Russian Entomol. J. 11(2): 229–232

New species of the genus *Palearctia* Ferguson, 1984 (Lepidoptera: Arctiidae) from Tibet (China) — a sibling species to *P. hauensteini* Kautt, 1996

Новый вид рода *Palearctia* Ferguson, 1984 (Lepidoptera: Arctiidae) из Тибета (Китай) — вид-близнец *P. hauensteini* Kautt, 1996

V.V. Dubatolov*, V.O. Gurko**
В.В. Дубатолов*, В.О. Гурко**

* Siberian Zoological Museum, Institute of Animal Systematics and Ecology, Siberian Branch of Russian Academy of Sciences, Frunze street, 11, Novosibirsk 630091 Russia.

* Сибирский зоологический музей Института систематики и экологии животных СО РАН, ул. Фрунзе, 11, Новосибирск 630091 Россия.

** Chapaev street, 43a/40, Chernovtsy 580022 Ukraine.

** улица Чапаева, 43а/40, Черновцы 580022 Украина.

KEY WORDS: *Palearctia hauensteini, Palearctia glaphyra altotibetana,* new species, sibling species, Tibet, Xizang, China.

КЛЮЧЕВЫЕ СЛОВА: *Palearctia hauensteini, Palearctia glaphyra altotibetana,* новый вид, вид-близнец, Тибет, Китай.

ABSRACT: *Palearctia glaphyra altotibetana* de Freina, 1997 is synonymised with *Palearctia hauensteini* Kautt, 1996. A new sibling species for *Palearctia hauensteini*, namely *Palearctia ammosovi* Dubatolov et Gurko, sp.n., is described from the Chinese Tibet. These species differ by a different tone of the fore wing light colour and by the shape of the dentate zone at the vesica base on the aedeagus.

РЕЗЮМЕ: *Palearctia glaphyra altotibetana* de Freina, 1997 синонимизирован с *Palearctia hauensteini* Kautt, 1996. Описывается новый вид из китайского Тибета *Palearctia ammosovi* Dubatolov et Gurko, sp.n. — близнец *Palearctia hauensteini* Kautt, 1996. Эти виды отличаются различным тоном светлой окраски передних крыльев и формой зубчатой зоны у основания везики на эдеагусе.

Genus *Palearctia* Ferguson, 1984 was separated from *Micrarctia* Seitz, 1910. Its size was deliminated, and the genus was reviewed by V.V. Dubatolov [1996]. Later, several taxa were described by the different authors. Now the genus includes more than a dozen of species from high mountains of the Altais, East Kazakhstan, Tien-Shan, Alai-Pamirs, Hindukush, Kashmir, Tibet, Himalayas. If the species number in the republics of Middle Asia was well detected, it is not so in the Tibet-Himalayan part of the generic area.

The holotype of *Palearctia hauensteini* Kautt, 1996 originates from the Chinese Tibet, namely, from the Mt. Everest region (Pang-La). Into the type series a series of paratypes was included from the Gyangze region (Karo-La pass, 70 km E Gyangze), that is 350 km east of the Mt. Everest. Next year, *Palearctia glaphyra altotibetana* De Freina, 1997 was described from the type locality of *P. hauensteini,* based on a single male specimen. The most surprising was that J. De Freina did not investigated the genitalia of the specimen described, that is absolutely necessary for any taxonomic conclusion in the *Palearctia* systematics. Nevertheless, the colour photo of the type specimen was published making completely evident that the *P. glaphyra altotibetana* holotype is not conspecific to *P. glaphyra* (Eversmann, 1843), which is an endemic species of the North, Inner, Central, and East Tien Shan Mts. [Dubatolov, 1996], but almost coincides with the *P. hauensteini* holotype. So, taking into account the identity of the type localities, we consider that *Palearctia hauensteini* Kautt, 1996 = *Palearctia glaphyra altotibetana* De Freina, 1997, **syn.n.**

Several years later, in the region where the paratype series of *P. hauensteini* originated from, a series of *Palearctia* tiger-moths was collected which were not identical to *P. hauensteini* but only very similar to it. A study of the genitalia of the male specimens, which were sent to V. V. Dubatolov, revealed slight but distinct differences of the species rank between studying specimens and *P. hauensteini* description. As a result, below follows a new species description.

