Two new genera of Carpenter Moths from the Palaearctic
(Lepidoptera, Cossidae)

by

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received 11.VI.2004

Abstract: Two new genera of Cossidae (Cossinae) of the Palaearctic fauna are described: Kotchevnik gen. nov. (type species Cossus modestus STAUDINGER, 1887) and Vartiania gen. nov. (type species Vartiania zaratustra spec. nov.), and three new species: Kotchevnik durrelli spec. nov. from Armenia, Kotchevnik schablyai spec. nov. from Tadjikistan, Vartiania zaratustra spec. nov. from S. Iran. New combinations are proposed: Kotchevnik modestus (STAUDINGER, 1887) comb. nov. and Kotchevnik tapinus (PÜNGELER, 1898) comb. nov. A key for males of the species of the genus Kotchevnik gen. nov. is suggested; up-to-date knowledge on their distribution is summarized.

List of abbreviations

JLR - Collection of Dr. J. A. W. Lucas (Rotterdam, Netherlands)
MHUB - Natural History Museum at Humboldt University (Berlin)
MWM - Thomas Witt Museum (Munich, Germany)
MNHW - Naturhistorisches Museum (Wien, Austria)
RYB - Collection by ROMAN YAKOVLEV (Barnaul)
ZMKU - Zoological Museum at Kiev State University, Kiev
ZMMU - Zoological Museum at Moscow State University, Moscow
ZSSM - Zoologische Staatssammlung (Munich, Germany)

As a result of my study of the Palaearctic Cossidae, I describe here two new genera from Asia ranging in Iran, W. China, Armenia, Russia, Pakistan, Afghanistan, Tadjikistan, Uzbekistan, Kyrgyzstan, Turkmenistan and Kazakhstan, and three new species.
Kotchevnik gen. nov.

Type species: Cossus modestus Staudinger, 1887.

Description
Moth of intermediate size. Wings grey or brownish. Forewing with reticulate pattern more expressed in central and marginal wing area. Hindwing without pattern. Both wings have no closed cell. Antennae unipectinate with very small processes on articles. Female abdomen very long.


Diagnosis of the genus
The genus belongs to the subfamily Cossinae Leach, [1815] and is closest to two genera, Cossus Fabricius, 1793 and Holcocerus Staudinger, 1884.

From the genus Cossus Fabricius, 1793 it differs by:
1. small size.
2. very small processes on antennal articles.
3. reduction of pattern in forewing basal area.
4. specific shape of juxta.
5. distinct subdivision of valva into sclerotized proximal and membranous distal parts.
6. absence of robust sclerotized crests on valva costal margin.
7. disposition of spores on hind legs (medial spore situated almost at ½ of tibia length, while at ½ in Cossus) (figs. 11, 12).
8. swollen epiphysis on front tibia (figs. 13, 14).

From the genus Holcocerus Staudinger, 1884 the new genus differs by:
1. an unipectinate antenna.
2. thin and long processes of transtilla.
3. absence of sharp processes on valva costal margin.
4. a much longer vesical opening.
5. a specific shape of juxta.

Range
The representatives of the new genus have been recorded in Iran, Pakistan, Afghanistan, W. China, Tadjikistan, Uzbekistan, Kyrghyzstan, Turkmenistan and Kazakhstan, Armenia and Daghestan (Russia).

Etymology
“Kotchevnik” – ‘nomad’ in Russian, genus masculinum.

The new genus includes two species groups.
The group *Kotchevnik modestus* (Staudinger, 1887) includes three species with a light hindwing and having a smooth projection on the valva costal margin: *Kotchevnik modestus* (Staudinger, 1887), *Kotchevnik tapinus* (Püngeler, 1898), *Kotchevnik durrelli* spec. nov. The group *Kotchevnik schablyai* spec. nov. includes one species with a darkened hindwing and a practically straight valva costal margin.

