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On the taxonomy of the genus *Cteipolia* Staudinger (Lepidoptera: Noctuidae: Noctuinae) with descriptions of two new species from Transcaucasia and Central Asia

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Received 8 July 2024 | Accepted by V. Pešić: 22 August 2024 | Published online 24 August 2024.

Abstract

The taxonomy of the genus *Cteipolia* Staudinger, 1896 is discussed, the revised check-list of the genus subdivided into species-groups is provided. Two new species are described: *Cteipolia aloyani* Saldaitis, Dūda, Volynkin & Benedek, **sp. n.** (SW Armenia) and *Cteipolia belyalovi* Volynkin, Titov, Saldaitis & Benedek, **sp. n.** (SE Kazakhstan: Altyn-Emel Range). The hitherto unknown female of *Cteipolia mimetica* (L. Ronkay, 1995) from Southeast Kazakhstan is illustrated and diagnosed. Adults as well as female and male genitalia of the species considered are illustrated.

Key words Armenia, Balkhash-Alakol Basin, Dzhungar Alatau, Kazakhstan, lectotype, new species, Saur-Tarbagatai, Tien Shan, Xylenina.

Introduction

The genus *Cteipolia* Staudinger, 1896 was erected by Staudinger (1896) to solely include the new species *C. sacelli* Staudinger, 1896 from the Issyk Kul region (Kyrgyzstan). Another species of the genus, *Cteipolia isotima* Püngeler, 1914 was described from Dzharkent (Southeast Kazakhstan) (Püngeler 1914). Almost nine decades later, the genus was downgraded to a subgenus of *Dasypolia* Guenée, 1852 by Ronkay & Zilli ([1993]) and subsequently revised by Ronkay *et al.* (1995), who described four new species from Central Asia and Turkey. Two more species were described by Ronkay *et al.* (2014) from Central Asia and western Himalaya, and another new species has recently been described from East Siberia (Transbaikalia) by Gordeeva *et al.* (2023). In the latter paper, the authors upgraded *Cteipolia* to generic level and transferred it from the subtribe Antitypina into Xylenina based on the larval morphology and life strategy but the adult morphological characters distinguishing it from *Dasypolia* were not discussed by the authors.

In the course of examination of the *Cteipolia* materials deposited in various private and institutional collections, two undescribed species from Armenia and Kazakhstan were found. The present paper is devoted to the taxonomy of the genus and descriptions of those species as new to science.

Material and methods

Abbreviations of the depositories used: ASV = research collection of Aidas Saldaitis (Vilnius, Lithuania); BBC = research collection of Balázs Benedek (Mohács, Hungary); CAV = research collection of Anton Volynkin (Leominster, UK); IGEB = Institute of General and Experimental Biology of the Siberian Department of Russian Academy of Sciences (Ulan-Ude, Russia); HNHM = Hungarian Natural History Museum (Budapest, Hungary); MfN = Museum of Natural History, Berlin (Museum für Naturkunde, Berlin, Germany); PGC = research collection of Pavel Gorbunov (Yekaterinburg, Russia); PGM = research collection of Péter Gyulai (Miskolc, Hungary); SMC = research collection of Sergey Melyakh (Yekaterinburg, Russia); WIGJ = World Insect Gallery (Joniškis, Lithuania); ZISP = Zoological Institute of Russian Academy of Sciences (St. Petersburg, Russia).

Other abbreviations used: AV = genitalia slide prepared by Anton Volynkin; HT = holotype; LT = lectotype; PLT = paralectotype; PT = paratype; RL = genitalia slide prepared by László Ronkay; TB = genitalia slide prepared by Balázs Tóth.

In the type label citations, each label is cited verbatim and different labels are separated by a forward slash (“/”) whereas the different lines of the same label are separated by an upright slash (“|”). Any additional data are provided in square brackets. The content of the labels of additional specimens examined is edited/translated in accordance with English grammar and unified.

The genitalia were dissected and embedded in Euparal on microscope slides. The photographs of adults were taken using a Nikon D3100/AF-S camera equipped with a Sigma 105 mm F2.8 EX DG Macro OS lens, a Canon EOS 5D Mark II camera equipped with Canon EF 100 mm f / 2.8L Macro USM lens, and a Canon PowerShot A48095 camera. The genitalia were imaged using a Nikon D3100/AF-S camera attached to a microscope with an LM-scope adapter, and with a microscope camera Nikon DS-Ri2 attached to the stereo microscope Nikon SMZ25. All photographs were processed using the Adobe Photoshop CC 2018 software and NIS-Elements.

The male and female genitalia terminology follows Kononenko (2010) and Volynkin (2024).

Taxonomic part

Genus *Cteipolia* Staudinger, 1896

Cteipolia Staudinger, 1896, *Deutsche entomologische Zeitschrift Iris*, 9: 191.

Type species: *Cteipolia sacelli* Staudinger, 1896, by monotypy.

Notes. (1) The genus name was originally spelled with the letter *i*, and this spelling has subsequently been used by Ronkay *et al.* (1995, 2014) and Gordeeva *et al.* (2023). However, according to the ICZN (1999) Article 11.2, a scientific name must have been spelled only in the 26 letters of the classic Latin alphabet, which does not include *i*. Thus, following the ICZN (1999) Articles 27 and 32.5.2, the letter *i* must be amended to *i* and the correct spelling of the genus name is *Cteipolia*. (2) In the Introduction chapter of their paper, Gordeeva *et al.* (2023) state “the close affinity of *Cteipolia* with the genera of the *Agrochola-Conistra* clade of Xyleninae” while in the Results chapter of the same work, the authors indicate “the proper taxonomic position of the genus in the tribe Xylenina Guenée, 1837, subtribe Conistrina Beck, 1996”. According to the current Noctuidae systematics, the ‘*Agrochola-Conistra* generic complex’ (*sensu* Ronkay *et al.* (2001)) belongs to the subtribe Xylenina Guenée of the tribe Xylenini Guenée (Lafontaine & Schmidt 2010; Fibiger *et al.* 2011; Keegan *et al.* 2021) while the name Conistrina is a junior synonym of Xylenina. Thus, the correct placement of genus *Cteipolia* is in the subtribe Xylenina, tribe Xylenini, subfamily Noctuidae. (3) Fibiger *et al.* (2010) and Gordeeva *et al.* (2023) erroneously attributed the authorship of *C. murina* to Eduard Eversmann. For the correct authorship, see Titov *et al.* (2024). (4) Male genitalia of *Cteipolia* are very uniform within species-groups and in most cases display no reliable interspecific differences, which makes the species delimitation problematic. Unlike in males, female genitalia are diagnostic in their signum, antrum and apophysis structures. Males of similar species have somewhat differently ciliate antennae and this fact, along with the uniform male genitalia, allows to assume that, similar to some other Noctuidae genera such as *Euxoa* Hübner, [1821], *Agrotis* Ochsenheimer, 1816, certain species-groups of *Xestia* Hübner, 1818 (Noctuidae), the tribe Episemini Guenée, 1852, etc., the pre-copulatory isolation mechanisms (species-specific pheromones) in *Cteipolia* are stronger than the genitalia “lock-and-key” barrier (Mikkola 2008).

