

**Taxonomic studies on the *Callophrys suaveola* STAUDINGER, 1881 - species group:
a new species from South Iran**

(Lepidoptera, Lycaenidae)

by

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Summary: A new species, *Callophrys kermanica* spec. nov. from South Iran (Kerman Province) is described and illustrated. The new species differs from those previously known in a combination of the external characters and genitalia. Possible relations with other Palaearctic *Callophrys* are discussed.

***Callophrys kermanica* spec. nov.** (figs. 3, 4)

Holotype ♂: South Iran, Kerman Province, ca. 35 km SSW Rayen, vic. of Goruh, 29°21' N, 57°19' E, ca. 3000 m, 24.V.2011, A. L. DEVYATKIN leg. Coll. Zoological Museum of Moscow State University (ZMMU)

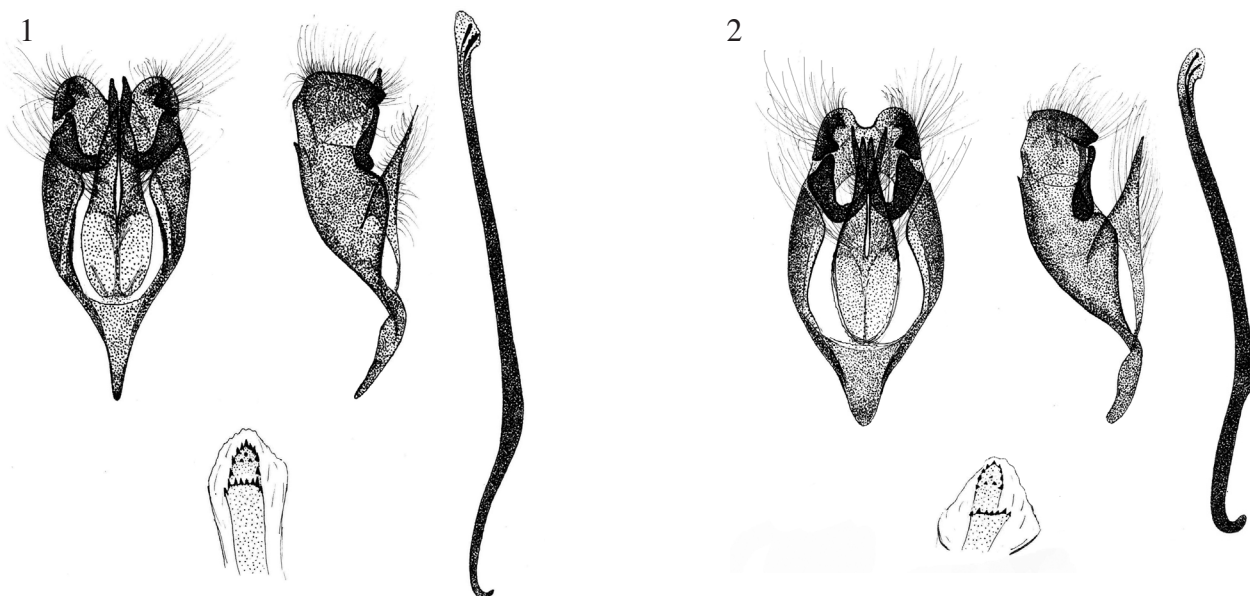
Paratypes: 4 ♂♂, the same data, A. L. DEVYATKIN leg.; 1 m South Iran, Kerman Province, ca. 20 km NNE Baft, vic. of Korin, 29°21' N, 57°19' E, 3200 m, 7.VI.2010, A. V. TIMOKHOV leg., in the collections of the authors.

Description ♂ (figs. 3, 4): Antennae black, white-ringed at bases of segments, club dark, its base below white; terminal segments (apiculus) brown. Eyes brown with small pale brown hairs, surrounded by white strip ahead and grey and green scales behind. Frons green with black hairs, top of head with greyish hairs. Palpi: 2nd segment black with green scales and white and black hairs on the outside and white hairs on the inside; 3rd segment black with white scales. Thorax: upperside grey with grey hairs, underside green with white hairs. Legs white with black scales and white hairs.

