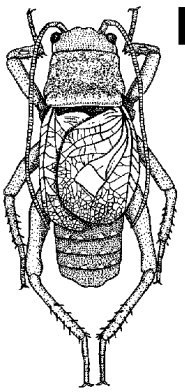

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A NEW SUBSPECIES OF THE *PSEUDOPANTHERA MACULARIA L.* (LEPIDOPTERA: GEOMETRIDAE, ENNOMINAE) FROM SOUTH SIBERIA

E. A. Beljaev

Institute of Biology and Pedology, Vladivostok-22, 690022, Russia

The geometrid moth *Pseudopanthera macularia cryptica* **ssp.n.** is described from South Siberia. New subspecies easily distinguished from nominative one in appearance and the female genitalia, but similar to that in the male genitalia.

KEY WORDS: Lepidoptera, Geometridae, new subspecies, South Siberia.

Е.А. Беляев. Новый подвид *Pseudopanthera macularia* L. (Lepidoptera, Geometridae, Ennominae) из Южной Сибири // Дальневосточный энтомолог. 1997. N 51. С. 1-7.

Описана пяденица *Pseudopanthera macularia cryptica* **ssp.n.** из Южной Сибири. Новый подвид легко отличим от номинативного по внешнему виду и гениталиям самки, но сходен с ним по строению гениталий самца.

Биолого-почвенный институт, Дальневосточное отделение Российской Академии наук, Владивосток-22, 690022, Россия.

INTRODUCTION

There are 8 species of the genus *Pseudopanthera* Hübner, [1823] in Palaearctic region from West Europe to North India and West China (Prout, 1915; Wehrli, 1940). But most of them considerably differ from the type species

Pseudopanthera macularia (Linnaeus) by wing pattern and composition of this genus needs to be revised. *P. macularia* is widely distributed from Europe to North Mongolia and Transbaikalia. This species is polymorphic in the wing pattern, therefore numerous aberrations were described from Europe (see: Prout, 1915; Wehrli, 1940). After examination of the males and females of *P. macularia* from various localities I found a high variability of their genitalia too. But the specimens from South Siberia have a constant differences in appearance and in genitalia structure that allow to select South Siberian populations as a new subspecies. All records of *P. macularia* from South Siberia and adjacent regions (Staudinger, 1892; Staudinger & Rebel, 1901; Prout, 1915; Djakonov, 1926; Viidalepp, 1975, 1979; Korshunov & Viidalepp, 1982) should be assigned to *P. macularia cryptica* ssp. n. The description of new subspecies is given below. Holotype is deposited in the Zoological Institute (Sankt-Petersburg), paratypes are in the same collection and in the Institute of Biology and Pedology (Vladivostok).

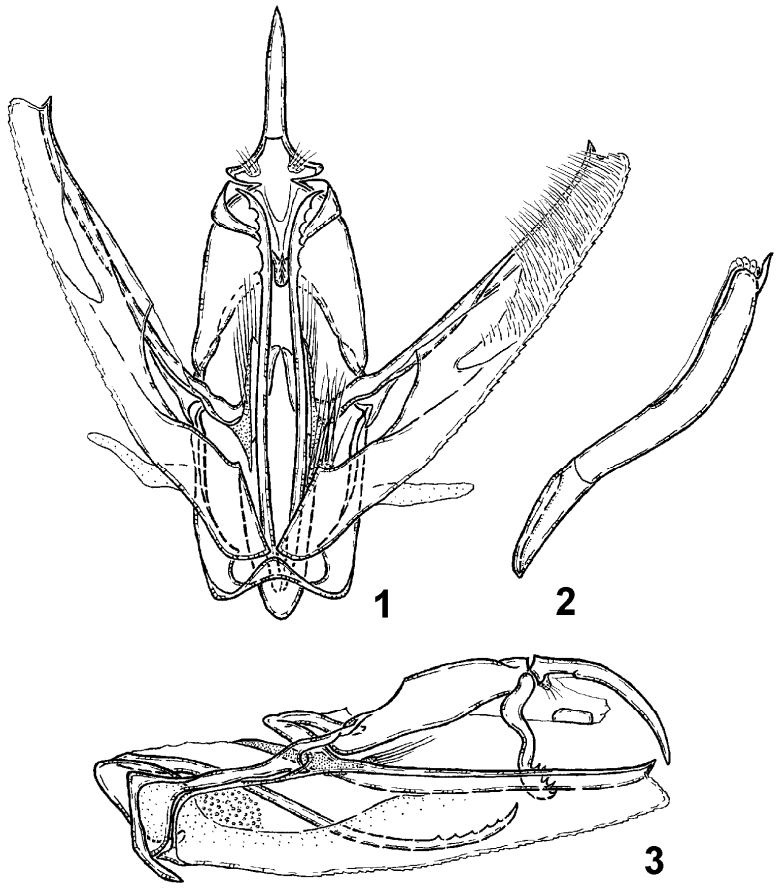
Pseudopanthera macularia cryptica **Beljaev, ssp. n.**
Figs 1-3, 6-8