Palearctia ammosovi Dubatolov et Gurko, **sp.n.**
Figs 1–2.

Material. Holotype ♂. China, Tibet, North-East of Gyangzê, Yung pass, 5300 m, 25–30.07.1999; paratypes — 34 ♂♂, 22 ♀♀ (including the allotype), the same locality, ex larvi and pupi (V. Gurko, O. Ammosov leg.). The holotype and allotype are preserved in the collection of V. O. Gurko (Chernovtsy, Ukraine), several paratypes — in Siberian Zoological Museum of the Institute of Animal Systematics and Ecology (Novosibirsk, Russia) and in Zoological Institute (St. Petersburg, Russia).

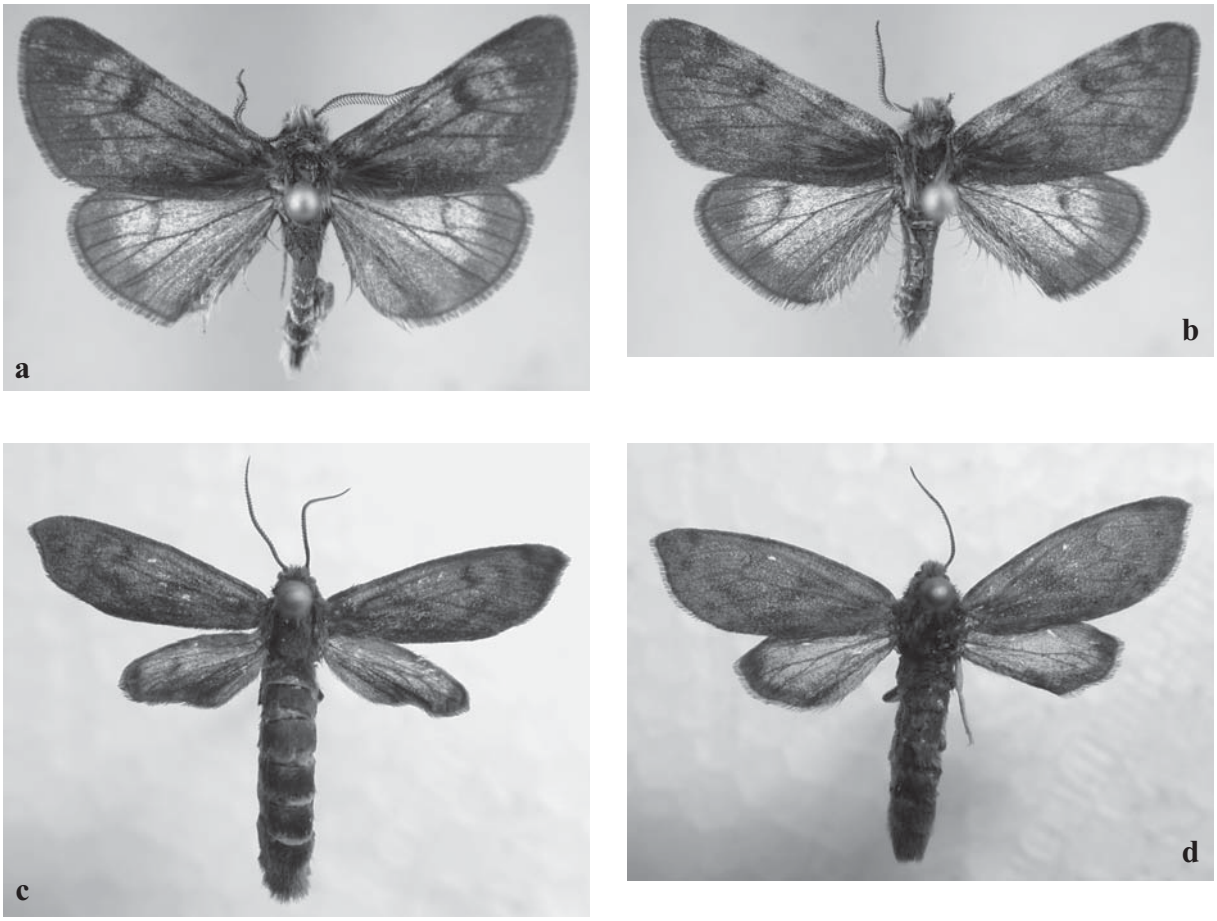

Fig. 1. *Palearctia ammosovi* sp.n.: A, B — males; C–D — females; A — holotype, C — allotype.
Рис. 1. *Palearctia ammosovi* sp.n.: A, B — самцы; C–D — самки; A — голотип, C — аллотип.