Key for species of the genus *Kotchevnik* gen. nov. based on outer characters and male genitalia

1 (6) Hindwing upperside light-grey of white, costal margin with a semicircular projection
2 (5) Forewing length not less than 14 mm, forewing upperside light-gray or brown with a fine reticulate ornament; juxta lower margin with an incision. Central Asia.
3 (4) Hindwing upperside almost white; valva distal end quite sharply narrowed, membranous part of valva larger
   Kotchevnik modestus (Staudinger, 1887)
4 (3) Hindwing upperside greyish with a more or less expressed dark border; valva distal end quite narrowed less sharply, membranous part of valva smaller
   Kotchevnik tapinus (Püngeler, 1898)
5 (2) Forewing length as a rule less than 14 mm, forewing upperside grey with a fine and distinct dark-grey pattern, juxta lower margin without a noticeable incision. Armenia.
   Kotchevnik durrelli spec. nov.
6 (1) Hindwing upperside brown, valva costal margin almost straight.
   Kotchevnik schablyai spec. nov.

Species review

*Kotchevnik modestus* (Staudinger, 1887) comb. nov. (colour plate XVIII, figs. 1, 2; text figs. 1, 2; map 1).

Hua et al. (1990): 122.

Material
MHUB:
Typus: ♂, Kuldja.

MWM:

ZMMU (TZVETAEV coll.): 5♂♂, Kazakhstan, Alma-Atinskaya oblast', Ili River, Iljisk; 3♂♂, Kyrgyzstan, Alaiskii Mts, Gul'cha River, 95 km on Osh;


Fig. 1: Male genitalia of Kotchevnik modestus (STAUDINGER, 1887) frontal projection.
Fig. 2: Aedeagus of Kotchevnik modestus (STAUDINGER, 1887) lateral projection.
Fig. 3: Male genitalia of male of Kotchevnik tapinus (PÜNGELER, 1898) frontal projection.
Fig. 4: Aedeagus of Kotchevnik tapinus (PÜNGELER, 1898) lateral projection.
Fig. 5. Male genitalia of Kotchevnik durrelli spec. nov., frontal projection.
Fig. 6: Aedeagus of Kotchevnik durrelli spec. nov., lateral projection.
Fig. 7: Male genitalia of Kotchevnik schablyai spec. nov., frontal projection.
Fig. 8: Aedeagus of Kotchevnik schablyai spec. nov., lateral projection.
Fig. 9. Male genitalia of Vartiania zaratustra spec. nov., frontal projection.
Fig. 10: Aedeagus of Vartiania zaratustra spec. nov., frontal projection.
Kotchevnik tapinus (Püngeler, 1898) **comb. nov.** (colour plate XVIII, fig. 3; text figs. 3, 4; map 1).

*Cossus tapinus* Püngeler, 1898, [Soc. ent. 13: 57.](https://doi.org/10.1017/S0030189X00217796)

**Daniel (1956):** 273.

### Material

**MHUB:**

Typus – ♂, “Transcaspien, Merw, Sefir-kuh, 1895”

**MWM:**


**ZSSM:**

1 ♂; West Pakistan, Salt Range, Chingi, 4.III.1956, Ch. Lindemann leg. Tzvetaev coll.; 2 ♂♂; SW Tadzhikistan, Tigrovaja Balka reserve; 3 ♂♂; SW Tadzhikistan, Vaksch Valley;

**RYB:**

Fig. 11: Hind leg of male of *Kotchevnik modestus* (Staudinger, 1887), lateral projection.
Fig. 12: Hind leg of male of *Cossus cossus* (Linnaeus, 1758), lateral projection.
Fig. 13: Front leg of male of *Kotchevnik modestus* (Staudinger, 1887), lateral projection.
Fig. 14: Front leg of male of *Cossus cossus* (Linnaeus, 1758), lateral projection.

*Kotchevnik durrelli* spec. nov.
(colour plate XVIII, fig. 4; text figs. 5, 6; map. 1)

Material
Paratypes
RYB: 12 ♂♂, Armenia, Garni, 26.VI.1995, Kazaryan P.
ZMKU: 1 ♂, Daralagez (Armenia), pag Azizbekov (Pashalu), ca. 1650 m alt., lum, 22.VII.1938, L. Shejuuzhko, N. Pavlitzkaia leg.
Description
Male. Forewing length 13–14 mm. Forewing apex somewhat pointed, forewing upperside dark-grey without a pattern in its basal part and with a reticulate pattern of very narrow transversal lines in medial and marginal parts. There is a weakly expressed ochre-colored spot in basal area below discal cell.
Female unknown.

