

FIRST RECORD OF THE TAWNY MINING BEE (*ANDRENA FULVA* (MÜLLER, 1766)) (HYMENOPTERA: ANDRENIDAE) IN BELARUS

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Introduction

To date, 1607 species of the genus *Andrena* have been described in the world fauna (Ascher & Pickering 2022). In the Palaearctic region, the genus *Andrena* consists of about 950 species (Gusenleitner & Schwarz, 2002; Gusenleitner *et al.*, 2005). The scientific literature indicates 81 species of bees belonging to the genus *Andrena* described for Belarus (Prishchepchik, 2000; Khvir, 2010; Ostrovsky, 2018; Prishchepchik *et al.*, 2018; Khvir, 2020; Ascher & Pickering, 2022).

Species of the genus *Andrena* are essential pollinators of wild and cultivated plants (Marikovskaya, 1982; Prishchepchik *et al.*, 2018). Due to changes in the regional climate, new bee species may enter the territory of Belarus. The study of the features of their biology and ecology is a priority.

Material and Methods

The imago (♀) was collected on 10 05 2021 in Tyukhinichi ag., Lesnaya str., Brest region (N52.157289, E23.664554) on flowers of *Ribes rubrum* L., by A.V. Sinchuk. The photo was made in the Department of Zoology of the Faculty of Biology of the Belarusian State University using Optec SZ780 trinocular stereomicroscope and a Canon 1100d SLR camera installed on it. HeliconRemote software was used to get the images from the microscope. HeliconFocusLite was used to process some pictures and get a sharp resolution of specific objects. The species was identified by imago (Falk & Lewington, 2018; Lazauskaitė *et al.*, 2021). The specimen is deposited in the private collection of A. Sinchuk.

Results

One female bee *Andrena fulva* (Müller, 1766) was caught on flowers of *Ribes rubrum* L. The bee has thick reddish-red setae covering the dorsal surface of the chest and abdomen (Fig. 1: A, B). The rest of the body is covered with black setae. The bee's head is black (Fig. 1: C, D). There is a tooth at the base of the mandibles (Fig. 1: D).



Fig. 1. Female *Andrena fulva* (Müller, 1766): (A) top view; (B) side view; (C) head top view; (D) head front view (Photo: A.V. Sinchuk), Tyukhinichi ag. (Brest region), Belarus

In the natural conditions, it is noted that polylectic bees forage on *Ranunculus* (*ficaria*?), *Alliaria petiolata*, *Acer campestre*, *Acer pseudoplatanus*, *Ilex aquifolium*, *Crataegus monogyna*, *Ribes grossularia*, *Melandrium* sp., *Fagus* sp., *Quercus* sp., *Salix* sp., *Viburnum lantana*, *Prunus spinosa*, *Prunus avium*, *Prunus* cultivars (Chambers, 1968), *Prunus cerasifera* (Lazauskaitė et al., 2021), *Ribes rubrum* (Gogala, 2011).

Discussion

Andrena fulva is widespread in western and central Europe. In addition, this species of bee is found in Northern and Southern Europe, as well as in the Balkans, Turkey, the Caucasus, the Urals and Siberia. The species was recorded in the Kaliningrad region and Poland, it was not noted for Belarus and Latvia (Rasmont et al., 2013; Ascher & Pickering, 2020; Tomozei, 2014; Proshchalykin et al., 2017). *A. fulva* was discovered for the first time in Lithuania in 2021 (Lazauskaitė et al., 2021). It is assumed that this species is expanding its range due to regional climate changes. The Brest region in Belarus is distinguished by its mild climate, which allows new species from central and southern Europe to spread in the country.

As a result of the research, a female *Andrena fulva* (Müller, 1766) was noted for the first time for the fauna of Belarus. Currently, according to published data, 82 species of bees of the genus *Andrena* are registered in the fauna of Belarus.

