

Sphecidae and Crabronidae of the Al Thawrah Nature Reserve, northern Syria, with a checklist of the species known from Syria

(Insecta: Hymenoptera)

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Abstract. Fifty three species representing 34 genera of Sphecidae and Crabronidae were collected from the Al Thawrah Nature Reserve, northern Syria. Forty five species are new records for Syria. A checklist including 134 species of the digger wasps of Syria is also provided.

Key words. Sphecidae, Crabronidae, Al Thawrah Nature Reserve, Syria.

Introduction

Little is known about the Sphecidae of Syria. The earliest information on the Hymenoptera of Syria was published by KOHL (1881, 1884, 1885, 1888), who included some records and described new species in the genera *Tachytes*, *Tachysphex*, *Cerceris* and *Ammophila* from Syria. KOHL (1905, 1906) also studied the Crabroninae and other Hymenoptera of the Palaearctic region with records from Syria and the Arabian region. KERVILLE (1926) listed 12 species of sphecid wasps from Syria. EBNER (1930) studied the Hymenoptera of Syria and Palestine. DE BEAUMONT (1968) revised the Sphecidae of the Palaearctic region with records from Syria. PULAWSKI (2007) included several records for species of the genus *Tachysphex* from Syria. Based on previous records, EL HARIRI (1968, 1971) listed a total of 458 species of Hymenoptera from Syria, including 38 sphecids. These lists require verification and updating based on recent nomenclatural changes.

In the Middle East, the digger wasps of Palestine, Arabia and Turkey have been extensively studied (GUICHARD 1988a & b, 1989, 1994, DE BEAUMONT & BYTINSKI-SALZ 1955, 1959). Most recently, the most comprehensive treatment of the Sphecidae and Crabronidae of Turkey was published by LJUBOMIROV & YILDIRIM (2008).

SCHMID-EGGER (2000, 2002, 2004) published a series of generic revisions (*Entomosericus*, *Gorytes* and *Bembecinus*) with records from Syria and the Middle East. DOLLFUSS (2004a, b, 2006, 2008a, b) included several records of digger wasps from Syria deposited at the "Biologisches Zentrum Linz" in Linz, Austria.

The present study is the first attempt to identify the Sphecidae and Crabronidae of the Al Thawrah Nature Reserve, northern Syria, with a list of all the species recorded from Syria.

Material and methods

Specimens were collected from the Al Thawrah Nature Reserve, northern Syria (35°51'N, 28°38'E) during several field trips between 2006 and 2008. This reserve is located on the banks of Asad Lake on the Euphrates, with a total area of 590 ha. It enjoys a mild climate (185-200 mm of annual rainfall) with several annual plants and afforested areas. Specimens were deposited in the Museum of Zoology, Aleppo University, Syria, and the Biologiezentrum Linz, Austria. Identification of collected specimens was confirmed by Josef GUSENLEITNER, Maximilian SCHWARTZ, Hermann DOLLFUS, Martin SCHWARTZ, and Herbert ZETTL at the Biologiezentrum Linz, Austria and the Natural History Museum in Vienna, Austria.

For preparation of the checklist, we relied on the outstanding work of Wojciech J. PULAWSKI (California Academy of Sciences, San Francisco), "Catalog of Sphecidae *sensu lato*" (available online), as well as on DE BEAUMONT & BYTINSKI-SALZ (1955, 1959), DOLLFUS (2004a, b, 2008a, b) and SCHMID-EGGER (2000, 2004).

The total number of examined specimens is indicated in bold, and the number of specimens collected on a particular date is indicated in normal font.

Results

A total of 53 species representing 34 genera was collected during this study. 46 species are new records for Syria. The checklist of the digger wasps of Syria includes 134 species (Table 1).

Family Sphecidae

Subfamily Ammophilinae

Ammophila sabulosa (Linnaeus, 1758)

Material (**53**): 9.vii.2005 (4); 23.vii.2006 (5); 6.viii.2008 (6); 21.vii.2006 (6); 4.viii.2006 (7); 18.viii.2006 (7); 12.vii.2006 (5); 26.vii.2007 (7); 10.viii.2007 (9). – Remarks: This species is widely distributed in Europe (BOHART & MENKE 1976), and Western Siberia (DANILOV 2009). Known from Turkey (LJUBOMIROV & YILDIRIM 2008).

