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## The bees of Lebanon (Hymenoptera: Apoidea: Anthophila)



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
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## Abstract

The study of wild bees has markedly increased in recent years due to their importance as pollinators of crops and wild plants, and this interest has been accentuated by increasing evidence of global declines in their abundance and species richness. Though best studied in Europe and North America, knowledge on the current state of wild bees is scarce in regions where they are particularly diversified, such as the Mediterranean basin. The eastern Mediterranean country of Lebanon, located at the heart of the Levant in a biodiversity hotspot, is particularly poorly studied. The aim of this paper is to produce a first annotated checklist of the wild bees of Lebanon from new and museum collections, literature records, and verified occurrences from online databases. The present list totals **573** species for Lebanon of which **289** are reported for the first time, but the estimated diversity is likely to be closer to 700. Preliminary information on local distributions and flower records are also presented. The local species assemblages indicate affinities with montane habitats of the Mediterranean and Anatolia and the semi-arid habitats of the Levant and north Africa. This study also encourages further research on local wild bee faunas and the use of this knowledge for conservation purposes.

**Key words:** Anthophila, Biodiversity, Checklist, Endemism, Floral choices, Mediterranean, Wild bees

## Introduction

Bees (Hymenoptera: Anthophila) constitute a species-rich group of insects with over 20,000 described species worldwide (Michener, 2007; Ascher & Pickering 2021). Over the last few decades, bees have been used as models for studies in a large array of scientific fields including biogeography (e.g. Patiny & Michez 2007), evolutionary biology (e.g. Danforth *et al.* 2019) and, most concerningly, global change biology (e.g. Duchenne *et al.* 2020). A global trend of bee decline has been identified, mainly due to a combination of anthropic stressors including climate change and habitat destruction (Potts *et al.* 2010). At the European level, 9.2% of wild bees have been assessed as threatened, although more than the half of the total number of European species could not be evaluated because of a lack of rigorous scientific information to assess their risk of extinction (Nieto *et al.* 2014). The status of one of the most studied bee groups, the bumblebees, has raised much concern in relation to their decline at multiple scales, from local (Vray *et al.* 2019; Rollin *et al.* 2020), to continental (Rasmont *et al.* 2015), and even at the global scale (Cameron & Sadd 2020). These findings have been made possible by the large quantity of available historical occurrence data that allows assessments of population shifts in well studied regions. Unfortunately, assessments of this type are not yet possible for much of western Asia and northern Africa, both areas with highly diversified bee faunas but with relatively little information on the historical context and ecology of the species present (Michez *et al.* 2019). Countries such as Morocco have recently had a checklist of the bee fauna compiled (Lhomme *et al.* 2020), but the other north African countries do not have any comprehensive studies. In such places, little to nothing is known about the current status of their bee faunas, although some species may have declining populations and may be in critical need of conservation interventions.

The Mediterranean basin is a biodiversity hotspot that encompasses many little-studied regions, such as the Maghreb to the west and the Levant in the eastern Mediterranean region (Blondel *et al.* 2010). Lebanon is a prime example of a species-rich country that remains poorly studied. The country is located in the centre of the Levant (fig. 1) and has a high floristic diversity (Mouterde 1966, 1970, 1984). The Lebanese landscape is shaped by the western Mount Lebanon (peaking at 3000 m) and eastern Anti-Lebanon (peaking at 2800 m) mountain chains, divided by the semi-arid Bekaa valley at 1000 m a.s.l. that follows the Great Rift. This peculiar topology generates a variety of vegetation levels spanning humid, arid and semi-arid habitats starting from the coastal strip, and following an eastward transect towards Mount Lebanon, Bekaa valley and Anti-Lebanon (Zohary 1973; Abi Saleh & Safi 1988). The territory also encompasses several scattered areas with high plant endemism (Bou Dagher-Kharrat *et al.* 2018).



**FIGURE 1.** Map of the Mediterranean basin showing Lebanon represented in yellow, within the administrative Levant represented in orange.

Lebanon is likely to have a high diversity of other insect species as well, but is little studied in this regard. A few recent studies have focused on Lepidoptera inventory and records (Zorkot 2016, Bálint *et al.* 2016), and Coleoptera diversity (Cocquempot *et al.* 2016, 2020, Háva & Németh 2016, Háva 2018). A recent revision focused on the Elateridae (Coleoptera) fauna (Németh, 2019), with 13 species newly reported from Lebanon and two new species to science. These few available studies on the entomofauna suggest a potentially high insect diversity in the country, but apart from the aforementioned papers and scattered descriptions of species from the literature, this fauna remains poorly studied.

Among the earliest documented faunal records are the specimens treated by Klug (1832, 1845) from the collections of Friedrich Wilhelm Hemprich and Christian Gottfried Ehrenberg in 1824, that covered Beirut and Tripoli on the coastal plain, and trips to Mount Sannine in Mount Lebanon and Baalbeck in the Bekaa (Baker 1997). These included a number of wild bee records, including several described as new to science.

George A. Mavromoustakis (1955, 1956, 1963) later published three papers focusing mainly on the Anthidiini of Lebanon, some other Megachilidae and a few species from other families such as Apidae. His travels in spring-summer 1953 covered some coastal localities and higher altitude villages such as Broumana, Barouk and Jezzine. In his second trip during spring-summer of 1960, he conducted extensive collections in the northern part of Mount Lebanon covering cedar forests and surrounding areas. The records from the Mavromoustakis publications remain the most well documented in this regard.

Warncke (1980) then listed some species from Lebanon that came mainly from previously collected museum material. Parts of the pre-1920 literature from Lebanon are scattered in publications reporting or describing bees from localities that were previously located in the ambiguously-delimited region of “Syria”, such as Beirut, Tripoli, or the Bekaa valley. This is due to the change of the Lebanese borders from the Ottoman period (where the term “Syria” broadly encompassed the whole Levant region) and later through the French mandate when Beirut, parts of the coastal strip as well as southern and northern Lebanon were also included as part of the Syrian territory. In addition, labels with “Lebanon” before 1920 often referred broadly to the Mount Lebanon chain with no further precision. As such, precise locality details are needed to use these historical data correctly.

Grace (2010) listed several species from Lebanon, drawn partly from the records reported by Mavromoustakis and Warncke, and also adding several species. These additions however are not backed up by detailed occurrence data. More recently, the *Bombus* species of Lebanon have been listed (Boustani *et al.* 2020) and the local *Andrena* fauna has been entirely revised on basis of recent collections (Wood *et al.* 2020a). However, no comprehensive works have reviewed and listed all bee species present in the Lebanese fauna.

This paper aims to present the first annotated faunistic list of the Apoidea taxa present in Lebanon through combining available literature, open database records that could be confirmed with a level of confidence, specimens from university and private collections, unpublished data from museum material, and the authors' collections. This work also aims to set a groundwork for future research on the Lebanese bee fauna and to serve as a reference for conservation-oriented decision making through providing a baseline for local bee diversity studies.

## Materials and methods

**Data Sources.** The data in this paper come mainly from literature and the collections of authors and collaborators. Material from collections made by students of the American University of Beirut and Université de Saint Esprit de Kaslik universities was borrowed for identification. Specimens will be deposited partly in the collection of the University of Mons and the specimens borrowed from private collections remain with their respective owners. Data were compiled from the online databases Discover Life (Ascher & Pickering 2021), and GBIF. Most of the GBIF data from Lebanon comes from the Donald Baker collection, housed at the Snow Entomological Collection Lawrence, Kansas, USA (SEMC). All data occurrences in this paper are presented on the map (fig. 2).

### Recent Sampling

**Collection areas.** Contemporary collections predominantly focused on the Mount Lebanon mountain chain at higher altitudes between 900 m and to the highest peak at 3000 m. The sampled vegetation levels classification according to Abi Saleh & Safi (1988) are Eumediterranean (500–1000 m, e.g. fig. 3), Supramediterranean (1000–1500 m), Montane Mediterranean (1500–2000 m, e.g. fig. 4–5) and Oromediterranean (>2000 m, e.g. fig. 6). Some sampling was carried out in the Presteppic Mediterranean (e.g. fig. 7), through the Bekaa valley and up the slopes of the Anti-Lebanon mountains spanning the Mediterranean (1000–1500 m), Supramediterranean (1400–1800 m), Montane Mediterranean (1800–2400 m) and Oromediterranean (>2400 m, e.g. fig. 8). Other sampling locations fell into the Thermomediterranean (0–500 m) including coastal areas (e.g. fig. 9) and the Eumediterranean (500 – 1000 m). Samplings focused on natural habitats such as nature reserves, semi-natural areas such as the borders of forests and orchards, and grazing areas. When possible, some collections were carried out in residential and urbanised area gardens.

**Collection Methods.** Contemporary specimens were mostly collected by hand netting, and then killed using ethyl acetate or by freezing. Some specimens were collected using pan traps, and these are dated with the pan trap removal date. Pan trapping was conducted with three triplets of blue, yellow, and white pan traps (Westphal *et al.* 2008). They were filled to the  $\frac{3}{4}$  mark with water with the addition of colourless and odourless soap, and collected 48 hours later. The pans within a triplet were 1 m apart and the triplets themselves were 10 m apart.

**Visited flowers identification.** Flowers that were visited by the bee specimens during sampling are identified using the Mouterde flora (Mouterde 1966, 1970, 1984). A sample was collected and dried in herbarium for reference. These plant specimens were deposited at Université de Saint Esprit de Kaslik, Kaslik, Lebanon.

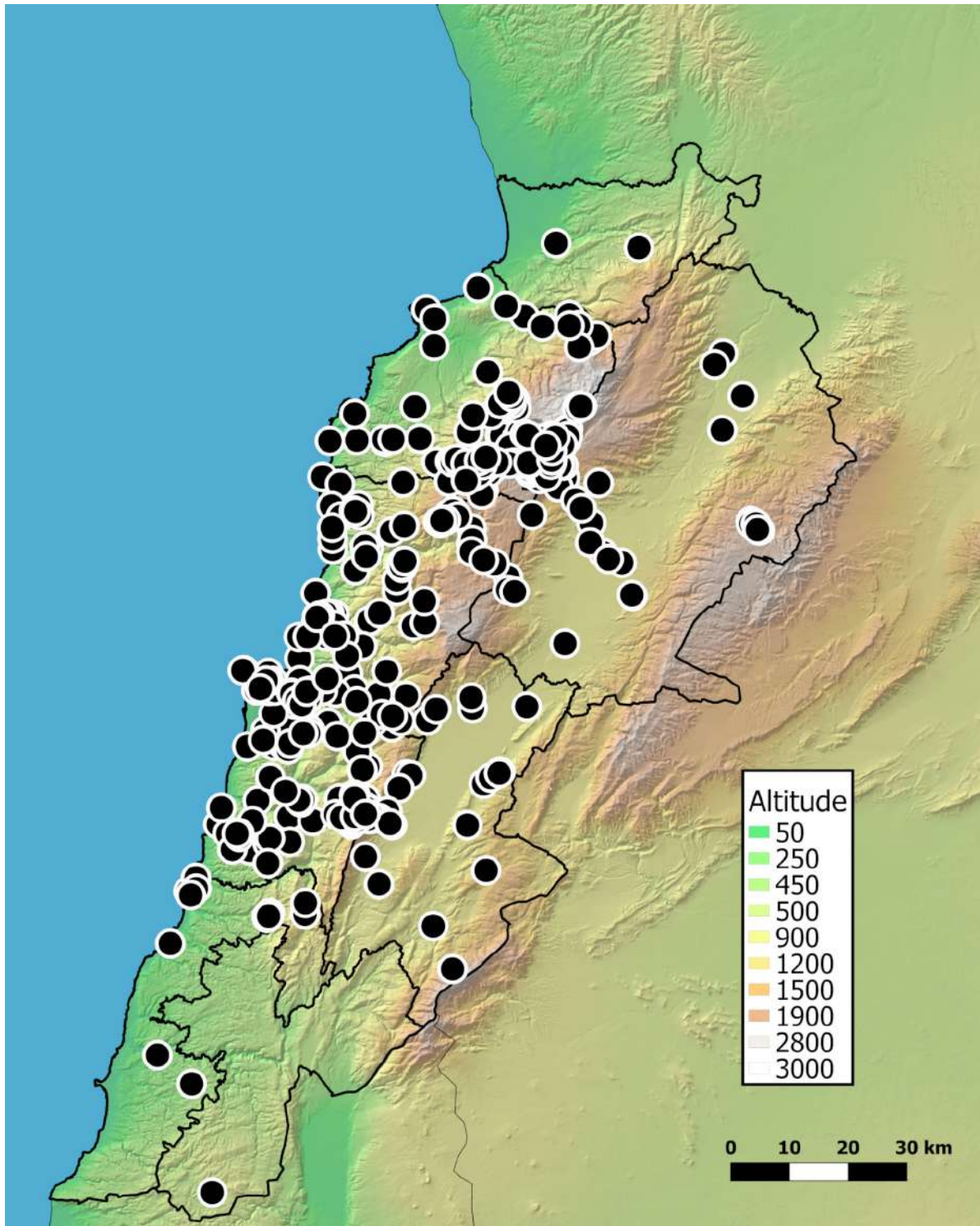
**Data management.** All data occurrences were digitised using Data Fauna Flora 5.1.2 (Barbier *et al.* 2000) and mapped with Quantum GIS 2.18.27.

### Records Listing

**Order and taxa listing.** The order of the families and genera follows Michener (2007) in the main listing and annexes I and II. The subgeneric classification follows Michez *et al.* (2019), exceptions to this are indicated in the beginning of the genus listing. Information on subspecies and “varieties” is systematically displayed when available for all listed data, and the material examined identified under a subspecies is listed separately under said subspecies. Synonyms are given after the priority name for the taxa for which there has been recent changes in synonymy or with an uncertain taxonomic status that requires revision.

**Records listing categories.** For every taxon, the general distribution is given, then the records are listed.

Distributions are very broad and aim to give geographical context to the species using the following classification: **Endemic:** Endemic to Lebanon; **Levant:** the countries highlighted in fig. 1; **East Mediterranean:** Southern Balkans (Albania, North Macedonia, Bulgaria, and Greece), Turkey, Caucasus (Armenia, Azerbaijan, and Georgia) to Iran, Egypt and Libya; **West Palaearctic:** Encompassing Europe, North Africa, Levant and northern Arabian Peninsula, and stretching east to Iran, Kazakhstan and the western part of Russia; **Palaearctic.** Distributions are given at the species level, and if they refer to the subspecies distribution, it is indicated.



**FIGURE 2.** Map representing all data points of collected specimens and literature occurrences. The governorates are from north to south and from west to east: North Lebanon (Akkar and North), Mount Lebanon, Beirut, South Lebanon (Nabatieh and South), Bekaa (Baalbek-Hermel and Bekaa).



**FIGURE 3.** Oak forest habitat with *Spartium junceum* at the transition between Eumediterranean and Supramediterranean. Picture taken at Tannourine El Tahta (N. Lebanon), by Mira Boustani.

A record is defined as a specimen associated with one date and one locality. Records are listed by alphabetical order of governorate, and sorted by chronological order within each governorate. Records from the same date are sorted by locality alphabetically. For all species that have more than 15 records, these have been shortened to avoid long listings. In this case the earliest records are given for each governorate, and the number of specimens is then given with the range of collection dates and a list of the remaining localities. A local distribution map is provided in this case as well as for all listings with more than five scattered localities. Only the confirmed occurrences (literature and material examined) localities are presented on the maps.

The governorate division uses the older classification that divides Lebanon into five governorates: **North Lebanon** currently divided into Akkar and North; **Mount Lebanon**; **Beirut**; **South Lebanon**, currently divided to Nabatieh and South; and **Bekaa** currently divided to Baalbek-Hermel and Bekaa (fig. 2).

All the records mentioned in the list of taxa under “**Material examined**” are ones that have a physical examined specimen linked to them and were determined by contemporary specialists. This section also includes records from Banque de Données Fauniques de Gembloux et Mons (BDFGM, data available at Atlas Hymenoptera, Rasmont *et al.* 2021) that were examined by contemporary specialists.

All **literature** occurrences were listed under the currently accepted taxon name, when the taxon was reported in the literature under a synonymous name this is indicated before each relevant record.

Specimens without labels or with localities that were unreadable or erased from the original label have been added in the occurrences, however they were not used as a basis to confirm the presence of a species if the data is not backed up by other recent specimens or reliable literature occurrences.

Online occurrences from GBIF and Discover Life databases (Ascher & Pickering 2021) were listed separately under “**Unpublished records**”, and are not confirmed as the records themselves were not recently confirmed by contemporary specialists, and cannot be considered valid because of changing species concepts.



**FIGURE 4.** Clearing in the Cedar Woods with flowering *Vicia tenuifolia*, in the Montane Mediterranean level. Picture taken at the Tannourine Cedar Forest Nature Reserve by Mira Boustani.



**FIGURE 5.** View of the Cedar Forest of Bcharre from the passage of Ainata Al Arz showing the transition between the Montane Mediterranean and Oromediterranean level. Picture taken by Mira Boustani.





**FIGURE 6.** Alpine Oromediterranean pastures with *Astragalus* sp. near the peak of the Mount Lebanon Chain (Qornet Es Sawda). Picture taken by Mira Boustani.



**FIGURE 7.** Pierre Rasmont collecting in Pre-steppe habitat with *Vicia tenuifolia* with a view of the Bekaa Valley. Picture taken by Mira Boustani.



**FIGURE 8.** Alpine steppe with *Acantholimon* sp. and *Stipa* sp. in Oromediterranean level of the Anti-Lebanon mountain chain near the highlands of Aarsal. The mountains on the horizon show the Syrian border and the progression into arid habitats. Picture taken by Mira Boustani.



**FIGURE 9.** View of Beirut and the coastline from 300 m a.s.l. in some of the remaining pine woods. Picture taken by Pierre Rasmont.

Furthermore, all taxa that only have online occurrences that do not report precise specimen information are listed in the supplementary material **ANNEX I**. This list also includes all taxa that were reported from “Syria” without locality details before 1920 as they could be located in the current Lebanese territory or elsewhere in the Levant.

A small number of species which have been reported from Lebanon but which we can confidently exclude are listed in **ANNEX II** and these are not included in the provided species counts.

All taxa with no published occurrences in literature or material examined are considered as probably reported for the first time and are indicated by an asterisk \*.

When available, flower records from author or borrowed collections of the specimens listed in material examined are added at the bottom of every bee taxon record list and are sorted by alphabetical order of family and genera within family. These records aim to provide preliminary information on the flower preferences of individual species. When flower preferences from literature are mentioned, these are discussed in the notes at the end of the flower listing with the reference.

The full species list is in **ANNEX III**. They are listed at the species level, and the distribution is that of the species following the aforementioned categories.

**Determinations.** Species determination in the “Material examined” sections was conducted by specialists as listed below following family, subfamily, or genus.

A determination is mentioned in case there is more than one person that determined the material in an individual genus.

Colletini: Kuhlmann M., Germany

Hylaeinae: Dathe H., Germany

Andreninae, Panurginae: Wood T.J., Belgium

Halictidae: Pauly A., Belgium, (Sphecodes) Straka J., Czech Republic

Melittidae: Michez D., Belgium

Megachilini: Praz C., Switzerland

*Coelioxys*: Schwarz M., Austria

Osmiini: Müller A., Switzerland

Anthidiini: Litman J., Switzerland; Kasperek M., Germany; Fateryga A., Ukraine

Anthophorini: Rasmont P., Belgium

Eucerini: Risch S., Germany

Xylocopinae: Terzo M., Belgium

Nomadinae: Schwarz M., Austria; Straka J., Czech Republic

Ammobatini: Dufrêne E., France, Schwarz M., Austria

Bombini: Rasmont P., Belgium

### List of abbreviations

USEK      Université de Saint Esprit de Kaslik, Kaslik, Lebanon

AUB      American University of Beirut, Lebanon

BBSL      Bee Biology and Systematics Laboratory, Utah, USA

BMNH      Natural History Museum (London), United Kingdom

BDFGM      Banque de Données Fauniques de Gembloux et Mons.

MBOU      Mira Boustani Collection, Mons, Belgium

MKAS      Max Kasperek Collection, Heidelberg, Germany

MNHNP      National Museum of Natural History (Muséum national d’Histoire naturelle) - Paris, France

MNHUB      Museum für Naturkunde, Berlin, Germany

MPAV      Collection Mark Pavett, Wales, UK

NMSF      Natur-Museum Senckenberg, Frankfurt, Germany

OÖLM      Oberösterreichisches Landesmuseum, Linz, Austria

OUMNH      Oxford University Museum of Natural History, Oxford, England

TCFNR      Tannourine Cedar Forest Nature Reserve, Lebanon

SEMC      Snow Entomological Museum Collection, Lawrence, Kansas, USA

SOILS	Soils Permaculture Association, Saidoun, Lebanon
XVA	Xavier Van Achter Collection, Soignies, Belgium
TJW	Thomas Wood collection, Mons, Belgium
UMONS	Université de Mons, Mons, Belgium
PRAS	Pierre Rasmont Collection, Mons, Belgium
RBINS	Royal Belgian Institute of Natural Sciences, Brussels, Belgium
ZSM	Zoologische Staatssammlung München, Munich, Germany

## Checklist of the wild bees of Lebanon

The present list assembles **573** total species, distributed over **49** genera. Of these **573** species, **492** are confirmed through literature records and material examined and listed below. **289** species are probably reported from Lebanon for the first time. All collected and literature localities of the specimens listed below are represented in fig. 2. Species in need of confirmation are listed in ANNEX I. Four species are unconfirmed and are most likely misidentifications and are listed in ANNEX II.

Following our classification for the species distribution, the present list comprises 18.8% (n=108) widely distributed Palaearctic taxa, 54.3% (n=311) West Palaearctic taxa, 21.7% (n=124) East Mediterranean taxa, 4.9% (n=28) restricted to the Levant, and 0.3% (n=2) endemic species. The full list of species and their respective distribution categories are listed in ANNEX III.

## COLLETIDAE

### COLLETINI

#### Genus *Colletes* Latreille, 1802

Six species.

All specimens identified by Kuhlmann M.

Floral preferences seem to be focused on Asteraceae, especially the genus *Achillea*, in line with the observations of Müller & Kuhlmann (2008).

#### *Colletes (Colletes) cariniger* Pérez, 1903 \*

**Distribution:** EAST MEDITERRANEAN: Azerbaijan, Bulgaria, Greece, Turkey, Levant, Libya, Egypt (Kuhlmann & Proshchalykin 2016).

**Material examined.** Bekaa: AUB Farm [Haush Sneid], 19.IV.1966, 1♂, leg. Tanveev, coll. AUB.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 6.IV.2017, 1♂, leg. Mourad A., Mourad A., coll. MBOU.

S. Lebanon: Saidoun, 11.II.2018, 1♂, leg. Baghdadi A., coll. SOILS.

#### *Colletes (Colletes) caskanus* (Strand, 1919) \*

**Distribution:** WEST PALAEARCTIC: South-eastern Europe and further east to Iran (Ascher & Pickering 2021), Jordan (Kuhlmann, pers. comm.).

**Material examined.** Bekaa: AUB Farm [Haush Sneid], 23.IV.1962, 1♂, leg. Shaikh., coll. AUB.

#### *Colletes (Colletes) mlokoszewiczi* Radoszkowski, 1891 \*

**Distribution:** PALAEARCTIC: Southern and Eastern Europe, Caucasus, and east to Russia, Turkey and further east to Tajikistan (Kuhlmann & Proshchalykin 2016).

**Material examined.** N. Lebanon: Arz Bcharre, 1928 m, 20.VI.2016, 1♀, 4♂, leg. Boustani M.; Fehta, Teleje, 1846 m, 14.VII.2017, 2♂, leg. Boustani M.; Arz Bcharre, 1883 m, 21.VII.2018, 4♀, leg. Boustani M.; Fehta, El Biara, 1664 m, 30.VI.2019, 1♂, leg. Boustani M.; Arz Bcharre, Reforestation Area, 1973 m, 2.VII.2019, 1♀, 3♂, leg. Boustani M.; all coll. MBOU; 1900 m, 12.VII.2019, 2♀, leg. Van Achter X.; 14.VII.2019, 12♀, leg. Van Achter X., all coll. XVA; Arz Bcharre, Forest Limit, 1900 m, 22.VII.2019, 4♀, leg. Boustani M., coll. MBOU; Arz

Bcharre, 1873 m, 22.VII.2019, 3♀, leg. Van Achter X.; Arz Bcharre, 1900 m, 24.VII.2019, 3♀, leg. Van Achter X.; 31.VII.2019, 1♀, leg. Van Achter X., all coll. XVA.

**Flower records.** Asteraceae: *Achillea falcata*.

***Colletes (Colletes) nasutus* Smith, 1853 \***

**Distribution: WEST PALAEARCTIC:** Central, Eastern and Southern Europe, Caucasus and east to Russia, Turkey, Syria (Kuhlmann & Proshchalykin 2014).

**Material examined.** Bekaa: Hadath, 1610 m, 7.VII.2019, 3♀, 2♂, leg. Boustani M., coll. MBOU.

**Flower records.** Boraginaceae: *Anchusa italica*.

***Colletes (Colletes) similis* Schenck, 1853**

**Distribution: PALAEARCTIC:** Europe, Caucasus, Russia, Levant, North Africa, Central Asia and China (Kuhlmann & Proshchalykin 2019).

Local distribution fig. 10.1

**Literature.** Mavromoustakis (1963): Mount Lebanon, Baabdate, 25.V.1953, 3♂; Mount Lebanon, Brummana, 11.V.1953, 4♂; Hammana, 16.V.1953, 1♀, all det. & leg. Mavromoustakis G.A.

**Material examined.** N. Lebanon: Arz Tannourine, 1762 m, 24.IV.2018, 1♂, leg. Boustani M.; Arz Bcharre, 1973, 2.VII.2019, 1♂, leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Achillea falcata*, *Anthemis* sp.

***Colletes (Colletes) tuberculatus* Morawitz, 1893 \***

**Distribution: PALAEARCTIC:** Eastern Europe, Caucasus, Levant and further east to Kazakhstan and Pakistan (Kuhlmann & Proshchalykin 2012).

Local distribution fig. 10.2

**Material examined.** Bekaa: Jord Aarsal, Kecheq, 2120 m, 11.VII.2019, 1♀, 1♂, leg. Boustani M., coll. MBOU. N. Lebanon: Fehta, Teleje, 1846 m, 14.VII.2017, 3♀, leg. Boustani M.; Fehta, El Biara, 1664 m, 30.VI.2019, 5♀, leg. Boustani M.; Arz Bcharre, Reforestation Area, 1973 m, 2.VII.2019, 1♂, leg. Boustani M.; Arz Bcharre, Forest Limit, 1873 m, 2.VII.2019, 1♀, leg. Boustani M.; Arz Bcharre, Reforestation Area, 1897 m, 2.VII.2019, 2♂, leg. Boustani M.; Arz Tannourine, Main Gate, 1794 m, 4.VII.2019, 1♂, leg. Boustani M., all coll. MBOU; Horch Ehden, Upper Gate, 1597 m, 5.VII.2019, 2♂, leg. Gekièrè A., coll. UMONS; Jord Ehden, 1983 m, 5.VII.2019, 3♀, leg. Boustani M., coll. MBOU.; Bcharre, 2042 m, 14.VII.2019, 1♂, leg. Van Achter X.; Horch Ehden, 1686 m, 22.VII.2019, 2♀, 2♂, leg. Van Achter X., coll. XVA.

**Flower records.** Asteraceae: *Achillea falcata*; Fabaceae: *Medicago* sp.

## HYLAEINAE

**Genus *Hylaeus* Fabricius, 1793**

23 species.

All identified by Dathe H.H. The specimens collected by Roche C.G. are deposited at the SEMC Donald Baker collection.

Flower records for some of the species below show a wide family range of floral with many specimens caught on Apiaceae.

***Hylaeus (Spatulariella) armeniacus* (Warncke, 1981) \***

**Distribution: EAST MEDITERRANEAN:** Turkey, Armenia, Azerbaijan, Lebanon, Jordan, Israel, Iran (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

**Material examined.** Bekaa: Jdeide, 1000 m, 19.V.1996, 5♂, leg. Roche C.G.; Der Mar Maroun, 26.V.1996, 1♀, leg. Roche C.G., coll. SEMC.

N. Lebanon: Arz Tannourine, Trail 4, 1762 m, 11.VII.2018, 1♂, leg. Boustani M.; Arz Tannourine, Gate, 1796 m, 3.VI.2019, 2♂, leg. Boustani M.; Arz Bcharre, 1897 m, 2.VII.2019, 1♂, leg. Boustani M., all coll. MBOU; Arz Tannourine, 1797 m, 22.VII.2019, 1♀, leg. Van Achter X., coll. XVA.

**Flower records.** Apiaceae: *Chaerophyllum aurantiacum*; Plantaginaceae: *Anarrhinum orientale*.

***Hylaeus (Paraprosopis) clypearis* (Schenck, 1853) \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

**Material examined.** N. Lebanon: Horch Ehden, 1625 m, 22.VII.2019, 2♀, leg. Van Achter X., coll. XVA.

**Flower records.** Apiaceae: *Hippomarathrum* sp.

***Hylaeus (Hylaeus) communis* Nylander, 1852 \***

**Distribution:** PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** Mount Lebanon: Jabal Moussa Biosphere Reserve, Peony Trail, 1465 m, 21.VIII.2018, 1♂, leg. Boustani M.; Barouk, Masyaf El Mir, 1807 m, 7.VIII.2019, 1♂, leg. Boustani M., all coll. MBOU.

N. Lebanon: Horch Ehden Nature Reserve, 1300–1600 m, 13–18.IX.2000, 2♂, leg. Pavett P.M.; Horch Ehden Nature Reserve, 1300–1600 m, 29.V.2001–3.VI.2001, 1♂, leg. Pavett P.M., all coll. MPAV; Arz Tannourine, Trail 4, 1762 m, 25.VI.2018, 1♀, leg. Boustani M.; Hadath El Jebbe, Road to Wadi Al Fouar, 1553 m, 28.VI.2018, 1♂, leg. Boustani M., Jabbour J.; Arz Tannourine, Trail 4, 1762 m, 18.VIII.2018, 1♂, leg. Boustani M., Jabbour J.; Hadath El Jebbe, Border of Cedar Forest, 1681 m, 22.VIII.2018, 1♀, leg. Boustani M., Jabbour J.; Arz Tannourine, Gate, 1796 m, 3.VI.2019, 1♂, leg. Boustani M.; Arz Tannourine, Trail 4, 1781 m, 23.VIII.2019, 2♀, 1♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Amaryllidaceae: *Allium phanerantherum*; Apiaceae: *Eryngium glomeratum*; Asteraceae: *Echinops gaillardotii*; Plantaginaceae: *Anarrhinum orientale*.

*H. communis* seem to be a generalist in the choice of botanical families to forage as noted by Teppner *et al.* (2016)

***Hylaeus (Abrupta) cornutus* Curtis, 1831 \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

**Material examined.** N. Lebanon: Tanourine El Tahta, Mahbaseh, 926 m, 27.VI.2019, 1♀, leg. Van Achter X., coll. XVA.

**Flower records.** Apiaceae: *Daucus carota*.

***Hylaeus (Hylaeus) crispulus* Dathe, 1980 \***

**Distribution:** EAST MEDITERRANEAN: Turkey, Iran, Israel, Lebanon (Ascher & Pickering 2021).

**Material examined.** Bekaa: Ainata, 2229 m, 29.VII.2018, 1♂, leg. Boustani M., coll. MBOU.

N. Lebanon: Bcharre, Dahr El Adib, 2441 m, 8.VI.2017, 3♂, leg. Boustani M.; Bcharre, Reforestation Area, 2347 m, 27.VI.2017, 2♂, leg. Boustani M.; Bcharre, Qornet Es Sawda, 2911 m, 21.VII.2017, 3♀, 1♂, leg. Boustani M.; Arz tannourine, Trail 4, 1762 m, 5.VII.2018, 1♀, leg. Boustani M.; Bcharre, Plateau Qornet Es Sawda, 2909 m, 12.VII.2018, 1♀, 3♂, leg. Boustani M.; Bcharre, Plateau Qornet Es Sawda, 2882 m, 1.VIII.2018, 1♀, 1♂, leg. Boustani M., all coll. MBOU; Bcharre, Plateau Qornet Es Sawda, 2867 m, 1.VIII.2018, 1♀, leg. Van Achter X., coll. XVA; Bcharre, Dahr El Adib, 2572 m, 25.VIII.2018, 3♀, leg. Boustani M., Jabbour J.; Arz Tannourine, Trail 4, 1781 m, 30.VI.2019, 1♀, leg. Boustani M.; Bcharre, Dahr El Adib, 2566 m, 24.VII.2019, 1♂, leg. Boustani M.; Bcharre, Plateau Qornet Es Sawda, 2882 m, 30.VII.2019, 1♀, leg. Boustani M.; Bcharre, Qornet Es Sawda, 2909 m, 30.VII.2019, 2♀, 3♂, leg. Boustani M.; Bcharre, Dahr El Adib, 2566 m, 20.VIII.2019, 2♀, det. leg. Boustani M., all coll. MBOU.

**Flower records.** Wide range of floral choices. Asphodelaceae: *Asphodeline taurica*; Asteraceae: *Centaurea solstitialis*; *Cirsium lappaceum*; *Cousinia libanotica*; Euphorbiaceae: *Euphorbia macroclada*; Fabaceae: *Vicia canescens*; Lamiaceae: *Lamium striatum*; *Stachys ehrenbergii*; Plantaginaceae: *Veronica polifolia*. Rubiaceae: *Asperula taurica*.

***Hylaeus (Prosopis) damascenus* (Magretti, 1890) \***

**Distribution:** WEST PALAEARCTIC: Turkey, Israel, Syria, Iran, Iraq, Lebanon, eastern Europe (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

**Material examined.** Mount Lebanon: Mazraat Al Daher, 529 m, 19.VII.2019, 2♀, leg. Boustani M., coll. MBOU.

**Flower records.** Rosaceae: *Rubus sanctus*.

***Hylaeus (Dentigera) imparilis* Förster, 1871 \***

**Distribution:** PALAEARCTIC: Mediterranean basin, Europe, Russia (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

Local distribution fig. 10.3

**Material examined.** Bekaa: Jdeide, 1000 m, 19.V.1996, 1♀, 1♂, leg. Roche C.G., coll. SEMC; 9.VI.1996, 1♀, leg. Roche C.G.; Hadath, 1610 m, 07.VII.2019, 1♀, leg. Ghisbain G., coll. UMONS.

Mount Lebanon: Aley, Ain Es Sayde, 15.VIII.1994, 1♀, 3♂, leg. Roche C.G.; Mansourieh, Al Mountazah, 350 m, 25.VI.1995, 2♀, 1♂, leg. Roche C.G.; 250 m, 26.VI.1996, 1♂, leg. Roche C.G. all coll. SEMC; Souk El Ghareb, Balamand University, 839 m, 23.VII.2019, 1♀, leg. Boustani M., coll. MBOU.

N. Lebanon: 20 km NE Tripoli, Nahr El Bared, 2.VI.2001, 3♂, Pavett P.M., coll. MPAV; Arz Tannourine, Trail 4, 1786 m, 13.VII.2017, 2♀, 3♂, leg. Boustani M.; Tannourine El Tahta, Wadi Ain El Raha, 1115 m, 19.VIII.2017, 1♀, leg. Boustani M.; Fehta, El Biara, 1632 m, 18.VIII.2018, 1♀, leg. Boustani M., Jabbour J.; Tannourine El Tahta, Mahbase, 936 m, 27.VI.2019, 2♂, leg. Boustani M., all coll. MBOU; Tannourine El Tahta, Mahbase, 926 m, 27.VI.2019, 2♂, leg. Van Achter X.; Hadath El Jebbe, Al Fouar, 1529 m, 25.VII.2019, 1♀, leg. Boustani M., Mouawad G.; Horch Ehden, 1686 m, 31.VII.2019, 1♂, leg. Van Achter X., all coll. XVA.

**Flower records.** Apiaceae: *Daucus carota*, *Eryngium creticum*, *Eryngium glomeratum*; Hypericaceae: *Hypericum triquetrifolium*, Lamiaceae: *Origanum* sp.

#### ***Hylaeus (Spatulariella) iranicus* Dathe, 1980 \***

**Distribution:** EAST MEDITERRANEAN: Turkey, Iran, Lebanon (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Arz Bcharre, Forest Limit, 1897 m, 02.VII.2019, 1♂, leg. Boustani M.; Bcharre, Dahr El Adib, 2566 m, 24.VII.2019, 1♂, leg. Boustani M.; Harissa, Al Jawar, 1758 m, 23.VIII.2019, 1♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Apiaceae: *Eryngium glomeratum*; Lamiaceae: *Stachys ehrenbergii*.

#### ***Hylaeus (Dentigera) kahri* Förster, 1871 \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

Local distribution fig. 10.4

**Material examined.** Bekaa: Jord Aarsal, Kecheq, 2120 m, 11.VII.2019, 1♀, 1♂, leg. Boustani M., coll. MBOU.

Mount Lebanon: Aley, Ain Es Sayde, 15.VIII.1994, 1♂, leg. Roche C.G., coll. SEMC.

