

New records of Crabronidae fauna (Hymenoptera, Apoidea) of Tunisia

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Abstract

New records of Crabronidae fauna (Hymenoptera, Apoidea) of Tunisia. This study contributes to the knowledge of Crabronidae fauna in Tunisia based on specimens collected between 2017 and 2019. Thirty-three species and subspecies belonging to 14 genera representing three subfamilies, Astatinae, Crabroninae and Pemphredoninae, are identified. Fifteen species are new records for the Tunisian insect fauna: *Astata apostata* Mercet, 1910; *A. gallica* de Beaumont, 1942; *Dryudella pulawskii* Schmid–Egger, 2014; *Prosopigastra nuda* (Nurse, 1903); *P. punctatissima africana* de Beaumont, 1955; *Tachytes niloticus* R. Turner, 1918; *Liris agilis* (F. Smith, 1856); *L. cleopatra* de Beaumont, 1961; *Miscophus papyrus* de Andrade, 1954; *Solierella andradei* de Beaumont, 1957; *S. insidiosa* de Beaumont, 1964; *Palarus parvulus* de Beaumont, 1949; *Trypoxylon deceptorium* Antropov, 1991; *Diodontus insidiosus* Spooner 1938; and *Mimumesa unicolor* (Vander Linden, 1829). Except for *Ectemnius confinis* (Walker, 1871), all the identified species have new provincial records. Geographical distribution in Tunisia and the world is given.

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Key words: Digger wasps, Distribution, New records, Tunisia

Resumen

Nuevos registros de fauna de Crabronidae (Hymenoptera, Apoidea) de Túnez. Este trabajo contribuye al conocimiento de la fauna de Crabronidae presente en Túnez a partir de especímenes recolectados entre los años 2017–2019. Se identificaron 33 especies y subspecies pertenecientes a 14 géneros de tres subfamilias: Astatinae, Crabroninae y Pemphredoninae. Quince especies son nuevos registros para la fauna de insectos de Túnez: *Astata apostata* Mercet, 1910; *A. gallica* de Beaumont, 1942; *Dryudella pulawskii* Schmid–Egger, 2014; *Prosopigastra nuda* (Nurse, 1903); *P. punctatissima africana* de Beaumont, 1955; *Tachytes niloticus* R. Turner, 1918; *Liris agilis* (F. Smith, 1856); *L. cleopatra* de Beaumont, 1961; *Miscophus papyrus* de Andrade, 1954; *Solierella andradei* de Beaumont, 1957; *S. insidiosa* de Beaumont, 1964; *Palarus parvulus* de Beaumont, 1949; *Trypoxylon deceptorium* Antropov, 1991; *Diodontus insidiosus* Spooner 1938; y *Mimumesa unicolor*

(Vander Linden, 1829). Excepto *Ectemnius confinis* (Walker, 1871), todas las especies identificadas son nuevos registros provinciales. Se establece la distribución geográfica de cada una de las especies en Túnez y en el mundo.

Datos publicados en [GBIF](#) (Doi: [10.15470/u8hlo0](#))

Palabras clave: Avispas de la arena, Distribución, Nuevos registros, Túnez

Resum

Nous registres de fauna de Crabronidae (Hymenoptera, Apoidea) de Tunísia. Aquest treball contribueix al coneixement de la fauna de Crabronidae present a Tunísia a partir d'espècimens recol·lectats entre els anys 2017–2019. Es van identificar 33 espècies i subespècies pertanyents a 14 gèneres de tres subfamílies: Astatinae, Crabroninae i Pemphredoninae. Quinze espècies són nous registres per a la fauna d'insectes de Tunísia: *Astata apostata* Mercet, 1910; *A. gallica* de Beaumont, 1942; *Dryudella pulawskii* Schmid–Egger, 2014; *Prosopigastra nuda* (Nurse, 1903); *P. punctatissima africana* de Beaumont, 1955; *Tachytes niloticus* R. Turner, 1918; *Liris agilis* (F. Smith, 1856); *L. cleopatra* de Beaumont, 1961; *Miscophus papyrus* de Andrade, 1954; *Solierella andradei* de Beaumont, 1957; *S. insidiosa* de Beaumont, 1964; *Palarus parvulus* de Beaumont, 1949; *Trypoxylon deceptorium* Antropov, 1991; *Diodontus insidiosus* Spooner 1938; i *Mimumesa unicolor* (Vander Linden, 1829). Excepte *Ectemnius confinis* (Walker, 1871), totes les espècies identificades són nous registres provincials. S'estableix la distribució geogràfica de cadascuna de les espècies a Tunísia i al món.

