

The digger wasps of Saudi Arabia: New records and distribution, with a checklist of species (Hym.: Ampulicidae, Crabronidae and Sphecidae)

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Abstract. The "sphecids" fauna of Saudi Arabia (Hymenoptera: Apoidea) is listed. A total of 207 species in 42 genera are recorded including previous and new species records. Most Saudi Arabian species recorded up to now are more or less common and widespread mainly in the Afrotropical and Palaearctic zoogeographical zones, the exception being *Bembix buettikeri* Guichard, *Bembix hofufensis* Guichard, *Bembix saudi* Guichard, *Cerceris constricta* Guichard, *Oxybelus lanceolatus* Gerstaecker, *Palarus arabicus* Pulawski in Pulawski & Prentice, *Tachytes arabicus* Guichard and *Tachytes fidelis* Pulawski, which are presumed endemic to Saudi Arabia (3.9% of the total number of species). General distribution and ecozones, and Saudi Arabian localities are given for each species. In this study two genera (*Diodontus* Curtis and *Dryudella* Spinola) and 11 species are newly recorded from Saudi Arabia.

Key words: Ampulicidae, Crabronidae, Sphecidae, faunistic list, new records, Saudi Arabia.

Introduction

Sphecids wasps, also known as digger wasps, are generally black-bodied insects or black marked with white, yellow or red; some are tinged with metallic blue or green. They range in size from about 2mm up to 51 mm long. They are world-wide in distribution, mainly occupying arid and semi arid areas (Schmid-Egger 2011).

Based on some phylogenetic studies, the former family Sphecidae is now divided into four families: Heterogynaidae, Ampulicidae, Crabronidae and Sphecidae (Prentice 1998, unpublished doctoral thesis; Brothers 1999, Melo 1999). Recent estimates indicate the presence of about 300 of the 9720 species occurring in the Arabian Peninsula (Ohl, own observation in Schmid-Egger 2011).

Major studies concerning sphecids fauna in the Arabian Peninsula are those by Guichard (1980-1994) who revised part of genera; Pulawski (1962-2007) who deal with other genera through several revisionary works; Gadallah & Assery (2004a,b) who added some new records to the fauna of Saudi Arabia; Antropov (2011), Ohl (2011) and Schmid-Egger (2004, 2011) who revised Crabronidae and Sphecidae in UAE and others.

In the present study a total of 207 species in 42 genera are recorded from Saudi Arabia, including previous and new records. Two genera (*Diodontus* Curtis and *Dryudella* Spinola) and 11 species (*As-*

tata boops (Schrank), *Bembecinus meridionalis* A.Costa, *Diodontus* sp. near *hyalipennis* Kohl, *Dryudella nephertiti* (Pulawski), *Harpactus formosus* (Jurine), *Liris festinans praetermissus* (Richards), *Tachysphex argentatus* Gussakovskij, *Tachysphex deserticola* de Beaumont, *Tachysphex dignus* Kohl, *Tachysphex pentheri* Cameron, (Crabronidae) and *Sceliphron madraspatanum* (Fabricius) (Sphecidae)) are recorded for the first time from Saudi Arabia. A few specimens of *Tachysphex* could not be identified and are therefore not included.

Material and Methods

Data in the present study are based on material collected by the authors from different Saudi Arabian localities during 2000-2010, in addition to specimens preserved in the King Saud University collection. Information was also taken from literature (see sources in the text below) as well as "Catalog of Sphecidae sensu lato" by W. Pulawski (2013) available online [http://research.calacademy.org/ent/catalog_Sphecidae]. Identification of the new records was done with the help of Guichard (1986), Roche & Gadallah (1999) (on the generic level), Pulawski (1971) for *Tachysphex* species, Guichard (1988a) for *Sceliphron* species, Schmid-Egger (2004) for *Bembecinus* species, and consulting Dr. W. Pulawski (California Academy of Sciences, San Francisco) for *Diodontus*, *Dryudella* and some *Tachysphex* species.

Classification follows that of Pulawski (internet database, 2013). Families as well as species names within genera are arranged alphabetically. The pictures were

taken at the California Academy of Sciences, San Francisco, California, by Erin Prado under the supervision of Wojciech J. Pulawski, using the Automontage software package by Syncroscopy. The images were subsequently edited in Photoshop by Wojciech J. Pulawski.

Abbreviations: AF = Afrotropical; AU = Australian; NEO = Neotropical; OR = Oriental; PA = Palaearctic.

List of collecting localities (arranged alphabetically):

Abha (18° 14' N, 42° 31' E)
 Abu Arish (16° 42' N, 42° 50' E)
 Ad Diriyah (25° 12' N, 44° 12' E)
 Al Ha'ir (25° 47' N, 45° 22' E)
 Al Hota (23° 29' N, 46° 52' E)
 Al Kharj (24° 08' N, 47° 18' E)
 Al Lith (20° 09' N, 40° 16' E)
 Al Muzahimiyah (24° 28' N, 46° 16' E)
 Amjara (17° 00' N, 43° 00' E)
 As Summan Plateau (25° 00' N, 47° 00' E)
 Bahra (22° 10' N, 46° 44' E)
 Beisha (20° 30' N, 43° 00' E)
 Dabtiyah (26° 26' N, 48° 36' E)
 Dirab Agriculture Station (24° 30' N, 46° 37' E)
 Diba (27° 21' N, 35° 40' E)
 Fayfa (17° 16' N, 43° 06' E)
 Hadasham (22° 00' N, 38° 30' E)
 Hanakiya (25° 00' N, 41° 00' E)
 Ha'il (Ras Saminal) (27° 31' N, 41° 41' E)
 Hutet Beni Tamim (23° 27' N, 46° 30' E)
 Hofuf (25° 20' N, 49° 34' E)
 Jabal Lababa (18° 01' N, 42° 01' E)
 Jeddah (21° 32' N, 39° 10' E)
 Jizan (16° 53' N, 42° 33' E)
 Mahail (26° 20' N, 43° 58' E)
 Mazari Al Arda (25° 45' N, 43° 18' E)
 Medain Saleh (26° 45' N, 38° 15' E)
 Mibhil (25° 20' N, 43° 17' E)
 Najran (17° 29' N, 44° 07' E)
 Nejd (Jebel Tuweiq) (24° 47' N, 46° 45' E)
 El Qunfuda (18° 35' N, 41° 40' E)
 Riyadh (24° 38' N, 46° 43' E)
 Tabuk (28° 23' N, 36° 35' E)
 Taif (21° 29' N, 40° 32' E)
 Umm Lajj (25° 01' N, 37° 16' E)
 Wadi Diga (29° 49' N, 39° 52' E)
 Wadi Majarish (21° 21' N, 40° 07' E)
 Wadi Maraba (17° 54' N, 42° 22' E)
 Wadi Nisah (24° 14' N, 46° 29' E)
 Wadi Qanuna (19° 06' N, 41° 05' E)
 Wadi Qurrayyat (37° 22' N, 31° 19' E)
 Wadi Rasid (26° 42' N, 41° 12' E)

Results

In the present study, a total of 207 spheciform species in 42 genera are recorded from the Saudi Arabian fauna, of which 11 species are recorded for

the first time: *Astata boops* (Schrank), *Bembecinus meridionalis* A. Costa, *Diodontus* sp. near *hyalipennis* Kohl, *Dryudella nephertiti* (Pulawski), *Harpactus formosus* (Jurine), *Liris festinans praetermissus* (Richards), *Tachysphex argentatus* Gussakovskij, *Tachysphex deserticola* de Beaumont, *Tachysphex dignus* Kohl, *Tachysphex pentheri* Cameron (Crabronidae) and *Sceliphron madraspatanum* (Fabricius) (Sphecidae). Most of the recorded species are widely spread in the Afrotropical and the Palaearctic zoogeographical zones. The following species are presumed endemic to Saudi Arabia (representing about 3.9% of the total number of species): *Bembix buettikeri* Guichard, *B. hofufensis* Guichard, *B. saudi* Guichard, *Cerceris constricta* Guichard, *Oxybelus lanceolatus* Gerstaecker, *Palarus arabicus* Pulawski in Pulawski & Prentice, *Tachytes arabicus* Guichard and *T. fidelis* Pulawski. A considerable number of digger wasps "Sphecidae" are expected to occur in Saudi Arabia.

Family Ampulicidae

Sources: Gadallah & Assery (2004a).

Ampulex compressa (Fabricius, 1781)

Distribution in Saudi Arabia: Hadasham (near Jeddah) (Gadallah & Assery 2004a).

General Distribution: AF (Ethiopia, Kenya, Madagascar, Mauritius, Tanzania, Zanzibar), AU (Australia), AU-Oceanic (Hawaii), OR (Bangladesh, India, Indonesia, Philippines, Sri Lanka), PA (China, Saudi Arabia).

Family Crabronidae

Sources: Klug (1845), Gerstaecker (1867), Turner (1912), de Beaumont (1949, 1951, 1962), Shalaby (1961), Pulawski (1971, 1979, 1992, 1995, 2007), Empey (1975), Bohart & Menke (1976), Walker & Pittaway (1987), Leclercq (1986, 1993, 2009), Guichard (1988b, 1989, 1991, 1994), Krombein & Pulawski (1994), Ohl (1999), Gadallah & Assery (2004a, b), Antropov (2007, 2011), Roche (2007), Pulawski & Prentice (2008), Schmid-Egger (2004, 2011), Nemkov (2012).

Subfamily Astatinae

**Astata boops* (Schrank, 1781) (Fig. 1)

Material examined: 1♀, Al Kharj, 26.xi.2008.

Distribution in Saudi Arabia: New record for Saudi Arabia.

General Distribution: AF (Oman, Socotra, South Africa, Yemen), NEA (Chile), OR (India, Korea), PA (Afghanistan, Albania, Algeria, Austria, Belgium, Britain, Canary Island, China, Croa-

tia, Cyprus, Czech Republic, Denmark, Egypt, Estonia, Finland, France, Germany, Greece, Hungary, Iran, Iraq, Israel, Italy, Kazakhstan, Kuwait, Latvia, Lithuania, Libya, Madeira, Malta, Mongolia, Morocco, The Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, Syria, Tajikistan, Tunisia, Turkey, Turkmenistan, Ukraine, Uzbekistan, former Yugoslavia).

Astata cleopatra Pulawski, 1959

Distribution in Saudi Arabia: Hadasham (120 Km eastern Jeddah) (Gadallah & Assery 2004a).

General Distribution: AF (Oman), PA (Egypt, Saudi Arabia).

**Dryudella nephertiti* (Pulawski, 1959) (Fig. 2)

Material Examined: 1♂, Hutet Beni Tamim (180 Km south of Riyadh), 28.xii.2007

Distribution in Saudi Arabia: New for the fauna of Saudi Arabia.

General Distribution: PA (Egypt).

Subfamily Bembicinae

Bembecinus asiaticus Gussakovskij, 1935

Distribution in Saudi Arabia: Recorded with no specific locality (Nemkov 2012).

General Distribution: PA (Afghanistan, Iran, Iraq, Kazakhstan, Kyrgyzstan, Pakistan, Saudi Arabia, Tajikistan, Turkmenistan, Turkey, Uzbekistan).

Bembecinus asiaticus iranicus Schmid-Egger, 2004 (Fig. 3)

Material Examined: 1♀, Hutet Beni Tamim (180 Km south of Riyadh), v.2007 (Malaise trap).

Distribution in Saudi Arabia: Hofuf (Schmid-Egger 2004).

General Distribution: PA (Iran, Saudi Arabia, Turkey).

Bembecinus bytinskii de Beaumont, 1954

Distribution in Saudi Arabia: Riyadh, Jeddah, Wadi Ilyah (Schmid-Egger 2004), Hadasham (120 Km eastern Jeddah) (Gadallah & Assery 2004a, Schmid-Egger 2004).

General Distribution: AF (Oman, UAE), PA (Israel, Saudi Arabia).

