

## A CHECKLIST OF FAMILY BEMBICIDAE (HYMENOPTERA: APOIDEA) FROM TUNISIA

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### ABSTRACT

A checklist of family Bembicidae from Tunisia is compiled based on data available in the literature, new material collected from different localities in Tunisia between 2017 and 2019, and some specimens hosted in the Muséum National d'Histoire Naturelle, Paris, France. As a result, 49 species and two subspecies in 16 genera of the family Bembicidae are recorded. Two genera: *Psammaecius* Lepeletier de Saint Fargeau, 1832, and *Brachystegus* A. Costa, 1859, are reported in this study for the first time. This is in addition to nine species and subspecies: *Alysson ratzeburgi* Dahlbom, 1843, *Psammaecius eremorum* de Beaumont, 1952, *Stizoides klugii* (F. Smith, 1856), *Stizus fuscatus* Morice, 1897, *Stizus niloticus saharae* Roth, 1934, *Stizus pubescens arenarum* Handlirsch, 1892, *Stizus ruficornis strigatus* Mochi, 1939, *Stizus vespoides* (Walker, 1871) and *Brachystegus braueri* (Handlirsch, 1887) that are new for the Tunisian fauna. New localities are also reported for several species and subspecies that had already been reported from Tunisia. Identified taxa are illustrated by digital photographs and their global and Tunisian distribution is presented.

**Keywords:** Hymenoptera; Bembicidae; distribution; checklist; new records; Tunisia.

### RESUMEN

#### Un listado de la familia Bembicidae (Hymenoptera: Apoidea) de Túnez

Se recopila una lista de la familia Bembicidae en Túnez basada en los datos disponibles en la literatura, en nuevo material recolectado de diferentes localidades de Túnez entre 2017 y 2019, y algunos especímenes conservados en el Muséum National d'Histoire Naturelle, París, Francia. Como resultado, se registraron 49 especies y dos subspecies en 16 géneros de la familia Bembicidae. Dos géneros: *Psammaecius* Lepeletier de Saint Fargeau, 1832 y *Brachystegus* A. Costa, 1859 se reportan en este estudio por primera vez. Esto se suma a nueve especies y subspecies: *Alysson ratzeburgi* Dahlbom, 1843, *Psammaecius eremorum* de Beaumont, 1952, *Stizoides klugii* (F. Smith, 1856), *Stizus fuscatus* Morice, 1897, *Stizus niloticus saharae* Roth, 1934, *Stizus pubescens arenarum* Handlirsch, 1892, *Stizus ruficornis strigatus* Mochi, 1939, *Stizus vespoides* (Walker, 1871) y *Brachystegus braueri* (Handlirsch, 1887) que son nuevas para la fauna tunecina. También se han encontrado nuevas localidades para varias especies y subspecies, que ya habían sido reportadas de Túnez. Los taxones identificados se ilustran mediante fotografías digitales y se presenta su distribución global y en Túnez.

**Palabras clave:** Hymenoptera; Bembicidae; distribución; listado; nuevos registros; Túnez.

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## Introduction

Bembicidae is a family of Spheciformes wasps; it is considered as a separate family within the superfamily Apoidea according to Sann *et al.* (2018, 2021). It includes 1694 species and subspecies belonging to 81 genera (Puławski, 2021); almost 25% of these species inhabit the Palearctic region (Nemkov, 2017). Generally, members of this family are small to large wasps nesting in sandy areas and hence they are collectively referred to as “sand wasps”. The majority of them have hunting behavior except for *Nysson* Latreille, 1802 species, which are cleptoparasites (Bohart & Menke, 1976). Faunistic and systematic studies dealing with genera in this family date back to the studies of Handlirsch, who described 15 genera between 1887 and 1895, including nine genera from the Palaearctic region (Bitsch *et al.*, 1997). In this region, many studies have dealt with different genera, including de Beaumont (1953, 1954), who revised *Gorytes* Latreille, 1805 and *Bembecinus* A. Costa, 1859. More recently, Schmid-Egger (2004, 2005, 2019) studied genera *Bembecinus*, *Olgia* Radoszkowski 1877 and *Ammatomus* A. Costa, 1859. These and other previous studies (Costa, 1893a, 1893b; Schulz, 1905; Smits van Bürgst, 1913a, 1913b; von Schulthess, 1926) provided some records from Tunisia, but a detailed study about the Tunisian fauna of this family is not available. The present paper is a contribution to the knowledge of the Bembicidae fauna in Tunisia; it is a continuation of previous studies (Ben Khedher *et al.*, 2019, 2020a, 2020b, 2020c, 2020d, 2020e, 2021a, 2021b) dealing with Spheciformes wasps in Tunisia.

## Material and methods

To compile a checklist of Bembicidae species in Tunisia, we used available data in the literature and newly collected material. Newly captured specimens were collected from different regions in Tunisia by sweep netting during the spring and summer seasons from 2017 to 2019. Specimens of Tunisian origin hosted in the Muséum National d’Histoire Naturelle, Paris, France (MNHN) were also examined.

Identification of specimens was done by the first author following mainly Guichard (1989a, 1989b), Schmid-Egger (2004, 2005, 2019), and de Beaumont (1952). Identification was then confirmed by comparing with syntypes (*Bembix galactina* Dufour, 1854 and *Stizus niloticus saharae* Roth, 1934) and with other identified material hosted in MNHN. Some specimens were re-identified and confirmed by Dr. Toshko Ljubomirov (Bulgaria) (*Ammatomus*, *Bembecinus*, *Bembix*, *Hoplisoides*, and *Olgia* species) and by Dr. Christian Schmid-Egger (Germany) (*Psammaecius*). Published records from Tunisia and general distributions of all the species listed in this study were compiled in order to present updated

distribution maps. The global distribution maps follow mainly Puławski (2021).

Digital photographs were taken by an integrated system composed of a Canon EOS 1100 DSLR digital camera and Helicon remote (Version 3.9.10 W) (MNHN-Paris). The digital images were labelled using Adobe Photoshop CS 6.

Identified materials are deposited in the private collection of the first author at the Laboratory of Entomology and Insect Ecology, Regional Research Centre for Horticulture and Organic Agriculture (CRRHAB) at Chott Meriem, Sousse, Tunisia, and in Atatürk University Biodiversity Science Museum (ABBM), Erzurum, Turkey.

The following abbreviations are used in this paper: m: meter; km: kilometer; V: May; VI: June; VII: July; VIII: August; IX: September; ♂: male; ♀: female; MNHN: Muséum National d’Histoire Naturelle, Paris; CFP: Professional Agricultural Training Center at Sbeitla- Kasserine; N: North; S: South; E: East; W: West; SW: SouthWest.

## Results

In this study, a total of 49 species and two subspecies classified into 16 genera are listed. Two genera: *Psammaecius* Lepeletier de Saint Fargeau, 1832, and *Brachystegus* A. Costa, 1859, and nine species and subspecies are newly recorded from Tunisia.

Genus *Alysson* Panzer, 1806

*Alysson picteti* Handlirsch, 1895

PREVIOUS RECORDS FROM TUNISIA. Tunis (Belvédère, Carthage) (Schmiedeknecht, 1900: 233), Tunis (Graeffe, 1906: 455), Tunis (Belvédère) (von Schulthess, 1926: 215).

GENERAL DISTRIBUTION. Algeria, Tunisia (Puławski, 2021).

*Alysson ratzeburgi* Dahlbom, 1843

(Figs 1a, 1b)

MATERIAL EXAMINED. **Ben Arous**, Hammam Lif, 2 ♂♂, 2 ♀♀ (J. de Gaulle Collection, MNHN).

REMARK. This species is newly recorded from Tunisia.

GENERAL DISTRIBUTION. Europe to Eastern Asia, Algeria (Puławski, 2021), Tunisia (present study).

Genus *Ammatomus* A. Costa, 1859

*Ammatomus asiaticus* (Radoszkowski, 1886)

(Fig. 3b)

MATERIAL EXAMINED. **Mahdia**, Sidi Alouane, Zelba, 35°13’48.8”N 10°51’30.1”E, 49 m, 1 ♀, 11.VIII.2018 (Ben Khedher Collection).

PREVIOUS RECORDS FROM TUNISIA. Gafsa, Kebili (E Kebili) (Schmid-Egger, 2019: 442).

GENERAL DISTRIBUTION. Israel, Kazakhstan, North Africa, Oman, Turkmenistan, United Arab Emirates, Uzbekistan (Puławski, 2021).

