

New distributional records of the family Sphecidae (Hymenoptera) in Azerbaijan

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Abstract. Data on 27 species of nine genera of digger wasps of the family Sphecidae collected in Nakhchivan Autonomous Republic of Azerbaijan are presented. Of them, 20 species are recorded for the fauna of Azerbaijan for the first time. This article is based on the material of more than 170 specimens, collected by the authors in July 2018 and June 2019 in 30 localities of the republic. Currently, 258 species of digger wasps (Sphecidae – 27; Crabronidae – 231) are known from this country. It is assumed that the number of sphecid species in Azerbaijan may be at least twice as large.

Key words: Spheciformes, digger wasps, fauna, Caucasus, Palaearctic region.

Новые сведения о распространении семейства Sphecidae (Hymenoptera) в Азербайджане

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Резюме. Приведены данные о 27 видах роющих ос из 9 родов семейства Sphecidae, собранных в Нахичеванской Автономной Республике Азербайджана. Статья основана на материале (более 170 экземпляров), собранном авторами в июле 2018 – июле 2019 в 30 местонахождениях. Из них 20 видов впервые зарегистрированы для фауны Азербайджана. В настоящее время из этой страны известно 258 видов роющих ос (Sphecidae – 27; Crabronidae – 231). Предполагается, что число видов азербайджанских специд может быть как минимум вдвое больше.

Ключевые слова: Spheciformes, роющие осы, фауна, Кавказ, Палеарктическая область.

Introduction

The present paper is a part of the ongoing research of wasps [Maharramov et al., 2018; Aliyev et al., 2019; Fateryga et al., 2019; Mokrousov et al., 2019] of the territory of the Nakhchivan Autonomous Republic of Azerbaijan. Until recently, digger wasps are one of the least-studied groups occurring in this territory as well as in Azerbaijan. So far, only about 122 species of digger wasps (Sphecidae – 7; Crabronidae – 115) have been recorded from Azerbaijan mainly in taxonomic papers. But in last two years significant progress has been made towards a better knowledge of the species of digger wasps from this territory. After the publication of Mokrousov et al. [2019], the number of known species of the family Crabronidae increased to 231. However, the fauna of the family Sphecidae remains poorly known.

Based on a comprehensive study of specimens, we here list 27 species of nine genera of the family Sphecidae, with 20 species recorded from Azerbaijan for the first time. Currently, 258 species of digger wasps (Sphecidae – 27; Crabronidae – 231) are known from this country. This article is a further step towards a better documentation

of the species of Sphecidae and their distribution in the Palaearctic region and adjacent areas.

This paper is dedicated to memory of our wonderful colleague, Dr. Khalid Aliyev, who recently passed away.

Material and methods

This article is based on the material (more than 170 specimens) collected in July 2018 and June 2019 in the Nakhchivan Autonomous Republic (Azerbaijan) by M.Yu. Proshchalykin, Kh.A. Aliyev, and M.M. Maharramov in 30 localities (Fig. 1). Geographical coordinates and administrative locations of collection sites are as follows:

Azerbaijan, Nakhchivan Autonomous Republic:

2018:

- 1 – Babek, Shikhmakhmud, 39°15'N / 45°25'E, 940 m; a – 20.07; b – 30.07;
- 2 – Shakhbuz, Kulus, 39°22'N / 45°36'E, 1360 m, 21.07;
- 3 – Shakhbuz, 4 km SE Kechili, 39°20'N / 45°45'E, 2300 m, 21.07;
- 4 – Shakhbuz, Kechili, 39°22'N / 45°43'E, 1800 m, 22.07;
- 5 – Shakhbuz, Shakhbuzkend, 39°23'N / 45°32'E, 1140 m; a – 22–23.07; b – 30.07;