**Bembecinus meridionalis* A. Costa, 1859 (Fig. 4)

Material Examined: 3♀♀, Hutet Beni Tamim (180 Km south of Riyadh), 5-17.v.2007

Distribution in Saudi Arabia: New for the fauna of Saudi Arabia and the Arabian Peninsula

General Distribution: PA (Croatia, Greece, Israel, Italy, Syria, Turkey).



Figure 1. *Astata boops*.



Figure 2. *Dryudella nephertiti*.



Figure 3. *Bembecinus asiaticus iranicus*.



Figure 4. *Bembecinus meridionalis*.

Bembecinus proximus Handlirsch, 1892

Distribution in Saudi Arabia: Abu Arish (Schmid-Egger 2004).

General Distribution: OR (India, Sri Lanka), PA (Saudi Arabia).

Bembix arenaria Handlirsch, 1893

Distribution in Saudi Arabia: Abu Arish, Bahra (near Jeddah), Jeddah, Taif (Guichard 1989a, Gadallah & Assery 2004a).

General Distribution: AF (Oman), PA (Egypt, Iran, Israel, Palestine, Saudi Arabia, Syria, Tunisia, Turkey).

Bembix buettikeri Guichard, 1989

Distribution in Saudi Arabia: Mibhil (Guichard 1989a, Gadallah & Assery 2004a).

General Distribution: Endemic to Saudi Arabia.

Bembix capensis Lepelletier, 1845

Distribution in Saudi Arabia: Taif, Wadi Maraba (Guichard 1989a, Gadallah & Assery 2004a).

General Distribution: AF (Eritrea, Ethiopia, South Africa, Yemen), PA (Egypt, Saudi Arabia, Spain).

Bembix chlorotica Spinola, 1839

Distribution in Saudi Arabia: Hofuf, Riyadh, Wadi Rasid (Guichard 1989a, Gadallah 1997, Gadallah & Assery 2004a).

General Distribution: AF (UAE), PA (Algeria, China, Egypt, Jordan, Libya, Saudi Arabia, Tunisia, Western Sahara).

Bembix chopardi Berland, 1950

Distribution in Saudi Arabia: El Qunfuda, Riyadh (Guichard 1989a, Gadallah & Assery 2004a).

General Distribution: AF (Niger, Oman, UAE), PA (Egypt, Saudi Arabia).

Bembix clypealis Guichard, 1989

Distribution in Saudi Arabia: Abu Arish, NW Riyadh (Wadi Al Ammariyah) (Guichard 1989a, Gadallah & Assery 2004a).

General Distribution: PA (Algeria, Israel, Saudi Arabia).

Bembix fischeri Spinola, 1839

Distribution in Saudi Arabia: Jeddah, Medain Salih (Shalaby 1961, Guichard 1989a, Gadallah & Assery 2004a).

General Distribution: PA (Baluchistan, Egypt, Libya, Morocco, Saudi Arabia).

Bembix freygessneri Morice, 1897

Distribution in Saudi Arabia: Very common and widely distributed (Guichard 1989a, Gadallah

1997, Gadallah & Assery 2004a).

General Distribution: AF (Chad, Mauritania, Oman, Sudan, UAE, Yemen), PA (Algeria, Egypt, Libya, Saudi Arabia).

Bembix fuscipennis Guichard, 1989

Distribution in Saudi Arabia: Abu Arish Hot Springs (Guichard 1989a, Schmid-Egger 2011).

General Distribution: AF (Eritrea, Ethiopia, Rwanda, South Africa, Yemen, Zaire, Zimbabwe), PA (Saudi Arabia).

Bembix hauseri Schmid-Egger, 2011

Distribution in Saudi Arabia: Bahra (near Jeddah), Hedjas, Muzahimiya sands (Guichard 1989a mistakenly as *dahlbomi*, Schmid-Egger 2011).

General Distribution: AF (UAE), PA (Saudi Arabia).

Remarks: This species was mistakenly identified by Guichard (1989a) as *dahlbomi*.

Bembix hofufensis Guichard, 1989

Distribution in Saudi Arabia: Hofuf (Guichard 1989a, Gadallah & Assery 2004a).

General Distribution: Endemic to Saudi Arabia.

Bembix variegata Nurse, 1903

Distribution in Saudi Arabia: Hanakiya, Riyadh (Towki), Wadi Qanuna.

General Distribution: AF (UAE), OR (India), PA (Saudi Arabia).

Bembix lusca Spinola, 1839

Distribution in Saudi Arabia: Jeddah (Shalaby 1961, Gadallah & Assery 2004a).

General Distribution: AF (Ethiopia, Kenya, South Africa, Sudan), PA (Egypt, Saudi Arabia, Tunisia).

Bembix nilotica Priesner, 1958

Distribution in Saudi Arabia: Beisha (Jizan), Hofuf, Taif (Guichard 1989a, Gadallah & Assery 2004a).

General Distribution: AF (UAE), PA (Egypt, Saudi Arabia).

Bembix oculata Panzer, 1801

Distribution in Saudi Arabia: Jeddah, Riyadh (Guichard 1989a, Gadallah & Assery 2004a).

General Distribution: AF (Angola, Djibouti, Sudan, UAE), PA (Afghanistan, Albania, Algeria, Austria, Bulgaria, Canary Islands, Central Europe, China, Croatia, Egypt, France, Germany, Greece, Hungary, Iran, Israel, Italy, Lebanon, Malta, Morocco, Pakistan, Portugal, Romania, Russia, Saudi Arabia, Slovenia, Spain, Switzerland, Syria, Tajikistan, Tunisia, Turkmenistan, Ukraine, Uzbekistan,

Western Sahara).

Bembix olivacea Fabricius, 1787

Distribution in Saudi Arabia: Hutet Beni Tamim (180 Km south of Riyadh), Jeddah (Guichard 1989a, Gadallah 1997, Gadallah & Assery 2004a).

General Distribution: AF (Ethiopia, Madagascar, Somalia, Sudan, Yemen), PA (Algeria, Canary Islands, Czech Republic, Egypt, France, Greece, Hungary, Iran, Israel, Italy, Libya, Morocco, Portugal, Romania, Russia, Saudi Arabia, Slovakia, Spain, Tunisia, Turkey, Turkmenistan, Ukraine, Western Sahara, former Yugoslavia).

Bembix priesneri de Beaumont, 1966

Distribution in Saudi Arabia: Hofuf (Guichard 1989a, Gadallah 1997, Gadallah & Assery 2004a).

General Distribution: AF (Mali, Qatar, UAE), PA (Egypt, Morocco, Saudi Arabia).

Bembix rufiventris Priesner, 1958

Distribution in Saudi Arabia: Hofuf, Riyadh (Guichard 1989a, Gadallah & Assery 2004a).

General Distribution: AF (Oman, UAE), PA (Egypt, Jordan, Saudi Arabia).

Bembix saudi Guichard, 1989

Distribution in Saudi Arabia: Al Ha'ir (near Riyadh) (Guichard 1989a, Gadallah & Assery 2004a).

General Distribution: Endemic to Saudi Arabia.

* ***Harpactus formosus*** (Jurine, 1807) (Fig. 5)

Material Examined: 1♀, Hutet Beni Tamim (180 Km south of Riyadh), 19.vii.2008.



Figure 5. *Harpactus formosus*.

Distribution in Saudi Arabia: New for the fauna of Saudi Arabia.

General Distribution: AF (Oman), PA (Algeria, Austria, Bulgaria, Czech Republic, Greece, Israel, Kazakhstan, Kuwait, Libya, Morocco, Poland, Portugal, Russia, Slovakia, Spain, Switzerland, Uzbekistan).

Remarks: Guichard (1980) has recorded this species as *Dienoplus formosus* Jurine from Oman. However Schmid-Egger (2011) was very doubtful about this record and considered it most likely that it should be referred to *H. laevis aegyptiacus* Schulz 1904

Stizoides amoenus (F. Smith, 1856)

Distribution in Saudi Arabia: Abu Arish, Riyadh (Ohl 1999).

General Distribution: AF (Mali, Oman, Sudan), PA (Saudi Arabia).

Remarks: This species misidentified by Guichard (1989b) as *klugii*.

Stizoides assimilis Fabricius, 1787

Distribution in Saudi Arabia: Jeddah, Riyadh (de Beaumont 1962 as *S. poecilopterus* Handlirsch, Guichard 1989b as *S. poecilopterus*, Ohl 1999).

General Distribution: AF (Mali, Mauritania, Senegal, Sudan, UAE, Yemen), OR (India, Nepal, Pakistan), PA (Algeria, Egypt, Iran, Israel, Kazakhstan, Kyrgyzstan, Morocco, Palestine, Saudi Arabia, Tajikistan, Turkmenistan, Uzbekistan).

Stizoides klugii (F. Smith, 1845)

Distribution in Saudi Arabia: Abu Arish, Bridah, Ha'il, Ras Samira, Riyadh (Klug 1845 as *Larra apicalis* Klug, de Beaumont 1962 as *Larra klugi* Smith, Roche 2007, Schmid-Egger 2011).

General Distribution: AF (UAE, Yemen), PA (Algeria, Egypt, Libya, Saudi Arabia).

Stizus bizonatus Spinola, 1839

Distribution in Saudi Arabia: Abu Arish, Hofuf (Guichard 1989b, Gadallah & Assery 2004a).

General Distribution: AF (Ethiopia, UAE), PA (Egypt, Iran, Saudi Arabia, Syria).

Stizus combustus (F. Smith, 1856)

Distribution in Saudi Arabia: Hofuf, El Qunfuda, Riyadh (Guichard 1989b, Gadallah & Assery 2004a, Roche 2007).

General Distribution: AF (Oman, Sudan, Yemen), PA (Algeria, Egypt, Iran, Israel, Libya, Morocco, Saudi Arabia, Turkey).

Stizus fuscatus Morice, 1897

Distribution in Saudi Arabia: Medain Salih, Najd (Jebel Tuweiq), Riyadh (de Beaumont 1962, Guichard 1989b, Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (UAE), PA (Egypt, Israel, Libya, Morocco, Saudi Arabia).

Stizus hyalipennis Handlirsch, 1892

Distribution in Saudi Arabia: Jeddah (Guichard 1989b, Gadallah & Assery 2004a, Schmid-Egger

2011).

General Distribution: AF (UAE), PA (Algeria, Egypt, Israel, Libya, Palestine, Saudi Arabia, Western Sahara).

Stizus lepidus (Klug, 1845)

Distribution in Saudi Arabia: Jeddah, Wadi Majarish (Guichard 1989b, Gadallah & Assery 2004a).

General Distribution: AF (Niger, Sudan), PA (Egypt, Saudi Arabia).

Stizus marnonis Handlirsch, 1892

Distribution in Saudi Arabia: Central and South Saudi Arabia (Walker & Pittaway 1987, Gadallah & Assery 2004a).

General Distribution: AF (Eritrea, Sudan), PA (Kuwait, Saudi Arabia).

Stizus marthae Handlirsch, 1892

Distribution in Saudi Arabia: Hofuf (Guichard 1989b, Gadallah & Assery 2004a).

General Distribution: FA (Oman), PA (Algeria, Israel, Libya, Saudi Arabia).

Stizus nadigi Roth in Nadig, 1933

Distribution in Saudi Arabia: Al Ha'ir (near Riyadh), Wadi Majarish (below Taif) (Guichard 1989b, Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (Chad, Mali, Qatar, Somalia, UAE), OR (India), PA (Morocco, Saudi Arabia).

Stizus niloticus Handlirsch, 1892

Distribution in Saudi Arabia: Al Ha'ir (near Riyadh), Riyadh (de Beaumont 1962, Guichard 1989b, Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (Chad, Oman, UAE, Yemen), PA (Egypt, Iran, Israel, Libya, Saudi Arabia).