Diagnosis
Differs from other species of its group by:
1. smaller size.
2. somewhat pointed forewing.
3. darker forewing.
4. slightly curved arms of transtilla.
5. absence of incision on juxta lower margin.

Range
Armenia, ?Daghestan.

Note
A record of Cossus modestus Staudinger, 1887 for Daghestan (Zagulyaev, 1978), most probably refers to Kotchevnik durrelli spec. nov.

Etymology
The new species is named in the honour of the famous naturalist writer Gerald Durrell.

Kotchevnik schablyai spec. nov.
(colour plate XVIII, figs. 5, 6; text figs. 7, 8, map 1)

Material
Holotype ♂: Tadjikistan, Karategin ridge [Range], Sangikar ravine [Gorge], 1700 m, 2.–10.VIII. 1969, Stchetkin leg. (MWM).

Paratypes
MWM: 7 ♂♂, 1 ♀, Tadjikistan, Karategin Range, Sangikar Gorge, 1700 m, 2.–10.VIII.1969, Stchetkin leg.; 31 ♂♂, 1 ♀, Tadjikistan, Karategin Range, Sangikar Gorge, 14 km N of Novabad, 1700 m, 18.–26.VII.1969, Stchetkin leg. (GenPr Het 9113 – MWM); 1 ♂, Tadjikistan, Karategin Range, Sangikar Gorge, 18 km N of Novabad, 1700 m, woody slope, 20.VIII.1969, Stchetkin leg. (GenPr Het 9111 – MWM); 1 ♂, Tadjikistan, Karategin Range, Sangikar Gorge, 18 km N of Novabad, 1700 m, woody slope, 15.VIII.1969, Stchetkin leg. (GenPr Het 9253 – MWM); 3 ♂♂, 1 ♀, Tadjikistan, Karategin Range, Sangikar Gorge, 1700 m, 3.–20.V.1972, Stchetkin leg.; 2 ♂♂, Tadjikistan, Karategin Range, Sangikar Gorge, 1700 m, 4.VI.1969, Stchetkin leg.; 9 ♂♂, Tadjikistan, Karategin Range, Sangikar Gorge, 1700 m, 29.VI.1971, Stchetkin leg.
RYB: 45 ♂♂, 3 ♀♀, Tadzhikistan, Vakhshskii Mt. Range, Sarykosor [Sorikhisor village, r. bank of Shurobdar’ya river, H = 1300 m, 69°49’39" E; 38°32’35" N], VII.1999, Yu. Stchetchkin leg.

Description
Forewing length 14–17 mm. Forewing upperside brown, with a rounded apex and a pattern characteristic for the genus. Hindwing evenly dark-brown.
Male genitalia. Valva gradually tapering to apex and not bearing processes or crests on its costal margin. Arms of transtilla thin and strongly curved. Juxta arms long, juxta base narrow. Aedeagus of a shape usual for the genus.
Female somewhat larger and darker than the male, abdomen very long due to genitalia transformed into an ovipositor.

Diagnosis
The new species is well defined by:
1. a wider forewing.
2. a dark hindwing.
3. specific shape of valva and arms of transtilla and juxta.

Range
The species is known only from Tadzikistan (the Karategin Range).

Etymology
The new species is named after the amateur entomologist V. Shablya who for many years has been collecting in Tadzikistan.

Vartiania gen. nov.

Type species: Vartiania zaratustra spec. nov.

