

Notes on Asian scythridids with description of four new species (Lepidoptera: Scythrididae)

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Abstract. Four new species of the genus *Scythris* are described from Central and East Asia. Some other species are reported from both areas and the genitalia of a few species are published for the first time.

Samenvatting. Gegevens over Aziatische Scythrididae met beschrijving van vier nieuwe soorten (Lepidoptera: Scythrididae)
Vier nieuwe soorten uit het genus *Scythris* worden beschreven van Centraal- en Oost-Azië. Enkele andere soorten worden van deze gebieden vermeld en van enkele soorten worden de genitalia voor het eerst afgebeeld.

Résumé. Notes sur Scythrididae asiatiques avec description de quatre nouvelles espèces (Lepidoptera: Scythrididae)
Quatre nouvelles espèces dans le genre *Scythris* sont décrites d'Asie centrale et orientale. Quelques autres espèces sont reportées des deux territoires et les genitalias de quelques espèces sont publiés pour la première fois.

Zusammenfassung. Bemerkungen über asiatische Scythrididen mit Beschreibung vier neuer Arten (Lepidoptera: Scythrididae)
Vier neue Arten der Gattung *Scythris* aus Zentral- und Ost-Asien werden beschrieben. Einige anderen Arten werden aus den beiden Gebieten gemeldet und die Genitalien einiger Arten werden zum ersten Mal abgebildet.

Key words: *Scythris baikalensis* sp. n. - *Scythris barguzinensis* sp. n. - *Scythris fuscoarella* sp. n. - *Scythris nitidella* sp. n. - Central Asia - East Asia - faunistics - taxonomy.

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The lepidopteran fauna in the Palaearctic area east of the Ural Mountains is in general poorly known. A long time ago the Asian lepidopteran fauna was extensively studied by Felder & Rogenhofer, Erschoff, Möschler, and others. Important explorations of the family Scythrididae were made some decades ago by M.I. Falkovich which resulted in four interesting papers (Falkovich 1969, 1972, 1979 and 1986). Other expeditions to Central Asia made by Finnish lepidopterists in cooperation with entomologists from St. Petersburg have yielded new information recently published by S.Yu. Sinev (1993).

During an expedition to the Baikal area in C Asia one of the authors (JL) obtained scythridid material which proved to contain some interesting species. A few specimens found by J. Jaroš in North Korea were sent to the same author. From that country no scythridid species at all has been reported and two specimens proved to belong to different undescribed species.

The undetermined material was later sent to B.Å. Bengtsson (BÅB) for further studies. Descriptions of the new species together with an account in alphabetic order of the rest of the species are given.

Thanks are due to Mr. J. Jaroš (Czech Academy of Science, Institute of Entomology, České-Budějovice) for letting us examine his scythridid material from North Korea.

Scythris baikalensis sp. n.

Type locality: Russia, Baikal, Listvjanka.

Holotypus: USSR, Baikal, Listvjanka, 3.-5.8.1989, Liška lgt. (white label); Gen.prep.nr 428X ♂, *Scythris baikalensis* Bgts.& Liška, B Å Bengtsson (yellow label); HOLOTYPUS

Scythris baikalensis Bengtsson & Liška ♂ (red label). Genitalia on slide BĀB 428X. - In coll. National Museum, Prague.

Diagnosis: *Scythris baikalensis* sp. n. (Fig. 1) may easily be confused with several other unicoloured scythridids but most other similar species have broader hindwings. For safe determination dissection of the genitalia is needed.

Wing expanse: 11 mm (length of forewing 5 mm).

Head, labial palpi, antennae, tegulae, thorax, legs and forewings uniformly bronzy brown, base of palpi paler than second and third joint, and antennae slightly darker than head. Hindwing fuscous, rather narrow with sharply pointed apex. Ciliae in both wings fuscous.

Male genitalia (Fig. 2): Uncus hood-shaped with pointed posterior extension. Gnathos thorn-like, thin. Valva sickle-shaped, rather slender, in distal half densely setose. Aedeagus long and slender, slightly curved. Vinculum semicircular. Tergum 8 subtrapezoid with shallow caudal incurvation. Sternum 8 subtriangular with concave lateral margins, tip with small flap. Structure of male genitalia indicates *S. baikalensis* sp.n. to belong to the *cicadella* species-group but this cannot be confirmed until the female is found.

Female genitalia: Unknown.

Biology: The holotype specimen appeared in early August on a shelving slope with dominant plant *Thymus* sp. near the Limnologic Museum in Listvjanka.

Distribution: C Asia, Baikal area.

Etymology: The name refers to the area where the holotype was found.