Stizus ruficornis (J. Forster, 1771)

Distribution in Saudi Arabia: Al Ha'ir (near Riyadh), Bahra (near Jeddah), Jizan, Wadi Majarish (below Taif) (Guichard 1989b, Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (Angola, Ethiopia, Ghana, Nigeria, Oman, Socotra, Somalia, UAE), PA (Algeria, Egypt, France, Iran, Italy, Greece, Kazakhstan, Libya, Malta, Morocco, Portugal, Romania, Russia, Saudi Arabia, Spain, Syria, Tajikistan, Tunisia, Turkey, Turkmenistan, Ukraine, Uzbekistan).

Stizus savignyi Spinola, 1838

Distribution in Saudi Arabia: Jeddah, Wadi El Ammariyah (Guichard 1989b, Gadallah & Assery

2004a, Schmid-Egger 2011).

General Distribution: AF (Eritrea, Sudan, UAE), PA (Algeria, Egypt, Iran, Israel, Libya, Saudi Arabia).

Stizus vespoidea (Walker, 1871)

Distribution in Saudi Arabia: Abu Arish, Bahra (near Jeddah), East Arabia, Jeddah (Shalaby 1961, Walker & Pittaway 1987, Guichard 1989b, Gadallah & Assery 2004a).

General Distribution: AF (Chad, Eritrea, Niger, Sudan, Yemen), PA (Algeria, Egypt, Israel, Libya, Morocco, Palestine, Saudi Arabia).

Stizus zonatus (Klug, 1845)

Distribution in Saudi Arabia: No specific locality (Klug 1845 as *Larra zonata*).

General Distribution: FA (Eritrea), PA (Egypt, Libya, Saudi Arabia).

Stizus sp.

Distribution in Saudi Arabia: Riyadh (de Beaumont 1962).

Subfamily Crabroninae

Belomicrus dimorphus Guichard, 1991

Distribution in Saudi Arabia: Al Ha'ir, Riyadh (Guichard 1991).

General Distribution: AF (UAE), PA (Algeria, Saudi Arabia).

Belomicrus schulthessii Kohl, 1924

Distribution in Saudi Arabia: Recorded with no specific locality (Guichard 1991, Schmid-Egger 2011).

General Distribution: AF (UAE), PA (Central Asia, Cyrenaica, Kazakhstan, Morocco, Saudi Arabia, Tunisia, Turkmenistan).

Crossocerus adhaesus (Kohl, 1915)

Distribution in Saudi Arabia: Recorded with no specific locality (Leclercq 1993, 2009, Gadallah & Assery 2004a, Dollfus 2006).

General Distribution: AF (Sudan, Yemen), PA (Cyprus, Egypt, Greece, Iran, Israel, Saudi Arabia, Tajikistan, Turkey).

Dasyproctus arabs Kohl, 1894

Distribution in Saudi Arabia: Hadasham (120 Km eastern Jeddah) (Gadallah & Assery 2004a).

General Distribution: AF (Djibouti, Oman, UAE), PA (Algeria, Egypt, Israel, Saudi Arabia).

Encopognathus liongoi Leclercq, 1986

Distribution in Saudi Arabia: Recorded with no specific locality (Leclercq 1986).

General Distribution: AF (Central African Republic, Kenya, Senegal, Somalia, Zaire), PA (Saudi Arabia).

Gastrosericus electus Nurse, 1903

Distribution in Saudi Arabia: Hadasham, Hofuf (Pulawski 1995, Gadallah & Assery 2004b).

General Distribution: AF (UAE), OR (India), PA (Central Asia, Kazakhstan, Saudi Arabia, Uzbekistan).

Gastrosericus eremicus Pulawski, 1995

Distribution in Saudi Arabia: Hofuf (Pulawski 1995, Gadallah & Assery 2004b).

General Distribution: AF (UAE), OR (Pakistan), PA (Saudi Arabia).

Gastrosericus moricei E. Saunders, 1910

Distribution in Saudi Arabia: Asir (Wadi Lasaba), Hutet Beni Tamim (180 Km south of Riyadh), Jeddah, Jabal Lababa, Riyadh (Pulawski 1995, Gadallah & Assery 2004b, present study).

General Distribution: AF (Oman, UAE), PA (Algeria, Central Asia, Egypt, Israel, Kazakhstan, Libya, Saudi Arabia, Tajikistan).

Gastrosericus sanctus Pulawski, 1986

Distribution in Saudi Arabia: Abu Arish, Riyadh (Pulawski 1995, Gadallah & Assery 2004b).

General Distribution: AF (Oman, UAE), PA (Israel, Saudi Arabia).

Gastrosericus vedda Pulawski, 1986

Distribution in Saudi Arabia: Hadasham (Pulawski 1995, Gadallah & Assery 2004b).

General Distribution: OR (Sri Lanka), PA (Saudi Arabia).

Gastrosericus waltlii Spinola, 1839

Distribution in Saudi Arabia: Abu Arish, Ad'Diriyah, Jeddah, Hutet Beni Tamim (180Km south of Riyadh) (Pulawski 1995, Gadallah & Assery 2004b).

General Distribution: AF (Eritrea, Oman, Sudan, UAE, Zimbabwe), OR (India, Sri Lanka), PA (Algeria, Central Asia, China, Cyprus, Egypt, Israel, Kazakhstan, Kuwait, Libya, Morocco, Saudi Arabia, Syria, Tajikistan, Turkey, Turkmenistan, Uzbekistan, Western Sahara).

Guichardus dromedarius (Guichard, 1991)

Distribution in Saudi Arabia: Riyadh (Guichard 1991 as *Belomicrus dromedarius*, Antropov 2007, Schmid-Egger 2011).

General Distribution: AF (UAE), PA (Saudi Arabia).

Holotachysphex holognathus Morice, 1897

Distribution in Saudi Arabia: Hofuf (Pulawski 1992).

General Distribution: AF (Oman, UAE), OR (India, Sri Lanka), PA (Egypt, Israel, Greece, Saudi

Arabia).

Larra anathema (Rossi, 1790)

Distribution in Saudi Arabia: Hadasham (Gadallah & Assery 2004b).

General Distribution: PA (Algeria, Austria, Britain, Bulgaria, China, Croatia, Czech Republic, Egypt, Italy, France, Germany, Hungary, Iran, Iraq, Macedonia, Morocco, Portugal, Romania, Russia, Saudi Arabia, Spain, Switzerland, Syria, Tajikistan, Tunisia, former Yugoslavia).

Liris braueri Kohl, 1884

Distribution in Saudi Arabia: Recorded with no specific locality (Bohart & Menke 1976, Gadallah & Assery 2004b).

General Distribution: AF (Oman, UAE), OR (Sri Lanka), PA (Central Asia, Egypt, Iran, Israel, Kazakhstan, Palestine, Saudi Arabia).

****Liris festinans praetermissus*** (Richards, 1928) (Fig. 6)

Material Examined: 1♂, 28.vi.2007, Hutet Beni Tamim (180 Km south of Riyadh).



Figure 6. *Liris festinans praetermissus*.

Distribution in Saudi Arabia: New to Saudi Arabia).

General Distribution: AF (Oman, UAE), PA (Afghanistan, Algeria, Bulgaria, France, Greece, Israel, Italy, Kazakhstan, Malta, Portugal, Spain, Turkey).

Liris haemorrhoidalis (Fabricius, 1804)

Distribution in Saudi Arabia: Hadasham (120 Km east Jeddah) (Gadallah & Assery 2004b).

General Distribution: AF (Cape Verde Islands, Cameroon, Central African Republic, Eritrea, Ethiopia, Kenya, Mozambique, Oman, Socotra, Somalia, South Africa, Sudan, Tanzania, Zimbabwe), OR (India), PA (Afghanistan, Canary Islands, Egypt, Iran, Iraq, Israel, Italy, Kazakhstan, Libya, Morocco, Palestine, Saudi Arabia, Spain, Western Sahara).

***Miscophus ctenopus* Kohl, 1883**

Distribution in Saudi Arabia: Hutet Beni Tamim (Roche 2007, present study).

General Distribution: AF (Egypt "Gebel Elba", Eritrea, Somalia, Sudan, Yemen), PA (Algeria, Egypt, Israel, Jordan, Libya, Saudi Arabia, UAE, Western Sahara).

***Miscophus papyrus* de Andrade, 1954**

Distribution in Saudi Arabia: South Jeddah (Gadallah & Assery 2004b).

General Distribution: AF (UAE), PA (Algeria, Egypt, Libya, Saudi Arabia).

Miscophus sp. (helveticus group)

Distribution in Saudi Arabia: Western Jeddah (Gadallah & Assery 2004b).

***Oxybelus arabicus* Guichard, 1990**

Distribution in Saudi Arabia: Ad'Diriyah (near Riyadh), Al Ha'ir (520m near Riyadh), Riyadh, Taif, Wadi Majarish (below Taif) (Guichard 1990, Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (Oman, UAE, Yemen), PA (Israel, Jordan, Saudi Arabia).

***Oxybelus aurantiacus* Mocsáry, 1883**

Distribution in Saudi Arabia: Al Ha'ir, Wadi Majarish (Guichard 1990, Gadallah & Assery 2004a).

General Distribution: AF (Yemen), PA (Algeria, Bulgaria, China, Czech Republic, Egypt, France, Greece, Hungary, Israel, Italia, Mongolia, Morocco, Russia, Saudi Arabia, Slovakia, Spain, Syria, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan, former Yugoslavia).

***Oxybelus collaris* Kohl, 1884**

Distribution in Saudi Arabia: Dirab Agricultural Station (Guichard 1990, Gadallah & Assery 2004a).

General Distribution: AF (UAE), PA (Egypt, Jordan, Kuwait, Morocco, Saudi Arabia).

***Oxybelus fischeri* Spinola, 1838**

Distribution in Saudi Arabia: Al Kharj, Dirab Agricultural Station (Guichard 1990, Gadallah & Assery 2004a).

General Distribution: AF (Yemen), PA (Algeria, Canary Islands, Egypt, Israel, Italy, Libya, Morocco, Saudi Arabia, Spain).

***Oxybelus lamellatus* Olivier, 1811**

Distribution in Saudi Arabia: Common in many sandy localities and various altitudes up to 1200 m.

General Distribution: AF (Eritrea, Ethiopia, Mauritania, Oman, Somalia, Sudan, UAE), OR (India, Sri Lanka), PA (Afghanistan, Algeria,

China, Cyprus, Egypt, Iran, Iraq, Israel, Italy, Kazakhstan, Kuwait, Libya, Morocco, Portugal, Rhodes, Saudi Arabia, Spain, Syria, Tajikistan, Tunisia, Turkey, Turkmenistan, Uzbekistan).

***Oxybelus lanceolatus* Gerstaecker, 1867**

Distribution in Saudi Arabia: Recorded with no specific locality (Gerstaecker 1867, Guichard 1990, Gadallah & Assery 2004a).

General Distribution: Endemic to Saudi Arabia.

***Oxybelus palmatorum* Beaumont, 1950**

Distribution in Saudi Arabia: Jeddah (Locust Research Station), Wadi Majarish (Guichard 1990, Gadallah & Assery 2004a).

General Distribution: AF (Mauritania), PA (Algeria, Egypt, Morocco, Saudi Arabia).

***Oxybelus quatuordecimnotatus* Jurine, 1807**

Distribution in Saudi Arabia: Hofuf (Guichard 1990).

General Distribution: AF (Oman, Yemen), PA (Afghanistan, Albania, Algeria, Austria, Belgium, China, Croatia, Cyprus, Czech Republic, France, Hungary, Iran, Israel, Italy, Jordan, Germany, Greece, Kazakhstan, Latvia, Libya, Morocco, The Netherlands, Poland, Romania, Russia, Saudi Arabia, Slovakia, Sweden, Switzerland, Syria, Tajikistan, Ukraine, Uzbekistan, former Yugoslavia).

***Oxybelus subspinosus* Klug, 1833**

Distribution in Saudi Arabia: Riyadh (Guichard 1990, Gadallah & Assery 2004a).

General Distribution: PA (Algeria, Armenia, Austria, Bulgaria, China, Czech Republic, Egypt, France, Greece, Hungary, Iran, Israel, Italy, Jordan, Kazakhstan, Libya, Mongolia, Morocco, Poland, Portugal, Romania, Russia, Saudi Arabia, Serbia, Slovakia, Spain, Switzerland, Syria, Tunisia, Turkey, Uzbekistan).

