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NEW RECORDS OF MEGACHILID BEES (HYMENOPTERA: MEGACHILIDAE) FROM THE NAKHCHIVAN AUTONOMOUS REPUBLIC OF AZERBAIJAN

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Summary. The data on 19 species of megachilid bees collected in the Nakhchivan Autonomous Republic of Azerbaijan in 2019–2022 are reported. Fifteen species are new for Azerbaijan; four other species, previously known by literature records, are confirmed for Azerbaijan. *Anthidium gussakovskiji* Mavromoustakis, 1939 is excluded from the fauna of the republic. The known fauna of Azerbaijan numbers 174 species of megachilid bees.

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

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Резюме. Приводятся данные о 19 видах пчёл-мегахилид, собранных в Нахичеванской Автономной Республике Азербайджана в 2019–2022 гг. Впервые для Азербайджана указано 15 видов; четыре вида, ранее известные по литературным данным, подтверждены новым материалом. *Anthidium gussakovskiji* Мавромустакис, 1939 исключен из фауны республики. Известная фауна Азербайджана насчитывает 174 вида пчёл-мегахилид.

INTRODUCTION

The present paper is a continuation of the ongoing research of the megachilid bees from the Nakhchivan Autonomous Republic of Azerbaijan (Proshchalykin *et al.*, 2019; Fateryga *et al.*, 2020; Proshchalykin & Maharramov, 2020; Maharramov *et al.*, 2021). A total of 160 species of megachilid bees were previously reported from Azerbaijan (Maharramov *et al.*, 2021). The purpose of the present contribution is to report new records of these bees as well as to correct some previously published data.

MATERIAL AND METHODS

Studied material included 498 specimens of megachilid bees collected in 2019–2022 by M.M. Maharramov. Specimens were deposited in the collection of the Federal Scientific Center of the East Asia Terrestrial Biodiversity of the Far Eastern Branch of the Russian Academy of Sciences, Vladivostok, Russia [FSCV], the collection of A.V. Fateryga, Feodosiya, Russia [CAFK], and the Swiss Federal Institute of Technology, Zurich, Switzerland [ETHZ]. Distribution of species generally follows Popov (1967), Kasperek (2015, 2022), Proshchalykin & Fateryga (2017), Ascher & Pickering (2023), and Müller (2023). New distributional records are marked with an asterisk (*).

LIST OF SPECIES

Family Megachilidae

Tribe Lithurgini

Lithurgus tibialis Morawitz, 1875

MATERIAL EXAMINED. Shakhbuz, Kulus, 39°21'N 45°37'E, 1395 m, 4.VII 2021, 1 ♂ [FSCV].

DISTRIBUTION. Southern Europe, North Africa, Russia (Dagestan), *Azerbaijan, Turkey, Cyprus, Syria, Jordan, Israel, United Arab Emirates, Iraq, Iran, Afghanistan, Pakistan, Turkmenistan, Tajikistan, Uzbekistan, India.

Tribe Anthidiini

Anthidium (Turkanthidium) unicum Morawitz, 1875

Figs 1, 2

MATERIAL EXAMINED. Kengerli, Cement Factory, 39°15'N 45°18'E, 820 m, 16.VI 2021, 1 ♀ [CAFK].

DISTRIBUTION. *Azerbaijan, Afghanistan, Turkmenistan, Tajikistan, Uzbekistan.

REMARKS. A poorly known Central Asian species; the specimen from Azerbaijan is illustrated in Figs 1–2.

Rhodanthidium (Meganthidium) superbum (Radoszkowski, 1876)

MATERIAL EXAMINED. Kangarli, Chalkhangala, Gizmizidash, 39°25'N 45°13'E, 1445 m, 25.VI 2020, 1 ♀ [CAFK].

DISTRIBUTION. Georgia, Armenia, *Azerbaijan, Turkey, Iran, Turkmenistan.

Stelis (Stelis) breviscula (Nylander, 1848)

MATERIAL EXAMINED. Shakhbuz, Kechili, 39°22'N 45°43'E, 1800 m, 23.VI 2019, 1 ♂ [FSCV]; *ibid.*, 21.VII 2019, 1 ♀ [FSCV]; Kangarli, Chalkhangala, Gizmizidash, 39°25'N 45°13'E, 1445 m, 25.VI 2020, 1 ♂ [FSCV].