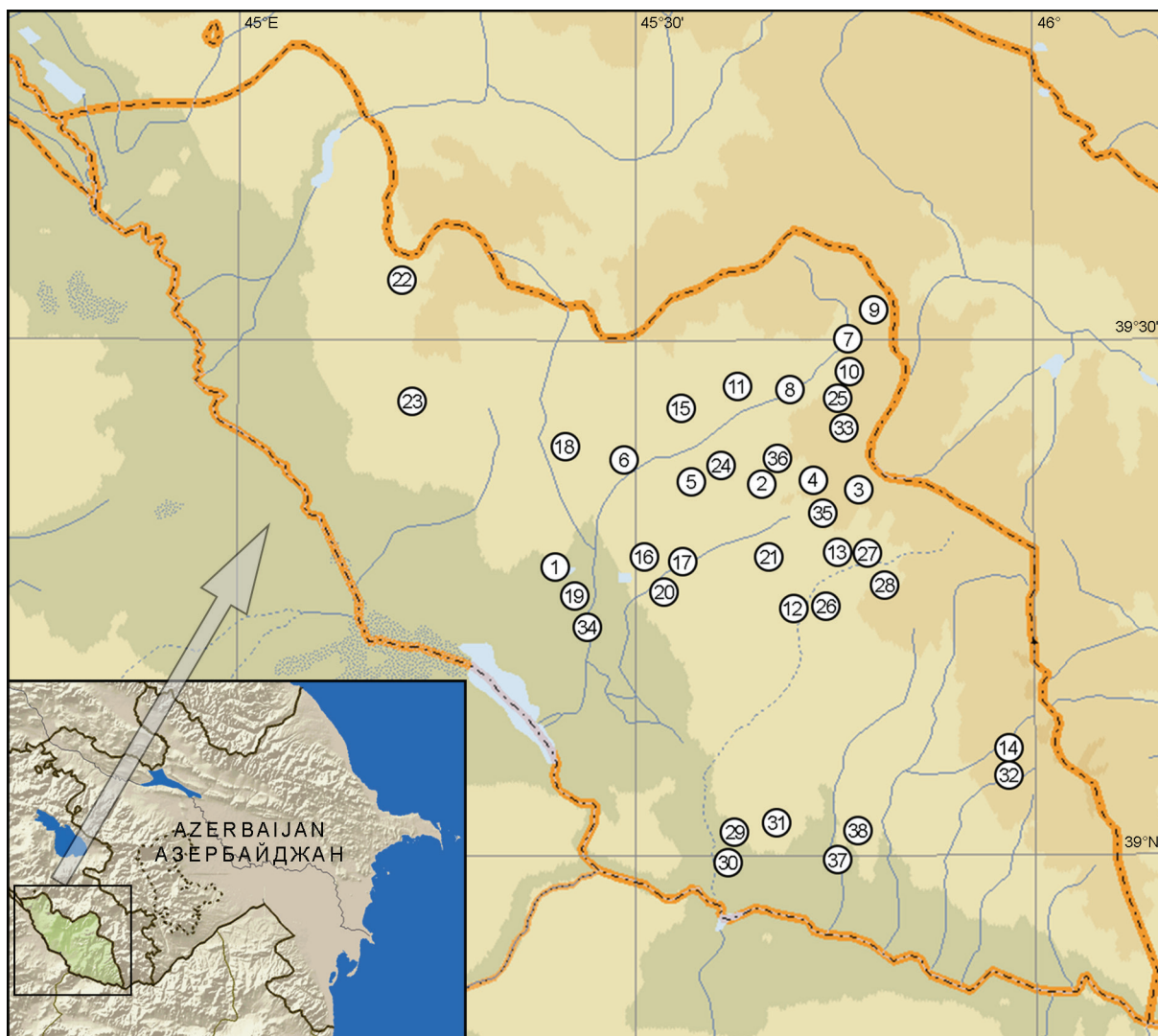


Fig. 1. The collecting places of Sphecidae in the Nakhchivan Autonomous Republic (Azerbaijan). For designation of collection sites see Material and methods.

Рис. 1. Места сбора Sphecidae в Нахичеванской Автономной Республике (Азербайджан). Обозначения точек сбора приведены в разделе «Материал и методы».

6 – Shakhbuz, Salasuz, 39°20'N / 45°45'E, 1125 m, 23, 25.07;

7 – Shakhbuz, Bichenek, 39°31'N / 45°46'E, 2000 m, 23–24.07;

8 – Shakhbuz, Kolani, 39°28'N / 45°43'E, 1300 m, 24.07;

9 – Shakhbuz, Batabat, 39°31'N / 45°47'E, 2100 m, 24.07;

10 – Shakhbuz, Zarnatun, 39°31'N / 45°46'E, 1550 m, 24–25.07;

11 – Shakhbuz, Ayrinj, 39°25'N / 45°35'E, 1240 m, 25.07;

12 – Julfa, Gazanchi, 39°13'N / 45°41'E, 1300 m, 26–27.07;

13 – Julfa, Milakh, 39°15'N / 45°43'E, 1430 m, 27.07;

14 – Ordubad, Aghdara, 39°06'N / 45°54'E, 2000 m, 28.07;

15 – Shakhbuz, 39°23'N / 45°32'E, 1160 m, 30.07.