***Oxybelus tinklyi* Guichard, 1990**

Distribution in Saudi Arabia: Abu Arish, Ad'Diriyah (near Riyadh), Al Ha'ir (near Riyadh) (Guichard 1990, Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (Mali, Niger, Senegal, UAE, Yemen), PA (Israel, Jordan, Saudi Arabia, Syria).

***Palarus arabicus* Pulawski in Pulawski & Prentice, 2008**

Distribution in Saudi Arabia: Al Hawtah (near Riyadh) (Pulawski & Prentice 2008).

General Distribution: Endemic to Saudi Ara-

bia.

Palarus bisignatus F. Morawitz, 1890

Distribution in Saudi Arabia: Al Kharj (Guichard 1988b, Gadallah & Assery 2004b, Pulawski & Prentice 2008).

General Distribution: AF (UAE), PA (Kazakhstan, Russia, Saudi Arabia, Turkmenistan).

Remarks: This species was recorded as *Palarus rochei* Guichard from UAE (Guichard 1988b) and synonymized with *Palarus bisignatus* by Pulawski & Prentice (2008).

Palarus comberi Turner, 1911

Distribution in Saudi Arabia: Hofuf (Guichard 1988b, Gadallah & Assery 2004b, Pulawski & Prentice 2008).

General Distribution: AF (UAE), OR (India, Pakistan), PA (Saudi Arabia).

Palarus dongalensis Klug, 1845

Distribution in Saudi Arabia: Al Kharj, Riyadh (de Beaumont 1949, 1962, Guichard 1988b, Gadallah & Assery 2004b, Pulawski & Prentice 2008, Schmid-Egger 2011).

General Distribution: AF (Sudan, UAE), PA (Egypt, Israel, Saudi Arabia).

Palarus fulvoventris Latreille, 1812

Distribution in Saudi Arabia: Abu Arish, Al Kharj, Beisha, Riyadh (de Beaumont 1962, Guichard 1988b as *P. spinolae*, Gadallah & Assery 2004b, Pulawski & Prentice 2008).

General Distribution: AF (Oman, UAE), PA (Algeria, Egypt, Iran, Iraq, Israel, Kazakhstan, Saudi Arabia, Syria, Tajikistan, Turkey, Turkmenistan, Uzbekistan).

Palarus funerarius (Turner, 1911)

Distribution in Saudi Arabia: Ad'Diriyah, Al Ha'ir, Dirab Agriculture Station, Riyadh (Guichard 1988b as *P. nursery*, present study).

General Distribution: OR (India, Pakistan), PA (China, Iran, Kazakhstan, Russia, Saudi Arabia, Tajikistan, Turkey, Turkmenistan, Uzbekistan).

Palarus histrio Spinola, 1838

Distribution in Saudi Arabia: Al Ha'ir, Al Kharj, Wadi Majarish (Guichard 1988b, Gadallah & Assery 2004b).

General Distribution: AF (Sudan, UAE), PA (Algeria, Egypt, Israel, Jordan, Kazakhstan, Libya, Saudi Arabia, Turkmenistan, Uzbekistan).

Palarus laetus Klug, 1845

Distribution in Saudi Arabia: Common and widespread in sandy areas (Guichard 1988b).

General Distribution: AF (Djibouti, Oman, UAE), OR (India), PA (Algeria, Egypt, Iran, Iraq, Israel, Kuwait, Morocco, Saudi Arabia, Tunisia).

Palarus latifrons Kohl, 1884

Distribution in Saudi Arabia: Hadasham (Gadallah & Assery 2004b).

General Distribution: AF (Ethiopia, Malawi, South Africa, Tanzania, Zaire, Zambia), PA (Saudi Arabia).

Palarus saundersi Morice, 1897

Distribution in Saudi Arabia: Umm Lajj (Guichard 1988b, Gadallah & Assery 2004b).

General Distribution: PA (Egypt, Israel, Kuwait, Libya, Morocco, Russia, Saudi Arabia).

Palarus sp. (variegatus group)

Distribution in Saudi Arabia: Al Huta (south of Riyadh) (Guichard 1988b, Gadallah & Assery 2004b).

Parapiagetia odontostoma (Kohl, 1884)

Distribution in Saudi Arabia: Jeddah (Gadallah & Assery 2004b).

General Distribution: AF (Chad, Yemen), PA (Egypt, Israel, Libya, Morocco, Palestine, Saudi Arabia).

Pison sp.

Distribution in Saudi Arabia: Jeddah (Gadallah & Assery 2004b).

Prosopigastra major (F. Morawitz, 1890)

Distribution in Saudi Arabia: Riyadh (Pulawski 1979).

General Distribution: AF (Sudan), PA (Egypt, Israel, Morocco, Kazakhstan, Saudi Arabia, Turkey, Turkmenistan).

Tachysphex aemulus Kohl, 1906

Distribution in Saudi Arabia: Fayfa, Wadi Majarish (below Taif) (Pulawski 2007).

General Distribution: AF (Ethiopia, Oman, Yemen), PA (Egypt, Israel, Saudi Arabia)

Tachysphex agnus Pulawski, 1971

Distribution in Saudi Arabia: Riyadh (Pulawski 2007).

General Distribution: PA (Algeria, Israel, Saudi Arabia, Tunisia, Turkey).

**Tachysphex argentatus* Gussakovskij, 1952 (Fig.7)

Material Examined: 1♂, Hutet Beni Tamim (180 Km south of Riyadh), 19.v.2007

Distribution in Saudi Arabia: New for the fauna of Saudi Arabia.

General Distribution: AF (Sudan), PA (Egypt, Israel, Kazakhstan, Syria, Tajikistan, Turkey).

Tachysphex brevipennis Mercet, 1909

Distribution in Saudi Arabia: Riyadh (Pulawski 1971 as *T. imperfectus* de Beaumont, Gadallah & Assery 2004b as *T. fulvicornis* Turner, Pulawski 2007).

General Distribution: AF (Oman, Ghana, South Africa, UAE, Zimbabwe), OR (India, Sri Lanka), PA (Algeria, Bulgaria, Central Asia, Egypt, Greece, Israel, Italy, Jordan, Kazakhstan, Libya, Morocco, Palestine, Portugal, Russia, Saudi Arabia, Spain, Syria, Tajikistan, Turkmenistan, Turkey, Ukraine).

Tachysphex cheops Beaumont, 1940

Distribution in Saudi Arabia: Bahra (near Jeddah) (Pulawski 2007).

General Distribution: AF (Mauritania), PA (Egypt, Israel, Libya, Saudi Arabia).

Tachysphex consocius Kohl, 1892

Distribution in Saudi Arabia: Fayfa (Pulawski 2007).

General Distribution: AF (Ethiopia, Namibia, Oman, Tanzania, Zimbabwe), OR (Sri Lanka), PA (Afghanistan, Austria, Azerbaijan, Bulgaria, Cyprus, Czech Republic, Egypt, France, Greece, Hungary, Italy, Kazakhstan, Libya, Morocco, Portugal, Romania, Russia, Saudi Arabia, Slovakia, Spain, Syria, Tajikistan, Turkey, Ukraine, Uzbekistan).

****Tachysphex deserticola*** Beaumont, 1940 (Fig. 8)

Material Examined: 1♀, Hutet Beni Tamim (180 Km south of Riyadh), 10.vi.2010.

Distribution in Saudi Arabia: New for the fauna of Saudi Arabia.

General Distribution: AF (NW Sudan), PA (Egypt).

****Tachysphex dignus*** Kohl in Kohl and Handlirsch, 1889 (Fig.9)

Distribution in Saudi Arabia: New for the fauna of Saudi Arabia and the Arabian Peninsula.

General Distribution: PA (Iran, Israel, Kazakhstan, Syria, Turkey, Turkmenistan).

Tachysphex erythrophorus Dalla Torre, 1897

Distribution in Saudi Arabia: Bahra (near Jeddah), Hofuf (Pulawski 1971, 2007, Gadallah & Assery 2004b).

General Distribution: AF (UAE), OR (India, Sri Lanka), PA (Egypt, Kazakhstan, Saudi Arabia).

Tachysphex erythropus (Spinola, 1839)

Distribution in Saudi Arabia: Jeddah, Riyadh, Wadi Nisah (Shaib Luha near Al Ha'ir) (Pulawski 2007).

General Distribution: AF (Ethiopia, Oman, Sudan, UAE), OR (India), PA (Algeria, Bulgaria, China, Caucasus, Egypt, Greece, Iran, Israel, Italy, Kazakhstan, Libya, Morocco, Portugal, Saudi Arabia, Spain, Tajikistan, Transcaspia, Turkmenistan, Tunisia, Turkey, Ukraine, Uzbekistan, Western Sahara).

Tachysphex fugax (Radoszkowski, 1877)

Distribution in Saudi Arabia: Ad'Diriyah, Fayfa, South Jeddah, Wadi Maraba (Pulawski 1971, 2007, Gadallah & Assery 2004b).

General Distribution: AF (Central African Republic, Ethiopia, Madagascar, Oman, South Africa, Tanzania, Yemen, Zimbabwe), PA (Algeria, Austria, Bulgaria, Canary Islands, Croatia, Egypt, France, Germany, Greece, Hungary, Israel, Italy, Kazakhstan, Malta, Morocco, Portugal, Romania, Russia, Seychelles Islands, Saudi Arabia, Spain, Switzerland, Syria, Turkey, Ukraine, Uzbekistan, Yugoslavia).

Tachysphex geniculatus (Spinola, 1839)

Distribution in Saudi Arabia: Riyadh (Pulawski 2007).

General Distribution: PA (Algeria, Egypt, Jordan, Saudi Arabia, Syria).

Tachysphex grandissimus Gussakovskij, 1933

Distribution in Saudi Arabia: Abu Arish, Riyadh, Wadi Nisah (Shaib Luha near Al Ha'ir) (Krombein & Pulawski 1994, Gadallah & Assery 2004b, Pulawski 2007).

General Distribution: AF (UAE), OR (Sri Lanka), PA (Egypt, Iran, Israel, Kazakhstan, Kuwait, Libya, Morocco, Palestine, Saudi Arabia, Tajikistan, Turkmenistan).

Tachysphex gujaraticus Nurse, 1909

Distribution in Saudi Arabia: Ad'Diriyah, Riyadh (Pulawski 1971 as *T. laniger*, Bohart & Menke 1976, Gadallah & Assery 2004b, Pulawski 2007, Roche 2007).

General Distribution: OR (India, Sri Lanka), PA (Egypt, Israel, Kazakhstan, Saudi Arabia, Tajikistan).

Tachysphex horus Beaumont, 1940

Distribution in Saudi Arabia: Wadi Majarish (below Taif) (Pulawski 2007).

General Distribution: PA (Egypt, Israel, Saudi Arabia).

Tachysphex inextricabilis Pulawski, 1971

Distribution in Saudi Arabia: Wadi Majarish (below Taif) (Pulawski 2007).

General Distribution: PA (Egypt, Israel, Saudi

Arabia).

Tachysphex isis Beaumont, 1940

Distribution in Saudi Arabia: Al Ha'ir (Pulawski 2007).

General Distribution: PA (Egypt, Saudi Arabia, Syria).

Tachysphex julliani Kohl, 1883

Distribution in Saudi Arabia: South Jeddah (Gadallah & Assery 2004b, Pulawski 2007).

General Distribution: AF (Oman), PA (Algeria, Cyprus, Egypt, France, Greece, Iran, Israel, Italy, Kazakhstan, Libya, Morocco, Portugal, Saudi Arabia, Spain, Tajikistan, Turkmenistan, Turkey, Ukraine).

Tachysphex mycerinus Beaumont, 1940

Distribution in Saudi Arabia: Al Ha'ir, Judhayem Island (40 Km south Al-Uquayr in Gulf of Salwah), Najran, Wadi Majarish (Pulawski 2007).