Dades publicades a [GBIF](#) (Doi: [10.15470/u8hlo0](#))

Paraules clau: Vespes de la sorra, Distribució, Nous registres, Tunísia

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Introduction

Faunal and systematic studies are necessary for adequate measures to be taken to protect biodiversity and maintain the equilibrium of the ecosystem (Renner and Ricklefs, 1994). However, studies on insects from Tunisia, including Spheciforms wasps, are scarce. According to Brothers (1999) and Melo (1999), the systematic and taxonomic position of this group of insects includes four families: Ampulicidae, Crabronidae, Heterogynaidae and Sphecidae. Several studies from around the world have focused on Crabronidae and studies dealing with Spheciformes in Tunisia were recently performed by Ben Khedher et al. (2019, 2020a, 2020b, 2020c, 2020d, 2020e, 2020f) and Mokrousov and Ben Khedher (2020). These contributions have considerably improved the knowledge of Tunisian fauna. Ben Khedher et al. (2020a) identified 22 species of the family Crabronidae Latreille, 1802 from Tunisia. A completed checklists for the family Sphecidae Latreille, 1802 and for the

genera *Cerceris* Latreille, 1802 and *Tachysphex* Kohl, 1883 and for tribes Philanthini Latreille, 1802 and Pseudoscoliini Menke, 1967 have been established, listing 143 species and subspecies and reporting 11 new records for the country (Ben Khedher et al., 2020b, 2020c, 2020d, 2020e). The present study is a continuation of these publications and further contributes to knowledge of the Crabronidae fauna in Tunisia.

Material and methods

The present study is based on specimens collected from Tunisia using entomological nets between 2017 and 2019. Diverse identification keys, such as Pulawski (1959, 1962, 1979), Pulawski and Prentice (2008) and Schmid–Egger (2014), were used to identify specimens. Records published in Tunisia and distribution in the world are given for each species. Classification and general distribution mainly follow Pulawski (2020). Identified species are deposited in the collection Ben Khedher in the Regional Research Centre on Horticulture and Organic Agriculture at Chott Meriem (CRRHAB Chott Meriem, Sousse, Tunisia).

Results

Subfamily: Astatinae Lapeletier de Saint Fargeau, 1845

Tribe: Astatini Lapeletier de Saint Fargeau, 1845

Astata Latreille, 1796

Astata apostata Mercet, 1910

Material examined: Mahdia: Sidi Alouane, Saada, 35° 22' 0.2" N, 10° 49' 52.1" E, 74 m, 18/06/2019, ♀.

Comment: this species is new for the Tunisian fauna.

General distribution: North Africa, Eastern Europe, Southern Europe, Western Europe, Iran, Kazakhstan, Russia, Turkey (Antropov et al., 2017).

Astata boops (Schrank, 1781)

Material examined: Mahdia: Sidi Alouane, Ghlalba, 35° 22' 49.6" N, 10° 49' 50.6" E, 48 m, 19/06/2019, ♀.

Distribution in Tunisia: Tunis (Costa, 1893; Graeffe, 1906); Kairouan, Tunis (von Schulthess, 1926).

General distribution: Russia, Europe, North Africa, Abkhazia, Turkey, Israel, Yemen, Iran, Afghanistan, Turkmenistan, Tajikistan, Uzbekistan, Kazakhstan, Mongolia, China, Korean Peninsula, India (Antropov et al., 2017), Kuwait, Saudi Arabia (Gadallah, 2020).

Astata gallica de Beaumont, 1942

Material examined: Mahdia: Sidi Alouane, Oued Beja, Khdhara, 35° 19' 52.2" N, 10° 53' 16.9" E, 54 m, 12/06/2017, ♀.

Comment: this species is new for the Tunisian fauna.

General distribution: Czech Republic, France, Italy, Morocco, Portugal, Slovakia, Spain, Turkey (Pulawski, 2020).