DISTRIBUTION. Europe, North Africa, Russia (European part, Urals), Georgia, Armenia, *Azerbaijan, Turkey, Turkmenistan, China.

Stelis (Pseudostelis) denticulata Friese, 1899

MATERIAL EXAMINED. Shakhbuz, Kulus, 39°21'N 45°37'E, 1395 m, 26.VI 2020, 1 ♂ [CAFK].

DISTRIBUTION. *Azerbaijan, Turkey, Lebanon, Israel.



Figs 1–2. *Anthidium (Turkanthidium) unicum* Morawitz, 1875, ♀, Azerbaijan: 1 – habitus, dorsal view; 2 – head, frontal view. Scale bars = 1 mm.

***Stelis (Pseudostelis) minuta* Lepeletier de Saint-Fargeau et Audinet-Serville, 1825**

MATERIAL EXAMINED. Shakhbuz, Kechili, 39°22'N 45°43'E, 1800 m, 23.VI 2019, 1 ♀ [CAFK]; *ibid.*, 19.VI 2020, 1 ♂ [CAFK].

DISTRIBUTION. Europe, North Africa, Russia (European part, Urals), Armenia, Azerbaijan, Turkey, Lebanon.

REMARKS. This species was previously known from Azerbaijan by literature records only (see Fateryga *et al.*, 2020). The female specimen corresponds to *Stelis minima* Schenck, 1861 which should be considered a synonym of *S. minuta* (Levchenko, 2020).

***Trachusa (Archianthidium) pubescens* (Morawitz, 1872)**

MATERIAL EXAMINED. Kangarli, Chalkhangala, Gizmizidash, 39°25'N 45°13'E, 1445 m, 25.VI 2020, 1 ♀ [FSCV]; Kangarli, Chalkhangala, 39°26'N 45°17'E, 1370 m, 30.VI 2021, 1 ♂ [FSCV].

DISTRIBUTION. Southern Europe (North Macedonia, Greece), Russia (Dagestan, Crimea), Azerbaijan, Turkey, Iran, Turkmenistan.

REMARKS. This species was previously identified by Fateryga *et al.* (2020) as a species complex (*Trachusa pubescens* s. l.) while the record of a male allowed its further identification as *T. pubescens* s. str.

Tribe Osmiini

***Heriades (Heriades) rubicola* Pérez, 1890**

MATERIAL EXAMINED. Nakhchivan, 39°13'N 45°24'E, 905 m, 26.VI 2019, 2 ♂ [FSCV].

DISTRIBUTION. Western, Southern, and Eastern Europe, North Africa, Russia (North Caucasus, Crimea), *Azerbaijan, Turkey, Cyprus, Syria, Jordan, Lebanon, Israel, Turkmenistan, Kyrgyzstan, Kazakhstan.

***Heriades (Heriades) truncorum* (Linnaeus, 1758)**

MATERIAL EXAMINED. Babek, Shikhmakhmud, 39°15'N 45°25'E, 940 m, 1.VI 2020, 1 ♀, 1 ♂ [FSCV]; Shakhbuz, Kechili, 39°22'N 45°43'E, 1800 m, 23.VII 2022, 1 ♀ [FSCV].

DISTRIBUTION. Europe, North Africa, Russia (European part, Urals, Far East), Armenia, Azerbaijan, Turkey, Cyprus, Syria, Lebanon, Israel, Iran, Tajikistan, Uzbekistan, Kyrgyzstan, Kazakhstan, North America (introduced).

REMARKS. This species was previously known from Azerbaijan by literature records only (see Proshchalykin & Maharramov, 2020).

***Hoplitis (Hoplitis) parasitica* (Warncke, 1991)**

MATERIAL EXAMINED. Nakhchivan, 39°13'N 45°24'E, 905 m, 5.VI 2020, 1 ♀ [ETHZ].

DISTRIBUTION. *Azerbaijan, Turkey, Iran.

***Hoplitis (Hoplitis) strymonia* Tkalčů, 1999**

MATERIAL EXAMINED. Julfa, Arafsa, 39°17'N 45°46'E, 1500 m, 30.V 2022, 1 ♀ [CAFK].

DISTRIBUTION. Eastern Europe (Bulgaria), *Azerbaijan, Turkey, Iran.