Scythris barguzinensis sp. n.

Type locality: Russia, Baikal, Ust-Barguzin.

Holotypus: USSR, Baikal, Sv. Nos, 40 km NW Ust-Barguzin, 29.VII.-2.VIII.1989, J.Liška lgt. (white label); Gen.prep.nr 430X ♀, *Scythris barguzinensis* Bgts. & Liška, B Ā Bengtsson (yellow label); HOLOTYPUS *Scythris barguzinensis* Bengtsson & Liška ♀ (red label). Genitalia on slide BĀB 430X. - In coll. National Museum, Prague.

Diagnosis: The holotype specimen (Fig. 3) is very worn but may be mixed up with some small dark scythridids with some pale scales in fold. Whole moth slightly glossy.

Wing expanse: 8 mm (length of forewing 3.5 mm).

Head fuscous; **labial palpi** dirty beige on first and second joint, terminal joint fuscous;

Antennae (broken near scape) dark fuscous.

Tegulae and **thorax** fuscous.

Forewing fuscous with several pale scales in fold, at one fifth forming a whitish dash.

Legs fuscous but outer surface of hind tibia paler.

Male genitalia: Unknown.

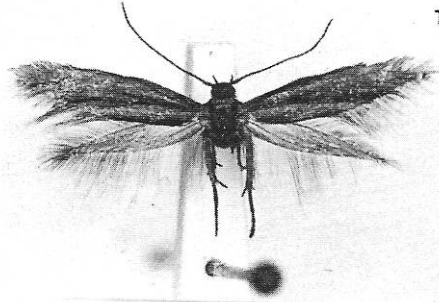
Female genitalia (Fig. 4): Sterigma hood-shaped connected to pair of large oval lateral plates, covering whole segment 8. Sternum 7 subtrapezoid with caudomedial indentation. The structure of genitalia does not show to which group this species belongs.

Biology: The adult moth was taken at the shift of July and August on a sandy place with dominant plant *Empetrum nigrum*.

Distribution: Central Asia, Baikal, Ust-Barguzin.

Etymology: *S. barguzinensis* sp. n. is named after the type locality.

Figs 1-7. - 1. Holotype of *Scythris baikalensis* sp. n. - 2. Male genitalia of *S. baikalensis* sp. n., holotype - 3. Holotype of *Scythris barguzinensis* sp. n. - 4. Female genitalia of *S. barguzinensis* sp. n., holotype - 5. Male genitalia of *Scythris capitalis* (Erschoff, 1874). - 6. Male genitalia of *Scythris cassiterella* (Snellen, 1884). - 7. Tergum 8 (up) and sternum 8 (below) of *S. cassiterella*.



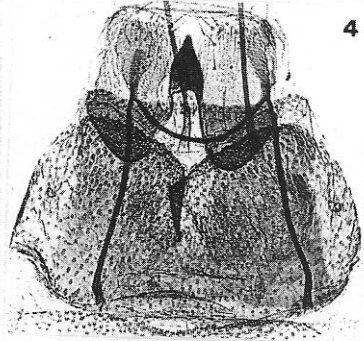
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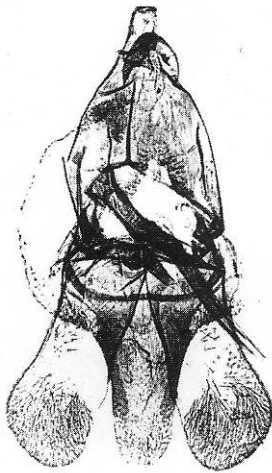
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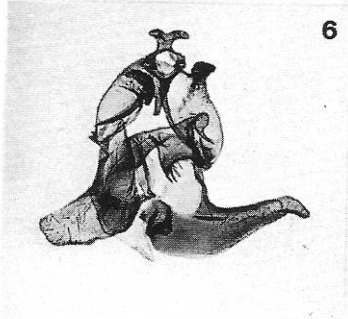
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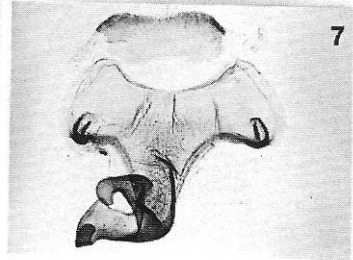
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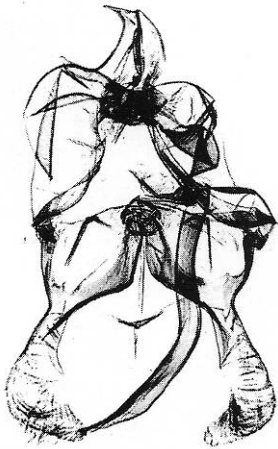
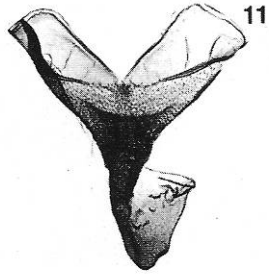
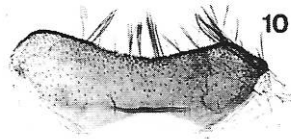
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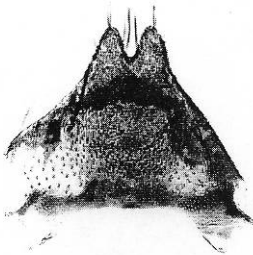
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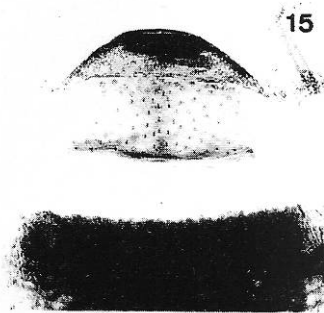
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Scythris bifissella (Hofmann, 1889)

