

Taxonomic review of the pollen wasps (Hymenoptera: Vespidae: Masarinae) from the Caucasus, with the description of two new species, new nest and flower-visiting records, and a key to the species

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Abstract

Twelve species of the subfamily Masarinae from the Caucasus are reviewed. Two new species are described, namely *Celonites carpenteri* Fateryga & Mauss, **sp. nov.** (Nakhchivan Autonomous Republic of Azerbaijan) and *Quartinia aliyevi* Fateryga, Mauss, Proshchalykin & Maharramov, **sp. nov.** (Nakhchivan Autonomous Republic of Azerbaijan, Armenia). The hitherto unknown male of *Celonites tudesculptus* Kostylev, 1935 is described. *Celonites osseus* Morawitz, 1888, *C. tudesculptus*, and *Quartinia araxana* Giordani Soika, 1960 are reported for the first time from Azerbaijan. New flower-visiting records are documented for *Celonites carpenteri*, *C. laetus* Panfilov, 1968, *C. tauricus* Kostylev, 1935, *C. tudesculptus*, and *Jugurtia eurycara* Kostylev, 1935. Nests of *Celonites ivanovi* Mauss & Fateryga, 2022 are described for the first time. An identification key and maps detailing the geographic distribution of all species in the Caucasus are presented.

Key words: vespid wasps, fauna, trophic relationships, nesting, Palaearctic region

Introduction

Solitary wasps of the subfamily Masarinae (pollen wasps), like solitary bees, provision their brood cells with a mixture of pollen and nectar as a nutritional source for the larvae (Richards 1962; Gess 1996; Gess & Gess 2010; Mauss *et al.* 2019). Worldwide, there are 14 genera and 378 species of pollen wasps described so far (Rahmani *et al.* 2020, plus taxonomic actions proposed by Mauss *et al.* 2022a; Fateryga & Fadeev 2023; Fateryga & Proshchalykin 2024; Carpenter & Brown 2025; Fateryga 2025b, c). The pollen wasps are distributed in most zoogeographic regions except the Oriental and occur predominantly in Mediterranean and temperate to hot semi-arid to arid areas outside the tropics (Gess 1992, 1996). Many of them are rare and poorly known insects, which are not frequently collected. The relationships of the pollen wasps with angiosperm plants are of special interest, since most species of these insects are specialized for particular plant taxa and/or types of flowers, and some plants are even adapted to pollination by these wasps (Gess & Gess 2010). Females of the pollen wasps either excavate their own nest burrows in the ground or construct aerial nests of mud (Richards 1962; Gess 1996; Gess & Gess 2010; Mauss *et al.* 2019), but the nesting biology of most species is unknown, especially in the Palaearctic region.

The pollen wasps of the Caucasus are still insufficiently studied. Till present, 10 species were reported from this region (summarized by Carpenter 2001 and supplemented by Fateryga *et al.* 2021, 2022; Mauss *et al.* 2022a). However, new material collected from the Nakhchivan Autonomous Republic of Azerbaijan in 2020–2021 by M.M. Maharramov and in 2024–2025 by M.Yu. Proshchalykin and M.M. Maharramov, as well as from Dagestan in 2022–

- margin of female clypeus less deeply emarginate (Fig. 6D); male clypeus longer (Fig. 7D); male foretibia with more developed bulge (Fig. 7F, G); basal sclerite broader, paramere (fused stipes + harpide) less slender (Fig. 7E). *Quartinia aliyevi* Fateryga, Mauss, Proshchalykin & Maharramov, **sp. nov.**
17. Metasomal terga coarsely punctate (Fig. 10L); female clypeus with two dorso-lateral black spots usually fused at center (Fig. 9B); male antenna with last article A12 slightly curved backwards forming a hook-like projection at distal end (Fig. 9E) *Jugurtia eurycara* Kostylev, 1935
- Metasomal terga finely punctate (Fig. 10M); female clypeus dorsally yellow, with one central black spot (Fig. 9C); male unknown *Jugurtia irana* Kostylev, 1935

Conclusion

A total of 12 species of pollen wasps from four genera are known from the Caucasus, four of them are endemic to this region. The most species-rich areas are the Nakhchivan Autonomous Republic of Azerbaijan (10 species) and Armenia (eight species), while only two species have been found in Dagestan, two in the main territory of Azerbaijan, and one in Georgia (Fig. 11). However, the main territory of Azerbaijan is still poorly explored and further collecting efforts may reveal the existence of more species in this region. The nesting habits and more or less well-studied trophic relationships are known for three species of masarine wasps occurring in the Caucasus. For a further five species only single flower-visiting records are available, and the bionomics of the remaining four species is even completely unknown.

Acknowledgements

We are grateful to Sergey Belokobylskij and Yulia Astafurova (ZISP), as well as Alexander Antropov (ZMMU) for providing loans of specimens housed in their institutions. Marco Selis (Viterbo, Italy) kindly provided some comparative photographs, useful to complete diagnoses of the new species, and made some suggestions to improve the text.

The research was carried out within the state assignments of the Ministry of Science and Higher Education of the Russian Federation (No. 124030100098-0 for A.F. and No. 124012400285-7 for M.P.).

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