Diagnosis. The genus is described in details by Ronkay *et al.* (1995). Species of the genus are relatively small and characteristically looking moths with forewing having almost parallel margins, which is markedly narrower than in similarly small *Dasypolia* species. The male genitalia of *Cteipolia* are characterised by the following characters. (1) The distal section of the valva is narrow (narrower than in *Dasypolia*). (2) The editum is short and narrow and bearing only a proximal setose tubercle-like ampulla whereas in *Dasypolia* it is extended distally and bears a digitus-like distal ampulla protruding beyond the ventral margin of the valva. (3) The phallus has ribbon-like carinae protruding into the basal section of the vesica, which are invaginated in the phallus tube in the resting condition, whereas the phallus of *Dasypolia* bears a heavily sclerotised and dentate carinal plate. (4) The vesica is simple, tubular and membranous whereas in *Dasypolia*, it has one or two diverticula and may also bear clusters of minute graniculi. Compared to *Dasypolia s. str.*, the female genitalia of *Cteipolia* have an elongate, telescopic ovipositor with long apophyses posteriores (vs. short and conical ovipositor in *Dasypolia s. str.*), a membranous ductus bursae with a well-developed antrum (whereas in *Dasypolia s. str.* most of the ductus bursae is sclerotised and dorso-ventrally flattened), and a corpus bursae bearing one or two signa, which are absent in *Dasypolia s. str.*

Distribution. The genus is distributed from eastern Turkey and Armenia in the west, through Central Asia and southern Ural Mountains to South Siberia (Transbaikalia) and Pakistani Himalaya in the east and south, respectively (Ronkay *et al.* 1995, 2014; Gordeeva *et al.* 2023).

Bionomics. Adults of both sexes fly in October; females overwinter and are active in March–April. A male of an unidentified *Cteipolia* species was observed on 8 March 2021 flying in the day time during a thaw in the Russian part of the Altai Mountains (Titov *et al.* 2024). Although Gordeeva *et al.* (2023) stated that ‘all representatives of the genus are mountain species’, at least two of them, viz. *C. isotima* Püngeler, 1914 and *C. murina* (Ménétriés, 1848) are found to occur in flat landscapes with sandy soils in the Balkhash-Alakol Basin in Southeast Kazakhstan and Irgiz River valley in West Kazakhstan, respectively (Titov *et al.* 2024). Nevertheless, the majority of species are found in rocky steppe habitats in hilly or mountain landscapes at the altitudes ranging from 480–2400m a. s. l. The early

stages are unknown except for *C. amissa* Gordeev, Gordeeva, G. Ronkay & L. Ronkay, 2023, the eggs, larvae and pupa of which are illustrated by Gordeeva *et al.* (2023). In the laboratory conditions, the authors fed the larvae on the leaves of the genus *Salix* (S. Gordeev, pers. comm., also see: Gordeeva *et al.* (2023): plate 37, figs 4–7) but the food plant in nature remains unknown and may be different. However, in the majority of places of *Cteipolia* occurrence, if not all, willow thickets have been observed by the authors of the present paper. The larva of *C. amissa* is free-living (see: Gordeeva *et al.* (2023): plate 37, figs 4–7), what was the reason for raising the status of *Cteipolia* to genus level and transferring it into from the subtribe Antitypina into Xylenina (in contrast, larvae of *Dasypolia* are endophagous and tunnel the stems or rhizomes of their host plants).

Species content of *Cteipolia*

The *C. tertia* species-group

- *C. tertia* (L. Ronkay & Nekrasov, 1995) (Tajikistan: Pamir Mts)
- *C. aloyani* Saldaitis, Dûda, Volynkin & Benedek, **sp. n.** (SW Armenia)

The *C. murina* species-group

- *C. belyalovi* Volynkin, Titov, Saldaitis & Benedek, **sp. n.** (SE Kazakhstan: Altyn-Emel Range)
- *C. murina* (Ménétriés, 1848) (Kazakhstan and Russia: southern Ural and Kazakh Upland)
- *C. isotima* Püngeler, 1914 (SE and E Kazakhstan: Dzhungar Alatau and Saur-Tarbagatai Ranges, and south-eastern Balkhash Basin)
- *C. amissa* Gordeev, Gordeeva, G. Ronkay & L. Ronkay, 2023 (Russia: Transbaikalia, Ulan-Burgasy Mts)
- *C. vera* (L. Ronkay & Száboky, 1995) (eastern Turkey)
- *C. arminjohanni* (Gyulai, G. Ronkay & L. Ronkay, 2014) (Tajikistan: Hissar Range)

The *C. mimetica* / *sacelli* species-group

- *C. sacelli* Staudinger, 1896 (Kyrgyzstan: Issyk-Kul and Naryn Depressions, and China: Xinjiang, Aksu)
- *C. mimetica* (L. Ronkay, 1995) (Kazakhstan, Northern Tien Shan Mts: Transili Alatau and Kulyktau Ranges)
- *C. gansoni* (L. Ronkay & Nekrasov, 1995) (Tajikistan: Pamir Mts)
- *C. bolyhoska* (Gyulai, G. Ronkay & L. Ronkay, 2014) (Pakistan: Kashmir, Himalaya Mts)

The *C. tertia* species-group

Diagnosis. The species-group is characterised by the narrow, finger-shaped uncus, and the apically tapered harpe in males, and the short and bowl-shaped antrum in females.