5 ♂♂ and 3 ♀♀ labelled: USSR, Baikal, Sv. Nos, 40 km NW Ust-Barguzin, 29.VII.-2.VIII.1989, J. Liška lgt. The genitalia of two specimens (male and female) were examined (prep. BĀB 433X and 434X) and found to be conspecific with European specimens (cf. illustrations in Bengtsson 1984). Sinev (1993) reported *bifissella* from the Altai area but the Baikal specimens reported here represent the easternmost find so far of this species. *S. bifissella* has been recorded from Austria, Czech Republic, Germany, France, Italy, Rumania and Slovakia.

Scythris capitalis (Erschoff, 1874)

1 ♂ labelled: USSR, Turkmenia m., Ašchabad-Vanovske, 27.V.1987, Z. Mrázek lgt. Male genitalia are not published before and are illustrated in Fig. 5. This species has previously been found in Kirgistan, Tadzjik Republic, Turkey, Turkmen Republic and Uzbekistan.

Scythris cassiterella (Snellen, 1884)

2 ♂♂ and 4 ♀♀ labelled: USSR, Baikal, 700-900 m, Berguzinskij zapovednik, 13 km E Davša, 26.-28.7.1989, J. Liška lgt.

1 ♂: KOREA North, Ryanggang Province, Paektusan Mts., Samjion 1400 m, 25 June 1988; 1 ♂: KOREA North, Ryanggang Province, Paektusan Mts., Mupo 1400 m, 23 June 1988; 1 ♀: KOREA North, Ryanggang Province, Paektusan Mts., Paektusan Mt., 1800 m, 13 July 1987, all J. Jaroš lgt.

The female genitalia of *cassiterella* are pictured by Falkovich (in Medvedev 1981: 477, Fig. 461/4) under the name *pudorinella* Möschler, the female genitalia of which are, however, quite different and resemble those of *S. pascuella* (Zeller, 1852) (published as *gravatella* Zeller by Falkovich (op cit., Fig. 461/1)). *S. cassiterella* has been recorded from Amur, Baikal and Verchojansk area. The male genitalia are here illustrated for the first time (Figs. 6-7).

***Scythris fuscoarella* sp. n.**

Type locality: North Korea, North Pyongan prov., Myohyangsan Mt.

Holotypus: KOREA North, North Pyongan Prov., Myohyangsan Mt. 300 m, Hyangsan, 25 June, 1987, J. Jaroš lgt. (white label); Gen.prep.nr 437X ♂, *Scythris fuscoarella* Bgts. & Liška, B Å Bengtsson (yellow label); HOLOTYPE *Scythris fuscoarella* Bengtsson & Liška ♂ (red label). Genitalia on slide BĀB 437X. - In coll. National Museum, Prague.

Diagnosis: Similar to *Scythris obscurella* (Scopoli, 1763) by its size and strong gloss in forewing (Fig. 8). May easily be distinguished from resembling species by genitalia examination.

Expansion: 15 mm (length of forewing 7 mm).

Head fuscous, frons paler; **labial palpi** fuscous; **antennae** dark fuscous.

Tegulae, thorax and **forewing** deep brownish bronzy, glossy with reddish hue. Hindwing dark fuscous. Cilia in both wings dark fuscous.

Legs dark fuscous, with purple gloss on tibia.

