SHILAP Revista de Lepidopterología
ISSN: 0300-5267
avives@orange.es
Sociedad Hispano-Luso-Americana de Lepidopterología
España

Nupponen, K.
Scythris transcaucasica Nupponen, sp. n., a new species from Georgia (Lepidoptera: Scythrididae
SHILAP Revista de Lepidopterología, vol. 45, núm. 177, marzo, 2017, pp. 31-35
Sociedad Hispano-Luso-Americana de Lepidopterología
Madrid, España

SHILAP Revta. lepid., 45 (177) marzo 2017: 31-35 eISSN: 2340-4078 ISSN: 0300-5267

Scythris transcaucasica Nupponen, sp. n., a new species from Georgia (Lepidoptera: Scythrididae)

K. Nupponen

Abstract

Scythris transcaucasica Nupponen, sp. n. is described from southern Georgia. Twelve specimens (7 males and 5 females) were collected from the Trans-Caucasus Mountains close to the Turkish border in July 2015. The species is placed in the *terekholensis* species-group. The external appearance of the adult and genitalia of both sexes of the new species are illustrated, and the systematic position of the new taxon is briefly discussed.
KEY WORDS: Lepidoptera, Scythrididae, new species, Trans-Caucasus Mountains, Georgia.

Scythris transcaucasica **Nupponen, sp. n., una nueva especie de Georgia (Lepidoptera: Scythrididae)**

Resumen

Se describe del sur de Georgia *Scythris transcaucasica* Nupponen, sp. n. Doce especímenes (7 machos y 5 hembras) fueron colectados de las montañas del Transcáucaso en la frontera con Turquía en julio de 2015. La especie se sitúa en el grupo de especies *terekholensis*. Se ilustra la apariencia externa del adulto y la genitalia de ambos sexos y brevemente se discute la posición sistemática del nuevo taxón.
PALABRAS CLAVE: Lepidoptera, Scythrididae, nueva especie, montañas del Transcáucaso, Georgia.

Introduction

The *Scythris caramani* and *Scythris terekholensis* species-groups consist of about 20 species altogether, most of which were described during the last twenty years. The species belonging to these groups resemble each other greatly, both externally and by characters in the genitalia, and some of them are difficult to place in a given species-group. Taxonomy of the *caramani* species-group was recently studied (PASSERIN d'ENTRÈVES & ROGGERO, 2012). As a result, fifteen species remained in the *caramani*-group, while three species were transferred to the *terekholensis*-group established by SACHKOV (2002). Later on, one further species of each group has been described (NUPPONEN, 2014). The distribution range of these species-groups extends from Turkey along the Eurasian steppe belt eastwards to Central Asia and South Siberia. However, many of the species are known only from restricted areas, possibly due to the fact that they are seldom detected by chance. There are no records of the groups from large areas with potential habitats, like the Caucasus and Kopet-Dagh Mountains, central part of Kirgiz-steppes and north-western China. The larval hosts of the species are completely unknown. Generally – with a few exceptions – species of the *caramani* species-group inhabit steppes and seem to be associated with low *Artemisia* species, while those of the *terekholensis* species-group occur in sandy habitats and might be associated with *Astragalus* species.

During the Caucasus expedition in July 2015 I discovered a new species of the *Scythris*

terekholensis species-group from the Trans-Caucasus Mountains in Georgia. The new species is described below. Tissue samples (dried legs) of two specimens were shipped to the Canadian Centre for DNA Barcoding in Guelph for DNA sequence (CO1) analysis. The barcodes are preserved in the Barcode of Life Data Systems (BOLD; available from http://v4.boldsystems.org), and were used to calculate genetic distances reported below.

Scythris transcaucasica Nupponen, sp. n.

Type material. Holotype ♂ (Fig. 1): Georgia, Trans-Caucasus Mts., 41º 16' 10" N 43º 18' 45" E, 2020 m a.s.l., Kartsakhi Lake NE, 25-VII-2015, K. Nupponen leg. In coll. T. & K. Nupponen. Paratypes 6 ♂♂ and 5 ♀♀: Idem. Genitalia slides: K. Nupponen prep. no. 1/29-X-2015 ♂, 2/29-X-2015 ♀. DNA samples (Lepid. Phyl., green label): KN00917, KN00918. In coll. T. & K. Nupponen.