Cteipolia aloyani Saldaitis, Dûda, Volynkin & Benedek, **sp. n.**

<https://zoobank.org/urn:lsid:zoobank.org:act:43E227C0-6E82-4808-BE7F-5997670B5013>

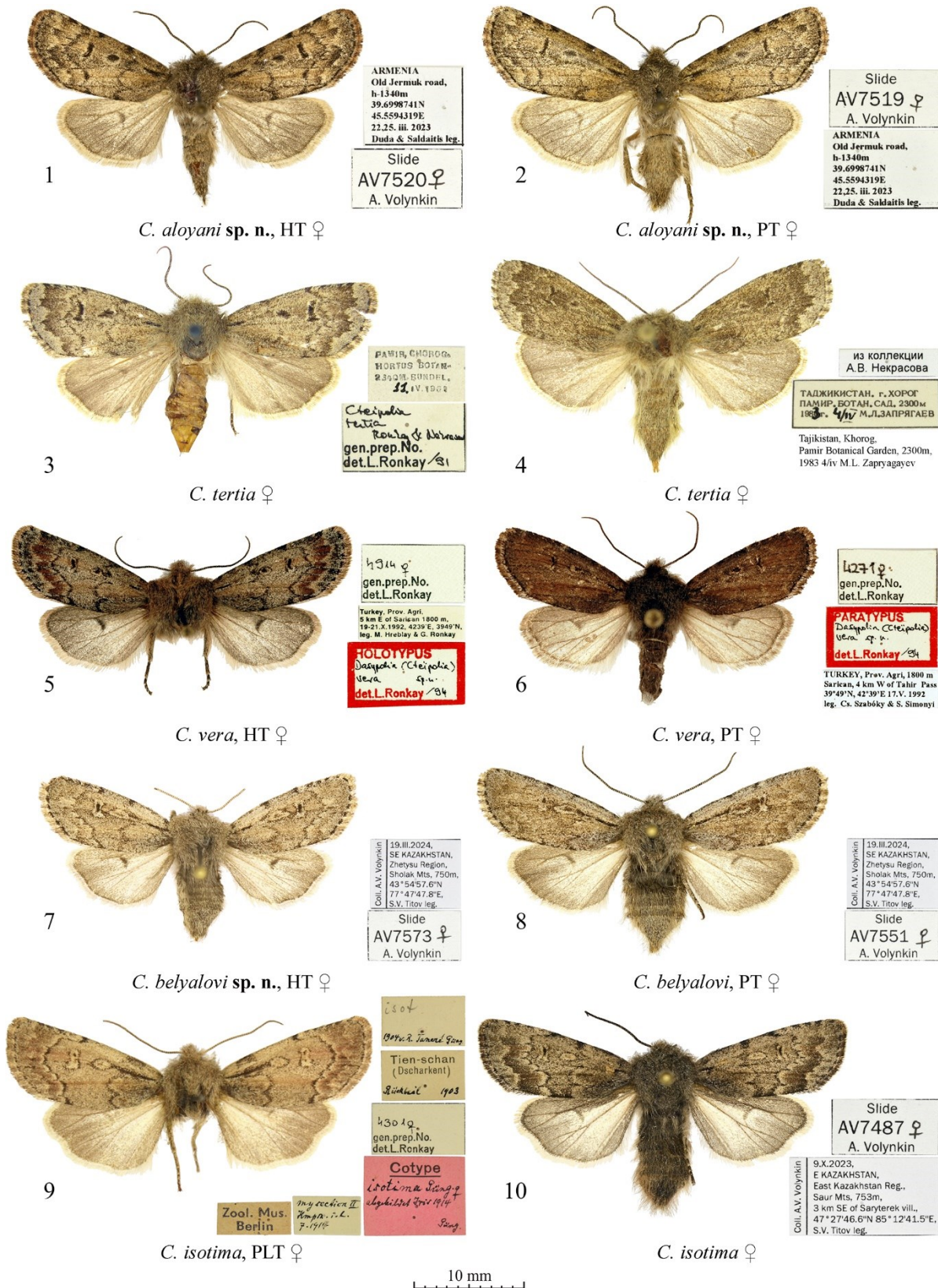
(Figs 1, 2, 17)

Type material. Holotype (Figs 1, 17): female, “Armenia | Old Jermuk road, | h-1340m, 39.6998741N | 45.5594319E | 22,25.iii.2023 | Duda & Saldaitis leg.” / “Slide | AV7520♀ | A. Volynkin” (WIGJ).

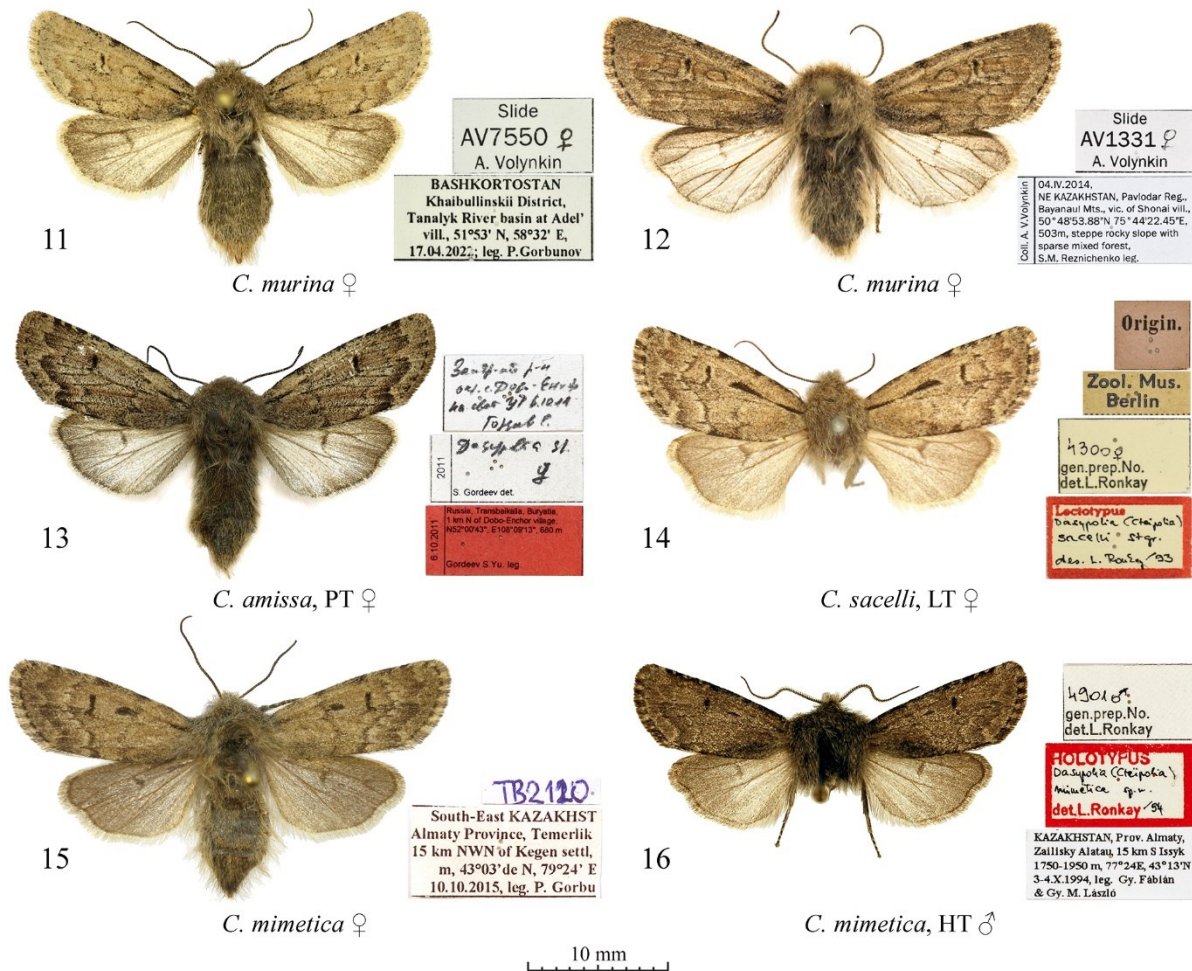
Paratypes: 6 females, same data as holotype, gen. prep. No.: AV7519♀ (ASV and WIGJ).