Dryudella Spinola, 1843

Dryudella beaumonti (Pulawski, 1959)

Material examined: Mahdia: Sidi Alouane, Ghlalba, 35° 22' 49.6" N, 10° 49' 50.6" E, 48 m, 19/06/2019, 2 ♂♂; Sousse: Akouda, Chott Meriem, 35° 55' 4.2" N, 10° 33' 57.9" E, 17 m, 12/06/2018, 5 ♂♂.

Distribution in Tunisia: Kairouan (Pulawski, 1959).

General distribution: North Africa (Pulawski, 2020).

Dryudella bifasciata (von Schulthess, 1926)

Material examined: Kebili: South Kebili, Errahmat, 33° 39' 1.8" N, 08° 58' 27.4" E, 30 m, 17/05/2018, ♂; Tataouine: Ghomrasen, Ghordhab, 33° 05' 6.4" N, 10° 29' 46.2" E, 159 m, 08/05/2018, 7 ♂♂, ♀.

Distribution in Tunisia: Kairouan (von Schulthess, 1926).

General distribution: Arabian Peninsula (Kuwait, United Arab Emirates), Canary Islands, Israel, Jordan, North Africa, Spain (Gadallah, 2020).

Dryudella pulawskii Schmid–Egger, 2014

Material examined: Mahdia: Sidi Alouane, Chammar, 35° 18' 34.3" N, 10° 53' 31.6" E, 65 m, 05/05/2018, 2 ♀♀.

Comment: this species is new for the Tunisian fauna.

General distribution: United Arab Emirates (Schmid–Egger, 2014).

Subfamily: Crabroninae Latreille, 1802

Tribe: Crabronini Latreille, 1802

Subtribe: Crabronina Latreille, 1802

Ectemnius Dahlbom, 1845

Ectemnius confinis (Walker, 1871)

Material examined: Kebili: Douz, West Douz, 33° 27' 4.1" N, 9° 1' 4.5" E, 63 m, 19/05/2018, ♀.

Distribution in Tunisia: Kebili (Dollfuss, 2004); Tunis (Gribodo, 1896).

General distribution: Afghanistan, China, Europe, India, Japan, Jordan, Kazakhstan, Korean Peninsula, North Africa, Middle Asia, Pakistan, Palestine, Russia, Turkey (Pulawski, 2020).

Ectemnius continuus (Fabricius, 1804)

Material examined: Monastir: Bakalta, Hamedet Younes, 35° 37' 39.5" N, 11° 0' 11.2" E, 13 m, 27/07/2017, ♂.

Distribution in Tunisia: Tunis (Graeffe, 1906; Leclercq, 1993); Tunisia: 'no specific locality' (Costa, 1893).

General distribution: Russia, Europe, North Africa, Georgia, Azerbaijan, Turkey, Syria, Jordan, Israel, Iran, Iraq, Central Asia, Kazakhstan, Mongolia, China, Korean Peninsula, Japan, North America, Cuba, Guatemala, Venezuela (Antropov et al., 2017).

Tribe: Larrini Latreille, 1810

Subtribe: Gastrosericina André, 1886

***Gastrosericus* Spinola, 1839**

***Gastrosericus moricei* E. Saunders, 1910**

Material examined: Kasserine: Sbeitla, Athar, Oued Nakhil, 35° 14' 41.6" N, 9° 5' 40.5"E, 562 m, 04/09/2018, ♀; Tozeur: Dguech, Elmanechi, 33° 58' 41.5" N, 8° 12' 33.1" E, 63 m, 29/06/2018, 3 ♂♂, ♀, Nefta, Nefta Corbeille, 33° 51' 0.0" N, 7° 51' 52.4" E, 25 m, 28/06/2018, ♀.

Distribution in Tunisia: Jendouba, Medenine, Tozeur (Pulawski, 1995).

General distribution: Arabian Peninsula (Oman, Saudi Arabia, United Arab Emirates, Yemen), Burkina Faso, Gambia, India, Israel, Kazakhstan, Mali, Niger, North Africa, Pakistan, Senegal, Somalia, Sri Lanka, Sudan, Tajikistan, Thailand, Togo (Gadallah, 2020), Iran (Ghaderipour et al., 2020).