*Ammatomus mesostenus* (Handlirsch, 1888)

(Fig. 3a)

MATERIAL EXAMINED. **Beja**, Mjez Elbeb, South Mjez Elbeb, 36°38’14.7”N 9°35’54.3”E, 53 m, 10 ♂♂, 15.VIII.2018, 9 ♂♂,

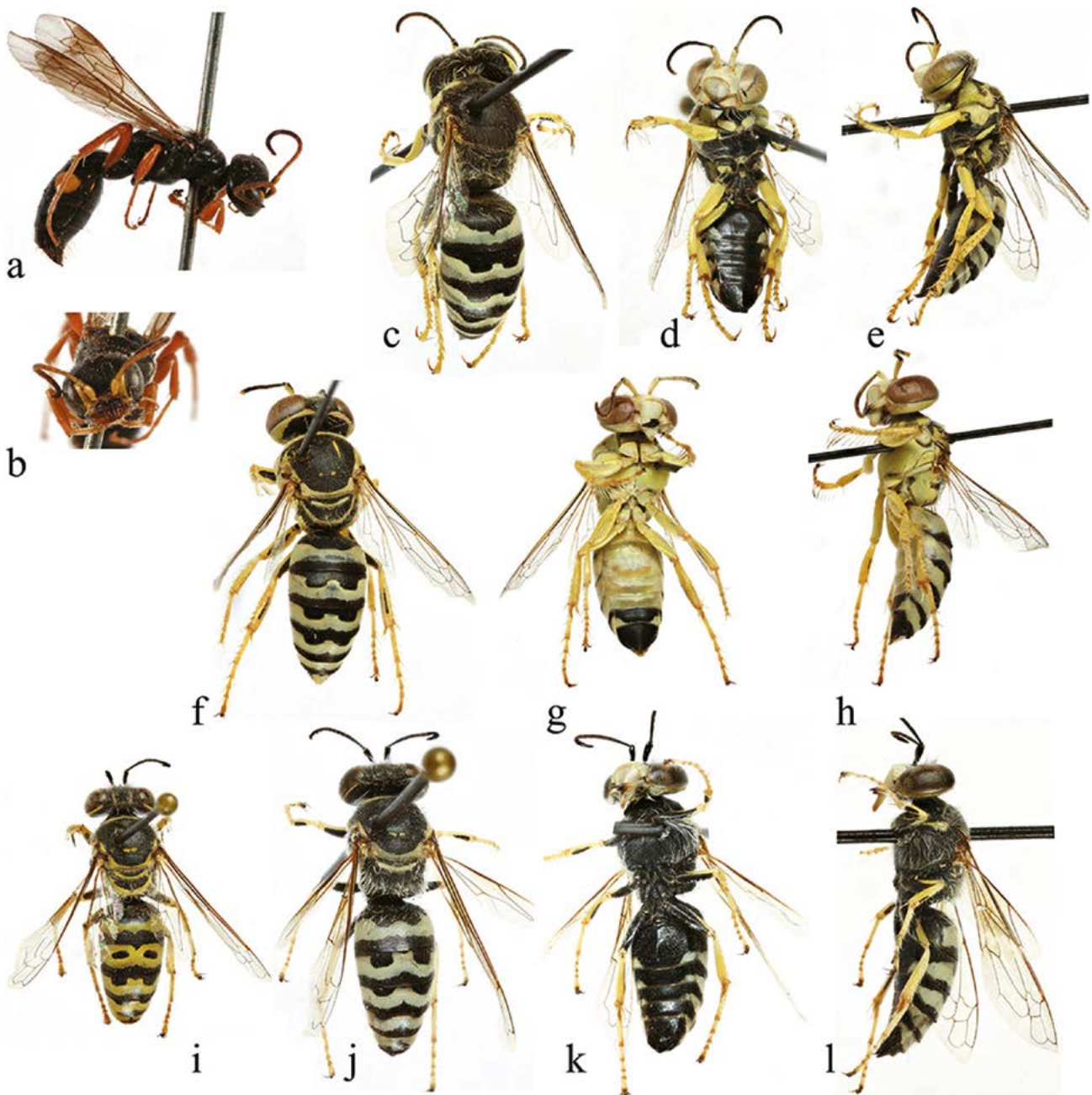


Fig. 1.— a,b. *Alysson ratzeburgi* (female: a. lateral view; b. frontal view); c-e. *Bembix barbara* (female: c. dorsal view; d. ventral view; e. lateral view); f-h. *Bembix galactina* (female: f. dorsal view; g. ventral view; h. lateral view); i-l. *Bembix oculata* (female: i. dorsal view; male: j. dorsal view; k. ventral view; l. lateral view).

Fig. 1.— a,b. *Alysson ratzeburgi* (hembra: a. vista lateral; b. vista frontal); c-e. *Bembix barbara* (hembra: c. vista dorsal; d. vista ventral; e. vista lateral); f-h. *Bembix galactina* (hembra: f. vista dorsal; g. vista ventral; h. vista lateral); i-l. *Bembix oculata* (hembra: i. vista dorsal; macho: j. vista dorsal; k. vista ventral; l. vista lateral).

17.VIII.2018, Slougua, 36°35'24.6"N 9°31'8.9"E, 60 m, 2 ♂♂, 17.VIII.2018, Testour, Chambou, 36°32'47.5"N 9°24'26"E, 81 m, 2 ♂♂, 16.VIII.2018, Elghanima, 36°33'8.8"N 9°23'35.2"E, 84 m, 1 ♂, 16.VIII.2018, Oued Jidra, 36°32'54.4"N 9°22'14.9"E, 100 m, 1 ♂, 16.VIII.2018; **Sousse**, Bouficha, Salloum, 36°18'12.3"N 10°28'29.1"E, 5 m, 1 ♂, 4 ♀♀, 11.IX.2017, Kalaa Kbira, Belaoum, 35°54'14.0"N, 10°23'37.5"E, 45 m, 1 ♂, 22.VII.2017 (Ben Khedher Collection).

PREVIOUS RECORDS FROM TUNISIA. Jendouba (11 km S Jendouba, Oued Mellègue), Gafsa (Oasis) (Schmid-Egger, 2019: 444).

GENERAL DISTRIBUTION. Afghanistan, Iran, Israel, Kazakhstan, North Africa, Oman, Sudan, Turkmenistan (Puławski, 2021).

Genus *Argogorytes* Ashmead, 1899

*Argogorytes fairmairei* (Handlirsch, 1893)

PREVIOUS RECORDS FROM TUNISIA. Tunisia: no specific locality (Smits van Burgst, 1913a: 319, 1913b: 6 as *Gorytes fairmairei*).

GENERAL DISTRIBUTION. North Africa (Puławski, 2021).



Genus *Bembecinus* A. Costa, 1859

*Bembecinus bernardi* de Beaumont, 1954

PREVIOUS RECORDS FROM TUNISIA. Gabes (Tamesrest W Matmata) (Schmid-Egger, 2009: 763).

GENERAL DISTRIBUTION. Algeria, Mauritania, Tunisia (Schmid-Egger, 2009).

*Bembecinus discolor* (Handlirsch, 1892)

PREVIOUS RECORDS FROM TUNISIA. Tozeur (Tameghza) (Schmid-Egger, 2009: 760; Ben Khedher *et al.*, 2019: 188).

GENERAL DISTRIBUTION. Algeria, Morocco, Tunisia, Yemen (Puławski, 2021).

*Bembecinus feroni* (Handlirsch, 1908)

PREVIOUS RECORDS FROM TUNISIA. Gabes (12 km W Matmata) (Schmid-Egger, 2004: 48).

GENERAL DISTRIBUTION. Algeria, Tunisia (Schmid-Egger, 2004).

*Bembecinus gazagnairei* (Handlirsch, 1892)

PREVIOUS RECORDS FROM TUNISIA. Tunis (Graeffe, 1906: 455 as *Stizus gazagnairei*), Gafsa, Jendouba (15 km S Jendouba) (Schmid-Egger, 2004: 49).

GENERAL DISTRIBUTION. Algeria, Tunisia (Schmid-Egger, 2004).

*Bembecinus mattheyi* (de Beaumont, 1951)

(Figs 3c-e)

MATERIAL EXAMINED. **Tataouine**, North Tataouine, Tataouine-Medenine km 38, 33°4'12.2"N 10°29'6.0"E, 163 m, 1 ♀, 11.V.2018 (Ben Khedher Collection).

PREVIOUS RECORDS FROM TUNISIA. Medenine (de Beaumont, 1954: 270).

GENERAL DISTRIBUTION. Libya, Morocco, Tunisia (Schmid-Egger, 2004).

*Bembecinus mayri* (Handlirsch, 1892)

PREVIOUS RECORDS FROM TUNISIA. Bizerte (SW Bizerte, Lac Echkeul), Jendouba (40 km W Jendouba, Ain Soltan, Ain Draham) (Schmid-Egger, 2004: 55).

GENERAL DISTRIBUTION. Algeria, Tunisia (Schmid-Egger, 2004).