DESCRIPTION. Male (Fig. 1A–B). Head covered with dense, long, sticking out, black hairs with a scarce admixture of whitish ones. Palpi porrect, set with long whitish hairs with an admixture of blackish-brown one. Proboscis light and short, no longer than palpi. Antenna bicrestate, the shorter teeth twice and the longer teeth thrice longer than antenna diameter. Its coloration black with few grey scales scattering. Patagiae and tegulae in long, sticking out, carroty-reddish, black, and few whitish hairs. Thorax covered with snug blackish scales and long blackish and carroty-reddish hairs. Femora in long black and whitish hairs, fore and middle tibiae and tarsi in the same coloured scales, hind tarsus in whitish scales only. Middle tibiae with one pair, hind tibia — with two pairs of short (no longer than tibia diameter) and stout spurs. Abdomen in black and yellowish-white hairs and scales, yellowish-white ones concentrating along hind edges of segments and on abdomen top and bottom.

Fore wing length 13 mm. Fore wing upperside dark brown (including fringes) with a light suffusion of grayish-rose scales. Only discal spot (especially in the figured paratype) is darker than ground colour. All veins darkened, but not darker than ground colour. Wing pattern of the holotype and the paratypes, which were investigated by V. V. Dubatolov, slightly differ from each other. In the figured paratype (Fig. 1B) several light bands are visible: a basal one, a wide medial one, a narrow postmedial and a very narrow subterminal one, partly fused with the later (for the nomenclature of the light pattern of the Arctiinae fore wing see Ferguson, 1985: fig. 11). As a result, the dark pattern is reduced to a dark hind margin, an slanting and smoothly curved band M^2 (for the nomenclature of the dark pattern of the Arctiinae fore wing see Sokolov, 1936), a very narrow band M^1, which goes round the discal vein, two subapical spots and a triangular spot on vein Cu_2 belonging to band E^3, and also a wide dark outer border (E^{1+2}). In the holotype, the dark pattern is reduced proximaly of the discal vein, so that only the dark spot in basal part of the cell and the dark hind border remain well visible. Furthermore, in the holotype the dark external border is formed by fully fused bands E^{1+3}. The colour images of the type specimens is published in the Internet: http://szmn.eco.nsc.ru/Lepidop/Arctiid.htm on a hyperlink "*Palearctia ammosovi* Dubatolov et Gurko".

Hind wing upperside grayish-white with a grayish-brown suffusion, being denser in the wing anal part, and the same coloured veins, including discal one. External border wide, grayish-brown, fringe of the same colour.

Male genitalia (Fig. 2A). The general structure is characteristic for the genus (Dubatolov, 1996). Valva apex with a broad costal projection, as in *P. gratiosa* (Grum-Grshimailo, 1890), *P. ferghana* (Staudinger, 1887), *P. hauensteini* Kautt, 1996. Aedeagus with a dentate zone along right side of vesica base. This zone is broad in its proximal part, but is abruptly