General Distribution: AF (UAE), PA (Egypt, Morocco, Saudi Arabia).

Tachysphex nitidissimus Beaumont, 1940

Distribution in Saudi Arabia: Ad'Diriyah (Pulawski 2007).

General Distribution: AF (Oman), PA (Algeria, Egypt, Greece, Israel, Jordan, Kazakhstan, Mongolia, Saudi Arabia, Syria, Tajikistan, Turkey).

Tachysphex palopterus (Dahlbom, 1845)

Distribution in Saudi Arabia: Riyadh (Pulawski 2007).

General Distribution: AF (Oman), PA (Algeria, Egypt, Israel, Morocco, Saudi Arabia).

Tachysphex panzeri (Vander Linden, 1829)

Distribution in Saudi Arabia: Abyan, Mahail (Pulawski 2007).

General Distribution: AF (Bahrain, Djibouti, Eritrea, Ethiopia, Oman, UAE, Yemen), OR (India, Sri Lanka), PA (Albania, Algeria, Austria, Belgium, Bulgaria, Canary Islands, Croatia, Czech Republic, Egypt, France, Germany, Hungary, Iran, Israel, Italy, Jordan, Kazakhstan, Malta, Latvia, Libya, Morocco, The Netherlands, Poland, Romania, Russia, Saudi Arabia, Slovakia, Spain, Switzerland, Tajikistan, Tunisia, Turkmenistan, Ukraine, Uzbekistan, former Yugoslavia).

**Tachysphex pentheri* Cameron, 1905 (Fig.10)

Distribution in Saudi Arabia: New record for the fauna of Saudi Arabia and the Arabian Peninsula.

General Distribution: AF (Ethiopia, South Africa).

Tachysphex pulcher Pulawski, 1967

Distribution in Saudi Arabia: Wadi Majarish (Pu-



Figure 7. *Tachysphex argentatus*.



Figure 8. *Tachysphex deserticola*.



Figure 9. *Tachysphex dignus*.

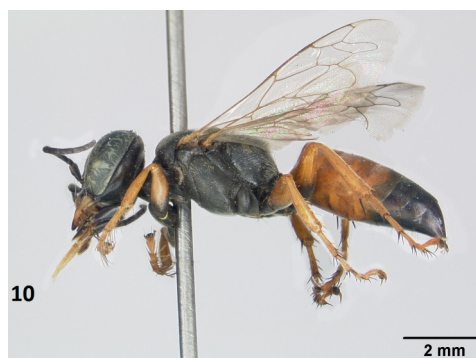


Figure 10. *Tachysphex pentheri*.

lawski 2007).

General Distribution: AF (UAE), PA (Israel, Kazakhstan, Saudi Arabia, Syria, Tajikistan, Turkey, Turkmenistan).

Tachysphex schmideknechti Kohl, 1883

Distribution in Saudi Arabia: Al Ha'ir, Khumra (south Jeddah) (Gadallah & Assery 2004b, Pulawski 2007).

General Distribution: AF (Mauritania, Oman, UAE, Yemen), OR (India, Sri Lanka), PA (Afghanistan, Algeria, Egypt, Greece, Iran, Israel, Jordan, Kazakhstan, Libya, Morocco, Saudi Arabia, Spain, Syria, Tajikistan, Turkey, Turkmenistan).

Tachysphex tarsinus (Lepeletier, 1845)

Distribution in Saudi Arabia: Riyadh (Pulawski 2007, Roche 2007).

General Distribution: AF (Oman), PA (Algeria, Austria, Bulgaria, China, Croatia, Czech Republic, Egypt, France, Germany, Greece, Hungary, Israel, Italy, Kazakhstan, Libya, Morocco, Portugal, Russia, Saudi Arabia, Slovakia, Slovenia, Spain, Switzerland, Turkey, Ukraine, Uzbekistan).

Tachysphex sp. (near *panzeri*)

Distribution in Saudi Arabia: Hadasham (Gadallah & Assery 2004b).

Tachytes arabicus Guichard, 1994

Distribution in Saudi Arabia: Hadasham (near Jeddah) (Guichard 1994b, Gadallah & Assery 2004b).

General Distribution: Endemic to Saudi Arabia.

Tachytes archaeophilus Pulawski, 1962

Distribution in Saudi Arabia: Mazari Al Arda, Mahail (Guichard 1994b, Gadallah & Assery 2004b, Schmid-Egger 2011).

General Distribution: AF (Oman, UAE), PA (Egypt, Israel, Saudi Arabia).

Tachytes argenteus Gussakovskij, 1932

Distribution in Saudi Arabia: Ha'il (Guichard 1994b, Gadallah & Assery 2004b).

General Distribution: PA (Greece, Iran, Kazakhstan, Saudi Arabia, Turkey, Turkmenistan)

Tachytes argyreus (F. Smith, 1856)

Distribution in Saudi Arabia: Abu Arish, Ad'Diriyah, Jeddah (Guichard, 1994b; Gadallah & Assery, 2004b).

General Distribution: AF (UAE), OR (India), PA (Algeria, Bahrain, Egypt, Iraq, Israel, Kazakhstan, Saudi Arabia, Tajikistan, Tunisia).

Tachytes cameronianus Morice, 1879

Distribution in Saudi Arabia: Abu Arish, Beisha

(Guichard 1994b, Gadallah & Assery 2004b, Schmid-Egger 2011).

General Distribution: AF (UAE), PA (Egypt, Israel, Saudi Arabia).

Tachytes comberi Turner, 1917

Distribution in Saudi Arabia: Abha, Diba, Hadasham (Guichard 1994b, Gadallah & Assery 2004b, Schmid-Egger 2011).

General Distribution: AF (Mauritania, Oman, UAE), OR (Pakistan), PA (Egypt, Libya, Saudi Arabia).

Tachytes etruscus (Rossi, 1790)

Distribution in Saudi Arabia: Abu Arish (Guichard 1994b, Gadallah & Assery 2004b).

General Distribution: PA (Algeria, Austria, Bulgaria, China, Croatia, Cyprus, France, Greece, Hungary, Israel, Italy, Romania, Russia, Saudi Arabia, Slovakia, Spain, Syria, Turkey, Turkmenistan, Ukraine, former Yugoslavia).

Tachytes fidelis Pulawski, 1962

Distribution in Saudi Arabia: Al Ha'ir, Riyadh (de Beaumont 1962, Pulawski 1962, Guichard 1994b, Gadallah & Assery 2004b).

General Distribution: Endemic to Saudi Arabia.

Tachytes fuscatus Arnold, 1951

Distribution in Saudi Arabia: Jeddah, El Qunfuda (Guichard 1994b as *T. serapis*, Schmid-Egger 2011 as *T. serapis*).

General Distribution: AF (Mali, Mauritania), PA (Egypt, Israel, Saudi Arabia).

Tachytes niloticus Turner, 1918

Distribution in Saudi Arabia: Abu Arish (Guichard 1994b, Gadallah & Assery 2004b, Schmid-Egger 2011).

General Distribution: AF (Oman, UAE), PA (Egypt, Israel, Kazakhstan, Morocco, Saudi Arabia, Tajikistan).

Tachytes pygmaeus Kohl, 1888

Distribution in Saudi Arabia: Jeddah, Mahail (Guichard 1994b, Gadallah & Assery 2004, Schmid-Egger 2011, present study).

General Distribution: AF (Mali, Namibia, UAE), OR (India, Thailand), PA (Egypt, Morocco, Saudi Arabia).

Tachytes saharicus Pulawski, 1962

Distribution in Saudi Arabia: Jeddah, El Qunfuda, Wadi Diga (Guichard 1994b; Gadallah & Assery 2004b, Schmid-Egger 2011).

General Distribution: AF (UAE), PA (Algeria, Saudi Arabia).

Tachytes simillimus van Schulthess, 1926

Distribution in Saudi Arabia: Al Ha'ir, Riyadh (Guichard 1994b, Gadallah & Assery 2004b).

General Distribution: PA (Algeria, Morocco, Saudi Arabia, Tunisia).

Tachytes xenoferus Rohwer, 1911

Distribution in Saudi Arabia: Hadasham (Gadallah & Assery 2004b as *T. diversicornis*).

General Distribution: AF (Burkina-Faso, Ethiopia, Ghana, Mali, Niger, Oman, UAE), OR (India, Pakistan, Sri Lanka, Taiwan, Thailand), PA (Algeria, China, Egypt, Israel, Saudi Arabia).

Remarks: This species was recorded for the first time in Saudi Arabia as *T. diversicornis* R. Turner (Gadallah & Assery 2004b). Synonymized with *T. xenoferus* Rohwer by Pulawski (2006).

Trypoxylon splendidum Antropov, 2011

Distribution in Saudi Arabia: Mahail (Antropov 2011).

General Distribution: AF (UAE), PA (Egypt (Sinai Peninsula), Israel, Lebanon, Palestine, Saudi Arabia).

Subfamily Eremiaspheciinae***Eremiasphecium arabicum*** Pulawski, 1992

Distribution in Saudi Arabia: Riyadh (Pulawski 1992, Schmid-Egger 2011).

General Distribution: AF (UAE), PA (Saudi Arabia).

Subfamily Pemphredoninae****Diodontus* sp. near *hyalipennis*** Kohl, 1892

Material Examined: 1♀, Hutet Beni Tamim (180 Km south of Riyadh), 5.v.2007.

Distribution in Saudi Arabia: New for the fauna of Saudi Arabia.

Remarks: This species is quite close to *hyalipennis* Kohl, but differs from the later in having a significant spacer punctuation which is most distinct at the half height of frons, adjacent to orbits.

Mimesa aegyptiaca Radoszkowski, 1876

Distribution in Saudi Arabia: Hadasham (near Jeddah) (Gadallah & Assery 2004a).

General Distribution: AF (Oman, Yemen), PA (Egypt, Saudi Arabia).

Subfamily Philanthinae***Cerceris albicincta*** Klug, 1845

Distribution in Saudi Arabia: Jeddah, Riyadh (Guichard 1993, Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (Chad, Oman, Sudan, UAE), PA (Morocco, Palestine, Saudi Arabia, Western Sahara).

Cerceris alboatra Walker, 1871

Distribution in Saudi Arabia: Jeddah, Riyadh (Guichard 1993, Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (Oman, Sudan, UAE), PA (Egypt, Israel, Libya, Saudi Arabia).

Cerceris albopectoris Empey, 1973

Distribution in Saudi Arabia: Bahra (near Jeddah) (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (Oman, Yemen), PA (Saudi Arabia).

Cerceris amakosa Brauns, 1926

Distribution in Saudi Arabia: Abu Arish, Fayfa, Taif, Wadi Majarish (below Taif) (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (Botswana, Ethiopia, Oman, South Africa, Zaire), PA (Saudi Arabia).

Cerceris chromatica Schletterer, 1887

Distribution in Saudi Arabia: Bahra, Hofuf (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (Oman, UAE), PA (Algeria, Egypt, Israel, Saudi Arabia, Western Sahara).

Cerceris clytia Beaumont, 1959

Distribution in Saudi Arabia: Ad'Diriyah (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: PA (Algeria, Egypt, Israel, Libya, Saudi Arabia).

Cerceris constricta Guichard, 1993

Distribution in Saudi Arabia: Wadi Majarish (below Taif) (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: Endemic to Saudi Arabia.

Cerceris ephippium Turner, 1912

Distribution in Saudi Arabia: S. Othman (Turner 1912).

General Distribution: PA (Saudi Arabia), OR (India, Pakistan).

Cerceris eryngii Marquet, 1875

Distribution in Saudi Arabia: Ad'Diriyah (Guichard 1993, Gadallah & Assery 2004a)

General Distribution: PA (Bulgaria, Croatia, Czech Republic, France, Greece, Hungary, Iran, Israel, Italy, Kazakhstan, Romania, Russia, Saudi Arabia, Slovakia, Spain, Turkey, Ukraine, Uzbekistan, former Yugoslavia).

