

A new low-altitudinal crypting species of *Hyponephele hilaris* (Staudinger, 1886) group (Lepidoptera: Satyridae) from Tajikistan

Новый низкогорный вид-двойник группы *Hyponephele hilaris* (Staudinger, 1886) (Lepidoptera: Satyridae) из Таджикистана

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KEY-WORDS: Butterflies, Satyridae, *Hyponephele*, new crypting species, Tajikistan.

КЛЮЧЕВЫЕ СЛОВА: дневные бабочки, сатириды, *Hyponephele*, новый вид-двойник, Таджикистан.

ABSTRACT. A new crypting species, *Hyponephele antihilaris* sp.n., is described from the low-mountainous part of Gissarsky Mts. in Tajikistan (type locality Tajikistan, Gissarsky Mts. near Obigarm settlement, 1408 m, N 38°43.257', E 69°41.013'). The new species belongs to the high-mountainous *H. hilaris* (Staudinger, 1886) group but differs from *H. hilaris* by its low-altitudinal distribution, small wing pattern features, the forewing shape and COI sequence.

РЕЗЮМЕ. *Hyponephele antihilaris* sp.n., вид-двойник из группы *H. hilaris* (Staudinger, 1886) описывается из низкогорий Гиссарского хребта (типовое местонахождение: Таджикистан, Гиссарский хр., близ пос. Обигарм, 1408 м., 38°43.257' с.ш., 69°41.013' в.д.). От *H. hilaris* новый вид хорошо отличается экологией (низкогорное распространение), бар-кодом (последовательность гена COI); имеются также небольшие морфологические отличия (форма переднего крыла и особенности рисунка крыльев).

During the collecting trips 2011 and 2013 to Tajikistan the first author found a population of *Hyponephele hilaris* (Staudinger, 1886)-like butterflies at the atypical low altitude: butterflies have been collected at the elevations between 1350 and 1450 m above sea level; *H. hilaris* flies only at the altitudes 2600–4300 m above sea level [Samodurow et al., 1999]. These butterflies have been DNA sampled together with samples of true *H. hilaris* from the closely located Haburabat Pass, Darvazsky Mts. (inhabiting altitudes normal for this species (over 3000 m above sea level). The sampled DNA-sequences clearly shows the affinities with these two populations, however the low-altitudinal populations of *H. hilaris*-looking one represent an undescribed entity. Herein, we describe it as a new species.

DNA extraction, PCR and sequencing were carried out according to the protocols described in Fric et al. [2014]. We used Ron-HCO primer parts, covering most part of “barcode region” of the first half of the mitochondrial gene Cytochrome Oxidase subunit I. Sequencing was conducted in the Biology Centre of the Czech Academy of Sciences.

Hyponephele antihilaris ssp.n.

Figs 2–3.

TYPE MATERIAL: Holotype ♂, 24.07.2011, Tajikistan, Gissarsky Mts. near Obigarm settlement, 1408 m, N 38°43.257', E 69°41.013', leg. S.K.Korb. DNA sample: KORB0012/12; GenBank Accession Number KX760092. Deposited in the Zoological Institute of the Russian Academy of Sciences (St.-Petersburg, Russia). Paratypes: 12 ♂♂, 24.07.2011, same data, leg. S.K.Korb. Deposited in the first author collection.

DESCRIPTION. Male. Forewing length 13–15 mm. Upperside brown, hindwing one-color, forewing — with huge orange field and rounded apical black spot. Fringes grey. Underside brown. Forewing with huge orange field, black apical rounded spot have a white center. Underside surface with big amount of dark-brown small strokes. Fringes white. Female. Unknown.

GENITALIA. In *H. hilaris*-group are very variable [see: Samodurow et al., 1999: Abbn. 42, 45–47]; in the new species same as in *H. hilaris* both in structure and variability (Figs 3–4); we can, however, select one good male genitalia difference between the new species and *H. hilaris*: it is the aedeagus structure. In *H. hilaris* its apex is sharp, in the new species it is bilobed.

DIFFERENTIAL DIAGNOSIS. Differs from the closely related *H. hilaris* by its COI sequence (0.8% differences on studied COI fragment, 409 bp).

