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DISTRIBUTION OF TRUE WASPS IN THE ECOSYSTEM OF THE TASHKENT OASIS

Abstract: *the true wasp species occurring in the territories of the Tashkent Oasis were identified as a result of studies conducted during 2024–2025. During the study, the occurrence of Antepipona barrei, Antepipona specifica, Eumenes mediterraneus, Euodynerus strigatus, Odynerus melanocephalus, Polistes dominula, Polistes wattii, and Vespa orientalis was recorded in this area. In addition, Polistes dominula, Polistes wattii, and Vespa orientalis were identified as widely distributed species in the Tashkent Oasis.*

Keywords: *Vespidae, species, ecosystem, biodiversity, Euparagiinae, Masarinae, Eumeninae, Stenogastrinae, Polistinae, Vespinae, trophic relationship.*

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РАСПРОСТРАНЕНИЕ НАСТОЯЩИХ ОС В ЭКОСИСТЕМЕ ТАШКЕНТСКОГО ОАЗИСА

Аннотация: виды настоящих ос, встречающиеся на территориях Ташкентского оазиса, были выявлены в результате исследований, проведённых в 2024–2025 гг. В ходе исследования на данной территории было зарегистрировано обитание *Antepipona barrei*, *Antepipona specifica*, *Eumenes mediterraneus*, *Euodynerus strigatus*, *Odynerus melanocephalus*, *Polistes dominula*, *Polistes wattii* и *Vespa orientalis*. Кроме того, *Polistes dominula*, *Polistes wattii* и *Vespa orientalis* были определены как широко распространённые виды в Ташкентском оазисе.

Ключевые слова: *Vespidae*, виды, экосистема, биоразнообразие, *Euparagiinae*, *Masarinae*, *Eumeninae*, *Stenogastrinae*, *Polistinae*, *Vespinae*, трофическая связь.

Wasps of the family Vespidae belong to the order Hymenoptera and are considered one of the large insect families in terms of species diversity. Representatives of this family are divided into solitary and social groups according to their reproductive characteristics and life forms. The family Vespidae includes six subfamilies: Euparagiinae, Masarinae, Eumeninae, Stenogastrinae, Polistinae, and Vespinae [1, 2].

In Uzbekistan, faunistic studies related to true wasps (Vespidae) were mainly conducted during 1977–2025. The results of these studies have been presented in various scientific sources. In the 1970s–1990s, N.V. Kurzenko (1977), A.G. Davletshina (1979), and T.T. Kulumbetova (1999) reported the occurrence of numerous

species belonging to the family Vespidae in a number of publications [4,6,7]. In addition, L. Castro and L. Dvořák conducted studies on the wasp fauna in the Takhtakupir area of the Republic of Karakalpakstan and in the Yangiobod area of Tashkent Region. As a result of these studies, several species belonging to the family Vespidae were identified in these areas [3].

As a result of studies conducted during 2024–2025, more than 323 specimens belonging to true wasps were collected from various ecosystems. During the study, the MAPS.ME application was used to determine the occurrence points and geographical coordinates of the identified wasp species.

The materials were collected using the methods of V.B. Golub (2012), V. Moericke (1951), and a traditional entomological net [5, 8]. Biometric materials were obtained using entomological traps, Möricke-type plastic containers, as well as through visual observations of shrubs, tree branches, residential buildings, and farm structures.

The morphological characteristics of the species were studied using an SMZ-161-TL microscope. A 96% ethyl alcohol solution was used for preserving and, when necessary, softening insect specimens. Collection specimens were prepared using entomological pins. Entomological forceps were used for handling, sorting, and preparing the collected insects for the collection.

Results and discussion. During 2024–2025, the fauna of wasps belonging to the family Vespidae was studied in various ecosystems located in the natural and anthropogenic areas of the Tashkent Oasis. According to the analysis of the research results, 19 species belonging to 16 genera and three subfamilies of the family Vespidae were recorded in this area.

Subfamily Eumeninae

1. *Antepipona barrei* (Radoszkowski, 1893)

Locality and date of collection: Tashkent Region, Bekabad District. Coordinate point: 40°37'34.1"N 69°12'44.5"E. 1 specimen, 12.09.2025.