Diagnosis: Externally *S. transcaucasica* Nupponen, sp. n. is easily confused with many small, dark scythridids, especially those belonging to the *caramani* and *terekholensis* species-groups (see SACHKOV, 2002; PASSERIN d'ENTRÉVES & ROGGERO, 2012). Examination of the genitalia is required for confident determination. The male genitalia of *S. transcaucasica* resemble those of the South Siberian *S. heikkii* Nupponen, 2007 (NUPPONEN, 2007) and the North African *S. azrouensis* Bengtsson, 1997 (BENGTSSON, 1997), but are readily separated by a peculiar asymmetrical gnathos, shape of the valvae and posterior sclerotization of tergum VIII. The female genitalia of *S. transcaucasica* resemble to some extent those of *S. heikkii* too, but are easily separated from those by the hood-shaped sterigma and posteriorly extended sternum VII.

Molecular diagnosis: Two specimens of *S. transcaucasica* were sequenced successfully, resulting in full-length (658 bp) barcode fragments for both specimens. The barcodes do not exhibit any intraspecific variation in the new taxon. The barcodes of *S. transcaucasica* reveal a distinct divergence between other barcoded taxa, with *S. heikkii* as a closest relative differ by the minimum distance of 5.67 % from the former.

Description (Figs. 1-2): Wingspan 8-9.5 mm. Head, antenna, collar, tegula and thorax dark brown, head with few pale brown scales. Neck tuft pale brown. Haustellum mixed with dark brown and pale fuscous. Labial palp dark brown, more (segment I) or less (segments II–III) mixed with pale fuscous. Legs dark brown, femur and tibia mixed with pale brown and pale fuscous. Hindleg tibia with two pairs and midleg tibia with one pair of spurs. Abdomen dorsally fuscous; ventrally and laterally fuscous mixed (male) or almost covered (female) with whitish fuscous; anal tuft slightly paler than dorsal side of abdomen. Forewing dark brown; narrow black streak in fold from base to cell end, cut by white spots at 0.25 and 0.5; another narrow longitudinal black streak between fold and costa from 0.35 to apex, cut by white spot at 0.7; few pale brown scales apically near margins. Hindwing fuscous.

Male genitalia (Figs. 3-4): Uncus reduced. Gnathos large and asymmetrical; dorsomedially cone-shaped sclerotization (possibly homologous with uncus); distal sclerotization wide and annular. Tegumen sclerotized, hood-shaped. Phallus 0.75 x length of valva, thick and slightly bent at middle, distally tapered. Valvae basally fused, short; costal margin convex, dorsal margin medially extended; apically bent inward, tip more or less pointed. Sternum VIII rectangular, 2.5 times wider than high. Tergum VIII subrectangular, 0.6 times as high as wide; anterior margin widely concave; medioposteriorly with heavily sclerotized and asymmetrical subtriangular extension.

Female genitalia (Figs. 5-6): Sterigma an anteriorly extended hood, attached to large and weakly sclerotized plate. Ostium situated sub-posteriorly at middle, round, posterior margin with semicircular reinforcement. Sternum VII subquadrangular, anterior margin straight; posteriorly extended with large labiate sclerotization, mid-posterior margin shallowly concave. Apophyses posteriores twice longer than apophyses anteriores.

Bionomy: The specimens were swept in sunlight in the forenoon. The habitat is a xerotermic mountain steppe with diversified low vegetation, e.g. *Artemisia* and *Astragalus*. The moths preferred rocky patches with sparse vegetation (Fig. 7). Immature stages are unknown.

Distribution: Georgia (Trans-Caucasus Mts by Kartsakhi Lake). So far the species is only known

from the type locality. Quite probably its distribution range is extended to NE Turkey, as similar habitats exist on the Turkish side of the Trans-Caucasus Mts.

Etymology: The name of the species refers to its geographical origin, the Trans-Caucasus Mountains.

Remarks: *Scythris transcaucasica* Nupponen sp. n. is assigned to the *terkholensis* species-group sensu PASSERIN D'ENTRÈVES & ROGGERO (2012). Its closest known relative is *S. heikkii* Nupponen, 2007, based on both shape of the genitalia of both sexes and the DNA barcodes.

