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FIRST RECORD OF *LASIOGLOSSUM ADABASCHUM* (BLÜTHGEN, 1931) (HYMENOPTERA: HALICTIDAE) FROM EUROPE WITH DESCRIPTION OF HITHERTO UNKNOWN MALE

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Summary. *Lasioglossum adabaschum* (Blüthgen, 1931), a species hitherto known only from the holotype collected in Turkmenistan (Ashgabat), is reported from Europe (Russia: Kalmyk Republic and Astrakhan Province). The species is closely related to *L. pallidum* (Radoszkowski, 1888) known from Afghanistan, Turkmenistan and Russia. *Lasioglossum adabaschum* can be easily distinguished from *L. pallidum* by the mostly black body (versus almost entirely ochre- or whitish-yellow). The male of *Lasioglossum adabaschum* is here described for the first time. The known fauna of Europe numbers 2,131 species of bees.

Key words: wild bees, distribution, Russia, Palaearctic region.

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Резюме. Для Европы (Россия: Астраханская область и Республика Калмыкия) указан вид *Lasioglossum adabaschum* (Blüthgen, 1931), ранее известный только по голотипу, собранному в Туркменистане (Ашхабад). Вид близок к *L. pallidum* (Radoszkowski, 1888), распространенному в Афганистане, Туркменистане и России, и хорошо отличается от него по окраске (полностью черной у *L. adabaschum* и охристой или беловато-желтой у *L. pallidum*). Впервые описан самец *Lasioglossum adabaschum*. Известная фауна пчел Европы насчитывает 2131 вид.

INTRODUCTION

A recent checklist collated by Ghisbain et al. (2023) showed that European bee fauna totals 2,130 species from 77 genera and six families.

The genus *Lasioglossum* Curtis, 1833 currently includes 1880 described species (Ascher & Pickering, 2023), which are globally distributed with the highest known diversity in the Holarctic Region (Michener, 2007). About 450 species are known from the Palearctic region, of which 180 species are found in Europe (Ghisbain et al., 2023). *Lasioglossum adabaschum* (Blüthgen, 1931) was known only from single female (holotype) described from Ashgabat (Turkmenistan) and deposited in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg [ZISP]. Data on the holotype including detail pictures was published by Astafurova and Proshchalykin (2018: 8, fig. 4a–e). Although founding of Central Asian bee species in deserts of the south of the Russian European part is not surprising (Pesenko, 2004; Proshchalykin et al., 2017; Proshchalykin & Kuhlmann 2020), the record so rare species as *L. adabaschum* from several locations of Europe (Russia: Kalmyk Republic and Astrakhan Province) is really interesting. The specimens (seven females and one male) were collected in desert biotopes with flowers of *Euphorbia seguieriana* Neck. (Euphorbiaceae) (Fig. 1).

The male of *Lasioglossum adabaschum* is here described for the first time. The known fauna of Europe numbers 2,131 species of bees.

RESULTS

Lasioglossum (Hemihalictus) adabaschum (Blüthgen, 1931)

Figs 2 – 10

Halictus adabaschum Blüthgen, 1931: 368, fig. 12a, ♀ (holotype: ♀, Ashgabat, Turkmenistan, 5.V.1928, V. Gussakovskij; ZISP), examined.

MATERIAL EXAMINED. **Russia:** Astrakhan Province, Volzhskiy, 46°58' N, 47°32' E, 24.VII.2017, 3 ♀, 1 ♂, M. Mokrousov; Kalmyk Republic, 23 km SEE Khulkhuta, Davsna Sands, 46°17' N 46°40' E, 15-16.VII.2015, 1 ♀, M. Proshchalykin, V. Loktionov, M. Mokrousov; 16 km E of Khulkhuta, 46°17' N 46°41', 29.V.2016, 3 ♀, Yu. Astafurova [ZISP].