***Gastrosericus waltlii* Spinola, 1839**

Material examined: Kairouan: South Kairouan, Ragada, 35° 34' 46.2" N, 10° 3' 6.1"E, 92 m, 27/08/2018, ♂, ♀; Kasserine: Sbeitla, Athar, CFPA, 35° 13' 18.7" N, 9° 5' 26.8" E, 560 m, 03/09/2018, ♂; Kebili: South Kebili, Errahmat, 33° 39' 1.8" N, 8° 58' 27.4" E, 30 m, 18/05/2018, 2 ♂♂; Mahdia: Eljem, Achaba, 35° 18' 53.3" N, 10° 47' 31.1" E, 101 m, 02/07/2019, ♀, Aouled Lahmar, 35° 19' 59" N, 10° 47' 18.9" E, 99 m, 27/08/2019, ♀, Athamnia, 35° 20' 20.5" N, 10° 46' 54.3" E, 70 m, 22/07/2019 ♂, ♀, Ksour Essef, Alya, 35° 19' 26.5" N, 11° 2' 32.6" E, 1 m, 3/08/2018, 2 ♀♀, Route Ksour Essef – Sidi Alouane, 35° 23' 54.9" N, 10° 58' 23.5" E, 33 m, 01/07/2019, ♂, Rejjich, 35° 26' 35.8" N, 11° 0' 51.4" E, 3 m, 18/09/2018, ♂, Sidi Alouane, Sidi Alouane, Zelba, 35° 13' 48.8" N, 10° 51' 30.1" E, 49 m, 11/08/2018, ♂; Sidi Bouzid: Aouled Hafouz centre, 35° 5' 7.4" N, 9° 53' 55.2" E, 207 m, 26/07/2018, ♂, East Sidi Bouzid, Elhachria, 34° 53' 56.2" N, 9° 26' 11.6" E, 326 m, 24/07/2018, ♀, West Sidi Bouzid, Elnouamer, 35° 1' 27.1" N, 9° 29' 39.9" E, 333 m, 23/07/2018, 5 ♂♂, Zaafrira, 35° 1' 39.8" N, 9° 17' 18.3" E, 394 m, 25/07/2018, 6 ♂♂, 2 ♀♀, Rgueb, Aouled Ayouni, 34° 49' 14.5" N, 9° 51' 7.7" E, 142 m, 18/08/2017, ♂; Tozeur: Dguech, Elmanechi, 33° 58' 41.5" N, 8° 12' 33.1" E, 63 m, 29/06/2018, ♀, Tozeur centre, Elberka oasis, 33° 55' 1.0" N, 8° 8' 23.3" E, 45 m, 26/06/2018, ♀.

Distribution in Tunisia: Gafsa, Kairouan, Kebili, Medenine, Sousse, Tunis, Tozeur (Pulawski, 1995).

General distribution: Angola, Arabian Peninsula (Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates, Yemen), Armenia, Chad, China, Cyprus, Eritrea, Ghana, Greece, India, Iraq, Iran, Israel, Ivory Coast, Jordan, Kazakhstan, Kenya, Malawi, Mali, Mongolia, Namibia, Pakistan, Russia, Senegal, Sri Lanka, Sudan, Syria, Tanzania, Tajikistan, Turkey, Turkmenistan, Zimbabwe (Gadallah, 2020).

***Prosopigastra* A. Costa, 1867**

***Prosopigastra nuda* (Nurse, 1903)**

Material examined: Kebili: Douz, Douz centre, 33° 27' 19.1" N, 9° 1' 27.3" E, 70 m, 19/05/2018, ♂.

Comment: this species is new for the Tunisian fauna.

General distribution: Egypt, India, Oman (Gadallah, 2020).

Prosopigastra punctatissima africana de Beaumont, 1955

Material examined: Mahdia: Sidi Alouane, Zelba, 35° 13' 48.8" N, 10° 51' 30.1" E, 49 m, 17/06/2019, ♀, 23/07/2019, ♀, Saguiet Khadem, 35° 22' 36.2" N, 10° 52' 30.9" E, 53 m, 24/07/2019, ♂.

Comment: this subspecies is new for the Tunisian fauna.

General distribution: North Africa (Pulawski, 2020).

Prosopigastra zalinda de Beaumont, 1955

Material examined: Tataouine: North Tataouine, Oued Tlelet, 33° 2' 41.8" N, 10° 28' 24.0" E, 170 m, 12/05/2018, ♀, Route Tataouine–Medenine km 33, 33° 4' 12.2" N, 10° 29' 6.0" E, 163 m, 11/05/2018, ♂.