Diagnosis. The forewing length is 14.0–14.5 mm in females. *Cteipolia aloyani* **sp. n.** (Figs 1, 2) is most morphologically similar to *C. tertia* (Figs 3, 4) described from Tajikistan and superficially differs from it in the more brownish forewing ground colour, and the more outbent postmedial line of the forewing. Compared to the geographically closest known congener, the Turkish *C. vera* (Figs 5, 6), the new species has broader forewing with brown ground colour (it is reddish brown in *C. vera*), more diffuse transverse lines of the forewing, a longer and thicker reniform stigma with a thinner pale edge, and a thinner and more diffuse discal spot of the hindwing. In the female genitalia, *C. aloyani* **sp. n.** (Fig. 17) is distinguished from *C. tertia* (Fig. 18) by the shorter ovipositor, the longer apophyses anteriores, the posteriorly broader antrum with a V-shaped ventral margin (it is rounded in the congener), the shorter ductus bursae, and the narrower signum bursae. Compared to *C. vera* (illustrated by Ronkay

et al. (1995) and Gordeeva *et al.* (2023)), the female genitalia of *C. aloyani* sp. n. have a somewhat longer ovipositor, considerably longer apophyses anteriores, a markedly shorter, bowl-shaped antrum (it is elongate and with parallel margins in the congener), a longer ductus bursae, and a single and small signum bursae whereas the corpus bursae of *C. vera* bears two long and thick signa.



Figures 1–10. Adults of *Cteipolia* spp. Depositories of the specimens: 1 and 7 in WIGJ (7: ex CAV); 2 in ASV; 3 and 4 in ZISP; 5 and 6 in HHNM (photos by G. & L. Ronkay); 8 and 10 in CAV; 9 in MfN.



Figures 11–16. Adults of *Cteipolia* spp. Depositories of the specimens: 11 and 12 in CAV; 13 in IGEB (photo by T. Gordeeva); 14 in MfN; 15 in BBC; 16 in HNHM (photo by G. & L. Ronkay).

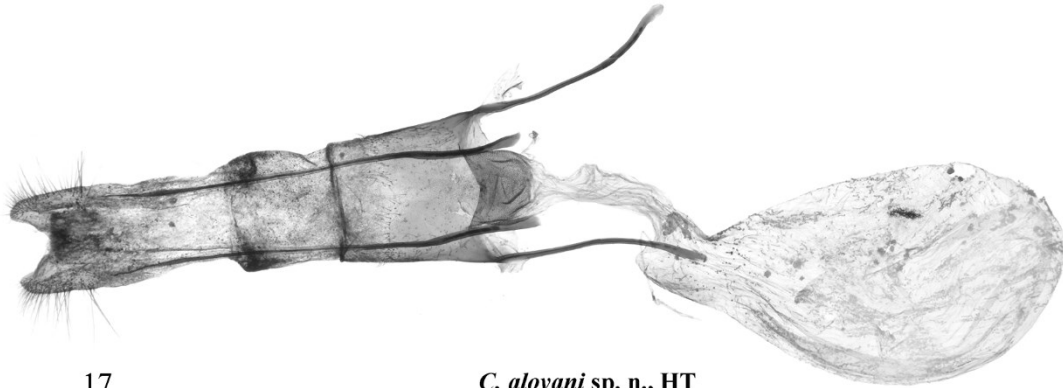
The male is unknown.

Distribution. The new species is currently known only from its type locality in south-western Armenia.

Bionomics. Female adults were attracted to artificial light in the evening twilight, which corresponds to the behavior of another species in the genus, *C. isotima* observed earlier (Titov *et al.* 2024). The collection site is situated on southern slopes of the Vardenis Range in the Arpa River Canyon in its middle flow (Fig. 29). It is characterised by rich flora and very mosaic vegetation. Ecosystems of the canyon were classified according to EUNIS habitats' classification (Davies *et al.* 2004) adapted to Armenia by Fayvush & Aleksanyan (2016). Along the banks of Arpa river Mesotrophic, the vegetation of slow-flowing rivers (C2.33) with *Potamogeton* spp., *Myriophyllum spicatum* L., etc. is presented. The main vegetation type in the bottom of the gorge is Armenian willow galleries (G1.1143) with dominance of *Salix* spp. such as *Salix alba* L. and *Salix excelsa* S.G. Gmel. Besides willows, *Populus nigra* L. and *Populus alba* L., are present in the tree stand. Small plots of *Salix* spp. and *Tamarix* thickets (F9.141 and F9.3142, respectively) with *Salix caprea* L., *S. purpurea* L., *S. viminalis* L., *S. wilhelmsiana* M. Bieb., as well as *Tamarix ramosissima* Ledeb. are present in the gorge. Slopes of the gorge are covered with mosaic of the following types of vegetation. (a) Mixed open forests with *Juniperus* spp. and deciduous trees and shrubs (G4.92). Besides the dominating *Juniperus polycarpa* K. Koch, the species characteristic of shibliak and arid open forests are present, namely *Amygdalus fenzliana* (Fritsch) Lipsky, *Paliurus spina-cxhristi* Mill., *Prunus divaricate* (Ledeb.) C.K. Schneid., and *Rhamnus pallasii* Fisch. & C.A. Mey., as well as single individuals of *Celtis caucasica* Willd., *Fraxinus excelsior* L., etc. (b) Traganth communities with dominance of *Astragalus microcephalus* Willd. (F7.41211). Besides