*Bembecinus tridens* (Fabricius, 1781)

(Figs 3f-h)

MATERIAL EXAMINED. **Kairouan**, Sbikha, Aouled Mbarek, 35°57'21.9"N 10°8'18.1"E, 52 m, 1 ♂, 26.V.2017, Sisib, 35°57'20.8"N 10°8'22.0"E, 51 m, 1 ♂, 03.VIII.2017; **Kasserine**, Sbeitla, Athar, Oued Nakhil, 35°14'41.6"N 9°5'40.5"E, 562 m, 2 ♂♂, 04.IX.2018; **Kebili**, South Kebili, Errahmat, 33°39'1.8"N 8°58'27.4"E, 30 m, 1 ♀, 17.V.2018; **Mahdia**, Rejich, 35°26'35.8"N 11° 0'51.4"E, 3 m, 1 ♂, 18.IX.2018, Sidi Alouane, Lemsanaa, 35°19'44.5"N 10°54'51.3"E, 41 m, 1 ♂, 01.VI.2018; **Sidi Bouzid**, West Sidi Bouzid, Zaafrina, 35°1'39.8"N 9°17'18.3"E, 394 m, 7 ♂♂, 2 ♀♀, 25.VII.2018, East Sidi Bouzid, Faidh, 35°4'0.4"N 9°40'29.1"E, 280 m, 2 ♂♂, 26.VII.2018; **Sousse**, Bouficha, Bir Elhaj Ammar, 36°18'34.8"N 10°25'4.4"E, 17 m, 1 ♀, 28.VII.2017, Kalaa Kbira, Belaoum, 35°54'14.0"N 10°23'37.5"E, 45 m, 1 ♂, 1 ♀, 29.VII.2017; **Tozeur**, Chbika centre, 34°19'23.8"N 7°56'20.7"E, 175 m, 10 ♂♂, 27.VI.2018, Dguech, Elmanechi, 33°58'41.5"N 8°12'33.1"E, 63 m, 2 ♂♂, 1 ♀, 29.VI.2018, Hama Ejrid, 33°59'52.9"N 8°9'57.9"E, 52 m, 12 ♂♂, 27.VI.2018, Nefta, Nefta Corbeille, 33°51'0.0"N 7°51' 52.4"E, 25 m, 1 ♂, 28.VI.2018, Nefta oasis, 33°52'39.1"N 7°52'34.9"E, 56 m, 2 ♂♂, 28.VI.2018, Temeghza, Cascade 1, 34°22'54.2"N 7°55'58.4"E, 270 m, 33 ♂♂, 27.VI.2018, Cascade 2, 34°22'34.0"N 7°54'42.7"E,

247 m, 10 ♂♂, 27.VI.2018, Tozeur centre, Elberka oasis, 33°55'1.0"N 8°8'23.3"E, 45 m, 2 ♂♂, 26.VI.2018, Tibebssa oasis, 33°55'27.3"N 8°8'44.5"E, 35 m, 1 ♂, 2 ♀♀, 26.VI.2018 (Ben Khedher Collection).

PREVIOUS RECORDS FROM TUNISIA. Bizerte (SW Bizerte, Lac Ichkeul), Gabes (35 km N Gabes, 24 km S Gabes), Gafsa (Bou Hedma), Jendouba (Ain Draham, Tabarka), Kebili (Douz), Sfax (Skhira), Tozeur (15 km W Nefta) (Schmid-Egger, 2004: 36; Ben Khedher *et al.*, 2019: 188).

GENERAL DISTRIBUTION. Palaearctic region, Oman (Puławski, 2021).

Genus *Bembix* Fabricius, 1775

*Bembix arenaria* Handlirsch, 1893

PREVIOUS RECORDS FROM TUNISIA. Tunisia: no specific locality (Smits van Burgst, 1913a: 319, 1913b: 5 as *Bembex arenaria*).

GENERAL DISTRIBUTION. Egypt, Iran, Israel, Oman, Palestine, Saudi Arabia, Syria, Tunisia, Turkey, United Arab Emirates (Puławski, 2021).

*Bembix barbara* Handlirsch, 1893

(Figs 1c-e)

MATERIAL EXAMINED. **Kairouan**, 5 ♀♀ (Santschi Collection, MNHN), 1 ♀ (J. de Gaulle Collection, MNHN); **Mahdia**, Eljem, Athamnia, 35°20'20.5"N 10°46'54.3"E 70 m, 2 ♀♀, 28.VIII.2019, Sidi Alouane, Lemsanaa, 35°19'44.5"N 10°54'51.3"E, 41 m, 1 ♀, 01.VI.2018.

PREVIOUS RECORDS FROM TUNISIA. Ben Arous (Hammam Lif), Kairouan, Tunis (Carthage) (von Schulthess, 1926: 217 as *Bembex barbara*).

GENERAL DISTRIBUTION. North Africa (Puławski, 2021).

*Bembix chlorotica* Spinola, 1839

PREVIOUS RECORDS FROM TUNISIA. Kairouan, Tozeur (von Schulthess, 1926: 217 as *Bembex chlorotica*; Ben Khedher *et al.*, 2019: 188).

GENERAL DISTRIBUTION. China, Jordan, North Africa, Saudi Arabia, Yemen (Puławski, 2021).

*Bembix dahlbomii* Handlirsch, 1893

PREVIOUS RECORDS FROM TUNISIA. Tunis (Handlirsch, 1893: 806 as *Bembex dahlbomii*).

GENERAL DISTRIBUTION. Eritrea, Ethiopia, India, Israel, Kuwait, North Africa, Sudan, United Arab Emirates, Yemen (Puławski, 2021).

*Bembix flavescens bolivari* (Handlirsch, 1893)

PREVIOUS RECORDS FROM TUNISIA. Tunisia: no specific locality (Handlirsch, 1893: 862 as *Bembex bolivari*).

GENERAL DISTRIBUTION. France, Italy, North Africa, Portugal, Spain, Western Sahara (Puławski, 2021).

REMARK. This subspecies is known to occur in Europe. The status of this record from Tunisia and from North Africa in general needs to be clarified.

*Bembix flavescens kittyae* de Beaumont, 1957

PREVIOUS RECORDS FROM TUNISIA. Sfax (Schulz, 1905: 65 as *Bembex turca*).

GENERAL DISTRIBUTION. Egypt, Libya, Tunisia (Puławski, 2021).

*Bembix galactina* Dufour, 1854

(Figs 1f-h)

MATERIAL EXAMINED. **Kairouan**, 2 ♂♂ (Santschi Collection, MNHN); **Kebili**, Douz, West Douz, 33°27'4.1"N 9°1'4.5"E, 63 m, 2 ♂♂, 1 ♀, 19.V.2018, South Kebili, Errahmat,

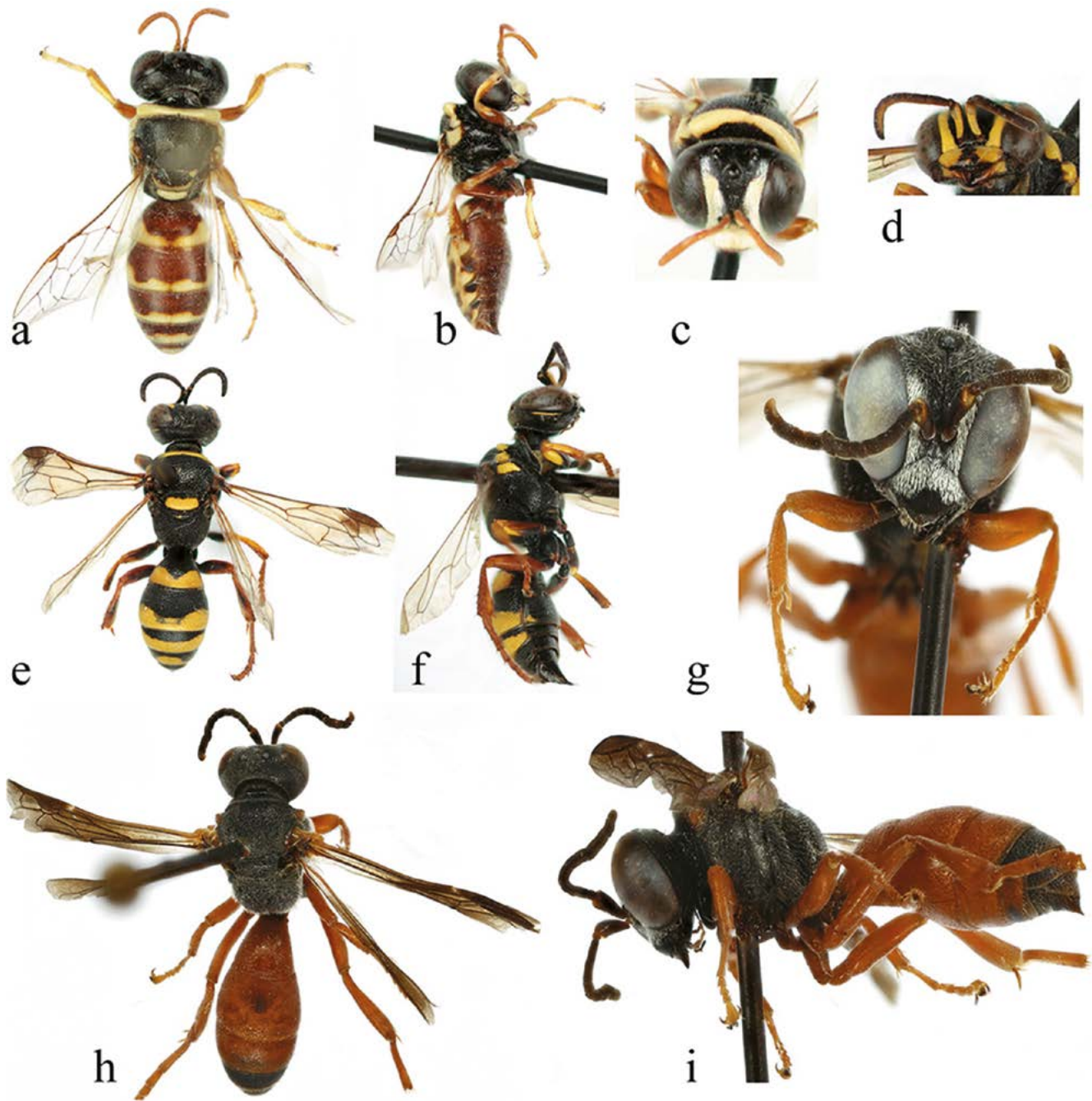


Fig. 2.– a-c. *Olgia bensoni* (female: a. dorsal view; b. lateral view; c. frontal view); d-f. *Hoplisoides punctuosus curtulus* (female: d. frontal view; e. dorsal view; f. lateral view); g-i. *Psammaecius eremorum* (female: g. frontal view; h. dorsal view; i. lateral view).