Distribution in Tunisia: Tunisia: 'no specific locality' (Pulawski, 1979).

General distribution: Russia, Eastern Europe, Western Europe, Southern Europe, North Africa, Turkey, Israel, Kazakhstan, Mongolia (Antropov et al., 2017).

***Tachytes* Panzer, 1806**

Tachytes freygessneri Kohl, 1881

Material examined: Beja: Mjedz Elbeb, South Mjedz Elbeb, 36° 38' 14.7" N, 9° 35' 54.3" E, 53 m, 15/08/2018, ♂; Kairouan: South Kairouan, Ragada, 35° 34' 46.2" N, 10° 3' 6.1" E, 92 m, 27/08/2018, ♂; Mahdia: Eljem, Athamnia, 35° 20' 20.5" N, 10° 46' 54.3" E, 70 m, 22/07/2019, ♂, Ksour Essef, Alya, 35° 19' 26.5" N, 11° 2' 32.6" E, 1 m, 03/08/2018, ♂, Rejich, 35° 26' 35.8" N, 11° 0' 51.4" E, 3 m, 18/09/2018, 4 ♂♂, ♀, Sidi Alouane, Zelba, 35° 13' 48.8" N, 10° 51' 30.1" E, 49 m, 17/07/2019, 4 ♂♂; Tataouine: North Tataouine, Oued Tlelet, 33° 2' 41.8" N, 10° 28' 24.0" E, 170 m, 12/05/2018, 2 ♀♀, Route Tataouine–Medenine km 33, 33° 4' 12.2" N, 10° 29' 6.0" E, 163 m, 10/05/2018, ♀; Tozeur: Chbika, centre, 34° 19' 23.8" N, 7° 56' 20.7" E, 175 m, 27/06/2018, ♀, Dguech, Elmanechi, 33° 58' 41.5" N, 8° 12' 33.1" E, 63 m, 29/06/2018, ♀.

Distribution in Tunisia: Gafsa, Sfax, Tozeur (von Schulthess, 1926); Tunisia: 'no specific locality' (Costa, 1893).

General distribution: Europe, Iran, Iraq, Kazakhstan, North Africa, Russia, Tajikistan, Turkey, Uzbekistan (Pulawski, 2020).

Tachytes maculicornis E. Saunders, 1910

Material examined: Mahdia: Sidi Alouane, Saada, 35° 22' 0.2" N, 10° 49' 52.1" E, 74 m, 04/09/2019, ♀; Tozeur: Nefta, Nefta oasis, 33° 52' 39.1" N, 7° 52' 34.9" E, 56 m, 28/06/2018, ♂, ♀.

Distribution in Tunisia: Kairouan (von Schulthess, 1926; Pulawski, 1962).

General distribution: Algeria, Egypt, Libya, Morocco, Tunisia (Pulawski, 2020).

Tachytes niloticus R. Turner, 1918

Material examined: Mahdia: Rejich, 35° 26' 35.8" N, 11° 0' 51.4" E, 3 m, 18/09/2018, ♀; Tozeur: Tozeur centre, Elberka oasis, 33° 55' 1.0" N, 8° 8' 23.3" E, 45 m, 26/06/2018, ♀.

Comment: this species is new to the Tunisian fauna.

General distribution: Arabian Peninsula (Oman, Saudi Arabia, United Arab Emirates), Israel, North Africa, Tajikistan (Gadallah, 2020).

Tachytes simillimus von Schulthess, 1926

Material examined: Tataouine: North Tataouine, Oued Tlelet, 33° 2' 41.8" N, 10° 28' 24.0" E, 170 m, 12/05/2018, ♂.

Distribution in Tunisia: Gafsa, Tunis (von Schulthess, 1926).

General distribution: North Africa, Saudi Arabia (Gadallah, 2020).

Subtribe: Larrina Latreille, 1810

***Liris* Fabricius, 1804**

***Liris agilis* (F. Smith, 1856)**

Material examined: Kebili: South Kebili, Errahmat, 33° 39' 1.8" N, 8° 58' 27.4" E, 30 m, 17/05/2018, ♀.

Comment: this species is new for the Tunisian fauna.

General distribution: Arabian Peninsula (Kuwait, Oman, United Arab Emirates), Canary Islands, Cape Verde Islands, China, Gambia, Israel, Jordan, Malta, North Africa, Sudan (Gadallah, 2020).