Astragalus itself, *Onosma sericea* Willd., *Poa bulbosa* L., *Stachys inflata* Benth., etc. are common in this habitat, penetrating also into the plots of mixed forest.

Etymology. The new species is named after Mr Artak Aloyan (Jeghegnadzor, Armenia), patriot of his country and sincere friend of second and thirds coauthors.



17

C. aloyani sp. n., HT
Armenia, Old Jermuk Rd., slide AV7520



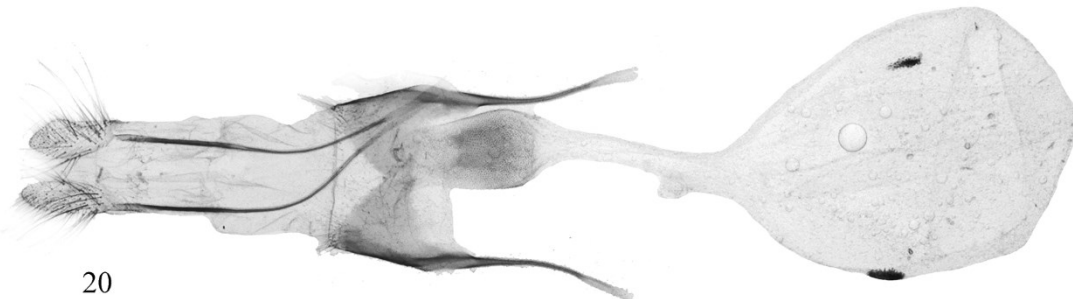
18

C. tertia
Tajikistan, Pamir Mts, slide Matov 0716



19

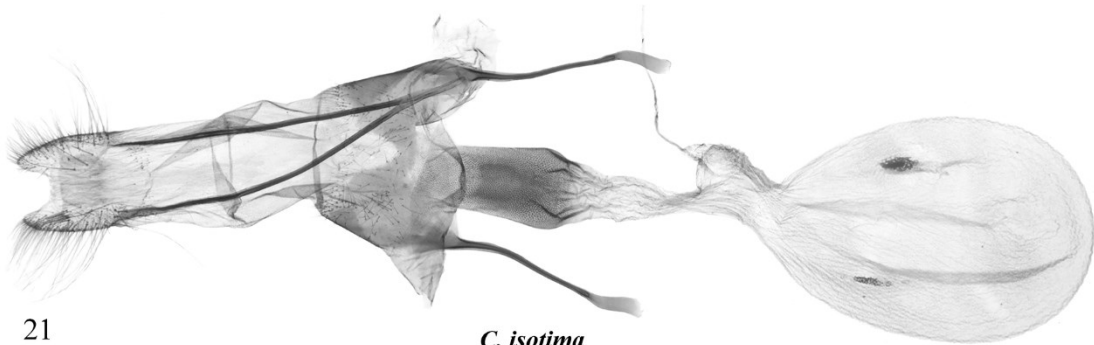
C. belyalovi sp. n., HT
SE Kazakhstan, Sholak Mts, slide AV7573



20

C. isotima, PLT
SE Kazakhstan, Dzharkent, slide RL4301

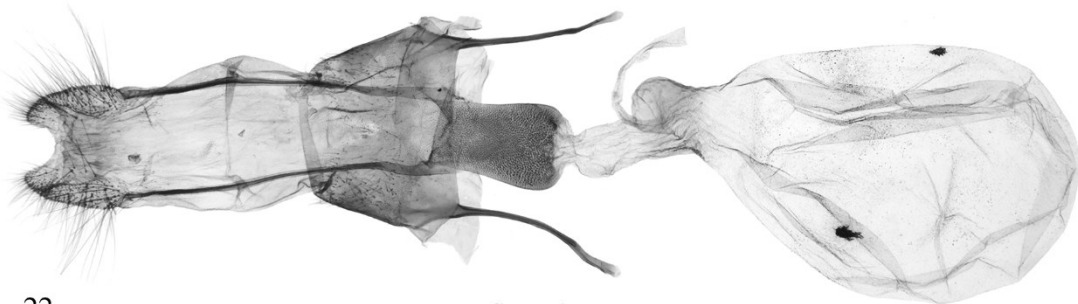
Figures 17–20. Female genitalia of *Cteipolia* spp. Depositories of the specimens dissected: 17 and 19 in WIGJ (19: ex CAV); 18 in ZISP; 20 in MfN.