Venilia macularia (Linnaeus, 1758): Staudinger, 1892: 375; Staudinger & Rebel, 1901: 331 (part.).

Pseudopanthera macularia (Linnaeus, 1758): Prout, 1915: 343 (part.); Djakonov, 1926: 58; Viidalepp, 1975: 478; 1979: 797 (part.); Korshunov & Viidalepp, 1982: 106.

TYPE MATERIAL. Holotype: ♂, Russia, Irkutskaya oblast', Bunbui, 28. V 1915 (Valdaev). Paratypes: Russia: 1♂, Republic Gornyi Altai, Altaiskii reserve, Teletskoe Lake, 1.VI 1939 (coll. unknown); 1 ♂, same loc., Yurgi river, 1010-1180 m, 19.VI 1939 (coll. unknown); 1 ♀, "Altai, Chodra, 900 m", 27.VI 1949 (G. Dulkeit); 1♂, Krasnoyarskii krai, "Stolby" reserve, Mana river, 28. VI 1958 (G. Dulkeit); 1 ♀, same loc., 8.VII 1965 (G. Dulkeit); 1♂, Krasnoyarskii krai, "Zapadnyi Sayan" 26.V 1962 (coll. unknown); 1♂, Irkutskaya oblast, Bunbui, 24. V 1916 (Valdaev); 1♀, same loc., 4. V 1915 (Valdaev); 1♀, Irkutskaya oblast, "Angara" [Angarsk], 9.VII 1938 (Nadetskaya); 1♂, south of Republic Sakha-Yakutia, Chulman river, Titovo, 13.VI 1950 (coll. unknown).

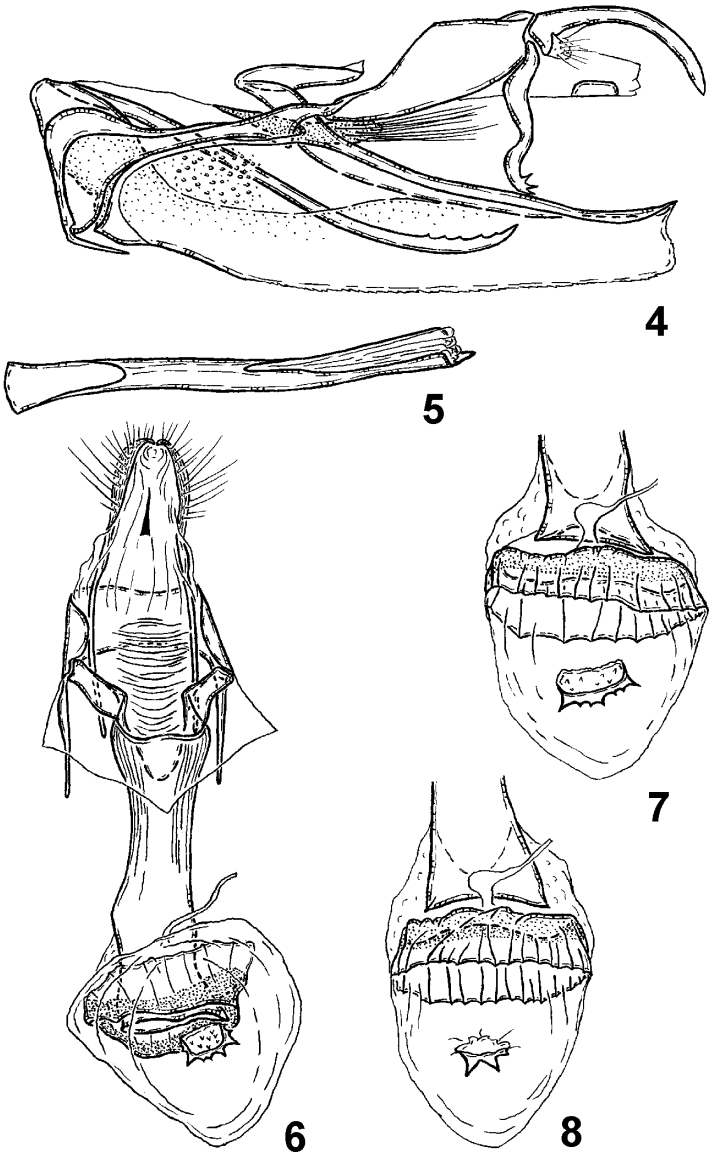
DESCRIPTION. MALE. Length of forewing 12-14 mm. Labial palpi short, almost the same as eye in length. Frons and vertex greyish-yellow. Antenna filiform. Thorax greyish-yellow. Forewing moderately broad, with pointed apex and prominent outer margin, reddish-yellow, with dark-brown band-like transverse lines and spots; antemedial transverse line wide, slightly arched; medial line consists of two separate spots: one on the costal margin near discal spot (usually fused with the latter) and another one between veins Cu_1 and A_2 (usually touched or fused with posterior part of postmedial transverse line); postmedial line angled outwardly between veins M_1 and M_2 or on vein M_2, interrupted between veins M_3 and Cu_1; submarginal transverse line