Fig. 2.– a-c. *Olgia bensoni* (hembra: a. vista dorsal; b. vista lateral; c. vista frontal); d-f. *Hoplisoides punctuosus curtulus* (hembra: d. vista frontal; e. vista dorsal; f. vista lateral); g-i. *Psammaecius eremorum* (hembra: g. vista frontal; h. vista dorsal; i. vista lateral).

33°39'1.8"N 8°58'27.4"E, 30 m, 2 ♂♂, 2 ♀♀, 18.V.2018 (Ben Khedher Collection); **Sfax**, 1 ♀ (Ducouret 57-56 Collection, MNHN), 1 ♂, 1 ♀ (Vachal Collection, MNHN); **Sidi Bouzid**, Bouhedma National Park, 1 ♂ (Dumont Collection, MNHN); **Tataouine**, Ghomrasen, Ghordhab, 33°5'6.4"N 10°29'46.2"E, 159 m, 2 ♂♂, 07.V.2018, North Tataouine, Oued Tlelet, 33°2'41.8"N 10°28'24.0"E, 170 m, 2 ♂♂, 3 ♀♀, 12.V.2018, Tataouine-Medenine km 38, 33°4'12.2"N 10°29'6.0"E, 163 m, 2 ♂♂, 11.V.2018; **Tozeur**, Nefta, Nefta oasis, 33°52'39.1"N 7°52'34.9"E, 56 m, 1 ♀, 28.VI.2018 (Ben Khedher Collection).

PREVIOUS RECORDS FROM TUNISIA. Sfax (Schulz, 1905: 62 as *Bembex galactina*), Tozeur (von Schulthess, 1926: 217 as *Bembex galactina*; Ben Khedher *et al.*, 2019: 188). GENERAL DISTRIBUTION. North Africa (Puławski, 2021).

***Bembix integra*** Panzer, 1801

PREVIOUS RECORDS FROM TUNISIA. Tozeur (von Schulthess, 1926: 218 as *Bembex integra*; Ben Khedher *et al.*, 2019: 188). GENERAL DISTRIBUTION. Austria, Bulgaria, Croatia, Czech Republic, France, Germany, Hungary, Iran, Italy, Kazakhstan, Palestine,

Portugal, Romania, Slovakia, Spain, Switzerland, Tunisia, Turkmenistan, Ukraine, Yemen (Puławski, 2021).

***Bembix lusca*** Spinola, 1839

PREVIOUS RECORDS FROM TUNISIA. Kairouan, Monastir (von Schulthess, 1926: 217 as *Bembex lusca*).

GENERAL DISTRIBUTION. North Africa, Ethiopia, Kenya, Saudi Arabia, South Africa, Sudan (Puławski, 2021).

***Bembix oculata*** Panzer, 1801

(Figs 1i-l)

MATERIAL EXAMINED. **Beja**, Mjedz Elbeb, South Mjedz Elbeb, 36°38'14.7"N 9°35'54.3"E, 53 m, 2 ♀♀, 15.VIII.2018, Slouguia, 36°35'24.6"N 9°31'8.9"E, 60 m, 1 ♂, 7 ♀♀, 17.VIII.2018 (Ben Khedher Collection), Teboursouk, 1 ♀ (J. de Gaulle Collection, MNHN), Testour, Chambou, 36°32'47.5"N 9°24'26"E, 81 m, 2 ♀♀, 16.VIII.2018 (Ben Khedher Collection); **Kairouan**, Chbika, Houareb, 35°32'42.2"N 9°45'7.3"E, 220 m, 1 ♂, 3 ♀♀, 29.VIII.2018, South Kairouan, Ragada, 35°34'46.2"N 10°3'6.1"E, 92 m, 2 ♂♂, 10 ♀♀, 28.VIII.2018; **Kasserine**, Sbeitla, Athar, CFPA, 35°13'18.7"N 9°5'26.8"E, 560 m, 3 ♂♂, 4 ♀♀, 03.IX.2018, Oued Nakhil, 35°14'41.6"N 9°5'40.5"E, 562 m, 4 ♂♂, 3 ♀♀, 04.IX.2018, Route Fej Ettin, 35°13'20.7"N 9°5'58.7"E, 545 m, 2 ♂♂, 4 ♀♀, 05.IX.2018; **Kebili**, Douz, West Douz, 33°27'4.1"N 9°1'4.5"E, 63 m, 1 ♂, 1 ♀, 19.V/2018; **Mahdia**, Ksour Essef, Alya, 35°19'26.5"N 11°2'32.6"E, 1 m, 2 ♂♂, 3.VIII.2018, Rejich, 35°26'35.8"N 11°0'51.4"E, 3 m, 10 ♂♂, 12 ♀♀, 18.IX.2018, Sidi Alouane, Sidi Alouane 2, 35°22'4.4"N 10°55'16.3"E, 69 m, 1 ♂, 4 ♀♀, 09.VIII.2018, Oued Beja, 35°20'7.7"N 10°53'32.6"E, 55 m, 1 ♀, 28.VIII.2017, Oued Beja 2, 35°19'57.4"N 10°53'51.4"E, 49 m, 1 ♂, 3 ♀♀, 29.VIII.2017; **Nabeul**, Bouargoub, Sidi Dhaher, 36°32'40.7"N 10°33'13.5"E, 62 m, 1 ♂, 08.VI.2018, Zauiet Jdidi centre, 36°37'44.5"N 10°34'2.0"E, 45 m, 1 ♀, 08.VI.2018 (Ben Khedher Collection); **Sfax**, Around Sfax city, 1 ♂, 1 ♀ (Babault Collection, MNHN), 1 ♂ (Vachal Collection, MNHN), 2 ♂♂, 1 ♀ (Ducouret 57-56 Collection, MNHN); **Sousse**, Akouda, Chott Meriem, Tantana, 35°55'17.7"N 10°34'7.8"E, 12 m, 1 ♀, 04.VIII.2017, Kalaa Kbir, Belaoum, 35°54'14.0"N 10°23'37.5"E, 45 m, 1 ♂, 29.VII.2017; **Sidi Bouzid**, East Sidi Bouzid, Elhachria, 34°53'56.2"N, 9°26'11.6"E, 326 m, 1 ♀, 24.VII.2018, Faidh, 35°4'0.4"N 9°40'29.1"E, 280 m, 1 ♀, 26.VII.2018, Lasouda, 35°5'27.8"N 9°33'40.1"E, 336 m, 1 ♂, 26.VII.2018, West Sidi Bouzid, Elnouamer, 35°1'27.1"N 9°29'39.9"E, 333 m, 4 ♂♂, 7 ♀♀, 23.VII.2018, Zaafrja, 35°1'39.8"N 9°17'18.3"E, 394 m, 2 ♀♀, 25.VII.2018; **Tataouine**, North Tataouine, Tataouine - Medenine km 33, 33°4'12.2"N 10°29'6.0"E, 163 m, 4 ♂♂, 10.V.2018; **Tozeur**, Chbika centre, 34°19'23.8"N 7°56'20.7"E, 175 m, 3 ♀♀, 27.VI.2018, Dguech, Elmanechi, 33°58'41.5"N 8°12'33.1"E, 63 m, 2 ♂♂, 2 ♀♀, 29.VI.2018, Hamma Ejrid, 33°59'52.9"N 8°9'57.9"E, 52 m, 3 ♂♂, 4 ♀♀, 27.VI.2018, Nefta, Nefta Corbeille, 33°51'0.0"N 7°51'52.4"E, 25 m, 5 ♂♂, 1 ♀, 28.VI.2018, Nefta oasis, 33°52'39.1"N 7°52'34.9"E, 56 m, 1 ♂, 2 ♀♀, 28.VI.2018, Temeghza, Cascade 2, 34°22'34.0"N 7°54'42.7"E, 247 m, 2 ♂♂, 4 ♀♀, 27.VI.2018, Tozeur centre, Elberka oasis, 33°55'1.0"N 8°8'23.3"E, 45 m, 1 ♂, 26.VI.2018 (Ben Khedher Collection); Tunisia, 1 ♀ (Vachal Collection, MNHN).

PREVIOUS RECORDS FROM TUNISIA. Tunisia: no specific locality (Smits van Bürgst, 1913a: 319, 1913b: 5 as *Bembex oculata*), Kairouan, Monastir, Tozeur (von Schulthess, 1926: 218 as *Bembex oculata*; Ben Khedher et al., 2019: 188).

GENERAL DISTRIBUTION. Eastern Asia to Pakistan and inner Mongolia, North Africa, Oman, Saudi Arabia, Southern Europe, United Arab Emirates (Puławski, 2021).

***Bembix olivacea*** Fabricius, 1787

MATERIAL EXAMINED. **Jendouba**, Tabarka, 1 ♂ (M. Blanc Collection, MNHN).

PREVIOUS RECORDS FROM TUNISIA. Bizerte (Porto Farina) (Fabricius, 1787: 285 as *Bembex olivacea*; de Beaumont, 1951: 272), Tunisia: no specific locality (Costa, 1893b: 6 as *Bembex olivacea*; Smits van Bürgst, 1913a: 319, 1913b: 5 as *Bembex mediterranea*).

GENERAL DISTRIBUTION. Mediterranean to Arabian Peninsula and Central Asia (Puławski, 2021).