References

- Ascher J. S., Pickering J. 2020. Discover Life bee species guide and world checklist (Hymenoptera: Apoidea: Anthophila). Available from <http://www.discoverlife.org> (Accessed October 25, 2022).
- Chambers V. H. 1968 Pollens collected by species of *Andrena* (Hymenoptera: Apidae) Proceedings of the Royal Entomological Society of London. Series A: General Entomology 43 (10–12): 155–160.
- Falk S., Lewington R. 2018. *Field Guide to the Bees of Great Britain and Ireland*. London: Bloomsbury Publishing. 432 p. (Series: Bloomsbury Wildlife Guides).
- Gogala A. 2011. *Andrena fulva* (Müller, 1766) // Wild Bee photo gallery: <http://www2.pms-lj.si/andrej/andful.htm> (Bee fauna of Slovenia) (Accessed October 15, 2022).
- Gusenleitner F., Schwarz M. 2002. Weltweite Checkliste der Bienengattung *Andrena* mit Bemerkungen und Ergänzungen zu paläarktischen Arten (Hymenoptera, Apidae, Andreninae, Andrena). *Entomofauna* 12: 1–280.
- Gusenleitner F., Schwarz M., Ascher J. S., Scheuchl E. 2005. Korrekturen und Nachträge zu Gusenleitner F. & Schwarz M. (2002): Weltweite Checkliste der Bienengattung *Andrena* mit Bemerkungen und Ergänzungen zu paläarktischen Arten (Hymenoptera, Apidae, Andreninae, Andrena). *Entomofauna* 26: 437–472.
- Khvир D. 2020. *Andrena ferox* Smith, 1848 and *Andrena ornata* Morawitz, 1866 (Hymenoptera, Apoidea: Andrenidae) – a new bee species for the fauna of Belarus. *Baltic Coastal Zone. Journal of Ecology and Protection of the Coastline* 24: 41–44.
- Khvир V. 2010. Anthophilous Hymenoptera of the Minsk Upland. *Vestnik Belorusskogo gosudarstvennogo universiteta. Seriya 2.* (3): 78–81. [In Russian].
- Koroteeva, D. O. 2021. Taxonomic composition of Apoidea visitors of solidago inflorescences in different biotopes in Minsk. *Alien species of animals, fungi and plants in Belarus and neighboring countries: Book of Abstracts of the 1 st International Scientific Conference*, Minsk, Belarus, March 23, 2021 / Belarusian State University; D. G. Zhorov [et al.] (eds.). Minsk: BSU. 103–104.
- Lazauskaitė M., Budrys E., Ferencā R., Steiblys G. 2021. First records of *Megachile rotundata* (Fabricius, 1787) and *Andrena fulva* (Müller, 1766) in Lithuania (Hymenoptera: Megachilidae, Andrenidae). *Bulletin of the Lithuanian Entomological Society* 5 (33): 96–99.
- Marikovskaya T. P. 1982. *Pchelinyye – opyliteli sel'skokhozyaystvennykh kul'tur*. Alma-Aty: Nauka. 116 p. [In Russian].
- Ostrovsky A. M. 2018. A first record of *Stylops melittae* Kirby, 1802 (Insecta: Strepsiptera: Stylopidae) in Belarus. *Euroasian entomological journal* 17 (3): 189–190.
- Prishchepchik O. V. 2000. The fauna and ecology of bees (Hymenoptera, Apoidea) of Minsk Hills: Abstract dis. PhD biology: 03.00.09. Priluki, Minsk region. 20 p. [In Russian].
- Prishchepchik O. V., Borodin O. I., Prokhorchik P. S., Makovetskaya E. V. 2018. Insects are pollinators. Taxonomic composition of wild pollinators of the fauna of Belarus. *Sokhraneniye i ratsional'noye ispol'zovaniye dikikh i odomashnennykh opyliteley: sbornik statey I Mezhdunarodnoy nauchno-prakticheskoy konferentsii*, December 5–7, 2018. Minsk, 2018. 64–92. [In Russian].

- Proshchalykin M., Astafurova Y., Osytshnjuk A. Z. 2017. The species-group names of bees (Hymenoptera: Apoidea, Apiformes) described from Crimea, North Caucasus, European part of Russia and Ural. Part II. Families Andrenidae and Megachilidae. *Far Eastern Entomologist* 328: 1–34.
- Rasmont P., Roberts S. P. M., Michez D., Schweiger O., Franzen M., De Meulemeester T., Tomozei B., Radchenko V. 2013. *Atlas of the European Bees: genus Andrena. 1st Edition.* Mons & Gembloix.
- Tomozei B. 2014. *Andrena fulva*. The IUCN Red List of Threatened Species 2014. Available from <https://www.iucnredlist.org> (Accessed October 15, 2022).

Pirmasis bitės *Andrena fulva* (Müller, 1766) (Hymenoptera: Andrenidae) stebėjimas Baltarusijoje

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Pateikiami duomenys apie pirmą kartą Baltarusijoje stebėtą rūdžiagaurę smėliabité *(Andrena fulva)* (Müller, 1766), kuri lankė raudonojo serbento *Ribes rubrum* L. žiedus. Šiuo metu Baltarusijoje žinomas 82 *Andrena* genties smėliabičių rūšys.

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