Distribution: Iran, Tajikistan, Armenia, Afghanistan, Kazakhstan, Uzbekistan.

2. *Antepipona specifica* (Morawitz, 1895)

Locality and date of collection: Tashkent Region, Zangiata District, along the Chirchiq River. Coordinate point: 41°10'00.6"N, 69°13'35.1"E. 2 specimens, 12.06.2025. Tashkent Region, Yangiyul District, near a horticultural area. Coordinate point: 40°56'45.4"N, 68°48'37.0"E. 6 specimens, 19.06.2025.

Distribution: Kyrgyzstan, Turkmenistan, Iraq, Iran, Uzbekistan.

3. *Eumenes mediterraneus* Kriechbaumer, 1879

Locality and date of collection: Tashkent Region, Parkent District, Shampan village. Coordinate point: 41°17'16.2"N 69°40'15.6"E. 3 specimens. Tashkent Region, Urta Chirchiq District. Coordinate point: 41°01'02.3"N 69°17'39.6"E. 2 specimens, 02.07.2025.

Distribution: China, Iran, Central Asia, North Africa, Europe, Uzbekistan.

4. *Euodynerus strigatus* Radoszkowski, 1893

Locality and date of collection: Tashkent Region, Quyi Chirchiq District. Coordinate point: 40°37'34.1"N 69°12'44.5"E. 2 specimens, 12.06.2025. Tashkent Region, Bekabad District. Coordinate point: 41°01'02.3"N 69°17'39.6"E. 1 specimen, 12.09.2025.

Distribution: Central Asia, Tajikistan, Kazakhstan, China, Uzbekistan.

5. *Odynerus melanocephalus* (Gmelin, 1790)

Locality and date of collection: Tashkent Region, Piskent District. Coordinates: 40°52'07.1"N 69°22'37.6"E. 4 specimens, 21.03.2025. Tashkent Region, Ohangaron District. Coordinates: 41°07'51.9"N 69°40'02.2"E. 11 specimens, 27.05.2024.

Distribution: Central Asia, Iran, Kazakhstan, North Africa, Uzbekistan.

Subfamily Polistinae

6. *Polistes dominula* (Christ, 1791)

Locality and date of collection: Tashkent Region, Parkent District. Coordinates: 41°19'57.5"N 69°49'24.2"E. 11 specimens, 12.05.2024. Tashkent Region, Yangiyul District. Coordinates: 41°07'18.6"N 69°13'08.5"E. 18 specimens, 20.05.2025. Tashkent Region, Piskent District. Coordinates: 40°51'23.0"N 69°25'52.0"E. 42 specimens, 21.03.2025. Tashkent Region, Parkent District. Coordinates: 41°10'23.5"N 69°40'50.7"E. 7 specimens, 13.05.2025.

Distribution: Europe, Russia, Israel, North Africa, Iran, Mongolia, Afghanistan, Pakistan, New Zealand, India, China, North and South America, Australia, Central Asia, Uzbekistan, Kazakhstan, Turkmenistan.

7. *Polistes wattii* Cameron, 1900

Locality and date of collection: Tashkent Region, Parkent District. Coordinates: 41°16'35.6"N 69°42'35.2"E. 17 specimens, 12.06.2024. Tashkent Region, Yangiyul District. Coordinates: 41°07'18.6"N 69°13'08.5"E. 22 specimens, 20.05.2025. Tashkent Region, Zangiata District, along the Chirchiq River. Coordinates: 41°12'44.3"N 69°05'27.1"E. 31 specimens, 12.06.2025. Tashkent Region, Quyi Chirchiq District. Coordinates: 41°01'02.3"N 69°17'39.6"E. 2 specimens, 12.06.2025. Tashkent Region, Piskent District. Coordinates: 40°52'02.3"N 69°23'56.8"E. 3 specimens, 07.10.2025. Tashkent Region, Parkent District. Coordinates: 41°19'04.9"N 69°45'52.0"E. 17 specimens, 11.08.2024.

Distribution: Iraq, Iran, Uzbekistan, Afghanistan, India, China, Tajikistan, Turkmenistan.