Cerceris fischeri Spinola, 1838

Distribution in Saudi Arabia: Abu Arish, Fayfa, Hofuf, Riyadh, Wadi Majarish (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (Djibouti, Ethiopia, Oman, Socotra), PA (Algeria, Egypt, Israel, Libya, Morocco, Saudi Arabia, Western Sahara).

Cerceris hathor Pulawski, 1983

Distribution in Saudi Arabia: Al Ha'ir, Fayfa, Taif Aqaba, Wadi Majarish (Guichard 1993 as *C. euginea* Schletterer).

General Distribution: AF (Chad), PA (Algeria, Egypt, Israel, Morocco, Saudi Arabia).

Remarks: This species was previously recorded from Saudi Arabia as *C. euginea* Schletterer (Guichard 1993), and corrected to *C. hathor* Pulawski by Pulawski (1983)

Cerceris hausa Arnold, 1931

Distribution in Saudi Arabia: Abu Arish (Guichard 1993, Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (Nigeria, UAE), PA (Saudi Arabia).

Cerceris laterifurcata Empey, 1973

Distribution in Saudi Arabia: Fayfa, Wadi Maraba, Wadi Majarish (Guichard 1993, Gadallah & Assery 2004a)

General Distribution: AF (Yemen), PA (Saudi Arabia).

Cerceris nugax (Arnold, 1931)

Distribution in Saudi Arabia: Bahra (near Jeddah) (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (Mali, Nigeria, UAE), PA (Saudi Arabia).

Cerceris priesneri Mochi, 1939

Distribution in Saudi Arabia: Ad'Diriyah, Riyadh (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (Oman), PA (Algeria, Egypt, Spain, Saudi Arabia).

Cerceris pulchella Klug, 1848

Distribution in Saudi Arabia: Hofuf (Guichard 1993, Gadallah & Assery 2004a, present study).

General Distribution: AF (Djibouti, Oman, Yemen), OR (India, Pakistan), PA (Algeria, Egypt, Israel, Kuwait, Libya, Morocco, Saudi Arabia, Tunisia).

Cerceris querula Kohl, 1906

Distribution in Saudi Arabia: Jeddah, Taif Aqaba (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (Oman, Yemen), PA

(Saudi Arabia).

Cerceris rufocincta Gerstaecker, 1857

Distribution in Saudi Arabia: Abu Arish, Taif Aqaba, Wadi Majarish (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (Mozambique, UAE, Zimbabwe), PA (Saudi Arabia).

Cerceris sabulosa Panzer, 1799

Distribution in Saudi Arabia: Abu Arish, Taif (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (Oman), PA (Afghanistan, Albania, Algeria, Armenia, Austria, Belgium, Bulgaria, China, Croatia, Cyprus, Czech Republic, Egypt, England, France, Germany, Hungary, Iran, Iraq, Israel, Italy, Kazakhstan, Lebanon, Libya, Malta, Mongolia, Morocco, The Netherlands, Poland, Portugal, Russia, Saudi Arabia, Slovakia, Spain, Switzerland, Tajikistan, Tunisia, Turkey, Turkmenistan, Uzbekistan, former Yugoslavia).

Cerceris sokotrae Kohl, 1906

Distribution in Saudi Arabia: Abu Arish (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (Ethiopia, Kenya, Oman, Socotra), PA (Saudi Arabia).

Cerceris solitaria Dahlbom, 1845

Distribution in Saudi Arabia: Abu Arish, Wadi Qurayyat (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (Chad, Mauritania, Oman, South Africa, Sudan), PA (Algeria, Egypt, Israel, Morocco, Saudi Arabia, Tunisia).

Cerceris songhai Guichard, 1993

Distribution in Saudi Arabia: Abu Arish (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (Mali), PA (Saudi Arabia).

Cerceris spinipectus F. Smith 1856

Distribution in Saudi Arabia: Fayfa, Jeddah, Medain Saleh, Riyadh (de Beaumont 1951, 1962, Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (Mauritania), PA (Croatia, Cyprus, Greece, Hungary, Iran, Iraq, Israel, Jordan, Libya, Russia, Saudi Arabia, Turkey, Turkmenistan).

Cerceris spinipectus spinolica Schletterer, 1887

Distribution in Saudi Arabia: Recorded with no specific locality (Empey 1973, Gadallah & Assery 2004a).

General Distribution: PA (Egypt, Israel, Libya,

Saudi Arabia, Turkey).

Cerceris straminea Dufour, 1853

Distribution in Saudi Arabia: Al Ha'ir (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (Oman, UAE, Yemen), PA (Algeria, Egypt, Iraq, Kazakhstan, Morocco, Saudi Arabia, Uzbekistan, Western Sahara).

Cerceris tricolorata Spinola, 1838

Distribution in Saudi Arabia: Abu Arish hot springs, Bahra, Fayfa, Riyadh, Wadi Majorish (Klug 1845 as *C. vidua*, Walker & Pittaway 1987, Guichard 1993, Gadallah & Assery 2004a, Roche 2007, present study).

General Distribution: AF (Chad, Oman, Somalia, UAE, Yemen), PA (Algeria, Egypt, Iran, Israel, Libya, Morocco, Saudi Arabia, Spain, Western Sahara).

Cerceris vagula Kohl, 1906

Distribution in Saudi Arabia: Wadi Majorish (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (Oman, UAE, Yemen), PA (Saudi Arabia).

Cerceris vittata Kohl, 1898

Distribution in Saudi Arabia: Bahra, El Kharj, Hofuf (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (UAE), PA (Algeria, Saudi Arabia).

Cerceris zebra (female) Guichard, 1993

Distribution in Saudi Arabia: Al Ha'ir, Fayfa, Taif Aqaba, Wadi Majorish (Guichard 1993, Gadallah & Assery 2004a).

General Distribution: AF (Oman), PA (Saudi Arabia).

Philanthinus theodori Bytinski-Salz, 1959

Distribution in Saudi Arabia: Riyadh (Guichard 1994a, Gadallah & Assery 2004a).

General Distribution: AF (UAE), PA (Israel, Saudi Arabia).

Philanthus coarctatus Spinola, 1838

Distribution in Saudi Arabia: Hofuf, Jeddah, Riyadh (Guichard 1994a, Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (Chad, Ethiopia, Mauritania, Oman, Sudan, UAE), PA (Algeria, Egypt, Iran, Iraq, Israel, Italy, Jordan, Kazakhstan, Libya, Saudi Arabia, Turkey, Western Sahara).

Philanthus pallidus Klug, 1845

Distribution in Saudi Arabia: Abu Arish, Hofuf, Jeddah, Jizan (Beisha) (Guichard 1994a, Gadallah & Assery 2004a).

General Distribution: AF (Eretria, Ethiopia, Mauritania, Oman, UAE), PA (Egypt, Israel, Morocco, Saudi Arabia).

Philanthus triangulum (Fabricius, 1775)

Distribution in Saudi Arabia: Abha, Taif (Guichard 1994a, Gadallah & Assery 2004a).

General Distribution: AF (Congo, Madagascar, Somalia, Sudan), PA (Afghanistan, Albania, Algeria, Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Egypt, England, Finland, France, Germany, Greece, Hungary, Iraq, Italy, Jordan, Latvia, Libya, The Netherlands, Poland, Portugal, Romania, Russia, Saudi Arabia, Slovakia, Spain, Sweden, Switzerland, Tunisia, Turkmenistan, Ukraine, Uzbekistan).

Philanthus variegatus Spinola, 1838

Distribution in Saudi Arabia: Abu Arish, Al Ha'ir, Fayfa, Hofuf, Wadi Majorish (Guichard 1994a, Gadallah & Assery 2004a).

General Distribution: AF (Oman, Sudan, UAE), PA (Algeria, Egypt, Israel, Kazakhstan, Kuwait, Libya, Russia, Saudi Arabia, Syria, Tajikistan, Tunisia, Turkey, Turkmenistan).

Family Sphecidae

Sources: Kohl (1901), Shalaby (1961), van der Vecht (1961), de Beaumont (1962), Walker & Pittaway (1987), Guichard (1988a), Hensen (1988), Schmid-Egger (2011), Danilov (2012).

Subfamily Ammophilinae

Ammophila dolichodera Kohl, 1884

Distribution in Saudi Arabia: Abu Arish, Bahra, Wadi Majorish (below Taif) (Guichard 1988a, Gadallah & Assery 2004a).

General Distribution: AF (Namibia, South Africa, Tanzania, UAE), PA (Iran, Saudi Arabia)

Ammophila erminea Kohl, 1901

Distribution in Saudi Arabia: Al Hai'r, Jeddah (Guichard 1988a, Schmid-Egger 2011).

General Distribution: AF (Sudan, UAE), PA (Egypt, Israel, Jordan, Libya, Morocco, Saudi Arabia, Tunisia).

Ammophila gracillima Taschenberg, 1869

Distribution in Saudi Arabia: Common in sandy localities at low altitudes (Guichard 1988a).

General Distribution: AF (Ethiopia, Mauritania, Niger, Oman, Sudan, UAE), PA (Afghanistan, Algeria, Central Asia, China, Egypt, Iran, Israel, Jordan, Kazakhstan, Libya, Morocco, Russia, Saudi Arabia, Tajikistan, Transcaspia, Turkey, Uzbekistan).

Ammophila guichardi de Beaumont, 1956

Distribution in Saudi Arabia: Lodar (Guichard 1988a).

General Distribution: PA (Egypt, Libya, Saudi Arabia).

Ammophila haimatosoma Kohl, 1884

Distribution in Saudi Arabia: Abu Arish, Al Lith, El Qunfuda, Fayfa (60 Km north of Jizan), Jeddah (Guichard 1988a).

General Distribution: AF (Chad, UAE), PA (Algeria, Cyprus, Egypt, Iran, Iraq, Israel, Libya, Morocco, Saudi Arabia).

Ammophila insignis egregia Mocsáry, 1881

Distribution in Saudi Arabia: Ad'Diriyah, Riyadh (Guichard 1988a).

General Distribution: AF (Chad, Oman, South Africa, UAE, Zaire), PA (Egypt, Israel, Jordan, Lebanon, Libya, Saudi Arabia).

Ammophila poecilocnemis Morice, 1900

Distribution in Saudi Arabia: Abu Arish, Ad'Diriyah (Guichard 1988a, Schmid-Egger 2011).

General Distribution: AF (Chad, UAE), PA (Algeria, Egypt, Morocco, Saudi Arabia, Tunisia, Western Sahara).

Ammophila producticollis Morice, 1900

Distribution in Saudi Arabia: Ha'il district (Guichard 1988a).

General Distribution: AF (Chad, Niger), PA (Algeria, Central Asia, Egypt, Israel, Kazakhstan, Morocco, Saudi Arabia).

Ammophila punti Guichard, 1980

Distribution in Saudi Arabia: Fayfa (Guichard 1988a).

General Distribution: AF (Oman), PA (Saudi Arabia).

Ammophila rubripes Spinola, 1839

Distribution in Saudi Arabia: Common and widely distributed at lower altitudes, Hadasham (Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (Angola, Eritrea, Ethiopia, Oman, Somalia, Sudan, Tanzania, UAE), PA (Egypt, Israel, Kuwait, Saudi Arabia, Syria).

Eremochares dives (Brullé, 1832)

Distribution in Saudi Arabia: Abu Arish (Guichard 1988a, Gadallah & Assery 2004a).

General Distribution: AF (Oman), OR (India), PA (Afghanistan, Algeria, Azerbaijan, Central Asia, China, Egypt, Greece, Israel, Iraq, Kazakhstan, Lebanon, Libya, Morocco, Russia, Saudi Arabia, Syria, Tajikistan, Tunisia, Turkmenistan).

Parapsammophila algira Kohl, 1901

Distribution in Saudi Arabia: Riyadh (Guichard 1988a, Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (UAE), PA (Afghanistan, Algeria, Egypt, Iran, Israel, Jordan, Morocco, Saudi Arabia, Syria).

Parapsammophila dolichostoma (Kohl, 1901)

Distribution in Saudi Arabia: Madain Saleh, Riyadh (Kohl 1901, Guichard 1988a, Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (UAE), PA (Egypt, Saudi Arabia).