N. Lebanon: Arz Tannourine, Trail 4, 1786 m, 13.VII.2017, 4♂, leg. Boustani M.; Arz Tannourine, Trail 1, 1798 m, 28.VII.2017, 3♀, leg. Boustani M.; Arz Tannourine, Trail 4, 1762 m, 11.VII.2018, 1♂, leg. Boustani M.; Fehta, El Biara, 1632 m, 18.VIII.2018, 1♂, leg. Boustani M., Jabbour J.; Hadath El Jebbe, Border of Cedar Forest, 1681 m, 22.VIII.2018, 1♂, leg. Boustani M., Jabbour J., all coll. MBOU; Tannourine El Tahta, Mahbase, 926 m, 27.VI.2019, 1♂, leg. Van Achter X., coll. XVA; Arz Tannourine, Gate, 1796 m, 29.VI.2019, 1♀, 1♂, leg. Boustani M.; Arz Bcharre, Forest Limit, 1897 m, 02.VII.2019, 1♂, leg. Boustani M., all coll. MBOU; Arz Tannourine, 1796 m, 04.VII.2019, 1♀, leg. Ghisbain G., coll. UMONS; Arz Tannourine, Gate, 1797 m, 12.VII.2019, 1♀, leg. Van Achter X.; Arz Bcharre, 2042 m, 14.VII.2019, 1♀, leg. Van Achter X.; Arz Tannourine, 1797 m, 14.VII.2019, 2♀, leg. Van Achter X., all coll. XVA; Hadath El Jebbe, Al Fouar, 1529 m, 25.VII.2019, 1♀, leg. Boustani M., Mouawad G., coll. MBOU; Arz Tannourine, 1797 m, 29.VII.2019, 1♂, leg. Van Achter X.; Arz Tannourine, 1797 m, 31.VII.2019, 1♀, leg. Van Achter X., all coll. XVA; Arz Bcharre, Forest Limit, 1873 m, 20.VIII.2019, 1♂, leg. Boustani M.; Arz Tannourine, Gate, 1796 m, 23.VIII.2019, 1♂, leg. Boustani M.; Fehta, El Biara, 1664 m, 23.VIII.2019, 1♀, 1♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Apiaceae: *Apium* sp., *Chaerophyllum aurantiacum*, *Eryngium billardieri*, *Eryngium glomeratum*; Brassicaceae: *Alyssum* sp.; Hypericaceae: *Hypericum triquetrifolium*; Lamiaceae: *Origanum* sp.

#### ***Hylaeus (Hylaeus) kotschisus* (Warncke, 1981) \***

**Distribution:** EAST MEDITERRANEAN: Turkey, Lebanon, Israel (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

**Material examined.** Bekaa: Yammouneh, 1450 m, 6.VIII.1995, 1♀, 3♂, leg. Roche C.G., coll. SEMC.

N. Lebanon: Horch Ehden, 1686 m, 22.VII.2019, 1♀, leg. Van Achter X., coll. XVA.

**Flower records.** Asteraceae: *Achillea* sp.

#### ***Hylaeus (Paraprosopis) lineolatus* (Schenck, 1861) \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

Local distribution fig. 10.5

**Material examined.** Beirut: Achrafieh, Sioufi Garden, 137 m, 21.VI.2019, 1♂, leg. Van Achter X., coll. XVA. Mount Lebanon: Monteverde, 350 m, 22.V.1994, 1♂, leg. Roche C.G.; Monteverde, 350 m, 23.V.1994, 1♀, leg. Roche C.G., all coll. SEMC. Additional 19♀ and 32♂ from 14 records, collected between 15.VIII.1994 and 23.VII.2019, from Aley, Monteverde, Der El Haref, Choueifat, Mansourieh, Jabal Moussa Biosphere Reserve, Bentaël, and Souk El Ghareb.

N. Lebanon: 20 km NE Tripoli, Nahr El Bared, 2.VI.2001, 2♂, leg. Pavett P.M.; Horch Ehden Nature Reserve, 1300–1600 m, 13–18.IX.2000, 10♀, leg. Pavett P.M., coll. MPAV. Additional 5♀ and 12♂ from 11 records, collected between 29.V.2001 and 23.VIII.2019, from Horch Ehden Nature Reserve, Arz Tannourine, Tannourine El Tahta, and Hadath El Jebbe.

**Flower records.** Wide range of forage plants. Apiaceae: *Eryngium glomeratum*, *Eryngium creticum*, *Chaerophyllum aurantiacum*, *Hippomarathrum* sp.; Asteraceae: *Carlina curetum* ssp. *orientalis*; *Echinops viscosus*; Boraginaceae: *Echium glomeratum*; Caprifoliaceae: *Cephalaria setosa*; Lamiaceae: *Origanum* sp.; Plantaginaceae: *Anarrhinum orientale*, Verbenaceae: *Duranta erecta*.

### *Hylaeus (Spatulariella) longimacula* (Alfken, 1936) \*

**Distribution:** WEST PALAEARCTIC: Morocco, Algeria, East Mediterranean, Azerbaijan (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

Local distribution fig. 10.6

**Material examined.** Beirut: Achrafieh, Sioufi Garden, 137 m, 21.VII.2019, 1♂, Van Achter X., coll. XVA; 137 m, 26.VII.2019, 1♂, leg. Boustani M., coll. MBOU.

Bekaa: Der Mar Youhanna Maroun, 700 m, 9.V.1996, 1♀, 1♂, leg. Roche C.G.; 19.V.1996, 1♂, leg. Roche C.G.; 700 m, 22.IX.1996, 1♂, leg. Roche C.G., all coll. SEMC.

Mount Lebanon: Monteverde, 350 m, 22.V.1994, 3♀, 1♂, leg. Roche C.G.; Monteverde, 350 m, 23.V.1994, 3♀, 3♂, leg. Roche C.G., all coll. SEMC. Additional 4♀ and 12♂ from 8 records, collected between 15.VIII.1994 and 23.VII.2019, from Aley, Mansourieh, Monteverde, Bentaël, Marej Barja, Kaleet El Besten, and Souk El Ghareb.

N. Lebanon: Horch Ehden Nature Reserve, 1300–1600 m, 13–18.IX.2000, 1♀, 1♂, leg. Pavett P.M.; Baksmaya, Nahr El Jawz, 250 m, 1.VI.2001, 4♂, leg. Pavett P.M., all coll. MPAV. Additional 29♀ and 18♂ from 17 records, collected between 2.VI.2001 and 23.VIII.2019, from 20 km NE Tripoli, Hadath El Jebbe, Tannourine El Tahta, Fehta, Arz Tannourine, and Harissa.

**Flower records.** Wide range of forage plants. Apiaceae: *Chaerophyllum aurantiacum*, *Eryngium creticum*, *Eryngium glomeratum*, *Ferulago frigida*, *Foeniculum vulgare*; Asteraceae: *Carlina curetum* ssp. *orientalis*; Fabaceae: *Brassica* sp.; *Vicia tenuifolia*; Hypericaceae: *Hypericum triquetrifolium*; Lamiaceae: *Origanum* sp. *Lamium* sp.; Plantaginaceae: *Anarrhinum orientale*; Ranunculaceae: *Delphinium ithaburense*, Rosaceae: *Rubus sanctus*; Verbenaceae: *Duranta erecta*.

### *Hylaeus (Prosopis) meridionalis* Förster, 1871 \*

**Distribution:** PALAEARCTIC (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

Local distribution fig. 10.7

**Material examined.** Bekaa: Hadath, 1610 m, 7.VII.2019, 1♂, leg. Ghisbain G., coll. UMONS.

Mount Lebanon: Laqlouq, Matoube, 1751 m, 6.VII.2019, 1♀, leg. Boustani M., coll. MBOU.

N. Lebanon: Qanat, Qornet Dammouaa, 1242 m, 5.VII.2019, 1♀, H. leg. Ghisbain G., coll. UMONS.; Horch Ehden, 1625 m, 14.VII.2019, 2♀, leg. Van Achter X., coll. XVA; Hadath El Jebbe, Cedar Forest, 1646 m, 25.VII.2019, 1♀, leg. Boustani M., coll. MBOU; Jord Tannourine, 2034 m, 27.VII.2019, 1♂, leg. Van Achter X., coll. XVA; Bcharre, Forest of the Cedars of God, 1873 m, 20.VIII.2019, 2♀, 1♂, leg. Boustani M., coll. MBOU.

**Flower records.** Apiaceae: *Eryngium billardieri*, *Eryngium creticum*; Lamiaceae: *Mentha aquatica*, *Teucrium orientale*.

### *Hylaeus (Prosopis) pictus* (Smith, 1853) \*

**Distribution:** WEST PALAEARCTIC: Southern Europe, Mediterranean basin and east to Azerbaijan (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

**Material examined.** Mount Lebanon: Aley, Ain Es Sayde, 15.VIII.1994, 1♂, leg. Roche C.G.; Mansourieh, Al



Mountazah, 11.V.1995, 1♂, leg. Roche C.G.; Mansourieh, Al Mountazah, 250 m, 26.VI.1996, 1♀, leg. Roche C.G., all coll. SEMC.

***Hylaeus (Koptogaster) punctulatissimus* Smith, 1842 \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Al Fouar, 1528 m, 17.VI.2016, 1♀, leg. Boustani M., coll. MBOU.

***Hylaeus (Dentigera) punctus* Förster, 1871 \***

**Distribution:** WEST PALAEARCTIC: North and East Mediterranean (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

**Material examined.** Mount Lebanon: Monteverde, 350 m, 7.VIII.1994, 1♂, leg. Roche C.G.; Aley, Ain Es Sayde, 15.VIII.1994, 1♂, leg. Roche C.G., all coll. SEMC.

N. Lebanon: Tannourine El Tahta, Wadi Al Fouar, 22.VIII.2018, 1187 m, 1♂, leg. Boustani M., Jabbour J.; Fehta, El Biara, 1664 m, 23.VIII.2019, 1♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Apiaceae: *Foeniculum vulgare*, Asteraceae: *Echinops gaillardotii*.

***Hylaeus (Prosopis) rugicollis* Morawitz, 1873 \***

**Distribution:** EAST MEDITERRANEAN (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

**Material examined.** Bekaa: Jdeide, 1000 m, 12.V.1995, 1♀, leg. Roche C.G., coll. SEMC.

***Hylaeus (Hylaeus) sidensis* (Warncke, 1981) \* (fig. 18.1)**

**Distribution:** EAST MEDITERRANEAN: Greece, Turkey, Syria, Israel, Lebanon (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

**Material examined.** Bekaa: Jdeide, 1000 m, 12.V.1995, 1♀, leg. Roche C.G., coll. SEMC.

Mount Lebanon: Monteverde, 350 m, 21.V.1994, 1♂, leg. Roche C.G.; 6.V.1995, 1♂, leg. Roche C.G.; 25.V.1995, 1♀, leg. Roche C.G., all coll. SEMC; Chammiss, Wadi Cheber, 372 m, 26.IV.2019, 2♂, leg. Boustani M., Rasmont P., coll. MBOU.

N. Lebanon: Bokesmaya, Nahr El Jawz, 250 m, 1.VI.2001, 1♂, leg. Pavett P.M., coll. MPAV.

**Flower records.** Apiaceae: *Chaetosciadium trichospermum*.

Notes: Reported from Lebanon with no details on the specimens by Grace (2010).

***Hylaeus (Paraprosopis) soror* (Pérez, 1903) \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** Mount Lebanon: Aley, Ain Es Sayde, 15.VIII.1994, 1♀, leg. Roche C.G.; Monteverde, 350 m, 23.V.1994, 2♂, leg. Roche C.G., leg. SEMC.

N. Lebanon: Arz Tannourine, 1800 m, 19.VII.2005, 1♂, leg. Nemer N., coll. TCFNR; Arz Tannourine, Trail 4, 1786 m, 13.VII.2017, 4♂, leg. Boustani M.; Arz Tannourine, Trail 1, 1798 m, 28.VII.2017, 3♀, leg. Boustani M.; 1748 m, 28.VII.2017, 1♀, leg. Boustani M., all coll. MBOU; Arz Tannourine, Main Gate, 1796 m, 4.VII.2019, 1♀, leg. Ghisbain G., coll. UMONS; 1762 m, 11.VII.2018, 1♂, leg. Boustani M., coll. MBOU; Horch Ehden, 1625 m, 14.VII.2019, 2♂, leg. Van Achter X.; 22.VII.2019, 1♀, leg. Van Achter X., all coll. XVA.

**Flower records.** Apiaceae: *Chaerophyllum aurantiacum*, *Ferulago* sp., *Hippomarathrum* sp.

***Hylaeus (Paraprosopis) styriacus* Foerster, 1871 \***

**Distribution:** PALAEARCTIC: Southern Europe, Russia (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Horch Ehden, Nature Reserve, 1300–1600 m, 29.V.2001–3.VI.2001, 1♀, 1♂, leg. Pavett P.M., coll. MPAV.

***Hylaeus (Dentigera) styriacus* (Alfken, 1936) \***

**Distribution:** EAST MEDITERRANEAN: Turkey, Jordan, Egypt, Lebanon (Ascher & Pickering 2021).

Local distribution fig. 10.8

**Material examined.** Bekaa: Hadath, 1441 m, 7.VII.2019, 1♀, leg. Ghisbain G., coll. UMONS.

Mount Lebanon: Souk El Ghareb, Balamand University, 839 m, 23.VII.2019, 1♂, leg. Van Achter X., coll. XVA.  
N. Lebanon: Horch Ehden, Nature Reserve, 1300–1600 m, 13–18.IX.2000, 3♀, 5♂, leg. Pavett P.M., coll. MPAV;  
Tannourine El Tahta, Wadi Al Fouar, 1187 m, 22.VIII.2018, 1♂, leg. Boustani M., Jabbour J.; Arz Tannourine,  
1781 m, 23.VIII.2019, 1♂, leg. Boustani M.; Arz Tannourine, 1796 m, 23.VIII.2019, 1♂, leg. Boustani M., all coll.  
MBOU.

**Flower records.** Apiaceae: *Eryngium creticum*, *Eryngium glomeratum*, *Foeniculum vulgare*.

***Hylaeus (Paraprosopis) taeniolatus* Förster, 1871 \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

Local distribution fig. 10.9

GBIF (2021) SEMC records examined by Dathe H. and included in Material examined below.

**Material examined.** Beirut: Achrafieh, Sioufi Garden, 137 m, 21.VII.2019, 2♂, leg. Boustani M.; 26.VII.2019, 2♂,  
leg. Boustani M., all coll. MBOU.

Mount Lebanon: Mansourieh, Al Mountazah, 250 m, 30.IV.1996, 3♀, 2♂, leg. Roche C.G.; 26.VI.1996, 1♂, leg.  
Roche C.G.; 350 m, 25.VI.1995, 1♀, 1♂, leg. Roche C.G., all coll. SEMC; Daychounieh, Nahr Beirut Climbing  
Site, 133 m, 27.IV.2017, 1♂, leg. Boustani M.; Bentaël, 337 m, 23.IV.2019, 5♂, leg. Boustani M., all coll. MBOU.  
N. Lebanon: Bokesmaya, Nahr El Jawz, 250 m, 1.VI.2001, 1♀, 1♂, leg. Pavett P.M., coll. MPAV; Hadath El Jebbe,  
Chemin Wadi Ain El Raha, 1575 m, 28.VII.2017, 1♀, Boustani M.; Arz Tannourine, 1762 m, 18.VIII.2018, 1♂, leg.  
Boustani M., Jabbour J.; Hadath El Jebbe, Cedar Forest, 1681 m, 22.VIII.2018, 1♀, 4♂, leg. Boustani M., Jabbour  
J.; Tannourine El Tahta, Wadi Al Fouar, 1187 m, 22.VIII.2018, 4♂, leg. Boustani M., Jabbour J., all coll. MBOU;  
Tannourine El Fawka, Salon de l'Eglise, 1244 m, 4.VII.2019, 1♂, leg. Ghisbain G., coll. UMONS.

**Flower records.** Apiaceae: *Eryngium glomeratum*, *Ferulago frigida*, *Foeniculum vulgare*; Lamiaceae: *Lamium* sp.;  
Rosaceae: *Rubus sanctus*; Rutaceae: *Ruta chalepensis*; Verbenaceae: *Duranta erecta*.

***Hylaeus (Prosopis) variegatus* (Fabricius, 1798) \***

**Distribution:** PALAEARCTIC (Ascher & Pickering 2021).

Local distribution fig. 10.10

**Unpublished records.** GBIF 2015: Beirut, 15 miles East, 6.VIII.1964, 2♂, det. G.C. & R.R. Snelling 1972, leg.  
Bohart GE.; coll. BBSL.

**Material examined.** Bekaa: Jdeide, 1000 m, 19.V.1996, 1♂, leg. Roche C.G., coll. SEMC.

Mount Lebanon: Mansourieh, Al Mountazah, 250 m, 20.VIII.1995, 1♂, leg. Roche C.G.; 3.IX.1995, 1♂, leg. Roche  
C.G.; 26.VI.1996, 1♂, leg. Roche C.G.; Monteverde, 350 m, 06.V.1994, 3♂, leg. Roche C.G.; 21.V.1994, 1♂,  
leg. Roche C.G.; 23.V.1994, 1♂, leg. Roche C.G.; 29.V.1994, 1♀, leg. Roche C.G.; 14.VIII.1994, 1♂, leg. Roche  
C.G.; 19.VIII.1994, 1♀, leg. Roche C.G.; 6.V.1995, 1♀, 1♂, leg. Roche C.G.; 4.VI.1995, 1♀, leg. Roche C.G.;  
1.VII.1995, 2♀, leg. Roche C.G.; Choueifat, Der Koubel, 300 m, 2.VII.1995, 1♂, leg. Roche C.G.; Monteverde,  
350 m, 8.VII.1995, 1♂, leg. Roche C.G.; Deir El Haref, 1100 m, 16.VII.1995, 2♀, leg. Roche C.G.; 23.VII.1995,  
1♀, leg. Roche C.G.; 30.VII.1995, 1♀, leg. Roche C.G.; Monteverde, 350 m, 13.VIII.1995, 1♂, leg. Roche C.G.;  
18.V.1996, 1♂, leg. Roche C.G.; 19.VI.1996, 1♀, leg. Roche C.G., all coll. SEMC.

N. Lebanon: Zgharta, Kahef Al Malloul, 1100 m, 09.VII.1995, 2♀, leg. Roche C.G., coll. SEMC; Nahr El Bared,  
2.VI.2001, 2♀, 1♂, leg. Pavett P.M., coll. MPAV.

## ANDRENIDAE

### ANDRENINAE

#### Genus *Andrena* Fabricius, 1775

88 species.

All Material Examined determined by Wood T.J.

All *Andrena* occurrences, global distributions, and their related flower records were published in Wood *et al.*  
(2020a); species are listed here with only dates and regions, and without flower records to avoid redundancy. Two  
species that were not reported previously, *Andrena leucopsis* and *Andrena rugulosa*, have been included in the list  
with full record details.

***Andrena (Aciandrena) abruptifovea* Wood, 2020**

**Distribution:** LEVANT, this species also occurs in Syria (Wood T.J., unpublished data).

**Material examined.** Mount Lebanon: Shouf Biosphere Reserve 1♀, 5♂; North Lebanon: Harissa, 1♀, 1♂, Tannourine Reserve, 1♀, Arz Tannourine Gate area, 1♀, Hadath El Jebbe, 1♀, Arz Bcharre, 1♂; between 5.V.2017 and 20.V.2019.

***Andrena (Melandrena) albopunctata* (Rossi, 1792)**

**Distribution:** PALAEARCTIC.

**Material examined.** Bekaa: AUB Farm, 4♀, Baalbeck, Haush Sneid, 1♀; Mount Lebanon: Chhim, 1♂; S. Lebanon: Sidon [Saida], 1♀; between 19.IV.1962 and 25.V.1981.

***Andrena (Micrandrena) alfkenella* Perkins, 1914**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** Mount Lebanon: Shouf Biosphere Reserve, 1♀; N. Lebanon: Horch Ehden, 3♀, Arz Tannourine, 18♀, between 19.VI.2016 and 29.VII.2019.

***Andrena (Micrandrena) alfkenelloides* Warncke, 1965**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** N. Lebanon: Tannourine El Tahta, 4♀, 24–27.III.2017.

***Andrena (Nobandrena) anatolica* Alfken, 1935**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** N. Lebanon: Arz Bcharre, 4♀, 3♂, between 27.V.2018 and 5.VI.2019.

***Andrena (Cryptandrena) aruana* Warncke, 1967**

**Distribution:** LEVANT.

**Material examined.** Bekaa: Quaraoun, 1♂, 24.III.2013.

***Andrena (Nobandrena) asiatica* Friese, 1921**

**Distribution:** EAST MEDITERRANEAN.

**Literature.** Schubert *et al.* (2001): N. Lebanon, Cedars [Arz Bcharre], 10–23.VI.1962, 1♀, 1♂, Coll. Schmiedeknecht, MNHUB.

***Andrena (Euandrena) bicolor* Fabricius, 1775**

**Distribution:** PALAEARCTIC.

**Material examined.** N. Lebanon: Hadath El Jebbe, 1♀, 12.IV.2019.

***Andrena (Aenandrena) bisulcata* Morawitz, 1877**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** Mount Lebanon: Fidar, 1♀; Jubayl [Byblos], 1♂, between 5.IV.2017 and 25.IV.2017.

***Andrena (Cryptandrena) brumanensis* Friese, 1899**

**Distribution:** WEST PALAEARCTIC

**Literature.** Friese (1899): Mount Lebanon, Brumana [Broummana, close to Beirut], 30.IV.1899, leg. Morice F. (Listed under Syria, but the location is in modern day Lebanon).

***Andrena (Poecilandrena) bytinskii* Warncke, 1969**

**Distribution:** EAST MEDITERRANEAN

**Material examined.** N. Lebanon: Fehta, 1♂, 24.IV.2018.

***Andrena (incertae sedis) cedricola* Wood, 2020**

**Distribution:** LEVANT.

**Material examined.** Mount Lebanon: Falougha, 1♀; Laqlouq, 1♀; N. Lebanon: Hadath El Jebbe, 2♀, 1♂; Harissa, 2♂, between 30.IV.2017 and 13.V.2019.

***Andrena (Pallandrena) christineae* Dubitzky, 2006**

**Distribution:** EAST MEDITERRANEAN

**Material examined.** N. Lebanon: Arz Bcharre, 1♀, 2♂, between 18.IV.2018 and 20.V.2019.

***Andrena (Brachyandrena) colletiformis* Morawitz, 1874 (fig. 18.2)**

**Distribution:** PALAEARCTIC

**Material examined.** Mount Lebanon: Chammis, 1♀; N. Lebanon: Kfar Hay, 1♀, between 3.V.2017 and 26.IV.2019.

***Andrena (Suandrena) cyanomicans* Pérez, 1895 ssp. *mirna* Warncke, 1969**

**Distribution:** WEST PALAEARCTIC, subspecies *mirna* is found in the EAST MEDITERRANEAN.

**Material examined.** Bekaa: AUB Farm, 2♀, 1♂; Mount Lebanon: Fanar, 1♀, between 15.III.1961 and 11.III.1965.

***Andrena (Ulandrena) dauma* Warncke, 1969**

**Distribution:** EAST MEDITERRANEAN

**Material examined.** N. Lebanon: Arz Tannourine, 1♂; Arz Bcharre, 2♀, 6.V.2017 and 12.V.2017.

***Andrena (Truncandrena) doursana* Dufour, 1853 ssp. *mizorhina* Warncke, 1975**

**Distribution:** WEST PALAEARCTIC, subspecies *mizorhina* is found in the EAST MEDITERRANEAN.

**Material examined.** Bekaa: Kefraya, 1♂, 27.IV.2019.

***Andrena (Melandrena) elmaria* Gusenleitner, 1998 (fig. 18.3)**

**Distribution:** EAST MEDITERRANEAN.

**Material examined.** N. Lebanon: Tannourine El Tahta, 3♀; Arz Tannourine, 1♂; Ehden, 1♀, between 2.IV.2018 and 5.V.2019.

***Andrena (Chlorandrena) exquisita* Warncke, 1975**

**Distribution:** EAST MEDITERRANEAN.

**Material examined.** Bekaa: Kefraya, 1♂, 3♀; Ammiq, 1♀; N. Lebanon: Tannourine El Tahta, 4♂, 9♀; Fehta, 1♀; Arz Tannourine, 1♂; Ehden, 2♀, between 27.III.2017 and 11.V.2019.

***Andrena (Zonandrena) flavipes* Panzer, 1799 (fig. 18.4)**

**Distribution:** PALAEARCTIC.

Local distribution fig. 10.11

**Literature.** Mavromoustakis (1963): S. Lebanon, Djezzine [Jezzine], 2.VI.1952, 4♀; Mount Lebanon, Hammana, 16.V.1953, 1♀; Mount Lebanon, Ein el Arar, 25.VI.1953, 1♀; Kadisha river, 21.VI.1960, 1♀.

**Material examined.** 29♀ and 4♂, between 1975 and 2019 from across Lebanon.

***Andrena (Holandrena) forsterella* Osytchnjuk, 1978**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** Bekaa: Der El Ahmar, 1♀, 3.VII.2019.

***Andrena (Poecilandrena) freidbergi* Pisanty & Scheuchl, 2018**

**Distribution:** LEVANT.

**Material examined.** N. Lebanon: Arz Bcharre, 1♀, 20.V.2019.

***Andrena (Truncandrena) fuligula* Warncke, 1965**

**Distribution:** EAST MEDITERRANEAN.

**Material examined.** Bekaa: Qaraoun Lake, 1♀, 1♂, 24.III.2013.

***Andrena (Ulandrena) fulvitorsis* Brullé, 1832**

**Distribution:** WEST PALAEARCTIC

**Material examined.** N. Lebanon: Arz Bcharre, 1♀, 20.V.2019.

***Andrena (Melanapis) fuscata* Spinola, 1838**

**Distribution:** PALAEARCTIC.

**Material examined.** Beirut: AUB Campus, no date, 1♀; Bekaa: AUB Farm, 1♂, between 15.IV.1962 and 12.V.1962.

***Andrena (Orandrena) gallinula* Warncke, 1975**

**Distribution:** EAST MEDITERRANEAN.

**Material examined.** N. Lebanon: Horch Ehden, 3♀, 20–22.V.2019.

***Andrena (Orandrena) garrula* Warncke, 1965 ssp. *lomvia* Warncke, 1969**

**Distribution:** EAST MEDITERRANEAN.

**Material examined:** Mount Lebanon: Barja, 2♂; N. Lebanon: Tannourine El Tahta, 4♀, between 31.VI.2016 and 24.III.2017.

***Andrena (Chrysandrena) hesperia* Smith, 1853**

**Distribution:** PALAEARCTIC.

Local distribution fig. 10.12

**Material examined.** Mount Lebanon: Ksaibe, 1♂, Bentaël, 1♀; N. Lebanon, Tannourine El Tahta, 3♀; Fehta, 1♀, Harissa, 3♀, Horch Ehden, 1♀, 1♂, Bcharre, 2♂, between 3.V.2017 and 20.V.2019.

***Andrena (Taeniandrena) hova* Warncke, 1975**

**Distribution:** EAST MEDITERRANEAN.

**Material examined.** N. Lebanon: Arz Bcharre, 9♀, 2♂; Bcharre, 10♀, 8♂; Fehta, 1♀; Arz Tannourine, 3♀; Hadath El Jebbe, 1♀, between 27.VI.2017 and 6.VII.2019.

***Andrena (Chlorandrena) humabilis* Warncke, 1965**

**Distribution:** LEVANT.

**Material examined.** S. Lebanon: Saidoun, 3♀, 1♂, between 26.III.2017 and 15.IV.2018.

***Andrena (Chlorandrena) humilis* Imhoff, 1832**

**Distribution:** PALAEARCTIC.

**Material examined.** N. Lebanon: Fehta, 3♂; Arz Tannourine, 6♂; Arz Bcharre, 2♀., between 20.V.2012 and 5.VI.2019.

***Andrena (Ulandrena) isabellina* Warncke, 1969**

**Distribution:** EAST MEDITERRANEAN.

**Material examined.** Bekaa: Kefraya, 2♀; N. Lebanon: Hadath El Jebbe, 2♀, 27.IV.2019 and 13.V.2019.

***Andrena (Margandrena) krausiella* Gusenleitner, 1998**

**Distribution:** LEVANT.

**Material examined.** S. Lebanon: Saidoun, 2♀, 20.I.2018.

***Andrena (Holandrena) labialis* (Kirby, 1802)**

**Distribution:** PALAEARCTIC.

Local distribution fig. 10.13

**Material examined.** Bekaa: Ainata, 5♂; Hadath, 1♀; Mount Lebanon: Horch El Barouk, 1♀; N. Lebanon: Arz Tannourine, 1♂; Arz Bcharre, 2♀, 2♂; Harissa, 1♂; Hadath El Jebbe, 4♀, 1♂; Arz Tannourine, 1♂; Bcharre, 2♀, between 30.V.2017 and 12.VII.2019.

***Andrena (Poecilandrena) labiata* Fabricius, 1781 ssp. *regina* Friese, 1921**

**Distribution:** PALAEARCTIC, subspecies *regina* is found in the EAST MEDITERRANEAN.

**Material examined.** N. Lebanon: Arz Tannourine, 1♀; Hadath El Jebbeh, 1♀; Bcharre, 2♀, 2♂.

***Andrena (Taeniandrena) leucopsis* Warncke, 1975 \***

**Distribution:** WEST PALEARCTIC.

**Material examined.** Arz Tannourine: Gate area, 1754 m, 7.VI.2019, 1♂, leg. Boustani M., Mouawad G., coll. MBOU.

**Notes.** Grace (2010) reported this species from Lebanon without locality details.

This male specimen was reported as *A. ovatula* agg by Wood *et al.* (2020a). However, barcoding (TJW & C. Praz, unpublished data) confirmed that it belongs to *A. leucopsis*. The females reported as *A. ovatula* agg barcode differently and do not correspond to any known European taxon. It is not currently possible to confidently place a name on this material because of the confused taxonomy of the group, and so it should remain in aggregate for now. The presence of *A. leucopsis* in Lebanon suggests the Warncke records from the Anti-Lebanon in southern Syria (Gusenleitner & Schwarz 2002) are likely to be correct.

***Andrena (Melandrena) limata* Smith, 1853**

**Distribution:** PALAEARCTIC.

**Material examined.** Bekaa: AUB Farm, 3♀; Mount Lebanon: Falougha, 1♂, between 2.IV.1963 and 17.VII.1975.

***Andrena (Micrandrena) lindbergella* Pittioni, 1950**

**Distribution:** EAST MEDITERRANEAN.

**Material examined.** N. Lebanon: Arz Bcharre, 1♂; Bcharre, 2♀, 3♂; Jord Tannourine, 1♂, between 8.VI.2017 and 20.V.2019.

***Andrena (Micrandrena) magunta* Warncke, 1965**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** Bekaa: Quaraoun, 1♀; Mount Lebanon: Jamhour, 1♀; N. Lebanon, Tannourine El Tahta, 1♀, 3♂, between 2.IV.1973 and 11.V.2017.

***Andrena (Truncandrena) medeninensis* Pérez, 1895 ssp. *usura* Warncke, 1967**

**Distribution:** WEST PALAEARCTIC, subspecies *usura* is found in the EAST MEDITERRANEAN.

**Material examined.** Mount Lebanon: Shouf Biosphere Reserve, 1♂; Mazraat Al Daher, 1♀; N. Lebanon: Arz Tannourine, 3♀, between 11.V.2019 and 19.VII.2019.

***Andrena (Melittoides) melittoides* Friese, 1899**

**Distribution:** EAST MEDITERRANEAN.

**Literature.** Friese (1899): under “Syria”, the location is not clear and could be in current Lebanese territory.

**Material examined.** Mount Lebanon: Wadi Chahrour, 1♂, 22.V.2009.

***Andrena (Chrysandrena) merula* Warncke, 1969**

**Distribution:** EAST MEDITERRANEAN

**Material examined.** Mount Lebanon: Barja, 1♂; N. Lebanon: Tannourine El Tahta, 1♂, between 7.III.2017 and 25.IV.2019.

***Andrena (Micrandrena) minutula* (Kirby, 1802)**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** N. Lebanon: Hadath El Jebbe, 1♀, 12.IV.2019.

***Andrena (Micrandrena) minutuloides* Perkins, 1914**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** N. Lebanon: Ehden, 1♀, 22.V.2019.

***Andrena (Cryptandrena) monacha* Warncke, 1965**

**Distribution:** EAST MEDITERRANEAN.

**Material examined.** Mount Lebanon: Khaldah [Khalde], 1♂, 18.IV.1973.

***Andrena (Melandrena) morio* Brullé, 1832**

**Distribution:** PALAEARCTIC.

**Literature.** Mavromoustakis (1963): N. Lebanon, Near Becharré [Bcharre], 19.VI.1960, 1♀; Focke, 20.VI.1960, 2♀; N. Lebanon, Kadisha river, 20.VI.1960, 1♀.

***Andrena (Melandrena) nigroaenea* (Kirby, 1802)**

**Distribution:** PALAEARCTIC.

Local distribution fig. 10.14

**Literature.** Mavromoustakis (1963): N. Lebanon, Near Becharré [Bcharre], 27.VI.1960, 1♀; N. Lebanon, Kadisha river, 21–26.VI.1960, 6♀; Grace (2010) Lebanon.

**Material examined.** Mount Lebanon: Hboub, 1♀; N. Lebanon: Tannourine El Tahta, 1♂, Hadath El Jebbeh, 1♀, 1♂; Bcharre, 1♀; Jairoun, 1♀, between 29.V.2012 and 14.VII.2019.

***Andrena (Micrandrena) oedinema* Warncke, 1975**

**Distribution:** EAST MEDITERRANEAN.

**Material examined.** Mount Lebanon: Barja, 1♂; Marej Barja, 1♀; N. Lebanon: Tannourine El Tahta, 1♂, between 7.III.2017 and 26.IV.2019.

***Andrena (Truncandrena) optata* Warncke, 1975**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** Mount Lebanon: Shouf Biosphere Reserve, 1♂; N. Lebanon: Tannourine El Tahta, 1♂, 12.IV.2019 and 16.V.2019.

***Andrena (Chlorandrena) orientana* Warncke, 1965**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** Bekaa: Kefraya, 2♀, 27.IV.2019.

***Andrena (Taeniandrena) ovatula* (Kirby, 1802) aggregate**

**Distribution:** WEST PALAEARCTIC.

The material for this taxon was reported as an aggregate in Wood *et al.* (2020a) because the group is undergoing substantial revision.

***Andrena (Pallandrena) pallidicincta* Brullé, 1832**

**Distribution:** EAST MEDITERRANEAN.

**Material examined.** N. Lebanon: Donnieh, 1♀; Horch Ehden, 1♀, between 23.V.2012 and 2.V.2017.

***Andrena (Chlorandrena) panurgimorpha* Mavromoustakis, 1957**

**Distribution:** EAST MEDITERRANEAN.

**Material examined.** N. Lebanon: Arz Tannourine, 1♂; Jairoun, 2♀, between 29.V.2012 and 6.V.2017.

***Andrena (Plastandrena) pilipes* Fabricius, 1781**

**Distribution:** PALAEARCTIC.

**Material examined.** Bekaa: Der El Ahmar, 1♂, 3.VII.2019.

***Andrena (Chlorandrena) pinkeunia* Warncke, 1969**

**Distribution:** LEVANT.

**Material examined.** S. Lebanon: Saidoun, 1♀, 8.V.2018.

***Andrena (incertae sedis) prodigiosa* Wood, 2020**

**Distribution:** ENDEMIC: Known only from the *locus typicus* in eastern Lebanon.

**Material examined.** Bekaa: Qaraoun Lake, 1♂, 24.III.2013.

***Andrena (Melandrena) pyropygia* Kriechbaumer, 1873**

**Distribution:** PALAEARCTIC.

**Literature.** Mavromoustakis (1963): Mount Lebanon, Baabdate, 24–25.V.1953, 2♂, 1♀; S. Lebanon, Djezzine [Jezzine], 20.V.1953, 1♂.

**Material examined.** Bekaa: AUB Farm, 1♀; Mount Lebanon: Bikfayya, 1♀, 18.IX.1962 and 12.VI.1973.

***Andrena (Truncandrena) rotundilabris* Morawitz, 1877 ssp. *rila* Warncke, 1969**

**Distribution:** EAST MEDITERRANEAN.

**Literature.** Warncke (1969): N. Lebanon, Cedars near Bscharré [Bcharre], 1900 m, 12–19.VI.1931, leg. W. Zerny (paratype).

***Andrena (Euandrena) rufitibialis* Friese, 1899 ssp. *limosa* Warncke, 1969**

**Distribution:** EAST MEDITERRANEAN.

**Material examined.** North Lebanon: Donnieh, 3♀; South of Jairoun, 1♀, 23.V.2012.

***Andrena (Truncandrena) rufomaculata* Friese, 1921**

**Distribution:** EAST MEDITERRANEAN.

Local distribution fig. 10.15

**Material examined.** Beirut: 1♂; Bekaa: AUB Farm, 1♂; Mount Lebanon: Fanar, 1♂, Bcheftine, 1♀; Daichouniyé, 1♀, 2♂; Jbeil, 1♂; N. Lebanon: Tannourine El Tahta, 1♂; S. Lebanon: Hilaliyah, 1♂; Saidoun, 2♂, between 17.IV.1961 and 18.III.2018.

***Andrena (Euandrena) rufula* Schmiedeknecht, 1883 (fig. 18.5)**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** N. Lebanon: Horch Ehden, 2♀; Arz Bcharre, 1♀, between 9.V.2017 and 24.IV.2019.

***Andrena (Micrandrena) rugothorace* Warncke, 1965**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** N. Lebanon: Tannourine El Tahta, 5♀, 1♂, between 11.IV.2017 and 5.V.2019.

***Andrena (Micrandrena) rugulosa* Stoeckhert, 1935 \***

**Distribution:** WEST PALEARCTIC

**Material examined.** Mount Lebanon: Shouf Biosphere Reserve, Barouk-Maaser dirt road, 1769 m, 16.V.2019, 1♂; Shouf Biosphere Reserve, Barouk Trails crossing, 1772 m, 16.V.2019, 1♀, 1♂; Shouf Biosphere Reserve, Maaser Al Chouf Gate, 1726 m, 16.V.2019, 2♀, 1♂, all leg. Boustani M., coll. MBOU.

**Notes.** Specimens differ slightly from European *A. rugulosa* by the strength of the integumental puncturing, but a barcode sequence is very close to that of a Swiss *A. rugulosa* specimen (C. Praz pers. comm.), and so this name is favoured. Its presence in Lebanon represents another widespread West Palearctic *Andrena* species that reaches its southern limit in the Mount Lebanon range (Wood *et al.* 2020a).