Eremochaeres dives (Brullé, 1833)

Material (**2**): 21.vii.2006 (1); 10.viii.2007 (1). – Remarks: Distributed within the Eastern Mediterranean to Central Africa. Recorded from Palestine and Turkey (DE BEAUMONT & BYTINSKI-SALZ 1955, BYTINSKI-SALZ 1956).

Podalonia hirsuta (Scopoli, 1763)

Material (**2**): 15.ix.2006 (1); 6.x.2007 (1). – Remarks: This is a rather common species in Europe and extends to Russia and Turkey (BOHART & MENKE 1976).

Podalonia tydei (Le Guillou, 1841)

Material (**3**): 29.ix.2006 (2); 8.ix.2007 (1). – Remarks: Distributed in Africa, Asia including Arabia and the Mediterranean region (DE BEAUMONT & BYTINSKI-SALZ 1955, GUICHARD 1988a).

Subfamily Sceliphrinae

Chalybion walteri (Kohl, 1889)

Material (2): 9.vii.2005 (1); 4.viii.2006 (1). – Remarks: This species was recorded from Iran, Turkey, Uzbekistan and Turkmenistan (LJUBOMIROV & YILDIRIM 2008).

Sceliphron destillatorium (Illiger, 1807)

Material (65): 23.vii.2005 (4); 6.viii.2005 (6); 20.viii.2005 (7); 7.vii.2006 (5); 4.viii.2006 (6); 18.viii.2006 (9); 12.vii.2007 (7); 26.vii.2007 (10); 24.viii.2007 (11). – Remarks: This species has a wide range of distribution throughout Europe and Asiatic Russia (DOLLFUSS 1991), Palestine (DE BEAUMONT & BYTINSKI-SALZ 1955) and Turkey (YILDIRIM & LJUBOMIROV 2005).

Sceliphron madraspatanum (Fabricius, 1781)

Material (102): 23.vii.2005 (7); 9.vii.2005 (6); 6.viii.2005 (10); 20.viii.2005 (11); 7.vii.2006 (5); 21.vii.2006 (6); 18.viii.2006 (11); 4.viii.2006 (13); 24.viii.2007 (9); 10.viii.2007 (14); 26.vii.2007 (7); 12.vii.2007 (5). – Remarks: This species is common in the southwest of the former Soviet Union states, Iran, Turkey, Oman and Arabia (GUICHARD 1988a, GÜLMEZ & TÜZÜN 2005). Recorded by EBNER (1930) from Iskenderun as *Sceliphron tubifex*. Also common in southern Europe.

Sceliphron spirifex (Linnaeus, 1758)

Material (13): 23.vii.2005 (1); 6.viii.2005 (2); 20.viii.2005 (1); 7.vii.2006 (1); 4.viii.2006 (2); 18.viii.2006 (1); 26.vii.2007 (2); 10.viii.2007 (2); 24.viii.2007 (1). – Remarks: This is a common species in southern Europe, Africa and southwest Asia (GUICHARD 1988a). Recorded from Palestine (DE BEAUMONT & BYTINSKI-SALZ 1955).

Subfamily Sphecinae

Palmodes occitanicus (Lepeletier de Saint Fargeau & Serville, 1828)

Material (3): 25.vi.2005 (1); 30.v.2007 (1); 14.vi.2007 (1). – Remarks: This species has a wide distribution across Europe, Central Asia to China (BOHART & MENKE 1976). DOLLFUSS (2004b) provided locality records from Iran, Turkey and Jordan. Recorded from Palestine (DE BEAUMONT & BYTINSKI-SALZ 1955).

Palmodes strigulosus (A. Costa, 1861)

Material (2): 26.v.2006 (1); 14.vi.2007 (1). – Remarks: Distributed throughout southern Europe, Turkey and Kazakhstan (DOLLFUSS 2008b).

Prionyx songaricus (Eversmann, 1849)

Material (2): 21.vii.2006 (1); 28.vi.2007 (1). – Remarks: Known from Turkey, Iran, Iraq (DE BEAUMONT 1961). Palestine (DE BEAUMONT & BYTINSKI-SALZ 1955). DOLLFUSS (2008b) included locality records from Kazakhstan, Syria, Turkmenistan, Turkey, and Uzbekistan.