Parapsammophila lateritia Taschenberg, 1869

Distribution in Saudi Arabia: El Qunfuda, Jeddah, Riyadh, Wadi Fatima (near Jeddah) (Guichard 1988a, Gadallah & Assery 2004a).

General Distribution: AF (Sudan), PA (Algeria, Egypt, Iran, Morocco, Saudi Arabia, Tunisia).

Parapsammophila turanica F. Morawitz, 1890

Distribution in Saudi Arabia: Riyadh, Summan Plateau (de Beaumont, 1962 as *Ammophila lutea*; Walker & Pittaway 1987, Guichard 1988a, Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (Oman, UAE), PA (Algeria, Central Asia, Egypt, Israel, Kazakhstan, Libya, Morocco, Saudi Arabia, Turkmenistan).

Podalonia affinis (Kirby, 1798)

Distribution in Saudi Arabia: Asir, Jebel al Hamriyah, Taif (Guichard 1988a, Gadallah & Assery 2004a).

General Distribution: PA (Austria, Belgium, Bulgaria, Central Europe, China, Czech Republic, Denmark, Egypt, France, Germany, Great Britain, Greece, Hungary, Iran, Israel, Italy, Kazakhstan, Latvia, Libya, Macedonia, Morocco, The Netherlands, North Africa, Norway, Poland, Portugal, Romania, Russia, Saudi Arabia, Sweden, Switzerland, Tajikistan, Turkestan, Turkey, Ukraine, Uzbekistan).

Podalonia minax Kohl, 1901

Distribution in Saudi Arabia: Al Khomra (South Jeddah) (Gadallah & Assery 2004a).

General Distribution: PA (Algeria, Canary Islands, Egypt, Kuwait, Libya, Morocco, Saudi Arabia, Tunisia, Western Sahara).

Podalonia tydei (Le Guillou, 1841)

Distribution in Saudi Arabia: Abu Arish, Hofuf, Jeddah, Riyadh, Taif (Shalaby 1961 as *Ammophila tydei*, Walker & Pittaway 1987, Guichard 1988a,

Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (Eritrea, Ethiopia, Kenya, Niger, Rwanda, Socotra, Somalia, South Africa, Tanzania, UAE, Zimbabwe), AU (Australia), OR (India), PA (Afghanistan, Austria, Bulgaria, Canary Islands, China, Cyprus, France, Greece, Hungary, Iran, Iraq, Israel, Italy, Jordan, Kazakhstan, Kuwait, Madeira, Malta, Moldova, North Africa, Portugal, Romania, Russia, Saudi Arabia, Slovakia, Spain, Syria, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan).

Subfamily Chloriontinae

Chlorion funereum Gribodo, 1879

Distribution in Saudi Arabia: Abu Arish, Jeddah (Guichard 1988a, Roche 2007, Schmid-Egger 2011).

General Distribution: AF (Ethiopia, UAE, Yemen), PA (Egypt, Jordan, Saudi Arabia).

Chlorion hirtum (Kohl, 1885)

Distribution in Saudi Arabia: Jeddah (Shalaby 1961 as *Sphex hirtus*, Roche 2007).

General Distribution: AF (Djibouti, Eritrea, Oman, UAE), PA (Algeria, Egypt, Jordan, Saudi Arabia).

Chlorion regale F. Smith, 1873

Distribution in Saudi Arabia: Recorded with no specific locality in the Arabian Peninsula, so its presence in Saudi Arabia is questionable (Guichard 1988a).

General Distribution: AF (Somalia), OR (India, Pakistan), PA (Afghanistan, Iran, Kuwait, ?Saudi Arabia, Turkmenistan)

Chlorion semenowi occidentale (de Beaumont, 1962)

Distribution in Saudi Arabia: Dabtyyah, Tabuk (Guichard 1988a, Roche 2007, Schmid-Egger 2011).

General Distribution: AF (Oman, UAE), PA (Egypt, Iran, Israel, Saudi Arabia).

Chlorion splendidum Fabricius, 1804

Distribution in Saudi Arabia: Jizan (Shalaby 1961 as *Sphex splendidus*).

General Distribution: AF (Madagascar), OR (Burma, India, Philippines), PA (Hungary, Iran, Saudi Arabia, Turkmenistan).

Subfamily Sceliphrinae

Chalybion flebile (Lepelletier, 1845)

Distribution in Saudi Arabia: Riyadh (Guichard 1988a, Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (UAE), PA (Algeria, Cyprus, Egypt, France, Iran, Greece, Iran, Italy,

Libya, Morocco, Palestine, Portugal, Saudi Arabia, Spain, Tunisia, Turkey).

Chalybion heinii (Kohl, 1906)

Distribution in Saudi Arabia: Abu Arish, Amjara, Jeddah (Hensen 1988, Guichard 1988a, Gadallah & Assery 2004a, Roche 2007).

General Distribution: AF (Chad, Djibouti, Eritrea, Somalia, Yemen), PA (Egypt, Saudi Arabia).

**Sceliphron madraspatanum* (Fabricius, 1781)

(Fig. 11)

Material Examined: 1♀, Ad'Diriyah.



Figure 11. *Sceliphron madraspatanum*.

Distribution in Saudi Arabia: New for the fauna of Saudi Arabia.

General Distribution: AF (Zaire), OR (Bangladesh, India, Indonesia, Malaysia, Philippines, Taiwan, Thailand), PA (Afghanistan, Central Asia, China, Greece, Japan, Kazakhstan, Syria, Turkey, Uzbekistan).

Sceliphron spirifex (Linnaeus, 1758)

Distribution in Saudi Arabia: Widely distributed in Saudi Arabia (Guichard 1988a, Schmid-Egger 2011).

General Distribution: AF (Angola, Cameroon, Cape Verde Islands, Congo, Eritrea, Ethiopia, Gabon, Ghana, Ivory Coast, Kenya, Mauritania, Mozambique, Somalia, South Africa, Sudan, Tanzania, UAE, Yemen, Zaire), PA (Albania, Algeria, Bulgaria, Canary Islands, Egypt, France, Germany, Greece, Iran, Israel, Lebanon, Libya, Malta, Morocco, Portugal, Saudi Arabia, Slovenia, Spain, Syria, Switzerland, Ukraine).

Subfamily Sphecinae

Isodontia pelopoeiformis (Dahlbom, 1845)

Distribution in Saudi Arabia: Jizan (Guichard 1988a, Gadallah & Assery 2004a).

General Distribution: AF (Angola, Cameroon, Congo, Kenya, Malawi, South Africa, Sudan, Tan-

ania, Zaire), PA (Saudi Arabia).

Prionyx crudelis (F. Smith, 1856)

Distribution in Saudi Arabia: Eastern Arabia, Riyadh (de Beaumont 1962 as *Sphex crudelis*, Walker & Pittaway 1987, Guichard 1988a, Gadallah & Assery 2004a, Roche 2007, Schmid-Egger 2011).

General Distribution: AF (Burkina-Faso, Ethiopia, Kenya, Lado, Madagascar, Mauritania, Mauritius, Oman, Somalia, Sudan, Tanzania, UAE, Yemen, Zaire), OR (India), PA (Bulgaria, Cyprus, Egypt, Germany, Greece, Iraq, Iran, Israel, Kazakhstan, Kuwait, Saudi Arabia, Sychelles, Tajikistan, Turkey, Turkmenistan).

Prionyx kirbii marginatus (F. Smith, 1856)

Distribution in Saudi Arabia: Abu Arish, Maha'il (Guichard 1988a, Gadallah & Assery 2004a).

General Distribution: AF (Angola, Burundi, Ethiopia, Gambia, Ivory Coast, Kenya, South Africa, Senegal, Tanzania, Zaire, Zimbabwe), PA (Malta, Saudi Arabia).

Prionyx macula (Fabricius, 1804)

Distribution in Saudi Arabia: Recorded with no specific locality (Fabricius 1804 as *Pepsis macula*), Ha'il (Ras Saminal), Nejd (Jebel Tuweik), Riyadh (van der Vecht 1961, de Beaumont 1962, Guichard 1988a, Gadallah & Assery 2004a, Roche 2007).

General Distribution: AF (Kenya), PA (Afghanistan, Algeria, Armenia, Azerbaijan, Egypt, Iran, Iraq, Israel, Kazakhstan, Libya, Saudi Arabia, Tajikistan, Turkmenistan, Uzbekistan).

Prionyx niveatus (Dufour, 1863)

Distribution in Saudi Arabia: Widely distributed in Saudi Arabia (Guichard 1988a, Gadallah & Assery 2004a, Roche 2007, Schmid-Egger 2011).

General Distribution: AF (Djibouti, Malawi, Mauritania, Niger, Oman, South Africa, Sudan, UAE, Yemen), PA (Afghanistan, Algeria, Egypt, Iran, Israel, Jordan, Kazakhstan, Kuwait, Libya, Mongolia, Morocco, Saudi Arabia, Spain, Tajikistan, Tunisia, Turkey, Turkmenistan, Uzbekistan, Western Sahara).

Prionyx senilis (Morice, 1911)

Distribution in Saudi Arabia: Ha'il, Riyadh (de Beaumont 1962, Guichard 1988a, Gadallah & Assery 2004a, Roche 2007).

General Distribution: PA (Algeria, Egypt, Libya, Jordan, Saudi Arabia).

Prionyx stschurowski hyalipennis (Kohl, 1895)

Distribution in Saudi Arabia: Ras Saminal (Guichard 1988a, Gadallah & Assery 2004a, Roche 2007).

General Distribution: PA (Algeria, Egypt, Is-

rael, Libya, Morocco, Saudi Arabia, Tunisia, Western Sahara).

Prionyx subfuscatus Dahlbom, 1845

Distribution in Saudi Arabia: Jeddah (Guichard 1988a, Gadallah & Assery 2004a).

General Distribution: AF (Ethiopia, UAE), OR (India), PA (Albania, Algeria, China, Croatia, Cyprus, Czech Republic, Egypt, France, Germany, Greece, Italy, Kazakhstan, Korea, Libya, Malta, Morocco, Poland, Portugal, Romania, Russia, Saudi Arabia, Slovakia, Spain, Transcaisia, Turkey, Turkmenistan, Ukraine, Uzbekistan).

Prionyx trichargyrus (Spinola, 1839)

Distribution in Saudi Arabia: Abu Arish, Nejd (Ha'il district), South Arabia (Lodar, 800m). (Guichard 1988a, Gadallah & Assery 2004a, Roche 2007, Schmid-Egger 2011).

General Distribution: AF (Oman, UAE, Yemen), PA (Egypt, Morocco, Saudi Arabia, Syria, Tunisia).

Prionyx viduatus viduatus (Christ, 1791)

Distribution in Saudi Arabia: Widely distributed in Saudi Arabia (Guichard 1988a, Gadallah & Assery 2004a, Schmid-Egger 2011, Danilov 2012).

General Distribution: AF (Cameroon, Ethiopia, Gabon, Mauritania, Niger, Senegal, Somalia, Tanzania, UAE, Yemen, Zaire), OR (India, Sri Lanka, Thailand, Taiwan, Vietnam), PA (Afghanistan, Algeria, Canary Islands, China, Cyprus, Egypt, France, Greece, Iran, Israel, Italy, Japan, Kazakhstan, Kyrgyzstan, Libya, Malta, Morocco, Portugal, Russia, Saudi Arabia, Spain, Tajikistan, Tunisia, Turkey, Turkmenistan, Ukraine, Uzbekistan, Western Sahara).

Sphex fumicatus Christ, 1791

Distribution in Saudi Arabia: Hadasham (120 Km eastern Jeddah) (Shalaby 1961 as *Sphex umbrosus*, Guichard 1988a, Gadallah & Assery 2004a).

General Distribution: AF (Angola, Central African Republic, Congo, Ethiopia, Gabon, Kenya, Mozambique, Oman, Socotra, South Africa, Sudan, Tanzania, UAE, Zaire, Zanzibar), NEA (Argentina), OR (India), PA (Cyprus, Egypt, Greece, Saudi Arabia, Turkey).