21

C. isotima

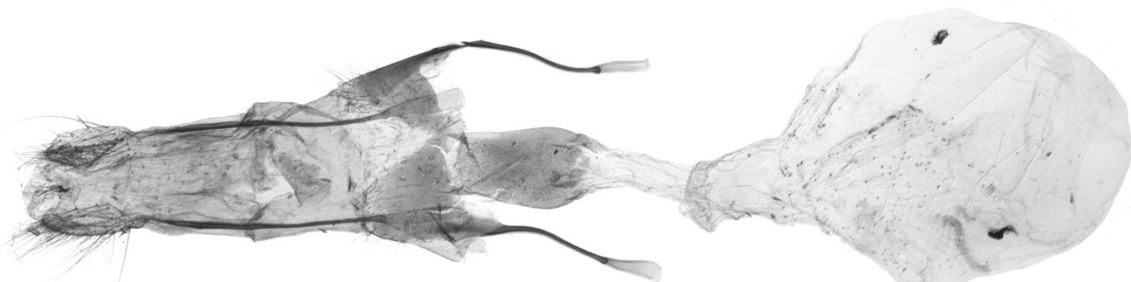
E Kazakhstan, Saur Mts, slide AV7487



22

C. murina

Russia, Republic of Bashkortostan, slide AV7550



23

C. murina

NE Kazakhstan, Bayanaul Mts, slide AV1331



24

C. amissa, PT

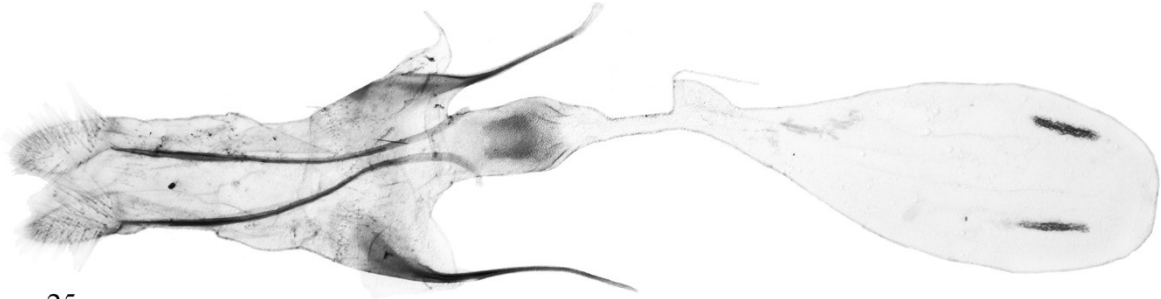
Russia, Transbaikalia, Republic of Butyatia

Figures 21–24. Female genitalia of *Cteipolia* spp. Depositories of the specimens dissected: 21–23 in CAV; 24 in IGEB (photo by T. Gordeeva).

The *C. murina* species-group

Note. As *C. sacelli* is herein transferred to the *C. mimetica* species-group, this group is re-named in accordance with the oldest species name in it.

Diagnosis. Adults of the species-group are distinguished from the *C. tertia* species-group by the pale, eyespot-like orbicular and reniform stigmata having a thin dark core and a broad pale edge, whereas in the *tertia* species-group, the dark cores are markedly longer and thicker while the pale edge is thin. The male genitalia ground plans of the two species-groups are alike but in the female genitalia of the *C. murina* species-group, the antrum is elongate and rather champagne glass-shaped whereas it is short and bowl-shaped in the *C. tertia* species-group.



25

C. sacelli, LT

Kyrgyzstan, Issyk Kul, slide RL4300



26

C. mimetica

SE Kazakhstan, Almaty Reg., slide TB 2120



27

C. mimetica

SE Kazakhstan, vic. of Almaty City, slide AV7552



28

C. mimetica

SE Kazakhstan, Transili Alatau Range, slide AV1611

Figures 25–28. Female (25, 26) and male (27, 28) genitalia of *Cteipolia* spp. Depositories of the specimens dissected: 25 in MfN; 26 in BBC; 27 in ZISP; 28 in CAV.



Figure 29. Collecting site of *C. aloyani* sp. n.: Armenia, Old Jermuk road, 1340m, 39.6998741° 45.5594319°, 22.III.2023 (photo by A. Kazakevich).

Cteipolia belyalovi Volynkin, Titov, Saldaitis & Benedek, sp. n.

<https://zoobank.org/urn:lsid:zoobank.org:act:88EEB2A7-DF77-4FE8-918C-5791EC17BF08>

(Figs 7, 8, 19)

Type material. Holotype (Figs 7, 19): female, “19.III.2024, | SE Kazakhstan, | Zhetysu Region, | Sholak Mts, 750m, | 43°54'57.6"N | 77°47'47.8"E, | S.V. Titov leg.” / “Slide | AV7573 ♀ | A. Volynkin” (WIGJ, ex CAV).

Paratypes: 2 females, same data as holotype, gen. prep. No.: AV7551 ♀ (CAV).

Diagnosis. The forewing length is 13.0–14.0 mm in females. *Cteipolia belyalovi* sp. n. (Figs 7, 8) is reminiscent of *C. murina* (Figs 11, 12), *C. isotima* (Fig 9, 10) and *C. amissa* (Fig. 13) but can be distinguished by its somewhat narrower forewing with a more elongate apex, the paler, ochreous brown forewing ground colour with intense irroration of brown scales, and the more distinct hindwing discal spot. The female genitalia of the new species (Fig. 19) differ clearly from the similar congeners (Figs 20–24) in the presence of a single signum bursae (vs. two signa in *C. murina*, *C. isotima* and *C. amissa*). Additionally, compared to *C. murina* and *C. isotima*, the new species has a slightly broader posterior end of the antrum.

The male is unknown.

Distribution and bionomics. The new species is currently known only from its type locality in Southeast Kazakhstan. The collecting site is situated in the Sholak Mountains, which are dry, old, decaying, low massif at the western extremity of the Altyn-Emel Range belonging to the Dzhungar Alatau mountain range (Fig. 30). The mountains have dry stony steppe slopes dominated by *Artemisia* L. spp. and with scarce low shrubs of *Spiraea hypericifolia* L., *Rosa platyacantha* Schrenk, *R. alberti* Regel, *Lonicera microphylla* Roem. & Schult., *Caragana balchaschensis* (Kom.) Pojark., *Cerasus tianshanica* Pojark., *Salix songarica* Andersson, *S. tenuijulis* Ledeb., and *S. wilhelmsiana* M. Bieb. (Goloskokov 1984).

Etymology. The new species is dedicated to the memory of the late Oleg V. Belyalov (Almaty, Kazakhstan), close friend of Sergey Titov, excellent wildlife photographer, documentary filmmaker and cameraman, botanist and zoologist, and populariser of the knowledge of the wildlife of Kazakhstan.



Figure 30. Collecting site of *C. belyalovi* sp. n.: SE Kazakhstan, Zhetysay Region, Sholak Mts, 750m, 43°54'57.6"N 77°47'47.8"E, 20.III.2024 (photo by S. Titov).

Cteipolia isotima Püngeler, 1914
(Figs 9, 10)

Cteipolia isotima Püngeler, 1914, *Deutsche entomologische Zeitschrift Iris*, 28: 41, pl. 2, fig. 11 (Type locality: [SE Kazakhstan, foothills of Dzhungar Alatau Range] “Tien-shan, Dscharkent”).