***Andrena (Poecilandrena) rusticola* Warncke, 1975**

**Distribution:** EAST MEDITERRANEAN.

**Material examined.** N. Lebanon: Horch Ehden, 1♂, 24.IV.2019.

***Andrena (Opandrena) schencki* Morawitz, 1866**

**Distribution:** PALAEARCTIC.

**Material examined.** Beyrouth [Beirut]: 1♀, V.1979.



***Andrena (Euandrena) scrophulariae* Wood, 2020**

**Distribution:** ENDEMIC: Known only from the locus typicus in northern Lebanon.

**Material examined.** N. Lebanon: Arz Tannourine, 4♀, 20.V.2018.

***Andrena (Truncandrena) serraticornis* Warncke, 1965**

**Distribution:** EAST MEDITERRANEAN.

**Material examined.** Mount Lebanon: Chammiss, 2♀, 1♂; Falougha, 3♀, 5.IV.2019 and 27.IV.2019.

***Andrena (Zonandrena) sigiella* Gusenleitner, 1998**

**Distribution:** LEVANT.

**Material examined.** Bekaa: AUB farm, 3♀; Mount Lebanon: Barja, 2♀, 13.IV.1962 and 17.IV.2017.

***Andrena (Taeniandrena) similis* Smith, 1849**

**Distribution:** WEST PALAEARCTIC.

Local distribution fig. 10.16

**Material examined.** Mount Lebanon: Bhamdoun, 1♀; Ksaibe, 1♂; Bentaël, 1♀; N. Lebanon: South of Jairoun, 1♀; Tannourine El Tahta, 2♀, 1♂; Arz Tannourine, 1♀, 1♂; Hadath El Jebbe, 2♀; Arz Bcharre, 3♀; Jord Tannourine, 1♀; Jord Ehden, 1♀; South Lebanon: Saida, 1♀, between 14.III.1973 and 6.VII.2019.

***Andrena (Micrandrena) simontornyella* Noskiewicz, 1939 ssp. *corpana* Warncke, 1965**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** Bekaa: Qaraoun Lake, 1♀, 24.III.2013.

***Andrena (Poecilandrena) sphecodimorpha* Hedicke 1942 ssp. *mediterranea* Scheuchl & Pisanty, 2016**

**Distribution:** WEST PALAEARCTIC, subspecies *mediterranea* is found in the LEVANT.

**Material examined.** N. Lebanon: South of Jairoun, 1♀; Tannourine Reserve, 1♂; Horch Ehden, 1♂, between 23.V.2012 and 13.V.2019.

***Andrena (Micrandrena) spreta* Pérez, 1895 aggregate**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** N. Lebanon: Tannourine El Tahta, 1♂, 11.V.2017.

***Andrena (Lepidandrena) statusa* Gusenleitner, 1998**

**Distribution:** EAST MEDITERRANEAN.

**Material examined.** N. Lebanon: Tannourine El Tahta, 1♂, 11.IV.2017.

***Andrena (Fuscandrena) stenofovea* Scheuchl & Pisanty, 2018**

**Distribution:** LEVANT.

**Material examined.** Bekaa: Quaraoun, 1♀; Mount Lebanon: Barja, 2♂; N. Lebanon: Tannourine El Tahta, 1♀, between 24.III.2013 and 27.III.2017.

***Andrena (Simandrena) thomsoni* Ducke, 1898**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** Bekaa: Kefraya, 2♂; Ammiq, 1♂; N. Lebanon: Tannourine El Tahta, 1♀; Arz Tannourine, 1♂, between 24.III.2017 and 27.IV.2019.

***Andrena (Melandrena) thoracica* (Fabricius, 1775)**

**Distribution:** PALAEARCTIC.

**Literature.** Mavromoustakis (1963): (as *A. t. kotschy* Mavromoustakis, 1953) N. Lebanon, Near Becharré [Bcharre], 19–20.VI.1960, 3♀; N. Lebanon, Kadisha river, 25.VI.1960, 1♀; N. Lebanon, Cedars [Arz Bcharre], 4.VII.1960, 1♀.

**Material examined.** Bekaa: AUB Farm [Haush Sneid], 2♀; Mount Lebanon: Berbara, 1♀, between 10.V.1961 and 29.III.1964.

***Andrena (Micrandrena) tiaretta* Warncke, 1974**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** N. Lebanon: Tannourine El Tahta, 3♀, between 11.IV.2017 and 5.V.2019.

***Andrena (Cordandrena) torda* Warncke, 1965**

**Distribution:** EAST MEDITERRANEAN.

**Material examined.** Bekaa: Quaraoun, 1♀; N. Lebanon: South of Jairoun, 1♀, between 23.V.2012 and 24.III.2013.

***Andrena (Simandrena) transitoria* Morawitz, 1871**

**Distribution:** PALAEARCTIC.

**Literature.** Mavromoustakis (1963): Mount Lebanon, Hammana, 16.V.1953, 1♀, Mount Lebanon, Ein el Arar, 25.V.1953, 1♀.

**Material examined.** Beirut: AUB, 1♀, V.1980.

***Andrena (Hoplandrena) trimmerana* (Kirby, 1802)**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** Bekaa: Donnieh, 1♀, no date; Ras Baalbeck, 1♂; N. Lebanon: Arz Bcharre, 1♂, between 9.V.2017 and 5.V.2018.

***Andrena (Micrandrena) tringa* Warncke, 1973**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** Mount Lebanon: Shouf Biosphere Reserve, 2♀; Barouk, 1♀; N. Lebanon: Arz Tannourine, 3♀; Arz Bcharre, 6♀, 4♂; Tannourine El Tahta, 1♀; Harissa, 3♀, 1♂, between 2.IV.2018 and 2.VII.2019.

***Andrena (Truncandrena) tscheki* Morawitz, 1872 ssp. *tritica* Warncke, 1965**

**Distribution (species):** WEST PALAEARCTIC, subspecies *tritica* is found in the EAST MEDITERRANEAN.

**Material examined.** Bekaa: AUB Farm [Haush Sneid], 1♂; N. Lebanon: Tannourine El Tahta, 2♀; S. Lebanon: Saidoun, 4♀, 1♂, between 5.V.1961 and 15.IV.2019.

***Andrena (Notandrena) ungeri* Mavromoustakis, 1952**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** Bekaa: Anjar, 1♀; Bawarij, 1♀; Mount Lebanon: Dahr El Baïdar, 1♀; Arz Al Barouk, 1♀, between 19.V.1972 and 27.IV.2016.

***Andrena (Poliandrena) uncinata* Friese, 1899**

**Distribution:** EAST MEDITERRANEAN (see Ghahnavieh & Monfared 2019).

**Material examined.** N. Lebanon: Tannourine El Tahta, 1♀; S. Lebanon: Saidoun, 1♀, 1♂, between 5.III.2018 and 5.V.2019.

***Andrena (Poliandrena) unifasciata* Friese, 1899**

**Distribution:** LEVANT

**Literature.** Friese (1899): Beirut, 28.IV.1889, 1♂, 1♀, leg. Morice F.

***Andrena (Holandrena) variabilis* Smith, 1853**

**Distribution:** PALAEARCTIC.

**Material examined.** Mount Lebanon: Laqlouq, 1♀, collection 30.VI.2019.

***Andrena (Cryptandrena) ventricosa* Dours, 1873**

**Distribution:** WEST PALAEARCTIC.

**Material examined.** N. Lebanon: Jairoun, 1♀, 29.V.2012.

***Andrena (Simandrena) vetula* Lepeletier, 1841**

**Distribution:** PALAEARCTIC.

**Literature.** Mavromoustakis (1963): Mount Lebanon, Ein El Arar (near Baabdate), 25.V.1953, 1♀; S. Lebanon, Djezzine [Jezzine], 2.VI.1953, 1♀.

**Material examined.** Mount Lebanon: Daichouniyé, 3♀, 3♂; S. Lebanon: Saidoun, 2♀, 1♂, between 27.IV.2017 and 5.V.2018.

## PANURGINAE

**Genus *Panurgus* Panzer, 1806**

Two species.

***Panurgus (Panurgus) posticus* Warncke, 1972**

**Distribution:** EAST MEDITERRANEAN (Patiny 2012).

**Literature.** Warncke (1972): Paratype material from Beirut as *Panurgus dentipes* ssp. *posticus*.

**Material examined.** Mount Lebanon: Jabal Moussa, Trail Qornet El Der, 1364 m, 18.VII.2019, 1♀, det. Wood T.J., leg. Boustani M., coll. MBOU.

N. Lebanon: Hadath El Jebbe, Qornet Dammoua, 1231 m, 22.VI.2017, 1♂, det. Wood T.J., leg. Boustani M., coll. MBOU.

***Panurgus (Panurgus) pyropygus* Friese, 1901**

**Distribution:** EAST MEDITERRANEAN (Patiny 2012).

**Literature.** Friese (1901): Beirut, 23.IV.1899, 2♀, type material, leg. Morice F.

**Genus *Melitturga* Latreille, 1809**

One species.

***Melitturga (Melitturga) praestans* Giraud, 1861**

**Distribution:** WEST PALAEARCTIC: Scattered in south-eastern Europe, Caucasus and further East to Russia (Patiny 2012).

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon: Monteverde, nr. Mansourieh, 350 m, 28.IV.1996, 1♂, det. Baker D., leg. Roche C.G.; Deir El Harf, 1100 m, 1♂, det. Baker D., leg. Roche C.G.

**Literature.** Friese (1899): Listed under the description of variety *Melitturga praestans* var. *syriaca* as part of the type material.

Beirut, 21–28.IV.1899, some males and females, det. Friese H, leg. Morice F., Schmiedeknecht O.

## HALICTIDAE

Specimens determined by Pauly A., except specimens from the MKAS collection determined by Ebmer A.W. and deposited at OÖLM.

### Halictinae

#### HALICTINI

**Genus *Halictus* Latreille, 1804**

15 species.

Abundant species listed below have a wide range of forage plants from several families, with a focus on Asteraceae, in line with Dikmen *et al.* (2018), but also several Fabaceae genera.

***Halictus (Monilapis) aegypticola* Stand, 1909**

= *Halictus libanensis* Pérez, 1913

**Distribution:** EAST MEDITERRANEAN: Turkey, Lebanon, Syria, Israel, ?Egypt (Pauly *et al.* 2016).

Local distribution fig. 11.1

**Literature.** (Blüthgen 1955): Described as *H. libanensis* from Beit Meri listed under Syria, the locality is in current Lebanese territory; holotype♀: Mount Lebanon, Beit Meri, 12.VI.1908 (MNHNP).

**Material examined.** Abundant and widespread.

Bekaa: Blaika, 1325 m, 3.VII.2019, 4♀, leg. Ghisbain G.; 3♀, leg. Boustani M., all det. Pauly A.; Hadath, 1441 m, 7.VII.2019, 1♀, leg. Ghisbain G., det. Pauly A., Passage Akoura-Hadath, 1801 m, 7.VII.2019, 1♀, leg. Ghisbain G., det. Pauly A., all coll. UMONS.

Mount Lebanon: Marej Barja, Terbe, 442 m, 26.IV.2019, 1♀, leg. Boustani M., coll. MBOU; Shouf Biosphere Reserve, 1614 m, 3.VII.2019, 1♀, leg. Van Achter X., coll. XVA; Jabal Moussa, Trail Qornet El Der, 1364 m, 18.VII.2019, 1♀; Shouf Biosphere Reserve, Maaser Al Chouf Gate, 7.VIII.2019, 1726 m, 1♀; Barouk, 1086 m, 12.VIII.2018, 1♀; 1896 m, 7.VIII.2019, 1♀, all leg. Boustani M., det. Pauly A., all coll. MBOU.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 18.IV.2017, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU. Additional 60♀ collected between 18.IV.2017 and 23.VIII.2019 from Arz Tannourine, Hadath El Jebbe, Harissa, Qadisha Valley, Fehta, Horch Ehden, and Tannourine El Tahta.

S. Lebanon: Saidoun, 6.VIII.2018, 1♀; 21.VIII.2018, 1♀; all leg. Baghdadi A., det. Pauly A., coll. SOILS.

**Flower records.** Wide range of forage plants. Amaryllidaceae: *Allium phaneranthum*; Apiaceae: *Chaerophyllum aurantiacum*, *Eryngium creticum*, *Eryngium glomeratum*, *Foeniculum* sp.; Asteraceae: *Achillea falcata*, *Anthemis pauciloba*, *Anthemis* sp., *Carduus argentatus*, *Carlina curetum* ssp. *orientalis*, *Centaurea* cf. *pallescens*, *Crepis reuteriana*, *Echinops viscosus*, *Picnomon acarna*, *Reichardia* sp.; Fabaceae: *Astragalus gummifer*, *Medicago* sp., *Ononis natrix*, *Trifolium resupinatum*; Brassicaceae: *Thlaspi* sp.; Caprifoliaceae: *Cephalaria joppensis*, *Cephalaria* sp., *Cephalaria stellipilis*, *Scabiosa argentea*; Caryophyllaceae: *Dianthus* sp.; Hypericaceae: *Hypericum triquetrifolium*; Lamiaceae: *Origanum* cf. *ehrenbergii*, *Origanum* sp.; Plantaginaceae: *Anarrhinum orientale*.

***Halictus (Tythhalictus) asperulus* Pérez, 1895 \***

**Distribution:** WEST PALAEARCTIC: Iberia and the Maghreb to the East Mediterranean and Iran (Pauly *et al.* 2016).

**Material examined.** N. Lebanon: Fehta, Teleje, 2054 m, 14.VII.2017, 1♀, det. Pauly A., leg. Boustani M.; Arz Beharre, Reforestation Area, 1960 m, 18.VIII.2017, 1♂, det. Pauly A., leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Echinops viscosus*, *Onopordum carduiforme*.

***Halictus (Hexataenites) berlandi* Blüthgen, 1936**

**Distribution:** EAST MEDITERRANEAN: Turkey, Lebanon, and Israel (Pauly *et al.* 2016).

Local distribution fig. 11.2

**Literature.** Blüthgen (1955): Mentioned from Syria in the distribution, from Beirut and Zahle (Bekaa governorate) that are in the current Lebanese territory.

**Material examined.** Mount Lebanon: Missiar, 135 m, 26.VI.2019, 2♀, det. Pauly A., leg. Boustani M., Van Achter X., coll. MBOU; Missiar, 135 m, 1.VII.2019, 1♂, det. Pauly A., leg. Van Achter X.; Jabal Moussa, 1439 m, 18.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., all coll. XVA.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 24.III.2017, 3♀, det. Pauly A., leg. Boustani M.; 27.III.2017, 1♀, det. Pauly A., leg. Boustani M.; 3.V.2017, 1♀, det. Pauly A., leg. Boustani M.; Tannourine El Tahta, Al Mahbase, 893 m, 25.IV.2019, 2♀, det. Pauly A., leg. Boustani M., all coll. MBOU.; Douma, 791 m, 1.VII.2019, 2♀, det. Pauly A., leg. Ghisbain G., coll. UMONS.

S. Lebanon: Saidoun, Sahlet, 10.VIII.2019, 1♀, det. Pauly A., leg. Baghdadi A., coll. SOILS.

**Flower records.** Apiaceae: *Eryngium creticum*; Asteraceae: *Carduus argentatus*, *Centaurea* sp., *Echinops viscosus*; Boraginaceae: *Echium* sp.

***Halictus (Monilapis) beytueschepensis* Warncke, 1984 \***

**Distribution:** EAST MEDITERRANEAN: Turkey and Iran (Pauly *et al.* 2016).

Local distribution fig. 11.3

**Material examined.** Bekaa: Passage Akoura-Hadath, 7.VII.2019, 6♀, det. Pauly A., leg. Boustani M., coll. MBOU, 2♀, leg. Boustani M., Gekièrè A., Ghisbain G., Van Achter X., coll. MBOU, UMONS, XVA; Jord Aarsal, Wadi Al Heeban, 2000 m, 11.VII.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

Mount Lebanon: Aaqoura, Mejdèl Aaqoura, 1823 m, 28.VII.2018, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

N. Lebanon: Arz Tannourine, Outskirts, 1766 m, 6.V.2017, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU. 24 more records of 28♀ and 2♂ from N. Lebanon from Arz Tannourine, Horch Ehden and Arz Bcharre collected between 14.VII.2017 and 20.VIII.2019.

**Flower records.** Asteraceae: *Carduus argentatus*, *Centaurea eryngioides*, *Cirsium lappaceum*, *Cirsium* sp., *Centaurea pallescens*, *Cousinia libanotica*, *Echinops viscosus*, *Onopordum heteracanthum*, *Reichardia* sp.; Brassicaceae: *Medicago* sp., *Erysimum* sp.; Boraginaceae: *Solenanthes stamineus* (Desf.) Wettst.; Caprifoliaceae: *Centranthus longiflorus*, *Scabiosa argentea*; Caryophyllaceae: *Dianthus* cf. *strictus*; Lamiaceae: *Marrubium* cf. *cuneatum*; Plantaginaceae: *Anarrhinum orientale*.

### ***Halictus (Halictus) brunnescens* (Eversmann, 1852) \***

**Distribution:** PALAEARCTIC (Pauly *et al.* 2016).

Local distribution fig.11.4

**Material examined.** Specimen from AUB Collection without label, 1♀, det. Pauly A., coll. AUB.

Bekaa: Der El Ahmar, 989 m, 3.VII.2019, 5♀, det. Pauly A., leg. Gekièrè A., coll. UMONS, 6♀, det. Pauly A., leg. Boustani M., coll. MBOU, 3♀, det. Pauly A., leg. Ghisbain G., coll. UMONS; Passage Akoura-Hadath, 1748 m, 7.VII.2019, 2♀, det. Pauly A., leg. Van Achter X., coll. XVA.

Mount Lebanon: Barouk, Shouf Biosphere Reserve, 1678 m, 2.VII.2019, 1♂, det. Pauly A., leg. Van Achter X.

N. Lebanon: Arz Bcharre, 1883 m, 29.VI.2018, 2♀, det. Pauly A., leg. Boustani M., Jabbour J.; 21.VII.2018, 1♀, det. Pauly A., leg. Boustani M., Jabbour J.; Hadath El Jebbe, Border of the Cedar Forest, 1646 m, 31.V.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Bcharre, 1900 m, 14.VII.2019, 4♀, det. Pauly A., leg. Van Achter X., coll. XVA; Bcharre, Dahr El Adib, 2566 m, 20.VIII.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Cousinia libanotica*, *Centaurea* cf. *pallescens*, *Onopordum carduiforme*, *Onopordum heteracanthum*, *Serratula pusilla*.

### ***Halictus (Argalictus) futsensis* Blüthgen, 1936 \***

**Distribution:** EAST MEDITERRANEAN: Cyprus, Turkey, Syria, Israel (Pauly *et al.* 2016).

**Material examined.** Bekaa: Ainata, 2229 m, 29.VII.2018, 2♂, det. Pauly A., leg. Boustani M., Van Achter X., coll. XVA.

**Flower records.** Astereaceae: *Centaurea solstitialis*.

### ***Halictus (Monilapis) galilaeus* Blüthgen, 1955 \***

Synonymised with *Halictus tetrazonius* Klug in Germar, 1817 (Ebmer 1988), considered as an unjustified emendation of *Halictus galileus* Blüthgen, 1955 with *Halictus tetrazonius* by Pesenko (2004) and will be retained here as a separate species.

**Distribution of *H. tetrazonius*:** PALAEARCTIC (Pauly *et al.* 2016).

**Material examined.** Mount Lebanon: Maaser Al Chouf, 1718 m, 6.VIII.2018, 1♂, det. Pauly A., leg. Van Achter X.; Missiar, 135 m, 1.VII.2019, 2♂, det. Pauly A., leg. Van Achter X., all coll. XVA.

North Lebanon: Horch Ehden, 1625 m, 14.VII.2019, 1♂, det. Pauly A., leg. Van Achter X.; 1686 m, 24.VII.2019, 1♂, det. Pauly A., leg. Van Achter X., all coll. XVA.

**Flower records.** Convolvulaceae: *Convolvulus arvensis*, Boraginaceae: *Echium* sp.

### ***Halictus (Monilapis) hermon* Ebmer, 1975 \***

**Distribution:** LEVANT: Israel (Ascher & Pickering 2021).

**Material examined.** Bekaa: Passage Akoura-Hadath, 1748 m, 7.VII.2019, 1♂, det. Pauly A., leg. Van Achter X., coll. XVA; 1801 m, 7.VII.2019, 1♂, det. Pauly A., leg. Ghisbain G., coll. UMONS; Jord Aarsal, Howiyit Al Borj, 2008 m, 11.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

N. Lebanon: Bcharre, Reforestation Area, 1945 m, 18.VIII.2017, 1♂, det. Pauly A., leg. Boustani M.; Bcharre, Daher El Adib, 2572 m, 25.VIII.2018, 1♂, det. Pauly A., leg. Boustani M., Jabbour J., all coll. MBOU.

**Flower records.** Asteraceae: *Cirsium lappaceum*, *Cirsium* sp., *Echinops viscosus*, *Onopordum heteracanthum*, *Onopordum* sp.

***Halictus (Tythaliectus) maculatus* Smith, 1848 ssp. *priesneri* Ebmer, 1975 \***

**Distribution:** The species *H. maculatus* is present throughout the PALAEARCTIC, the subspecies *priesneri* is present in the EAST MEDITERRANEAN (Pauly *et al.* 2016).

**Material examined.** Bekaa: Jord Aarsal, Howiyit Al Borj, 2008 m, 11.VII.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

N. Lebanon: Horch Ehden, 1567 m, 19.VII.2016, 1♀, det. Pauly A., leg. Yammine W., coll. MBOU. Additional 15 records of 20♀ and 6♂ from Horch Ehden, Arz Bcharre, Jord Tannourine, between 2.VIII.2018 and 20.VIII.2019.

**Flower records.** Apiaceae: *Hippomarathrum* sp.; Asteraceae: *Echinops gaillardotii*, *Centaurea* sp.; Brassicaceae: *Alyssum* sp.; Caprifoliaceae: *Scabiosa argentea*; Caryophyllaceae: *Dianthus* cf *strictus*; Euphorbiaceae: *Euphorbia* sp.; Fabaceae: *Coronilla emeroides*, *Onobrychis cornuta*; Lamiaceae: *Salvia microstegia*; Plantaginaceae: *Veronica* sp.

***Halictus (Acalcaripes) patellatus* Morawitz, 1874 \***

**Distribution:** WEST PALAEARCTIC: Ponto-Mediterranean (Pauly *et al.* 2016).

Local distribution fig. 11.5

**Literature.** Blüthgen (1955): Reported from Syria from coll. Friese (in Zoolog. Museum of Humboldt University, Berlin) which could be located in the current Lebanese territory.

**Material examined.** Mount Lebanon: Maaser Al Chouf, 1718 m, 6.VIII.2018, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA. Six more records of 16♀ and 3♂ from Mazraat Al Daher, Jabal Moussa Biosphere Reserve, Maaser Al Chouf, and Shouf Biosphere Reserve between 21.VIII.2018 and 7.VIII.2019.

N. Lebanon: South of Jairoun, 1648 m, 23.V.2012, 1♀, det. Ebmer A.W., leg. Kasperek M., coll. OÖLM. 53 more records of 76♀ and 25♂ from Arz Tannourine, Arz Bcharre, Horch Ehden, and Fehta between 26.V.2012 and 20.VIII.2019.

**Flower records.** Wide range of forage plants. Amaryllidaceae: *Allium phaneranthum*, *Allium* sp.; Apiaceae: *Chaerophyllum aurantiacum*, *Eryngium billardierei*; Asteraceae: *Achillea falcata*, *Anthemis pauciloba*, *Carduus argentatus*, *Centaurea eryngioides*, *Centaurea pallescens*, *Echinops gaillardotii*, *Echinops viscosus*, *Reichardia* sp., *Senecio* cf *vernalis*; Boraginaceae: *Cynoglossum nebrodense*, *Solenanthes stamineus*; Brassicaceae: *Alyssum* sp., *Brassica* sp., *Medicago* sp., *Vicia tenuifolia*; Caprifoliaceae: *Cephalaria stellipilis*; Caryophyllaceae: *Dianthus* sp., *Dianthus strictus*; Convolvulaceae: *Convolvulus arvensis*, *Cuscuta* sp.; Fabaceae: *Astragalus emarginatus*; Lamiaceae: *Mentha aquatica*, *Phlomis* sp., *Salvia microstegia*, *Scutellaria brevibracteata*, *Sideritis* cf *pullulans*; Malvaceae: *Alcea* sp., *Alcea apterocarpa*; Plantaginaceae: *Anarrhinum orientale*; Plumbaginaceae: *Acantholimon libanoticum*; Rosaceae: *Prunus prostrata*; Rubiaceae: *Galium* sp.

***Halictus (Hexataenites) resurgens* Nurse, 1903 \***

**Distribution:** WEST PALAEARCTIC (Pauly *et al.* 2016).

Local distribution fig. 11.6

**Material examined.** Specimen from AUB collection without label, 1♀, det. Pauly A., coll. AUB.

Bekaa: West Bekaa, Aamiq, 985 m, 27.IV.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

Mount Lebanon: Fanar, 7.VIII.1969, 1♂, det. Pauly A., leg. Traboulsi R., coll. USEK; Maaser Al Chouf, 1764 m, 6.VIII.2018, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA; Missiar, 135 m, 26.VI.2019, 1♀, 1♂, det. Pauly A., leg. Boustani M., Van Achter; Shouf Biosphere Reserve, Maaser Al Chouf Gate, 1726 m, 7.VIII.2019, 1♀, det. Pauly A., leg. Boustani M.; Maaser Al Chouf, Panoramic trail, 1718 m, 7.VIII.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 27.III.2017, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Echinops* cf *viscosus*, *Onopordum heteracanthum*; Caprifoliaceae: *Scabiosa* sp.

***Halictus (Hexataenites) sexcinctus* (Fabricius, 1775) ssp. *albohispidus* Blüthgen, 1923 \***

**Distribution:** WEST PALAEARCTIC, subspecies *albohispidus* is found in the EAST MEDITERRANEAN: from Turkey to Iran and south to Israel (Pauly *et al.* 2016).

Local distribution fig. 11.7

**Material examined.** Mount Lebanon: Al Barouk, 18.VI.1975, 1♀, det. Pauly A.; Qornaël, 7.VII.1975, 1♂, det. Pauly A.; Abay, 21.VII.1975, 1♂, det. Pauly A., all coll. AUB.

N. Lebanon: Hadath El Jebbe, Qornet Dammouaa, 1231 m, 22.VI.2017, 1♀, det. Pauly A., leg. Boustani M.; Hadath El Jebbeh, Road to Wadi Ain El Raha, 1633 m, 29.VI.2017, 1♂, det. Pauly A., leg. Boustani M.; Fehta, Teleje, 2054 m, 14.VII.2017, 1♀, 1♂, det. Pauly A., leg. Boustani M.; Qanat, Qornet Dammouaa, 1242 m, 5.VII.2019, 1♂, det. Pauly A., leg. Boustani M., all coll. MBOU.

**Flower records.** Apiaceae: *Eryngium creticum*; Asteraceae: *Crepis reuteriana*, *Onopordum carduiforme*; Fabaceae: *Astragalus gummifer*.

### ***Halictus (Hexataenites) squamosus* Lebedev, 1910**

**Distribution: EAST MEDITERRANEAN:** Levant, Turkey, and Iran.

**Literature.** Blüthgen (1955): Reported from N. Lebanon, Bcharre, 1400 m, 1–4.VII.1931, 1 specimen, coll. Natuhistor Museum Vienna, and Beirut, 1♀, coll. Blüthgen.

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 1187 m, 21.VI.2017, 2♀, det. Pauly A., leg. Boustani M.; Tannourine El Tahta, Wadi Al Fouar, 1187 m, 28.VI.2018, 1♀, det. Pauly A., leg. Boustani M., Jabbour J.; Bcharre, Dahr El Adib, 2337 m, 9.VIII.2018, 1♂, det. Pauly A., leg. Boustani M., Abi Khalil N.; 2431 m, 13.VIII.2018, 1♂, det. Pauly A., leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Centaurea iberica*, *Cousinia libanotica*, *Echinops gaillardotii*.

### ***Halictus (Platyhalictus) subalfkenellus* Blüthgen, 1936**

Taxonomic status uncertain (Ebmer 1978), synonymised with *Halictus alfkenellus* Strand, 1909 (Pesenko 2004).

**Distribution: EAST MEDITERRANEAN:** based on type material and current material from Lebanon.

**Literature.** Blüthgen (1955): Beirut, 1♂; Bekaa, Zahle, 1♂, coll. Blüthgen

**Material examined.** Bekaa: Jord Aarsal, Wadi Al Heeban, 2000 m, 11.VII.2019, 1♀, leg. Pauly A., leg. Boustani M., coll. MBOU.

N. Lebanon: Arz Tannourine, Reserve Outskirts, 1792 m, 13.VII.2017, 1♂, det. Pauly A., leg. Boustani M., coll. MBOU.

**Flower records.** Lamiaceae: *Marrubium cf cuneatum*; Plumbaginaceae: *Acantholimon libanoticum*.

### ***Halictus (Monilapis) tetrazonianellus* Strand, 1909**

**Distribution: WEST PALAEARCTIC** (Pauly *et al.* 2016).

**Literature.** Blüthgen (1955): Reported from Beirut.

**Material examined.** Bekaa: 15.VIII.1969, 1♀, det. Pauly A., leg. Shakra A., coll. AUB; Blaika, 1325 m, 3.VII.2019, 1♀, det. Pauly A., leg. Gekièrè A.; Der El Ahmar, 989 m, 3.VII.2019, 2♀, det. Pauly A., leg. Boustani M., Ghisbain G., all coll. UMONS; 995 m, 3.VII.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Centaurea cf pallescens*, *Onopordum heteracanthum*.

## **Genus *Seladonia* Robertson, 1918**

Eight species.

*Seladonia* is considered to be a separate genus following Pesenko (2006) and Pauly (2008).

### ***Seladonia (Seladonia) cephalica* (Morawitz, 1873)**

**Distribution: EAST MEDITERRANEAN:** Greece, Asia Minor (Pauly 2016d).

Local distribution fig. 11.8

**Literature.** Blüthgen (1955): Listed under *Halictus cephalicus* Morawitz, 1873, reported from Beirut.

**Material examined.** Abundant and widespread.

**BDFGM material.** Beirut, 7♀, det. Pauly A., coll. MNHNP; Beirut, 1♀, det. Pauly A., coll. MNHUB; Bekaa, near Mejdèl Anjar (Locality recovered from coordinates), 22.VII.1945, 1♀, det. Pauly A., coll. BMNH.

**Author material.** Bekaa: Blaika, 1223 m, 3.VII.2019, 3♀, leg. Boustani M., 1♀, leg. Ghisbain G., all det. Pauly A., coll. UMONS. Additional 14♀ from 3 records collected between 3.VII.2019 and 23.VII.2019 from Blaika, Der El Ahmar and Anjar.

Mount Lebanon: Jabal Moussa Biosphere Reserve, Qehmez Gate, 1401 m, 21.VIII.2018, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU. Additional 2♀ and 2♂ from 3 records collected between 18.VII.2019 and 7.VIII.2019, from Jabal Moussa, Faqra and Maaser Al Chouf.

N. Lebanon: Arz Bcharre, 1914 m, 9.V.2017, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU. Additional 56♀ and 5♂ from 28 records collected between 22.VI.2017 and 23.VIII.2019, from Hadath El Jebbe, Arz Tannourine, Fehta, and Qanat.

**Flower records.** Wide range of forage plants. Apiaceae: *Chaerophyllum aurantiacum*, *Eryngium billardieri*, *Eryngium creticum*, *Eryngium glomeratum*; Asteraceae: *Achillea falcata*, *Anthemis pauciloba*, *Carlina curetum* ssp. *orientalis*, *Carlina involucrata*, *Centaurea argentea*, *Centaurea eryngioides*, *Centaurea* cf. *pallescens*, *Centaurea pallescens*, *Centaurea solstitialis*, *Centaurea* sp., *Crepis reuteriana*; Boraginaceae: *Solenanthus stamineus*; Caprifoliaceae: *Cephalaria* sp., *Cephalaria stellipilis*, *Scabiosa argentea*; Caryophyllaceae: *Dianthus* cf. *strictus*; Cucurbitaceae: *Cucumis prophetarum*; Euphorbiaceae: *Euphorbia* sp.; Fabaceae: *Medicago* sp.; Hypericaceae: *Hypericum triquetrifolium*; Lamiaceae: *Origanum* cf. *ehrenbergii*.

### ***Seladonia (Seladonia) phryganica* Pauly & Devalez, 2015 \***

**Distribution:** EAST MEDITERRANEAN: Northern and eastern Mediterranean and further east to Tajikistan (Pauly *et al.* 2015).

**Material Examined.** BDGM: Beirut, 1♀, det. Pauly A.; N. Lebanon: Tripoli, 8.VI.1944, 1♀, det. Pauly A.

### ***Seladonia (Vestitohalictus) pollinosa* (Sichel, 1860) \***

= *Vestitohalictus pollinosus* (Sichel, 1860)

**Distribution:** PALAEARCTIC: Mediterranean and Central Asia (Pauly 2016f).

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Al Fouar, 1187 m, 28.VI.2018, 1♀, det. Pauly A., leg. Boustani M., Jabbour J., coll. MBOU.

**Flower records.** Asteraceae: *Echinops gaillardotii*.

### ***Seladonia (Seladonia) seladonia* (Fabricius, 1794) \***

**Distribution:** PALAEARCTIC: Steppes of Eurasia (Pauly 2016d).

**Material examined.** N. Lebanon: Arz Bcharre, 1883 m, 18.IV.2018, 2♀, det. Pauly A., leg. Boustani M.; Arz Bcharre, Reforestation Area, 1933 m, 29.VI.2018, 1♀, det. Pauly A., leg. Boustani M., Jabbour J.; 21.VII.2018, 1♀, det. Pauly A., leg. Boustani M., Jabbour J.; 25.VII.2018, 1♀, det. Pauly A., leg. Boustani M., Jabbour J.; Arz Bcharre, Reforestation Area, 1973 m, 2.VII.2019, 4♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Arz Tannourine, Gate, 1797 m, 14.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; Bcharre, 1900 m, 14.VII.2019, 2♀, det. Pauly A., leg. Van Achter X.; 24.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., all coll. XVA.

**Flower records.** Asteraceae: *Achillea falcata*, *Anthemis* sp.

### ***Seladonia (Seladonia) subaurata* (Rossi, 1792) ssp. *meridionalis* Morawitz, 1873**

**Distribution:** WEST PALAEARCTIC: *H. subauratus* occurs in the West Palaearctic, from Central Europe to Siberia and South to Spain. The subspecies *meridionalis* occurs from Turkey to Iran (Pauly 2016d).

Local distribution fig. 11.9

**Unpublished records.** BDFGM: Under the name *Seladonia subaurata* ssp. *syrius* Blüthgen, 1933, syn *meridionalis* MNHUB: Beirut, 1♀; MNHNP: Mount Lebanon, Beit Meri, 14.VIII.1908, 1♀.

**Literature.** Blüthgen (1933): Reported from N. Lebanon: Bcharre, and Beirut.

**Material examined.** Bekaa: Hadath, 1441 m, 7.VII.2019, 1♀ det Pauly A., leg. Ghisbain G., coll. UMONS.

Mount Lebanon: Jabal Moussa Biosphere Reserve, Peony Trail, 1420 m, 21.VIII.2018, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU. Additional 6♀ from 3 records collected between 21.VIII.2018 and 23.VII.2019, from Jabal Moussa and Aley.

N. Lebanon: Horch Ehden, 16.IX.1998, 2♂, det. Pauly A., leg. Sattout E., coll. TCFNR; Tannourine El Tahta, Wadi Ain El Raha, 1371 m, 5.V.2017, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU. Additional 33♀ and 8♂ from 16 records collected between 25.VIII.2018 and 29.VII.2019 from Arz Bcharre, Horch Ehden, Arz Tannourine, and Tannourine El Tahta.

**Flower records.** Wide range of forage plants. Apiaceae: *Cnidium* sp., *Eryngium glomeratum*; Asteraceae: *Achillea*



*falcata*, *Carlina involucreta*, *Centaurea cf pallescens*, *Centaurea* sp., *Echinops gaillardotii*; Caprifoliaceae: *Cephalaria cf joppensis*, *Cephalaria* sp., *Scabiosa* sp.; Caryophyllaceae: *Dianthus* sp., *Dianthus cf strictus*; Fabaceae: *Medicago* sp., Hypericaceae: *Hypericum triquetrifolium*; Lamiaceae: *Origanum* sp.; Rosaceae: *Rubus sanctus*.

***Seladonia (Seladonia) submediterranea* Pauly, 2015 \***

**Distribution:** WEST PALAEARCTIC: Central and Western Europe and further East to Iran (Pauly *et al.* 2015).

**Material examined.** Bekaa: Blaika, 1223 m, 3.VII.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU; Blaika, 1325 m, 3.VII.2019, 1♀, det. Pauly A., leg. Ghisbain G., coll. UMONS.

Mount Lebanon: Jabal Moussa Biosphere Reserve, Qehmez Gate, 1401 m, 21.VIII.2018, 1♀, leg. Boustani M.; Mansourieh, Aylout, 274 m, 26.VI.2019, 1♀, leg. Boustani M., Van Achter X.; Laqlouq, Matoube, 1751 m, 6.VII.2019, all det. Pauly A., all coll. MBOU.

N. Lebanon: Arz Bcharre, 1928 m, 20.VI.2016, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU. Additional 42♀ and 10♂, from 22 records, between 5.VII.2019 and 24.VII.2019, from Arz Tanourine, Arz Bcharre, Fehta, Harissa, Horch Ehden.