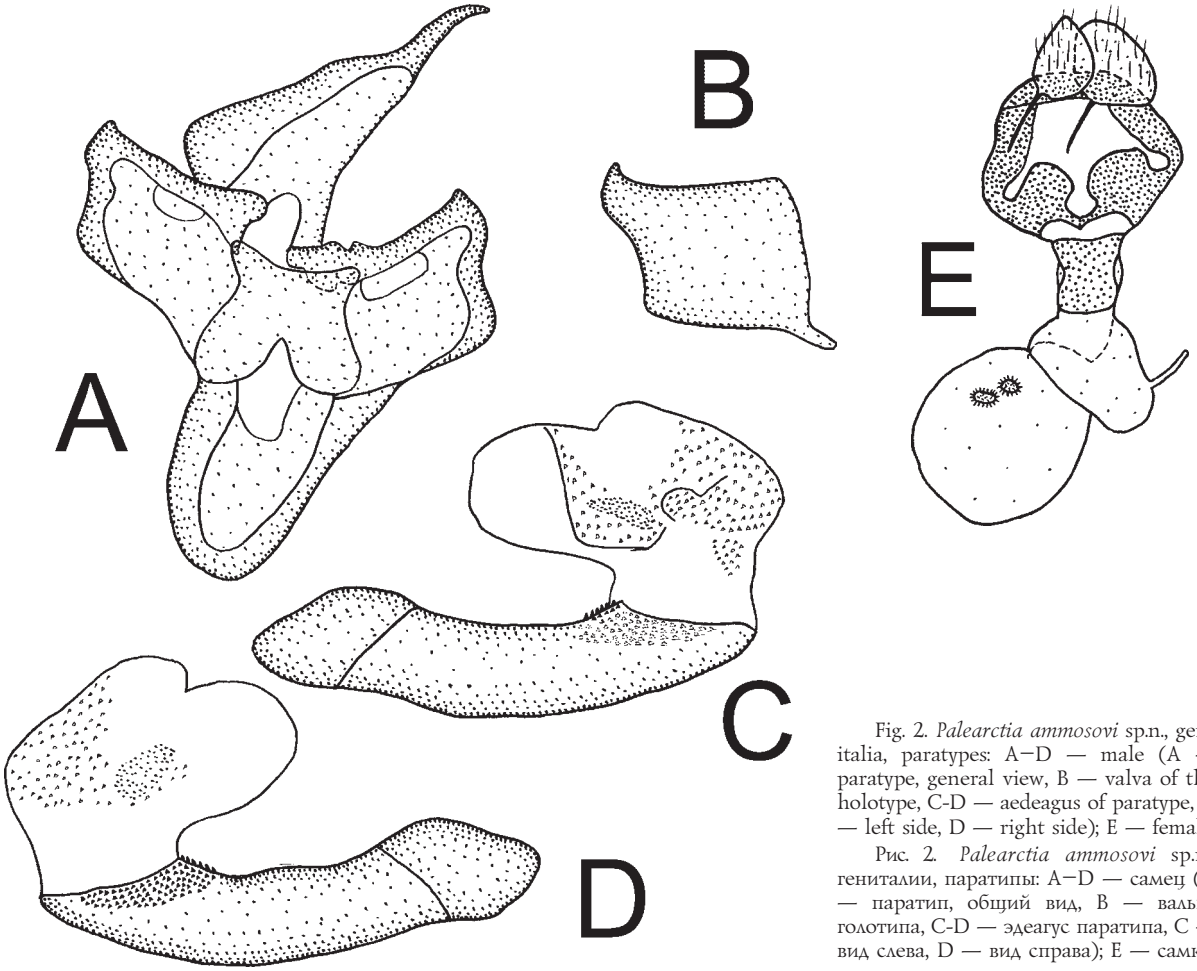

Fig. 2. *Palearctia ammosovi* sp.n., genitalia, paratypes: A–D — male (A — paratype, general view, B — valva of the holotype, C-D — aedeagus of paratype, C — left side, D — right side); E — female.

Рис. 2. *Palearctia ammosovi* sp.n., гениталии, паратипы: A–D — самец (A — паратип, общий вид, B — вальва голотипа, C-D — эдеагус паратипа, C — вид слева, D — вид справа); E — самка.

narrowed, along the right side of the vesica base extending almost to the aedeagus apex.

Female (Fig. 1C–D). Body length 14 mm. Head, as in males, covered with dense, rather short, sticking out, black hairs with a scarce admixture of whitish and grayish-rose ones. Light hairs are denser on the head vertex. Palpi porrect, set with short hairs like those on frons. Proboscis light and short, no longer than palpi. Antenna black, saw-shape with two rows of sharp triangular teeth. Patagiae, tegulae and nothum covered with a mixture of grayish-rose and black dense hairs. Other parts of thorax and most parts of legs and abdomen covered with dense close-fitting dark grayish-brown scales. Coxa covered with grayish hairs. Hind edges of abdominal segments with scarced grayish scales, on lateral parts of segments they are more dense.