Type material examined. Lectotype (designated by Ronkay *et al.* (1995) as ‘Holotype’): male, “Tien-schan | (Dscharkent) | Rückbeil 1903” / pink label “Type | isotima Püng. ♂” / “Zool. Mus. | Berlin” / “Préparation | № M.B. 296 | Ch. Boursin” (MfN); **paralectotype** (designated by Ronkay *et al.* (1995) as ‘Paratype’): female (Figs 9, 20), “Tien-schan | (Dscharkent) | Rückbeil 1903” / pink label “Cotype | isotima Püng. ♀ | abgebildet Iris 1914 / Püng.” / “isot / 1904 v. R. Tancre Püng.” / “my section II | Hmpsn. i. l. | 7-1914” / “Zool. Mus. | Berlin” / “4301 ♀ | gen.prep.No. | det.L.Ronkay” (MfN).

Additional material examined: 1 male, 4.X.2015, SE Kazakhstan, Almaty [currently Zhetysay] Region, Dzhungar Alatau, Cherkasay Valley, 1580m, 44°46'33"N 78°55'59"E, S.V. Titov & M. Černila leg. (CAV); 2 males, 05.X.2023, E Kazakhstan, Monrak Ridge, N slope, 24 km W of Karabulak vill., N47°33'54.0" E84°21'18.4", 735m, gorge with scree slopes, S.V. Titov leg. (CAV); 5 males, 2 females, 9.X.2023, E Kazakhstan, East Kazakhstan Reg., Saur Mts, 753m, 3 km SE of Saryterek vill., 47°27'46.6"N 85°12'41.5"E, S.V. Titov leg. (CAV); 1 male, East Kazakhstan, Saur Mts, 20 km S of Zaisan town, Bol'shoi Zhemenei River, 1600m, 47°17'N 84°54'E, 5.X.2018, P. Gorbunov leg. (PGC); 1 female, same data as previous but S. Melyakh leg. (SMC); 2 males, East Kazakhstan, Manrak Mts, 20 km SW of Tugyl settl., Kusty River bank, 900m, 47°34'N 84°04'E, 6.X.2018, P. Gorbunov leg. (BBC); 5 males, East Kazakhstan, Tarbagatai Mt. Range, Bazar River bank, 32 km S of Kyzkykesik, 1000m, 47°35'N 82°04'E, 7.X.2018, P. Gorbunov leg. (BBC, SMC).

Remarks. (1) In the original description of the species, Püngeler (1914) cited a pair of specimens therefore Titov *et al.* (2024) treated the type specimens as syntypes. However, Püngeler labelled the male specimen as “Type” and the female as “Cotype”, and Ronkay *et al.* (1995) considered those specimens as holotype and paratype, respectively, and, following the ICZN (1999) Article 74.5, this act constitutes a valid lectotype and paralectotype designation. (2) Gordeeva *et al.* (2023) defined the type locality of *C. isotima* Püngeler, 1914, “Dscharkent” as situated in Kyrgyzstan (spelled by the authors as “Kirghisia”) while Zharkent is in fact a well-known city in the southern foothills of the Dzhungar Alatau Range in Southeast Kazakhstan.

Distribution. Currently known from Southeast and East Kazakhstan and found in the Dzhungar Alatau and Saur-Tarbagatai mountain ranges, and south-eastern Balkhash-Alakol Basin (Püngeler 1914; Titov *et al.* 2024).

The *C. mimetica* / *sacelli* species-group

Diagnosis. Members of the species-group are superficially reminiscent of the *C. tertia* species-group with their large and dark orbicular and reniform stigmata having thin and sometimes indistinct pale edges, but the male genital capsule differs clearly from two other species-groups in the genus by the broad, swollen uncus having lateral triangular appendages and bearing a cluster of setae, and the apically dilated harpe. In contrast to the male genitalia, the female genitalia of the *C. mimetica* / *sacelli* species-group display no fundamental differences from the *C. murina* species-group and are characterised only by the presence of a pair of elongate signa bursae. However, the similarly elongate signa are found in *C. vera* belonging to the *C. murina* species-group but in this species they are more asymmetrical than in all members of the *C. mimetica* / *sacelli* species-group, females of which are known.

Notes. In their primary revision of the genus, Ronkay *et al.* (1995) illustrated only two female adults of *C. sacelli* and a drawing of the male genitalia, which is very similar to *C. isotima* and *C. murina* and therefore the conspecificity of this specimen to the female lectotype of *C. sacelli* is doubtful. This assumption is supported by the fact that subsequently, Gordeeva *et al.* (2023) illustrated a male adult, which is similar to the female lectotype of *C. sacelli*, but no photos of the male genitalia of the specimen were provided by the authors, which probably means that the male specimen illustrated remains undissected. The habitus of the lectotype of *C. sacelli*, as well as its female genitalia, are very similar to those of the members of the *C. mimetica* species-group, which have previously been known only from males, therefore *C. sacelli* is placed herein in this group. However, clarification of the relationships of this species requires the examination of the genitalia of the reliably identified male specimen.

Cteipolia mimetica (L. Ronkay, 1995)
(Figs 15, 16, 26–28)

Type material examined. Photographs of the **holotype** (Fig. 16): “Kazakhstan, Prov. Almaty, | Zailiisky [Transili] Alatau, 15 km S Issyk | 1750–1950 m, 77°42'[]E, 43°13'N, | 3–4.X.1994, leg. Gy. Fábíán | & Gy. M. László” / red framed label “Holotypus [in red] | Dasypolia (Cteipolia) [handwritten] | mimetica sp. n. [handwritten] | det.L.Ronkay [in red] / 94 [handwritten]” / “4901♂ | gen.prep.No. | det.L.Ronkay” (HNHM).

Additional material examined. KAZAKHSTAN: 1 male, vic. of Vernyi [modern Almaty], Semirechye Reg., Kvochkin [leg.] [in Russian] / 24.X.1907, gen. prep. No.: AV7552♂ (ZISP); 1 male, 4.X.2015, Almaty Region, Transili Alatau Mts, Big Almaty Lake, 43°03'N 76°58'E, 2523m, S.V. Titov & M. Černila leg., gen. prep. No.: AV1611 (CAV); 5 males, Almaty Reg., Transili Alatau Mts, 15 km S Issyk, Issyk Lake, 1710m, 30.IX., 6 and 8.X.2002, B. Benedek & T. Csövári leg. (BBC); 1 female, Almaty Region, Temerlik [Mts], 15 km NWN of Kegen settl., 43°03'N 79°24'E, [2600m], 10.X.2015, P. Gorbunov leg., gen. prep. No.: TB2120 (BBC).