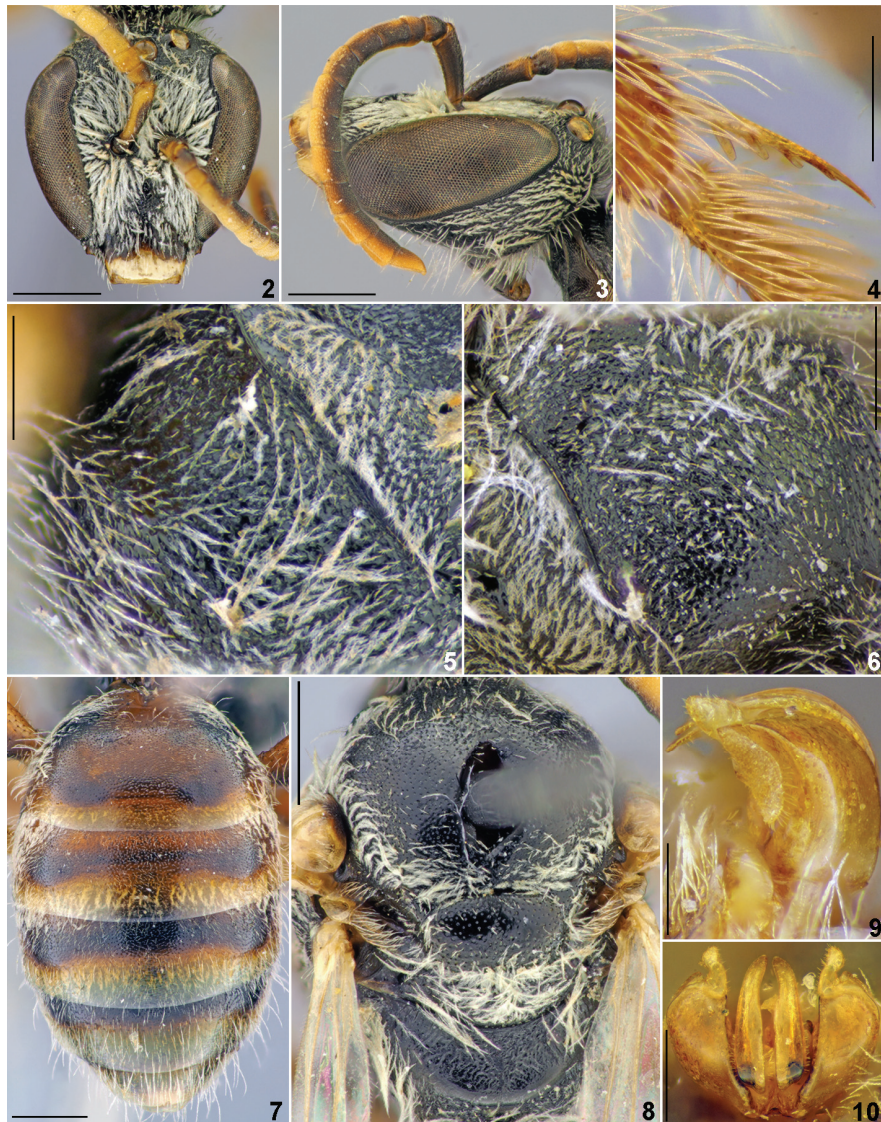


Fig. 1. Collecting place of *Lasioglossum adabaschum* (Blüthgen) in Kalmyk Republic.

DIAGNOSIS. Pesenko (2007: 23) considered this species a member of the *Lasioglossum punctatissimum* species group into the subgenus *Puncthalictus* Warncke, 1975. However *L. adabaschum* has the long dorsal surface of propodeum (as long as scutellum), the granulate (at list on upper half) mesepisternum (Figs 5, 6) and the relatively long malar space. In this features *L. adabaschum* is rather closest to *L. pallidum* (Radoszkowski, 1888) and in addition both have a head higher than wide, short male antennae, a inner metatibial spur with 3–4 relatively long truncate teeth (Fig. 4), similar form of gonostylus with elongate membranous lobe and similar structure/sculpture of the body. *Lasioglossum adabaschum* can be easily distinguished from *L. pallidum* by the mostly black body (versus almost entirely ochre- or whitish-yellow).

DESCRIPTION OF HITHERTO UNKNOWN MALE. *Structure and sculpture.* Total body length 5.5 mm. Head (Figs 2, 3) elliptic, 1.12 times as long as wide; vertex not elevated, distance from top of head to upper margin of lateral ocellus ca. 0.3 lateral ocellar diameter as seen in frontal view. Clypeus 1.25 times wider than high; on lower third almost impunctate, with a few tiny punctures, on upper two thirds densely and finely (10–15 μm) punctate with punctures separated by 1–2 puncture diameters, interspaces polished and shiny. Supraclypeal area polished, irregularly and finely punctate (5–10 μm / 1–4). Frons and vertex with tiny punctures (5–10 μm) separated less than a puncture diameter. Genal area expanded downward, 0.75 times as wide as eye in lateral view, finely punctate with smooth interspaces

(sculpture scarcely visible under denser pubescence). Antennae short, not reaching scutellum, F1 transverse, 0.8 times as long as wide, F2 1.35 times as long as wide, remaining flagellomeres ca. 1.15 times as long as wide. Mesepisternum with confluent



Figs 2–10. *Lasioglossum adabaschum* (Blüthgen): 2, 3, 5, 7–10 – ♂ (2, 3 – head, frontal (2) and lateral (3) views; 5 – mesepisternum, dorsal view; 7 – metasoma, dorsal view; 8 – mesosoma, dorsal view; 9, 10 – genitalia, lateral (9) and dorsal (10) views); 4, 6 – ♀ (4 – inner metatibial spur, lateral view; 6 – mesepisternum, dorsal view). Scale bars: 0.5 mm (2, 3, 7, 8); 0.3 mm (4–6, 9, 10).

