

**A new species of the genus *Chamaesphecia* SPULER, 1910
from the Transcaucasus and Northern Iran**

(Lepidoptera, Sesiidae)

by

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During our work on a monograph of the palaearctic Sesiidae and based on a revision of type-material from various European museums, we discovered that the paratype of *Chamaesphecia morosa* LE CERF, 1937, deposited in the Naturhistoriska Riksmuseet (Stockholm), is different from the holotype of this species deposited in the collection of the Museum national d'Histoire naturelle (Paris). Such a situation threatens the stability of the nomenclature, the more so as this paratype represents a yet undescribed species widespread in the Transcaucasus (Armenia, Azerbaijan).

Below, we present the description of this new species and a redefinition of *Ch. morosa* and other allied species.

The types have been deposited in the following collections:

RMS Naturhistoriska Riksmuseet, Stockholm, Sweden.

ZISP Zoological Institute, Russian Academy of Sciences, St-Petersburg, Russia.

CG collection of Dr. O. GORBUNOV, Moscow, Russia.

CS collection of Dr. K. SPATENKA, Prague, CSFR.

Chamaesphecia zarathustra spec. nov. (figs. 1-5)

Chamaesphecia morosa LE CERF, 1937a:175 (partim); LE CERF, 1937b: pl. 5, fig. 8.

Holotype ♂: "Perse, Elburgsgebirge, Tarsee, 2600m, 14./17.VII.1936, coll. L. SCHWINGENSCHUSS" – paratype of *Ch. morosa* (RMS).

Paratypes: 1 ♂, N-Iran, Afigod, leg. N. FILIPPOV (ZISP); 1 ♀, Iran, Elburs Mts., Tehran Prov. vic. Gajereh, 2400m alt., 20.VII.1976, leg. C. NAUMANN, Nr. 1685 (CS); 1 ♂, 1 ♀, USSR, Azerbaijan, Ashagi Buzgov, 39°31'N, 43°24'E, VII-VIII. 1988, e.l., leg. K. SPATENKA (CS); 1 ♂, 2 ♀♀, same locality and date, e.l., leg. O. GORBUNOV (CG); 1 ♂, USSR, Azerbaijan, Talysh Mts., Zuvand, Gilidara, 1500m alt., 6.VII.1980, leg. A. DANTCHENKO (CG); 1 ♂, 1 ♀, same locality, 5.VI.1985, e.p., leg. O. GORBUNOV (CG); 2 ♂♂, 2 ♀♀, USSR, Armenia, Khosrov Nature Reserve, 1400m alt., 15.-16.VI.1988, e.p., leg. O. GORBUNOV (CG).

Description

Holotype ♂ (LE CERF, 1937b: pl. 5, fig. 8).

Body length 12.5; forewing 10.0; antenna 6.0 mm.

Head: labial palp pale yellow with a narrow black strip posteriorly, apical segment yellow; antenna black with blue lustre, with a narrow yellow strip posteriorly; frons pale yellow with

a grey-brown spot centrally; vertex black with a few orange scales; pericephalic hairs yellow-orange dorsally and white laterally.

Thorax: patagia black with bronze lustre; tegula black with bronze lustre, with a broad yellow strip anteriorly and a pale yellow spot near base of forewing; mesothorax black with a narrow yellow strip medially; metathorax yellow; in addition, all parts of thorax dorsally covered by dense, long, hairy-like greenish-yellow scales masking background colouration; pleura of thorax yellow.

Legs: completely yellow with a few black scales; spurs yellow.

Forewing: brown-black, covered by dense scales, yellow with greenish hue; transparent areas covered by dense scales, colourless with greenish lustre; external transparent area divided into five cells, about twice as broad as discal spot.

Hindwing: veins and discal spot brown-black; discal spot narrow, trapeziform, reaching to base of veins M3-Cu1.

Abdomen: brown-black, covered by dense scales, yellow with greenish hue, completely masking background colouration; tergites nos. 2, 4, 6 and 7 with a narrow, pale yellow, distal strip, anal tuft orange yellow centrally and brown-black laterally.

Female: tegula: with an orange-yellow spot near base of forewing; tergites nos. 2, 4 and 6 of abdomen with a narrow, pale yellow, distal strip; all sternites and anal tuft yellow-orange.