Figs 1-3. *Pseudopanthera macularia cryptica* ssp. n., holotype, male genitalia. 1 – lateral view, 2 – ventral view, 3 – aedeagus.

consists of three large separate spots on the costal margin, on veins M_3 and Cu_2 and near tornus; fringe dark-brown from apex to vein M_3, beyond M_3 with separate two dark-brown spots. Hindwing coloured as forewing, but without antemedial and medial lines, both postmedial and submarginal lines consist of three separate spots. Base of wings dotted by dark-brown, discal spots on both wings large, dark-brown, almost equal in size. Legs yellow, hind tibia with two pairs of long spurs, without hair pencil.

MALE GENITALIA (Figs 1-3). Tegumen long, with moderately wide lateral sides, distinctly separable from vinculum. Uncus long, conic, pointed to apex, moderately arched. Socii small, membranous. Gnathos heavy sclerotized, V-shaped, its lateral arms curved caudally, medial plate with sagittal row of



Figs 4-8. *Pseudopanthera macularia*, genitalia. 4, 5 – *Pseudopanthera m. macularia*, male genitalia (Germany): 4 – lateral view, 5 – aedeagus. 6-8 – *Pseudopanthera m. cryptica* ssp. n., paratypes, female genitalia: 6 – total view (Bunbui), 7, 8 – corpus bursae (7 – "Stolby" reserve, 8 – "Angara").

strong thorns variable in number. Valva narrow, long, moderately sclerotized, slightly conic, costal margin heavy sclerotized, with short thorn at apex, base of valva with small coremata laterally. Transtilla long, narrow, medially interrupted, sharply angled caudally at middle. Juxta folded in two, deeply invaginated into abdomen, with pair of very long thin processes reaching level of uncus base and bearing widely spaced thorns on its distal part. Cristae as flat slightly sclerotized plate with long hair-like setae. Anellus membranous, with pair long triangular lateral plates placed near transtilla and covered by rare long setae. Vinculum long, relatively thin, with broad triangular extensions latero-ventrally. Aedeagus long, thin, slightly S-shaped, with strong sclerotized triangular extension at apex, vesica without cornuti.

FEMALE. Very similar to male in size and colour, but with thinner antenna.

FEMALE GENITALIA (Figs 6-8). Ovipositor typical medium-size, papillae anales moderately sclerotized, with minute longitudinal plication. Posterior apophyses relatively long, approximately two times as long as anterior apophyses. Eight segment widely sclerotized dorsally, and with membranous transverse plication ventrally. Ductus bursae heavy sclerotized, wide, long, almost cylindrical, its posterior margin continued to the sclerotized band-like lateral plates touching the eight tergite anteriorly. Corpus bursae membranous, various in size and shape, with irregularly plicated sclerotized ring in posterior part. Signum quadrangular in base, flattened to the apex, with pair of lateral spines well developed.

DISTRIBUTION. Russia: south of the Central and East Siberia; probably North Mongolia.