S. Lebanon: Saidoun, 28.VI.2018, 1♀, det. Pauly A., leg. Baghdadi A., coll. SOILS.

**Flower records.** Wide range of forage plants. Apiaceae: *Eryngium billardieri*, *Eryngium glomeratum*, *Ferulago frigida*; Asteraceae: *Achillea falcata*, *Anthemis* sp., *Carlina curetum orientalis*, *Carlina involucreta*, *Centaurea cf pallescens*, *Centaurea pallescens*, *Centaurea* sp., *Echinops gaillardotii*, *Echinops viscosus*; Boraginaceae: *Solananthus stamineus*; Brassicaceae: *Alyssum* sp.; Caprifoliaceae: *Scabiosa argentea*; Caryophyllaceae: *Dianthus cf strictus*; Fabaceae: *Medicago* sp.; Lamiaceae: *Stachys* sp.

Preferences for Asteraceae and Apiaceae in line with the observations of Pauly *et al.* (2015).

***Seladonia (Vestitohalictus) tuberculata* (Blüthgen, 1924)**

= *Vestitohalictus tuberculatus* (Blüthgen, 1924)

**Distribution:** EAST MEDITERRANEAN (Pauly 2016f)

Local distribution fig. 11.10

**Unpublished records.** BDFGM: Beirut, 1♀, coll. MNHNP

**Literature.** Blüthgen (1955): Mentioned from Bekaa, Ksara.

**Material examined.** Bekaa: Der El Ahmar, 995 m, 3.VII.2019, 7♀, leg. Boustani M., coll. MBOU. 10♀, leg. Ghisbain G., coll. UMONS, all det. Pauly A.; 989 m, 3.VII.2019, 1♀, 3♂, leg. Boustani M., 1 M, leg. Ghisbain G., coll. UMONS, all det. Pauly A.; 1011 m, 3.VII.2019, 2♂, det. Pauly A., leg. Boustani M., coll. MBOU; Passage Akoura-Hadath, 1801 m, 7.VII.2019, 2♀, leg. Boustani M., coll. MBOU, 1♀, leg. Gekièrè A., 3♀, leg. Ghisbain G., coll. UMONS, all det. Pauly; 1748 m, 7.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA; Jord Aarsal, Kechek, 2120 m, 11.VII.2019, 1♀, det. Pauly A., leg. Boustani M.; Jord Aarsal, Howiyit Al Borj, 2008 m, 11.VII.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU.

N. Lebanon: Harissa, Al Jawar, 1758 m, 3.VI.2019, 1♀, det. Pauly A., leg. Boustani M.; Arz Tannourine, Trail 4, 1781 m, 3.VI.2019, 1♀, det. Pauly A., leg. Boustani M.; Bcharre, Reforestation Area, 1973 m, 2.VII.2019, 3♀, 1♂, det. Pauly A., leg. Boustani M., all coll. MBOU; Bcharre, 1900 m, 14.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; 2042 m, 14.VII.2019, 2♀, det. Pauly A., leg. Van Achter X.; 22.VII.2019, 1♂, det. Pauly A., leg. Van Achter X., all coll. XVA; Bcharre, Reforestation Area, 2216 m, 25.VII.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Achillea falcata*, *Carthamus persicus*, *Centaurea cf pallescens*, *Cirsium* sp., *Cousinia hermonis*, *Cousinia libanotica*, *Cousinia* sp., *Onopordum heteracanthum*; Fabaceae: *Medicago* sp.; Plantaginaceae: *Anarrhinum orientale*.

***Seladonia (Vestitohalictus) vestita* Lepeletier 1841 ssp. *tecta* (Radoszkowski, 1875)**

= *Vestitohalictus vestitus* (Lepeletier, 1841) ssp. *tectus* (Radoszkowski, 1875) \*

**Distribution:** WEST PALAEARCTIC: Steppes of Eurasia (Pauly 2016f).

Local distribution fig. 11.11

**Material examined.** Bekaa: Passage Akoura-Hadath, 1801 m, 7.VII.2019, 2♀, det. Pauly A., leg. Boustani M.; 1820 m, 7.VII.2019, 6♀, det. Pauly A., leg. Boustani M., all coll. MBOU.

N. Lebanon: Bcharre, Reforestation Area, 1945 m, 18.VIII.2017, 1♂, det. Pauly A., leg. Boustani M.; Bcharre, Dahr El Adib, 2572 m, 25.VIII.2018, 1♀, det. Pauly A., leg. Boustani M., Jabbour J.; Arz Bcharre, Reforestation Area, 1933 m, 25.VIII.2018, 1♂, det. Pauly A., leg. Boustani M., Jabbour J.; Ehden, Al Bayada, 1861 m, 22.V.2019, 2♀, det. Pauly A., leg. Boustani M., all. coll. MBOU; Horch Ehden, Upper Gate, 1597 m, 5.VII.2019, 1♀, leg. Boustani M., coll. MBOU, 1♀, leg. Ghisbain G., coll. UMONS, all det. Pauly A.; Horch Ehden, 1686 m, 12.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; Bcharre, 1900 m, 12.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; Horch Ehden, 1686 m, 14.VII.2019, 5♀, 1♂, det. Pauly A., leg. Van Achter X.; Bcharre, 1900 m, 14.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; Bcharre, 2042 m, 14.VII.2019, 7♀, det. Pauly A., leg. Van Achter X.; Horch Ehden, 1686 m, 22.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; 24.VII.2019, 3♀, 2♂, det. Pauly A., leg. Van Achter X.; Bcharre, 1900 m, 31.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; Horch Ehden, 1686 m, 31.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., all coll. XVA.

**Flower records.** Asteraceae: *Centaurea cf iberica*, *Centaurea cf pallescens*, *Cirsium lappaceum*, *Echinops viscosus*; Brassicaceae: *Alyssum* sp.; Fabaceae: *Medicago* sp.; Lamiaceae: *Teucrium orientale*; Caryophyllaceae: *Minuartia* sp.

### Genus *Lasioglossum* Curtis, 1833

63 species.

Sub-generic classification of *Lasioglossum* is complex, and no global consensus has yet been reached across all regions. We therefore present the classically used Old World subgeneric concepts and also add the likely subgeneric placement based on Gibbs *et al.* (2013) and Kuhlmann *et al.* (2021).

#### *Lasioglossum (Evyllaesus) adaliae* (Blüthgen, 1923) \* [= *L. (Sphecodogastra) adaliae*]

**Distribution:** EAST MEDITERRANEAN (Pauly 2016a).

**Material examined.** N. Lebanon: Arz Tannourine, Reserve House, 1786 m, 14.VII.2019, 2♀, det. Pauly A., leg. Van Achter X.; Bcharre, 1900 m, 24.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; Arz Tannourine, Reserve House, 1786 m, 31.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., all coll. XVA.

#### *Lasioglossum (Lasioglossum) aegyptiellum* (Strand, 1909) \*

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean basin, from Spain to Egypt (Pauly 2016b).

**Material examined.** Bekaa: Der El Ahmar, 989 m, 3.VII.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU; Der El Ahmar, 995 m, 3.VII.2019, 1♀, 1♂, det. Pauly A., leg. Ghisbain G., coll. UMONS.

N. Lebanon: Fehta, El Biara, 1632 m, 18.VII.2018, 1♀, det. Pauly A., leg. Boustani M., Jabbour J.; Hadath El Jebbe, Border of the Cedar Forest, 1646 m, 7.VI.2019, 1♀, det. Pauly A., det. Boustani M.; 1646 m, 27.VI.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Hadath El Jebbe, 1704 m, 5.VII.2019, 1♂, det. Pauly A., leg. Ghisbain G., coll. UMONS.

**Flower records.** Asteraceae: *Centaurea cf pallescens*, *Centaurea pallescens*, *Serratula pusilla*; Lamiaceae: *Stachys cretica*.

#### *Lasioglossum (Evyllaesus) sp. aff algericolellum* (Strand, 1909) \* [= *L. (Sphecodogastra) sp. aff algericolellum*]

**Distribution:** WEST PALAEARCTIC (Pauly 2016a).

The specimens require further verification to assign to *L. algericolellum* with confidence. They are however morphologically close enough to said species to list here.

**Material examined.** Bekaa: Passage Bcharre-Ainata, 1982 m, 3.VII.2019, 1♀; Passage Akoura-Hadath, 1881 m, 7.VII.2019, 1♂, all leg. Ghisbain G., coll. Pauly A.

Mount Lebanon: Shouf Biosphere Reserve, Maaser Al Chouf Gate, 1726 m, 16.V.2019, 1♀, leg. Boustani M., coll. Pauly A.

N. Lebanon: Arz Bcharre, 1914 m, 9.V.2017, 1♀, leg. Boustani M.; 1900 m, 24.VII.2019, 1♀, leg. Van Achter X.; 1897 m, 20.V.2019, 1♀; 20.VIII.2019, 1♂, all leg. Boustani M., coll. Pauly A.

**Flower records.** Asteraceae: *Cirsium lappaceum*; Boraginaceae: *Solenanthes stamineus*; Caprifoliaceae: *Centranthus longiflorus*.

***Lasioglossum (Dialictus) algerum* (Blüthgen, 1923) \***

**Distribution:** PALAEARCTIC: Disjunct distribution in the mountains of the southern Palaearctic region (Pauly 2016c).

**Material examined.** N. Lebanon: Jord Tannourine, Jabal Al Mnaitra, 2455 m, 28.V.2017, 1♀, det. Pauly A., leg. Boustani M., Rasmont P.; Tannourine, Jord Tannourine, 2469 m, 28.V.2017, 4♀, det. Pauly A., leg. Boustani M.; Bcharre, Dahr El Adib, 2437 m, 8.VI.2017, 1♀, det. Pauly A., leg. Boustani M.; 2441 m, 8.VI.2017, 1♀, det. Pauly A., leg. Boustani M.; Bcharre, Reforestation Area, 2347 m, 27.VI.2017, 1♀, det. Pauly A., leg. Boustani M.; Bcharre, Qornet Es Sawda, 2863 m, 30.VI.2017, 1♂, det. Pauly A., leg. Boustani M., all coll. MBOU.

**Flower records.** Fabaceae: *Vicia canescens*; Lamiaceae: *Lamium striatum* var. *minus*; Plantaginaceae: *Veronica polifolia*; Ranunculaceae: *Ranunculus demissus*.

***Lasioglossum (Evyllaesus) anellum* (Vachal, 1905) \* [= *L. (Sphecodogastra) anellum*]**

**Distribution:** WEST PALAEARCTIC (Pauly 2016a).

Local distribution 11.12

Note: Bytinski-Salz & Ebmer (1974) Reported from Mt. Hermon.

**Material examined.** Bekaa: Blaika, 1223 m, 3.VII.2019, 2♀, det. Pauly A., leg. Boustani M., coll. MBOU. Additional 29♀ and 2♂ from 8 records between 3.VII.2019 and 11.VII.2019 in the localities Blaika, Der El Ahmar, Hadath, Passage Akoura-Hadath, Jord Aarsal and Saydit Bechwet.

Mount Lebanon: Maaser Al Chouf, Panoramic Trail, 1764 m, 6.VIII.2018, 1♀, det. Pauly A., leg. Boustani M. Additional 4♀ and 1♂ from 4 records between 30.VI.2019 and 7.VIII.2019 from the localities Akour, Bentaël, Souk El Ghareb and Barouk.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 27.III.2017, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU. Additional 27♀ and 2♂ from 23 records collected between 18.IV.2017 and 31.VII.2018 from localities Tannourine El Tahta, Arz Tannourine, Hadath El Jebbe, Fehta, Arz Bcharre and Ehden.

***Lasioglossum (Evyllaesus) angusticeps* (Perkins, 1895) \* [= *L. (Hemihalictus) angusticeps*]**

**Distribution:** WEST PALAEARCTIC (Pauly 2016a).

Local distribution fig. 11.13

**Material examined.** Bekaa: Hadath, Army Checkpoint, 1610 m, 7.VII.2019, 1♀, det. Pauly A., leg. Ghisbain G., coll. UMONS.

N. Lebanon: Fehta, El Biara, 1632 m, 23.VI.2018, 1♀, det. Pauly A., leg. Boustani M.; Jabal Moussa Biosphere Reserve, Peony Trail – Quarry, 1441 m, 21.VIII.2018, 1♂, det. Pauly A., leg. Boustani M.; Tannourine El Tahta, 1013 m, 27.VI.2019, 1♀, det. Pauly A., leg. Boustani M.; Bcharre, 2042 m, 14.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; Harissa, Al Jawar, 1758 m, 25.VII.2019, 1♀, det. Pauly A., Boustani M., all coll. MBOU.

**Flower records.** Apiaceae: *Eryngium creticum*, *Ferulago frigida*; Asteraceae: *Achillea falcata*; Caprifoliaceae: *Scabiosa argentea*; Plantaginaceae: *Anarrhinum orientale*.

***Lasioglossum (Dialictus) annulipes* (Morawitz, 1876) \***

**Distribution:** PALAEARCTIC: Bulgaria, Turkey, Armenia, Uzbekistan, Tajikistan, Iran, Afghanistan, Manchuria (Pauly 2016c).

**Material examined.** Bekaa: Jord Aarsal, Kecheck, 2120 m, 11.VII.2019, 2♂, det. Pauly A., leg. Boustani M., coll. MBOU.

N. Lebanon: Arz Bcharre, Forest Limit, 1897 m, 5.VI.2019, 1♀, det. Pauly A., leg. Boustani M.; Arz Bcharre, Reforestation area, 2216 m, 5.VI.2019, 1♀, det. Pauly A., leg. Boustani M.; Bcharre, 1900 m, 14.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; 2042 m, 31.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; Bcharre, Dahr El Adib, 2566 m, 20.VIII.2019, 1♂, det. Pauly A., leg. Boustani M., all coll. MBOU.

**Flower records.** Apiaceae: *Apium* sp., *Ferulago frigida*; Brassicaceae: *Alyssum* sp., *Erysimum* sp.; Plantaginaceae: *Veronica* sp.

***Lasioglossum (Evyllaesus) bluethgeni* Ebmer, 1971 \* [= *L. (Hemihalictus) bluethgeni*]**

**Distribution:** WEST PALAEARCTIC: West Asia and Europe (Pauly 2016a).

**Material examined.** N. Lebanon: Horch Ehden, V.2015, 2♀, det. Pauly A., leg. Boustani M.; Arz Tannourine,

Trail 4, 1706 m, 7.VI.2017, 1♀, det. Pauly A., leg. Boustani M.; Tannourine El Tahta, Wadi Ain El Raha, 1187 m, 21.VI.2017, 1♀, det. Pauly A., leg. Boustani M.; Fehta, El Biara, 1632 m, 18.VIII.2018, 1♂, det. Pauly A., leg. Boustani M., Jabbour J., all coll. MBOU; Douma, 791 m, 1.VII.2019, 1♀, det. Pauly A., leg. Ghisbain G., coll. UMONS; Arz Tannourine, Main Gate, 1796 m, 4.VII.2019, 1♀, det. Pauly A., leg. Gekière A., coll. UMONS; Horch Ehden, 1625 m, 24.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

**Flower records.** Cappariaceae: *Capparis spinosa*; Fabaceae: *Ononis natrix*; Lamiaceae: *Phlomis* sp.; Rubiaceae: *Galium* sp.

***Lasioglossum (Evyllaesus) brevicorne* (Schenck, 1869) \* [= *L. (Hemihalictus) brevicorne*]**

**Distribution:** WEST PALAEARCTIC (Pauly 2016a).

Local distribution fig. 11.14

**Material examined.** Mount Lebanon: Arsoun, X.2015, 1♂, det. Pauly A., leg. Nemer N.; Jabal Moussa, Trail Qornet El Der, 1364 m, 18.VII.2019, 2♂, det. Pauly A., leg. Boustani M.

N. Lebanon: Donniah, 1200 m, 20.VI.2011, 1♀, det. Ebmer A.W., leg. Kasperek M., coll. OÖLM; Arz Bcharre, Forest Limit, 1873 m, 20.V.2019, 2♀, det. Pauly A., leg. Boustani M.; 5.VI.2019, 1♀, det. Pauly A., leg. Boustani M.; Arz Tannourine, Gate area, 1797 m, 9.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; Bcharre, 1900 m, 14.VII.2019, 2♀, det. Pauly A., leg. Van Achter X.; Horch Ehden, 1686 m, 24.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; Tannourine El Tahta, Mar Boutrous, 1207 m, 25.VII.2019, 2♀, det. Pauly A., leg. Boustani M.; Horch Ehden, 1686 m, 31.VII.2019, 1♂, det. Pauly A., leg. Van Achter X.

**Flower records.** Asteraceae: *Crepis* sp.; Caprifoliaceae: *Scabiosa argentea*.

***Lasioglossum (Lasioglossum) caspicum* (Morawitz, 1873) \***

**Distribution:** PALAEARCTIC: Levant, Asia Minor, Armenia, Caucasus, Iran, Afghanistan (Pauly 2016b).

**Material examined.** Bekaa: V.1980, 1♀, det. Pauly A., leg. Bassam, coll. AUB.

Mount Lebanon: Maaser Al Chouf, 1364 m, 29.V.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

N. Lebanon: Horch Ehden, Forest Casino du Liban, 1797 m, 4.V.2017, 1♀, det. Pauly A., leg. Boustani M.; Arz Bcharre, Reforestation Area, 1975 m, 27.V.2017, 16♀, det. Pauly A., leg. Boustani M., Rasmont P.; Fehta, El Biara, 1664 m, 3.VI.2019, 3♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Bcharre, 2042 m, 14.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

**Flower records.** Asteraceae: *Anthemis pauciloba*; Boraginaceae: *Anchusa italica*, *Cynoglossum nebrodense*; Brassicaceae: *Erysimum* sp.; Papaveraceae: *Glaucium leiocarpum*; Ranunculaceae: *Ranunculus* sp.

***Lasioglossum (Evyllaesus) clypeare* (Schenck, 1863) \* [= *L. (Hemihalictus) clypeare*]**

**Distribution:** WEST PALAEARCTIC: Warm localities in the West Palearctic (Pauly 2016a).

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 5.V.2017, 1♀, det. Pauly A., leg. Boustani M.; Arz Tannourine, Trail 4, 1758 m, 22.VI.2017, 1♀, det. Pauly A., leg. Boustani M.; Harissa, Al Jawar, 1736 m, 25.VI.2018, 1♀, det. Pauly A., leg. Boustani M.; Hadath El Jebbe, Border of the Cedar Forest, 1632 m, 27.VI.2019, 1♀, det. Pauly A., leg. Boustani M.; Hadath El Jebbe, 1704 m, 30.VI.2019, 1♀, det. Pauly A., leg. Boustani M., Mouawad G.; Harissa, Al Jawar, 1758 m, 30.VI.2019, 1♀, det. Pauly A., leg. Boustani M.; Arz Bcharre, Reforestation area, 2216 m, 2.VII.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Tannourine Reserve, Trail 4, 1781 m, 4.VII.2019, 1♀, det. Pauly A., leg. Ghisbain G., coll. UMONS.

**Flower records.** Asteraceae: *Carduus argentatus*; Lamiaceae: *Stachys cretica*, *Stachys distans*, *Stachys ehrenbergii*.

***Lasioglossum (Evyllaesus) clypeiferellum* (Strand, 1909) \* [= *L. (Hemihalictus) clypeiferellum*]**

**Distribution:** EAST MEDITERRANEAN (Pauly 2016a).

**Material examined.** N. Lebanon: Horch Ehden, IX.2014, 1♀, det. Pauly A., leg. Boustani M., Boustani C., coll. MBOU; Arz Tannourine, Gate Area, 1797 m, 24.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

***Lasioglossum (Evyllaesus) convexiusculum* (Schenck, 1853) \* [= *L. (Hemihalictus) convexiusculum*]**

**Distribution:** WEST PALAEARCTIC (Pauly 2016a).

**Material examined.** Mount Lebanon: Qartaba, Matoube, 1648 m, 23.VII.2017, 1♀, det. Pauly A., leg. Boustani M.;

Der El Kamar, 800 m, 29.V.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU.

N. Lebanon: Jairoun, 1042 m, 29.V.2012, 1♀, det. Ebmer A.W., leg. Kasperek M., coll. MKAS; Harissa, Chir El Ribez, 1730 m, 11.VI.2017, 3♀, det. Pauly A., leg. Boustani M., coll. MBOU.

**Flower records.** Lamiaceae: *Salvia fruticosa*, *Salvia hierosolymitana*, *Salvia sclarea*.

***Lasioglossum (Evyllaesus) corvinum (Morawitz, 1878a) \* [= L. (Hemihalictus) corvinum]***

**Distribution:** WEST PALAEARCTIC: Southern part of the West Palearctic (Pauly 2016a).

**Material examined.** N. Lebanon: Arz Tannourine, Trail 4, 1781 m, 13.VII.2017, 1♀, det. Pauly A., leg. Boustani M.; Hadath El Jebbe, Border of the Cedar Forest, 1646 m, 25.VII.2017, 1♀, det. Pauly A., leg. Boustani M.; Arz Tannourine, Trail 1, 1798 m, 28.VII.2017, 1♀, det. Pauly A., leg. Boustani M.; Arz Tannourine, 1784 m, VII.2018, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU.

**Flower records.** Caprifoliaceae: *Cephalaria setosa*; *Scabiosa argentea*; Fabaceae: *Trifolium* sp.

***Lasioglossum (Lasioglossum) costulatum (Kriechbaumer, 1873) \****

**Distribution:** WEST PALAEARCTIC (Pauly 2016b).

Notes: Ebmer (1988): Reported from Mt Hermon.

**Material examined.** Mount Lebanon: Barouk, Shouf Biosphere Reserve, 1678 m, 2.VII.2019, 2♂, det. Pauly A., leg. Van Achter X.; 1690 m, 4.VII.2019, 2♀, det. Pauly A., leg. Van Achter X., all coll. XVA.

N. Lebanon: Hadath El Jebbeh, Border of Cedar Forest, 1681 m, 22.VIII.2018, 1♀, det. Pauly A., leg. Boustani M., Jabbour J., coll. MBOU; Hadath El Jebbeh, Al Fouar, 1468 m, 27.VI.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

**Flower records.** Asteraceae: *Echinops viscosus*; Campanulaceae: *Campanula* sp.; Convolvulaceae: *Cuscuta* sp.

***Lasioglossum (Evyllaesus) crassepunctatum (Blüthgen, 1923) \* [= L. (Hemihalictus) crassepunctatum]***

**Distribution:** WEST PALAEARCTIC: Steppe areas of Asia and the Mediterranean basin (Pauly 2016a).

**Material examined.** N. Lebanon: Arz Tannourine, Reserve House, 1786 m, 14.VII.2019, 5♀; Arz Tannourine, Gate Area, 1797 m, 24.VII.2019, 1♀; Arz Tannourine, Reserve House, 1786 m, 24.VII.2019, 1♀, all det. Pauly A., leg. Van Achter X., all coll. XVA.

***Lasioglossum (Lasioglossum) cristula (Pérez, 1895) ssp. donatum (Warncke, 1975) \****

**Distribution:** WEST PALAEARCTIC: Western Mediterranean (Pauly 2016b).

**Distribution of *L. cristula donatum*:** Iran (Pauly 2016b).

Local distribution fig. 11.15

Note: Bytinski-Salz & Ebmer (1974): Reported from Mt Hermon, 1500 m.

**Material examined.** Mount Lebanon: Marej Barja, Daher, 350 m, 7.III.2017, 1♀, det. Pauly A., leg. Boustani M.; Daychouniyeh, Road to Pegasus, 180 m, 3.IV.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 24.III.2017, 3♀, det. Pauly A., leg. Boustani M.; 27.III.2017, 2♀, det. Pauly A., leg. Boustani M.; 901 m, 11.IV.2017, 1♀, det. Pauly A., leg. Boustani M.; Arz Tannourine, 1792 m, V.2017, 1♀, det. Pauly A., leg. Boustani M.; Tannourine El Tahta, Al Mahbase, 893 m, 12.IV.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Arz Tannourine, Gate Area, 1797 m, 14.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

S. Lebanon: Saidoun, 4.II.2018, 1♀, det. Pauly A., leg. Baghdadi A., coll. SOILS.

**Flower records.** Asteraceae: *Anthemis* sp.

***Lasioglossum (Evyllaesus) damascenum (Pérez, 1910) \* [= L. (Sphecodogastra) damascenum]***

**Distribution:** WEST PALAEARCTIC: Ponto-Mediterranean (Pauly 2016a).

**Material examined.** Mount Lebanon: Daychouniyeh, Road to Pegasus, 180 m, 3.IV.2019, 3♀, det. Pauly A., leg. Boustani M.; Missiar, 135 m, 26.VI.2019, 6♂, det. Pauly A., leg. Boustani M., Van Achter X., all coll. MBOU.

**Flower records.** Asteraceae: *Anthemis* sp., *Centaurea* cf *pallescens*, *Chrysanthemum coronarium*, *Echinops* cf *viscosus*.

***Lasioglossum (Lasioglossum) discum (Smith, 1853) ssp. discum (Smith, 1853) \****

**Distribution:** WEST PALAEARCTIC: Northern Mediterranean basin (Pauly 2016b).

**Material examined.** Bekaa: Der El Ahmar, 989 m, 3.VII.2019, 1♀, det. Pauly A., leg. Boustani M.; 995 m,

3.VII.2019, 1♀, det. Pauly A., leg. Boustani M.; 1011 m, 3.VII.2019, 2♀, det. Pauly A., leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Centaurea cf pallescens.*, *Carthamus persicus.*

***Lasioglossum (Evyllaesus) dolichocephalum (Blüthgen, 1923) \* [= L. (Hemihalictus) dolichocephalum]***

**Distribution: WEST PALAEARCTIC:** Scattered records in the north-eastern Mediterranean (Pauly 2016a).

Local distribution 11.16

Notes: Bytinski-Salz & Ebmer (1974): Reported from Mt Hermon, 1♂, det. Ebmer A.

***Halictus dolichocephalum var. hierosolymae Blüthgen, 1931***

**Material examined.** Mount Lebanon: Jabal Moussa, Trail Qornet El Der, 1368 m, 18.VII.2019, 2♀, det. Pauly A., leg. Boustani M., coll. MBOU; Mazraat Al Daher, 579 m, 19.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 5.V.2017, 1♀, det. Pauly A., leg. Boustani M.; Arz Bcharre, Reforestation Area, 1993 m, 27.VI.2017, 2♀, det. Pauly A., leg. Boustani M.; Harissa, Al Jawar, 1765 m, 18.VII.2017, 3♀, det. Pauly A., leg. Boustani M.; Harissa; Al Jawar, 1736 m, 11.VII.2018, 1♀, det. Pauly A., leg. Boustani M.; Wadi Al Fouar, Tannourine El Tahta, 1504 m, 13.V.2019, 1♀, det. Pauly A., leg. Boustani M.; Hadath El Jebbe, Border of the Cedar Forest, 1646 m, 27.VI.2019, 1♀, det. Pauly A., leg. Boustani M.; Harissa, Al Jawar, 1758 m, 30.VI.2019, 7♀, det. Pauly A., leg. Boustani M.; Arz Tannourine, Main Gate, 1794 m, 4.VII.2019, 2♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Horch Ehden, 1686 m, 14.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA; Harissa, Al Jawar, 1758 m, 25.VII.2019, 4♀, det. Pauly A., leg. Boustani M., coll. MBOU.

S. Lebanon: Saidoun, 28.VI.2018, 2♀, det. Pauly A., leg. Baghdadi A., coll. SOILS.

**Flower records.** Apiaceae: *Foeniculum* sp.; Asteraceae: *Carduus argentatus*; Caryophyllaceae: *Dianthus strictus*; Lamiaceae: *Eremostachys laciniata*, *Lamium* sp., *Phlomis cf brachyodon*, *Stachys cretica*, *Stachys distans*, *Stachys ehrenbergii*, *Stachys* sp.

***Lasioglossum (Dialictus) elatum (Warncke, 1975) \****

**Distribution: EAST MEDITERRANEAN:** Greece, Turkey, Armenia, Israel (Ebmer 2014).

Local distribution fig. 12.1

**Material examined.** Mount Lebanon: Bentaël, 11.III.2016, 1♀, det. Pauly A., leg. Boustani M., Zgheib Y., coll. MBOU.

N. Lebanon: Arz Bcharre, Reforestation Area, 1933 m, 27.V.2018, 1♀, det. Pauly A., leg. Boustani M.; Hadath El Jebbeh, Border of Cedar Forest, 1681 m, 19.VII.2018, 1♀, det. Pauly A., leg. Boustani M., Jabbour J., all coll. MBOU; Tannourine El Tahta, Al Mahbase, 926 m, 27.VI.2019, 1♂, det. Pauly A., leg. Van Achter X.; Bcharre, 2042 m, 22.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; Horch Ehden, 1686 m, 24.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; Bcharre, 1900 m, 31.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., all coll. XVA.

**Flower records.** Asteraceae: *Crepis* sp.; Lamiaceae: *Origanum* sp.

***Lasioglossum (Dialictus) enslini Ebmer, 1972***

**Distribution: LEVANT:** Lebanon, Jericho, and Mount Hermon (Pauly 2016c).

Local distribution fig. 12.2

**Material examined.** Bekaa: Kefrayya, Passage Maaser Al Chouf-Kefrayya, 1811 m, 6.VIII.2018, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

N. Lebanon: Arz Bcharre, Reforestation Area, 1967 m, 12.V.2017, 1♂, det. Pauly A., leg. Boustani M.; Arz Bcharre, Reforestation Area, 1885 m, 12.V.2017, 1♀, 1♂, det. Pauly A., leg. Boustani M.; Arz Bcharre, Reforestation Area, 1993 m, 27.VI.2017, 1♀, det. Pauly A., leg. Boustani M.; Bcharre, Qornet Es Sawda, 2911 m, 21.VII.2017, 1♀, det. Pauly A., leg. Boustani M.; Arz Tannourine, Trail 4, 1781 m, 3.VI.2019, 1♀, det. Pauly A., leg. Boustani M.; Harissa, Al Jawar, 1758 m, 3.VI.2019, 2♀, det. Pauly A., leg. Boustani M.; Arz Bcharre, Forest Limit, 1897 m, 5.VI.2019, 1♀, det. Pauly A., leg. Boustani M.; Harissa, Al Jawar, 1758 m, 30.VI.2019, 1♀, det. Pauly A., leg. Boustani M.; Arz Bcharre, Forest Limit, 1897 m, 2.VII.2019, 1♀, 1♂, det. Pauly A., leg. Boustani M., all coll. MBOU; Arz Tannourine, Reserve House, 1786 m, 14.VII.2019, 1♀, 1♂, det. Pauly A., leg. Van Achter X.; Bcharre, 2042 m, 14.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; 22.VII.2019, 2♀, det. Pauly A., leg. Van Achter X.; 31.VII.2019, 2♀, det. Pauly A., leg. Van Achter X., all coll. XVA.

S. Lebanon: Saidoun, 11.II.2018, 1♀, det. Pauly A., leg. Baghdadi A., coll. SOILS.

**Flower records.** Asphodelaceae: *Asphodeline taurica*; Asteraceae: *Reichardia* sp.; Brassicaceae: *Alyssum* sp.; *Erysimum* sp.; Caprifoliaceae: *Centranthus longiflorus*, *Cephalaria stellipilis*; Fabaceae: *Onobrychis cornuta*; Geraniaceae: *Geranium* sp.; Lamiaceae: *Salvia microstegia*; Rubiaceae: *Galium* sp.

***Lasioglossum (Evylaeus) epipygiale* (Blüthgen, 1924) \* [= *L. (Sphecodogastra) epipygiale*]**

**Distribution:** WEST PALAEARCTIC: South West Asia (Pauly 2016a).

Note: Ebmer (1995) reports it from Mt Hermon, 23.IV.1993, 1♀, det. Ebmer A.W.

**Material examined.** Bekaa: Passage Akoura-Hadath, 1801 m, 7.VII.2019, 1♀, det. Pauly A., leg. Ghisbain G., coll. UMONS; 3♀, det. Pauly A., leg. Boustani M., coll. MBOU, 2♀, det. Pauly A., leg. Van Achter X., coll. XVA.

N. Lebanon: Tannourine, 2166 m, 6.VII.2019, 1♀, det. Pauly A., leg. Ghisbain G., coll. UMONS; Bcharre, Qornet Es Sawda, 2694 m, 27.VII.2017, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Cirsium* sp., *Cousinia libanotica*, *Onopordum heteracanthum*.

***Lasioglossum (Evylaeus) filipes* Ebmer, 1972 \* [= *L. (Hemihalictus) filipes*]**

**Distribution:** PALAEARCTIC: Turkey, Israel, Turkmenistan, Uzbekistan, Kazakhstan, Kyrgyzstan, Afghanistan (Pauly 2016a).

**Material examined.** Bekaa: Blaika, 1325 m, 3.VII.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Centaurea* cf *pallescens*.

***Lasioglossum (Evylaeus) glabriusculum* (Morawitz, 1872) \* [= *L. (Evylaeus) glabriusculum*]**

**Distribution:** WEST PALAEARCTIC: South of the West Palearctic (Pauly 2016a)

**Material examined.** Bekaa: Der El Ahmar, 995 m, 3.VII.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Centaurea* cf *pallescens*.

***Lasioglossum (Evylaeus) griseolum* (Morawitz, 1872) \* [= *L. (Hemihalictus) griseolum*]**

**Distribution:** WEST PALAEARCTIC: Mediterranean and West Asian (Pauly 2016a).

**Material examined.** Mount Lebanon: Maaser Al Chouf, 1143 m, 29.V.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

N. Lebanon: Horch Ehden, 1625 m, 14.VII.2019, 3♂, det. Pauly A., leg. Van Achter X.; 24.VII.2019, 1♂, det. Pauly A., leg. Van Achter X.; 1686 m, 24.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

**Flower records.** Asteraceae: *Anthemis pauciloba*.

***Lasioglossum (Dialictus) hethiticum* Ebmer, 1970 \***

**Distribution:** WEST PALAEARCTIC: Asia Minor (Pauly 2016c).

**Material examined.** N. Lebanon: Horch Ehden, Nabeh Jouit, 1405 m, 13.IV.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU; 1625 m, 14.VII.2019, 2♀, det. Pauly A., leg. Van Achter X.; 1686 m, 24.VII.2019, 3♀, det. Pauly A., leg. Van Achter X.; 31.VII.2019, 3♀, det. Pauly A., leg. Van Achter X., all coll. XVA.

***Lasioglossum (Evylaeus) interruptum* (Panzer, 1798) \* [= *L. (Sphecodogastra) interruptum*]**

**Distribution:** WEST PALAEARCTIC (Pauly 2016a).

Local distribution fig. 12.3

**Material examined.** Mount Lebanon: Jabal Moussa, Trail Qornet El Der, 1439 m, 18.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 24.III.2017, 1♀, det. Pauly A., leg. Boustani M.; Tannourine El Tahta, Wadi Ain El Raha, 900 m, 27.III.2017, 1♀, det. Pauly A., leg. Boustani M.; Hadath El Jebbe, Qornet Dammoua, 1231 m, 22.VI.2017, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Douma, 791 m, 1.VII.2019, 3♀, det. Pauly A., leg. Ghisbain G.; 1♀, det. Pauly A., leg. Gekièrè A., all coll. UMONS; Horch Ehden, 1686 m, 14.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

**Flower records.** Asteraceae: *Crepis reuteriana*, *Centaurea* sp.; Capparidaceae: *Capparis spinosa*.

***Lasioglossum (Evylaeus) iranikum* Ebmer, 1975 \***

**Distribution:** EAST MEDITERRANEAN: Iran (Ebmer 1975).

**Material examined.** N. Lebanon: Bcharre, Dahr El Adib, 2611 m, 20.VI.2016, 1♀, det. Pauly A., leg. Boustani

M.; Bcharre, Jord, 2723 m, 24.VI.2016, 1♀, det. Pauly A., leg. Boustani M.; Bcharre, Dahr El Adib, 2572 m, 25.VIII.2018, 1♂, det. Pauly A., leg. Boustani M., Jabbour J.; Bcharre, Reforestation area, 2216 m, 5.VI.2019, 1♀, det. Pauly A., leg. Boustani M.; Bcharre, Qornet Es Sawda, 2909 m, 17.VIII.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Cirsium lappaceum*; Boraginaceae: *Solenanthus stamineus*; Brassicaceae: *Alyssum* sp.

***Lasioglossum (Evylaeus) israelense* Ebmer, 1974 \* [= *L. (Sphecodogastra) israelense*]**

**Distribution:** EAST MEDITERRANEAN: Turkey, Israel (Pauly 2016a).

Note: Ebmer, 1995: Reported from Mt Hermon, 23.IV.1973, 1♀, det. Ebmer A.W.

**Material examined.** Mount Lebanon: Marej Barja, Terbe, 326 m, 17.IV.2017, 1♀, det. Pauly A., leg. Boustani M.; Marej Barja, Kaleet El Besten, 358 m, 26.IV.2019, 1♀, det. Pauly A., leg. Boustani M.; Chammiss, Wadi Cheber, 373 m, 26.IV.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU.

***Lasioglossum (Lasioglossum) kussariense* (Blüthgen 1925) \***

**Distribution:** WEST PALAEARCTIC: Ponto Mediterranean (Pauly 2016b)

**Material examined.** N. Lebanon: South of Jairoun, 1648 m, 23.V.2012, 1♀, det. Ebmer A.W., leg. Kasperek M., coll. OÖLM.