Subfamily Vespinae

8. *Vespa orientalis* Linnaeus, 1771

Locality and date of collection: Tashkent Region, Parkent District, Kumushkon village. Coordinates: 41°19'00.7"N 69°51'23.1"E. 22 specimens, 11.06.2024. Tashkent Region, Ohangaron District. Coordinates: 41°06'03.2"N 69°34'33.4"E. 28 specimens, 27.05.2024. Tashkent Region, Piskent District. Coordinates: 40°50'22.2"N 69°26'20.7"E. 56 specimens, 21.03.2025. Tashkent Region, Ohangaron District. Coordinates: 41°07'51.9"N 69°40'02.2"E. 21 specimens, 27.05.2024. Tashkent Region, Zangiata District, along the Chirchiq River. Coordinates: 41°10'37.2"N 69°10'09.6"E. 14 specimens, 12.06.2025. Tashkent Region, Quyi Chirchiq District. Coordinates: 41°01'02.3"N 69°17'39.6"E. 6 specimens, 12.06.2025. Tashkent Region, Qibray District. Coordinates: 41°23'27.8"N 69°28'47.8"E. 4 specimens, 13.05.2025.

Distribution: Europe, Russia, Kazakhstan, Uzbekistan, Tajikistan, Turkmenistan, Kyrgyzstan, Turkey, Israel, Saudi Arabia, Bahrain, Mexico, Armenia, Nepal, India, Yemen, Pakistan, Iran, Iraq, Afghanistan, Central Asia, North Africa.

In conclusion, as a result of field studies conducted in various ecosystems located in the natural and anthropogenic areas of the Tashkent Oasis during 2024–2025, eight species belonging to five genera and three subfamilies of the family Vespidae were recorded.

Список литературы

1. Antropov A.V. Family Vespidae / A.V. Antropov, A.V. Fateryga // Annotated Catalogue of the Hymenoptera of Russia. Vol. 1. Symphyta and Apocrita: Aculeata / Lelej A.S., Proshchalykin M.Yu., Loktionov V.M. (eds.). – 2017. – P. 175–196. – (Proceedings of the Zoological Institute RAS. Supplement 6). – DOI: 10.31610/trudyzin/2017.supl.6.5.
2. Carpenter J.M. Checklist of species of the subfamily Masarinae (Hymenoptera: Vespidae) / J.M. Carpenter // American Museum Novitates. – 2001. – No. 3325. – P. 1–40.
3. Castro L. New and noteworthy records of vespid wasps (Hymenoptera: Vespidae) from the Palaearctic region (III) / L. Castro, L. Dvořák // Acta Musei Moraviae, Scientiae Biologicae (Brno). – 2010. – Vol. 95, No. 2. – P. 37–53.
4. Давлетшина А.Г. Энтомофауна юго-западного Кызылкума / А.Г. Давлетшина, Г.А. Аванесова, А.К. Мансуров. – Ташкент : Фан, 1979. – 120 с.
5. Голуб В.Б. Коллекции насекомых: сбор, обработка и хранение материала / В.Б. Голуб. – М. : Товарищество научных изданий КМК, 2012. – 339 с. EDN QKUSGJ
6. Кулумбетова Т.Т. Насекомые Южного Приаралья (часть 4) / Т.Т. Кулумбетова // Вестник ККО АН РУз. – 1999. – № 1. – С. 62–69.
7. Kurzenko N.V. A review of the wasps of the family Eumenidae (Hymenoptera, Vespoidea) of the fauna of the USSR. Genera *Paravespa* Rad., *Paragymnomerus* Blüthg., *Tropidodynerus* Blüthg., *Gymnomerus* Blüthg. and *Odynerus* Latr. / N.V. Kurzenko // Entomologicheskoe Obozrenie. – 1977. – Vol. 56, No. 3. – P. 676–690.
8. Moericke V. Eine Farbfalle zur Kontrolle des Fluges von Blattläusen, insbesondere der Pfirsichblattlaus, *Myzodes persicae* (Sulz.) / V. Moericke // Nachrichtenblatt des Deutschen Pflanzenschutzdienstes. – 1951. – Bd. 3. – S. 23–24.