ETYMOLOGY. *Cryptica* (Greek) - concealed, covert. The new subspecies is named "*cryptica"* because of similarity in male genitalia with nominative form.

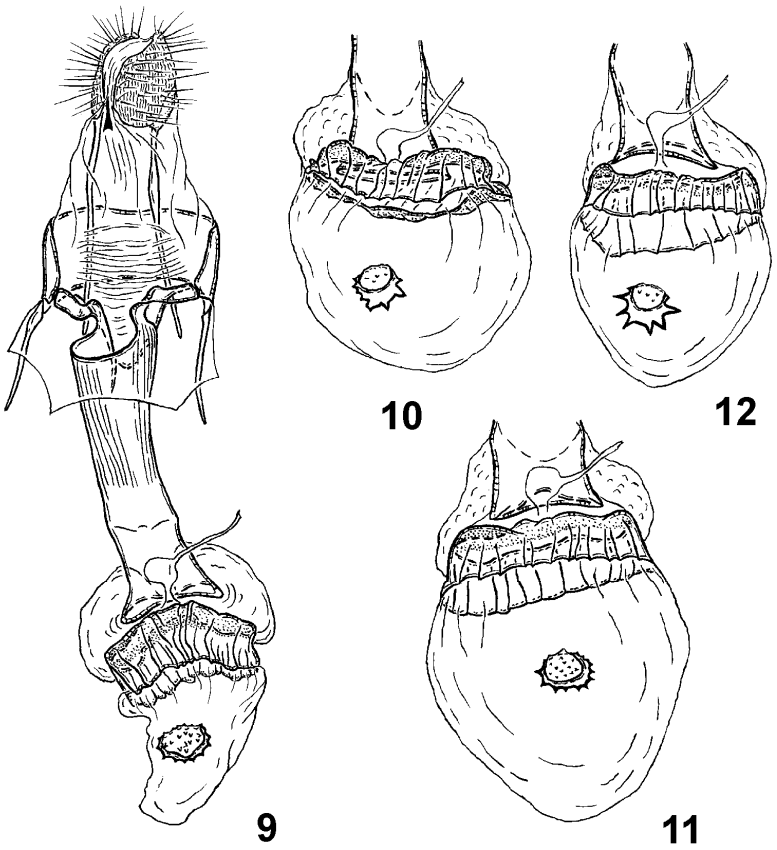
REMARKS. I consider subspecific range of the described form as tentative. Differences between *P. m. macularia* and *P. m. cryptica* in the female genitalia and in wing pattern correspond to the specific for the groups of close species in Ennominae. But I couldn't find clear differences between discussed forms in the male genitalia (except small difference in shape of vinculum). Taxonomic range of *P. m. cryptica* ssp. n. can be changed on specific after examination of the preimaginal stages or finding of the sympatric populations of the form under discussion and typical *P. macularia*.

***Pseudopanthera macularia macularia* (Linnaeus, 1758)**
(Figs 4, 5, 9-12)

Phalaena macularia Linnaeus, 1758, Syst. Nat (edn 10) 1: 521.

MATERIAL. 1♂, 1♀, West France, Rennes (R. Oberthür); 1♀, Russia, Kirovskaya oblast, Vyatka, 18.VI 1910 (coll. unknown); 9♂, 10♀, Russia, Bryanskaya oblast, Belye Berega, 22.V-13.VI 1969, 1971, 1972 (A. Kurentsov, Tseitgamel).

DISTRIBUTION. Europe, South Ural, Caucas, Transcaucasian region, Asia Minor; Tien-Shan (? ssp.).



Figs 9-12. *Pseudopanthera macularia macularia*, female genitalia. 9 – total view (Vyatka), 10-12 – corpus bursae (10 – Germany; 11, 12 – Belye Berega).