Note. The species was described from four males from Southeast Kazakhstan and a single male from Kyrgyzstan (Ronkay *et al.* 1995). The female of the species is illustrated and diagnosed for the first time in the present paper.



Figure 31. Collecting site of *C. mimetica*: SE Kazakhstan, Transili Alatau Range, vicinities of Big Almaty Lake, 43°03'N 76°58'E, 2523m, 5.X.2015 (photo by S. Titov).



Figure 32. Collecting site of *C. mimetica*: SE Kazakhstan, Temerlik Mts, 3 km S of Tuyuk settl., 2600m, 43°03'N 79°24'E, 29.IX.2016 (photo by P. Gorbunov).

Diagnosis of female. The forewing length is 11.0–13.0 mm in males and 14.0 mm in the female. *Cteipolia mimetica* (Fig. 15) is externally reminiscent of *C. sacelli* (Fig. 14) but has a narrower forewing with markedly shorter subbasal dash and an elliptical circular stigma, which is long dash-shaped in the congener. Additionally, the hindwing of *C. mimetica* is darker than in the congener. Compared to

C. sacelli (Fig. 25), the female genitalia of *C. mimetica* (Fig. 26) have longer apophyses anteriores, broader antrum with a broader sclerotised plate, and a somewhat shorter but broader corpus bursae.

Distribution and bionomics. The species is known from northern and central parts of the Tien Shan Mts (Southeast Kazakhstan and Kyrgyzstan) (Ronkay *et al.* 1995). In the vicinities of the Big Almaty Lake in the Transili Alatau Range, *C. mimetica* was collected at an altitude of ca. 2500m in the subalpine zone with scarce trees of *Picea schrenkiana tianschanica* (Rupr.) Bykov, thickets of bushes of *Juniperus* L., *Salix* L., *Lonicera* L., *Cotoneaster* Medik., etc., and subalpine meadow patches (Fig. 31). In the Temerlik Mts (SE Kazakhstan), the species was collected at an altitude of ca. 2600m in the subalpine zone with a mosaic of *Picea schrenkiana tianschanica* sparse forest, subalpine meadows, and thickets of shrubs of the genera *Rosa* L., *Spiraea* L., and *Lonicera* L. (Fig. 32).

Acknowledgements

The authors are deeply grateful to Dr. George Fayvush (A.L. Takhtajan Institute of Botany NAS RA, Yerevan, Armenia) for the invaluable advices and consultations concerning habitats characterisation of the type locality of *C. aloyani* sp. n.; Anna A. Ivashchenko (Institute of Zoology, Almaty, Kazakhstan) for the data on the flora of the Sholak Mountains; László and Gabor Ronkay (Budapest, Hungary) for pictures of the types of *C. vera* and *C. mimetica*; and Sergey Gordeev and Tatyana Gordeeva (IGEB, Ulan-Ude, Russia) for valuable discussion and pictures of the *Cteipolia amissa* paratype. Sergey Melyakh (Yekaterinburg, Russia) is acknowledged for data from their research collections provided.

Anton Volynkin sincerely thanks Wolfram Mey (MfN, Berlin, Germany) for his kind assistance during the work at MfN collection. Juozas Dûda and Aidas Saldaitis express their sincere thanks to Gayane Karagyan and Tigran Ghrejjan (Scientific Center of Zoology and Hydroecology NAS RA) for their multiple help in organizing the entomological expedition in Armenia. Juozas Dûda and Aidas Saldaitis' special thanks go to Alena Kazakevich (Lida, Belarus) and Elena Kazrytskaya (Darginiai, Lithuania) for their help in preparing the manuscript. Sergey Titov acknowledges Andrey M. Shapovalov (Institute of Zoology, Almaty, Kazakhstan) for organising the collecting trip in the Sholak Mountains; the Bayanaul State National Nature Park (Kazakhstan) (director Suyindik B. Akhmetzhanov, deputy director for science Yergalym U. Kayerdenov, senior researcher Dinara N. Kunshuakova, Sergey M. Reznichenko (former research fellow), the late Venera T. Tuleubekova (former research fellow), and the late Kuantay K. Abukenov (former head of the Department of Science, Ecological Education and Tourism)) for kind assistance in organising the research in the Bayanaul Mountains; Timur N. Smagulov, director of Institute of Archaeological Research, Margulan University (Pavlodar, Kazakhstan), for organising the collecting trip in the Saur and Monrak Mountains; Alexander Belousov and Yulia Belousova (Taldykorgan, Kazakhstan) for their kind hospitality and assistance in organising the collecting trips in the south-eastern Balkhash Basin and Dzhungar Alatau Mountains. Sergey Titov is also deeply grateful to the tragic deceased Sergey Ruzanov, director of the Cherkasai Tourist Center, for his warm welcome and kind assistance in organising the research in the Dzhungar Alatau Mountains.

The study of Sergey Titov was funded by Science Committee of the Ministry of Education and Science of the Republic of Kazakhstan (Program No. BR21882199, "Inventory of wild animals of arid territories of the Balkhash-Alakol basin with an assessment of threats to their conservation and sustainable use."). The study of Alexey Matov was performed in the frames of the research project №122031100272-3 "Systematics, morphology, ecophysiology and evolution of insects", and the research was completed using equipment of the Core Facilities Centre "Taxon" at the Zoological Institute of the Russian Academy of Sciences. The study of Pavel Gorbunov was partly financed by the project FUUWU-2022-0007 "Interaction of natural and anthropogenic factors in the formation of biological diversity of the Ural flora and fauna" of the Institute of Plant and Animal Ecology of the Ural branch of the RAS. The study of Juozas Dûda, Aidas Saldaitis and Mark Kalashian was carried out in the framework of the Agreement of Scientific cooperation between Lithuanian Nature Research Centre and Scientific Center of Zoology and Hydroecology NAS RA.

Anton Volynkin, Balázs Benedek, and Balázs Tóth, while performing this work, received no specific grant from any funding agencies.

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