

The type specimens of two little known species of *Erebia* (Lepidoptera, Satyridae) from North–Eastern Siberia

Типовые экземпляры двух малоизвестных *Erebia* (Lepidoptera, Satyridae) из Северо–Восточной Сибири

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Ключевые слова: *Erebia dabanensis tschuktscha*, *Erebia youngi*, *Erebia anyuica*, Сибирь, типовой экземпляр, голотип.

Key words: *Erebia dabanensis tschuktscha*, *Erebia youngi*, *Erebia anyuica*, Siberia, type specimen, holotype.

Abstract. The systematic positions of *Erebia dabanensis* var. *tschuktscha* Herz, 1903 and *Erebia anyuica* Kurentzov, 1966 are discussed based on type specimen revision. The former taxon is transferred to the North American species *Erebia (dabanensis) youngi* Holland, 1900, as its subspecies, based on the structure of its genitalia. The type specimen of the second taxon is a species from the *Erebia occulta* species-group, but study of additional specimens is required to determine its systematic position.

Резюме. На основании ревизии типовых экземпляров обсуждается систематическое положение *Erebia dabanensis* var. *tschuktscha* Herz, 1903 и *Erebia anyuica* Kurentzov, 1966. Первый таксон, согласно строению гениталий, переводится в подвид северо-американского вида *Erebia (dabanensis) youngi* Holland, 1900. Типовой экземпляр второго вида представляет собой крайне меланистичную aberrацию вида из группы *Erebia occulta-jakuta*. Для окончательного вывода по его синонимии требуется изучить дополнительный материал.

Erebia dabanensis var. *tschuktscha* Herz, 1903
Figs 1–6.

Erebia dabanensis v. *tschuktscha* Herz, 1903: 16.
Erebia youngi tschuktscha Gorbunov, 2001: 252.

Material. Holotype, ♂, with two hand-written labels (Figs. 4, 5): «Tschuktsch. Halbinsel. B. Providения Gr. Akifiev. 27/VI.1900» and «an nov. var. *Tschuktscha* Herz». Following standard label have been added: «Holotypus *Erebia dabanensis tschuktscha* Herz, 1903 design. V. Dubatolov 1994».

Notes. This taxon was described from a single male, without illustration or detailed discussion (Fig. 1), making it difficult to elucidate its systematic position. Thanks to the courtesy of A.L. Lvovsky I had the opportunity to examine its type specimen. A re-description of this specimen is given below.

Description. Male (Figs. 2, 3). Fore wing length 17 mm (wing expanse 32 mm). Fore wing dark-brown above, in outer area with 4 small round black ocelli with dark reddish-brown rims. Hind wing with three such small ocelli in outer area. Fore wing underside with round black ocelli on a dark-fulvous outer area, situated closer to its outer margin, which is quite distinct, while its inner margin is diffuse: in front of vein M_2 it is surrounded with a whitish suffusion and in the radial zone is completely replaced by it. Hind wing underside with a dark outer area and a postdiscal band suffused with whitish scales, on which there are three black round ocelli with narrow dark-orange rims, in the cubital and medial zones. Inner margin of light postdiscal band wavy-dentate at veins; central area a dark-brown similar to the outer area. In the basal area of the wing, on a dark-brown background, there are three light spots formed by whitish scales and extending to wing base, in cell and anal zone.

Male genitalia (Fig. 6). General structure characteristic of the *Erebia dabanensis-occulta* species group. Uncus short, much shorter than tegumen, subunci almost reach 3/4 of its length. Valva short, broad, with the dentate part shortened so that the width of the valva neck (at the narrowest point) much exceeds half the length of the dentate part. Its teeth almost do not enter its inner surface.

Systematic notes. By the valva shape, this male is most similar to *E. youngi* Holland, 1900, inhabiting Alaska and the Yukon Territory. These taxa share a short dentate part of the valva, which is not elongated at the apex as in *E. dabanensis* Erschoff, [1872] (good drawings of the genitalia of *E. youngi* are presented in the work by J. Troubridge and K. Philip [1983]). Hence, I conclude that *E. dabanensis tschuktscha* should be transferred into *E. youngi* as *E. youngi tschuktscha* Herz. This combination, with reference to my opinion, was firstly published by P.Yu. Gorbunov [Gorbunov, 2001]. *E. youngi tschuktscha* is most similar to the small West Alaskan subspecies *E. youngi rileyi* Dos Passos, 1947, and differs from all subspecies of *E. youngi* in having a bright hind wing underside pat-

tern and very small, roundish, not oval, ocelli on the fore wing. In addition, in American *E. youngi* the teeth are more extended onto the inner side of the valva but do not form three rows, as was erroneously stated by S.K. Korb [1999].

