Dec. 2024].

- Reitter E. 1889a. Coleopteren aus Circassien, gesammelt von Hans Leder im Jahre 1887. X Theil. *Wiener Entomologische Zeitung* 8: 63–70. Available from <https://www.biodiversitylibrary.org/page/11522825> [accessed 31 Dec. 2024].
- Reitter E. 1889b. Coleopteren aus Circassien, gesammelt von Hans Leder im Jahre 1887. XI. Theil. *Wiener Entomologische Zeitung* 8: 93–94. Available from <https://www.biodiversitylibrary.org/page/11522857> [accessed 31 Dec. 2024].
- Reitter E. 1896. Dreizehnter Beitrag zur Coleopteren Fauna des russischen Reiches. *Wiener Entomologische Zeitung* 15: 64–77. Available from <https://www.biodiversitylibrary.org/page/11971719> [accessed 31 Dec. 2024].
- Reitter E. 1897. Revision der *Omi*as-Arten mit der Länge nach gestricheltem Kopfe. *Deutsche Entomologische Zeitschrift* 1897 (1): 200–202.
Available from <https://www.biodiversitylibrary.org/page/33258236> [accessed 31 Dec. 2024].
- Reitter E. 1913. Bestimmungs-Schlüssel der mir bekannten europäischen Gattungen der Curculionidae, mit Einschluss der mir bekannten Gattungen aus dem palaearctischen Gebiete. *Verhandlungen des Naturforschenden Vereines in Brunn* 51 [1912]: 1–90.
Available from <https://www.biodiversitylibrary.org/page/43547334> [accessed 31 Dec. 2024].
- Reitter E. 1916. *Fauna Germanica. Die Käfer des Deutschen Reiches. Nach der analytischen Methode bearbeitet. Vol. 5.* K.G. Lutz' Verlag, Stuttgart.
- Revell L. 2024. phytools 2.0: an updated R ecosystem for phylogenetic comparative methods (and other things). *PeerJ* 12: e16505. <https://doi.org/10.7717/peerj.16505>.
- Robles M., Peyron O., Brugiapaglia E., Ménot G., Dugerdil L., Ollivier V., Ansanay-Alex S., Develle A.-L., Tozalakyan P., Meliksetian K., Sahakyan K., Sahakyan L., Perello B., Badalyan R., Colombié C. & Joannin S. 2022. Impact of climate changes on vegetation and human societies during the Holocene in the South Caucasus (Vanevan, Armenia): A multiproxy approach including pollen, NPPs and brGDGTs. *Quaternary Science Reviews* 277 (2): 107297. <https://doi.org/10.1016/j.quascirev.2021.107297>
- Rohlf F.J. 2006. *tpsDig, Digitize Landmarks and Outlines, Version 2.05*. Department of Ecology and Evolution, State University of New York, Stony Brook, NY.
- Schliep K. 2011. phangorn: phylogenetic analysis in R. *Bioinformatics* 27 (4): 592–593.
<https://doi.org/10.1093/bioinformatics/btq706>
- Schneider O. & Leder H. 1878. Beiträge zur Kenntniss der kaukasischen Käferfauna. *Verhandlungen des Naturforschenden Vereins in Brunn* 16 (1877): 3–258.
Available from <https://www.biodiversitylibrary.org/page/43566189> [accessed 31 Dec. 2024].
- Schoenherr C.J. 1834. *Genera et species Curculionidum, cum synonymia hujus familiae. Species novae aut hactenus minus cognitae, descriptionibus a Dom Leonardo Gyllenhal, C.H. Boheman, et entomologis aliis illustratae. Tomus secundus. Pars secunda.* Roret, Paris [Parisiis]; Fleischer, Leipzig [Lipsiae].
<https://doi.org/10.5962/bhl.title.8952>
- Seidlitz G.C.M. 1868. Die Otiorhynchiden sensu str. nach den morphologischen Verwandtschaftsverhältnissen ihres Hautscelels. *Berliner entomologische Zeitschrift* 12: 1–153.
- Smreczyński S. 1970. Die von H. Korge und W. Heinz in Kleinasien gesammelten Rüsselkäfer (Coleoptera, Curculionidae). *Entomologische Abhandlungen: Staatliches Museum für Tierkunde in Dresden* 38: 111–131.
- Smreczyński S. 1977. Neue Rüsselkäferarten aus Griechenland und aus der Türkei (Coleoptera, Curculionidae). *Acta Zoologica Cracoviensia* 22 (10): 387–396.

