

УДК 595.799 (477.8)

THE FIRST RECORD OF *BOMBUS ARGILLACEUS* (SCOPOLI, 1763) (HYMENOPTERA, APIDAE, BOMBINI) FROM THE TRANSCARPATHIANS' LOWLAND

Konovalova I. B.

Перша знахідка *Bombus argillaceus* (Scopoli, 1763) (Hymenoptera, Apidae, Bombini) із Закарпатської низовини. - I. Б. Коновалова. – Вперше зареєстровано рідкісний степовий вид джмеля *Bombus argillaceus* в червні 2007 року в м. Мукачеве Закарпатської області. Подається коротка інформація про його поширення та екологію.

Ключові слова: джмелі, *Bombus argillaceus*, степові ценози, Закарпаття, Україна.

Адреса: Державний природознавчий музей НАН України, Львів, вул. Театральна, 18, 79008, Україна, e-mail: iren@museum.lviv.net

The first record of *Bombus argillaceus* (Scopoli, 1763) (Hymenoptera, Apidae, Bombini) from the Transcarpathians' Lowland. – I. B. Konovalova. – The first record of rare steppe bumblebee species *B. argillaceus* was made in June, 2007 in Mukatcheve town of Zakarpattia Region. A brief information on its distribution and ecology is given.

Key words: bumblebees, *Bombus argillaceus*, steppe cenosis, Transcarpathians, Ukraine.

Address: State Museum of Natural History, NAS of Ukraine, Lviv, Teatralna St., 18, Lviv, 79008, Ukraine, e-mail: iren@museum.lviv.net

According to P. Williams (Williams, 1998) the species belongs to the subgenus *Megabombus* Dalla-Torre, 1880, which includes three more species known from Ukraine: *B. hortorum* (Linnaeus, 1761), *B. ruderator* (Fabricius, 1775), *B. gerstaeckeri* Morawitz, 1881 (Konovalova, 2007). The representatives of the subgenus have the longest proboscises among all species of the Ukrainian bumblebees, being highly specialized in foraging for nectar on deep corolla flowers and thus depending on the certain feeding resources.

World distribution of the species: SE France, S Germany, Switzerland, Austria, Slovakia, Hungary, Romania, Greece, N Italy, Turkey, Ukraine, S European part of Russia, Transcaucasus, N Iran, Turkmenistan (Knechtel, 1955; Rasmont, 1983; Aytakin & Çağatay, 2003; Red Data Book of Ukraine, 1994; Intoppa et al., 1995; Sárospataki et al., 2005; Kosior et al., 2007; Konovalova, 2007).

In Ukraine *B. argillaceus* occurs in forest-steppe and steppe zones, reaching greater abundance in coastal areas of the Black Sea and the Sea of Azov, and in steppe part of the Crimea Peninsula. It inhabits dry and steppe meadows, giving preference to sloping sites with scattered bush growth, where queens initiate the colonies soon after emergence from hibernation in early May. The species is pocket-maker, nesting below the ground surface, often in deserted rodent holes; produces colonies of middle

size (100-500 individuals); flight season – from May till September (Pawlikowski, 1996).

The species is included into the Red Data Book of Ukraine. In most Western and Central European countries, where *B. argillaceus* occurs, it has been treated as a rare species with CR (critically endangered), EN (endangered) or VU (vulnerable) Red List categories of IUCN (Sárospataki et al., 2005; Kosior et al., 2007).

In the western region of Ukraine the species has been recorded in the second half of the 19-th century (Wierzejski, 1868, 1874) from Western Podolia only (Ternopil Region: Borschiv District, environs of Skala-Podilska vill.; Zalizchyky District, environs of Synkiv vill.). Later on, those findings were cited by J. Sniezek (Sniezek, 1894) and J. Noskiewicz (Kuntze, Noskiewicz, 1938). Two female specimens of the species from those very localities have been preserved in the collection of the State Museum of Natural History NAS of Ukraine (SMNH) in Lviv. Unfortunately, during field studies between 2001 and 2006 we failed to find *B. argillaceus* population in the localities mentioned.

The first record of *B. argillaceus* from the Transcarpathians' Lowland was made in early June, 2007 in Mukatcheve town (Zakarpattia Region). We observed a dozen of workers with foundress queen foraging for both nectar and pollen from flowers of ornamental kind of *Delphinium* sp. The queen

specimen was collected, and at present has been housed at the SMNH.

