

Contribution to the knowledge of the Uzbek cuckoo wasps (Hymenoptera, Chrysididae) with the first checklist and descriptions of new species

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Abstract

An annotated checklist of the Chrysididae from Uzbekistan is presented, including a revision of the bibliographical data and recently collected material. The known Uzbek cuckoo wasp fauna counts 201 species and four subspecies in 23 genera and two subfamilies. One genus and 62 species are recorded for the first time for the country and six species resulted undescribed: *Chrysis perfunctoria* Rosa & Halada, **sp. nov.** (*rufitarsis* group), *C. strejceki* Rosa & Halada, **sp. nov.** (*leachii* group), *C. storozhenkoi* Rosa, Fateryga & Proshchalykin, **sp. nov.** (*maculicornis* group), *Hedychridium frontipunctum* Rosa & Proshchalykin, **sp. nov.** (*flos* group), *Philoctetes gulbahra* Rosa & Halada, **sp. nov.**, and *Spintharina zhezyrnyak* Rosa & Halada, **sp. nov.** We resurrect *Chrysis gertabi* Radoszkowski, 1891, **stat. resurr.** from the previous synonymy with *C. mutabilis*, and propose a new synonym *C. hyrcana* Semenov-Tian-Shanskij, 1967, **syn. nov.** of *C. gertabi* Radoszkowski, 1891.

Key words: Catalogue, Central Asia, Palearctic region, new records, synonymy, taxonomy

Introduction

Central Asian cuckoo wasps are relatively well known according to Tarbinsky (2004) and Rosa (2019a) recorded 430 species from the region. However, prior to this article, Uzbekistan had the lowest number of recorded species, around 140. Only a few studies have been published on Central Asian chrysidids to date, with most investigations focusing mainly on species from Tajikistan (Semenov-Tian-Shanskij & Nikol'skaya, 1954) and the Tian-Shan region, particularly in Kyrgyzstan (Tarbinsky 2000a, 2001, 2002a, b, c, 2004). Nevertheless, Tarbinsky examined only the tribe Chrysidini and did not study the Elampini, likely due to his premature departure.

The first researcher on Central Asian chrysidids was O. Radoszkowski (1820–1895), who described new species collected by A.P. Fedtschenko during his expedition to Russian Turkestan and the Kokand Khanate, including some species from present-day Uzbekistan. Additional species from Uzbekistan were later described in individual papers by Radoszkowski (1889), Mocsáry (1889, 1912a, 1914), Semenov-Tian-Shanskij (1932, 1967), Linsenmaier (1997), Tarbinsky (2000a, b, 2001, 2002a, b, c), and Rosa (2018b).

Uzbekistan is a secular state along the Silk Road, and the first recorded settlers were the Scythians, who founded the kingdoms of Bactria and Sogdiana (8th–6th centuries BC), as well as Fergana and Margiana (3rd century BC–6th century AD). Historical names for this region including parts of present-day Uzbekistan are also Transoxiana, Turkestan and the Kokand Khanate. In the 14th century the region was the birthplace, home, and capital of Tamerlane.

Discussion

Based on the available data, we recorded 205 taxa (201 species and 4 subspecies), representing 23 genera grouped in two subfamilies. Sixty-two species resulted newly recorded and six species newly described, but still a large number of specimens are laying unidentified in museum and private collections. In terms of species richness, Cleptinae are represented only by two species, and the subfamily Chrysidinae is the most speciose including all the other species. Among Chrysidinae, Chrysidini is the most speciose tribe (131 taxa, 65%), followed by Elampini (66 taxa, 32%), and finally Parnopini (3 species, 1.5%). Currently 30 species (15% of known taxa) are provisionally considered endemic. This number is clearly the result of a collection bias and most of these species are expected in bordering countries.

At present, the fauna of Uzbekistan is the richest among the Central Asian countries, although it is still likely significantly underestimated. Given the diversity of chrysidid hosts (Medetov *et al.* 2024) and habitats in Uzbekistan, the actual number of species is expected to be higher. In fact, six terrestrial ecoregions are classified in the country, namely the Alai-Western Tian Shan steppe, Gissaro-Alai open woodlands, Badkhyz and Karabil semi-desert, Central Asian northern desert, Central Asian riparian woodlands, and Central Asian southern desert.

In Uzbekistan, Medetov *et al.* (2024) recently recorded 484 species of Sphecidae and Crabronidae which are among the most frequent hosts of chrysidids. If we compare the number of Sphecidae and Crabronidae species in Europe (722) to the number of chrysidid species (486), according to Mitroiu *et al.* (2015), we can estimate that the number of chrysidid species in Uzbekistan could exceed 325. Moreover, many chrysidid species are parasitoids of wild bees (e.g., Megachilidae), for which the species richness in Uzbekistan remains unknown, as well as Vespidae (Eumeninae and Masarinae). A preliminary checklist of solitary Vespidae (Fateryga *et al.* 2023) counted 105 species, many of which are also chrysidid hosts. Therefore, taken together, these data indicate that the true number of chrysidid species in Uzbekistan may well exceed 400, approaching the diversity documented in Turkey (Strumia & Yıldırım 2009). More studies, both field surveys and examinations of museum collection (particularly at ZISP and ZMMU) will be essential to achieve a better understanding of the composition and biogeographic affinities of the chrysidid fauna of Uzbekistan and the broader Central Asian region.

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