and tiny punctures (granulose) on upper half, on lower part with smooth and shiny interspaces ca. a puncture diameter (Fig. 5). Mesoscutum and mesoscutellum polished and shiny, medially finely and relatively sparse punctate (10–12 μm / 2–4), peripherally denser with punctures separated by ca. a puncture diameter (Fig. 8). Posterior vertical surface of propodeum without lateral carina in upper half; propodeum long, its dorsal surface as long as scutellum, flat, horizontal; metapostnotum shiny, with rugulose sculpture not reaching posterior margin, smother along its posterior margin (Fig. 8). Lateral and posterior surface of propodeum shagreened. Metasoma elongate elliptical, with maximum width at level of T3 (Fig. 7). Terga smooth, densely and distinctly punctate (ca. 10 μm / 0.5–3); posterior areas (marginal zones) depressed only laterally, on T2–T4 finely transversely lineolate (tessellate). Sterna finely transversely lineolate (tessellate). Gonostylus small (Fig. 10), membranous lobe long, expanded basally and pointed apically (Fig. 9).

Coloration. Body mostly black, but clypeus on lower third, labrum and mandibles yellow; antennae on upper side dark brown, on lower side ochre-yellow. Femur, tibia and tarsi yellow-red (amber). Wings hyaline with light yellow veins and stigma. Terga brownish with amber, posterior areas translucent, yellowish. Sterna amber with yellowish posterior areas. *Pubescence.* Whitish. Face, gena, lateral part of mesosoma with denser obscuring the integument pubescence. Mesoscutum with sparser tiny setae with but along margins with dense thick plumose setae. Metanotum with tomentum obscuring the integument. Terga with anterior bands of tomentum well visible under truculent posterior margins; T1 with lateral spots of relatively dense tomentum. Sterna with long erect setae along posterior margins.

DISTRIBUTION. Turkmenistan (Ashgabat), Russia (Astrakhan Province, Kalmyk Republic) (new record).

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REFERENCES

- Ascher, J.S. & Pickering, J. 2023. *Discover Life bee species guide and world checklist (Hymenoptera: Apoidea: Anthophila)*. Available at http://www.discoverlife.org/mp/20q?guide=Apoidea_species (accessed 17 April 2023).
- Astafurova, Yu.V. & Proshchalykin, M.Yu. 2018. The type specimens of bees (Hymenoptera, Apoidea) deposited in the Zoological Institute of the Russian Academy of Sciences, St. Petersburg. Contribution I. Family Halictidae, genus *Lasioglossum* Curtis, 1833. *Zootaxa*, 4408(1): 1–66. DOI: 10.11646/zootaxa.4408.1.1
- Blüthgen, P. 1931. Beiträge zur Kenntnis der Bienengattung *Halictus* Latr. III. *Mitteilungen aus dem Zoologischen Museum in Berlin*, 17(3): 319–398.

- Ghisbain, G., Rosa, P., Bogusch, P., Flaminio, S., Le Divelec, R., Dorchin, A., Kasperek, M., Kuhlmann, M., Litman, J., Mignot, M., Müller, A., Praz, C., Radchenko, V.G., Rasmont, P., Risch, S., Roberts, S.P.M., Smit, J., Wood, T.J., Michez, D. & Reverté, S. 2023. The new annotated checklist of the wild bees of Europe (Hymenoptera: Anthophila). *Zootaxa* (in press).
- Michener, C.D. 2007. *The bees of the world*. 2nd edition. Johns Hopkins University Press, Baltimore, xvi + [i] + 953 pp., 20 pls.
- Pesenko, Yu.A. 2004. New data on the taxonomy and distribution of bees of the subfamily Nomiodinae (Hymenoptera: Halictidae) of Middle Asia and Kazakhstan. *Proceedings of the Russian Entomological Society*, 75(1): 283–295. [In Russian]
- Pesenko, Yu.A. 2007. Subgeneric classification of the Palearctic bees of the genus *Evyllaes* Robertson (Hymenoptera: Halictidae). *Zootaxa*, 1500(1): 1–54. DOI: 10.11646/zootaxa.1500.1.1
- Proshchalykin, M.Yu., Astafurova, Yu.V., Schwarz, M., Levchenko, T.V. & Byvaltsev, A.M. 2017. New records to the bee fauna of Russia (Hymenoptera, Apiformes). *Far Eastern Entomologist*, 337: 17–24. DOI: 10.25221/fee.337.2
- Proshchalykin, M.Yu. & Kuhlmann, M. 2020. New data on bees of the genus *Colletes* Latreille (Hymenoptera: Colletidae) from Russia. *Far Eastern Entomologist*, 406: 21–26. DOI: 10.25221/fee.406.3