Prionyx trichargyrus (Spinola, 1838)

Material (2): 7.vii.2007 (1); 26.vii.2007 (1). – Remarks: This species is known from North Africa, Senegal, and Arabia (GUICHARD 1988a, GADALLAH & ASSERY 2004).

Sphex oxianus Gussakovskij, 1928

Material (2): 4.viii.2006 (1); 26.vii.2007 (1). – Remarks: DOLLFUSS (2008b) listed locality records from Armenia, Kazakhstan, Kyrgyzstan, Syria, Tajikistan, and Turkmenistan. In Palestine, DE BEAUMONT (1968) described *Sphex oxianus nubila*. The species is also known from Turkey (GÜLMEZ & TÜZÜN 2005) and from Iran (GHAHARI et al. 2008).

Sphex pruinosus Germar, 1817

Material (3): 18.viii.2006 (1); 26.viii.2007 (1); 8.ix.2007 (1). – Remarks: This is a common species in the Mediterranean area and North Africa and Arabia (GUICHARD 1988a, GADALLAH & ASSERY 2004). Recorded previously from Syria by DOLLFUSS (2008b). Recorded from Palestine (DE BEAUMONT & BYTINSKI-SALZ 1955),

Family Crabronidae

Subfamily Astatinae

Astata boops (Schrank, 1781)

Material (2): 26.v.2006 (1); 14.vi.2007 (1). – Remarks: Distributed throughout Europe (BOHART & MENKE 1976). Recorded from Turkey (GAYUBO et al. 2003), Iraq (DE BEAUMONT 1961) and Palestine (DE BEAUMONT et al. 1973). Also known from several places in Asia, including Russian Far East (ANTROPOV 1995) and Korea (TSUNEKI 1991).

Subfamily Bembicinae

Bembix oculata Panzer, 1801

Material (4): 7.v.2006 (1); 14.vii.2006 (1); 27.vii.2006 (1); 10.viii.2007 (1). – Remarks: This is a common species in southern Europe, Asia (excluding northern or southeastern Asia), North Africa and Arabia (GUICHARD 1988a, GADALLAH & ASSERY 2004).

Bembecinus meridionalis A. Costa, 1859

Material (2): 18.viii.2006 (1); 26.vii.2007 (1). – Remarks: Southern Europe and Turkey (LJUBOMIROV & YILDIRIM 2008)

Bembecinus tridens (Fabricius, 1781)

Material (2): 8.iv.2006 (1); 12.vii.2007 (1). – Remarks: This is a Palaearctic species with a wide range of distribution across Europe to Russia (SCHMID-EGGER 2004).

Gorytes foveolatus Handlirsch, 1888

Material (1): 24.viii.2007 (1). – Remarks: This species is known from northwest Africa, southern and southeast Europe, Turkey to Ukraine and Russia, also from Syria and Jordan (SCHMID-EGGER 2002).

Nysson dimidiatus Jurine, 1807

Material (1): 21.vii.2006 (1). – Remark: Known from Europe across Russia (KAZENAS 2001).

Stizus bizonatus Spinola, 1838

Material (2): 1.ix.2006 (1); 24. 8.2007 (1). – Remarks: Known from Iraq, Saudi Arabia, UAE and Egypt (GUICHARD 1989).

Stizus ruficornis (J. Forster, 1771)

Material (2): 4.viii.2006 (1); 10.viii.2007 (1). – Remarks: This species has a wide of distribution throughout Europe across the Middle East to China (GADALLAH & ASSERY 2004).

Subfamily Crabroninae

Crossocerus acanthophorus (Kohl, 1892)

Material (1): 14.iv.2006 (1). – Remarks: Distributed in Europe, southern former Soviet Union states and Turkey (LJUBOMIROV & YILDIRIM 2008). Recorded from Palestine (DE BEAUMONT et al. 1973).