***Lasioglossum (Evylaeus) laeve* (Kirby, 1802) \* [= *L. (Sphecodogastra) laeve*]**

**Distribution:** WEST PALAEARCTIC (Pauly 2016a).

Local distribution fig. 12.4

**Material examined.** Mount Lebanon: Barouk, Shouf Biosphere Reserve, 1690 m, 4.VII.2019, 1♂, det. Pauly A., leg. Van Achter X., coll. XVA.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 24.III.2017, 1♀, det. Pauly A., leg. Boustani M.; 900 m, 27.III.2017, 1♀, det. Pauly A., leg. Boustani M.; 3.V.2017, 5♀, det. Pauly A., leg. Boustani M.; Hadath El Jebbe, Qornet Dammoua, 1231 m, 22.VI.2017, 2♂, det. Pauly A., leg. Boustani M.; Arz Tannourine, Trail 4, 1762 m, 25.VI.2018, 1♂, det. Pauly A., leg. Boustani M.; Hadath El Jebbe, Al Fouar, 1529 m, 31.V.2019, 5♂, det. Pauly A., leg. Boustani M.; Tannourine Reserve, Trail 4, 1781 m, 3.VI.2019, 2♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Tannourine, Jord, 2296 m, 30.VI.2019, 1♂, det. Pauly A., leg. Gekièrè A.; Arz Tannourine, Main gate, 1796 m, 4.VII.2019, 1♂, det. Pauly A., leg. Ghisbain G., all coll. UMONS; Horch Ehden, 1686 m, 14.VII.2019, 1♂, det. Pauly A., leg. Van Achter X.; Bcharre, 1900 m, 14.VII.2019, 4♂, det. Pauly A., leg. Van Achter X., all coll. XVA.

**Flower records.** Apiaceae: *Chaerophyllum aurantiacum*; Asteraceae: *Anthemis pauciloba*; *Crepis reuteriana*, *Reichardia* sp.; Euphorbiaceae: *Euphorbia macroclada*; Fabaceae: *Vicia tenuifolia*, *Onobrychis cornuta*.

***Lasioglossum (Evylaeus) laevidorsum* ssp. *laevidorsum* (Blüthgen, 1923) \* [= *L. (Hemihalictus) laevidorsum* ssp. *laevidorsum*]**

**Distribution:** WEST PALAEARCTIC: Scattered in the Northern Mediterranean basin (Pauly 2016a).

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 27.III.2017, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU; Bcharre, 1900 m, 14.VII.2019, 2♀, det. Pauly A., leg. Van Achter X.; Arz Tannourine, Reserve House, 1786 m, 24.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; Bcharre, 2042 m, 31.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., all coll. XVA.

***Lasioglossum (Evylaeus) laevinode* (Morawitz, 1876) \* [= *L. (Hemihalictus) laevinode*]**

**Distribution:** WEST PALAEARCTIC: Mountains of Central Asia (Pauly 2016a).

**Material examined.** Mount Lebanon: Shouf Biosphere Reserve, Maaser Al Chouf Gate, 1726 m, 16.V.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

N. Lebanon: Harissa, Chir El Ribez, 1730 m, 18.VI.2017, 2♀, det. Pauly A., leg. Boustani M.; Harissa, Al Biara, 1741 m, 28.VI.2017, 1♀, det. Pauly A., leg. Boustani M.; Hadath El Jebbeh, Border of the Cedar Forest, 1681 m, 28.VI.2018, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Arz Tannourine, Reserve House, 1786 m, 14.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA; Harissa, Al Jawar, 1736 m, 18.VII.2018, 1♀, det. Pauly A., leg. Boustani M., Jabbour J., coll. MBOU; Horch Ehden, 1686 m, 24.VII.2019, 1♀, det. Pauly A., leg.



Van Achter X., coll. XVA.

**Flower records.** Asteraceae: *Jurinea* sp.; Lamiaceae: *Salvia fruticosa*, *Salvia hierosolymitana*; Scrophulariaceae: *Scrophularia libanotica*.

***Lasioglossum (Evyllaesus) laticeps* (Schenck, 1869) ssp. *hellenicum* (Blüthgen, 1937) \* [= *L. (Sphecodogastra) laticeps* ssp. *hellenicum*]**

**Distribution:** WEST PALAEARCTIC (Pauly 2016a).

Local distribution fig. 12.5

**Material examined.** Bekaa: Blaika, 1223 m, 3.VII.2019, 1♂, det. Pauly A., leg. Boustani M. Additional 2♀ and 7♂ from Passage Akoura-Hadath on 7.VII.2019.

Mount Lebanon: Antelias, Bach Musical Institute, 24.IV.2017, 1♀, det. Pauly A., leg. Boustani M. Additional 7♀ from 3 records, collected between 30.IV.2017 and 7.VII.2019, from Matoube and Shouf Biosphere Reserve.

N. Lebanon: Horch Ehden, V.2015, 1 F, det. Pauly A., leg. Boustani M., coll. MBOU. Additional 20♀ and 3♂ from 12 records, collected between 24.III.2017 and 31.VII.2019, from Tannourine El Tahta, Arz Bcharre, Arz Bcharre, Harissa, Ehden and Bcharre.

**Flower records.** Apiaceae: *Ferulago frigida*; Asteraceae: *Anthemis* sp., *Chrysanthemum* sp., *Echinops gaillardotii*; Brassicaceae: *Alyssum* sp.; Caprifoliaceae: *Centranthus longiflorus*, *Scabiosa argentea*; Campanulaceae: *Asyneuma rigidum*; Lamiaceae: *Phlomis syriaca*, *Teucrium orientale*; Scrophulariaceae: *Scrophularia* sp.

***Lasioglossum (Lasioglossum) leucozonium* (Schrank, 1781) \* [= *L. (Leuchalictus) leucozonium*]**

Several subspecies have been described under this species, the specimens from Lebanon are potentially referable to the taxon *L. tadschicum* which may be a subspecies of *L. leucozonium*. This issue requires revision work of the Eastern taxa.

**Distribution:** PALAEARCTIC: Holarctic (Pauly 2016b).

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 27.III.2017, 3♀, det. Pauly A., leg. Boustani M., coll. MBOU.

***Lasioglossum (Evyllaesus) limbelloides* (Blüthgen, 1931) [= *L. (Sphecodogastra) limbelloides*]**

**Distribution:** EAST MEDITERRANEAN: Greece, Turkey, Lebanon, Iran (Pauly 2016a).

**Literature.** Ebmer 1995: Mount Lebanon, Ain Zhalta, 1300 m, coll. Pauly A.

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 1187 m, 21.VI.2017, 1♀, det. Pauly A., leg. Boustani M.; Hadath El Jebbe, Chemin Wadi Ain El Raha, 1519 m, 18.VII.2017, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Echinops gaillardotii*; Caprifoliaceae: *Scabiosa argentea*.

***Lasioglossum (Evyllaesus) lineare* (Schenck, 1868) \* [= *L. (Sphecodogastra) lineare*]**

**Distribution:** WEST PALAEARCTIC (Pauly 2016a).

Local distribution fig. 12.6

**Material examined.** Abundant and widespread in Lebanon.

Bekaa: Kefraya, 1009 m, 27.IV.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU; Passage Akoura-Hadath, 1748 m, 7.VII.2019, 2♀, det. Pauly A., leg. Van Achter X., coll. XVA.

Mount Lebanon: Maaser Al Chouf, 1718 m, 6.VIII.2018, 1♂, det. Pauly A., leg. Van Achter X., coll. XVA; Additional 7♀ from 4 records collected between 3.IV.2019 and 30.VI.2019, from Daychouniyeh, Mansourieh, Falougha, and Akoura.

N. Lebanon: Arz Bcharre, 1928 m, 20.VI.2016, 2♀, det. Pauly A., leg. Boustani M., coll. MBOU. Additional 33♀ and 8♂ from 28 records collected between 9.V.2017 and 31.VII.2019, from Arz Bcharre, Tannourine El Tahta, Horch Ehden, Harissa, Qanat, Jord Tannourine, Horch Ehden and Bcharre.

S. Lebanon: Saidoun, 21.IV.2018, 1♀, det. Pauly A., leg. Baghdadi A., coll. SOILS.

**Flower records.** Apiaceae: *Eryngium creticum*; Asteraceae: *Achillea falcata*, *Chrysanthemum coronarium*, *Cirsium* sp., *Echinops gaillardotii*; Brassicaceae: *Alyssum* sp., *Myagrum perfoliatum*; Caprifoliaceae: *Scabiosa argentea*; Caryophyllaceae: *Dianthus* sp.; Convolvulaceae: *Convolvulus arvensis*; Fabaceae: *Medicago* sp., *Ononis natrix*, *Vicia tenuifolia*; Geraniaceae: *Geranium molle*, *Geranium* sp.; Lamiaceae: *Mentha aquatica* *Salvia microstegia*,

*Stachys ehrenbergii*; Plantaginaceae: *Anarrhinum orientale*, *Veronica polifolia*; Rosaceae: *Cotoneaster* sp.; Scrophulariaceae: *Scrophularia* sp.

***Lasioglossum (Evyllaesus) longirostre (Morawitz, 1876) \* [= L. (Hemihalictus) longirostre]***

**Distribution:** EAST MEDITERRANEAN: Levant, Turkey, Iran, and reported from Mount Lebanon (Pauly 2016a).

Local distribution fig. 12.7

Note: Reported from Mount Hermon from a specimen collected by Dorchin A, determined by Ebmer A.W. (Pauly 2016a).

**Material examined.** Bekaa: Blaika, 1223 m, 3.VII.2019, 1♀, det. Pauly A., leg. Boustani M.; 1♀, det. Pauly A., leg. Ghisbain G.; Blaika, 1325 m, 3.VII.2019, 2♀, det. Pauly A., leg. Ghisbain G., all coll. UMONS.

Mount Lebanon: Barouk, Shouf Biosphere Reserve, 1686 m, 2.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA; Laqlouq, 1594 m, 6.VII.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 18.IV.2017, 1♀, det. Pauly A., leg. Boustani M.; Fehta, Al Biara, 1741 m, 28.VI.2017, 1♀, det. Pauly A., leg. Boustani M.; Harissa, Al Jawar, 1765 m, 18.VII.2017, 1♀, det. Pauly A., leg. Boustani M.; Tannourine El Tahta, 1013 m, 27.VI.2019, 2♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Tannourine El Tahta, 995 m, 27.VI.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA; Arz Tannourine, Main Gate, 1794 m, 4.VII.2019, 4♀, det. Pauly A., leg. Boustani M., coll. MBOU; Horch Ehden, 1625 m, 14.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

**Flower records.** Asteraceae: *Centaurea cf pallescens*; Lamiaceae: *Phlomis cf brachyodon*, *Phlomis syriaca*, *Stachys cretica*, *Stachys distans*, *Salvia hierosolymitana*, *Salvia microstegia*, *Salvia sclarea*.

***Lasioglossum (Evyllaesus) lucidulum (Schenck, 1861) \* [L. (Hemihalictus) lucidulum]***

**Distribution:** PALAEARCTIC: Euro-Siberian (Pauly 2016a).

**Material examined.** Mount Lebanon: Mazraat Al Daher, 529 m, 19.VII.2019, 2♀, det. Pauly A., leg. Boustani M., coll. MBOU.

N. Lebanon: Horch Ehden, V.2015, 1♀, det. Pauly A., leg. Boustani M.; Hadath El Jebbe, Al Fouar, 1529 m, 31.V.2019, 1♀, det. Pauly A., leg. Boustani M.; Jord Ehden, 1983 m, 5.VII.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Horch Ehden, 1625 m, 14.VII.2019, 3♀, det. Pauly A., leg. Van Achter X.; Horch Ehden, 1686 m, 14.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., all coll. XVA; Bcharre, Dahr El Adib, 2566 m, 24.VII.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

***Lasioglossum (Evyllaesus) malachurum (Kirby, 1802) \* [= L. (Sphecodogastra) malachurum]***

**Distribution:** WEST PALAEARCTIC (Pauly 2016a).

Local distribution fig. 12.8

**Material examined.** Specimen without label from AUB collection, 1♀, det. Pauly A., coll. AUB.

Beirut: AUB Campus, 1.VI.1984, 1♀, det. Pauly A., leg. Nahla B, coll. AUB.

Bekaa: Der El Ahmar, 995 m, 3.VII.2019, 1♀, 1♂, det. Pauly A., leg. Boustani M.; 1011 m, 3.VII.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU.

Mount Lebanon: Barouk, Gîte des oiseaux, 1064 m, 3.VII.2019, 4♀, 1♂, det. Pauly A., leg. Van Achter X., coll. XVA; Mazraat Al Daher, 529 m, 19.VII.2019, 1♂, det. Pauly A., leg. Boustani M.; Aley, 852 m, 23.VII.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU.

N. Lebanon: Qanat, Qornet Dammoua, 1231 m, 22.VI.2017, 2♀, det. Pauly A., leg. Boustani M., coll. MBOU. Additional 5♀ and 2♂ between 21.VII.2018 and 24.VII.2019 from Arz Bcharre, Hamat and Bcharre.

S. Lebanon: Saida, 25.II.1965, 1♀, det. Pauly A., coll. AUB.

**Flower records.** Asteraceae: *Achillea falcata*, *Carthamus persicus*, *Centaurea cf pallescens*, *Crepis reuteriana*, Caprifoliaceae: *Cephalaria cf joppensis*, *Cephalaria* sp.; Convolvulaceae: *Convolvulus* sp.; Lamiaceae: *Origanum* sp.; Plantaginaceae: *Anarrhinum orientale*; Scrophulariaceae: *Verbascum* sp.

Asteraceae genera are the most commonly visited, in line with the observations of Polidori *et al.* (2009).

***Lasioglossum (Evyllaesus) marginatum (Brullé, 1832) \* [= L. (Evyllaesus) marginatum]***

**Distribution:** PALAEARCTIC: South-western and Central Palaeartic (Pauly 2016a).

Local distribution fig. 12.9

**Material examined.** Abundant and widespread in Lebanon.

Bekaa: AUB Farm [Haush Sneid], 23.IV.1954, 1♀, det. Pauly A.; 5.V.1964, 1♀, det. Pauly A., all coll. AUB. Additional 10♀ and 1♂ from 5 records collected between 24.III.2013 and 27.IV.2019, from Quaraoun and Kefraya.

Mount Lebanon: Beit Meri, 19.IV.1981, 2♀, det. Pauly A., leg. Manassah R., coll. AUB; Bchaftine [Bcheftine], 6.V.1995, 1♀, det. Pauly A., leg. Fayad A., coll. AUB. Additional 28♀ from 13 records, collected between 17.IV.2016 and 16.V.2019, from Sahel Alma, Marej Barja, Mansourieh, Qortada, Bentaël, Falougha, and Shouf Biosphere Reserve.

N. Lebanon: South of Jairoun, 1648 m, 23.V.2012, 2♀, det. Ebmer A.W., leg. Kasperek M., coll. OÖLM.

Additional 277♀ and 5♂ from 42 records, collected between 26.V.2012 and 3.VI.2019, from Donnieh, Jairoun, Horch Ehden, Tannourine El Tahta, Hadath El Jebbe, Arz Tannourine, Arz Bcharre, Harissa, Fehta and Ehden.

S. Lebanon: Saidoun, Sahlet, 12.V.2019, 1♀, det. Pauly A., leg. Baghdadi A., coll. SOILS.

**Flower records.** Wide range of forage plants. Asphodelaceae: *Asphodelus macrocarpus*; Asteraceae: *Anthemis* sp., *Chrysanthemum coronarium*, *Crepis sancta*, *Crepis* sp., *Reichardia* sp., *Rhagadiolus* cf *edulis*, *Sonchus oleraceus*, *Senecio* cf *vernalis*, *Senecio* sp., *Taraxacum* sp.; Brassicaceae: *Alyssum* sp., *Brassica* sp., *Capsella* sp., *Myagrum perfoliatum*, *Peltaria angustifolia*, *Thlaspi microstylum*, *Thlaspi* sp.; Boraginaceae: *Anchusa italica*, *Cynoglossum nebrodense*, *Solenanthus stamineus*; Fabaceae: *Trifolium resupinatum*, *Trifolium tomentosum*; Geraniaceae: *Geranium* sp.; Primulaceae: *Anagallis arvensis*; Rubiaceae: *Asperula arvensis*; Rutaceae: *Ruta chalepensis*; Ranunculaceae: *Ranunculus scandicinus*, *Ranunculus* sp.; Rosaceae: *Cotoneaster* sp., *Crataegus monogyna*; Valerianaceae: *Valeriana dioscoridis*.

Notes: This species is one of the most abundant in Mediterranean ecosystems (Potts *et al.* 2003). In our collection sites, females were very abundant. Males in material examined were mainly collected in late fall at high altitude, caught visiting *Colchicum* sp. and *Crocus* sp. that flower before the first snow.

***Lasioglossum (Evyllaesus) mesosclerum* (Pérez, 1903) \* [= *L. (Hemihalictus) mesosclerum*]**

**Distribution:** WEST PALAEARCTIC: Steppic areas in the Mediterranean and Eastern Asia (Pauly 2016a).

**Material examined.** N. Lebanon: Hadath El Jebbeh, Border of the Cedar Forest, 1681 m, 22.VIII.2018, 1♀, det. Pauly A., leg. Boustani M., Jabbour J., coll. MBOU.

**Flower records.** Apiaceae: *Eryngium glomeratum*.

***Lasioglossum (Dialictus) montifringillum* Warncke, 1984 ssp. *cannabinum* (Warncke, 1984) \***

**Distribution:** EAST MEDITERRANEAN (Kuhlmann *et al.* 2021).

**Distribution of *L. montifringillum cannabinum*:** Described from Sinai (Warncke 1984).

**Material examined.** Bekaa: Jord Aarsal, Kecheq, 2120 m, 11.VII.2019, 2♂, det. Pauly A., leg. Boustani M.

N. Lebanon: Arz Bcharre, Forest Limit, 1897 m, 2.VII.2019, 1♀, det. Pauly A., leg. Boustani M.; Bcharre, 2042 m, 22.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; Arz Tannourine, Reserve House, 1786 m, 31.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.

**Flower records.** Brassicaceae: *Alyssum* sp.; Plumbaginaceae: *Acantholimon libanoticum*.

***Lasioglossum (Dialictus) morio* (Fabricius, 1793) \***

**Distribution:** WEST PALAEARCTIC (Pauly 2016c).

Local distribution fig. 12.10

**Material examined.** Bekaa: Anjar, Water Trail, 951 m, 23.VII.2019, 1♀, det. Pauly A., leg. Boustani M.

Mount Lebanon: Jabal Moussa Biosphere Reserve, Peony Trail, 1491 m, 21.VIII.2018, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU.

N. Lebanon: Hadath El Jebbe, Al Fouar, 1529 m, 31.V.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU; Horch Ehden, 1686 m, 14.VII.2019, 4♀, det. Pauly A., leg. Van Achter X.; 1625 m, 14.VII.2019, 2♀, det. Pauly A., leg. Van Achter X.; 1625 m, 24.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; 1686 m, 24.VII.2019, 6♀, det. Pauly A., leg. Van Achter X.; 31.VII.2019, 3♀, det. Pauly A., leg. Van Achter X.; Bcharre, 2042 m, 31.VII.2019, 1♀, 1♂, det. Pauly A., Van Achter X.; Horch Ehden, 1625 m, 31.VII.2019, 2♀, det. Pauly A., leg. Van Achter X., coll. XVA.

**Flower records.** Asteraceae: *Centaurea* sp.; Fabaceae: *Hymenocarpus circinnatus*, *Vicia tenuifolia*.

***Lasioglossum (Evylaeus) nigripes* (Lepeletier, 1841) ssp. *pharaonis* Strand, 1909 \* [= *L. (Sphecodogastra) nigripes* ssp. *pharaonis*]**

**Distribution:** WEST PALAEARCTIC (Pauly 2016a).

**Distribution of *L. nigripes pharaonis*:** EAST MEDITERRANEAN: Syria, Israel, Jordan, Egypt (Pauly 2016a).  
Local distribution fig. 12.11

All of the material below is reported under *ssp. pharaonis* as it is the subspecies present in the area.

**Material examined.** Beirut: AUB Campus, 11.VI.2008, 1♀, det. Pauly A., leg. Salem R., coll. AUB; Achrafieh, 27.IX.2017, 2♀, det. Pauly A., leg. Baghdadi A., coll. SOILS.

Mount Lebanon: Ehmej, 25.III.2018, 1♀, det. Pauly A., leg. Bou Zeid M., coll. USEK; Jabal Moussa, 1439 m, 18.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; Jabal Moussa, Trail Qornet El Der, 1364 m, 18.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

N. Lebanon: Donnieh, Nemrud-See, 245 m, 28.V.2012, 1♀, det. Ebmer A.W., leg. Kasperek M., coll. OÖLM; Donnieh, Wadi Cehennem, 924 m, 30.V.2012, 1♀, det. Ebmer A.W., leg. Kasperek M., coll. OÖLM; Tannourine El Tahta, Wadi Ain El Raha, 900 m, 3.V.2017, 2♀, det. Pauly A., leg. Boustani M.; Arz Tannourine, Trail 4, 1762 m, 21.V.2018, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Arz Tannourine, Gate Area, 1797 m, 14.VII.2019, 2♀, det. Pauly A., leg. Van Achter X.; Arz Tannourine, Reserve House, 1786 m, 14.VII.2019, 4♀, det. Pauly A. leg. Van Achter X.; 1797 m, 24.VII.2019, 2♀, det. Pauly A., leg. Van Achter X.; Arz Tannourine, Reserve House, 1786 m, 24.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; Horch Ehden, 1625 m, 29.VII.2019, 1♂, det. Pauly A., leg. Van Achter X.; Arz Tannourine, Reserve House, 1786 m, 31.VII.2019, 2♀, det. Pauly A., leg. Van Achter X., all coll. XVA.

S. Lebanon: Saidoun, 21.VI.2018, 1♂, det. Pauly A., leg. Baghdadi A.; 24.VI.2018, 1♂, det. Pauly A., leg. Baghdadi A.; 21.VIII.2018, 1♀, det. Pauly A., leg. Baghdadi A., all coll. SOILS.

**Flower records.** Apiaceae: *Foeniculum* sp., *Scorzonera* sp.; Asteraceae: *Centaurea* sp.; Caprifoliaceae: *Scabiosa* sp.; Lamiaceae: *Mentha* sp., *Stachys* sp.

***Lasioglossum (Evylaeus) nitidiusculum* (Kirby, 1802) \* [= *L. (Hemihalictus) nitidiusculum*]**

**Distribution:** WEST PALAEARCTIC (Pauly 2016a).

**Material examined.** N. Lebanon: Horch Ehden, V.2015, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

***Lasioglossum (Lasioglossum) pallens* (Brullé, 1832) \***

**Distribution:** WEST PALAEARCTIC: Warm localities of the West Palearctic (Pauly 2016b)

**Material examined.** Mount Lebanon: Falougha, 1478 m, 27.IV.2019, 1♂, det. Pauly A., leg. Rasmont P., coll. PRAS.

N. Lebanon: Tannourine El Tahta, Wadi Ain Al Raha, 936 m, 11.IV.2017, 1♀, det. Pauly A., leg. Boustani M.; Arz Tannourine, Gate area, 1754 m, 2.IV.2018, 1♂, det. Pauly A., leg. Boustani M.; Hadath El Jebbe, Al Fouar, 1529 m, 12.IV.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Senecio* sp.; Ranunculaceae: *Ranunculus* sp.

***Lasioglossum (Evylaeus) politum* (Schenck, 1853) \* [= *L. (Evylaeus) politum*]**

**Distribution:** PALAEARCTIC: Trans-Palaearctic (Pauly 2016a).

Local distribution fig. 12.12

**Material examined.** Mount Lebanon: Mansourieh, Pleine Nature, 264 m, 3.IV.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU; Barouk, Gîte des oiseaux, 1064 m, 3.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA; Mazraat Al Daher, 529 m, 19.VII.2019, 2♀, det. Pauly A., leg. Boustani M., coll. MBOU.

N. Lebanon: Bcharre, Dahr El Adib, 2437 m, 8.VI.2017, 2♀, det. Pauly A., leg. Boustani M.; Bcharre, Dahr El Adib, 2441 m, 8.VI.2017, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Horch Ehden, 1686 m, 14.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

**Flower records.** Asteraceae: *Chrysanthemum coronarium*; Ranunculaceae: *Ranunculus demissus*; Rosaceae: *Rubus sanctus*; Lamiaceae: *Lamium striatum*.

***Lasioglossum (Dialictus) pseudolittorale* (Blüthgen, 1923)**

**Distribution:** EAST MEDITERRANEAN: Levant, Turkey (Pauly 2016a).

**Literature.** Blüthgen 1923, described as *Halictus pseudolittolaris*

2♂ from Lebanon without precise locality, type material, leg. Schmiedeknecht O., coll. MNHUB.

See also Ebmer (1976) and Bytinski-Salz & Ebmer (1974).

***Lasioglossum (Evyllaesus) pseudosphecodimorphum* (Blüthgen, 1923) \* [= *L. (Sphecodogastra) pseudosphecodimorphum*]**

**Distribution:** EAST MEDITERRANEAN: Turkey, Syria, Israel, Jordan (Pauly 2016a).

Local distribution fig. 12.13

**Material examined.** Bekaa: Blaika, 1325 m, 3.VII.2019, 1♀, det. Pauly A., leg. Ghisbain G., coll. UMONS.

Mount Lebanon: Bentaël, 378 m, 23.IV.2019, 1♀, det. Pauly A., leg. Boustani M., Rasmont P., Nemer N., coll. MBOU. Additional 9♀ from 5 records collected between 26.IV.2019 and 23.VII.2019, from Chammis, Akoura, Bentaël, Souk El Ghareb.

N. Lebanon: Qadisha, Lebanon Mountain Trail, 936 m, 9.V.2017, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU. Additional 18♀ from 13 records collected between 29.VI.2017 and 31.VII.2019, from Hadath El Jebbe, Arz Tannourine, Douma, and Ehden.

**Flower records.** Apiaceae: *Eryngium glomeratum*; Asteraceae: *Centaurea cf. pallescens*; Boraginaceae: *Echium glomeratum*; Capparidaceae: *Capparis spinosa*; Fabaceae: *Ononis natrix*; Hypericaceae: *Hypericum scabrum*; Lamiaceae: *Nepeta* sp.; Rubiaceae: *Galium* sp.

***Lasioglossum (Evyllaesus) punctatissimum* (Schenck, 1853) \* [*L. (Hemihalictus) punctatissimum*]**

**Distribution:** WEST PALAEARCTIC (Pauly 2016a).

Local distribution fig. 12.14

**Material examined.** Bekaa: Anjar, Water Trail, 951 m, 23.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

Mount Lebanon: Mansourieh, Aylout, 274 m, 26.VI.2019, 1♀, det. Pauly A., leg. Boustani M., Van Achter X., coll. XVA.

N. Lebanon: Tannourine, Wadi Al Fouar, 1528 m, 17.VI.2016, 1♀, det. Pauly A., leg. Boustani M.; Tannourine El Tahta, Wadi Ain El Raha, 1371 m, 5.V.2017, 1♀, det. Pauly A., leg. Boustani M.; Hadath El Jebbe, Chemin Wadi Ain El Raha, 1519 m, 29.VI.2017, 3♀, det. Pauly A., leg. Boustani M.; 1547 m, 29.VI.2017, 1♀, det. Pauly A., leg. Boustani M.; 1575 m, 28.VII.2017, 1♀, det. Pauly A., leg. Boustani M.; Hadath El Jebbeh, Road to Wadi Al Fouar, 1553 m, 19.VII.2018, 1♀, det. Pauly A., leg. Boustani M., Jabbour J., all coll. MBOU; Horch Ehden, 1625 m, 14.VII.2019, 8♀, det. Pauly A., leg. Van Achter X.; 1686 m, 14.VII.2019, 6♀, 1♂, det. Pauly A., leg. Van Achter X.; 1625 m, 24.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; 1686 m, 24.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; 1625 m, 31.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., all coll. XVA.

**Flower records.** Asteraceae: *Echinops viscosus*; Fabaceae: *Ononis natrix*, *Lotus* sp.; Caprifoliaceae: *Scabiosa argentea*; Caryophyllaceae: *Minuartia cf. mesogitana*; Rutaceae: *Ruta chalepensis*.

***Lasioglossum (Evyllaesus) puncticolle* (Morawitz, 1872) \* [= *L. (Hemihalictus) puncticolle*]**

**Distribution:** WEST PALAEARCTIC (Pauly 2016a).

**Material examined.** N. Lebanon: Tannourine Reserve, Trail 4, 1781 m, 30.VI.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU; Tannourine Reserve, Gate Area, 1797 m, 24.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

***Lasioglossum (Evyllaesus) pygmaeum* (Schenck, 1853) \* [= *L. (Hemihalictus) pygmaeum*]**

**Distribution:** WEST PALAEARCTIC: Warm localities of the West Palearctic (Pauly 2016a).

**Material examined.** Mount Lebanon: Bentaël, 337 m, 23.IV.2019, 1♀, det. Pauly A., leg. Boustani M., Rasmont P., Nemer N.; 385 m, 23.IV.2019, 1♀, det. Pauly A., leg. Boustani M., Rasmont P., Nemer N.

N. Lebanon: Hadath El Jebbe, Chemin Wadi Ain El Raha, 1519 m, 29.VI.2017, 1♀, det. Pauly A., leg. Boustani M.; Tannourine El Tahta, Wadi Ain Al Raha, 1187 m, 21.VI.2017, 1♀, det. Pauly A., leg. Boustani M.; Arz Tannourine, Trail 4, 1762 m, 11.VII.2018, 2♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Arz Tannourine, Gate Area, 1797 m, 9.VII.2019, 3♀, det. Pauly A., leg. Van Achter X.; Horch Ehden, 1686 m, 14.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., all coll. XVA.

**Flower records.** Fabaceae: *Ononis natrix*; Caryophyllaceae: *Minuartia cf mesogitana*; Rutaceae: *Ruta chalepensis*.

***Lasioglossum (Dialictus) semiaeneum* Brullé, 1832 \***

**Distribution:** PALAEARCTIC: Euro-Siberian (Pauly 2016c).

Local distribution fig. 12.15

**Unpublished Records.** BDFGM: MNHNP: Bekaa, Ksarah, 1913, 1♂.

**Material examined.** Bekaa: Jord Aarsal, Keчек, 2120 m, 11.VII.2019, 1♂, det. Pauly A., leg. Boustani M., coll. MBOU.

Mount Lebanon: Maaser Al Chouf, 1143 m, 29.V.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

N. Lebanon: Arz Bcharre, 1913 m, 9.V.2017, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU. 46 additional specimens (31♀ and 15♂) from 30 records, collected between 28.V.2017 and 20.VIII.2019.

**Flower records.** Apiaceae: *Chaerophyllum aurantiacum*, *Eryngium billardieri*, *Eryngium glomeratum*; Asteraceae: *Achillea falcata*, *Anthemis pauciloba*, *Centaurea eryngioides*; Caryophyllaceae: *Dianthus cf strictus*, *Dianthus strictus*; Fabaceae: *Onobrychis cornuta*, *Trifolium purpureum*, *Vicia tenuifolia*; Lamiaceae: *Stachys cretica*; Plumbaginaceae: *Acantholimon libanoticum*; Ranunculaceae: *Ranunculus demissus*; Rosaceae: *Prunus prostrata*, *Cotoneaster* sp.

***Lasioglossum (Dialictus) soror* (Saunders, 1901) \***

**Distribution:** WEST PALAEARCTIC: Mediterranean basin (Pauly 2016c).

**Material examined.** N. Lebanon: Arz Tannourine, Gate Area, 1797 m, 31.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

***Lasioglossum (Evyllaesus) subaenescens* (Pérez, 1895) ssp. *asiaticum* (Dalla Torre 1896) \* [= *L. (Hemihalictus) subaenescens* ssp. *asiaticum*]**

Distribution: WEST PALAEARCTIC (Pauly 2016a)

Notes: Ebmer 1997: Reported from Mt. Hermon.

**Material examined.** N. Lebanon: Bcharre, 1900 m, 31.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

***Lasioglossum (Lasioglossum) subfasciatum* (Imhoff, 1832) \***

**Distribution:** WEST PALAEARCTIC: Warm localities of the West Palaearctic (Pauly 2016b).

**Material examined.** N. Lebanon: Bcharre, Jord, 2723 m, 24.VI.2016, 1♂, det. Pauly A., leg. Boustani M.; Arz Bcharre, 1914 m, 9.V.2017, 3♀, det. Pauly A., leg. Boustani M.; Bcharre, Dahr El Adib, 2407 m, 8.VI.2017, 1♀, det. Pauly A., leg. Boustani M.; Bcharre, Plateau Qornet Es Sawda, 2882 m, 1.VIII.2018, 1♂, det. Pauly A., leg. Boustani M.; Arz Tannourine, Trail 4, 1781 m, 13.V.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Bcharre, 2042 m, 29.VII.2019, 1♂, det. Pauly A., leg. Van Achter X., coll. XVA.

**Flower records.** Asteraceae: *Cirsium lappaceum*; Boraginaceae: *Solenanthes stamineus*; Fabaceae: *Vicia canescens*.

***Lasioglossum (Lasioglossum) tadschicum* (Blüthgen, 1929) \***

**Distribution:** PALAEARCTIC: Levant and east to Afghanistan (Pauly 2016b).

Local distribution fig. 12.16

**Material examined.** Mount Lebanon: Fanar, 10.III.1965, 1♀, det. Pauly A., coll. USEK; Beit Meri, 22.V.1981, 1♂, det. Pauly A., leg. Samin R; 1♂, det. Pauly A., all coll. AUB; Maaser Al Chouf, 1143 m, 29.V.2019, 1♂, det. Pauly A., leg. Boustani M., coll. MBOU.

N. Lebanon: Arz Tannourine, Reserve House, 1786 m, 14.VII.2019, 3♀, det. Pauly A., leg. Van Achter X.; Bcharre, 2042 m, 14.VII.2019, 1♀, det. Pauly A., leg. Van Achter X.; 22.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

***Lasioglossum (Evyllaesus) transitorium* (Schenck, 1868) \* [= *L. (Hemihalictus) transitorium*]**

**Distribution:** WEST PALAEARCTIC (Pauly 2016a).

**Material examined.** Mount Lebanon: Antelias, Bach Musical Institute, 24.IV.2017, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

**Flower record.** Asteraceae: *Chrysanthemum* sp.

***Lasioglossum (Evyllaesus) truncaticolle (Morawitz, 1878) \* [= L. (Hemihalictus) truncaticolle]***

**Distribution:** WEST PALAEARCTIC: Southern part of the West Palaearctic (Pauly 2016a).

Local distribution fig. 13.1

**Material examined.** Bekaa: Der El Ahmar, 995 m, 3.VII.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU; 4♀, det. Pauly A., leg. Ghisbain G., coll. UMONS; Jord Aarsal, Howiyit Al Borj, 2008 m, 11.VII.2019, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 3.V.2017, 1♀, det. Pauly A., leg. Boustani M.; Hadath El Jebbeh, Border of Cedar Forest, 1681 m, 19.VII.2018, 1♀, det. Pauly A., leg. Boustani M., Jabbour J.; Arz Tannourine, Gate area, 1754 m, 16.VIII.2018, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Arz Tannourine, Trail 4, 1762 m, 27.VII.2018, 1♀, det. Pauly A., leg. Van Achter X., coll. XVA.

**Flower records.** Asteraceae: *Centaurea cf pallescens*, *Centaurea pallescens*, *Onopordum* sp.

***Lasioglossum (Evyllaesus) villosulum (Kirby, 1802) \* [= L. (Hemihalictus) villosulum]***

**Distribution:** PALAEARCTIC (Pauly *et al.* 2019).

Local distribution fig. 13.2

**Material examined.** Mount Lebanon: Aley, 852 m, 23.VII.2019, 1♀, det. Pauly A., leg. Boustani M.; Keyfoun, 847 m, 23.VII.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU.

N. Lebanon: Horch Ehden, 1625 m, 14.VII.2019, 3♀, det. Pauly A., leg. Van Achter X.; Arz Tannourine, Reserve House, 1786 m, 14.VII.2019, 3♀, det. Pauly A., leg. Van Achter X., all coll. XVA; Arz Bcharre, Forest Limit, 1873 m, 20.VIII.2019, 1♂, det. Pauly A., leg. Boustani M., coll. MBOU.

**Flower records.** Some records on unidentified Asteraceae.

***Lasioglossum (Lasioglossum) xanthopus (Kirby, 1802) \****

**Distribution:** WEST PALAEARCTIC: Warm localities of the West Palaearctic (Pauly 2016b).

**Material examined.** N. Lebanon: Jairoun, 1042 m, 23.V.2012, 1♀, det. Ebmer A.W., leg. Kasparek M., coll. MKAS.; Horch Ehden, X.2014, 1♂, det. Pauly A., leg. Boustani M., Boustani C.; Bcharre, Reforestation Area, 1993 m, 27.VI.2017, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU; Bcharre, Reforestation Area, 1973 m, 2.VII.2019, 2♀, det. Pauly A., leg. Ghisbain G., coll. UMONS.

**Flower records.** Fabaceae: *Vicia tenuifolia*.

**Genus *Thrincohalictus* (Pérez, 1912)**

One species.

***Thrincohalictus (Thrincohalictus) prognathus (Pérez, 1912)***

**Distribution:** EAST MEDITERRANEAN (Pauly 2016e).

**Literature.** Blüthgen (1955): Bekaa, Baalbek, 1♀, locus typicus of the described female.

**Material examined.** Mount Lebanon: Chammiss, Wadi Cheber, 373 m, 26.IV.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 5.V.2017, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.

**Flower record.** Papaveraceae: *Papaver* sp.

**Genus *Sphecodes* Latreille, 1804**

Seven species.

***Sphecodes (Sphecodes) barbatus Blüthgen, 1923 \****

**Distribution:** EAST MEDITERRANEAN (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Tannourine, 29.IV.2016, 1♂, det. Straka J., leg. Boustani M., coll. MBOU.

***Sphcodes (Sphcodes) dusmeti* Blüthgen, 1925 \***

**Distribution:** PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Hadath El Jebbe, Chemin Wadi Ain El Raha, 1519 m, 29.VI.2017, 1♂, det. Straka J., leg. Boustani M., coll. MBOU.

**Flower record.** Fabaceae: *Ononis natrix*.

***Sphcodes (Sphcodes) gibbus* (L., 1758) \***

**Distribution:** PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** Mount Lebanon: Barouk, Masyaf El Mir, 1807 m, 7.VIII.2019, 1♂, det. Straka J., leg. Boustani M., coll. MBOU.