***Liris atratus* (Spinola, 1805)**

Material examined: Mahdia: Eljem, Athamnia, 35° 20' 20.5" N, 10° 46' 54.3" E, 70 m, 28/08/2019, ♀; Sidi Alouane, Sidi Alouane 1, 35° 22' 37.5" N, 10° 56' 17.94" E, 60 m, 17/07/2018, 2 ♀♀.

Distribution in Tunisia: Gafsa (Schulz, 1905); Gabes, Gafsa, Kairouan (von Schulthess, 1926); Tunis (Graeffe, 1906); Tunisia: 'no specific locality' (Smits van Bürgst, 1913a, 1913b; Coulon, 1925).

General distribution: Arabian Peninsula (Kuwait, Qatar, United Arab Emirates), Mediterranean region to Iran and Central Asia (Gadallah, 2020).

***Liris cleopatra* de Beaumont, 1961**

Material examined: Mahdia: Eljem, Zghabna, 35° 20' 57.6" N, 10° 49' 9" E, 74 m, 12/08/2019, 3 ♂♂; Sidi Alouane, Oued Beja 1, 35° 20' 1.3" N, 10° 53' 32.6" E, 51 m, 29/04/2018, ♂, Sidi Alouane 1, 35° 22' 37.5" N, 10° 56' 17.94" E, 60 m, 17/07/2018, ♂.

Comment: this species is new for the Tunisian fauna.

General distribution: Egypt, Israel, Sudan, United Arab Emirates (Gadallah, 2020).

***Liris festinans praetermissus* (Richards, 1928)**

Material examined: Monastir: Bakalta, Zbed, 35° 37' 31.1" N, 11° 1' 38" E, 14 m, 27/07/2017, ♀.

Distribution in Tunisia: Tunisia: 'no specific locality' (de Beaumont, 1961).

General distribution: Afghanistan, Arabian Peninsula (Oman, Saudi Arabia, United Arab Emirates), Bulgaria, Cyprus, France, Greece, Iran, Israel, Italy, Malta, North Africa, Portugal, Russia, Spain, Sudan, Syria (Gadallah, 2020).

***Liris niger* (Fabricius, 1775)**

Material examined: Sidi Bouzid: East Sidi Bouzid, Elhachria, 34° 53' 56.2" N, 9° 26' 11.6" E, 326 m, 24/07/2018, ♂, Siliana: Kisra, centre, 35° 47' 46.9" N, 9° 21' 10" E, 809 m, 27/04/2018, ♀.

Distribution in Tunisia: Kairouan (von Schulthess, 1926); Tunis (Graeffe, 1906; von Schulthess, 1926); Tunisia: 'no specific locality' (Costa, 1893; Smits van Bürgst, 1913a, 1913b).

General distribution: Afghanistan, Arabian Peninsula (United Arab Emirates, Yemen), Austria, Bulgaria, Canary Islands, Central Asia, China, Croatia; Cyprus, Czech Republic, Eritrea, France, Germany, Greece, Hungary, ?India, Iran, Israel, Italy, Kazakhstan, Malaysia, Malta, Mongolia, North Africa, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, ?Sri Lanka, Sudan, Syria, Tajikistan, Turkey, Turkmenistan, Ukraine (Gadallah, 2020),

Liris nigricans (Walker, 1871)

Material examined: Kairouan: South Kairouan, Ragada, 35° 34' 46.2" N, 10° 3' 6.1" E, 92 m, 27/08/2018, ♀; Sidi Bouzid: East Sidi Bouzid, Elhachria, 34° 53' 56.2" N, 9° 26' 11.6" E, 326 m, 24/07/2018, 2 ♂♂.

Distribution in Tunisia: Tunis (Gribodo, 1894; Graeffe, 1906).

General distribution: Afghanistan, Arabian Peninsula (Oman, United Arab Emirates Yemen), Cameroun, Canary Islands, Cape Verde Islands, Chad, Central African Republic, China, Cyprus, Democratic Republic of the Congo, Ethiopia, Greece, India, Iran, Iraq, Israel, Kazakhstan, Madagascar, North Africa, Russia, Spain, Tajikistan, Tanzania, Turkey, Uzbekistan (Gadallah, 2020).