Ectemnius crassicornis (Spinola, 1808)

Material (2): 30.v.2005 (1); 28.iv.2006 (1). – Remarks: Common throughout Europe to Russia and Central Asia (DOLLFUSS 2004b, LJUBOMIROV & YILDIRIM 2008). DOLLFUSS (2004b) provided locality records from Iran, Palestine, Jordan, and Turkey.

Ectemnius meridionalis (A.Costa, 1871)

Material (2): 14.iv.2006 (1); 2.v.2007 (1). – Remarks: Common throughout Europe (excluding northern Europe and northern Russia) to Russia and Central Asia (DOLLFUSS 2004b, LJUBOMIROV & YILDIRIM 2008). DOLLFUSS (2004b) included locality records from Iran, Palestine, Jordan and Turkey.

Gastrosericus waltlii Spinola, 1838

Material (1): 4.viii.2006 (1). – Remarks: Distributed across North Africa to Arabia, Kuwait (GUICHARD 1980). PULAWSKI (1995) listed a number of species in North Africa and elsewhere as synonyms of this species.

Larra anathema (Rossi, 1790)

Material (2): 18.viii.2006 (1); 8.ix.2006 (1). – Remarks: This species has a wide range of distribution extending from Europe, North Africa across Asia to China (BOHART & MENKE 1976). Recorded from Palestine (DE BEAUMONT et al. 1973).

Lestica clypeata (Schreber, 1759)

Material (1): 12.v.2006 (1). – Remarks: Known from Europe and the Mediterranean basin including Syria, reaching southern former Soviet Union states (DOLLFUSS 2004b).

Lindenius ibex syriacus (Kohl, 1905)

Material (1): 18.viii.2007 (1). – Remarks: Recorded from Syria and Turkey (DOLLFUSS 2006).

Miscophus bicolor Jurine, 1807

Material (1): 9.vi.2006 (1). – Remarks: Recorded from Europe throughout Russia, Iran and Turkey (LJUBOMIROV & YILDIRIM 2008).

Oxybelus variegatus Wesmael, 1852

Material (1): 23.vi.2006 (1). – Remarks: Known from Europe, Iran Turkey to Kazakhstan (DOLLFUSS 2008a).

Palarus spinolae de Saussure, 1802

Material (1): 23.vi.2006 (1). – Remarks: This species was recorded from Africa, Asia, south Europe (LJUBOMIROV & YILDIRIM 2008).

Tachysphex dignus Kohl, 1889

Material (2): 9.vi.2006 (1); 2.vii.2007 (1). – Remarks: This species was recorded from Iran, Turkey, Palestine and Turkmenistan (DE BEAUMONT et al. 1973, LJUBOMIROV & YILDIRIM 2008). Recorded from Syria from several localities (PULAWSKI 2007).

Tachysphex fulvitaris (A. Costa, 1867)

Material (2): 7.vii.2006 (1); 26.vii.2007 (1). – Remarks: Recorded from Europe, North Africa and Turkey (LJUBOMIROV & YILDIRIM 2008).

Tachysphex schmiedeknechti Kohl, 1883

Material (2): 21.vii.2006 (1); 10.viii.2007 (1). – Remarks: This species is known from some circum-Mediterranean countries, to Oman and Central Asia (BOHART & MENKE 1976). The subspecies *T. schmiedeknechti satanas* Pulawski, 1971 was described from Ramadan near Damascus, Syria.

Tachytes etruscus (Rossi, 1790)

Material (1): 24.viii.2007 (1). – Remarks: Known throughout south Europe, Cyprus, Arabia and Turkey (GUICHARD 1994).

Trypoxylon scutatum Chevrier, 1867

Material (2): 28.iv.2006 (1); 4.iv.2007 (1). – Remarks: This species is known from the circum-Mediterranean countries to Oman and Central Asia (BOHART & MENKE 1976).

Subfamily Dinetinae

Dinetus pictus (Fabricius, 1793)

Material (1): 14.iv.2006 (1). – Remarks: Known across Europe to Russia, Kazakhstan and Turkey (LJUBOMIROV & YILDIRIM 2008, KAZENAS 1978).

Subfamily Pemphredoninae

Diodontus minutus (Fabricius, 1793)

Material (1): 14.iv.2006 (1). – Remarks: Distributed in Europe, southern former Soviet Union states and Turkey (LJUBOMIROV & YILDIRIM 2008). Recorded from Palestine (DE BEAUMONT et al. 1973). Also known from Iran and Kazakhstan (GUSSAKOVSKIJ 1933, KAZENAS 1972).