Upperside (fig. 3). Forewing: ground colour brown, varying from pale to dark brown; basal area overlaid by large brown scales (yellowish scales in one paratype); costal edge with yellowish scales; veins and outer margin marked by dark brown scales; inner margin and base of spaces 1a and 1b covered by brown hairs. Androconial spot large, varying in colour from grey to black. Hindwing: ground colour the same as on forewing; spaces 7-8, basal half of cell and basal half of space 1 covered by dark grey and bronze scales; basal and discal areas covered by greyish-brown hairs; spaces 1a and 1b covered by grey and pale grey scales; veins and outer margin marked by dark brown scales. Anal lobe not developed; anal angle with a small brush of long dark scales. Inner margin (dorsum) with long white hairs. Fringes of both wings dirty white, with brown and dark-brown scales at base, chequered with dark scales along veins on hindwing.

Underside forewing (fig. 4): ground colour pale green with grey scales, except of spaces 1a and 1b which are grey; basal area with emerald-green scales and rare hairs; costa with yellowish scales. Postdiscal row of white spots reduced to 2-3 diffuse dots, or absent. Underside hindwing: ground colour the same as on forewing but emerald-green scales cover half of the wing; almost the whole wing is covered by greenish hairs, more intensely in the basal area. Postdiscal row of white spots almost totally reduced: a small group of white scales present in space 7. Length of forewing 14 mm in the holotype and 12-16 mm in the paratypes.

♂ genitalia (fig. 1): Uncus deeply divided by tegumen, as broad as vinculum in ventral view; falces (subunci) slender, oblique, crossing at sharp angles. Clasps long, basally wide at 1/3 of length, distally narrowed. Saccus long and very slender, as long as 1/3 of the total length of genitalia. Aedeagus 1,7 times longer than the total length of genitalia, with broad vesica; cornuti strongly serrate.



Differential diagnosis and discussion:

The new species obviously belongs to the *C. suaveola* STGR., 1881 species group and shares all features characterizing this group:

- absence of anal lobe on the hindwing;
- pale green underside with more or less reduced row of the postdiscal white spots;
- whitish fringes and hairs on the wings - yellowish costa of the forewing - a separate line;

- slender ♂ genitalia with a thin saccus and long clasps, uncus deeply divided in the tegumen.

Callophrys kermanica spec. nov. seems to be most closely related to *C. danchenkoi* ZHDANKO, 1998 (figs. 5, 6) but differs in the following main characters:

- top of the head with greyish-green hairs (*C. danchenkoi* ZHDANKO: top of the head with yellowish hairs);
- fringes dirty-white with brown and dark-brown scales at the base (*C. danchenkoi* ZHDANKO: fringes white with brown and pale brown scales);
- margin of the wing covered by dark brown scales (*C. danchenkoi* ZHDANKO: margin of wing covered by brown scales of more light colour);
- the androconial spot large (*C. danchenkoi* ZHDANKO: androconial spot small);
- edge of the hindwing not wavy (hindwing of *C. danchenkoi* ZHDANKO wavy between veins 1b-5);
- the inner margin (dorsum) of the hindwing with less developed hairs in comparison with *C. danchenkoi* ZHDANKO;
- white postiscal row of spots on the underside almost totally reduced (more or less reduced in different specimens of *C. danchenkoi* ZHDANKO);
- clasps longer and broader than those of *C. danchenkoi* ZHDANKO, their shape is different, uncus as broad as 0,85 width of vinculum in ventral view, saccus long and slender, aedeagus 1,7 times longer than the total length of the genitalia, cornuti strongly serrate (*C. danchenkoi* ZHDANKO: uncus as broad as 0,65 of width of vinculum in ventral view, saccus shorter and broader, aedeagus 1,5 times longer than the total length of the genitalia, cornuti weakly serrate) (fig. 2).