Key to subspecies of *Pseudopanthera macularia*

1(2). Wings yellow; dark-brown transverse lines and spots moderately wide, with dusting of yellow scales; antemedial line usually interrupted; dots at base of wings small and dark-brown. Male genitalia: vinculum with rounded latero-ventral extensions and with more or less curved lateral arms (Figs 4, 5). Female genitalia: corpus bursae with inflation of posterior margin of sclerotized ring and with signum irregular spined and rounded (Figs 9-11). . . . . ***P. macularia macularia* (L.)**

2(1) Wings reddish-yellow; dark-brown transverse lines and spots generally wider, without dusting of yellow scales; antemedial line usually not interrupted; dots at base of wings larger and, black-brown. Male genitalia: vinculum with more or less angular latero-ventral extensions and with almost straight lateral arms (Figs 1-3). Female genitalia: corpus bursae without inflation of posterior sclerotized ring and with signum quadrangular basally, bearing pair of lateral strong developed spines (Figs 6-8). . . . . ***P. macularia cryptica*** **ssp. n.**

ACKNOWLEDGEMENTS

I wish to express my grateful thanks to Dr D. Stüning (Museum König, Bonn) and Dr A. L. Lvovsky (Zoological Institute, St.Petersburg) for loaning the valuable material.

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SHORT COMMUNICATION

Streltzov A.N.[1], Malikova E.I.[1] & Tshistjakov Yu.A.[2]. FIRST RECORD OF THE FAMILY LEMONIIDAE (LEPIDOPTERA) FROM THE RUSSIAN FAR EAST - Far Eastern Entomologist. 1997. N 51 : 8-9.

А.Н. Стрельцов, Е.И. Маликова, Ю.А. Чистяков. Первая находка семейства Lemoniidae (Lepidoptera) на Дальнем Востоке // Дальневосточный энтомолог. 1997. N 51. С. 8-9.

The family Lemoniidae consists of one genus *Lemonia* Hbn., including about ten locally spreading species, distributed mainly within Mediterranean (South Europe, North Africa and Asia minor). Only two species are characterised by rather waste areas: *Lemonia taraxaci* Esp., occuring from Middle Europe up to Western Siberia and *L. dumi* L., so far known to be spreading from Western Europe up to Ural Mountains [1, 2]. In fact the latter occurs also in the South of Western Siberia (upon material from the collection of Institute of Animal Systematics and Ecology, Novosibirsk, perconal communication by V.V. Dubatolov), and in East Siberia (upon material of 3♂, 1♀, labelled: "Irkutsk, 8-18.IX 1916, Rodionof leg.", deposited in the collection of Zoological Institute, Russian Academy of Sciences, St-Petersburg). However it was considered till now this family is not represented in the Asian part of Russia, especially in the Far East. In September 1997 one specimen of *L. dumi* was found in the vicinities of Blagoveshchensk, Middle Amur region. So this is the most eastern founding of *L. dumi* in Eurasia and the first record of Lemoniidae species from the Russian Far East.

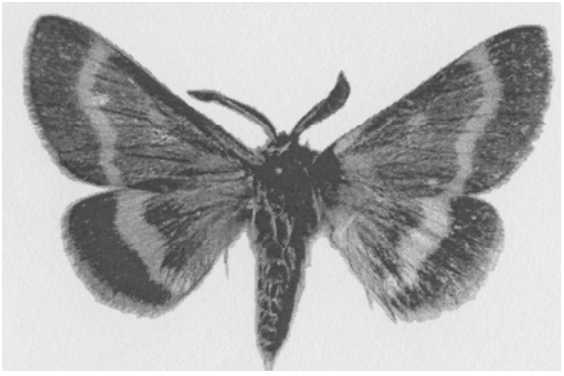

Fig. 1. *Lemonia dumi*, male.

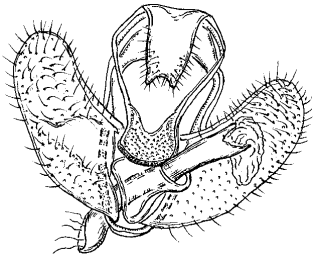

Fig. 2. Male genitalia of *Lemonia dumi.*

***Lemonia dumi* (Linnaeus, 1761)**

MATERIAL. Russia: Amurskaya oblast', 13 km NW Blagoveshchensk, 27.IX 1997, cutted high-grasses meadow on eastern slope of a hill, 1♂ (A. Strel'tzov).

REMARKS. This specimen closely resembles those from Europe and Siberia and differs only by more distinct light band on wings and more dark brown-black outer margin of the hind wings (Fig. 1). Male genitalia (Fig. 2) of examined specimen have not clear differences from that of European specimens.

DISTRIBUTION. West and East Europe, European part of Russia, Ukraine and Crimea [3], South of Western Siberia, Eastern Siberia and Russian Far East.