- Snethlage M.A., Geschke J., Ranipeta A., Jetz W., Yoccoz N.G., Körner C., Spehn E.M., Fischer M. & Urbach D. 2022. A hierarchical inventory of the world's mountains for global comparative mountain science. *Scientific Data* 9: 149. <https://doi.org/10.1038/s41597-022-01256-y>
- Stierlin W.G. 1885. Bestimmungs-Tabellen der europäischen Rüsselkäfer. II. Brachyderidae. (Fortsetzung). *Mitteilungen der Schweizerischen Entomologischen Gesellschaft* 7 (3): 99–150. Available from <https://www.biodiversitylibrary.org/page/10395682> [accessed 31 Dec. 2024].
- Stierlin G. 1893. Beschreibung einiger neuen europ. Rüsselkäfer. *Mitteilungen der Schweizerischen Entomologischen Gesellschaft* 8 (10): 408–412.
- Tanner V.M. 1927. A preliminary study of the genitalia of female Coleoptera. *Transactions of the American Entomological Society* 53: 5–50.
- Wanat M. 2007. Alignment and homology of male terminalia in Curculionoidea and other Coleoptera. *Invertebrate Systematics* 21: 147–171. <https://doi.org/10.1071/IS05055>
- Yu G., Smith D.K., Zhu H., Guan Y. & Lam T.T.Y. 2017. ggtree: an R package for visualization and annotation of phylogenetic trees with their covariates and other associated data. *Methods in Ecology and Evolution* 8 (1): 28–36. <https://doi.org/10.1111/2041-210X.12628>
- Yunakov N.N. 1998. Synonymy and notes of morphology and distribution of some less known species of the genus *Brachysomus* Schönherr (Coleoptera, Curculionidae). *Kharkov Entomological Society Gazette* 6 (2): 37–40.
- Yunakov N.N. 1999. Weevils (Coleoptera, Curculionoidea) of Grand Canyon of the Crimea. *Biological Researches in National Parks and Biological Stations*: 136–137. Kharkiv State University, Kharkiv.
- Yunakov N.N. 2003. *Weevils of the Subfamily Entiminae (Coleoptera, Curculionidae) of Ukraine*. PhD thesis, Zoological Institute, Russian Academy of Sciences, Saint Petersburg. [in Russian.]
- Yunakov N.N. 2022. A review of the genus *Brachysomus* Schoenherr (Coleoptera: Curculionidae: Entiminae). *Zootaxa* 5193 (1): 1–165. <https://doi.org/10.11646/zootaxa.5193.1.1>
- Yunakov N.N. & Nazarenko V.Yu. 2003. New and little-known Curculionoidea species (Coleoptera, Curculionoidea) from Ukrainian fauna. *Vestnik zoologii* 37 (1): 95–99.
- Yunakov N.N., Dedyukhin S.V. & Filimonov R.V. 2012. Towards the survey of Entiminae weevils (Coleoptera: Curculionidae) of Russia: Species occurring in the Volga and Ural Regions. *Russian Entomological Journal* 21 (1): 57–72. <https://doi.org/10.15298/rusentj.21.1.08>
- Yunakov N., Nazarenko V., Filimonov R. & Volovnik S. 2018. A survey of the weevils of Ukraine (Coleoptera: Curculionoidea). *Zootaxa* 4404 (1): 1–494. <https://doi.org/10.11646/zootaxa.4404.1.1>
- Zolotarew A. 1913. Neue kaukasische Caraben. *Koleopterologische Rundschau* 2: 77–78. Available from <https://www.biodiversitylibrary.org/page/54704129> [accessed 31 Dec. 2024].

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Supplementary files

Supp. file 1. Matrix. <https://doi.org/10.5852/ejt.2026.1091.3322.14590>

Supp. file 2. Occurrences. <https://doi.org/10.5852/ejt.2026.1091.3322.14591>