Tribe: Miscophini W. Fox, 1894

***Miscophus* Jurine, 1807**

Miscophus papyrus de Andrade, 1954

Material examined: Kebili: Janouara, Rass Elain, 33° 42' 2.3" N, 8° 59' 26.4" E, 56 m, 16/05/2018, ♀.

Comment: this species is new to the Tunisian fauna.

General distribution: Algeria, Arabian Peninsula (Saudi Arabia, United Arab Emirates), Egypt, Iran, Libya (Gadallah, 2020).

***Solierella* Spinola, 1851**

Solierella andradei de Beaumont, 1957

Material examined: Mahdia: Sidi Alouane, Saada, 35° 22' 0.2" N, 10° 49' 52.1" E, 74 m, 18/06/2019, ♀.

Comment: This species is new for the Tunisian fauna.

General distribution: Morocco (Pulawski, 2020).

Solierella insidiosa de Beaumont, 1964

Material examined: Tataouine: Ghomrasen, Ghordhab, 33° 5' 6.4" N, 10° 29' 46.2" E, 159 m, 07/05/2018, ♂.

Comment: this species is new for the Tunisian fauna.

General distribution: Spain, Syria, United Arab Emirates (Gadallah, 2020).

Tribe: Oxybelini Leach, 1815

***Oxybelus* Latreille, 1796**

Oxybelus spectabilis Gerstaecker, 1867

Material examined: Mahdia: Sidi Alouane, Lemsanaa, 35° 19' 44.5" N, 10° 54' 51.3" E, 41 m, 01/06/2018, ♀, Oued Beja, Aouled Bouzid, 35° 20' 34" N, 10° 53' 34.6" E, 59 m, 06/05/2017, ♀.

Distribution in Tunisia: Tunisia: 'no specific locality' (Bitsch and Leclercq, 2009).

General distribution: Iberian Peninsula, North West Africa (Pulawski, 2020).

Tribe: Palarini Schrottky, 1909

***Palarus* Latreille, 1802**

***Palarus fulviventris* Latreille, 1812**

Material examined: Kebili: South Kebili, Errahmat, 33° 39' 1.8" N, 8° 58' 27.4" E, 30 m, 17/05/2018, ♂.

Distribution in Tunisia: Tozeur (Pulawski and Prentice, 2008).

General distribution: Arabian Peninsula (Oman, Saudi Arabia, United Arab Emirates), Iran, Israel, Kazakhstan, North Africa, Russia, Pakistan, Syria, Tajikistan, Turkmenistan, Uzbekistan (Gadallah, 2020).

***Palarus parvulus* de Beaumont, 1949**

Material examined: Tataouine: Ghomrasen, Ghordhab, 33° 5' 6.4" N, 10° 29' 46.2" E, 159 m, 07/05/2018, ♂.

Comment: this species is new for the Tunisian fauna.

General distribution: Arabian Peninsula (Oman, United Arab Emirates), North Africa south to Mauritania, Israel, Jordan (Gadallah, 2020).

Tribe: Trypoxylini Lepeletier de Saint Fargeau, 1845

***Trypoxylon* Latreille, 1796**

***Trypoxylon deceptorium* Antropov, 1991**

Material examined: Kebili: Douz, West Douz, 33° 27' 4.1" N, 9° 1' 4.5" E, 63 m, 19/05/2018, ♀; Monastir: Bakalta, Ras Dimes, 35° 37' 43.1" N, 11° 0' 40.4" E, 2 m, 27/07/2017, ♂; Sousse: Bouficha, Salloum, 36° 18' 12.3" N, 10° 28' 29.1" E, 5 m, 14/07/2017, ♀; Bir Elhaj Ammar, 36° 18' 34.8" N, 10° 25' 4.4" E, 17 m, 28/07/2017, ♂; Akouda, Chott Meriem, Oued Braham, 35° 54' 48.28" N, 10° 33' 35.24" E, 35 m, 12/04/2017, ♀; Zaghouan: Bir Halima, 36° 23' 30.9" N, 10° 2' 5.5" E, 190 m, 20/04/2018, ♂.

Comment: this species is new for the Tunisian fauna.

General distribution: Europe, Iran, Kazakhstan, Lebanon, Middle Asia, North Africa, Palestine, Syria, Turkey (Pulawski, 2020).