Entomosericus concinnus Dahlbom, 1845

Material (1): 10.viii.2007 (1). – Remarks: This species occurs in Turkey and southeastern Europe (SCHMID-EGGER 2000). Also known from Palestine (DE BEAUMONT & BYTINSKI-SALZ 1959).

Pemphredon lethifer (Shuckard, 1837)

Material (2): 31.iii.2006 (1); 18.iv.2007 (1). – Remarks: This species has a wide range of distribution throughout Europe, Russia to Japan (BOHART & MENKE 1976). Recorded from Palestine (DE BEAUMONT et al. 1973).

Pemphredon rugifer (Dahlbom, 1845)

Material (2): 14.iv.2006 (1); 2.v.2007 (1). – Remarks: Known in Europe and Turkey (GAYUBO & ÖZBEK 2005). Also known from Siberia and Kazakhstan (NEMKOV 1986, KAZENAS & ESENBKOVA 2001).

Psenulus meridionalis De Beaumont, 1937

Material (1): 31.iii.2006 (1). – Remarks: Recorded from central and southern Europe and Turkey (YILDIRIM & LJUBOMIROV 2005) and Syria (DOLLFUSS 2004a).

Cerceris circularis dacica Schletterer, 1887

Material (2): 14.iv.2006 (1); 2.v.2007 (1). – Remarks: Widely distributed in southern Europe and Turkey (LJUBOMIROV & YILDIRIM 2008).

Cerceris fimbriata Rossi, 1790

Material (2): 28.iv.2006 (1); 2.v.2007 (1). – Remarks: The distribution of this species extends from Spain across southern Europe to southern former Soviet Union states (BOHART & MENKE 1976). Reported from Palestine (DE BEAUMONT & BYTINSKI-SALZ 1959) and Turkey (LJUBOMIROV & YILDIRIM 2008).

Cerceris rubida (Jurine, 1807)

Material (2): 12.v.2006 (1); 2.v.2007 (1). – Remarks: The distribution of this species extends from Spain across southern Europe to southern former Soviet Union states (BOHART & MENKE 1976).

Cerceris rybyensis (Linnaeus, 1771)

Material (2): 28.iv.2006 (1); 18.iv.2007 (1). – Remarks: Known in Europe throughout Russia to Central Asia and North Africa (BOHART & MENKE 1976).

Cerceris specularis A. Costa, 1869

Material (2): 31.iii.2006 (1); 4.iv.2007 (1). – Remarks: Distributed in Europe to Central Asia (LJUBOMIROV & YILDIRIM 2008). Recorded from Palestine (DE BEAUMONT & BYTINSKI-SALZ 1959) as *C. specularis fergusonii*.

Cerceris tuberculata (de Villers, 1789)

Material (2): 14.iv.2006 (1); 4.iv.2007 (1). – Remarks: Distributed in southern Europe to Central Asia and Iran (LJUBOMIROV & YILDIRIM 2008).

Passaloecus ribauti Merisuo, 1974

Material (1): 2.v.2007 (1). – Remarks: North and Central Europe (DOLLFUSS 1991) and North Africa and Syria, Turkey and Ukraine (DOLLFUSS 2004a).

Subfamily Philanthinae

Philanthus triangulum (Fabricius, 1775)

Material (2): 12.v.2006 (1); 16.v.2007 (1). – Remarks: This species is known across the Western Palearctic, Middle East to Africa (GUICHARD 1994).

Philanthus variegatus Spinola, 1838

Material (2): 26.v.2006 (1); 30.v.2007 (1). – Remarks: Known from North Africa, Palestine, Arabia and Central Asia (GUICHARD 1994, AL-HOUTY 1989).

Philanthus venustus (Rossi, 1790)

Material (2): 12.v.2006 (1); 30.v.2007 (1). – Remarks: Known from southern Europe and Turkey (LJUBOMIROV & YILDIRIM 2008). Also known from Kazakhstan (KAZENAS 1972). Recorded from Palestine (DE BEAUMONT & BYTINSKI-SALZ 1959).