Erebia anyuica Kurentzov, 1966
Figs. 7–10.

Erebia anyuica Kurentzov, 1966: 34–35, Fig. 1 (general view), Fig. 2 (genitalia).

Notes. The species was described from a single male collected by «an expedition of the Entomological Laboratory of the Far East Branch of the Siberian Division of the USSR Academy of Sciences [now — of the Biology and Pedology Institute of the Far East Division of the Russian Academy of Sciences] on the Anyuiskii mountain range east of the Kolyma River lower reaches» on 18th July 1963. An English translation of the original description can be found in Gorbunov [2001]. A.I. Kurentzov [1970] later gave another date, 19th July 1963. N.A. Azarova [1986] examined A.I. Kurentzov's type collection in the early 1980s and did not find the type specimen, and therefore it was not included in her list of his type materials. The lack of information regarding the type specimen of *Erebia anyuica* was the reason for an invalid neotype designation by S.K. Korb [1999]. Two of the rules of the International Code of Zoological Nomenclature were violated with this designation. The author did not make direct inquiries to the Biology and Pedology Institute regarding the existence of the type specimen, instead relying on the publication of Azarova (1986). This is contrary to Article 75.3.4 of the Code which requires that the steps taken to trace the holotype be described. The neotype was also not transferred for preservation into the Zoological Institute (personal communication by the collection curator A. L. Lvovsky of 21st February 2002), a requirement of Article 75.3.7, although this neotype transfer was claimed in the publication.

In the mid–1990s, I found in the collection of the Biology and Pedology Institute a very damaged specimen with a label written by A.I. Kurentzov's hand (Fig. 8) «22 VII 63 Белибин гор. т.» [22 июля 1963, Билибино, горная тундра]. [22 VII 63 Belibin gor. T.», which means [22nd July 1963, Bilibino, mountain tundra]. It should be noted that the date of collection and the butterfly size do not coincide with those published. Its wing expanse is 41 mm while in the description it was stated as 50 mm. However, N.A. Azarova, who worked personally with A.I. Kurentzov, told me that the latter, due to his forgetfulness, often measured

the wing expanse not from the zero mark but from the actual end of the ruler. This is 1 cm left of the mark, so the resulting wing expanses were often 1 cm greater. In addition, N.A. Azarova told me that Kurentzov also would often confuse dates, as he actually did in his two publications where he mentioned this specimen. It is also noteworthy that artists often drew the butterflies for A.I. Kurentzov, with the artist in this case being S. P. Safronova. The artists always 'restored' the specimens, which obviously took place in this case. Indirect evidence that this specimen is the holotype is the fact that it lacks the end of the abdomen, obviously having been removed for study of the genitalia. A.I. Kurentzov very seldom studied genitalia but certainly did for the type of *E. anyuica*. Unfortunately, all the genitalia preparations by A.I. Kurentzov are preserved in small tubes all placed together in a large jar, making it very difficult to find a necessary preparation. Unfortunately I did not have the time to find the tube containing the *E. anyuica* genitalia. Fortunately, Kurentzov (1966) depicted the type specimen genitalia with all species characters clearly shown, which unequivocally allows its attribution to the same species as *E. occulta* Roos, Kimmich, 1983 (= *phellea* Troubridge and Philip, 1983). However the primary feature of the type specimen of *E. anyuica*, as described by Kurentzov [1966], was a unique entirely blackish–brown wing coloration, without traces of any pattern; this wing coloration is exhibited by the specimen in question. This wing coloration is extremely rare within the genus *Erebia*. I could not find any other specimens that even approach the characteristic appearance of *E. anyuica* in the collection of the Biology and Pedology Institute; and in publications by A. I. Kurentzov it is clearly stated that it was the only such specimen collected in 1963 in that region. Taking into account all the above–mentioned reasons, I consider the specimen discussed to be the holotype of *E. anyuica* Kurentzov, 1966.