N. Lebanon: Hadath El Jebbe, Al Fouar, 1529 m, 27.VI.2019, 1♀, det. Straka J., leg. Boustani M., Mouawad G., coll. MBOU; Tannourine, Road to Eco Dalida, 1796 m, 6.VII.2019, 2♂, det. Straka J., leg. Gekière A., coll. UMONS.

**Flower records.** Lamiaceae: *Mentha aquatica*; Plantaginaceae: *Anarrhinum orientale*.

***Sphcodes (Sphcodes) monilicornis* (Kirby, 1802) \***

**Distribution:** PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Arz Tannourine, Trail 1, 1748 m, 28.VII.2017, 1♂, det. Straka J., leg. Boustani M.; Arz Tannourine, Trail 4, 1762 m, 18.VIII.2018, 1♂, det. Straka J., leg. Boustani M., Jabbour J.; Arz Bcharre, Forest Limit, 1897 m, 2.VII.2019, 1♀, det. Straka J., leg. Boustani M., all coll. MBOU.

**Flower records.** Apiaceae: *Ferulago frigida*; Brassicaceae: *Alyssum* sp.

***Sphcodes (Sphcodes) pellucidus* Smith, 1845 \***

**Distribution:** PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Bcharre, Dahr El Adib, 2572 m, 25.VIII.2018, 1♂, det. Straka J., leg. Boustani M., Jabbour J., coll. MBOU.

**Flower record.** Asteraceae: *Cirsium lappaceum*.

***Sphcodes (Sphcodes) puncticeps* Thomson, 1870 \***

**Distribution:** PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Hadath El Jebbeh, Border of the Cedar Forest, 1681 m, 22.VIII.2018, 1♂, det. Straka J., leg. Boustani M., Jabbour J.; Horch Ehden, Ain El Naasa, 1560 m, 22.V.2019, 1♀, det. Straka J., leg. Boustani M., all coll. MBOU.

**Flower records.** Apiaceae: *Eryngium glomeratum*; Fabaceae: *Coronilla emeroides*.

***Sphcodes (Sphcodes) spinulosus* Hagens, 1875 \***

**Distribution:** PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Horch Ehden, Ain El Naasa Gate, 1598 m, 22.V.2019, 1♂, det. Straka J., leg. Boustani M., coll. MBOU.

## NOMIINAE

**Genus *Nomiapis* Cockerell, 1919**

Two species.

***Nomiapis (Nomiapis) diversipes* (Latreille, 1806) \***

**Distribution:** PALAEARCTIC (Pauly 2015).

**Material examined.**

**BDFGM material.** Mount Lebanon: Beit Meri, 1 F, det. Pauly A., coll. MNHNP.

**Author material.** Specimen without label from AUB collection, 1♂, det. Pauly A., coll. AUB.

Bekaa: Blaika, 1325 m, 3.VII.2019, 1♀, det. Pauly A., leg. Gekière A., coll. UMONS; Hadath, Near Army Checkpoint, 1610 m, 7.VIII.2019, 1♀, det. Pauly A., leg. Boustani M., coll. MBOU.



N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 1187 m, 2.VII.2017, 1♀, det. Pauly A., leg. Boustani M.; Hadath El Jebbeh, Border of the Cedar Forest, 1681 m, 22.VIII.2018, 1♀, det. Pauly A., leg. Boustani M., Jabbour J.; Hadath El Jebbe, Al Fouar, 1529 m, 23.VIII.2019, 1♀, det. Pauly A., leg. Boustani M., Mouawad G.; Tannourine El Tahta, Mar Boutrous, 1207 m, 25.VII.2019, 1♀, det. Pauly A., leg. Boustani M., all coll. MBOU.

***Nomiapis (Nomiapis) equestris (Gerstaecker, 1872)***

**Distribution:** EAST MEDITERRANEAN (Pauly 2015).

Literature (Baker 2002): N Bekaa, Deir Mar Maroun, ca 700 m, 26.V.1996, 1♂, 2.VI.1996, 1♂, 1♀, 9.VI.1996, 2♀; N. Bekaa, Jdeide, ca 1000 m, 2.VI.1996, 1♀ (all C.G. Roche) [CGRC, DBB]

**Material examined.** Bekaa: Anjar, Army Barracks, 967 m, 23.VII.2019, 1♂, det. Pauly A., leg. Boustani M., coll. MBOU.

**Flower record.** Lamiaceae: *Mentha aquatica*.

**Genus *Pseudapis* Kirby, 1900**

One species

***Pseudapis (Pseudapis) nilotica (Smith, 1875)***

**Distribution:** WEST PALAEARCTIC: From Morocco and Mauritania east to western Pakistan (Pauly 2019).

**Literature.** Warncke (1976): Listed from Lebanon under *Nomia armata* Olivier, 1811, with which he synonymised *N. nilotica*, see also Baker (2002).

**NOMIOIDINI**

**Genus *Nomioides* Schenck 1867**

One species.

***Nomioides (Nomioides) minutissimus (Rossi, 1790) \****

**Distribution:** PALAEARCTIC: Southern Europe, south-western Asia, and steppes and deserts of central Asia to Mongolia and northern China to the East (Pauly 2011).

**Material examined.** N. Lebanon: Hadath El Jebbeh, Chemin Wadi Ain El Raha, 1495 m, 28.VII.2017, 1♂, det. Pauly A., leg. Boustani M.; Tannourine El Tahta, Wadi Ain El Raha, 1036 m, 2.VIII.2017, 1♂, det. Pauly A., leg. Boustani M.; Tannourine El Tahta, Malaa Al Nahrein, 958 m, 2.VIII.2017, 1♀, det. Pauly A., leg. Boustani M.; Tannourine El Tahta, Wadi Ain El Raha, 1115 m, 19.VIII.2017, 2♂, det. Pauly A., leg. Boustani M.; 1008 m, 19.VIII.2017, 3♀, det. Pauly A., leg. Boustani M.; 1115 m, 19.VIII.2017, 1♂, det. Pauly A., leg. Boustani M.; Tannourine El Tahta, Wadi Al Fouar, 1187 m, 19.VII.2018, 1♀, det. Pauly A., leg. Boustani M., Jabbour J.; 22.VIII.2018, 2♂, det. Pauly A., leg. Boustani M., Jabbour J.; Hadath El Jebbe, Al Fouar, 1529 m, 31.V.2019, 1♀, det. Pauly A., leg. Boustani M.; Tannourine El Tahta, Mar Boutrous, 1207 m, 31.V.2019, 1♀, det. Pauly A., leg. Boustani M.; Tannourine El Tahta, Mar Boutrous, 1207 m, 27.VI.2019, 2♂, det. Pauly A., leg. Boustani M.; Tannourine El Tahta, 995 m, 27.VI.2019, 2♀, 2♂, det. Pauly A., leg. Van Achter X.; Tannourine El Tahta, Mar Boutrous, 1155 m, 27.VI.2019, 1♀, det. Pauly A., leg. Van Achter X.; Tannourine El Tahta, 1013 m, 27.VI.2019, 2♀, 3♂, det. Pauly A., leg. Boustani M., all coll. MBOU.

**MELITTIDAE**

**DASYPODAINAE**

**Genus *Dasyпода* Latreille, 1802**

One species.

***Dasygaster (Megadasygaster) spinigera* Kohl, 1905 \*** (fig. 28.6)

**Distribution:** WEST PALAEARCTIC: Around the Black Sea and scattered records in Hungary (Michez *et al.* 2004).

**Material examined.** Mount Lebanon: Jabal Moussa, Peony Trail, 1348 m, 18.VII.2019, 1♀, 1♂, leg. Boustani M.; Jabal Moussa, Trail Qornet El Der, 1499 m, 18.VII.2019, 1♀, 1♂, leg. Boustani M., all coll. MBOU; Jabal Moussa, 1439 m, 18.VII.2019, 2♀, 1♂, leg. Van Achter X.; Jabal Moussa, 1364 m, 18.VII.2019, 1♂, leg. Van Achter X., all coll. XVA.

N. Lebanon: Tannourine El Tahta, Wadi ain Al Raha, 1187 m, 21.VI.2017, 2♂, leg. Boustani M.; 29.VI.2017, 1♂, leg. Boustani M., all coll. Boustani M.; Tannourine El Tahta, Mar Boutrous, 1207 m, 27.VI.2019, 1♂, leg. Boustani M., 1♂, leg. Van Achter X., coll. XVA, all det. Michez D.

**Flower records.** Apiaceae: *Ferulago* sp.; Caprifoliaceae: *Scabiosa argentea*, *Scabiosa* sp.

Preference for Dipsacaceae (species listed above now placed in Caprifoliaceae) flowers in line with Michez *et al.* (2008).

Notes: This species is very localised and was found in sites with bare sandy soil suitable for nesting (Celary 2002, Howe *et al.* 2010), it is abundant when present.

## MEGACHILIDAE

### LITHURGINI

#### Genus *Lithurgus* Berhtold, 1827

One species.

#### *Lithurgus (Lithurgus) chrysurus* Fonscolombe, 1834

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

**Literature.** Mavromoustakis (1963): Near Becharre [Bcharre], 2.VII.1960, 1♀, 3♂; 1.VII.1960, 2♂; Kadisha river, 24.VI.1960, 1♂, all det. & leg. Mavromoustakis G.A.

### OSMIINI

All Material Examined determined by Müller A.

#### Genus *Chelostoma* Latreille, 1809

10 species.

Bees of this genus were found to have floral preferences restricted to one family or genus, especially Brassicaceae, Campanulaceae and Ranunculaceae (Sedivy *et al.* 2008). Very few flower records are available in our listed records below, but there seems to be a preference for Campanulaceae and Asteraceae.

#### *Chelostoma (Gyrodromella) aegaeicum* Müller, 2012 \*

**Distribution:** EAST MEDITERRANEAN: Crete, Lesvos and the western half of Turkey (Müller 2021).

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Al Fouar, 1187 m, 19.IV.2018, 1♂, leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Carduus argentatus*.

#### *Chelostoma (Foveosmia) bytinskii* (Mavromoustakis, 1948)

**Distribution:** LEVANT (Müller 2021).

**Material examined.** Beirut: 19.III.1909, 1♂, leg. Schmiedeknecht, coll. NMSF.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 934 m, 11.V.2017, 1♀, leg. Boustani M.

#### *Chelostoma (Chelostoma) diodon* Schletterer, 1889 \*

**Distribution:** EAST MEDITERRANEAN: North-eastern Mediterranean, Iran (Müller 2021).

**Material examined.** N. Lebanon: South of Jairoon, 1648 m, 23.V.2012, 1♂, leg. Kasperek M., coll. MKAS; Tannourine El Tahta, Wadi Ain El Raha, 900 m, 1♂, 18.IV.2017, leg. Boustani M.; Arz Tannourine, 1706 m, 7.VI.2017, 1♀, leg. Boustani M.; Tannourine El Tahta, Wadi Al Fouar, 1187 m, 22.V.2018, 1♀, leg. Boustani M.; Tannourine El Tahta, Mar Boutrous, 1207 m, 5.V.2019, 1♂, leg. Boustani M.; Arz Tannourine Gate, 1796 m, 11.V.2019, 1♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Carduus argentatus*.

***Chelostoma (Chelostoma) comosum* Müller, 2012**

**Distribution:** EAST MEDITERRANEAN: Levant and Cyprus (Müller 2021).

**Literature.** Referred to as *Chelostoma (Chelostoma) lucens* Benoist, 1928 by Mavromoustakis (1963) and the record has been also mentioned under *C. lucens* by Grace (2010). However, it has been wrongly assigned to this species (Müller 2012).

Mavromoustakis (1963): S. Lebanon: Djezzine [Jezzine], 21.V.1953, 4♀, det. & leg. Mavromoustakis G.A.

**Material examined.** Beirut: 14.III.1909, 1♀, leg. Weis A., coll. NMSF.

***Chelostoma (Foveosmia) foveolatum* (Morawitz, 1868) \***

**Distribution:** WEST PALAEARCTIC (Müller 2021).

**Material examined.** N. Lebanon: Horch Ehden, 1567 m, 19.VI.2016, 1♂, leg. Boustani M., Kotan A., Yammine W.; Jord Ehden, 1983 m, 5.VII.2019, 1♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Campanulaceae: *Asyneuma rigidum*.

***Chelostoma (Chelostoma) lucens* (Benoist, 1928) \***

**Distribution:** EAST MEDITERRANEAN (Müller 2021)

**Material examined.** Mount Lebanon: Maaser Al Chouf, 1364 m, 29.V.2019, leg. Boustani M., coll. MBOU.

N. Lebanon: Donnieh, bei Quemmamine, 1600 m, 23.V.2012, 1♂, leg. Kasperek M., coll. MKAS.

***Chelostoma (Foveosmia) maidli* Benoist, 1935 \***

**Distribution:** EAST MEDITERRANEAN: Turkey, Syria, Israel (Müller 2021).

**Material examined.** N. Lebanon: Arz Tannourine, 1714 m, 7.VI.2017, 1♀, 1♂, leg. Boustani M., coll. MBOU.

**Flower records.** Campanulaceae: *Campanula stricta*.

***Chelostoma (Chelostoma) mocsaryi* Schletterer, 1889 \***

**Distribution:** PALAEARCTIC: Europe, Russia, Caucasus, southwestern Asia (Müller 2021).

**Material examined.** Beirut: 1♀, leg. Schmiedeknecht, coll. NMSF.

N. Lebanon: Qadisha, 950 m, 5.V.2017, 1♂, leg. Nemeth T.; Qadisha, 910 m, 9.V.2017, 1♀, leg. Boustani M.; Tannourine El Tahta, Wadi Ain El Raha, 1371 m, 5.V.2017, 1♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Asparagaceae: *Ornithogalum* sp.

***Chelostoma (Foveosmia) schlettereri* (Friese, 1899)**

**Distribution:** EAST MEDITERRANEAN (Müller 2021).

**Literature.** Mavromoustakis, 1955: Listed as *Chelostoma picis* Benoist, 1935

Mount Lebanon, Nahr el Kelb [Nahr El Kalb], 12.V.1953, 1♀; 13.V.1953, 1♂, det. & leg. Mavromoustakis G.A.

***Chelostoma (Foveosmia) ventrale* Schletterer, 1889 \***

**Distribution:** WEST PALAEARCTIC: South-eastern Europe, eastern Mediterranean (Müller 2021).

**Material examined.** N. Lebanon: Horch Ehden, 1567 m, 19.VI.2016, 1♀, leg. Yammine W., coll. MBOU.

**Genus *Heriades* Spinola, 1808**

Four species.

***Heriades (Rhopaloheriades) clavicornis* Morawitz, 1875**

**Distribution:** PALAEARCTIC: Northern and eastern Mediterranean and further east to Tajikistan (Müller 2021).

**Unpublished records.** GBIF 2021, SEMC: N. Bekaa, Der Mar Maroun, 700 m, 26.V.1996, 1♀; 2.VI.1996, 1♂, all det. Baker D., leg. Roche C.G.

**Literature.** Mavromoustakis (1963): Ein El Arar, 1♂, 24.V.1953. Grotto del Kadisha, 1♀, 1♂, 23.VI.1960. Kadisha river, 1♂, 24.VI.1960, det. & leg. Mavromoustakis G.A.

***Heriades (Michenerella) punctulifera* Schletterer, 1889**

**Distribution: WEST PALAEARCTIC:** Northern and eastern Mediterranean and South-eastern Europe (Müller 2021).

Müller (2021) states that *Heriades (Michenerella) dalmatica* Maidl, 1922 is a junior synonym of *Heriades (Michenerella) punctulifera* Schletterer, 1889, new synonymy based on the type material.

**Literature.** Mavromoustakis (1963): Listed under *Heriades dalmatica* Maidl, 1922:

N. Lebanon, Cedars, 6.VII.1960, 2♀, 3♂, det. & leg. Mavromoustakis G.A.

**Material examined.** N. Lebanon: Arz Tannourine, Reserve Outskirts, 1792 m, 13.VII.2017, 1♀, 1♂, leg. Boustani M., coll. MBOU.

**Flower record.** Plumbaginaceae: *Acantholimon libanoticum*.

***Heriades (Heriades) rubicola* Pérez, 1890 \***

**Distribution: WEST PALAEARCTIC:** Southern Europe, eastern Mediterranean and scattered in North Africa (Müller 2021).

**Unpublished records.** GBIF 2021, SEMC:

Labeled as *Heriades rubicolus*:

Mount Lebanon, Al Montazah, 200 m, 11.IX.1994, 1♀, det. Baker D., leg. Roche C.G.; Mount Lebanon, Al Montazah nr. Mansourieh, 100 m, 11.V.1995, 1♀; 250 m, 20.VIII.1995, 1♂, all det. Baker D., leg. Roche C.G.; Bekaa, N. Bekaa, Deir Mar Maroun, 700 m, 19.V.1996, 1♂; 9.VI.1996, 1♀, all det. Baker D., leg. Roche C.G.

**Material examined.** Mount Lebanon: Aley, 852 m, 23.VII.2019, 2♀, leg. Boustani M., coll. MBOU.

***Heriades (Heriades) truncorum* L., 1758 \***

**Distribution: PALAEARCTIC** (Müller 2021).

Local distribution fig. 13.3

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon, Monteverde, 350 m, 21.V.1994, 2♂; 23.V.1994, 1♀, det. Baker D.; 28.V.1994, 1♀; 7.VIII.1994, 1♂, det. Baker D., all leg. Roche C.G.

**Material examined.** Mount Lebanon: Nahr El Kaleb, 28.IV.1973, 1♂; Arsoun, X.2015, 7♀, 1♂, leg. Nemer N., coll. TCFNR. Additional 6♀ and 2♂ from 6 records, collected between 18.VII.2019 and 12.VIII.2019, from Jabal Moussa, Laqlouq and Barouk.

N. Lebanon: Donniah, Nemrud-See, 245 m, 28.V.2012, 3♀, leg. Kasperek M., coll. MKAS; Horch Ehden, 1567 m, 19.VI.2016, 2♀, leg. Yammine W., coll. MBOU. Additional 4♀ and 10♂ from 10 records, collected between 5.VIII.2018 and 29.VII.2019, from Tannourine El Tahta, Arz Tannourine, Horch Ehden and Bcharre.

**Flower records.** Apiaceae: *Chaerophyllum aurantiacum*, *Eryngium* sp.; Asteraceae: *Achillea falcata*, *Anthemis pauciloba*, *Achillea* sp., *Centaurea iberica*, *Helichrysum pallasii*; Caprifoliaceae: *Cephalaria* cf. *joppensis*, *Cephalaria* sp.; Convolvulaceae: *Convolvulus arvensis*; Plantaginaceae: *Anarrhinum orientale*.

Preference for Asteraceae in line with past observations (Amiet *et al.* 2004, Müller 2021).

**Genus *Stenoheriades* Tkalcu, 1984**

One species.

***Stenoheriades (Stenoheriades) levantica* Müller, 2014**

**Distribution: LEVANT** (Müller 2021).

**Literature.** Male reported from Lebanon by Mavromoustakis (1955) was assigned to *Chelostoma coelostomum* Benoist, 1935. However, these records have been reassigned to *Stenoheriades levantica* (Müller & Trunz 2014): S. Lebanon, Djezzine [Jezzine], 2.VI.1953, 6♂, 5♀, det. & leg. Mavromoustakis G.A.

**Material examined.** Mount Lebanon: Maaser Al Chouf, 1143 m, 29.V.2019, 1♂, leg. Boustani M.

N. Lebanon: Hadath El Jebbe, Al Fouar, 1529 m, 31.V.2019, 1♂, leg. Boustani M., all coll. MBOU.

**Flower record.** Asteraceae: *Anthemis pauciloba*.

### **Genus *Hoplitis* Klug, 1807**

16 species.

Most species seem to have preferences for Fabaceae and Boraginaceae as observed by Sedivy *et al.* 2013, but there are also a few records from Asteraceae and Campanulaceae.

#### ***Hoplitis (Alcidamea) acuticornis (Dufour and Perris, 1840) \****

**Distribution:** PALAEARCTIC (Müller 2021).

**Material examined.** Bekaa: Ainata, 1556 m, 30.V.2017, 1♀, leg. Boustani M., Rasmont P., coll. MBOU.

N. Lebanon: Bcharre, Reforestation Area, 2347 m, 27.VI.2017, 1♂, leg. Boustani M.; Hadath El Jebbeh, Road to Wadi Al Fouar, 1553 m, 6.VI.2018, 1♀, leg. Boustani M.; Hadath El Jebbe, Al Fouar, 1529 m, 31.V.2019, 4♀, 2♂, leg. Boustani M.; Hadath El Jebbe, Al Fouar, 1529 m, 7.VI.2019, 1♀, leg. Boustani M., all coll. MBOU; Hadath El Jebbe, Al Fouar, 1468 m, 27.VI.2019, leg. Van Achter X., coll. XVA.

**Flower records.** Fabaceae: *Lotus gebelia libanoticus*, *Vicia canescens*, *Vicia tenuifolia*.

#### ***Hoplitis (Hoplitis) annulata Latreille, 1811***

**Distribution:** WEST PALAEARCTIC: Southern Europe, Mediterranean basin except Egypt, Libya and Tunisia, Turkey to Azerbaijan East (Müller 2021).

**Literature.** Mavromoustakis (1956) listed as the subspecies *Hoplitis (Hoplitis) annulata* (Latreille, 1811) *crenulata* (Morawitz, 1871) as *Osmia (Anthocopa) crenulata* Morawitz, 1871.

Mount Lebanon, Gounnie [Jounieh], 14.V.1953, 2♀, 1♂; Beirut, 4.VI.1954, 1♀ all det. & leg. Mavromoustakis G.A.

**Material examined.** Mount Lebanon: Barouk, 1086 m, 12.VIII.2019, 1♀, leg. Boustani M., coll. MBOU.

N. Lebanon: Donnieh, Nemrud-See, 245 m, 28.V.2012, 4♀, leg. Kasperek M., coll. MKAS; Qanat, Qornet Dammouaa, 1231 m, 22.VI.2017, 2♀, leg. Boustani M.; 31.V.2017, 1♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Boraginaceae: *Echium glomeratum*, *Echium italicum*.

#### ***Hoplitis (Anthocopa) bisulca (Gerstaecker, 1869) \****

**Distribution:** WEST PALAEARCTIC (Müller 2021)

**Material examined.** N. Lebanon: Horch Ehden, 1625 m, 12.VII.2019, 1♂; 24.VII.2019, 1♀; 31.VII.2019, 1♀; 29.VII.2019, 1♀; 1686 m, 24.VII.2019, 1♀, all leg. Van Achter X., all coll. XVA.

**Flower records.** Fabaceae: *Medicago* sp.

#### ***Hoplitis (Alcidamea) campanularis Morawitz, 1877 \****

**Distribution:** WEST PALAEARCTIC: Western, Eastern and Northern Mediterranean basin (Müller 2021).

**Material examined.** N. Lebanon: Donnieh, Wadi Cehennem oberth. Quemmammine, 1393 m, 23.V.2012, 1♀, leg. Kasperek M., coll. MKAS; Arz Tannourine, Trail 4, 1714 m, 7.VI.2017, 2♀, leg. Boustani M.; 1767 m, 7.VI.2017, 1♀, leg. Boustani M., coll. MBOU.

**Flower records.** Campanulaceae: *Campanula stricta*.

#### ***Hoplitis (Alcidamea) ciliaris (Pérez, 1902) \****

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean (Müller 2021).

**Material examined.** Mount Lebanon: Maaser Al Chouf, 1364 m, 29.V.2019, 1♀, leg. Boustani M.

N. Lebanon: Hadath El Jebbe, Chemin Wadi Ain El Raha, 1519 m, 29.VI.2017, 1♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Fabaceae: *Medicago* sp.; Lamiaceae: *Stachys cretica*.

#### ***Hoplitis (Anthocopa) daniana (Mavromoustakis, 1949) \****

**Distribution:** EAST MEDITERRANEAN (Müller 2021).

**Material examined.** Mount Lebanon: Chammis, Wadi Cheber, 373 m, 26.IV.2019, 1♀, leg. Boustani M.; Shouf Biosphere Reserve, Barouk-Maaser dirt road, 1769 m, 16.V.2019, 1♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Boraginaceae: *Cynoglossum nebrodense*.

***Hoplitis (Anthocopa) duckeana (Kohl, 1905) \****

**Distribution:** WEST PALAEARCTIC (Müller 2021).

**Material examined.** Mount Lebanon: Jabal Moussa Biosphere Reserve, Qehmez Gate, 1401 m, 21.VIII.2018, 1♀, leg. Boustani M., Nemer N.; Laqlouq, 1660 m, 6.VII.2019, 1♂, leg. Van Achter X.; Jabal Moussa, Trail Qornet El Der, 1364 m, 18.VII.2019, 1♂, leg. Boustani M. all coll. MBOU.

N. Lebanon: Horch Ehden, 1625 m, 24.VII.2019, 1♀, leg. Van Achter X.; Bcharre, 1900 m, 29.VII.2019, 1♂, leg. Van Achter X., all coll. XVA.

**Flower records.** Caprifoliaceae: *Cephalaria* sp., *Scabiosa* sp., *Scabiosa argentea*; Fabaceae: *Ononis natrix*.

***Hoplitis (Hoplitis) libanensis (Morice, 1901)***

**Distribution:** LEVANT (Müller 2021).

**Literature.** Morice, 1901: Syria (Brumana) [Lebanon], 1899, 2♀, 2♂, type material, coll. Oxford University Museum of Natural History, coll. OUMNH.

***Hoplitis (Chlidoplitis) lysholmi (Friese, 1899)***

**Distribution:** LEVANT (Müller 2021).

**Literature.** Friese (1899): Mount Lebanon, 1.V.1899, males and females, type material (along with material from Mersina, Cyprus), det. Friese H., leg. Morice F.

***Hoplitis (Anthocopa) obtusa (Friese, 1899)***

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean and eastern Europe (Müller 2021).

**Literature.** Mavromoustakis, 1956: Under the name *Osmia obtusa* Friese, 1899: Mount Lebanon, Hammana, 16.V.1953, 1♂, det. & leg. Mavromoustakis G.A.

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 28.IV.2017, 1♂, leg. Boustani M., coll. MBOU.

S. Lebanon: Saidoun, El Mrouj, 7.V.2017, 1♀, leg. Baghdadi A., coll. SOILS.

***Hoplitis (Hoplitis) pallicornis (Friese, 1895) \**** (fig. 18.6)

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean (Müller 2021).

Local distribution fig. 13.4

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon, Monteverde nr. Mansourieh, 350 m, 24.IV.1995, 1♂, det. Baker D., leg. Roche C.G.

**Material examined.** Bekaa: Ainata, 1824 m, 30.V.2017, 1♂, det. Müller A. leg. Boustani M., Rasmont P., coll. MBOU; 1556, 30.V.2017, 1♂, leg. Rasmont P., coll. PRAS.

Mount Lebanon: Bentaël, 378 m, 23.IV.2019, 2♀, 1♂, leg. Boustani M., Nemer N., Rasmont P., coll. MBOU.

N. Lebanon: Hadath El Jebbe, Border of the Cedar Forest, 1639 m, 29.V.2017, 1♀, leg. Boustani M.; Hadath El Jebbeh, Road to Wadi Al Fouar, 1553 m, 6.VI.2018, 1♂, leg. Boustani M.; 1529 m, 31.V.2019, 1♂, leg. Boustani M.; Tannourine El Tahta, Al Mahbase, 893 m, 25.IV.2019, 1♂; 31.V.2019, 2♀, 1♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Fabaceae: *Vicia tenuifolia*, *Lotus gebelia libanoticus*, *Trifolium purpureum*.

Preference for Fabaceae also noted by (Sedivy *et al.* 2013) along with Campanulaceae and Boraginaceae.

***Hoplitis (Hoplitis) pici (Friese, 1899)***

**Distribution:** WEST PALAEARCTIC: Eastern Europe, northern and eastern Mediterranean (Müller 2021).

**Literature.** Friese (1899): Mount Lebanon, Brumana, 29.IV.1899, males and females, type material (other types from “Brussa” and “Alexandrette”, Turkey).

**Material examined.** Mount Lebanon: Shouf Biosphere Reserve, Barouk-Maaser dirt road, 1769 m, 16.V.2019, 1♂, leg. Boustani M., coll. MBOU.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 1371 m, 5.V.2017, 1♂, leg. Boustani M., coll. MBOU.

***Hoplitis (Alcidamea) praestans (Morawitz, 1894) \****

**Distribution:** WEST PALAEARCTIC (Müller 2021).

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain el Raha, 900 m, 5.V.2017, 1♀, leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Carduus argentatus*.

***Hoplitis (Micreriades) lebanotica* (Mavromoustakis, 1955)**

**Distribution:** EAST MEDITERRANEAN (Müller 2021).

**Literature.** Mavromoustakis, 1955: Under the name *Chelostoma lebanoticum* Mavromoustakis, 1955: Mount Lebanon, Nahr el Kelb [Nahr el Kaleb], 13.V.1953, 3♀, 1♂; S. Lebanon: Djezzine [Jezzine], 20.V.1953, 1♂, all det. & leg. Mavromoustakis G.A.

***Hoplitis (Anthocopa) unispina* (Alfken, 1935) \***

**Distribution:** EAST MEDITERRANEAN (Müller 2021).

The literature records listed below of the taxon referred to as *Osmia (Anthocopa) villosa* by Mavromoustakis (1956) below are probably referring to *Hoplitis (Anthocopa) unispina* (Alfken, 1935) (Müller, pers. comm.), indeed *H. villosa* distribution does not include the south-eastern Mediterranean region (Müller 2019).

**Literature.** Mavromoustakis, 1956: Listed under *Osmia (Anthocopa) villosa* Schenck, 1853

Mount Lebanon, Hammana, 16.V.1953, 1♂, det. & leg. Mavromoustakis G.A.

**Material examined.** N. Lebanon: Arz Tannourine, Gate, 1796 m, 3.VI.2019, 1♀, leg. Boustani M., coll. MBOU.

***Hoplitis (Anthocopa) yermasoyiae* (Mavromoustakis, 1938)**

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean (Müller 2021).

**Literature.** Mavromoustakis (1956): Listed under *Osmia (Anthocopa) yermasoyiae* Mavromoustakis, 1938.

Mount Lebanon, Brumana, 11.V.1953, 3♂, 2♀, det. & leg. Mavromoustakis G.A.

**Genus *Osmia* Panzer, 1806**

40 species.

Floral preferences seem to be strongly centred on Asteraceae genera, as well as Fabaceae and Lamiaceae (Müller 2021). Our recorded flower visits do seem to follow this trend but include several records from other families within individual species visits such as Dipsacaceae and Boraginaceae.

***Osmia (Pyrosmia) amathusica* Mavromoustakis, 1937 \***

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean (Müller 2021).

**Material examined.** Mount Lebanon: Chammis, Wadi Cheber, 373 m, 26.IV.2019, 1♀, leg. Boustani M.

N. Lebanon: Fehta, 1715 m, 5.V.2017, 1♀, leg. Boustani M., coll. MBOU.

***Osmia (Erythrosmia) andrenoides* Spinola, 1808 \* (fig. 19.1)**

**Distribution:** WEST PALAEARCTIC: Europe, Turkey, and the Near East (Müller 2021).

**Material examined.** Mount Lebanon: Bentaël, 340 m, 23.IV.2019, 5♀, 1♂, leg. Boustani M., Nemer N., Rasmont P., coll. MBOU.

N. Lebanon: Tannourine El Tahta, Wadi Ain el Raha, 900 m, 18.IV.2017, 1♂, leg. Boustani M.; Tannourine El Tahta, Al Mahbase, 893 m, 25.IV.2019, 1♂, leg. Boustani M.; Tannourine El Tahta, Mar Boutrous, 1207 m, 27.VI.2019, 1♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Carduus argentatus*; Lamiaceae: *Lamium* sp., *Stachys distans*.

***Osmia (Helicosmia) aquila* Warncke, 1988 \***

**Distribution:** EAST MEDITERRANEAN: Turkey, Jordan, Israel (Müller 2021).

**Material examined.** N. Lebanon: Harissa, Chir El Ribez, 1730 m, 11.VI.2017, 1♀, leg. Boustani M., coll. MBOU.

**Flower records.** *Salvia fruticosa*.

***Osmia (Helicosmia) aurulenta* (Panzer, 1799)**

**Distribution:** WEST PALAEARCTIC (Müller 2021).

Local distribution fig. 13.5

**Literature.** Mavromoustakis (1963): N. Lebanon, Cedars, 30.VI.1960, 3♀, 1♂, det. & leg. Mavromoustakis G.A.

**Material examined.** N. Lebanon: Bcharre, Forest of the Cedars of God, 9.V.2017, 2♂, leg. Boustani M.; Arz Tannourine, Tannourine Reserve Trail 4, 1714 m, 7.VI.2017, 1♀, leg. Boustani M.; Hadath El Jebbe, Al Fouar, 1529 m, 31.V.2019, 4♀, 1♂, leg. Boustani M.; Hadath El Jebbe, Border of the Cedar Forest, 1646 m, 31.V.2019, 1♀, leg. Boustani M.; Arz Bcharre, Forest Limit, 1873 m, 5.VI.2019, 1♀, leg. Boustani M.; Arz Bcharre, Forest Limit, 1897 m, 5.VI.2019, 1♀, leg. Boustani M.; Hadath El Jebbe, Al Fouar, 1529 m, 7.VI.2019, 3♀, leg. Boustani M., Mouawad G., all coll. MBOU; Hadath El Jebbe, Al Fouar, 1468 m, 27.VI.2019, 1♂, leg. Van Achter X., coll. XVA; Hadath El Jebbe, Border of the Cedar Forest, 1646 m, 27.VI.2019, 1♀, leg. Boustani M., coll. MBOU; Arz Tannourine, Gate area, 1754 m, 29.VI.2019, leg. Ghisbain G.; Arz Bcharre Reforestation area, 1973 m, 20190702.VII.2019, 3♀, leg. Ghisbain G.; 1♀, leg. Gekièrè A.; Arz Tannourine, Main gate, 1796 m, 4.VII.2019, 2♀, leg. Ghisbain G., all coll. UMONS; Hadath El Jebbe, Border of the Cedar Forest, 1632 m, 5.VII.2019, 3♀, leg. Boustani M., coll. MBOU; 2♀, leg. Ghisbain G., coll. UMONS; Jord Ehden, 1983 m, 5.VII.2019, 1♀, leg. Boustani M., coll. MBOU, 2♀ leg. Gekièrè A., 5♀, leg. Ghisbain G.; 1912 m, 5.VII.2019, 1♀, leg. Van Achter X., coll. XVA; Arz Tannourine, Gate area, 1754 m, 6.VII.2019, 1♀, leg. Ghisbain G., all coll. UMONS; Bcharre, 1900 m, 14.VII.2019, 1♀, leg. Van Achter X.; Bcharre, 1900 m, 22.VII.2019, 1♀, leg. Van Achter X., all coll. XVA; Bcharre, Qornet Es Sawda, 2909 m, 30.VII.2019, 1♂, leg. Boustani M., coll. MBOU.

**Flower records.** Apiaceae: *Chaerophyllum aurantiacum*; Boraginaceae: *Solenanthus stamineus*; Fabaceae: *Medicago* sp., *Onobrychis cornuta*, *Vicia tenuifolia*; Lamiaceae: *Marrubium libanoticum*, *Nepeta curviflora*, *Scutellaria* sp., *Stachys cretica*, *Stachys distans*.

Preference for Fabaceae and Lamiaceae observed by Müller 1996.

### ***Osmia (Tergosmia) avosetta* Warncke, 1988**

**Distribution:** EAST MEDITERRANEAN: North-eastern Mediterranean to Iran (Müller 2020).

**Literature.** Records from North Lebanon, Bcharre, Dahr El Adib, 2017, in Müller (2020) listed with Material Examined below.

**Material examined.** N. Lebanon: Bcharre, Dahr El Adib, 2441 m, 8.VI.2017, 1♂, leg. Boustani M.; Bcharre, Dahr El Adib, 2437 m, 8.VI.2017, 2♂, leg. Boustani M.; Bcharre, Plateau Qornet Es Sawda, 2909 m, 12.VII.2018, 1♀, leg. Boustani M., Jabbour J., all coll. MBOU; Jord Tannourine, 2296 m, 30.VI.2019, 3♀, 1♂, leg. Ghisbain G.; Jord Tannourine, 2166 m, 6.VII.2019, 1♀, leg. Ghisbain G., all coll. UMONS.

**Flower records.** Fabaceae: *Astragalus cruentiflorus*, *Onobrychis cornuta*.

### ***Osmia (Osmia) bicornis* (L., 1758) \***

**Distribution:** WEST PALAEARCTIC (Müller 2021).

Local distribution fig. 13.6

**Unpublished records.** GBIF 2021, SEMC:

Listed as *Osmia rufa cornigera* (Rossi, 1790): Mount Lebanon, Monteverde, nr. Mansourieh, 350 m, 18.II.1996, 1♂, det. Baker D., leg. Roche C.G.

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 27.III.2017, 1♂, leg. Boustani M.; 1490 m, 5.V.2017, 1♂, leg. Boustani M.; Horch Ehden, Nabeh Jouit, 1336 m, 24.IV.2019, 2♂, leg. Boustani M., Rasmont P.; Hadath El Jebbe, Al Fouar, 1529 m, 13.V.2019, 1♂, leg. Boustani M.; Ehden, Ain El Nassa, 1560 m, 22.V.2019, 1♀, leg. Boustani M., all coll. MBOU.

S. Lebanon: Saidoun, 8.II.2019, 1♂, leg. Baghdadi A., coll. SOILS.

**Flower records.** Asphodelaceae: *Asphodelus microcarpus*; Boraginaceae: *Anchusa hybrida*; Fabaceae: *Coronilla emeroides*; Salicaceae: *Salix libani*.