***Hoplitis (Pentadentosmia) rufopicta* (Morawitz, 1875)**

MATERIAL EXAMINED. Kengerli, Cement Factory, 39°15'N 45°18'E, 820 m, 16.VI 2021, 1 ♂ [CAFK].

DISTRIBUTION. *Azerbaijan, Turkey, Jordan, Israel, Iran, Pakistan, Turkmenistan, Tajikistan, Uzbekistan, Kazakhstan.

***Osmia (Helicosmia) leiana* (Kirby, 1802)**

MATERIAL EXAMINED. Ordubad, Bist, 39°08'N 45°53'E, 1550 m, 16.VI 2021, 1 ♀ [FSCV].

DISTRIBUTION. Europe, North Africa, Russia, Georgia, Armenia, Azerbaijan, Turkey, Iran, Kazakhstan.

REMARKS. This species was previously known from Azerbaijan by literature records only (see Proshchalykin & Maharramov, 2020).

***Osmia (Pyrosmia) amathusica* Mavromoustakis, 1937**

MATERIAL EXAMINED. Julfa, Daridagh, 39°30'N 45°37'E, 1015 m, 26.V 2022, 1 ♀ [CAFK].

DISTRIBUTION. Southern Europe (Italy, Greece), *Azerbaijan, Turkey, Cyprus, Syria, Jordan, Lebanon, Israel.

***Osmia (Pyrosmia) dilaticornis* Morawitz, 1875**

MATERIAL EXAMINED. Julfa, Arafsa, 39°17'N 45°46'E, 1500 m, 30.V 2022, 1 ♂ [CAFK].

DISTRIBUTION. Southern Europe (Greece), *Azerbaijan, Turkey, Syria, Jordan, Lebanon, Israel, Iran, Tajikistan, Uzbekistan, Kazakhstan.

***Osmia (Pyrosmia) viridana* Morawitz, 1873**

MATERIAL EXAMINED. Julfa, Arafsa, Kharinadara, 39°20'N 45°48'E, 30.V 2022, 1 ♂ [FSCV].

DISTRIBUTION. Western, Southern, and Eastern Europe, North Africa, Russia (North Caucasus, Crimea), Armenia, *Azerbaijan, Turkey, Cyprus, Syria, Jordan, Lebanon, Israel, Iran, Turkmenistan, Tajikistan, Uzbekistan, Kyrgyzstan, Kazakhstan.

***Protosmia (Protosmia) glutinosa* (Giraud, 1871)**

MATERIAL EXAMINED. Shakhbuz, Kechili, 39°22'N 45°43'E, 1800 m, 12.VII 2022, 1 ♀ [FSCV].

DISTRIBUTION. Western, Southern, and Eastern Europe, North Africa, Russia (Dagestan), *Azerbaijan, Turkey, Cyprus, Syria, Jordan, Lebanon, Israel, Iran.

Tribe Megachilini

Coelioxys (Allocoelioxys) caudatus Spinola, 1838

MATERIAL EXAMINED. Shakhbuz, Kechili, 39°22'N 45°43'E, 1800 m, 12.VII 2022, 1 ♂ [FSCV].

DISTRIBUTION. Western, Southern, and Eastern Europe, North Africa, Russia (European part), *Azerbaijan, Turkey, Israel, Iran, Turkmenistan, Tajikistan, Uzbekistan, Kyrgyzstan, China.

Coelioxys (Melissoctonia) conoideus (Illiger, 1806)

MATERIAL EXAMINED. Babek, Shikhmakhmud, 39°15'N 45°25'E, 940 m, 24.VI 2022, 1 ♀ [FSCV].

DISTRIBUTION. Europe, North Africa, Russia, Georgia, *Azerbaijan, Turkey, Cyprus, Tajikistan, Uzbekistan, Kazakhstan.

CORRECTIONS

According to the recent taxonomic changes, *Anthidiellum (Anthidiellum) brevisculum* (Pérez, 1890), reported previously from Azerbaijan by Fateryga *et al.* (2020), should be corrected to *A. (A.) troodicum* Mavromoustakis, 1949 (see Kasperek, 2022). *Anthidium (Anthidium) spiniventre* Friese, 1899, reported previously by Fateryga *et al.* (2020), should be corrected to *A. (A.) melanopygum* Friese, 1917 (see Kasperek, 2022), and *Megachile (Eutricharaea) pilidens* Alfken, 1924, reported previously by Maharramov *et al.* (2021) should be corrected to *M. (E.) argentata* (Fabricius, 1793) (see Praz & Bénon, 2023).