2019:

16 – Babek, Sirab, 39°18'N / 45°31'E, 1090 m, 10.06;

17 – Babek, 3 km NE Sirab, 39°18'N / 45°32'E, 1250 m; a – 10.06; b – 12.06; c – 18.06; d – 21.06;

18 – Babek, Payiz, 39°26'N / 45°22'E, 1225 m, 11.06;

19 – Babek, Shikhmakhmud, 39°15'N / 45°25'E, 940 m, 14.06;

20 – Babek, Gahab, 39°15'N / 45°31'E, 1045 m, 12.06;

21 – Babek, Goynuk, 39°18'N / 45°40'E, 1680 m, 12.06;

22 – Sharur, Akhura, 39°33'N / 45°13'E, 1640 m, 13.06;

23 – Kangarli, Garabaglar, 39°25'N / 45°13'E, 1270 m, 13.06;

24 – Shakhbuz, Shakhbuzkend, 39°23'N / 45°32'E, 1140 m, 14.06;

25 – Shakhbuz, Zarnatun, 39°31'N / 45°46'E, 1550 m; a – 14.06; b – 18.06;

26 – Julfa, Gazanchi, 39°13'N / 45°41'E, 1300 m, 15.06;

27 – Julfa, Milakh, 39°15'N / 45°43'E, 1430 m, 15.06;

28 – Julfa, Teyvaz, 39°15'N / 45°46'E, 1645 m, 15.06;

29 – Julfa, 9 km N Julfa, 39°02'N / 45°36'E, 900 m, 16.06;

30 – Julfa, Gulistan, 38°58'N / 45°36'E, 740 m, 16.06;

31 – Julfa, Daridagh, 38°59'N / 45°40'E, 900 m; a – 16–17.06; b – 20.06;

32 – Ordubad, Aghdara, 39°06'N / 45°54'E, 2000 m, 17.06;

33 – Shakhbuz, Gomur, 39°27'N / 45°44'E, 1790 m, 18.06;

34 – Nakhchivan, 39°13'N / 45°24'E, 905 m, 17–18.06;

35 – Shakhbuz, Kechili, 39°22'N / 45°43'E, 1800 m, 19.06;

36 – Shakhbuz, Kulus, 39°21'N / 45°37'E, 1395 m, 19.06;

37 – Julfa, Dize, 39°01'N / 45°45'E, 880 m, 20.06;

38 – Julfa, 5 km N Dize, 39°03'N / 45°45'E, 965 m, 20.06.

In the list of species, the collection site number is shown in parentheses.

Specimens were deposited in the collection of the Federal Scientific Center of the East Asia Terrestrial Biodiversity of the Far East Branch of the Russian Academy of Sciences (Vladivostok, Russia) and the private collection of M.V. Mokrousov (Nizhny Novgorod, Russia). The classification of Sphecidae follows Pulawski [2020]. The distribution of species generally follow that of Danilov [2017] and Pulawski [2020]. Species new for Azerbaijan are asterisked (*).

Family Sphecidae Latreille, 1802
Subfamily Ammophilinae André, 1886
Genus *Ammophila* W. Kirby, 1798
Ammophila gussakovskii Dollfuss, 2013

Ammophila rugicollis Gussakovskij, 1930: 203 (syntypes: Azerbaijan, village Karadonly in Arax valley; junior primary homonym of *Ammophila rugicollis* Lepeletier de Saint Fargeau, 1845).

Ammophila gussakovskii Dollfuss, 2013: 436 (substitute name for *Ammophila rugicollis* Gussakovskij, 1930).

Distribution. Azerbaijan, Iran, Kazakhstan, Central Asia, India.

**Ammophila heydeni* Dahlbom, 1845

Material. 1♂ (1a); 1♂ (5a); 1♂ (14); 1♀ (17b); 1♂ (19); 3♂ (22); 3♂ (32); 1♂ (35); 1♀ (38).

Distribution. North Africa, Europe, Russia, Armenia, Azerbaijan, Turkey, Syria, Jordan, Israel, Iran, Afghanistan, Kazakhstan, Central Asia, Mongolia, China.

**Ammophila hungarica* Mocsáry, 1883

Material. 1♀ (18); 1♀ (26); 1♀ (28).

Distribution. North Africa, Europe, Russia, Armenia, Azerbaijan, Turkey, Syria, Jordan, Iran, Afghanistan, Kazakhstan, Central Asia.

**Ammophila sabulosa* (Linnaeus, 1758)

Material. 1♀ (1a); 1♂ (9).