***Bembix palaestinensis*** (Lohrmann, 1942)

MATERIAL EXAMINED. **Medenine**, Djerba, 1 ♀; **Tunis**, Marsa, 1 ♂, (A. Weiss Collection, MNHN).

PREVIOUS RECORDS FROM TUNISIA. Tunisia: no specific locality (de Beaumont & Bytinski-Salz, 1955: 44).

GENERAL DISTRIBUTION. Egypt, Israel, Tunisia (de Beaumont & Bytinski-Salz, 1955; Puławski, 2021).

***Bembix rochei*** Guichard, 1989

PREVIOUS RECORDS FROM TUNISIA. Tunisia: no specific locality (Guichard, 1989a: 147).

GENERAL DISTRIBUTION. Algeria, India, Mali, Tunisia, United Arab Emirates (Puławski, 2021).

***Bembix rostrata*** (Linnaeus, 1758)

PREVIOUS RECORDS FROM TUNISIA. Monastir (Ponte de Faes) (Graeffe, 1906: 455 as *Bembex rostrata*).

GENERAL DISTRIBUTION. Palaearctic region (Puławski, 2021).

Genus ***Brachystegus*** A. Costa, 1859

***Brachystegus braueri*** (Handlirsch, 1887)

(Figs 3i-k)

MATERIAL EXAMINED. **Tunis**, Around Tunis, 1 ♂ (M. Blanc Collection, MNHN).

REMARK. This genus and species are newly recorded from Tunisia.

GENERAL DISTRIBUTION. Algeria, Israel, Morocco, Palestine (Puławski, 2021), Tunisia (present study).

Genus ***Gorytes*** Latreille, 1805

***Gorytes quinquecinctus*** (Fabricius, 1793)

PREVIOUS RECORDS FROM TUNISIA. Tunisia: no specific locality (Costa, 1893b: 8).

GENERAL DISTRIBUTION. Europe to Eastern Asia, North West Africa (Puławski, 2021).

Genus ***Harpactus*** Shuckard, 1837

***Harpactus laevis*** (Latreille, 1792)

PREVIOUS RECORDS FROM TUNISIA. Tunis (Belvédère) (von Schulthess, 1926: 216).

GENERAL DISTRIBUTION. Andorra, Austria, Belarus, Belgium, Bulgaria, China, Croatia, Czech Republic, Egypt, France, Germany, Greece, Hungary, Iran, Italy, Kazakhstan, Mongolia, North Africa, Poland, Portugal, Romania, Russia, Serbia, Senegal, Slovakia, Slovenia, Spain, Switzerland, Turkey, Ukraine, Yemen (Puławski, 2021).

Genus ***Hoplisoides*** Gribodo, 1884

***Hoplisoides punctuosus curtulus*** (A. Costa, 1893)

(Figs 2d-f)

MATERIAL EXAMINED. **Kairouan**, Sbikha, Aouled Mbarek, 35°57'21.9"N 10°8'18.1"E, 52 m, 1 ♀, 25.V.2017 (Ben Khedher Collection).



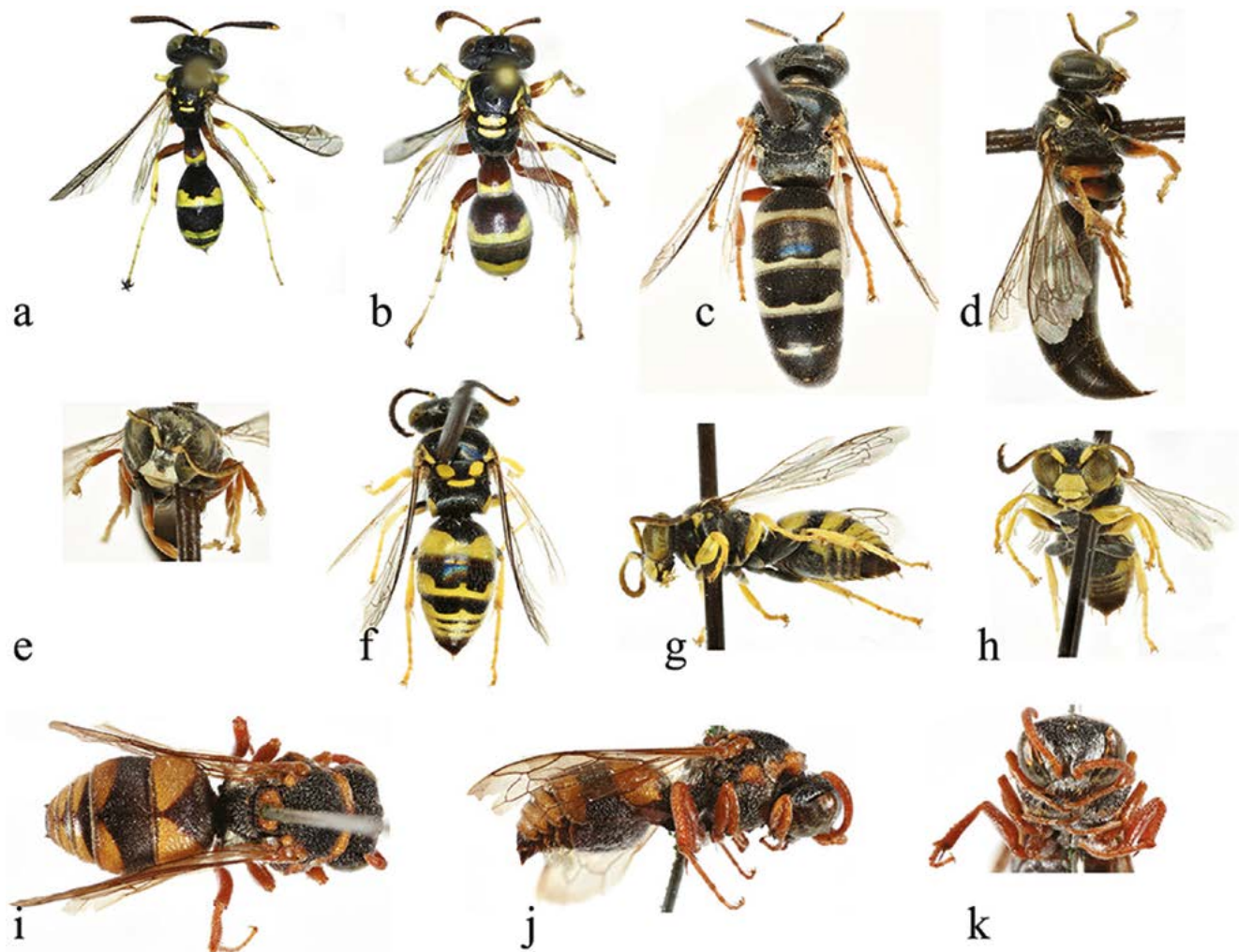


Fig. 3.– a. *Ammatomus mesostenus* (male: dorsal view); b. *Ammatomus asiaticus* (female: dorsal view); c-e. *Bembecinus mattheyi* (female: c. dorsal view; d. lateral view; e. frontal view); f-h. *Bembecinus tridens* (male: f. dorsal view; g. lateral view; h. frontal view); i-k. *Brachystegus braueri* (male: i. dorsal view; j. lateral view; k. frontal view).

Fig. 3.– a. *Ammatomus mesostenus* (macho: vista dorsal); b. *Ammatomus asiaticus* (hembra: vista dorsal); c-e. *Bembecinus mattheyi* (hembra: c. vista dorsal; d. vista lateral; e. vista frontal); f-h. *Bembecinus tridens* (macho: f. vista dorsal; g. vista lateral; h. vista frontal); i-k. *Brachystegus braueri* (macho: i. vista dorsal; j. vista lateral; k. vista frontal).

PREVIOUS RECORDS FROM TUNISIA. Tunisia: no specific locality (Costa, 1893a: 100 as *Gorytes curtulus*; Handlirsch, 1895: 886 as *Gorytes curtulus*; de Beaumont, 1952: 222).

GENERAL DISTRIBUTION. North Africa (de Beaumont, 1952).

*Hoplisoides gazagnairei* Handlirsch, 1893

PREVIOUS RECORDS FROM TUNISIA. Kairouan, Kasserine (Sbeitla) (von Schulthess, 1926: 216 as *Gorytes gazagnairei*), Tunisia: no specific locality (Mokrousov *et al.*, 2020: 222).

GENERAL DISTRIBUTION. North Africa (Mokrousov *et al.*, 2020).

Genus *Nysson* Latreille, 1802

*Nysson schmiedeknechtii* Handlirsch, 1900

PREVIOUS RECORDS FROM TUNISIA. Tunisia: no specific locality (Handlirsch, 1900: 509).

GENERAL DISTRIBUTION. Tunisia (Puławski, 2021).

Genus *Olgia* Radoszkowski, 1877

*Olgia bensoni* (de Beaumont, 1950)

(Figs 2a-c)

MATERIAL EXAMINED. **Tataouine**, Ghomrasen, Ghordhab, 33°5'6.4"N 10°29'46.2"E, 159 m, 1 ♀, 08.V.2018 (Ben Khedher Collection).

PREVIOUS RECORDS FROM TUNISIA. Kasserine (25 km NW Kasserine) (Schmid-Egger, 2005: 1547).

GENERAL DISTRIBUTION. North Africa (Schmid-Egger, 2005).