### ***Osmia (Hoplosmia) bidentata* Morawitz, 1876 \***

**Distribution:** WEST PALAEARCTIC (Müller 2021).

**Material examined.** Bekaa: Ainata, 2229 m, 29.VII.2018, 1♀, leg. Boustani M.; Jord Aarsal, Wadi Al Heeban, 2000 m, 11.VII.2019, 1♂, leg. Boustani M.; Jord Aarsal, Kecheq, 2120 m, 11.VII.2019, 1♂, leg. Boustani M.; Jord Aarsal, Howiyit Al Borj, 2008 m, 1♀, 1♂, leg. Boustani M., all coll. MBOU; 1♂, leg. Van Achter X., coll. XVA.

**Flower records.** Asteraceae: *Cousinia hermonis*, *Onopordum* sp.



***Osmia (Helicosmia) breviata* Warncke, 1988 \***

**Distribution:** EAST MEDITERRANEAN: Greece, Turkey, Israel (Ascher & Pickering 2021, Kuhlmann *et al.* 2021, Müller 2021).

**Material examined.** N. Lebanon: Jord Tannourine, Jabal Al Mnaitra, 2455 m, 28.V.2017, 1♂, leg. Boustani M., Rasmont P.; Bcharre, Qornet Es Sawda, 2857 m, 30.VI.2017, 1♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Fabaceae: *Onobrychis cornuta*.

***Osmia (Helicosmia) caerulescens* (L., 1758) \***

**Distribution:** WEST PALAEARCTIC: (Ascher & Pickering 2021, Kuhlmann *et al.* 2021, Müller 2021).

Local distribution fig. 13.7

**Material examined.** No locality, 18.VI.1971, 1♀, coll. AUB.

Mount Lebanon: Qartaba, Matoube, 1648 m, 23.VII.2017, 1♀, leg. Boustani M.; Laqlouq, Matoube, 1751 m, 6.VII.2019, 1♀, leg. Boustani M., all coll. MBOU.

N. Lebanon: Bcharre, Forest of the Cedars of God, 1914 m, 9.V.2017, 1♂, leg. Boustani M.; Arz Tannourine, Trail 4, 1714 m, 7.VI.2017, 1♀, leg. Boustani M.; 1762 m, 5.VII.2018, 2♀, leg. Boustani M.; 18.VII.2018, 1♀, leg. Boustani M., Jabbour J.; Tannourine El Tahta, Al Mahbase, 893 m, 5.V.2019, 1♀, leg. Boustani M., all coll. MBOU; Arz Tannourine, Gate, 1797 m, 24.VII.2019, 1♀, leg. Van Achter X., coll. XVA.

**Flower records.** Boraginaceae: *Solenanthus stamineus*; Fabaceae: *Coronilla varia*, *Trifolium purpureum*; Lamiaceae: *Salvia hierosolymitana*, *Stachys cretica*.

Preferences for Fabaceae and Lamiaceae also observed by Müller (1996).

***Osmia (Pyrosmia) cephalotes* Morawitz, 1870 \***

**Distribution:** WEST PALAEARCTIC (Müller 2021).

**Material examined.** N. Lebanon: Arz Tannourine, Tannourine Reserve Trail 4, 1800 m, 6.V.2017, 1♂; Arz Bcharre, 1917 m, 9.V.2017, 2♂; 1914 m, 9.V.2017, 1♀, 1♂; Arz Bcharre, 1883 m, 27.V.2018, 2♀; Horch Ehden, Ain El Naasa, 1560 m, 22.V.2019, 1♀; Hadath El Jebbe, Al Fouar, 1529 m, 31.V.2019, 1♀; Arz Tannourine, Trail 4, 1781 m, 3.VI.2019, 5♀; all leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Reichardia* sp., *Scorzonera* sp.; Boraginaceae: *Solenanthus stamineus*; Fabaceae: *Vicia sericocarpa*, *Vicia tenuifolia*.

Preference for Fabaceae and Lamiaceae also noted by Müller 2021.

***Osmia (Helicosmia) clypearis* Morawitz, 1871 ssp. *acuta* Warncke, 1988 \***

**Distribution:** EAST MEDITERRANEAN: Turkey, Syria, Jordan, Israel (Müller 2021).

**Material examined.** N. Lebanon: Arz Bcharre, Reforestation Area, 1967 m, 12.V.2017, 1♂, leg. Boustani M., coll. MBOU.

***Osmia (Osmia) cornuta* (Latreille, 1805) ssp. *quasirufa* Peters, 1978 \***

**Distribution:** WEST PALAEARCTIC (Müller 2021).

**Material examined.** Mount Lebanon: Blat (Byblos district), 16.IV.2018, 1♀, coll. USEK.

N. Lebanon: Hadath El Jebbe, Al Fouar, 1529 m, 12.IV.2019, 1♀; leg. Boustani M.; Horch Ehden, Nabeh Jouit, 1411 m, 24.IV.2019, 1♀, leg. Boustani M., Rasmont P., all coll. MBOU.

**Flower records.** Rosaceae: *Prunus dulcis*.

***Osmia (Hemiosmia) difficilis* Morawitz, 1875 (fig. 19.2)**

**Distribution:** PALAEARCTIC: Northern and eastern Mediterranean and eastwards to Kyrgyzstan, Russia (Müller 2020).

Local distribution fig. 13.8

**Literature.** in Müller (2020) Records from North Lebanon, Bcharre, Dahr El Adib, from 2017, listed with Material Examined below.

**Material examined.** N. Lebanon: Arz Tannourine, Bifurcation trails 3 and 4, 1798 m, 25.V.2017, 1♂, leg. Boustani M.; Jord Tannourine, Jabal Al Mnaitra, 2455 m, 28.V.2017, 6♂, leg. Boustani M., Rasmont P.; Jord Tannourine, Jabal Al Mnaitra, 2471 m, 28.V.2017, 4♂, leg. Boustani M.; Arz Tannourine, Trail 4, 1765 m, 22.VI.2017, 1♀, leg. Sader H., Arz Bcharre, Reforestation Area, 2347 m, 27.VI.2017, 1♂, leg. Boustani M.; Bcharre, Dahr El Adib,

2407 m, 8.VI.2017, 4♀, 5♂, leg. Boustani M.; 2441 m, 8.VI.2017, 2♂, leg. Boustani M.; Fehta, El Biara, 1662 m, 28.VI.2017, 1♀, leg. Boustani M.; Bcharre, Plateau Qornet Es Sawda, 2909 m, 12.VII.2018, 2♀, leg. Boustani M., Jabbour J.; 1.VIII.2018, 2♀, leg. Boustani M.; Arz Tannourine, Trail 4, 1781 m, 1♂, leg. Boustani M.; Bcharre, Plateau Qornet Es Sawda, 2909 m, 30.VII.2019, 1♀, 2♂, leg. Boustani M., all coll. MBOU; Bcharre, Plateau Qornet Es Sawda, 2679 m, 2.VII.2019, 1♂, leg. Gekière A.; Jord Tannourine, 2296 m, 30.VI.2019, 1♀, 2♂, leg. Gekière A., all coll. UMONS; 1♂, leg. Van Achter X.; Bcharre, 1900 m, 24.VII.2019, 1♀, leg. Van Achter X., all coll. XVA.

**Flower records.** Boraginaceae: *Onosma sericea*; Fabaceae: *Astragalus angustifolius*, *Astragalus emarginatus*, *Astragalus coluteoides*, *Astragalus cruentiflorus*, *Astragalus gummifer*, *Onobrychis cornuta*, *Vicia canescens*, *Vicia tenuifolia*; Lamiaceae: *Lamium striatum*.

Preference for Fabaceae and especially *Astragalus* flowers also observed by Müller (2020).

***Osmia (Pyrosmia) dilaticornis* Morawitz, 1875 \*** (fig. 19.3)

**Distribution:** WEST PALAEARCTIC (Müller 2021).

**Material examined.** Bekaa: Ainata Al Arz, Ainata, 1556 m, 30.V.2017, 1♀, leg. Rasmont P., coll. PRAS.

***Osmia (Helicosmia) dimidiata* Morawitz, 1870**

Distribution WEST PALAEARCTIC (Müller 2021).

Local distribution fig. 13.9

**Literature.** Mavromoustakis (1956):

Listed under *Osmia (Chalcosmia) dimidiata* Morawitz, 1870

Mount Lebanon, Djezzine [Jezzine], 20.V.1953, 2♀, 2♂; 21.V.1953, 1♀, 1♂; Hezine in Bekaa valley (14 km., from Baalbeck), 31.V.1953, 4♀; Mount Lebanon, Baabdate, 25.V.1953, 2♀, all det. & leg. Mavromoustakis G.A.

**Material examined.** N. Lebanon: Tannourine El Tahta, Al Mahbase, 893 m, 5.V.2019, 1♂, leg. Boustani M.; Arz Tannourine, Gate, 1796 m, 3.VI.2019, 1♀, leg. Boustani M., all coll. MBOU; Tannourine Reserve, Trail 4, 1781 m, 4.VII.2019, 1♀, leg. Ghisbain G., coll. UMONS.

**Flower records.** Asteraceae: *Carduus argentatus*; *Centaurea eryngioides*, *Onopordum carduiforme*.

***Osmia (Hoplosmia) distinguenda* (Tkalcu, 1974) \***

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean and east to Azerbaijan (Müller 2021).

Local distribution fig. 13.10

**Material examined.** Bekaa: Ainata, 2229 m, 29.VII.2018, 1♂, leg. Boustani M., coll. MBOU. Additional 1♀ from Der El Ahmar, 3.VII.2019, and 2♀, 4♂ from Jord Aarsal, 11.VII.2019.

Mount Lebanon: Barouk, Shouf Biosphere Reserve, 1678 m, 2.VII.2019, 1♂, leg. Van Achter X., coll. XVA; Laqlouq, 1700 m, 2♀, 6.VII.2019, leg. Boustani M., coll. MBOU.

N. Lebanon: Arz Tannourine, Tannourine Reserve Trail 4, 1758 m, 22.VI.2017, 1♂, leg. Boustani M., coll. MBOU. Additional 20♀ and 4♂ from 18 records collected between 28.VI.2017 and 25.VII.2019, from Arz Tannourine, Fehta, Harissa, Hadath El Jebbe, and Tannourine El Tahta.

**Flower records.** Asteraceae: *Centaurea argentea*, *Centaurea cf. pallescens*, *Centaurea eryngioides*, *Centaurea iberica*, *Centaurea pallescens*, *Onopordum* sp., *Onopordum carduiforme*, *Picnomon acarna*; Caprifoliaceae: *Cephalaria setosa*; Fabaceae: *Medicago* sp.; Plumbaginaceae: *Acantholimon libanoticum*.

Müller (2018) observes a strong preference for Asteraceae such as *Centaurea* that we also find, however flower visitations also include Dipsacaceae (species above now placed in Caprifoliaceae) and Plumbaginaceae flowers.

***Osmia (Pyrosmia) forticornis* Zanden, 1989 \***

**Distribution:** WEST PALAEARCTIC: Greece, Turkey, Armenia, and Azerbaijan (Müller 2021).

**Material examined.** Bekaa: Ainata, 1556 m, 30.V.2017, 1♀, leg. Boustani M., coll. MBOU.

***Osmia (Helicosmia) gutturalis* Warncke, 1988 \***

**Distribution:** EAST MEDITERRANEAN (Müller 2021).

**Material examined.** Bekaa: Hadath, near Army Checkpoint, 1610 m, 7.VII.2019, 1♂, leg. Gekière A., coll. UMONS.

N. Lebanon: Hadath El Jebbe, 1704 m, 7.VI.2019, 1♀, leg. Boustani M., coll. MBOU.

**Flower records.** Lamiaceae: *Molucella laevis*, *Stachys cretica*.

***Osmia (Helicosmia) kuznetzovi* Cockerell, 1930\***

**Distribution:** WEST PALAEARCTIC: Eastern Mediterranean to Uzbekistan (Müller 2021).

**Material examined.** N. Lebanon: Bcharre, Qornet Es Sawda, 2694 m, 27.VII.2017, 1♀, leg. Boustani M., coll. MBOU; Bcharre, Dahr El Adib, 2572 m, 29.VII.2018, 2♀, leg. Boustani M., coll. MBOU; 1♂, leg. Van Achter X., coll. XVA; Bcharre, Plateau Qornet Es Sawda, 2882 m, 1.VIII.2018, 1♂, leg. Boustani M., coll. MBOU; Bcharre, Qornet Es Sawda, 2909 m, 30.VII.2019, 2♂, leg. Boustani M., coll. MBOU; Bcharre, 2042 m, 31.VII.2019, 1♀, leg. Van Achter X., coll. XVA; Bcharre, Dahr El Adib, 2566 m, 20.VIII.2019, 1♀, leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Cirsium lappaceum*, *Cousinia libanotica*; Lamiaceae: *Marrubium libanoticum*

***Osmia (Helicosmia) labialis* Pérez, 1879\***

**Distribution:** WEST PALAEARCTIC (Müller 2021).

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 11.V.2017, 2♀; Arz Tannourine, Trail 4, 1762 m, 21.V.2018, 1♀; Tannourine El Tahta, Al Mahbase, 893 m, 5.V.2019, 1♀; Tannourine El Tahta, Mar Boutrous, 1207 m, 31.V.2019, 1♀; all leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Carduus argentatus*, *Centaurea triumfetti*.

***Osmia (Helicosmia) melanogaster* Spinola, 1808 \***

**Distribution:** WEST PALAEARCTIC: Mainly Northern Mediterranean basin, Eastern Europe and Eastern Turkey to Azerbaijan (Müller 2021).

Local distribution fig. 13.11

**Unpublished records.** GBIF 2021, SEMC: S. Lebanon, Sour s.l., 28.V.1995, 1♀, det. Baker D., leg. Roche C.G.

**Material examined.** Bekaa: Donnieh, Wadi Cehennem, 924 m, 30.V.2012, 1♀, leg. Kasperek M., coll. MKAS.

N. Lebanon: Tannourine el Tahta, Wadi ain Al Raha, 900 m, 11.V.2017, 5♀, leg. Boustani M.; Arz Lubnan, Bcharre Reforestation Area, 1993 m, 27.VI.2017, 1♀, leg. Boustani M.; Tannourine El Tahta, Wadi Ain Al Raha, 1187 m, 21.VI.2017, 1♀, leg. Boustani M.; Arz Tannourine, Ras Al Wadi, 1754 m, 8.VI.2018, 1♀, leg. Abi Khalil N, Boustani M., Fakhry M.; Tannourine El Tahta, Al Mahbase, 893 m, 31.V.2019, 4♀, leg. Boustani M.; Arz Tannourine, Gate, 1796 m, 3.VI.2019, 2♀, leg. Boustani M.; Fehta, El Biara, 1664 m, 3.VI.2019, 1♀, leg. Boustani M., all coll. MBOU; Bcharre, 1900 m, 12.VII.2019, 1♀, leg. Van Achter X.; 29.VII.2019, 2♀, leg. Van Achter X., coll. XVA.

**Flower records.** Asteraceae: *Centaurea eryngioides*, *Centaurea iberica*; Caprifoliaceae: *Scabiosa* sp.; Lamiaceae: *Stachys ehrenbergii*.

Müller (2021) states that the species is oligolectic on Asteraceae. As with other species in the genus listed here, there are flower visitation records from other families such as Dipsacaceae (species listed above now in Caprifoliaceae) and Lamiaceae.

***Osmia (Helicosmia) mirhiji* Mavromoustakis, 1957**

**Distribution:** EAST MEDITERRANEAN (Müller 2021).

**Literature.** Mavromoustakis (1956): Mount Lebanon, Hammana, 15.V.1953, 1♀, 1♂, det. & leg. Mavromoustakis G.A.

***Osmia (Pyrosmia) moreensis* Zanden, 1984 \***

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean (Müller 2021).

**Material examined.** N. Lebanon: Arz Tannourine, Tannourine Reserve Trail 4, 1747 m, 7.VI.2017, 1♀; Arz Bcharre, Reforestation Area, 1933 m, 18.IV.2018, 1♂; 1883 m, 27.V.2018, 1♀; Arz Bcharre, Forest Limit, 1873 m, 20.V.2019, 1♂, all leg. Boustani M., all coll. MBOU.

**Flower record.** Fabaceae: *Vicia tenuifolia*.

***Osmia (Osmia) mustelina* Gerstaecker, 1869**

**Distribution:** WEST PALAEARCTIC: especially southern Europe to Turkey (Müller 2021).

Local distribution fig. 13.12

**Unpublished records.** GBIF 2021, SEMC:

N. Lebanon, Cedern b. Becharré [Bcharre], 1900 m, 3–6.VI.1931, 1♀, det. Zanden G, leg. Zerny.

**Literature.** Mavromoustakis (1963): Listed under *Osmia (Osmia) emarginata* Lepeletier, 1841.

*Osmia emarginata* does not occur in the south-eastern Mediterranean region (Müller 2021), and these records are re-assigned to *O. mustelina*. This issue was addressed by Ungricht *et al.* (2008), and indeed, the taxon is often confused with *O. emarginata* (Tkalcu, 1971).

N. Lebanon, Cedars, 30.VI.1960, 3♀, det. & leg. Mavromoustakis G.A.

**Material examined.** N. Lebanon: Arz Bcharre, 1914 m, 9.V.2017, 4♂, leg. Boustani M., coll. MBOU. Additional 21♀ and 3♂ from 16 records between 12.V.2017 and 12.VII.2019 from Bcharre, Jord Tannourine, Hadath El Jebbeh, and Arz Tannourine.

**Flower records.** Boraginaceae: *Anchusa hybrida*, *Solenanthus stamineus*; Fabaceae: *Onobrychis cornuta*, *Vicia canescens*, *Vicia tenuifolia*; Geraniaceae: *Geranium tuberosum*; Rubiaceae: *Galium* sp.; Lamiaceae: *Lamium striatum*.

This species' floral preferences as observed by Haider *et al.* (2013) include Fabaceae and Boraginaceae that are also observed here.

### ***Osmia (Pyrosmia) nana* Morawitz, 1874**

**Distribution: WEST PALAEARCTIC:** Southern Europe, Caucasus, Levant, Turkestan, possibly Algeria (Müller 2021).

**Unpublished records.** GBIF 2021, SEMC:

Mount Lebanon, Monteverde nr Mansourieh, 350 m, 4.IV.1994, 1♂, determiner unspecified, leg. Roche C.G.; 5.IV.1996, 1♀, det. Baker D., leg. Roche C.G.

**Literature.** Benoist (1934): Under the name *Osmia tetradonta* Benoist, 1934

The paper provides the description of the species that has later been synonymised with *O. nana* (Zanden, 1985). Locality mentioned as “Asie Mineure, Betmeri” [Mount Lebanon, Beit Meri], 1♂, leg. Pérez J.

**Material examined.** N. Lebanon: Horch Ehden, Nabeh Jouit, 1346 m, 24.IV.2019, 1♂, leg. Boustani M.; Tannourine El Tahta, Mar Boutrous, 1207 m, 5.V.2019, 1♂, leg. Boustani M., Rasmont P., all coll. MBOU.

### ***Osmia (Osmia) nigrohirta* Friese, 1899 \***

**Distribution: WEST PALAEARCTIC:** Northern and eastern Mediterranean and east to Azerbaijan (Müller 2021).

**Material examined.** Bekaa: Ainata Al Arz, 2472 m, 29.VI.2019, 1♀, leg. Gekièrè A., coll. UMONS.

N. Lebanon: Bcharre, Dahr El Adib, 2437 m, 8.VI.2017, 2♀, 1♂, leg. Boustani M.; 2407 m, 8.VI.2017, 2♀, leg. Boustani M.; Arz Bcharre, Reforestation Area, 2347 m, 27.VI.2017, 1♀, leg. Boustani M.; Arz Bcharre, Reforestation Area, 2345 m, 4.VII.2018, 1♀, leg. Fakhry M., all coll. MBOU; Jord Tannourine, 2296 m, 30.VI.2019, 1♀, leg. Van Achter X., coll. XVA.

**Flower records.** Fabaceae: *Astragalus angustifolius*, *Genista libanotica*, *Onobrychis cornuta*, *Vicia canescens*.

This species is polylectic with records from several families including Fabaceae for which we have flower records, but also Asteraceae, Lamiaceae, Boraginaceae ect. (Haider *et al.* 2013).

### ***Osmia (Helicosmia) niveata* (Fabricius, 1804)**

**Distribution: WEST PALAEARCTIC** (Müller 2021).

Local distribution fig. 13.13

**Literature.** Mavromoustakis (1956): Listed under *Osmia (Chalcosmia) fulviventris albiscopa* Alfken, 1914.

Mount Lebanon, Ain el Arar, 24.V.1953, 1♀, 1♂; Beirut, 9.V.1953, 1♀, all det. & leg. Mavromoustakis G.A.

**Material examined.** Mount Lebanon: Chammis, Wadi Cheber, 373 m, 26.IV.2019, 1♀, 1♂, leg. Boustani M., coll. MBOU.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 5.V.2017, 4♀, 1♂; Tannourine El Tahta, Wadi Ain El Raha, 900 m, 11.V.2017, 5♀; Tannourine El Tahta, Al Mahbase, 893 m, 5.V.2019, 1♀, 1♂, all leg. Boustani M., all coll. MBOU.

S. Lebanon: Saidoun, 25.III.2018, 1♀; 27.IV.2019, 1♀, all leg. Baghdadi A., coll. SOILS.

**Flower records.** Asteraceae: *Carduus argentatus*.

***Osmia (Pyrosmia) oramara* Warncke, 1992 \***

**Distribution:** WEST PALAEARCTIC: Turkey, Iran, Israel (Müller 2021)

**Material examined.** N. Lebanon: Hadath El Jebbe, Chemin Wadi Ain El Raha, 1633 m, 29.VI.2017, 1♀; Harissa, Al Jawar, 5.VII.2018, 1♀, leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Astragalus gummifer*; Lamiaceae: *Stachys distans*.

***Osmia (Tergosmia) rhodoensis* (Zanden, 1983)**

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean (Müller 2020).

**Literature.** Records from North Lebanon, Hadath El Jebbe, in Müller (2020) listed with Material examined below.

**Material examined.** N. Lebanon: South of Jairoun, 23.V.2012, 1♀, leg. Kasperek M., coll. MKAS; Hadath El Jebbe, Border of the Cedar Forest, 1639 m, 5.V.2017, 1♂, leg. Boustani M.; Hadath El Jebbeh, Border of Cedar Forest, 1681 m, 19.IV.2018, 1♀, leg. Boustani M.; Hadath El Jebbe, Al Fouar, 1529 m, 1♀, leg. Boustani M., Mouawad G., all coll. MBOU.

**Flower records.** Fabaceae: *Trifolium tomentosum*, *Vicia tenuifolia*.

***Osmia (Allosmia) rufohirta* Latreille, 1811 \***

**Distribution:** WEST PALAEARCTIC (Müller 2021).

**Material examined.** Mount Lebanon: Marej Barja, Kaleet El Besten, 358 m, 26.IV.2019, 1♀, leg. Boustani M., coll. MBOU.

**Flower record.** *Trifolium resupinatum*.

***Osmia (Pyrosmia) saxicola* Ducke, 1899**

**Distribution:** PALAEARCTIC: Northern and eastern Mediterranean basin and east to Tajikistan (Müller 2021).

**Literature.** Mavromoustakis (1956): Listed under *Osmia (Chalcosmia) posti* Mavromoustakis, 1956.

Mount Lebanon, Jebel El Knaisse [Jabal Al Knaisse], 1700 m, 18.V.1953, 1♀, 1♂, det. & leg. Mavromoustakis G.A.

**Material examined.** N. Lebanon: Arz Bcharre, Reforestation Area, 1885 m, 12.V.2017, 1♀; 2296 m, 27.VI.2017, 1♀, 1♂, leg. Boustani M.; Arz Tannourine, Gate area, 1754 m, 19.IV.2018, 1♂, all leg Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Scorzonera mollis*; Fabaceae: *Onobrychis cornuta*.

***Osmia (Hoplosmia) scutellaris* Morawitz, 1868 \***

**Distribution:** WEST PALAEARCTIC: Eastern Europe, Mediterranean basin, and east to Iran (Müller 2021).

Local distribution fig. 13.14

**Unpublished records.** GBIF 2021, SEMC:

Unknown location, label indicates Libanon [Lebanon], 1900, 1♂, det. Zanden G, leg. Schmiedeknecht O.

Mount Lebanon, Monteverde, 350 m, 21.V.1994, sex unspecified, determiner unspecified, leg. Roche C.G.

**Material examined.** Mount Lebanon: Maaser Al Chouf, 1143 m, 29.V.2019, 2♀, 2♂, leg. Boustani M.; 1364 m, 29.V.2019, 1♂, leg. Boustani M., all coll. MBOU.

N. Lebanon: Ehden, Ehden Forest, 1567 m, 19.VI.2016, 1♀, leg. Yammine W.; Qadisha Valley, 950, 5.V.2017, 1♀, 1♂, leg. Nemeth T.; Tannourine El Tahta, Wadi Ain El Raha, 900 m, 3.V.2017, 2♂, leg. Boustani M.; 5.V.2017, 1♀, 1♂, leg. Boustani M.; 11.V.2017, 2♀, 4♂, leg. Boustani M.; Tannourine El Tahta, Al Mahbase, 893 m, 5.V.2019, 1♂, leg. Boustani M.; Hadath El Jebbe, Al Fouar, 1529 m, 31.V.2019, 6♂, leg. Boustani M.; Arz Tannourine, Trail 4, 1781 m, 3.VI.2019, 1♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Anthemis pauciloba*, *Asteriscus* sp., *Carduus argentatus*; Fabaceae: *Vicia tenuifolia*; Lamiaceae: *Stachys cretica*.

Recorded floral preferences are from Asteraceae, mainly Chichorioidea (Müller 2018). We do have mostly Asteraceae genera in the records above, but also Fabaceae and Lamiaceae flowers.

***Osmia (Helicosmia) signata* Erichson, 1835 \***

**Distribution:** WEST PALAEARCTIC (Müller 2021).

**Material examined.** Bekaa: Der El Ahmar, 989 m, 3.VII.2019, 1♀, leg. Boustani M., 1♀, leg. Ghisbain G., coll.

UMONS.

**Flower records.** Asteraceae : *Centaurea cf pallescens*.

***Osmia (Hoplosmia) spinigera* Latreille, 1811**

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean and south to Egypt (Müller 2021).

**Literature.** Mavromoustakis (1956): Mount Lebanon, Nahr el Kelb [Nahr El Kalb], 13.V.1953, 1♂, det. & leg. Mavromoustakis G.A.

***Osmia (Helicosmia) subcornuta* Morawitz, 1875 \***

**Distribution:** PALAEARCTIC: Northern and eastern Mediterranean to Tajikistan (Müller 2021).

**Material examined.** Bekaa: Ainata, 1556 m, 30.V.2017, 1♀, leg. Boustani M., Rasmont P., coll. MBOU.

N. Lebanon: South of Jairoun, 1648 m, 23.V.2012, 1♀, leg. Kasperek M., coll. MKAS; Tannourine El Tahta, Al Mahbase, 893 m, 25.IV.2019, 1♀, leg. Boustani M.; Tannourine El Tahta, Mar Boutrous, 1207 m, 5.V.2019, 1♀, 1♂, leg. Boustani M., Hadath El Jebbe, Al Fouar, 1529 m, 31.V.2019, 1♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Fabaceae: *Hymenocarpos circinnatus*, *Vicia tenuifolia*.

***Osmia (Pyrosmia) submicans* Morawitz, 1870**

**Distribution:** WEST PALAEARCTIC (Müller 2021).

Local distribution fig. 13.15

**Unpublished records.** GBIF 2021, SEMC: Listed as *Osmia submicans* ssp. *hebraea* Benoist, 1934.

Beirut, Garden of St. Joseph University, 15.III.1949, 1♂, determiner unspecified, leg. Kullenberg B.

**Literature.** Mavromoustakis (1956): Mount Lebanon, Brumana, 11.V.1953, 1♀, 1♂; 26.V.1953, 1♀; Harissa, 15.V.1953, 1♀, all det. & leg. Mavromoustakis G.A.

**Material examined.** N. Lebanon: Arz Tannourine, Tannourine Reserve Trail 4, 1800 m, 1♀, 6.V.2017; Tannourine El Tahta, Mar Boutrous, 1207 m, 12.IV.2019, 1♂; Horch Ehden, Nabeh Jouit, 1405 m, 13.IV.2019, 1♂; Tannourine El Tahta, Mar Boutrous, 1207 m, 25.IV.2019, 1♂; 5.V.2019, 1♀, all leg. Boustani M., all coll. MBOU.

***Osmia (Allosmia) sybarita* Smith, 1853 \***

**Distribution:** WEST PALAEARCTIC (Müller 2021).

**Material examined.** Mount Lebanon: Batloun, 25.IV.1981, 1♂, leg. Othob, coll. AUB.

***Osmia (Pyrosmia) teunissenii* Zanden, 1981 \***

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean (Müller 2021).

**Material examined.** Mount Lebanon: Barja, Terbe, 326 m, 17.IV.2017, 1♀, 1♂, leg. Boustani M., coll. MBOU.

N. Lebanon: Horch Ehden, Nabeh Jouit, 1346 m, 24.IV.2019, 1♂, leg. Boustani M., coll. MBOU.

***Osmia (Melanosmia) thoracica* Radoszkowski, 1874 \***

**Distribution:** WEST PALAEARCTIC: Turkey and Armenia (Müller 2021).

**Material examined.** N. Lebanon: Bcharre, Bcharre Jord, 2723 m, 24.VI.2016, 2♀, leg. Boustani M.; Bcharre, Qornet Es Sawda, 2863 m, 30.VI.2017, 3♀, leg. Boustani M.; Bcharre, Qornet Es Sawda, 2949 m, 21.VII.2017, 1♀, leg. Boustani M.; Bcharre, Plateau Qornet Es Sawda, 2882 m, 12.VII.2018, 2♀, leg. Abi Khalil N., Boustani M., Jabbour J., Fakhry M., all coll. MBOU; 2867 m, 1.VIII.2018, leg. Van Achter X., coll. XVA.

**Flower records.** Fabaceae: *Astragalus angustifolius*, *Vicia canescens*.

***Osmia (Pyrosmia) versicolor* Latreille, 1811** (fig. 19.4)

**Distribution:** WEST PALAEARCTIC (Müller 2021).

**Unpublished records.** GBIF 2021, SEMC: Listed as *Osmia versicolor viricephalica* Warncke, 1992.

Mount Lebanon, Monteverde, nr Mansourieh, 350 m, 27.III.1994, sex not specified, determiner not specified.

**Material examined.** N. Lebanon: Arz Tannourine, Tannourine Reserve Greenhouse, 1700 m, 1.V.2017, 1♂, leg. Nemeth T., coll. MBOU; Tannourine El Tahta, 942 m, 25.IV.2019, 1♂, leg. Rasmont P., coll. PRAS.

Notes: Subspecies *O. v. viricephalica* Warncke, 1992 mentioned from Lebanon (Grace 2010).

## Genus *Protosmia* Ducke, 1900

Five species.

### *Protosmia (Protosmia) glutinosa* (Giraud, 1871) \*

**Distribution:** WEST PALAEARCTIC: Southern Europe, especially Mediterranean basin, and Caucasus (Müller 2021).

**Material examined.** N. Lebanon: Hadath El Jebbeh, Chemin Wadi Ain El Raha, 1547 m, 29.VI.2017, 1♀, leg. Boustani M., coll. MBOU.

### *Protosmia (Chelostomopsis) longiceps* (Friese, 1899)

**Distribution:** EAST MEDITERRANEAN (Müller 2021).

Local distribution 13.16

**Unpublished records.** GBIF 2020, SEMC:

Mount Lebanon, Monteverde nr Mansourieh, 350 m, 24.IV.1995, 1♀; 5.IV.1996, 1♂, all det. Baker D. leg. Roche C.G.

**Literature.** Friese (1899): 2 females from Lebanon (no locality details), type material, Berlin.

Listed under *Chelostoma longiceps* Friese, 1899

Mavromoustakis (1955): S. Lebanon: Djezzine [Jezzine], 20.V.1953, 3♀, 8♂ (type material), det. & leg. Mavromoustakis G.A.

**Material examined.** Beirut: 19.III.1909, 2♀, leg. Schmiedeknecht, coll. NMSF.

Bekaa: Kefraya, Horch El Kaser, 992 m, 9.IV.2019, 1♂, leg. Boustani M., coll. MBOU.

Mount Lebanon: Arsoun, VII.2015, 3♀, leg. Nemer N.; coll. TCFNR.

N. Lebanon: Donniah, Wadi Cehennem, 924 m, 30.V.2012, 1♀, leg. Kasperek M., coll. MKAS; Horch Ehden, 1567 m, 19.VI.2016, 1♀, leg. Yammine W., coll. MBOU. Additional 12♀ and 13♂ from 14 records, collected between 6.IV.2017 and 7.VI.2019, from Tannourine El Tahta, Horch Ehden, Qadisha Valley, Bcharre, Horch Ehden, and Hadath El Jebbe.

**Flower records.** Asteraceae: *Centaurea eryngioides*, *Reichardia* sp., *Serratula pusilla*; Boraginaceae: *Solenanthus stamineus*; Fabaceae: *Coronilla emeroides*; Geraniaceae: *Geranium* sp.

This species is polylectic (Müller 2017) on several families including Fabaceae, Asteraceae, Lamiaceae, and Caryophyllaceae. A preference for Fabaceae and Asteraceae is also observed in the records above.

### *Protosmia (Protosmia) monstrosa* (Pérez, 1895)

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean, Algeria (Müller 2021).

Local distribution fig. 14.1

**Literature.** Friese (1899): Listed under the taxon *Osmia mirabilis* Friese, 1899 that should be synonymised with *P. monstrosa* based on type material examination (A. Müller, unpublished).

Mount Lebanon, Brumana, 1–3.V.1899, males and females, type material, det. Friese H., leg. Morice F, coll. Oxford / MNHUB.

**Material examined.** Mount Lebanon: Barja, Terbe, 326 m, 17.IV.2017, 1♀; Daychounieh, Nahr Beirut Climbing Site, 133 m, 27.IV.2017, 1♀, all leg. Boustani M. all coll. MBOU.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 5.V.2017, 1♀; Harissa, El Biara, 1741 m, 28.VI.2017, 1♀, all leg. Boustani M. all coll. MBOU.

**Flower records.** Astereaceae: *Carduus argentatus*; Lamiaceae: *Salvia microstegia*.

### *Protosmia (Protosmia) paradoxa* (Friese, 1899)

**Distribution:** EAST MEDITERRANEAN (Müller 2021).

**Literature.** Friese (1899): Mount Lebanon, Brumana (Lebanon), 30.IV.1899, some males and females, type material, det. Friese H., leg. Morice F., Schmiedeknecht O.

### *Protosmia (Protosmia) tiflensis* (Morawitz, 1876) \*

**Distribution:** WEST PALAEARCTIC: South-eastern Europe and eastern Mediterranean (Müller 2021).

**Material examined.** N. Lebanon: Hadath El Jebbeh, Chemin Wadi Ain El Raha, 1547 m, 29.VI.2017, 1♀; Tannourine

El Tahta, Wadi Ain El Raha, 900 m, 11.V.2017, 1♀; Tannourine El Tahta, Al Mahbase, 893 m, 25.IV.2019, 1♂; Ehden, Ain El Naasa, 1560 m, 22.V.2019, 1♂; all leg. Boustani M., coll. MBOU; Horch Ehden, 1625 m, 12.VII.2019; 1686 m, 14.VII.2019, 1♂; leg. Van Achter X., coll. XVA.

**Flower records.** Fabaceae: *Coronilla emeroides*, *Lotus gebelia libanoticus*, *Medicago* sp.; Lamiaceae: *Salvia sclarea*.

## ANTHIDIINI

Bees of this tribe have been well studied by Mavromoustakis (1955, 1956, 1963) in Lebanon compared to other bee groups, and several new species and subspecies were described in those papers. Below we list the literature and occurrences from material examined with the priority name as many of these taxa have undergone status changes. The vast majority of the species collected in Bcharre and other high altitude stations were found in our collections, however several species reported in literature from lower altitudes of Mount Lebanon could not be found in our recent collections, and this probably due to a lack of sampling.

Flower preferences vary within the genera, but general preference trends are consistent with the observations of Müller (1996) and Mavromoustakis (1955, 1956, 1963) from his Lebanon field data.

### Genus *Afranthidium* Michener, 1948

Two species.

#### *Afranthidium* (*Mesanthidium*) *lebanense* Mavromoustakis, 1955

= *Anthidium lebanense* Mavromoustakis 1955.

**Distribution:** EAST MEDITERRANEAN: Levant and Turkey (Ascher & Pickering 2021).

**Literature.** Mavromoustakis (1955): Mount Lebanon, Nahr el Kelb [Nahr Al Kaleb], 12.V.1953, 1♀ (holotype), 1♂ (paratype), det. & leg. Mavromoustakis G.A.

#### *Afranthidium* (*Mesanthidium*) *pusillum* (Morawitz, 1895)

**Distribution:** PALAEARCTIC: Eastern Mediterranean from Egypt to Syria and further east to Iran and Central Asia (Ascher & Pickering 2021).

#### Unpublished records.

NMSF:

N. Lebanon, Kadisha [Qadisha], 26.VI.1960, 1♂, det. Warncke K.

Mount Lebanon, Brumana, 26.V.1953, 1♂, det. Warncke K.

**Literature.** Mavromoustakis (1968):

N. Lebanon, near Becharre [Bcharre], 3.VII.1960, 2♀; 27.VI.1960, 1♀; Kadisha River, 21.VI.1960, 2♀, 1♂; 24.VI.1960, 3♀, 2♂, det. & leg. Mavromoustakis G.A.

**Material examined.** N. Lebanon: Arz Tannourine, Tannourine Forest Reserve Outskirts, 1739 m, 7.VI.2017, 2♀, det. Fateryga A, leg. Boustani M.; Arz Tannourine, Trail 4, 1781 m, 30.VI.2019, 1♀, det. Kasperek M., leg. Boustani M., all coll. MBOU.