Acknowledgements

I thank Risto Haverinen (Vantaa, Finland) and Urmas Jürivete (Tallinn, Estonia) for help in organizing the expedition to Georgia and company in the field; Pasi Sihvonen (Kirkkonummi, Finland) and Kimmo Silvonen (Espoo, Finland) for their help in processing the photographs; Antonio Vives (Madrid, Spain) for the translation of the summary into Spanish; Faunatica Oy and Ripako Oy for supporting this work.

BIBLIOGRAPHY

BENGTSSON, B. Å., 1997.– Scythrididae.– *In* P. HUEMER, O. KARSHOLT & L. LYNEBORG (eds.). *Microlepidoptera of Europe*, **2**: 1-301.

NUPPONEN, K., 2007.– Notes on the Scythrididae fauna of the Volgo-Ural region and southern Buryatia, with one new synonym and descriptions of six new species (Lepidoptera: Scythrididae).– *SHILAP Revista de lepidopterología*, **35**(138): 231-248.

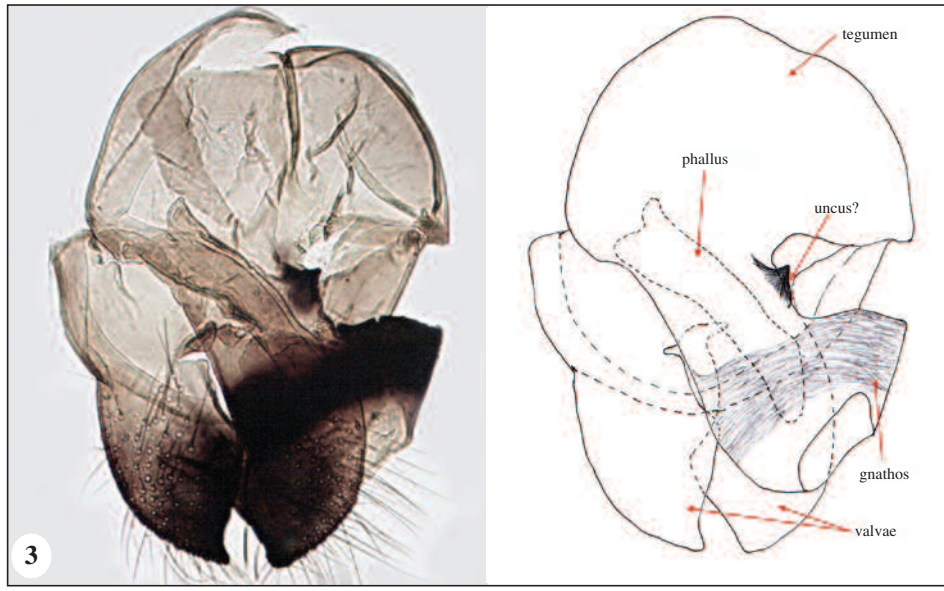
NUPPONEN, K., 2014.– Notes on Scythrididae recorded during 2012 in southern and western Kazakhstan, with descriptions of six new species (Lepidoptera: Scythrididae).– *SHILAP Revista de lepidopterología*, **42**(166): 237-255.

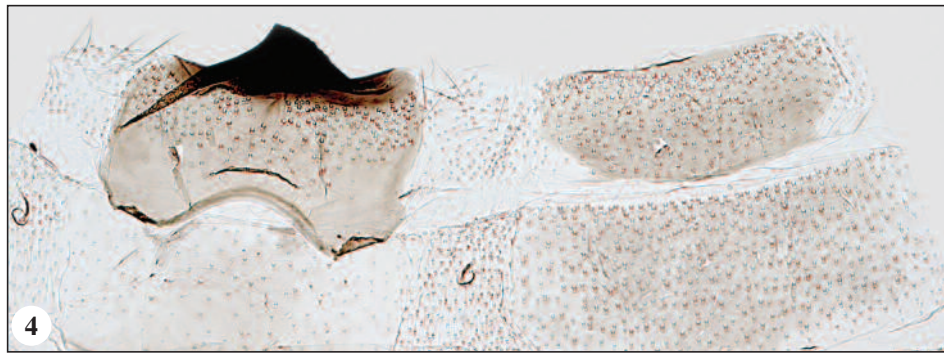
PASSERIN D'ENTRÈVES, P. & ROGGERO, A., 2012.– Taxonomic account of *Scythris caramani* species-group, with the description of a new species from Turkey (Lepidoptera: Gelechioidea, Scythrididae).– *SHILAP Revista de lepidopterología*, **40**(160): 409-418.