A question arises: could A.I. Kurentzov have confused genitalia preparations? The fact is that I have never observed a complete of the wing pattern in any butterfly belonging to the *E. occulta* group. Even melanistic specimens retain traces of dark dots in the outer wing area, which are darker than the background, at least on the fore wing. Among the North Asian *Erebia* only some specimens of *E. magdalena* Strecker, 1880, especially of *E. magdalena ola* Korshunov, 1995, can lack the pattern completely. But all the taxa of the *E. magdalena*–*E. fasciata* Butler, 1868 group have a very rounded wing outer margin, while in the holotype of *E. anyuica*, as well as in all subspecies of *E. occulta*, the outer margin is straight. In addition, the presumed

Figs 1–10. *Erebia dabanensis* var. *tschuktscha* Herz, 1903 (1–6), *Erebia anyuica* Kurentzov, 1966 (7–10): 1 — original description; 2, 7 — holotypes, upperside; 3, 8 — holotypes, underside; 4 — the first label of holotype; 5 — the second label of holotype; 6 — genitalia of the holotype: tegumen, left and right valvae; 9 — A.I. Kurentzov's holotype label; 10 — N.A. Azarova's holotype label.

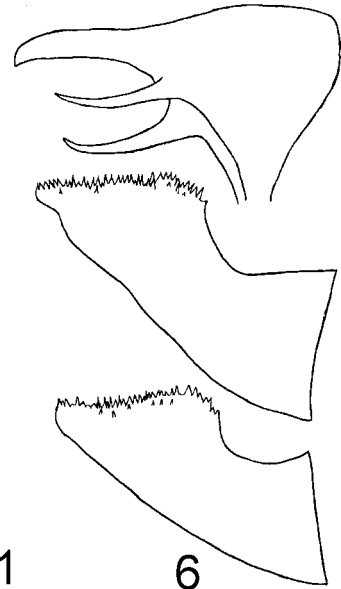
Рис. 1–10. *Erebia dabanensis* var. *tschuktscha* Herz, 1903 (1–6), *Erebia anyuica* Kurentzov, 1966 (7–10): 1 — первоописание; 2, 7 — голотины, вид сверху; 3, 8 — голотины, вид снизу; 4 — первая этикетка голотины; 5 — вторая этикетка голотины; 6 — гениталии голотины: тегумен, левая и правая вальвы; 9 — этикетка голотины, написанная А.И. Куренцовым; 10 — этикетка голотины, написанная Н.А. Азаровой.

7. *Erebia dabanensis* ERSCH. var. *tundra* STGR. et var. nov.?

Am 25. Juli wurde an der Metschigmen-Bucht (бухта Мечигменъ) eine *tundra* ♂ gefangen, das ganz mit den Exemplaren aus dem Lenagebiet übereinstimmt.

Einen Monat früher, am 25. Juni fing Dr. AKIFIEV an der Providenie-Bucht (бухта Провидѣнія) eine *dabanensis*-Form, die durch auffallend dunkelbraune, fast sammetartige Färbung auf der Oberseite von allen mir vorliegenden *dabanensis* und *tundra* abweicht. Auch die Unterseite ist viel dunkler und auf den Hinterflügeln ist die vor dem Aussenrande stehende, bläulich-weiße Binde von dem verdunkelten, ausgebuchteten Mittelfelde so scharf abgegrenzt, wie bei keinem der mir vorliegenden Exemplare.

Sollte hier nicht ein Melanismus vorliegen und mit der Zeit noch mehr solche Stücke von der Tschuktschen-Halbinsel gebracht werden, so müsste diese Form einen Namen erhalten und würde ich v. *tschuktscha* dafür vorschlagen.



Тschuktsch. Halbinsel. б.Провидѣнія	Dr. Akifiew. 27/VI. 1900
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22.VI.03 Erebia Zap. 69.

an nov. var Tschuktschaltung

an Erebia ausukke

4

9

10

type of *E. anyuica* has on its fore wings above, at the cubital vein base, long and quite wide scales with a wide base and parallel sides, which are characteristic only for the *E. occulta* group. In the *E. fasciata–magdalena* group these elongate (not true androconial) scales are narrowly triangular-shaped, narrowed to the base.

In Bilibino area occurs the strongly coloured taxon *E. occulta jakuta* Dubatolov, 1992, which belongs to the *E. occulta*–group. However, the cubital zone of the upper fore wing of *E. anyuica* is mostly covered by very short rounded scales, while long scales predominate in specimens of *jakuta*. Therefore, we cannot synonymize these two taxa. It is only obvious that *E. anyuica* is very similar to *E. occulta jakuta*. Numerous additional specimens from the Anyuiskii mountain range are required to reach a conclusion as to the species identity of *anyuica*, and to properly assess the suggestion of S. Korb (1999) that three independent species of the *E. anyuica–occulta* group occur in North Asia.

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