Anthidium (Anthidium) gussakovskiji Mavromoustakis, 1939 reported by Fateryga *et al.* (2020) was a misidentification; this species should be excluded from the fauna of Azerbaijan. The specimen misidentified as *A. gussakovskiji* and illustrated by Fateryga *et al.* (2020) may belong to an undescribed species. The characters of the true *A. gussakovskiji* are illustrated well in Kasperek (2022).

CONCLUSIONS

Fifteen species are reported from Azerbaijan for the first time; the records of other four species confirm their earlier reports in the literature; one species is excluded from the fauna of the republic. Taking into account the current data, there are 174 species of megachilid bees known in the fauna of Azerbaijan.

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REFERENCES

Ascher, J.S. & Pickering, J. 2021. *Discover Life bee species guide and world checklist (Hymenoptera: Apoidea: Anthophila)*. Available at: http://www.discoverlife.org/mp/20q?guide=Apoidea_species (accessed 28 February 2023).

- Fateryga, A.V., Proshchalykin, M.Yu. & Maharramov, M.M. 2020. Bees of the tribe Anthidiini (Hymenoptera, Megachilidae) of Nakhchivan Autonomous Republic of Azerbaijan. *Entomological Review*, 100(3): 323–336. DOI: 10.1134/S0013873820030069
- Kasperek, M. 2015. The cuckoo bees of the genus *Stelis* Panzer, 1806 in Europe, North Africa and the Middle East. *Entomofauna*, Suppl. 18: 1–144.
- Kasperek, M. 2022. *The resin and wool carder bees (Anthidiini) of Europe and Western Turkey. Identification – distribution – biology*. Chimaira, Frankfurt am Main, 290 pp.
- Levchenko, T.V. 2020. Contributions to the fauna of bees (Hymenoptera: Apoidea) of Moscow Province. 8. Family Megachilidae. *Eversmannia*, 64: 52–84. [In Russian]
- Maharramov, M.M., Fateryga, A.V. & Proshchalykin, M.Yu. 2021. Megachilid bees (Hymenoptera: Megachilidae) of the Nakhchivan Autonomous Republic of Azerbaijan: tribes Lithurgini, Dioxyini, and Megachilini. *Far Eastern Entomologist*, 428: 12–24. DOI: 10.25221/fee.428.3
- Müller, A. 2023. *Palaeartic Osmiine Bees*, ETH Zürich. Available at <http://blogs.ethz.ch/osmiini> (accessed 28 February 2023).
- Popov, V.B. 1967. The bees (Hymenoptera, Apoidea) of Middle Asia and their associations with angiosperm plants. *Proceedings of the Zoological Institute of the Academy of Sciences of the USSR*, 38: 11–329. [In Russian]
- Praz, C.J. & Bénon, D. 2023. Revision of the *leachella* group of *Megachile* subgenus *Eutricharaea* in the Western Palaeartic (Hymenoptera, Apoidea, Megachilidae): a renewed plea for DNA barcoding type material. *Journal of Hymenoptera Research*, 95: 143–198. DOI: 10.3897/jhr.95.96796
- Proshchalykin, M.Yu. & Fateryga, A.V. 2017. Family Megachilidae. In: Lelej, A.S., Proshchalykin, M.Yu. & Loktionov, V.M. (Eds). Annotated Catalogue of the Hymenoptera of Russia. Vol. 1. Symphyta and Apocrita: Aculeata. *Proceedings of the Zoological Institute RAS*, Suppl. 6: 295–308. DOI: 10.31610/trudyzin/2017.supl.6.5
- Proshchalykin, M.Yu. & Maharramov, M.M. 2020. Additional records of osmiine bees (Hymenoptera: Megachilidae: Osmiini) from Azerbaijan. *Acta Biologica Sibirica*, 6: 33–42. DOI: 10.3897/abs.6.e53095
- Proshchalykin, M.Yu., Maharramov, M.M. & Aliyev, Kh.A. 2019. New data on the tribe Osmiini (Hymenoptera: Megachilidae) from Azerbaijan. *Far Eastern Entomologist*, 383: 12–20. DOI: 10.25221/fee.383.3

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