Figs 8-15. - 8. Holotype of *Scythris fuscoarella* sp. n. - 9. Holotype of *Scythris nitidella* sp. n. - 10-11. Tergum 8 (up) and sternum 8 (below) of *S. fuscoarella* sp. n. - 12. Male genitalia of *S. fuscoarella* sp. n. (holotype). - 13. Male genitalia of *S. nitidella* sp. n. (holotype). - 14-15. Sternum 8 (14) and tergum 8 (15) of *S. nitidella* sp. n.

Male genitalia (Figs. 10-12): Uncus hood-shaped, apically pointed. Gnathos continuously attached to uncus, distal arm tapering, at tip hooked; base of gnathos surrounded by two setose flaps (socii). Tegumen with puffed-up 'shoulders'. Valva claviform, at middle narrow, at tip bent inwards. Aedeagus long and slender, tapered, indicated sigmoid. Tergum 8 subtrapezoid, posteriorly and anteriorly shallowly concave. Sternum 8 subtriangular, anteriorly broadly indented, posterior tip with large triangular lobe. Groundplan as in *S. baikalensis* sp. n.; also showing some similarities to *S. podoliensis* Rebel.

Female genitalia: Unknown.

Biology: The type specimen was found in late June in an area of climax maple mixed forest. For further details concerning the type locality cf. Jaroš et al. (1992).

Distribution: Pyongan Prov. in North Korea.

Etymology: The species-name *fuscoarella* is referring to the colouration of the forewing (fuscus = 'dark' and aurum = 'gold' in Latin).

Scythris mikkolai Sinev, 1993

1 ♂ labelled: USSR, Baikal, Listvjanka, 3.-5.8.1989, Liška lgt. In his original description Sinev illustrated the very typical male genitalia and related them to *S. knochella* (Fabricius, 1794). The strange uncus-gnathos-tegumen structure of *mikkolai* is unique for the scythridid family. *S. mikkolai* is distributed from Altai to Primorie area in E Asia.

Scythris nitidella sp. n.

Type locality: North Korea, Ryanggang Prov., Paektusan Mts.

Holotypus: KOREA North, Ryanggang Prov., Paektusan Mts. 1400 m, Mupo, 23 June, 1988, J.Jaroš lgt. (white label); Gen.prep.nr 438X ♂, *Scythris nitidella* Bgts.& Liška, B Å Bengtsson (yellow label); HOLOTYPUS *Scythris nitidella* Bengtsson & Liška ♂ (red label). Genitalia on slide BÅB 438X. - In coll. National Museum, Prague.

Diagnosis: Smaller and darker than *S. fuscoarella* sp. n., with less gloss in forewing (Fig. 9). Similar to many dark, unicoloured scythridids (*S. seliniella* (Zeller, 1839), *S. subseliniella* (Heinemann & Wocke, 1877), etc.) but may easily be distinguished from them and other species by genitalia examination.

Expansion: 12 mm (length of forewing 5.5 mm).

Head, labial palpi and antennae dark fuscous. **Tegulae, thorax, legs and forewings** dark brownish bronzy and glossy. Hindwing dark fuscous. Cilia in both wings dark fuscous.

Male genitalia (Fig. 13-15): Uncus U-shaped, shanks callous in posterior part. Near base of uncus a pair of callous lobes, probably constituting socii. Gnathos hooked, tapered. Valva bent, short, broad and densely setose in proximal part, claviform. Aedeagus straight, tapered. Tergum 8 semicircular, lateroanteriorly membranous or almost transparent. Sternum 8 subtriangular, at tip indented.

Female genitalia: Unknown.

Biology: The holotype specimen was collected in late June in an open montane larch-spruce taiga with dominant tree *Larix olgensis* Henry. For further details cf. also Jaroš et al. (1992).

Distribution: Ryanggang Prov. in North Korea.

Etymology: The species-name *nitidella* is alluding to the gloss of the forewing (nitidus means 'shining' or 'sleek' in Latin).

Scythris obscurella (Scopoli, 1763)

3 ♂♂ and 3 ♀♀ labelled: USSR Baikal, Davša, Bargunzinskij zap., 19.-25.VII.1989, J.

Liška lgt. This species has a wide distribution, ranging from Europe to C Asia. There are several records from C Asia, mainly in the mountaineous areas. Genitalia are published in Bengtsson (1984).

Scythris sinensis (Felder & Rogenhofer, 1875)

1 ♀ labelled: KOREA North, S. Pyongan Prov., Nampo 0-10 m, 3 June 1988, J. Jaroš lgt. This species has a wide distribution ranging from Europe to Asia. Reported from South Korea by Park (1977). Genitalia are published by Bengtsson (1984).

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