Genus *Oryttus* Spinola 1836

*Oryttus konradschmidtii* Schmid-Egger & Hauser, 2021

PREVIOUS RECORDS FROM TUNISIA. Medenine (Djerba, 7 km SW Houmt-Souk) (Schmid-Egger & Hauser, 2021: 443).

GENERAL DISTRIBUTION. Tunisia, United Arab Emirates (Schmid-Egger & Hauser, 2021).

Genus *Psammaecius* Lepeletier de Saint Fargeau, 1832

*Psammaecius eremorum* de Beaumont, 1952

(Figs 2g-i)

MATERIAL EXAMINED. **Tataouine**, Ghomrasen, Ghordhab, 33°5'6.4"N 10°29'46.2"E, 159 m, 4 ♀♀, 08.V.2018 (Ben Khedher Collection).

REMARK. This genus and species are newly recorded from Tunisia.

GENERAL DISTRIBUTION. Algeria, Egypt, Palestine (de Beaumont, 1952; Puławski, 2021), Tunisia (present study).

Genus *Sphecius* Dahlbom, 1843

*Sphecius claripennis* Morice, 1911

PREVIOUS RECORDS FROM TUNISIA. Kairouan (von Schulthess, 1926: 216; Roth, 1951: 93).

GENERAL DISTRIBUTION. North Africa (Puławski, 2021).

*Sphecius intermedius* Handlirsch, 1895

PREVIOUS RECORDS FROM TUNISIA. Gafsa (von Schulthess, 1926: 216).

GENERAL DISTRIBUTION. North Africa (Puławski, 2021).

*Sphecius schulthessi* Roth, 1951

PREVIOUS RECORDS FROM TUNISIA. Gafsa (Roth, 1951: 91).

GENERAL DISTRIBUTION. North Africa (Puławski, 2021).

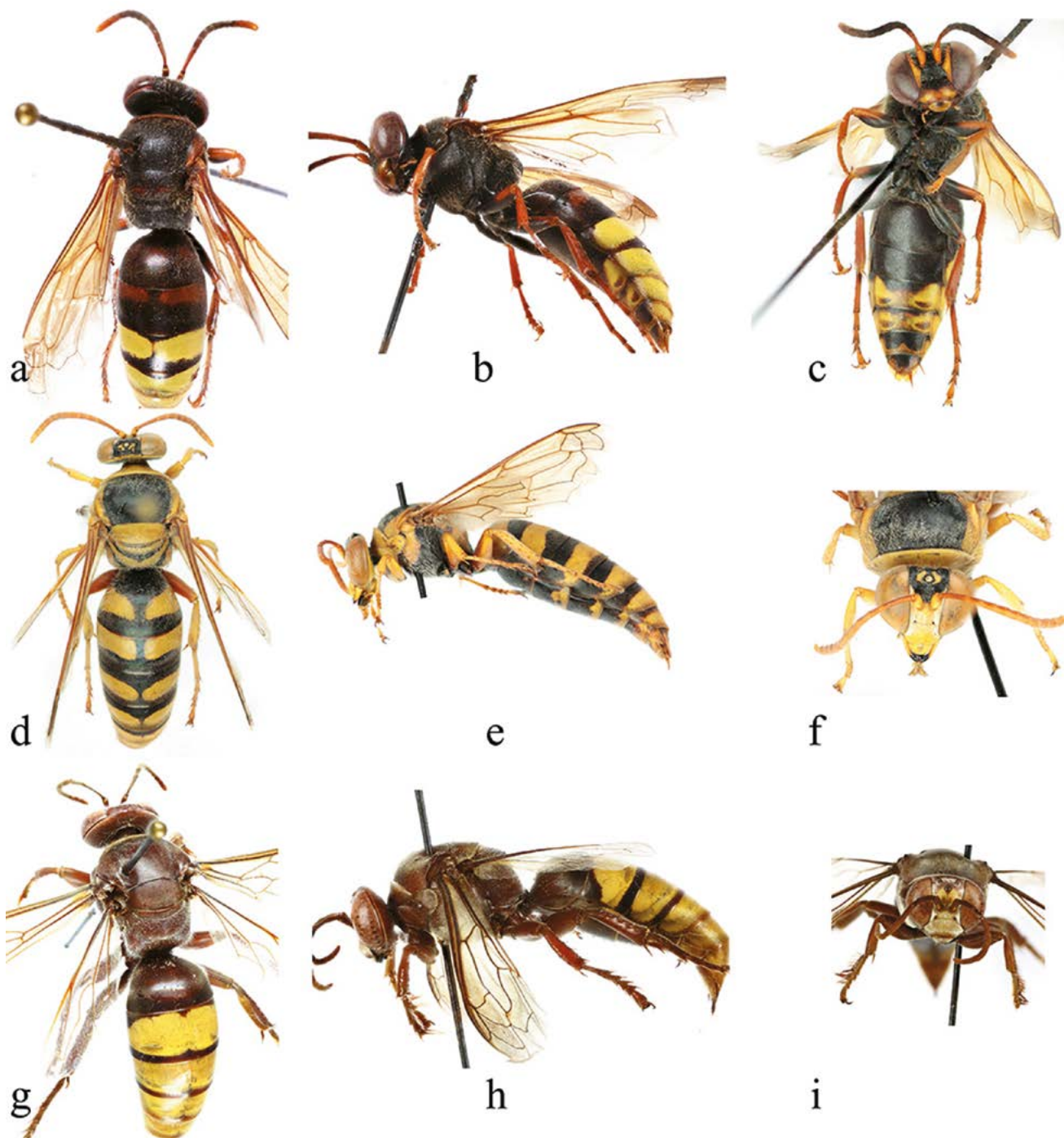


Fig. 4.– a-c. *Stizus niloticus saharae* (male: a. dorsal view; b. lateral view; c. frontal view); d-f. *Stizus pubescens arenarum* (male: d. dorsal view; e. lateral view; f. frontal view); g-i. *Stizus vespoidea* (female: g. dorsal view; h. lateral view; i. frontal view).

Fig. 4.– a-c. *Stizus niloticus saharae* (macho: a. vista dorsal; b. vista lateral; c. vista frontal); d-f. *Stizus pubescens arenarum* (macho: d. vista dorsal; e. vista lateral; f. vista frontal); g-i. *Stizus vespoidea* (hembra: g. vista dorsal; h. vista lateral; i. vista frontal).



Genus *Stizoides* Guérin-Méneville, 1844

*Stizoides crassicornis* (Fabricius, 1787)

PREVIOUS RECORDS FROM TUNISIA. Bizerte (Porto Farino) (Fabricius, 1787: 278 as *Tiphia crassicornis*).

GENERAL DISTRIBUTION. Mediterranean to Central Asia (Puławski, 2021).

*Stizoides klugii* (F. Smith, 1856)

MATERIAL EXAMINED. **Sfax**, 1 ♂ (Vachal Collection, MNHN).

REMARK. This species is newly recorded from Tunisia. The male from Sfax hosted in MNHN was identified by Ohl in 1996 as indicated in the label but the record was unpublished.

GENERAL DISTRIBUTION. Arabian Peninsula, Israel, North Africa from Algeria to Egypt and Chad (Puławski, 2021).

*Stizoides tridentatus* (Fabricius, 1775)

PREVIOUS RECORDS FROM TUNISIA. Tunisia: no specific locality (Smits van Burgst, 1913a: 319, 1913b: 5 as *Stizus tridentatus*), Jendouba (Ain Draham) (Morice, 1911: 119 as *Stizus tridentatus*), Kairouan (von Schulthess, 1926: 216 as *Stizus tridentatus*), Jendouba (Tabarka; beach 3 km E Tabarka; Ain Draham, 1 km S Kroumirie), Gabes (3 km SW Matmata, Dahar Mountains) (Ohl, 1999: 140).

GENERAL DISTRIBUTION. Mediterranean and Southwest Asia to Mongolia (Puławski, 2021).

*Stizoides verhoeffi* Bytinski-Salz, 1955

PREVIOUS RECORDS FROM TUNISIA. Tataouine (50 km S Tataouine) (Ohl, 1999: 145).

GENERAL DISTRIBUTION. North Africa, Israel (Puławski, 2021).

Genus *Stizus* Latreille, 1802

*Stizus fuscatus* Morice, 1897

MATERIAL EXAMINED. **Medenine**, Djerba, 1 ♂ (A. Weiss Collection, MNHN).

REMARK. This species is newly recorded from Tunisia.

GENERAL DISTRIBUTION. Arabian Peninsula, Egypt, Israel, Libya, Morocco (Puławski, 2021), Tunisia (present study).

*Stizus koenigi* F. Morawitz, 1888

PREVIOUS RECORDS FROM TUNISIA. Kairouan (von Schulthess, 1926: 216).

GENERAL DISTRIBUTION. Afghanistan, Iran, Kazakhstan, Libya, Tajikistan, Tunisia, Turkmenistan, Uzbekistan (Puławski, 2021).

*Stizus niloticus saharae* Roth, 1934

(Figs 4a-c)

MATERIAL EXAMINED. **Tataouine**, North Tataouine, Oued Tlelet, 33°2'41.8"N 10°28'24.0"E, 170 m, 1 ♂, 12.V.2018 (Ben Khedher Collection).

REMARK. This subspecies is newly recorded from Tunisia. Unlike the male described from Algeria, the Tunisian male has the dorsal area of propodeum not marked with ferruginous spots, and the mesopleuron is entirely black.

GENERAL DISTRIBUTION. Algeria, Egypt, Libya (Puławski, 2021), Tunisia (present study).