Distribution. North Africa, Europe, Russia, Azerbaijan, Turkey, Syria, Iran, Kazakhstan, Central Asia, Mongolia, China.

Ammophila separanda F. Morawitz, 1891

Dollfuss, 2013: 404 (no specific locality).

Material. 1♂ (22).

Distribution. Russia, Azerbaijan, Kazakhstan, Central Asia.

Genus *Eremochares* Gribodo, 1883

Eremochares dives (Brullé, 1833)

Eremochares dives: Dollfuss, 2010: 537 (Sirvan Milli Parki; Bilasuvar).

Material. 1♀ (31b).

Distribution. North Africa, Europe, Russia, Azerbaijan, Turkey, Syria, Lebanon, Israel, Iraq, Iran, Afghanistan, Pakistan, Kazakhstan, Central Asia, India, China.

Genus *Podalonia* Fernald, 1927

**Podalonia andrei* (F. Morawitz, 1889)

Material. 2♂ (22).

Distribution. Russia, Azerbaijan, Mongolia, China.

**Podalonia ebenina* (Spinola, 1839)

Material. 1♀ (24).

Distribution. North Africa, Europe, Russia, Georgia, Armenia, Azerbaijan, Turkey, Syria, Lebanon, Israel, Jordan, Iraq, Iran, Afghanistan, Kazakhstan, Central Asia.

**Podalonia fera* (Lepeletier de Saint Fargeau, 1845)

Material. 1♀ (10); 1♀, 1♂ (14); 1♂ (22).

Distribution. Europe, Russia, Armenia, Azerbaijan, Turkey, Syria, Iran, Kazakhstan, Central Asia.

**Podalonia hirsuta* (Scopoli, 1763)

Material. 2♂ (2); 3♂ (3); 1♂ (6); 4♂ (17a); 2♂ (17c); 2♂ (20); 1♂ (21); 9♂ (22); 1♂ (25a); 3♂ (26); 2♂ (27); 1♂ (32); 4♂ (33); 1♂ (36).

Distribution. North Africa, Europe, Russia, Georgia, Armenia, Azerbaijan, Turkey, Lebanon, Israel, Iran, Afghanistan, Pakistan, Kazakhstan, Central Asia, India, Mongolia, China.

Subfamily Sceliphrinae Ashmead, 1899

Tribe Sceliphriini Ashmead, 1899

Genus *Chalybion* Dahlbom, 1843

**Chalybion (Chalybion) minos* (de Beaumont, 1965)

Material. 1♀ (1a); 1♂ (4); 1♀ (24).

Distribution. Europe, Azerbaijan, Turkey.

Chalybion (Chalybion) walteri (Kohl, 1889)

Chalybion walteri: Hensen, 1988: 60 (Ordubad).

Material. 2♀ (3); 1♂ (14); 4♂ (17a); 1♀, 1♂ (17c); 1♀ (20); 2♀ (31b); 1♂ (32); 1♀, 2♂ (38).

Distribution. North Africa, Europe, Russia, Azerbaijan, Turkey, Syria, Lebanon, Jordan, Iran, Kazakhstan, Central Asia.

**Chalybion (Hemichalybion) femoratum* (Fabricius, 1781)

Material. 1♀, 5♂ (1a); 1♀, 1♂ (1b); 4♂ (5a); 1♂ (15); 1♂ (27); 1♀ (34); 1♂ (36).

Distribution. Europe, Azerbaijan, Turkey, Iran, Afghanistan, Kazakhstan, Central Asia.

Genus *Sceliphron* Klug, 1801
Sceliphron (Sceliphron) arabs
 (Lepeletier de Saint Fargeau, 1845)

Sceliphron arabs: van der Vecht, van Breugel, 1968: 233 (Jewlakh).

Material. 2♂ (5b).

Distribution. Georgia, Azerbaijan, Turkey, Syria, Iraq, Iran.

Sceliphron (Sceliphron) destillatorium (Illiger, 1807)

Sceliphron destillatorium: Alieva, Humbatov, 2007: 77 (Absheron Peninsula).

Material. 3♀, 3♂ (3); 1♂ (8); 1♀ (9); 1♂ (13); 1♂ (16); 2♀ (24); 1♂ (25a); 2♂ (25b); 6♀, 2♂ (31a); 1♀, 1♂ (31b); 1♀ (37).

Distribution. North Africa, Europe, Russia, Azerbaijan, Turkey, Syria, Israel, Iran, Afghanistan, Kazakhstan, Central Asia, Mongolia, China.