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Annex:

List of Sphecidae and Crabronidae species recorded from Syria

Species	Source
<i>Ammophila assimilis</i> Kohl, 1901	KOHL (1901)
<i>Ammophila exsecta</i> Kohl, 1906	KOHL (1906)
<i>Ammophila propinqua</i> var. <i>exsecta</i> Kohl, 1906	KOHL (1906)
<i>Ammophila rubripes</i> Spinola, 1839	MOCSÁRY (1883)
<i>Ammophila sabulosa</i> (Linnaeus, 1758)	Present study
<i>Ammophila strumosa</i> (Kohl, 1906)	KOHL (1906)
<i>Astata affinis jerichoensis</i> Pulawski, 1957	PULAWSKI (1957)
<i>Astata boops</i> (Schränk, 1781)	Present study
<i>Astata diversipes</i> Pulawski, 1955	PULAWSKI (1955)
<i>Astata kashmirensis melanotica</i> Pulawski, 1973	DE BEAUMONT et al. (1973)
<i>Bembecinus gynandromorphus</i> (Handlirsch, 1892)	HANDLIRSCH (1892)
<i>Bembecinus meridionalis</i> A. Costa, 1859	Present study
<i>Bembecinus niehuisi</i> Schmid-Egger, 2004	SCHMID-EGGER (2004)
<i>Bembecinus revindicatus</i> (Schulz, 1906).	HANDLIRSCH (1898)
<i>Bembecinus tridens</i> (Fabricius, 1781)	Present study
<i>Bembix arenaria</i> Handlirsch, 1893	HANDLIRSCH (1893)
<i>Bembix oculata</i> Panzer, 1801	Present study
<i>Bembix olivacea</i> Fabricius, 1787	EL HARIRI (1968, 1971)
<i>Cerceris berlandi palaestina</i> de Beaumont	DE BEAUMONT & BYTINSKI-SALZ (1959)
<i>Cerceris circularis dacica</i> Schletterer, 1887	Present study
<i>Cerceris eucharis</i> Schletterer, 1887	SCHLETTERER (1887)
<i>Cerceris fimbriata</i> Rossi, 1790	Present study
<i>Cerceris rhinoceros</i> Kohl, 1888	KOHL (1888)
<i>Cerceris rubida</i> (Jurine, 1807)	Present study
<i>Cerceris rybyensis</i> (Linnaeus, 1771)	Present study
<i>Cerceris specularis</i> A. Costa, 1869	Present study
<i>Cerceris tuberculata</i> (de Villers, 1789)	Present study