*Stizus pubescens arenarum* Handlirsch, 1892

(Figs 4d-f)

MATERIAL EXAMINED. **Ben Arous**, Hammam Lif, 1 ♀ (J. Pérez Collection, MNHN); **Mahdia**, Eljem, Achaba, 35°18'53.3"N 10°47'31.1"E, 101 m, 1 ♂, 02.VII.2019 (Ben Khedher Collection).

REMARK. This subspecies is newly recorded from Tunisia.

GENERAL DISTRIBUTION. Algeria, Libya, Morocco (Puławski, 2021), Tunisia (present study).

*Stizus ruficornis ruficornis* (J. Forster, 1771)

PREVIOUS RECORDS FROM TUNISIA. Tunisia: no specific locality (Smits van Burgst, 1913a: 319, 1913b: 5), Gafsa, Kairouan (von Schulthess, 1926: 216), Tunis (Graeffe, 1906: 455).

GENERAL DISTRIBUTION. Eastern Europe, Middle East, North to Central Africa (Puławski, 2021).

*Stizus ruficornis strigatus* Mochi, 1939

MATERIAL EXAMINED. **Tunis**, Around Tunis, 1 ♀ (M. Blanc Collection, MNHN).

REMARK. This subspecies is newly recorded from Tunisia.

GENERAL DISTRIBUTION. Egypt, Israel (Puławski, 2021), Tunisia (present study).

*Stizus tricolor* Handlirsch, 1892

PREVIOUS RECORDS FROM TUNISIA. Tozeur (Nefta) (von Schulthess, 1926: 216; Ben Khedher *et al.*, 2019: 188).

GENERAL DISTRIBUTION. North Africa, Cyprus, Iran, Israel, Sudan, Syria, Turkey, Yemen (Puławski, 2021).

*Stizus tunetanus* A. Costa, 1893

MATERIAL EXAMINED. **Ben Arous**, Hammam Lif, 1 ♂, 1 ♀ (J. Pérez Collection, MNHN); Tunisia, 1 ♂ (Vachal Collection, MNHN).

PREVIOUS RECORDS FROM TUNISIA. Tunisia: no specific locality (Costa, 1893a: 100; Handlirsch, 1895: 992; von Schulthess, 1926: 216).

GENERAL DISTRIBUTION. North Africa (Puławski, 2021).

*Stizus vespoides* (Walker, 1871)

(Figs 4g-i)

MATERIAL EXAMINED. **Tozeur**, Nefta, Nefta Corbeille, 33°51'0.0"N 7°51'52.4"E, 25 m, 1 ♀, 28.VI.2018 (Ben Khedher Collection).

REMARK. This species is newly recorded from Tunisia.

GENERAL DISTRIBUTION. Algeria, Arabian Peninsula, Chad, Egypt, Eritrea, Israel, Libya, Morocco, Niger, Palestine, Somalia, Sudan (Puławski, 2021), Tunisia (present study).

## Discussion

In this study, 49 species and two subspecies of the family Bembicidae are listed in Tunisia (Table 1). The genus *Bembix* is the most diversified with 12 species and two subspecies. Of these, eight genera (*Argogorytes*, *Brachystegus*, *Gorytes*, *Harpactus*, *Nysson*, *Olgia*, *Oryttus* and *Psammaecius*) have only one species. Two genera: *Psammaecius* and *Brachystegus* are newly recorded from Tunisia. All collected localities of *P. eremorum* are Saharan. Consequently, this new record confirms the qualification of *P. eremorum* as a Saharan species by de Beaumont (1952). *Brachystegus* is represented in Tunisia by one species, *B. braueri*. This species is distributed only in North Africa (Algeria, Morocco and Tunisia) and in Palestine.

Additionally, *Alysson ratzeburgi*, *Stizoides klugii*, *Stizus fuscatus*, *Stizus niloticus saharae*, *Stizus pubescens arenarum*, *Stizus ruficornis strigatus* and *Stizus vespoides* are new for the Tunisian fauna.

Table 1.– List of species and subspecies of Bembicidae in Tunisia (\*: New record).

Tabla 1.– Lista de especies y subespecies de Bembicidae en Túnez (\*: Nuevo registro).

Genus	Species / subspecies
<i>Alysson</i> Panzer, 1806	<i>A. picteti</i> Handlirsch, 1895 <i>A. ratzeburgi</i> * Dahlbom, 1843
<i>Ammatomus</i> A. Costa, 1859	<i>A. asiaticus</i> (Radoszkowski, 1886) <i>A. mesostenus</i> (Handlirsch, 1888)
<i>Argogorytes</i> Ashmead, 1899	<i>A. fairmairei</i> (Handlirsch, 1893)
<i>Bembecinus</i> A. Costa, 1859	<i>B. bernardi</i> de Beaumont, 1954 <i>B. discolor</i> (Handlirsch, 1892) <i>B. fertoni</i> (Handlirsch, 1908) <i>B. gazagnairei</i> (Handlirsch, 1892) <i>B. mattheyi</i> (de Beaumont, 1951) <i>B. mayri</i> (Handlirsch, 1892) <i>B. tridens</i> (Fabricius, 1781)
<i>Bembix</i> Fabricius, 1775	<i>B. arenaria</i> Handlirsch, 1893 <i>B. barbara</i> Handlirsch, 1893 <i>B. chlorotica</i> Spinola, 1839 <i>B. dahlbomii</i> Handlirsch, 1893 <i>B. flavescens bolivari</i> (Handlirsch, 1893) <i>B. flavescens kittyae</i> de Beaumont, 1957 <i>B. galactina</i> Dufour, 1854 <i>B. integra</i> Panzer, 1801 <i>B. lusca</i> Spinola, 1839 <i>B. oculata</i> Panzer, 1801 <i>B. olivacea</i> Fabricius, 1787 <i>B. palaestinensis</i> (Lohrmann, 1942) <i>B. rochei</i> Guichard, 1989 <i>B. rostrata</i> (Linnaeus, 1758)
<i>Brachystegus</i> * A. Costa, 1859	<i>B. braueri</i> * (Handlirsch, 1887)
<i>Gorytes</i> Latreille, 1805	<i>G. quinquecinctus</i> (Fabricius, 1793)
<i>Harpactus</i> Shuckard, 1837	<i>H. laevis</i> (Latreille, 1792)
<i>Hoplisooides</i> Gribodo, 1884	<i>H. punctuosus curtulus</i> (A. Costa, 1893) <i>H. gazagnairei</i> Handlirsch, 1893
<i>Nysson</i> Latreille, 1802	<i>N. schmiedeknechtii</i> Handlirsch, 1900
<i>Olgia</i> Radoszkowski, 1877	<i>O. bensoni</i> (de Beaumont, 1950)
<i>Oryttus</i> Spinola 1836	<i>O. konradshmidtii</i> Schmid-Egger & Hauser, 2021
<i>Psammaecius</i> * Lepeletier de Saint Fargeau, 1832	<i>P. eremorum</i> * de Beaumont, 1952
<i>Sphecius</i> Dahlbom, 1843	<i>S. claripennis</i> Morice, 1911 <i>S. intermedius</i> Handlirsch, 1895 <i>S. schulthessi</i> Roth, 1951
<i>Stizoides</i> Guérin-Méneville, 1844	<i>S. crassicornis</i> (Fabricius, 1787) <i>S. klugii</i> * (F. Smith, 1856) <i>S. tridentatus</i> (Fabricius, 1775) <i>S. verhoeffi</i> Bytinski-Salz, 1955
<i>Stizus</i> Latreille, 1802	<i>S. fuscatus</i> * Morice, 1897 <i>S. koenigi</i> F. Morawitz, 1888 <i>S. niloticus saharae</i> * Roth, 1934 <i>S. pubescens arenarum</i> * Handlirsch, 1892 <i>S. ruficornis strigatus</i> * Mochi, 1939 <i>S. ruficornis ruficornis</i> (J. Forster, 1771) <i>S. tricolor</i> Handlirsch, 1892 <i>S. tunetanus</i> A. Costa, 1893 <i>S. vespooides</i> * (Walker, 1871)
<b>Total</b>	<b>49 species and 2 subspecies</b>

The species *A. ratzeburgi* was known only from Algeria (Morice, 1911), and the new data extends its distribution to Tunisia. *Stizus niloticus saharae* and *S. pubescens arenarum* have a North African distribution, whereas the remaining species extend to Africa, Israel and the Arabian Peninsula.

The presence of *Stizus tunetanus*, *Bembix palaestinensis* and *Hoplisooides punctuosus curtulus*

in Tunisia was also confirmed in this study. Moreover, we provide new records for other previously recorded Bembicidae species from Tunisia. This study improves our knowledge of the Tunisian Bembicidae fauna with the first checklist of the family in the country, but further investigations are needed to provide new records for the country and new species for science.