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Author's addresses:

1) Department of Zoology,
Blagoveshchensk State Pedagogical University,
Lenina street, 104, Blagoveshchensk, 675000, Russia

2) Institute of Biology and Pedology
Far Eastern Branch Russian Academy of Sciences,
Vladivostok, 690022, Russia

V.V. Dubatolov. A NEW SUBSPECIES OF *EUMEDONIA EUMEDON* (ESPER) (LEPIDOPTERA, LYCAENIDAE) FROM THE RUSSIAN FAR EAST - Far Eastern Entomologist. 1997. N 51 : 9-10.

В.В. Дубатолов. Новый подвид *Eumedonia eumedon* (Esper)(Lepidoptera, Lycaenidae) с Дальнего Востока // Дальневосточный энтомолог. 1997. N 51. С. 9-10.

A description of a new subspecies of *Eumedonia eumedon* (Esper, 1780) from Southern Primorye (Sinii Range) is given below. The types are deposited in Siberian Zoological Museum, Institute of Animal Systematics and Ecology, Siberian Branch of the Russian Academy of Sciences (Novosibirsk, Russia). The author is very grateful to Prof. T. Fujioka (Tokyo, Japan) for his help in organizing the expedition to Primorye in 1993-1995 and to Dr. O. E. Kosterin for correction an English version of the paper.

***Eumedonia eumedon albica* Dubatolov, ssp. n.**

MATERIAL. Holotype: ♂, Russia: "Primorye, Anuchino district, 13-14 km N of Chernyshevka, damp meadow, 17.VII 1993 (Dubatolov & Zintshenko)". Paratypes: 9♂, 4♀, the same locality, 15,17.VII 1993 (Dubatolov & Zintshenko); 1♂, Yakovlevka, 4.VIII 1981 (Ustjuzhanin); 1 ♂, Chuguevka district, Pavlovka River, middle flow, 25.VII 1982 (Silchenko).

DESCRIPTION. Male. Fore wing length 14 mm in the holotype, 14.5-17 mm in the paratypes. Wing upperside dark brown; there are 1-2 orange crescent patches in a tornal

angle of the hind wings; sometimes there is a sign of a third crescent between veins M_3 and *CuA*. Wing underside greyish-brown with a conspicuous whitish tincture, especially visible on hind wing. Wing pattern of the same type as in the nominative subspecies but the white pattern is extended and strongly diffused. There are specimens of the new subspecies almost without the white stroke between the discal spot and the postdiscal row of spots on hind wing underside. The stroke, if present, is not contrasted, its margins being strongly diffused.

Female. Fore wing length 14.5-16.5 mm. Wing pattern as in male, but there are always three orange crescents in the tornal angle, which are more expressed. A coloration and pattern of wing underside as in male. One female paratype has very strong whitish tincture, so wing underside coloration is not brownish but greyish-white.

NOTES. The nominative subspecies *Eumedonia e. eumedon* (Esper, 1780) is distributed from Europe throughout Siberia up to Amur Province (a personal communication of A. Streltzov) and Sakhalin Is. [1]. *E. e. albica* ssp. n. differs from the *E. e. eumedon* by strong whitish tincture on the wing underside and by diffuse white pattern. The specimens from Europe and Siberia have wing underside always brown, with white pattern very clear and contrasted. A report of another subspecies, *E. e. ambigua* (Staudinger, 1899), for Sakhalin by Ch. Junichi [1] in fact refers to the nominative one as it is clear from the nice colour slides. The specimens of the new subspecies formerly were attributed to *E. e.* f. *fylgia* Spongberg, 1876 [2], or to *E. e. eumedon* [3], or to *E. e. ambigua* [1, 4]. The subspecies *E. e. ambigua* was described from the mountains of Eastern Middle Asia with unprecise type locality: "Tura" [6]; later the type locality was specified to the Ferghana Province of the former Russian Empire [7]. The first figure of *E. e. ambigua* was published by A. Seitz [5].

There are some specimens of *E. e. ambigua* from the mountains of Tadzhikistan in the collection of Siberian Zoological Museum with fuzzy margins of the white pattern, but this fuzzing is not so strong as in new subspecies, and the butterflies are smaller and whitish tincture on wing underside is lacking.

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3. Tuzov, V.K. 1993. The synonymic list of butterflies from the ex-USSR. Rosagro-service, Moscow: 73 pp.

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Author's address:
Siberian Zoological Museum,
Institute of Animal Systematics and Ecology,
Novosibirsk, 630091, Russia

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