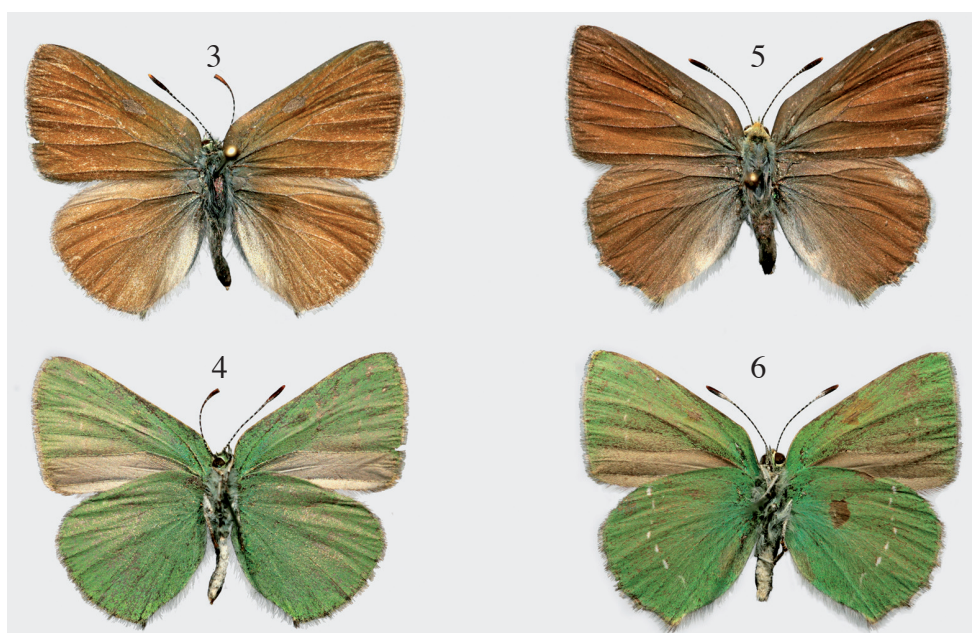


Fig 3, 4: *Callophrys kermanica* spec. nov., holotype ♂, South Iran, Kerman Province, ca. 35 km SSW Rayen, vic. of Goruh, 29°21' N, 57°19' E, ca. 3000 m, 24.V.2011, A. L. DEVYATKIN leg., in coll. ZMMU.

Fig. 5, 6: *Callophrys danchenkoi* ZHDANKO, 1998, paratype ♂, Nakhychevan, Daralagez ridge, Buzgov vill., 1700 m, 19.V.1970, Tsvetaev A. leg., in coll. ZMMU.

Callophrys kermanica spec. nov. was found only in Kerman province, far from the localities of *C. danchenkoi* ZHDANKO from the west and *C. suaveola* STGR. from the north-east. The butterflies were collected on an arid mountain slope in a small dry stream bed, where they were sitting on the leaves of a robust *Ferula* sp. (Apiaceae) - its probable host plant. The new species may be regarded as one of the links between *C. danchenkoi* ZHDANKO from Asia Minor, Transcaucasia and West Iran and *C. suaveola* STGR. from the mountains of Central Asia and is probably conspecific with "*Callophrys* sp. 4" mentioned in TEN HAGEN & MILLER (2010). Another one - a previously undescribed species of the *C. suaveola* STGR. - group from Central Afghanistan (Bamian province) - is described separately.

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References

- TEN HAGEN, W. & M. A. MILLER (2010): Molekulargenetische Untersuchungen der paläarktischen Arten des Genus *Callophrys* BILLBERG, 1820 mit Hilfe von mtDNA-COI-Barcodes und taxonomische Überlegungen (Lepidoptera: Lycaenidae). - Nachr. Entomol. Ver. Apollo N. F. **30** (4): 177-197, Frankfurt.

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Artikel/Article: [Taxonomic studies on the *Callophrys suaveola* Staudinger, 1881 - species group: a new species from South Iran 149-150](#)