Subfamily Sphecinae Latreille, 1802
Tribe Prionychini Bohart et Menke, 1963
Genus *Palmodes* Kohl, 1890

**Palmodes minor* (F. Morawitz, 1890)

Material. 1♂ (25a); 1♂ (25b).

Distribution. North Africa, Europe, Russia, Azerbaijan, Turkey, Syria, Israel, Iran, Kazakhstan, Central Asia, Mongolia, China, Korean Peninsula.

**Palmodes occitanicus*

(Lepeletier de Saint Fargeau et Serville, 1828)

Material. 2♂ (3); 1♂ (7); 1♂ (25b).

Distribution. North Africa, Europe, Russia, Azerbaijan, Turkey, Syria, Israel, Iran, Kazakhstan, Central Asia, Mongolia, China, South Korea.

**Palmodes strigulosus* (A. Costa, 1861)

Material. 1♂ (25a); 1♂ (32).

Distribution. Europe, Russia, Georgia, Armenia, Azerbaijan, Turkey, Israel, Iran, Kazakhstan, Central Asia.

Genus *Prionyx* Vander Linden, 1827

**Prionyx kirbii* (Vander Linden, 1827)

Material. 1♀ (37).

Distribution. Africa, Europe, Russia, Georgia, Azerbaijan, Turkey, Syria, Israel, Iran, Kazakhstan, Central Asia, China.

**Prionyx nudatus* (Kohl, 1885)

Material. 2♂ (10); 1♀ (14); 1♂ (25b).

Distribution. North Africa, Europe, Russia, Azerbaijan, Turkey, Iran, Afghanistan, Kazakhstan, Central Asia, China.

**Prionyx viduatus mocsaryi* (Kohl, 1885)

Material. 1♂ (17d); 1♂ (38).

Distribution. North Africa, Europe, Russia, Azerbaijan, Turkey, Kazakhstan, Central Asia, Mongolia, China.

Tribe Sphecini Latreille, 1802
Genus *Isodontia* Patton, 1880

**Isodontia paludosa* (Rossi, 1790)

Material. 1♂ (25a).

Distribution. North Africa, Europe, Russia, Azerbaijan, Turkey, Jordan, Iran, Kazakhstan, Turkmenistan, Australia.

Genus *Sphex* Linnaeus, 1758

**Sphex atropilosus* Kohl, 1885

Material. 1♀ (17a); 3♀ (17c).

Distribution. North Africa, Europe, Russia, Azerbaijan, Turkey, Kazakhstan, Turkmenistan, Tajikistan.

**Sphex flavipennis* Fabricius, 1793

Material. 1♀ (8); 1♂ (12); 1♀ (14); 1♂ (16); 2♂ (17a); 1♂ (22); 1♀, 1♂ (23); 1♂ (29); 1♂ (30); 1♀, 1♂ (38).

Distribution. North Africa, Europe, Russia, Georgia, Azerbaijan, Turkey, Syria, Israel, Iran, Afghanistan, Kazakhstan, Central Asia, China.

**Sphex funerarius* Gussakovskij, 1934

Material. 1♂ (25b); 1♂ (32).

Distribution. North Africa, Europe, Russia, Georgia, Azerbaijan, Turkey, Syria, Israel, Iran, Afghanistan, Kazakhstan, Central Asia, Mongolia, China.

Sphex leuconotus Brullé, 1833

Sphex pachysoma Kohl, 1890: 436 (type locality: Azerbaijan, Kilyazi and Kuba; Cyprus; Greece: island of Syros).

Sphex leuconotus: Dollfuss, 2008: 1427 (Salzsee Acinohur).

Material. 1♂ (17c); 8♂ (30).

Distribution. North Africa, Europe, Russia, Azerbaijan, Turkey, Syria, Israel, Jordan, Iraq, Iran, Afghanistan, Kazakhstan, Central Asia.

**Sphex pruinosus* Germar, 1817

Material. 1♀, 3♂ (11); 1♂ (17a); 1♂ (17d); 1♂ (31a).

Distribution. Africa, Europe, Russia, Azerbaijan, Turkey, Syria, Lebanon, Israel, Iran, Afghanistan, Pakistan, Kazakhstan, Central Asia, India.

In the present paper, we list 27 species of nine genera of Sphecidae from Nakhchivan Autonomous Republic, with 20 species recorded from Azerbaijan for the first time. Currently, 27 species of Sphecidae are known from this country. It is assumed that the number of sphecid species in Azerbaijan may be at least twice as large. Apparently, some species known from neighboring territories of Iran, Armenia, Georgia, Turkey or North Caucasus regions of Russia also inhabit in Azerbaijan.

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