SACHKOV, S., 2002.– A new and a little-known species of *Scythris* Hübner, 1825 (Lepidoptera: Scythrididae) from Kazakhstan and the Middle Volga, and three species of *Scythris* newly synonymized.– *Entomologist's Gazette*, **53**: 259-264.

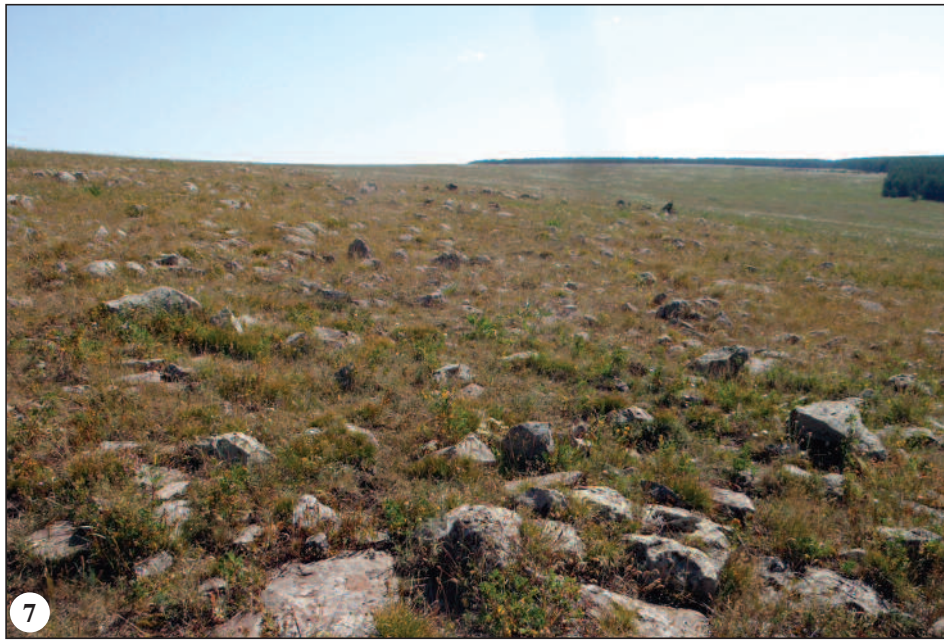
K. N.
Merenneidontie, 19 D
FIN-02320 Espoo
FINLANDIA / *FINLAND*
E-mail: Kari.Nupponen@kolumbus.fi

(Recibido para publicación / *Received for publication* 13-II-2016)
(Revisado y acpetado / *Revised and accepted* 25-IV-2016)
(Publicado / *Published* 30-III-2017)





Figs. 1-4.– 1. Adult (male, holotype) of *Scythris transcaucasica* Nupponen, sp. n. **2.** Adult (female, paratype) of *Scythris transcaucasica* Nupponen, sp. n. **3.** Male genitalia of *Scythris transcaucasica* Nupponen, sp. n. (paratype; GP 1/29-X-2015 KN): photograph (left), schematic drawing (right). **4.** Tergum VIII (left) and sternum VIII (right) of *Scythris transcaucasica* Nupponen, sp. n. (paratype; GP 1/29-X-2015 KN).



Figs. 5-6.– 5. Female genitalia of *Scythris transcaucasica* Nupponen, sp. n. (paratype; GP 2/29-X-2015 KN). **6.** Sterigma of *Scythris transcaucasica* Nupponen, sp. n. (paratype; GP 2/29-X-2015 KN). **7.** Georgia, Trans-Caucasus Mts., rocky steppe slopes by Kartsakhi Lake: habitat of *Scythris transcaucasica* Nupponen, sp. n. (Photo: K. Nupponen).