In our opinion, the range of the species distribution in former times was spread widely over the Transcarpathians' Lowland within steppe meadows in the valley of the Latorytsia River. So far as the most part of natural territories in the Lowland has undergone transformation due to intensive human activities, it is possible, that the species distribution at present is restricted to urban and some rural areas, where the ornamental floriculture is often put into practice. Most kinds of ornamental flora in the region usually have flowers with deep corolla tubes. They come into bloom in sequence, the blooming period lasting a long time, the nectar volume being high and the pollen being of a high quality. All these plant features meet the requirements of bumblebee colonies in food resources, especially in the period of rearing a

new reproductive generation. A competition with other bee species, which morphological and behavioral adaptations are different, in this case is negligible.

It is also noteworthy, that urban area of Zakarpattia Region is famous for its historical-architectural relicts of the past, which have been under the law protection including adjacent landscapes. Thus, different bumblebee species, and *B. argillaceus* in particular, have suitable nesting sites in the absence of the direct anthropogenic impact.

The hypothesis stated may be confirmed or refused during further investigations. However, taking into consideration present evidence, we can make a conclusion about an existence of this rare steppe species population in the urban cenosis in the Transcarpathians.

1. Intoppa F., Piazza M. G., D'Albore G. R. Catalogo bibliografico delle specie di Bombidae (Hymenoptera, Apoidea) segnalate per L'Italia // Apicoltura – Rivista scientifica di apidologia. - 1995. - № 10. - 130 p.
2. Knechtel W.K. Fauna Republicii Populare Romine. Insecta. Hymenoptera. Superfamilia Apinae. - 1955. - Vol. 9., 1. - Editura Academiei Republicii Populare Romine. - 111 s.
3. Konovalova I. B. Bumblebees (Hymenoptera, Apidae, Bombini) of Ukraine and brief analysis of their distribution // Problems and perspectives of general entomology. Proceedings of the 13-th Congress of Russian Entomological Society. - Krasnodar, 2007. - P. 160-161 [in Russian].
4. Kosior A., Celary W., Olejniczak P., Fijał J., Król W., Solarz W., Płonka P. The decline of the bumble bees and cuckoo bees (Hymenoptera: Apidae: *Bombini*) of Western and Central Europe // Oryx. - 2007. - 41(1). - P. 79-88.
5. Kuntze R., Noskiewicz J. Zarys zoogeografii polskiego Podola // Prace Nauk. TN. - Lwow, 1938. - T. 2. - Vol. 4. - 538 s.
6. Pawlikowski T. Pszczolowate – Apidae // Klucze do oznaczania owadów Polski. - Torun, 1996. - Cz. 24. - S. 3-56.
7. Rasmont P. Catalogue commenté des bourdons de la région Ouest-Paléarctique (Hymenoptera, Apoidea, Apidae) // Notes Fauniques de Gembloux. - 1983. - № 7. - 71p.
8. Aytekin A. M., Çağatay N. Systematic studies on Megabombus (Apidae: Hymenoptera) species in Central Anatolia // Turk J Zool. - 2003. - 27. - P. 195-204.
9. Red Data Book of Ukraine. Animal world (Ed. Sherbak M. M.). - Kiev: "Ukrainian Encyclopedia", 1994. - 456 p. [in Ukrainian]
10. Sároszpataki M., Novák J., Molnár V. Assessing the threatened status of bumble bee species (Hymenoptera: Apidae) in Hungary, Central Europe // Biodiversity and Conservation. - 2005. - 14. - P. 2437-2446.
11. Śnieżek J. O krajowych gatunkach trzmieli // Spraw. Kom. Fizyogr. - 1894. - T.29. - S.1-22.
12. Wierzejski A. Przyczynek do fauny owadów błonkoskrzydłych (Hymenoptera) // Spraw. Kom. Fizyogr. - 1868. - T.2. - S.108-127.
13. Wierzejski A. Dodatek do fauny błonkówek // Spraw. Kom. Fizyogr. - 1874. - T.8. - S.253-273.
14. Williams P. H. An annotated checklist of bumblebees with an analysis of patterns of description (Hymenoptera: Apidae, Bombini) // Bulletin of the National History Museum [London] (Entomology). - 1998. - T. 67. - P. 79-152.

Отримано: 27 вересня 2007 р.

Прийнято до друку: 15 жовтня 2007 р.