Description
Moths of intermediate shape. Antennae without processes on articles, appressed dorso-ventrally. Body covered with a dense pubescence of grayish hairs. Forewing grey with a reticulate pattern; hindwing light with a weak reticulate pattern in the submarginal area. Forewing with a rounded apex. Venation similar to that of Holcocerus Staudinger, 1884, however medial veins are weakly developed.
Male genitalia. Uncus elongate, with a blunt apex sclerotized at its very tip. Tegumen triangular. Gnathos arms thin. Gnathos spade-shaped, composed of two fused blades, densely covered with small spinules. Valva costal margin strongly sclerotized and bears a wide projection on inner surface. Valvae strongly asymmetrical in size, the right one being longer and wider. Valva apex membranous. Arms of transtilla strongly reduced being small fang-like teeth. Juxta triangular, bears long and wide lateral processes with skewed apices. These processes throughout their lengths are fused with the inner surfaces of the valvae by quite a strong membrane, that restricts full spread of the valvae. Saccus present, semicircular. Aedeagus straight, strongly sclerotized and in its distal part armed with wide pointed lateral processes.
and small wart-like ventral prominences. Vesica opening occupies about ⅓ of aedeagus length in its dorsal position.

Diagnosis
The genus belongs to the subfamily Cossinae Leach, [1815]. It differs from the close genus Holcocerus Staudinger, 1884 in the following characters:
1. reduced arms of transtilla.
2. fusion of juxta processes to valvae.
3. asymmetrical valvae.
4. peculiar aedeagus armament.

Range
So far known only from the type locality of its type species, S. Iran.

Etymology
Frau Eva Vartian - an entomologist from Vienna, genus femininum.
**Vartania zaratustra spec. nov.**

(colour plate XVIII, fig. 7; text figs. 9, 10; map 1)

**Material**


Paratypes: 2 ♂♂, S. Iran, Hormozgan Prov., Beshagerd Mts., 26°34'N, 57°54'E, 600 m, Davari, 6.-11.IV.2000. Sinyaev et Plutenko leg., ex coll. A. Schintlmeister (GenPr Het 9282, 9296 – MWM).

**Description**

Forewing length 12-13 mm. Forewing with a rounded apex, grey with a reticulate pattern composed of dark winding stripes; by intensity rather conspicuous are a dark band and a dark spot of irregular shape at outer margin. Hindwing light with a weak reticulate pattern in submarginal area.

Male genitalia: see description of the genus.

Female unknown.

**Range**

So far found only in S. Iran, Hormozgan Prov.

**Etymology**

The new species is named after the ancient Iranian prophet ZARATUSHTRA.

**Acknowledgements**

The author is cordially thankful to all who helped him to prepare this work: T. Witt (Munich), Dr. V. Zolotuhin (Ulyanovsk), Dr. W. Mei (Berlin), Dr. I. Pljoustch, Dr. I. Kostyuk (Kiev), Dr. O. Kosterin (Novosibirsk).

**References**


**Explanation of colour plate XVIII (p. 481):**

Fig. 1: Kotchevnik modestus (Staudinger, 1887) ♂, Typus (MHUB).
Fig. 2: *Kotchevnik modestus* (Staudinger, 1887) ♀, Kazakhstan, Tshimkent District, Syr-Darya river, Bairkum, 250 m, 22.-30.V.1994, Lukhtanov (MWM).

Fig. 3: *Kotchevnik tapinus* (Püngeler, 1898) ♂, Typus (MHUB).

Fig. 4: *Kotchevnik durrelli* spec. nov. ♂, holotype (MWM).

Fig. 5: *Kotchevnik schablyai* spec. nov., ♂, holotype (MWM).

Fig. 6: *Kotchevnik schablyai* spec. nov. ♀, paratype (MWM).

Fig. 7: *Vartiania zaratustra* spec. nov. ♂, holotype (MWM).

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Fig. 1: Kotchevnik modestus (Staudinger, 1887) ♂,Typus (MHUB).
Fig. 2: Kotchevnik modestus (Staudinger, 1887) ♀, Kazakhstan, Tshimkent Ditrict, Syr-Darya river, Bairkum, 250 m, 22.–30.V.1994, Lukhtanov (MWM).
Fig. 3: Kotchevnik tapinus (Püngeler, 1898) ♂,Typus (MHUB).
Fig. 4: Kotchevnik durrelli spec. nov. ♂, holotype (MWM).
Fig. 5: Kotchevnik schablyai spec. nov., ♂, holotype (MWM).
Fig. 6: Kotchevnik schablyai spec. nov. ♀, paratype (MWM).
Fig. 7: Vartiania zaratustra spec. nov. ♂, holotype (MWM).
Two new genera of Carpenter Moths from the Palaearctic 357-368