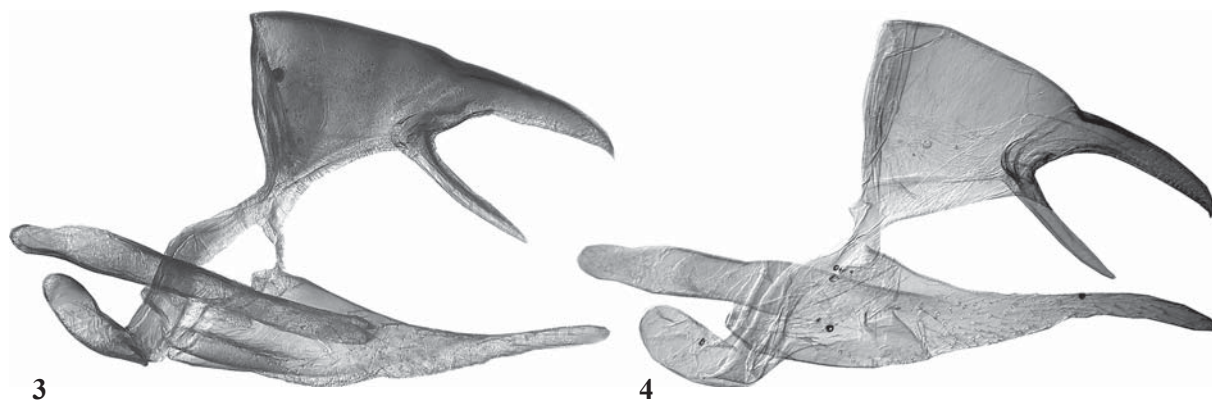
The external features differences which we can notice for the new taxon, are (Figs 1–2): grey fringes in upperside (it is white or grayish-white in *H. hilaris*); darker coloration (it is lighter in *H. hilaris*); absence of middle belt in hindwing underside (in *H. hilaris* it is always present, even in just a small fragments). Also the forewing shape is a good difference: in the new species it is slightly rounded, in *H. hilaris* it is always straight. The very good ecological difference is in

Hyponephele antihilaris COI (near Obigarm settlement, Tajikistan, GenBank Accession Number KX760092):
 ACCCCCTCTTTAGTTTTATTAATTTCAAGAAGTATTGTAGAAAATGGAGCAGGTAAGTGGATGAACTGTGTACCCCCATTATC
 CTCTAATATTGCCCATGGCGGAGCCTCAGGTGATTTAGCTATCTTTTCCCTACATTTAGCAGGTATTTCTCAATTCTAGGAGC
 TATTAATTTTATTACAACAATTATTAATATACGAGTTAATAATATATCTTATGATCAAATACCCCTATTTGTCTGAGCAGTTGG
 AATTACCGCTTTATTATTATTATTATCTTTTRCCAGTTCTAGCTGGAGCTATTACTATACTTCTTACAGATCGAAATTTAAATAC
 TTCCTTTTTTGACCCWGCTGGAGGAGGAGATCCAATTTTATATCAACACTTATTT

Hyponephele hilaris COI (Khaburobot Pass, Tajikistan, GenBank Accession Numbers: KX760089, KX760090, KX760091):
 ACCCCCTCTTTAGTTTTATTAATTTCAAGAAGTATTGTAGAAAATGGAGCAGGTAAGTGGATGAACTGTGTACCCCCATTATC
 CTCTAATATTGCCCATGGCGGAGCCTCAGTTGATTTAGCTATTTTTCCCTACATTTAGCAGGTATTTCTCAATTCTAGGAGC
 TATTAATTTTATTACAACAATTATTAATATACGAGTTAATAATATATCTTATGATCAAATACCCCTATTTGTCTGAGCAGTTGG
 AATTACAGCTTTATTATTATTATTATCTTTACCAGTTCTAGCTGGAGCTATTACTATACTTCTTACAGATCGAAATTTAAATAC
 TTCCTTTTTTGACCCGCTGCTGGAGGAGGAGATCCAATTTTATATCAACACTTATTT



Figs 1–2. *Hyponephele*, males: 1 — *H. hilaris* (Staudinger, 1886), lectotype; 2 — *H. antihilaris* sp.n., holotype.
 Рис. 1–2. *Hyponephele*, самцы: 1 — *H. hilaris* (Staudinger, 1886), лектотип; 2 — *H. antihilaris* sp.n., голотип.



Figs 3–4. *Hyponephele*, male genitalia: 3 — *H. antihilaris* sp.n., holotype; 4 — *H. hilaris*, lectotype.
 Рис. 3–4. *Hyponephele*, гениталии самцов: 3 — *H. antihilaris* sp.n., голотип; 4 — *H. hilaris*, лектотип.

their elevation: *H. hilaris* flies over 2600 m, the new species flies under this elevation.

HABITAT. The new species inhabits dry stony meadows in low-altitudinal mountains; *H. hilaris* flies in the high elevations, over 2600 m, in high-mountainous meadows.

ACKNOWLEDGMENTS. We are much indebted to Dr W. Mey (Museum für Naturkunde, Berlin, Germany) and Dr A.V. Sviridov (Zoological Museum of the Moscow University, Russia) for opportunity to study the type specimens from curated collections. We thank Alena Bartonova (Biology Centre of the Czech Academy of Sciences, Ceske Budejovice, Czech Republic) for DNA sequencing.

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