Species	Source
<i>Chalybion walteri</i> (Kohl, 1889)	Present study
<i>Crossocerus acanthophorus</i> (Kohl, 1892)	Present study
<i>Dinetus pictus</i> (Fabricius, 1793)	Present study
<i>Diodontus minutus</i> (Fabricius, 1793)	Present study
<i>Ectemnius cephalotes</i> (Olivier 1792)	DOLLFUSS (2004b)
<i>Ectemnius continuus</i> (Fabricius 1804)	DOLLFUSS (2004b)
<i>Ectemnius crassicornis</i> (Spinola, 1808)	Present study
<i>Ectemnius meridionalis</i> (A. Costa, 1871)	Present study
<i>Entomognathus libanonis</i> (Kohl, 1905)	DOLLFUSS (2006)
<i>Entomosericus concinnus</i> Dahlbom, 1845	Present study
<i>Eremochaes dives</i> (Brulle, 1833)	Present study
<i>Gastrosericus waltlii</i> Spinola, 1838	Present study
<i>Gorytes foveolatus</i> Handlirsch, 1888	Present study
<i>Gorytes kohlii</i> Handlirsch, 1888	EL HARIRI (1968 & 1971)
<i>Gorytes nigrifacies</i> (Mocsáry, 1879)	EL HARIRI (1968 & 1971)
<i>Gorytes quinquefasciatus levantinus</i> Pulawski, 1961	NEMKOV (1990), SCHMID-EGGER (2002)
<i>Gorytes schmiedeknechti</i> Handlirsch 1888	SCHMID-EGGER (2002)
<i>Groytes quinquecinctus</i> (Fabricius, 1793)	SCHMID-EGGER (2002)
<i>Hoplisoides punctuosus</i> (Eversmann, 1849)	EL HARIRI (1968, 1971)
<i>Larra anathema</i> (Rossi, 1790)	Present study
<i>Lestica clypeata</i> (Schreber, 1759)	Present study
<i>Lindenius crenulifer</i> Kohl, 1905	KOHL (1905)
<i>Lindenius albilabris</i> (Fabricius, 1793)	W. SCHULZ (1904)
<i>Lindenius anatolicus</i> de Beaumont 1967	DOLLFUSS (2006)
<i>Lindenius ibex syriacus</i> (Kohl, 1905)	Present study
<i>Lindenius iranius</i> Leclercq, 1975	DOLLFUSS (2006)
<i>Lindenius pygmaeus</i> (Rossi, 1794)	DOLLFUSS (2006)
<i>Lindenius pygmaeus armatus</i> (Vander Linden, 1829)	DOLLFUSS (2006)
<i>Lindenius sardashti</i> Leclercq, 1975	DOLLFUSS (2006)
<i>Miscophus bicolor</i> Jurine, 1807	Present study
<i>Miscophus elegans</i> De Andrade, 1960	DE ANDRADE (1960)
<i>Miscophus graciosus</i> De Andrade, 1960	DE ANDRADE (1960)
<i>Miscophus syriacus</i> De Andrade, 1960	DE ANDRADE (1960)
<i>Nysson dimidiatus</i> Jurine, 1807	Present study
<i>Oxybelus aurantiacus</i> Mocsáry	DOLLFUSS (2008a)
<i>Oxybelus bipunctatus</i> Olivier, 1812	DOLLFUSS (2008a)
<i>Oxybelus dissectus</i> Dahlbom, 1845	DOLLFUSS (2008a)
<i>Oxybelus haemorrhoidalis</i> Olivier, 1812	DOLLFUSS (2008a)
<i>Oxybelus lamellatus</i> Olivier, 1811	DOLLFUSS (2008a)
<i>Oxybelus mucronatus</i> (Fabricius, 1793)	DOLLFUSS (2008a)
<i>Oxybelus quatuordecimnotatus</i> Jurine, 1807	DOLLFUSS (2008a)
<i>Oxybelus subspinosus</i> Klug in Waltl, 1835	DOLLFUSS (2008a)
<i>Oxybelus tinklyi</i> Guichard, 1990	DOLLFUSS (2008a)
<i>Oxybelus variegatus</i> Wesmael, 1852	Present study
<i>Palarus fulviventris</i> Latreille, 1812	Present study
<i>Palmodes melanarius</i> (Mocsáry, 1883)	DOLLFUSS (2008b)
<i>Palmodes occitanicus</i> (Lepeletier & Serville, 1828)	Present study
<i>Palmodes strigulosus</i> (A. Costa, 1861)	Present study
<i>Parapsammophila caspica</i> (Gussakovskij, 1930)	DE BEAUMONT & BYTINSKI-SALZ (1955)
<i>Passaloecus pictus</i> Ribaut, 1952	DOLLFUSS (2004a)
<i>Passaloecus ribauti</i> Merisuo, 1974	Present study
<i>Pemphredon lethifer</i> (Shuckard, 1837)	Present study
<i>Pemphredon rugifer</i> (Dahlbom, 1845)	Present study
<i>Philanthus dufouri</i> Lucas, 1849	DE BEAUMONT (1961)
<i>Philanthus theodori</i> Bytinski-Salz, 1959	GUICHARD (1994)