## Acknowledgements

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## References

- Ben Khedher, H., Yildirim, E., Braham, M. & Ben Chaaban, S., 2019. Checklist and newly recorded Crabronid wasps (Hymenoptera: Crabronidae) for the fauna of Tozeur Province, Tunisia. In: Simsek, H. (ed.). *Proceedings of the 6<sup>th</sup> International Conference on Sustainable Agriculture and Environment (ICSAE-6)*, 2019, October 3-5, Konya, Turkey, Selcuk University: 187–195.
- Ben Khedher, H., Yildirim, E., Braham, M. & Ljubomirov, T., 2020a. First checklist of Tunisian sphecid wasps (Hymenoptera: Sphecidae) with new and additional records. *Zootaxa*, 4801(2): 301-327. <https://doi.org/10.11646/zootaxa.4801.2.6>
- Ben Khedher, H., Yildirim, E., Braham, M. & Ljubomirov, T., 2020b. Description of the previously unknown male of *Parapsammophila errabunda* (Kohl, 1901) (Hymenoptera: Sphecidae) from Tunisia. *Journal of Insect Biodiversity*, 20(1): 011-016. <https://doi.org/10.12976/jib/2020.20.1.2>
- Ben Khedher, H., Yildirim, E. & Braham, M., 2020c. Contribution to the knowledge of the Crabronidae (Hymenoptera: Apoidea) fauna of Tunisia. Part 1: Astatinae, Crabroninae and Pemphredoninae. *Munis Entomology & Zoology*, 15(1): 100-110.
- Ben Khedher, H., Yildirim, E. & Braham, M., 2020d. First checklist of *Tachysphex* Kohl, 1883 (Hymenoptera: Crabronidae) of Tunisia with new distributional data. *Journal of the Entomological Research Society*, 22(3): 307-323.
- Ben Khedher, H., Yildirim, E. & Braham, M., 2020e. Checklist of Tunisian *Cerceris* Latreille, 1802 (Hymenoptera: Crabronidae: Philanthinae) with new country and provincial records. *Oriental Insects*, 55(4): 529-551. <https://doi.org/10.1080/00305316.2020.1844097>
- Ben Khedher, H., Yildirim, E. & Braham, M., 2021a. New data on the Crabronidae fauna (Hymenoptera: Apoidea) of Tunisia. *Arxius de Miscel.lània Zoològica*, 19: 53-64. <https://doi.org/10.32800/amz.2021.19.0053>
- Ben Khedher, H., Yildirim, E. & Braham, M., 2021b. A checklist of Philanthini and Pseudoscoliini (Hymenoptera: Crabronidae) with new records from Tunisia. *Transactions of the American Entomological Society*, 147(1): 1-10. <https://doi.org/10.3157/061.147.0101>
- Bitsch, J., Barbier, Y., Gayubo, S.F., Schmidt, K. & Ohl, M., 1997. *Faune de France. France et régions limitrophes*. 82. *Hyménoptères Sphecidae d'Europe Occidentale. Vol. 2.* Fédération Française des Sociétés de Sciences Naturelles, Paris, 429 pp.
- Bohart, R.M. & Menke, A.S., 1976. *Sphecid Wasps of the World: a generic revision*. University of California Press, Berkeley, USA, 695 pp.
- Costa, A., 1893a. Miscellanea entomologica. Memoria quarta. *Rendiconti della Reale Accademia delle Scienze Fisiche e Matematiche di Napoli*, 7: 99-102.
- Costa, A., 1893b. Miscellanea entomologica. Memoria quarta. *Atti della Reale Accademia Scienze Fisiche e Matematiche di Napoli*, 14: 1-30.
- de Beaumont, J., 1951. Hyménoptères récoltés par une mission Suisse au Maroc (1947). Sphecidae 1. *Bulletin de la Société des Sciences Naturelles et Physiques du Maroc*, 29: 259-284.
- de Beaumont, J., 1952. Les *Hoplisoides* et les *Psammaecius* de la région paléarctique (Hym. Sphecid.). *Mitteilungen der Schweizerischen Entomologischen Gesellschaft*, 25: 211-238.
- de Beaumont, J., 1953. Les *Gorytes* s.s. (= *Hoplisus*) de la région paléarctique (Hym. Sphecid.). *Mitteilungen der Schweizerischen Entomologischen Gesellschaft*, 26: 161-200.
- de Beaumont, J., 1954. Les *Bembecinus* de la région paléarctique (Hym. Sphecid.). *Mitteilungen der Schweizerischen Entomologischen Gesellschaft*, 27: 241-276.
- de Beaumont, J. & Bytinski-Salz, H., 1955. The Sphecidae (Hymen.) of Eretz Israel. I. (Subfam.: Sphecinae, Nyssoninae; trib.: Bembicini, Stizini). *The Bulletin of the Research Council of Israel. Section B: Zoology*, 5: 32-60.
- Fabricius, C.H., 1787. *Mantissa Insectorum sistens eorum species nuper detectas adiectis characteribus genericis, differentiis specificis, emendationibus, observationibus, Vol. 1.* Christian Gottlop Proft, Hafniae, 348 pp.
- Graeffe, E., 1906. Beitrage zur Insektenfauna von Tunis. *Verhandlungen der kaiserlich-königlichen Zoologisch-Botanischen Gesellschaft in Wien*, 56: 446-470.
- 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.
- Handlirsch, A., 1893. Monographie der mit *Nysson* und *Bembex* verwandten Grabwespen. VII. (Schluss). *Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Classe. Abtheilung I*, 102: 657-942.
- Handlirsch, A., 1895. Nachträge und Schlusswort zur Monographie der mit *Nysson* und *Bembex* verwandten Grabwespen. *Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Classe. Abtheilung I*, 104: 801-1079.
- Handlirsch, A., 1900. Ein neuer *Nysson* aus Nordafrika. *Verhandlungen der kaiserlich-königlichen Zoologisch-Botanischen Gesellschaft in Wien*, 50: 509-510.



- Mokrousov, M.V., Proshchalykin, M.Yu. & Maharramov, M.M., 2020. Digger wasps of the genus *Hoplisoides* Gribodo (Hymenoptera, Crabronidae, Bembicinae) from the Palaearctic region, with description of two new species. *Journal of Hymenoptera Research*, 79: 213-233. <https://doi.org/10.3897/jhr.79.56839>
- Morice, F.D., 1911. Hymenoptera Aculeata collected in Algeria. The Sphegidae. *The Transactions of the Entomological Society of London*, 1911: 62-135.
- Nemkov, P.G., 2017. Zoogeography of Palaearctic digger wasps of the subfamily Bembicinae (Hymenoptera). *A. I. Kurentsov's Annual Memorial Meetings*, 27: 54-66.
- 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.
- Puławski, W.J., 2021. *Catalog of Sphecidae*. San Francisco, CA: California Academy of Sciences, California. <https://www.calacademy.org/scientists/projects/catalog-of-sphecidae> [accessed 10 May 2021].
- Roth, P., 1951. Les *Sphecius* paléarctiques (Hym., Sphegidae). *Annales de la Société Entomologique de France*, 118: 79-94.
- Sann, M., Niehuis, O., Peters, R.S., Mayer, C., Kozlov, A., Podsiadlowski, L., Bank, S., Meusemann, K., Misof, B., Bleidorn, C. & Ohl, M., 2018. Phylogenomic analysis of Apoidea sheds new light on the sister group of bees. *BMC Evolutionary Biology*, 18: 71. <https://doi.org/10.1186/s12862-018-1155-8>
- Sann, M., Meusemann, K., Niehuis, O., Escalona, H.E., Mokrousov, V., Ohl, M., Pauli, T. & Schmid-Egger, C., 2021. Reanalysis of the apoid wasp phylogeny with additional taxa and sequence data confirms the placement of Ammoplanidae as sister to bees. *Systematic Entomology*, 46(3): 558-569. <https://doi.org/10.1111/syen.12475>
- Schmid-Egger, C., 2004. Revision of *Bembecinus* (Hymenoptera: Crabronidae) of the Palaearctic Region. *Notes fauniques de Gembloux*, 54: 3-69.
- Schmid-Egger, C., 2005. The genus *Olgia* Radoszkowski 1877 with description of a new species (Hymenoptera, Crabronidae, Bembicinae). *Linzer Biologische Beiträge*, 37: 1545-1553.
- Schmid-Egger, C., 2009. New records of *Bembecinus* Costa 1859 (Hymenoptera, Crabronidae) from the Palaearctic region with description of a new species from Yemen. *Linzer Biologische Beiträge*, 41(1): 759-766.
- Schmid-Egger, C., 2019. Review of the genus *Ammatomus* A. Costa, 1859 (Hymenoptera, Crabronidae) from the Palaearctic region with description of four new species. *Linzer Biologische Beiträge*, 51(1): 437-457.
- Schmid-Egger, C. & Hauser, M., 2021. A new species of *Oryttus* Spinola, 1836 from the United Arab Emirates and Tunisia, with identification key to Palaearctic species (Hymenoptera, Crabronidae). *Zootaxa*, 4908(3): 441-450. <https://doi.org/10.11646/zootaxa.4908.3.9>
- Schmiedeknecht, O., 1900. Neue Hymenopteren aus Nord-Africa. *Természetrázi Füzetek*, 23: 220-247.
- Schulz, W.A., 1905. *Hymenopteren-Studien*. Wilhelm Engelmann. Leipzig. 147 pp.
- Smits van Bürgst, C.A.L., 1913a. Hymenoptera uit Tunesië. *Entomologische Berichten*, 3: 314-323.
- Smits van Bürgst, C.A.L., 1913b. *Tunisian Hymenoptera*. The Hague. 37 pp.
- von Schulthess, A., 1926. Contribution à la connaissance de la faune des Hyménoptères de l'Afrique du Nord. Deuxième Partie- (Fossores) (en collaboration avec P. Roth). *Bulletin de la Société d'Histoire Naturelle de l'Afrique du Nord*, 17: 206-220.