***Trypoxylon scutatum* Chevrier, 1867**

Material examined: Kebili: Douz, West Douz, 33° 27' 4.1" N, 9° 1' 4.5" E, 63 m, 19/05/2018, ♀; Sidi Bouzid: West Sidi Bouzid, Zaafrja, 35° 1' 39.8" N, 9° 17' 18.3" E, 394 m, 25/07/2018, ♀.

Distribution in Tunisia: Tozeur (Ben Khedher et al., 2019).

General distribution: Afghanistan, Albania, Arabian Peninsula (Oman, United Arab Emirates), Austria, Bulgaria, Croatia, Cyprus, Czech Republic, Ethiopia, France, Germany, Greece, Hungary, Iran, Israel, Italy, Kazakhstan, North Africa, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Spain, Switzerland, Syria, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan (Gadallah, 2020).

Subfamily: Pemphredoninae Dahlbom, 1835**Tribe: Pemphredonini Dahlbom, 1835*****Diodontus* Curtis, 1834*****Diodontus insidiosus* Spooner, 1938**

Material examined: Beja: Mjez Elbeb, South Mjez Elbeb, 36° 38' 14.7" N, 9° 35' 54.3" E, 53 m, 17/08/2018, ♂, Kebili: Janouara, Rass Elain, 33° 42' 2.3" N, 8° 59' 26.4" E, 56 m, 16/05/2018, ♂; Mahdia: Sidi Alouane, Aouled Kloula, 35° 22' 9.4" N, 10° 51' 22.6" E, 64 m, 06/04/2018, 16 ♂♂, Oued Beja, 35° 20' 34.4" N, 10° 52' 54.7" E, 68 m, 29/04/2017, 14 ♂♂, Oued Beja 1, 35° 20' 1.3" N, 10° 53' 32.6" E, 51 m, 30/03/2018, ♂; Sousse: Chott Meriem, Oued Braham, 35° 54' 48.28" N, 10° 33' 35.24" E, 35 m, 12/04/2017, 2 ♂♂; Nabeul: Haouaria, Gharnem, 37° 2' 16.6" N, 11° 0' 19.7" E, 18 m, 14/09/2017, ♂; Tozeur: Temeghza, Cascade 1, 34° 22' 54.2" N, 7° 55' 58.4" E, 270 m, 27/06/2018, ♂.

Comment: this species is new for the Tunisian fauna.

General distribution: Europe, Russia (Pulawski, 2020).

Tribe: Psenini A. Costa, 1858***Mimumesa* Malloch, 1933*****Mimumesa unicolor* (Vander Linden, 1829)**

Material examined: Beja: Mjez Elbeb, South Mjez Elbeb, 36° 38' 14.7" N, 9° 35' 54.3" E, 53 m, 15/08/2018, ♂.

Comment: this species is new for the Tunisian fauna.

General distribution: Afghanistan, Azerbaijan, China, Europe, Iraq, Kazakhstan, Middle Asia, Pakistan, Palestine, Russia, Turkey (Pulawski, 2020).

Discussion

In this study, 33 species from 14 genera and three subfamilies: Astatinae (two genera, six species), Crabroninae (10 genera, 25 species) and Pemphredoninae (two genera, two species), are identified and include 15 newly recorded taxa for Tunisia. To date, *Solierella andradei* has only been reported from Morocco (de Beaumont, 1957) and *Dryudella pulawskii* from the United Arab Emirates (Schmid–Egger, 2014). This study therefore adds Tunisia as a second repartition area for these two taxa worldwide.

Some of the species and subspecies from Tunisia have been recorded previously (de Beaumont, 1961; Pulawski, 1979; Bitsch and Leclercq, 2009) but the authors did not specify locality. These taxa are: *Prosopigastra zalinda*, *Liris festinans praetermissus* and *Oxybelus spectabilis*. In the present study, the presence of these taxa in Tunisia is confirmed by new provincial records. Also, *Dryudella beaumonti*, *Prosopigastra punctatissima africana* and *Solierella andradei* are three species known as North African species that occur only in this region.

Species identified in this study were collected from 13 provinces and most of them have new local and provincial records. Mahdia province is the richest with 15 species and subspecies, followed by Kebili (10 species and subspecies), Tataouine, and Tozeur (six species and subspecies). Despite the attention and contributions given to Crabronidae in Tunisia, knowledge of this fauna has yet to be extended, especially in the provinces of Kasserine, Siliana and Zaghuan where records are limited.

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