Sphex pruinosus Germar, 1817

Distribution in Saudi Arabia: Abu Arish (Guichard 1988a, Gadallah & Assery 2004a, Schmid-Egger 2011).

General Distribution: AF (Oman, UAE), OR (India, Pakistan), PA (Afghanistan, Albania, Bulgaria, Croatia, Cyprus, Egypt, France, Hungary,

Iran, Israel, Italy, Kazakhstan, Libya, Malta, Portugal, Saudi Arabia, Syria, Tajikistan, Tunisia, Turkey, Turkmenistan, Uzbekistan, Western Sahara).

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References

- Antropov, A.V. (2007): *Guichardus* – novyi palearkticheskiy rod royushchikhostriby Oxybelini (Hymenoptera: Crabronidae). Zoologicheskii Zhurnal 86: 211-220.
- Antropov, A.V. (2011): Order Hymenoptera, family Crabronidae, genera *Triplexylon*, *Pseudomicroides* and *Belomicroides*. Arthropod Fauna of the UAE 4: 609-629.
- de Beaumont, J. (1949): Synonymie de quelques espèces de Sphecidae (Hymenoptera). Mitteilungen der Schweizerischen Entomologischen Gesellschaft 22: 127-128.
- de Beaumont, J. (1951): Contribution à l'étude des *Cerceris* nord-africains. Revista Española de Entomología 27: 299-408.
- de Beaumont, J. (1962): Spheciden aus Zentral-Arabien der Ausbeute Dr. Diehl (Hym.). Beiträge zur Naturkundlichen Forschung in Süwestdeutschland 21: 221-224.
- Bohart, R.M., Menke, A.S. (1976): Sphecids of the World. A generic revision. University of California Press, Berkeley, Los Angeles London. 1 color plate, IX+695 pp.
- Brothers, D.J. (1999): Phylogeny and evolution of wasps, ants, and bees (Hymenoptera, Chrysoidea, Vespoidea, and Vespoidea). Zoologica Scripta 28: 233-249.
- Danilov, Y.N. (2012): The digger wasps of the genus *Prionyx* Vander Linden (Hymenoptera: Sphecidae) of Russia and Central Asia, with a key to species, new synonymies, and lectotype designations. Zootaxa 3526: 59-71.
- Dolffus, H. (2006): The Crabronidae wasps of "Biologie Zentrum Linz"- collection in Linz, Austria (Hymenoptera, Apoidea, Crabronidae), Part 2. Linzer Biologische Beiträge 38: 505-532.
- Empy, H.N. (1973): Descriptions and records of new and little known species of *Cerceris* Latreille, 1802 from Socotra and southern Arabia (Hymenoptera: Sphecidae). Journal of the Entomological Society of South Africa 36: 1-23.
- Fabricius, J.Ch. (1804): Systema Piezatorum secundum ordines, genera, species adiectis synonymis, locis, observationibus, descriptionibus. Carolum Reichard, Brunsvigae: 15-440.
- Gadallah, N.S. (1997): Revision of the Egyptian species of the genus *Bembix* (Hymenoptera: Sphecidae). Bolletino della Società Entomologica Italiana 129: 257-270.
- Gadallah, N.S., Assery, B.A. (2004a): A review of the Sphecidae (with the exception of Larrinae) of the Jeddah region (west of Saudi Arabia), with a checklist of the species known from Saudi Arabia. Linzer Biologische Beiträge 36: 215-239.
- Gadallah, N.S., Assery, B.M. (2004b): Revision of the subfamily Larrinae (Sphecidae, Hymenoptera) in the Jeddah region (west of Saudi Arabia), with a checklist of larrine wasps known from Saudi Arabia. Bulletin of the Entomological Society of Egypt 81: 13-28.
- Gadallah, N.S., Assery, B.M. (2004c): Comparative study of the skeletal parts of the sting apparatus in some sphecid species from Saudi Arabia (Hymenoptera: Sphecidae). Linzer Biologische Beiträge 36: 1393-1412.
- Gerstaecker, A. (1867): Ueber die Gattung *Oxybelus* Latr. und die bei Berlin vorkommenden Arten derselben Zeitschrift für die Gesamten Naturwissenschaften 30: 1-96.
- Guichard, K.M. (1980): A preliminary account of the sphecids of Oman (Hymenoptera: Sphecidae). The Journal of Oman Studies, Special Report No. 2: 223-232.
- Guichard, K.M. (1986): Hymenoptera. Fam. Sphecidae of Arabia: Key to the Arabian genera of hunting wasps. Fauna of Saudi Arabia 5: 343-351.
- Guichard, K.M. (1988a): Hymenoptera: Sphecidae: Subfam. Sphecinae of the Arabian Peninsula. Fauna of Saudi Arabia 9: 114-131.
- Guichard, K.M. (1988b): The genus *Palarus* (Hymenoptera: Sphecidae) in Arabia. Fauna of Saudi Arabia 9: 132-137.
- Guichard, K.M. (1989a): The genus *Bembix* (Hymenoptera: Sphecidae) in Arabia. Fauna of Saudi Arabia 10: 134-151.
- Guichard, K.M. (1989b): The genera *Stizus* and *Stizoides* (Hymenoptera: Sphecidae) in Arabia. Fauna of Saudi Arabia 10: 152-159.
- Guichard, K.M. (1990): The genus *Oxybelus* (Hymenoptera: Sphecidae) in Arabia. Fauna of Saudi Arabia 11: 277-285.
- Guichard, K.M. (1991): Old World *Belomicrus* A.Costa, 1871. Entomofauna 12: 353-369.
- Guichard, K.M. (1993): The genus *Cerceris* (Hymenoptera: Sphecidae) in Arabia. Fauna of Saudi Arabia 13: 152-169.
- Guichard, K.M. (1994a): The genera *Philanthus* and *Philanthinus* (Hymenoptera: Sphecidae) in Arabia. Fauna of Saudi Arabia 14: 207-212.
- Guichard, K.M. (1994b): The genus *Tachytes* (Hymenoptera: Sphecidae) in Arabia. Fauna of Saudi Arabia 14: 213-219.
- Hensen, R.V. (1988): Revision of the nominate subgenus *Chlorion* Dahlbom (Hym.: Sphecidae). Tijdschrift voor Entomologie 131: 13-64.
- Klug, F. (1845): Symbolae physicae seu icons et descriptiones Insectorum quae ex itinere per Africam borealem et Asiam occidentalem Frederici Guilelmi Hemprich et Christiani Godofredi Ehrenberg medicinae et chirurgiae doctorum studio novae aut illustratae redi erunt Decas quinta. Officina Academica, Berolini 41 unnumbered pages, pls. 41-50.
- Kohl, F.F. (1901): Zur Kenntnis der Sandwespen (Gen. *Ammophila* Kirby). Annalen des k.k. Naturhistorischen Hofmuseums 16: 142-164.
- Krombein, K.V., Pulawski, W.J. (1994): Biosystematic studies of the Ceylonese wasps, XX: A revision of *Tachysphex* Kohl, 1883, with notes on other Oriental species (Hymenoptera: Sphecidae: Larrinae). Smithsonian Contributions to Zoology 552(i-iv): 1-106.
- Leclercq, J. (1986): Crabroniens du genre *Encopognathus* Kohl, 1896, trouvés en Afrique et en Arabie (Hymenoptera Sphecidae Crabroninae). Bulletin de la Société Royale des Sciences de Liège 55: 507-520.
- Leclercq, J. (1993): Hyménoptères Sphécides Crabroniens d'Europe et du Bassin Méditerranéen. Notes Fauniques de Gembloux 26: 9-54.
- Leclercq, J. (2009): Hyménoptères Crabroniens d'Asie du genre *Crossocerus* Lepelletier & Brullé, 1835 (Hymenoptera: Crabronidae, Crabroninae). Faunistic Entomology 61: 157-192.
- Melo, G.A.R. (1999): Phylogenetic relationships and classification of the major lineages of Apoidea (Hymenoptera), with emphasis on the crabronid wasps. Scientific Papers, Natural History Museum, University of Kansas 14: 1-55.
- Nemkov, P.G. (2012): Digger wasps of the genus *Bembecinus* A.Costa, 1859 (Hymenoptera, Crabronidae, Bembecinae) of the fauna of Russia and neighbouring countries. Far Eastern Entomologist 251: 1-11.
- Ohl, M. (1999): A revision of *Stizoides* Guérin-Méneville, 1844: Taxonomy, phylogenetic relationships, biogeography, and

- evolution (Hymenoptera: Apoidea: Sphecidae). *Mitteilungen aus dem Museum für Naturkunde in Berlin, Zoologische Reihe* 75: 63-169.
- Pulawski, W. (1962): Gatunki rodzaju *Tachytes* Panz. zachodnie isrodkowej Palearktyki (Hym., Sphecidae). *Polskie Pismo Entomologiczne* 34: 63-155.
- Pulawski, W. (1971): Les *Tachysphex* (Hym., Sphecidae) de la région Paléarctique occidentale central. Państwowe Wydawnictwo Naukowe Wrocław 464pp.
- Pulawski, W. (1979): A revision of the World *Prosopigastra* Costa (Hymenoptera, Sphecidae). *Polskie Pismo Entomologiczne* 49: 3-134.
- Pulawski, W. (1992): World species of the wasp genus *Holotachysphex* de Beaumont (Hymenoptera: Sphecidae). *Proceedings of the Entomological Society of Washington* 94: 223-242.
- Pulawski, W. (1995): The genus *Gastrosericus* Spinola, 1839 (Hymenoptera: Sphecidae). *Memoirs of the California Academy of Sciences* 18(i-iv): 1-173.
- Pulawski, W. (2007): The wasp genus *Tachysphex* Kohl, 1883, of Sahara, sub-Saharan Africa, the Arabian Peninsula, and Madagascar (Hymenoptera: Apoidea: Crabronidae). *Proceedings of the California Academy of Sciences* (4th series) 58(1): 1-698.
- Pulawski, W., Prentice, M.A. (2008): A revision of the wasp tribe Palarini Schrottky, 1909 (Hymenoptera: Apoidea: Crabronidae). *Proceedings of the California Academy of Sciences* (Series 4) 59: 307-479.
- Roche, G. (2007): Conspectus of the sphecid wasps of Egypt (Hymenoptera: Ampulicidae, Sphecidae, Crabronidae). *Egyptian Journal of Natural History* 4: 12-149.
- Roche, G., Gadallah, N.S. (1999): The sphecid wasps of Egypt (Hymenoptera: Sphecidae): Introduction and generic key. *Egyptian Journal of Biology* 1: 104-117.
- Schmid-Egger, C. (2004): Revision of the *Bembecinus* (Hymenoptera: Crabronidae) of the Palearctic region. *Notes Fauniques de Gembloux* 54: 3-69.
- Schmid-Egger, C. (2011): Order Hymenoptera, families Crabronidae and Sphecidae. *Arthropod Fauna of the UAE* 4: 488-608.
- Shalaby, F. (1961): A preliminary survey of the insect fauna of Saudi Arabia. *Bulletin de la Société Entomologique d'Égypte* 45: 212-228.
- Turner, R. E. (1912): A revision of the Australian species of the genus *Cerceris* (Hymenoptera). *Proceedings of the Linnean Society of New South Wales* 36: 664-678.
- van der Vecht, J. (1961): Hymenoptera Sphecoidea Fabriciana. *Zoologische Verhandelingen* 48: 1-85.
- Walker, F. (1871): A list of the hymenopterous insects collected by J.K. Lord, Esq. in Egypt, in the neighbourhood of the Red Sea, and in Arabia. With descriptions of the new species. E.W. Janson, London I-IV+59pp. [loss of collection: Innes Bey, 1912].
- Walker, D.H., Pittaway, A.R. (1987): *Insects of the eastern Arabia* (Hymenoptera). *Mamillan Publishers* pp. 112-128.
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