Species	Source
<i>Philanthus triangulum</i> (Fabricius, 1775)	Present study
<i>Philanthus variegatus</i> Spinola, 1838	Present study
<i>Philanthus venustus</i> (Rossi, 1790)	Present study
<i>Podalonia hirsuta</i> (Scopoli, 1763)	Present study
<i>Podalonia tydei</i> (Le Guillou, 1841)	Present study
<i>Prionyx crudelis</i> (F. Smith, 1856)	DE BEAUMONT & BYTINSKI-SALZ (1955)
<i>Prionyx damascenus</i> (de Beaumont 1968b)	DE BEAUMONT (1968b)
<i>Prionyx insignis</i> Kohl, 1885	KOHL (1885)
<i>Prionyx kirbii</i> (Vander Linden, , 1827)	COULON (1925), DOLLFUSS (2008b)
<i>Prionyx songaricus</i> (Eversmann, 1894)	Present study
<i>Prionyx trichargyrus</i> (Spinola, 1838)	Present study
<i>Prionyx viduatus</i> (Christ, 1791)	DOLLFUSS (2008b)
<i>Psenulus fulvicornis</i> (Schenck, 1857)	DOLLFUSS (2004a)
<i>Psenulus meridionalis</i> De Beaumont, 1937	Present study
<i>Psenulus pan</i> de Beaumont, 1967	DOLLFUSS (2004a)
<i>Sceliphron destillatorium</i> (Illiger, 1807)	Present study
<i>Sceliphron madraspatanum</i> (Fabricius, 1781)	Present study
<i>Sceliphron spirifex</i> (Linnaeus, 1758)	Present study
<i>Sphex flavipennis</i> Fabricius, 1793	DOLLFUSS (2008b)
<i>Sphex funerarius</i> Gussakovskij 1934	BERLAND (1927), DOLLFUSS (2008b)
<i>Sphex leuconotus</i> Brullé, 1833	DOLLFUSS (2008b)
<i>Sphex melanocnemis</i> Kohl, 1885	DOLLFUSS (2008b)
<i>Sphex oxianus</i> Gussakovskij, 1928	DOLLFUSS (2008b)
<i>Sphex pruinosus</i> Germar, 1817	Present study
<i>Stizus annulatus</i> (Klug 1845)	GADALLAH (2001)
<i>Stizus bizonatus</i> Spinola, 1838	Present study
<i>Stizus fasciatus</i> (Fabricius, 1781)	EL HARIRI (1968, 1971)
<i>Stizus kohlii</i> Mocsáry, 1883	MOCSÁRY (1883)
<i>Stizus ruficornis</i> (J. Forster, 1771)	Present study
<i>Stizus tricolor</i> Handlirsch, 1892	HANDLIRSCH (1892)
<i>Tachysphex albocinctus</i> (Lucas, 1849)	KOHL (1888), DE BEAUMONT (1940)
<i>Tachysphex argentatus</i> Gussakovskij, 1952	PULAWSKI (1971)
<i>Tachysphex brevipennis</i> Mercet, 1909	PULAWSKI (1971)
<i>Tachysphex consocius</i> Kohl, 1892	PULAWSKI (1971)
<i>Tachysphex dignus</i> Kohl, 1889	PULAWSKI (1971)
<i>Tachysphex fugax</i> (Radoszkowski, 1877)	PULAWSKI (2001)
<i>Tachysphex fulvitaris</i> (A. Costa, 1867)	Present study
<i>Tachysphex harpax</i> Arnold, 1923	PULAWSKI (2007)
<i>Tachysphex geniculatus</i> (Spinola, 1839)	PULAWSKI (1971)
<i>Tachysphex incertus</i> (Radoszkowski, 1877)	PULAWSKI (1971)
<i>Tachysphex isis</i> de Beaumont, 1940	PULAWSKI (1971)
<i>Tachysphex nitidissimus</i> de Beaumont, 1952	PULAWSKI (1971)
<i>Tachysphex pulcher</i> Pulawski, 1967	PULAWSKI (1971)
<i>Tachysphex pusulosus</i> de Beaumont, 1955	PULAWSKI (1971)
<i>Tachysphex schmiedeknechti</i> Kohl, 1883	PULAWSKI (1994)
<i>Tachysphex speciosissimus</i> Morice, 1897	PULAWSKI (1971)
<i>Tachytes etruscus</i> (Rossi, 1790)	Present study
<i>Trypoxylon albipes</i> F. Smith, 1856	ANTROPOV (1986)
<i>Trypoxylon deceptorium</i> Antropov, 1991	ANTROPOV (1991), MOCHI & LUCHETTI (1994)
<i>Trypoxylon scutatum</i> Chvrier, 1867	Present study
<i>Trypoxylon syriacum</i> Mercet, 1906	MERCET (1906)