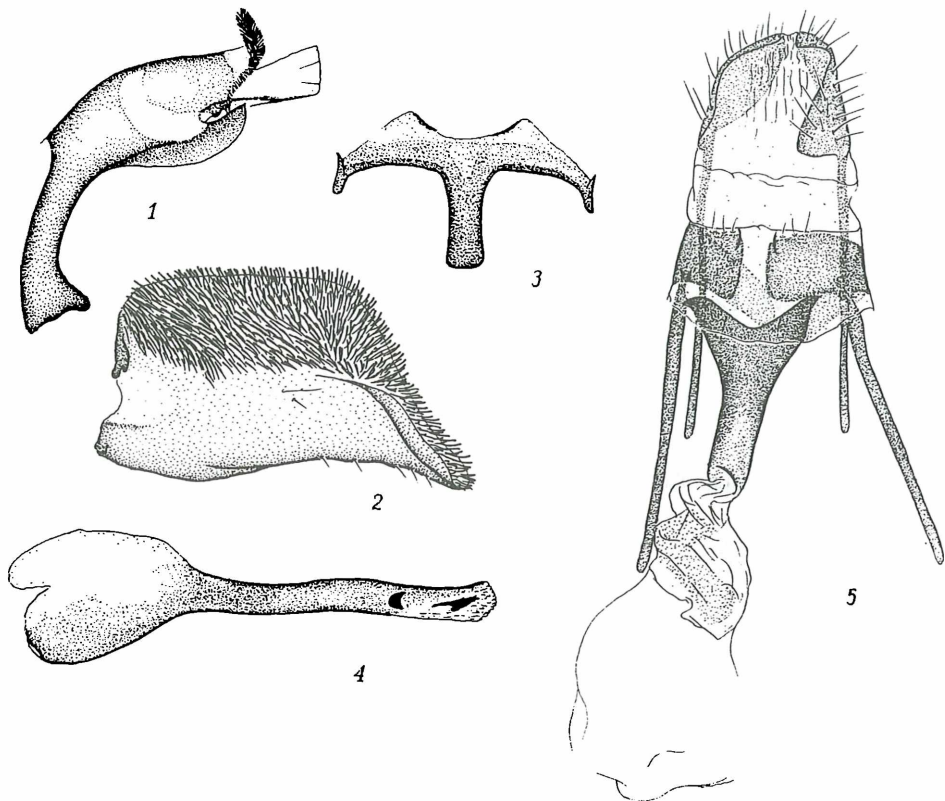
Variability; The fresh specimens are brighter and with a more intense greenish hue in the colouration. Sometimes the males are with a narrow, pale yellow, distal strip on tergite no. 5 of the abdomen. Besides, there are slight variations in size.

Genitalia (male): tegumen-uncus complex (fig. 1) narrow; scopula androconialis small; crista gnathi lateralis long, oval; crista gnathi medialis extremely small, practically absent; valva (fig. 2) trapeziform; crista sacculi absent; sclerotized crista long and high; saccus right, slightly shorter than vinculum (fig. 3); aedoeagus (fig. 4) somewhat longer than valva; vesica with two cornuti.

Genitalia (female) (fig. 5): 8th tergite narrow; apophysis anterior as long as apophysis posterior; ostium bursae wide, funnel-shaped; antrum thick, about half as long as apophysis anterior; ductus bursae short; bursa copulatrix oval.

Differential diagnosis: Habitually, *Ch. zarathustra* spec. nov. is very closely related to *Ch. doryceraeformis* (LEDERER, 1853), but can be easily distinguished by the yellow colouration with greenish hue of the wings and the abdomen. From *Ch. morosa* LE CERF, 1937, *Ch. sefid* LE CERF, 1938, and *Ch. ophimontana* GORBUNOV, 1991, this new species differs by the yellow colouration with greenish hue of the discal spot of the forewing (in the other species brown or dark brown).

Bionomics: The host plant of this species is *Phlomis caucasicus* (Lamiaceae). The larva lives inside a very hard and ligneous root, where it hibernates twice. After the second hibernation, approximately from the end of May until early July, the larva constructs an exit tube about 1-5 cm from the root to the surface of the soil, and then it constructs a cocoon in a gallery in the root. The imago is on the wing in July.



Figs. 1-4: Male genitalia of *Chamaesphecia zarathustra* spec. nov., paratype. 1) tegumenuncus complex; 2) valva; 3) saccus; 4) aedoeagus. Scale bar: 0.5 mm.

Fig. 5: Female genitalia of *Chamaesphecia zarathustra* spec. nov., paratype. Scale bar: 0.5 mm.

Habitat: The host plant of this species grows in highland xerophytes, a typical biotope in the southern Transcaucasus and northern Iran. This habitat is distinguished by numerous perennial plants, in particular various species of Lamiaceae, Fabaceae, Euphorbiaceae etc. As a rule, such biotopes yield good collections of clearwing moths. For example, we have collected a lot of Sesiidae in similar biotopes near Buzgov and Khosrov Nature Reserve, e.g. three species of the genus *Tinthia* (*T. brosiiformis*, *T. myrmosaeformis* and *T. hoplisiiformis*), *Pyropteron minianiformis*, two species of the genus *Bembecia* (*B. zuvandica* and *B. pontica*), and not less than ten species of the genus *Chamaesphecia* (*Ch. aurifera*, *Ch. elampiformis*, *Ch. turbida*, *Ch. mirza*, etc.).

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Literature

- LE CERF, F. (1937a): Aegeriidae nouvelles d'Asie Mineure. – Bull. Soc. ent. Fr. **42**:172-176.
LE CERF, F. (1937b): Aegeriidae nouvelles ou peu connues d'Asie antérieure. – Zt. Öst. Ent.-Ver. **22**:81-89, 96-99, 103-109, pl. 5.

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