Females brachipterous; length of fully expandes wings 11–11.5 mm. Fore wings elongated, tapering, pointed apically; covered, as in males, with light (grayish-rose) and dark brown scales. Dark pattern more expressed in the allotype, represent by acute triangle-shaped band M^2, a discal spot, and band M^1 which gradually deviates to avoid this spot; both bands converging with their bases. External wing part dark. In the light paratype specimen this dark border is separated into two narrow bands — E^3 and E^{1+2}. Main part of hind wing upperside graysh-white with scarce dark scales, dark veins and a continuous broad dark external border.

Female genitalia (Fig. 2B). Very similar to those of *Palearctia ferghana* (Staudinger, 1887) [Dubatolov, 1996: 23, fig 6i], differs only by a more broad and separated bulla seminalis, a longer and broader sclerotization of ductus bursae, that is similar to those of *P. erschoffii* (Alpheraky, 1882). Bursa with two oval signi.

NOTES ON SYSTEMATICS. The new species is very similar to *P. hauensteini* both by the wing pattern and genitalia structure. The new one is characterized by a grayish-rose tone of the light pattern on the fore wing upperside (which is characteristic both for males and females), that of *P. hauensteini* being yellowish-white. The most important difference is found in the shape of the dentate zone along the vesica base, which in *P. hauensteini* is located only along its proximal part and not extended towards the aedeagus apex.

The species is named in the honour of Oleg Yur'evich Ammosov, an amateur lepidopterologist from Moscow (Russia).

The authors are greatly indebted to J. De Freina (München, Germany) for the constant help with literature on Arctiinae, and to Dr. O. E. Kosterin (Novosibirsk, Russia) for correcting the language.

References

Alphéraky S. 1882. Lépidoptères du district de Kouldja et des montagnes environnantes // Horae Soc. Ent. Ross. T.17. P.15–103. Pl.1–3.

Dubatolov V.V. 1987. [On systematics of the genus *Micrarctia* Seitz, s. lat. (Lepidoptera, Arctiidae)] // A.I. Tsherepanov (ed.)

Nasekomye, klestshi i gel'minty [Insects, mites and helmints] / Novye i maloizvestnye vidy fauny Sibiri [New and little known species of Siberian fauna]. Novosibirsk: Nauka Publ., Siberian Branch. No.19. P.30–47 [in Russian].

Dubatolov V.V. 1996. 2. A review of the genus *Palearctia* Ferguson (on the systematics of the genus *Micrarctia* Seitz s.l., Part 3) // Dubatolov, V.V. Three contribution to the knowledge of palearctiic Arctiinae // Neue Entomologische Nachrichten. Bd.37. P.9–37, 88–89.

Eversmann E. 1843. Quaedam lepidopterorum species novae in montibus Uralensibus et Altaicus habitantes nunc descriptae et depictae // Bull. Soc. Imp. Nat. Mosc. Vol.16. No.3. P.535–553.

Ferguson D.C. 1984. Two generic names for groups of holarctic and palaearctic Arctiini (Lepidoptera, Arctiidae) // Proc. entomol. Soc. Wash. Vol.86. No.2. P.452–459.

Ferguson D.C. 1985. Contribution toward reclassification of the world genera of the tribe Arctiini, part 1. – Introduction and a revision of the *Neoarctia – Grammia* group (Lepidoptera: Arctiidae, Arctiinae) // Entomography. Ann. Rev. Biosystematics. Sacramento. Vol.3. P.181–275.

Freina J.J. de. 1997. Nouvelles Arctiides de la faune paléarctique asiatique (Lepidoptera, Arctiidae, Arctiinae) // Linneana belgica. Vol.16. No.1. P.49–60.

Grum-Grshimailo G. 1890. Lepidoptera nova vei parum cognita regionis palaearcticae. 1 // Annu. Mus. Zool. Acad. Imp. Sciences. St.-Pétersburg. T.4. P.455–472.

Kautt P. 1996. *Palearctia hauensteini* sp. n., eine neue Bärenspinnerart aus Südtibet (Lepidoptera: Arctiidae) // Nachrichten des Entomologischen Vereins, Apollo. Bd.17. H.1. S.41–49.

Sokolov G.N. 1936. Die Evolution der Zeichnung der Arctiidae // Zool. Jahrb. Anat. Bd.61. H.2. S.139–194.

Staudinger O. 1887. Centralasiatische Lepidopteren // Entomol. Z., Stettin. Bd.68. S.49–102.