**Flower record.** Asteraceae: *Anthemis* sp.

### Genus *Anthidiellum* Cockerell, 1904

Two species

#### *Anthidiellum* (*Anthidiellum*) *troodicum* (Mavromoustakis, 1949)

= *Anthidiellum brevisculum* ssp. *troodicum* Mavromoustakis, 1949.

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean to Iran (Ascher & Pickering 2021).

**Literature.** Mavromoustakis (1955): Listed under *Anthidiellum brevisculum troodicum* Mavromoustakis, 1949. Mount Lebanon, Brumana [Broumana], 26.V.1953, 1♂, det. & leg. Mavromoustakis G.A.



**Material examined.** N. Lebanon: Tannourine El Tahta, Al Mahbase, 926 m, 27.VI.2019, 1♀, det. Kasperek M., leg. Van Achter X., coll. XVA.

**Flower records.** Lamiaceae: *Origanum* sp.

***Anthidiellum (Anthidiellum) strigatum (Panzer, 1805) s.l.***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

Local distribution fig. 14.2

GBIF 2020, SEMC: Labelled as “*Anthidiellum strigatum* subsp.”

Mount Lebanon: Monteverde, near Mansourieh, 350 m, 15.VII.1995, 1 specimen, sex not mentioned, leg. Roche C.G.; Der El Harf, 1100 m, 15.VIII.1995, 1♂, det. Baker D., leg. Roche C.G.; Monteverde, near Mansourieh, 350 m, 16.VI.1996, 1♀, 1♂, det. Baker D., leg. Roche C.G.

**Literature.** Alfken, 1936: Listed under *Anthidiellum strigatum humerale*

The taxonomic situation of this subspecies needs to be clarified. Additionally, *Anthidium strigatum crassepunctatum* Popov, 1935 has been synonymised with *A. strigatum* by Warncke (1980). Synonymy criticised by Schwarz & Gusenleitner (2003). Whether *humerale* and *strigatum* should be regarded as valid taxa still needs to be clarified. Mavromoustakis (1955): Mount Lebanon, Ein el Arar (near Baabdate), 25.V.1953, 1♂, det. & leg. Mavromoustakis G.A.

**Material examined.** Bekaa: Anjar, Water Trail, 951 m, 23.VII.2019, 1♂, det. Kasperek M., leg. Boustani M., coll. MBOU.

Mount Lebanon: Bentaël, Main gate (Green Shell), 565 m, 20.VII.2019, 3♂, det. Kasperek M., leg. Van Achter X., coll. XVA.

N. Lebanon: Donniah, Wadi Cehennem above Quemmamine, 1393 m, 23.05.2012, leg. Kasperek M., coll. MKAS; Hatah El Jebbe, Road to Wadi Ain El Raha, 1519 m, 28.VII.2017, 1♂, det. Litman J., leg. Boustani M.; Tannourine El Tahta, Wadi Ain el Raha, 1036 m, 2.VIII.2017, 2♂, det. Litman J., leg. Boustani M.; Tannourine El Tahta, Wadi Al Fouar, 1187 m, 19.VII.2018, 1♂, det. Litman J., leg. Boustani M., Jabbour J., all coll. MBOU.

**Flower records.** Caprifoliaceae: *Scabiosa argentea*; Fabaceae: *Ononis natrix*, *Hymenocarpus circinnatus*.

Note: Grace (2010): Listed from Lebanon under *Anthidiellum strigatum (Panzer, 1805) crassepunctatum* (Popov, 1935).

**Genus *Anthidium* Fabricius, 1804**

15 species.

***Anthidium (Anthidium) christianseni* Mavromoustakis, 1956**

**Distribution:** EAST MEDITERRANEAN: Levant and Iran (Ascher & Pickering 2021).

Local distribution fig. 14.3

**Literature.** Mavromoustakis (1956): Locus typicus.

Mount Lebanon, Barouk Cedars, 1600 m, 14–16.VI.1953, 1♀, det. Mavromoustakis G.A., leg. Christiansen K; N. Lebanon, Cedars near Bcharre, 1900 m, 3–6.VI.1931, 2♀, det. Mavromoustakis G.A., leg. Zerny H.

Mavromoustakis (1963): N. Lebanon, Near Becharre [Bcharre], 20.VI.1960, 1♀; 27.VI.1960, 1♀; 3.VII.1960, 3♀; Kadisha river, 21.VI.1960, 1♂; 26.VI.1960, 2♂; Cedars, 4.VII.1960, 2♂; 30.VI.1960, 2♀, 4♂; 6.VII.1960, 1♀; 29.VI.1960, 2♂, leg. & det. Mavromoustakis G.A.

Records mentioned again in Mavromoustakis (1968) and listing occurrences in Iran.

**Material examined.** Bekaa: Passage Akoura-Hadath, 1820 m, 7.VII.2019, 1♀, det. Kasperek M., leg. Ghisbain G., coll. UMONS.

N. Lebanon: Harissa, Al Jawar, 1765 m, 28.VI.2017, 2♂, det. Litman J., leg. Boustani M.; 1738 m, 18.VII.2017, 1♀, det. Litman J. leg. Boustani M.; 1765 m, 18.VII.2017, 2♂, det. Litman J., leg. Boustani M.; Hadath El Jebbeh, Road to Wadi Al Fouar, 1553, 28.VI.2018, 1♀, det. Litman J., leg. Boustani M.; Harissa, Al Jawar, 1736 m, 5.VII.2018, 1♀, 2♂, det. Litman J., leg. Boustani M.; Bcharre, Forest of the Cedars of God, 1933 m, 21.VII.2018, 1♂, det. Litman J., leg. Boustani M., Jabbour J.; Harissa, Al Jawar, 1736 m, 18.VIII.2018, 1♂, det. Litman J., leg. Boustani M., Jabbour J.; Arz Tannourine, Trail 1, 1762 m, 29.VI.2019, 1♂, det. Kasperek M., leg. Boustani M.; Harissa, Al Jawar, 1758 m, 30.VI.2019, 1♂, det. Kasperek M., leg. Boustani M.; Arz Bcharre, Reforestation area, 2216, 2.VII.2019, 1♂, det. Kasperek M., leg. Boustani M.; Arz Tannourine, Main Gate, 1794 m, 4.VII.2019, 1♂, det. Kasperek M., leg.

Boustani M., all coll. MBOU; Bcharre, 1758 m, 24.VII.2019, 1♂, det. Kasperek M., leg. Van Achter X., coll. XVA; Harissa, Al Jawar, 1758 m, 25.VII.2019, 1♂, det. Kasperek M., leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Echinops viscosus*; Fabaceae: *Lotus* sp., *Ononis spinosa*; Lamiaceae: *Phlomis* cf. *brachyodon*, *Salvia microstegia*, *Stachys cretica*, *Stachys distans*, *Stachys ehrenbergii*.

Mavromoustakis (1963) recorded specimens from Lebanon on Lamiaceae as well, visiting *Teucrium divaricatum* var. *graecum*.

#### ***Anthidium (Anthidium) syriacum* Pérez, 1912**

**Distribution:** LEVANT (Warncke 1980).

Described as *Anthidium syriacum* by Pérez (1912), accepted as subspecies of *A. dalmaticum* (as *A. dalmaticum syriacum*) by Mavromoustakis (1939) and Warncke (1980) and re-elevated to species rank by Pasteels (1981).

#### **Literature.**

Subspecies *A. dalmaticum syriacum* described by Pérez (1911), from Mount Lebanon, Broumana, 16.VI.1908, 1♂, leg. Gadeau de Kerveille H. (type locality).

Mavromoustakis (1955): Listed under *Anthidium (Anthidium) dalmaticum* Mocsáry, 1884 *syriacum* Pérez, 1911: Mount Lebanon, Brumana [Broumana], 23.V.1953, 4♀, 1♂; Ein el Arar (near Baabdate), 23.V.1953, 3♀, 1♂; 24.V.1953, 4♀, 2♂; Nahr el Kelb, 12.V.1953 1♀, 1 M; 27.V.1953, 1♀; all det. & leg. Mavromoustakis G.A.

**Material examined.** Bekaa: Passage Akoura-Hadath, 1820 m, 7.VII.2019, 1♀, det. Kasperek M., leg. Ghisbain G., coll. UMONS.

**Flower records.** Lamiaceae: *Teucrium orientale*.

#### ***Anthidium (Anthidium) diadema* Latreille, 1809 \***

**Distribution:** WEST PALAEARCTIC: Mediterranean basin, mainly North Western Mediterranean and stretching East to Kyrgyzstan (Ascher & Pickering 2021).

**Material examined.** Mount Lebanon: Akoura, Mejdal Akoura, 1823 m, 28.VII.2018, 1♂, det. Litman J., leg. Boustani M., coll. MBOU.

N. Lebanon: Hadath El Jebbe, 1704 m, 30.VI.2019, 1♂, det. Kasperek M., leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Centaurea pallescens*; Lamiaceae: *Stachys cretica*.

#### ***Anthidium (Anthidium) florentinum* (Fabricius, 1775)**

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

**Literature.** Klug (1832): Listed under *Anthidium subspinosum* from “Syria”, June. This material collected by Ehrenberg and Hemprich is in current Lebanese territory (Baker 1997).

Mavromoustakis (1963): Listed under *Anthidium florentinum subspinosum* Klug, 1832

Reported as common near Bcharre and Kadisha River, no details given on date.

**Material examined.** Bekaa: Anjar, Guest house, 973 m, 23.VII.2019, 1♂, det. Kasperek M., leg. Boustani M., coll. MBOU.

N. Lebanon: Tannourine El Fawka, Salon de l'église, 1244 m, 4.VII.2019, 2♀, leg. Boustani M., coll. MBOU; 1♀, 1♂, leg. Gekière A.; 1♂, leg. Ghisbain G., all coll. UMONS.

**Flower records.** Lamiaceae: *Lavandula x intermedia*, *Salvia* cf. *hierosolymitana*; Rosaceae: *Rubus sanctus*.

Recorded flower visit from Lebanon by Mavromoustakis (1963) on *Rubus ulmifolius anatolicus*, and seems to have this preference for *Rubus* in Cyprus (Mavromoustakis 1952) as well.

#### ***Anthidium (Anthidium) gussakovskiji* Mavromoustakis, 1939 \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** Bekaa: Blaika, 1223 m, 3.VII.2019, 1♀, 1♂, det. Kasperek M., leg. Boustani M., coll. MBOU; Blaika, 1325 m, 3.VII.2019, 1♀, det. Kasperek M., leg. Gekière A., coll. UMONS.

**Flower record.** Asteraceae: *Centaurea* cf. *pallescens*.

#### ***Anthidium (Anthidium) loti* Perris, 1852**

**Distribution:** WEST PALAEARCTIC: Southern and Eastern Europe, and further east to Kazakhstan, Syria, Israel (Ascher & Pickering 2021).

Local distribution fig. 14.4

**Literature.** Mavromoustakis (1955): Listed under *Anthidium variegatum* var *meridionale* Giraud, 1863.

Mount Lebanon, Brumana [Broumana], 26.V.1953, 1♀, det. & leg. Mavromoustakis G.A.

**Material examined.** Bekaa: Anjar, Army Barracks, 967 m, 23.VII.2019, 1♂, det. Kasperek M., leg. Van Achter X., coll. XVA.

Mount Lebanon: Maaser Al Chouf, Panoramic Trail, 1764 m, 6.VIII.2018, 1♀, det. Litman J., leg. Boustani M., coll. MBOU; Maaser Al Chouf, Al Shouf Cedar Reserve, 1764 m, 6.VIII.2018, 1♀, det. Kasperek M., leg. Van Achter X., coll. XVA.

N. Lebanon: Arz Tannourine, 1784 m, 18.VI.2016, 1♀, det. Litman J., leg. Boustani M.; Fehta, El Biara, 1632 m, 18.VII.2018, 1♀, det. Litman J., leg. Boustani M.; Arz Bcharre, Forest Limit, 1873 m, 2.VII.2019, 1♀, det. Kasperek M., leg. Boustani M., all coll. MBOU; Hadath El Jebbe, Border of the Cedar Forest, 1632 m, 6.VII.2019, 1♀, det. Kasperek M., leg. Van Achter X., coll. XVA.

**Flower records.** Lamiaceae: *Sideritis libanotica linearis*, *Sideritis perfoliata*, *Stachys cretica*.

### *Anthidium (Anthidium) manicatum* L.1758 (fig 19.5–6)

**Distribution:** PALAEARCTIC (Ascher & Pickering 2021).

Local distribution fig. 14.5

**Literature.** Mavromoustakis (1956): Mount Lebanon, Brumana [Broumana], 26.V.1953, 1♀, det. & leg. Mavromoustakis G.A.

**Material examined.** Common and probably widespread, abundant when present.

Mount Lebanon: Jabal Moussa Biosphere Reserve, Qehmez Gate, 1401 m, 21.VIII.2018, 1♂, det. Litman J., leg. Boustani M., Nemer N., coll. MBOU. Additional 3♀ and 8♂ from 8 records, collected between 21.VIII.2018 and 6.VII.2019, Jabal Moussa, Laqlouq, Akoura and Maaser Al Chouf.

N. Lebanon: Qanat, Qornet Dammouaa, 1231 m, 31.V.2017, 1♀, 1♂, det. Litman J., leg. Rasmont P. Additional 51♀ and 47♂ collected between 21.VI.2017 and 23.VIII.2019, from Tannourine El Tahta, Arz Tannourine, Harissa, Hadath El Jebbe, Fehta, and Bcharre.

**Flower records.** Apiaceae: *Eryngium glomeratum*; Asteraceae: *Carlina curetum orientalis*; Fabaceae: *Ononis natrix*, *O. spinosa*; Lamiaceae: *Marrubium libanoticum*, *Phlomis rigida*, *Salvia microstegia*, *Scutellaria brevibracteata*, *Sideritis libanotica* ssp. *linearis*, *Sideritis perfoliata*, *Stachys cretica*, *S. distans*.

Reported to be polylectic with a preference for Fabaceae, Lamiaceae and Scrophulariaceae by Müller (1996), the preference first two being also apparent in our observations. Mavromoustakis (1956) also reports observations on *Phlomis viscosa* from Lebanon.

### *Anthidium (Proanthidium) venustum* Morawitz, 1877

= *Anthidium morawitzi* Dalla Torre, 1896

**Distribution:** WEST PALAEARCTIC: Scattered records, Egypt, Azerbaijan, Iran (Ascher & Pickering 2021)

**Literature.** Pérez (1911): Mount Lebanon, Broumana, 11.VI.1908, ♀, det. Pérez J, leg. Gadeau de Keruille H.

### *Anthidium (Gulanthidium) rotundum* (Warncke, 1980)

**Distribution:** EAST MEDITERRANEAN: Turkey, Iran, Syria, Lebanon (Ascher & Pickering 2021).

Species described by Warncke (1980) from Iran, with paratypes from the Mavromoustakis material collected in Lebanon. According to Warncke the taxon is incorrectly assigned to *A. anguliventre* by Mavromoustakis and Pasteels.

**Literature.** Mavromoustakis (1963): The records listed under *Anthidium anguliventre* Morawitz, 1888 refer to this species (see under Warncke 1980).

Warncke (1980): N. Lebanon, Bcharre, 1.VII.1960, 1♀, 1♂; 27.VI.1960, 1♀; 2.VII.1960, 4♀; 3.VII.1960, 3♂; Kadisha, 21.VI.1960, 1♀; 27.VI.1960, 1♂; 22.VI.1960, 1♀; leg. Mavromoustakis G.A., det. Warncke K.

**Material examined.** Mount Lebanon: Barouk, Shouf Biosphere Reserve, 1692 m, 2.VII.2019, 1♂, det. Kasperek M., leg. Van Achter X.; 1382 m, 3.VII.2019, 1♀, 1♂, det. Kasperek M., leg. Van Achter X.; 1716 m, 4.VII.2019, 2♀, det. Kasperek M., leg. Van Achter X.; Laqlouq, 1660 m, 6.VIII.2019, 1♀, det. Kasperek M., leg. Van Achter X., all coll. XVA.

**Flower record.** Asteraceae: *Centaurea* sp.

***Anthidium (Anthidium) spiniventre* Friese, 1899 \***

**Distribution:** PALAEARCTIC: Scattered between Greece and Turkmenistan, Levant (Ascher & Pickering 2021).

Notes. Mentioned by Warncke (1980) and Grace (2010) from Lebanon with no date or locality.

**Material examined.** N. Lebanon: Arz Tannourine, Tannourine Forest Reserve Outskirts, 1792 m, 13.VII.2017, 1♀, det. Litman J., leg. Boustani M., coll. MBOU.

***Anthidium (Anthidium) taeniatum* Latreille, 1809 \***

**Distribution:** WEST PALAEARCTIC: Scattered between Morocco and Turkmenistan, Levant (Ascher & Pickering 2021).

**Material examined.** Mount Lebanon: Barouk, Shouf Biosphere Reserve, 1690 m, 4.VII.2019, 1♂, det. Kasperek M., leg. Van Achter X.; Laqlouq, Matoube LMT trail, 1699 m, 6.VII.2019, 1♀, det. Kasperek M., leg. Van Achter X., all coll. XVA; Laqlouq, Matoube, 1751 m, 6.VII.2019, 1♂, det. Kasperek M., leg. Boustani M., coll. MBOU.

N. Lebanon: Hadath El Jebbe, 1704 m, 5.VII.2019, 1♂, det. Kasperek M., leg. Ghisbain G.; Arz Tannourine, Gate area, 1754 m, 6.VII.2019, 2♂, det. Kasperek M., leg. Gekière A., all coll. UMONS.

**Flower records.** Fabaceae: *Medicago* sp.; Lamiaceae: *Stachys cretica*.

***Anthidium (Proanthidium) trispinosum* Friese, 1917 \* (fig. 20.1)**

**Distribution:** WEST PALAEARCTIC: Scattered records in Turkey, Azerbaijan and Iran (Ascher & Pickering 2021).

**Material examined.** Bekaa: Ainata, 1556 m, 30.V.2017, 4♂, det. Litman J., leg. Rasmont P., coll. PRAS.

**Flower record.** Fabaceae: *Astragalus cruentiflorus*.

***Anthidium (Proanthidium) undulatifforme* Friese, 1917 \***

**Distribution:** WEST PALAEARCTIC: Scattered records around the Mediterranean (Ascher & Pickering 2021)

**Material examined.** Mount Lebanon: Laqlouq, 1752 m, 30.VI.2019, 3♀, 1♂, leg. Boustani M., coll. MBOU; 2♀, 2♂, leg. Ghisbain G., coll. UMONS; 2♀, 3♂, all det. Kasperek M.

N. Lebanon: Jord Tannourine, 2166 m, 30.VI.2019, 1♀, det. Kasperek M., leg. Gekière A.

**Flower records.** Lamiaceae: *Phlomis rigida*.

***Anthidium (Proanthidium) undulatum* Dours, 1873**

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean and east to Iran, Algeria (Ascher & Pickering 2021).

Local distribution fig. 14.6

**Literature.** Pérez (1911): Mount Lebanon, Beit Meri, 14.VI.1908, det. Pérez J., leg. Gadeau de Kerville H. Warncke (1980) assigned the material from Lebanon to the subspecies *holozonicum* (Mavromoustakis, 1939).

**Material examined.** Bekaa: Hadath, 1441 m, 7.VII.2019, 1♂, det. Kasperek M., leg. Boustani M.; Jord Aarsal, 1975 m, 11.VII.2019, 1♀, det. Kasperek M., leg. Boustani M.; Anjar, Guest house, 973 m, 23.VII.2019, 1♀, 1♂, det. Kasperek M., leg. Boustani M., all coll. MBOU; 1♀, det. Kasperek M., leg. Van Achter X., coll. XVA.

N. Lebanon: Arz Tannourine, 1800 m, 25.VI.2006, 1♂, det. Litman J., leg. Nemer N., coll. TCFNR; Tannourine El Tahta, Wadi Ain Al Raha, 1187 m, 29.VI.2017, 1♂, det. Litman J., leg. Boustani M.; Harissa, Al Jawar, 1765 m, 28.VI.2017, 1♀, 1♂, det. Litman J., leg. Boustani M.; Harissa, Al Jawar, 1765 m, 18.VII.2017, 1♀, 3♂, det. Litman J., leg. Boustani M.; Harissa, Al Jawar, 1736 m, 11.VII.2018, 3♂, det. Litman J., leg. Boustani M.; Harissa, Al Jawar, 1736 m, 18.VII.2018, 1♂, det. Litman J., leg. Boustani M., Jabbour J.; Hadath El Jebbeh, Road to Wadi Al Fouar, 1553 m, 22.VIII.2018, 1♂, det. Litman J., leg. Boustani M., Jabbour J.; Arz Tannourine, Trail 4, 1781 m, 27.VII.2019, 1♂, det. Kasperek M., leg. Boustani M.; Tannourine El Tahta, Mar Boutrous, 1207 m, 27.VI.2019, 1♂, det. Kasperek M., leg. Boustani M., all coll. MBOU; 1♂, det. Kasperek M., leg. Van Achter X., coll. XVA.

S. Lebanon: Saidoun, El Mrouj, 15.VI.2017, 1♀, det. Litman J., leg. Baghdadi A., coll. SOILS.

**Flower records.** Fabaceae: *Ononis natrix*, *O. spinosa*; Lamiaceae: *Lavandula x intermedia*, *Stachys distans*.

Müller (1996) reports a strong preference for Leguminosae for this polylectic species that we also observe here.

***Anthidium (Anthidium) wuestneii* Mocsáry, 1887**

**Distribution:** WEST PALAEARCTIC: Lebanon (listed as Syria, locality in current Lebanese territory), Greece, Armenia, China (Warncke 1980).

Local distribution fig. 14.7

**Literature.** Mentioned from Lebanon, Bcharre, by Warncke (1980).

**Material examined.** All the specimens came from the AUB collection and mostly have no collector name.

Labels unreadable, 3♂, 1♀, det. Litman J.

Bekaa: AUB Farm [Haush Sneid], 2.VI.1962, 1♂, det. Litman J., leg. Rafi Z

Mount Lebanon: Salima, 21.VI.1973, 1♂; Sawfar, 21.VI.1973, 3♂, 4♀; Arz El Barouk, 18.VI.1975, 4♂; Baalchmay, 3.VII.1975, 1♀, 2♂; Qornael, 7.VII.1975, 1♂, all det. Litman J.

S. Lebanon: Darhouna, 17.VI.1975, 3♂, det. Litman J.

**Genus *Eoanthidium* Popov, 1950**

Three species.

***Eoanthidium (Eoanthidium) hoplostomum* (Mavromoustakis, 1945)**

= *Dianthidium hoplostomum* Mavromoustakis, 1945

= *Anthidium clypeare* ssp. *hoplostomum* (Mavromoustakis, 1945)

= *Eoanthidium (Eoanthidiellum) hoplostomum* (Mavromoustakis, 1945)

**Distribution:** EAST MEDITERRANEAN: Levant and southern and south-eastern Turkey (Kasperek 2020).

**Literature.** Kasperek (2020): Mount Lebanon: Der El Harf, 1100 m, 16.VII.1995, 1♂, det. Kasperek M., leg. Roche C.G.

***Eoanthidium (Eoanthidium) insulare* Morawitz, 1873**

Syn.: *Eoanthidium (Eoanthidium) insulare persicolum* (Mavromoustakis, 1937)

**Distribution:** WEST PALAEARCTIC: Scattered records in Cyprus, Greece, Turkey, Levant, and east to Uzbekistan and Tajikistan (Ascher & Pickering 2021, Kasperek unpublished).

Material from the SEMC and OOLL collections below re-examined by Kasperek M.

**Material Examined.** Mount Lebanon: Ain El Azar [Ain El Arar], 25.V.1953, 1♀, det. Warncke K., leg. Mavromoustakis G.A., coll. OOLL; Monteverde nr. Mansourieh, 350 m, 21.V.1995, 1♂; 25.VI.1995, 1♀; 16.VI.1996, 1♂, all det. Baker D., leg. Roche C.G., coll. SEMC; Souk El Ghareb, Balamand University, 839 m, 23.VII.2019, 1♂, det. Kasperek M., leg. Van Achter X., coll. XVA.

N. Lebanon: Tannourine Al Tahta, Wadi Ain El Raha, 1036 m, 2.VIII.2017, 1♀, det. Litman J., leg. Boustani M., coll. MBOU.

**Flower record.** Caprifoliaceae: *Scabiosa argentea*.

***Eoanthidium (Eoanthidium) judaeense* (Mavromoustakis, 1945)**

= *Dianthidium elongatum* ssp. *judaense* Mavromoustakis, 1945

= *Eoanthidium (Eoanthidiellum) judaeense* (Mavromoustakis, 1945)

= *Anthidium (Anthidiellum) judaeense* (Mavromoustakis, 1945)

**Distribution:** EAST MEDITERRANEAN: South-east Turkey and Levant (Kasperek 2020).

Local distribution fig. 14.8

**Literature.** Mavromoustakis (1955) and Kasperek (2020):

Nahel Kelb [Naher El Kaleb], 1♀, 1♂, 13.V.1953, Mavromoustakis G.A., leg. (OLL782, RBINS126); *ibid.*, 27.V.1953 (OLL783); Nahel Kelb [Naher El Kaleb], 13.V.1953, 1♀, Mavromoustakis G.A. leg. (OLL775); *ibid.*, 27.V.1953 (OLL777); Chouf, El Barak [Al Barouk], c. 1100m, 1♂, 12.VI.1995, C. G. Roche leg. (L 653 /D. & M. Baker collection KUNHM 2004-en-004 / SEMC0975119) (SEMC23);

Mount Lebanon: Baabdate, 24.V.1953, 1♀, Mavromoustakis G.A. leg. (OLL778)

**Material Examined.** Mount Lebanon: Barouk, Shouf Biosphere Reserve, 1571 m, 3.VII.2019, 1♀, 1♂, det. Kasperek M., leg. Van Achter X., coll. XVA.

## Genus *Icteranthidium* Michener, 1948

Three species.

### *Icteranthidium (Icteranthidium) cimbiciforme* Smith, 1854 \*

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean and further east to Iran (Ascher & Pickering 2021).

**Unpublished records.** GBIF 2021, SEMC: Beirut, IV.1882, 1♀, det. Zanden G.

**Literature.** Warncke (1980) mentioned from Lebanon without date or locality details.

**Material examined.** 2 female specimens, one from the AUB and one of the TCFNR collection, both without labels.

### *Icteranthidium (Icteranthidium) fedtschenkoi* (Morawitz, 1875)

**Distribution:** WEST PALAEARCTIC: Levant, extending east to Iran (Ascher & Pickering 2021).

**Literature.** Mavromoustakis (1963): N. Lebanon, near Becharre, 27.VI.1960, 1♀, det. & leg. Mavromoustakis G.A.

### *Icteranthidium (Icteranthidium) grohmanni* (Spinola, 1838)

**Distribution:** WEST PALAEARCTIC: Scattered records around the Mediterranean, mainly South Eastern Europe, Levant, Turkey and east to Russia (Ascher & Pickering 2021).

Local distribution fig. 14.9

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon, Der El Harf, 1100 m, 15.VIII.1995, 1♂, det. Baker D., leg. Roche C.G.

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 1115 m, 19.VIII.2017, 1♀, det. Fateryga A., leg. Boustani M.; Harissa, Al Jawar, 1736 m, 18.VIII.2018, 2♀, det. Fateryga A., leg. Boustani M., Jabbour J., coll. MBOU; Tannourine El Tahta, 995 m, 27.VI.2019, 1♂, det. Kasperek M., leg. Van Achter X., coll. XVA; Tannourine El Tahta, Mar Boutrous, 1207 m, 25.VII.2019, 1♀, det. Kasperek M., leg. Boustani M.; Arz Tanourine, Forest Limit, 1873 m, 20.VIII.2019, 1♂, det. Kasperek M., leg. Boustani M.; 1897 m, 20.VIII.2019, 1♀, 1♂, det. Kasperek M., leg. Boustani M.; Tannourine El Tahta, Mar Boutrous, 1207 m, 23.VIII.2019, 1♀, det. Kasperek M., leg. Boustani M.; Arz Tannourine, Gate, 1796 m, 23.VIII.2019, 2♂, det. Kasperek M., leg. Boustani M.; Harissa, Al Jawar, 1758 m, 23.VIII.2019, 1♀, det. Kasperek M., leg. Boustani M., all coll. MBOU.

**Flower records.** Apiaceae: *Eryngium billardierei*, *E. glomeratum*, Asteraceae: *Carlina curetum* ssp. *orientalis*; Caprifoliaceae: *Scabiosa argentea*.

Müller (1996) reports a strong preference for Apiaceae, specifically *Eryngium* sp. flowers that we also observe in the records above.

## Genus *Pseudoanthidium* Friese, 1898

Four species.

### *Pseudoanthidium (Pseudoanthidium) aff. cribratum* (Morawitz, 1875)

Pérez (1911) gave the record of a *Anthidium lituratum* Latr., which is actually a junior synonym of *Pseudoanthidium scapulare* Latreille, 1809 (Schwarz *et al.* 1996). While Warncke (1980) summarised various closely related taxa under the name *Anthidium lituratum* and distinguished four subspecies, it has been understood in the meantime that it is actually a complex of species (Aguib *et al.* 2010). From the description of Pérez (1911), it can be concluded that his material can likely be assigned to *P. cribratum*, based on the coarse punctuation of the terga, possibly to “*palestinicum* Mavromoustakis, 1938” which was described as subspecies of *cribratum*.

A comprehensive taxonomic revision of the complex is still required and as long as it is not available, we regard it as premature to take a final taxonomic decision. Recent material of the species collected in Lebanon was therefore not assigned to one of the species of the complex.

**Literature.** Pérez (1911): Mount Lebanon, Broumana, 17.VI.1908, det. Pérez J., leg. Gadeau de Kerveille H.

***Pseudoanthidium (Royanthidium) melanurum (Klug, 1832)***

**Distribution: WEST PALAEARCTIC:** Mediterranean basin, Eastern Europe and Caucasus to Russia East (Ascher & Pickering 2021).

**Literature.** Klug (1832): Listed under *Anthidium melanurum* from “Syria”, June. This material collected by Ehrenberg and Hemprich is in current Lebanese territory (Baker 1997).

***Pseudoanthidium (Royanthidium) reticulatum (Mocsáry, 1884)***

**Distribution: WEST PALAEARCTIC:** Southern Europe, Morocco, Algeria, eastern Mediterranean to Iran (Ascher & Pickering 2021).

**Literature.** Mentioned by Warncke (1980) from Bcharre.

**Material examined.** N. Lebanon: Arz Tannourine, Trail 4, 1771 m, 22.VI.2017, 2♂, det. Litman J., leg. Boustani M., coll. MBOU.

**Flower record.** Asteraceae: *Onopordum carduiforme*.

***Pseudoanthidium (Pseudoanthidium) stigmaticorne Dours, 1873 \****

**Distribution: WEST PALAEARCTIC:** Maghreb (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Fehta, El Biara, 1632 m, 18.VII.2018, 1♀, det. Litman J., leg. Boustani M., coll. MBOU.

**Flower record.** Asteraceae: *Centaurea pallescens*.

**Genus *Rhodanthidium* Isensee, 1927**

Four species.

***Rhodanthidium (Asianthidium) aculeatum (Klug, 1832).***

**Distribution: EAST MEDITERRANEAN:** Turkey, Lebanon, Iran, Syria (Kasperek 2019, Ascher & Pickering 2021).

**Literature.** Klug (1832): Listed under *Anthidium aculeatum* from “Syria”, June and July. This material collected by Ehrenberg and Hemprich is in the current Lebanese territory (Baker 1997).

Mavromoustakis (1963): Listed under *Meganthidium (Oxyanthidium) aculeatum (Klug, 1832)*.

N. Lebanon: Cedars [Bcharre], 29.VI.1960, 8♀, 50♂; 4.VII.1960, 3♀, 24♂; Kadisha river, 24.VI.1960, 1♀.

**Material examined.** N. Lebanon: Arz Bcharre, Reforestation Area, 1993 m, 27.VI.2017, 2♀, det. Litman J., leg. Boustani M.; 29.VI.2018, 1♀, det. Litman J., leg. Boustani M.; 4.VII.2018, 1♂, det. Litman J., leg. Boustani M.; Arz Bcharre, 1867 m, 10.VII.2018, 1♀, 2♂, det. Litman J., leg. Boustani M.; Arz Tannourine, Forest Limit, 1873 m, 2.VII.2019, 1♂, det. Kasperek M, leg. Boustani M.; 1897 m, 2.VII.2019, 1♀, det. Kasperek M., leg. Boustani M.; Arz Tannourine, Main Gate, 1794 m, 4.VII.2019, 1♂, det. Kasperek M., leg. Boustani M., all coll. MBOU; Arz Bcharre, Reforestation area, 1973 m, 2.VII.2019, 1♀, 2♂, det. Kasperek M, leg. Gekièrè A.; 3♀, det Kasperek M., leg. Ghisbain G.; Arz Tannourine, Main Gate, 1794 m, 4.VII.2019, 2♂, det. Kasperek M., leg. Ghisbain G., all coll. UMONS; Bcharre, 1900 m, 12.VII.2019, 1♀, 3♂, det. Kasperek M., leg. Van Achter X.; 22.VII.2019, 2♂, det. Kasperek M., leg. Van Achter X.; Arz Bcharre, Forest Limit, 1897 m, 1♂, det. Kasperek M., leg. Van Achter X., all coll. XVA.

**Flower records.** Fabaceae: *Vicia tenuifolia*; Lamiaceae: *Salvia microstegia*.

Notes: Friese 1898: Mentioned from Syria and “Asia Minor”, could be located in current Lebanese territory.

***Rhodanthidium (Asianthidium) caturigense (Giraud, 1863) (fig. 20.2)***

= *Anthidium moreense* ssp. *jerusalemicum* Mavromoustakis, 1938

**Distribution: WEST PALAEARCTIC:** Northern Mediterranean basin from Spain to the west and east to Iran (Kasperek 2019, Ascher & Pickering 2021).

Local distribution fig. 14.10

**Literature.**

Listed under: *A. moreense jerusalemicum*

Mavromoustakis, 1955: S. Lebanon, Djezzine [Jezzine], 3.VI.1953, 1♂, det. & leg. Mavromoustakis G.A.

Mavromoustakis (1963): N. Lebanon: Near Becharre [Bcharre], 5.VII.1960, 1♂, det. & leg. Mavromoustakis G.A.  
**Material examined.** Mount Lebanon: Maaser Al Chouf, Panoramic Trail, 1764 m, 6.VIII.2018, 1♂, det. Litman J., leg. Boustani M., coll. MBOU.

N. Lebanon: Arz Tannourine, 1800 m, 20.VI.2002, 1♂, det. Litman J., leg. Nemer N., coll. TCFNR; Qanat, Qornet Dammouaa, 1231 m, 31.V.2017, 1♀, det. Litman J., leg. Rasmont P.; Arz Tannourine, Tannourine Forest Reserve Outskirts, 1792 m, 13.VII.2017, 1♂, det. Litman J., leg. Boustani M.; Tannourine El Tahta, Wadi Al Fouar, 1187 m, 28.VI.2018, 2♀, 1♂, det. Litman J., leg. Boustani M., Jabbour J.; Hadath El Jebbe, Al Fouar, 1529 m, 25.VII.2019, 1♀, det. Kasperek M., leg. Boustani M., Mouawad G., all coll. MBOU; Horch Ehden, Upper Gate, 1597 m, 5.VII.2019, 1♂, det. Kasperek M., leg. Ghisbain G., coll. UMONS.

**Flower records.** Fabaceae: *Ononis natrix*; Lamiaceae: *Marrubium libanoticum*, *Sideritis libanotica* ssp. *linearis*; Plumbaginaceae: *Acantholimon libanoticum*.

Müller (1996) reports that this species is polylectic with a preference for Fabaceae, most of our records above come from Lamiaceae but we also have one Fabaceae species: *Ononis natrix*, which is also recorded by Mavromoustakis (1963) from Lebanon.

### ***Rhodanthidium (Rhodanthidium) exsectum (Pasteels, 1969)***

**Distribution: WEST PALAEARCTIC:** Turkey, Lebanon, Iran (Kasperek 2019).

**Literature.** N. Lebanon, Becharre [Bcharre], 1400 m, 1–4.VII.1931, 1♂, (Warncke 1980). This record was erroneously attributed to *A. moreense* ssp. *jerusalemicum* MAVR. by Mavromoustakis (Warncke 1980).

### ***Rhodanthidium (Rhodanthidium) septemdentatum (Latreille, 1809)*** (fig. 20.3)

Syn.: *Rhodanthidium (Rhodanthidium) septemdentatum* ssp. *faciale* Friese, 1917

**Distribution: WEST PALAEARCTIC:** Central and Southern Europe, stretching from Spain West to Iran East (Kasperek 2019).

Local distribution fig. 14.11

**Unpublished records.** GBIF 2021, SEMC:

Mount Lebanon: Monteverde, near Mansourieh, 350 m, 22.V.1994, 1♀, det. Baker D., leg. Roche C.G.; Monteverde, near Mansourieh, 350 m, 4.VI.1995, 1♂, det. Baker D., leg. Roche C.G.

Bekaa: Jdeide N. Bekaa, 1000 m, 2.VI.1996, 1♂, det. Baker D., leg. Roche C.G.

**Literature.** Mavromoustakis (1955):

Mount Lebanon, Brumana [Broumana], 26.V.1953, 1 F, 7♂; 23.V.1953, 1♀; Nahr el Kelb [Nahr Al Kalb], 27.V.1953, 1♀; Ein el Arar (near Baabdate), 25.V.1953, 2♀, 9♂.

S. Lebanon, Djezzine [Jezzine], 20.V.1953, 1♂; 21.V.1953, 2♂; 3.VI.1953, 3♀, 2♂.

**Material examined.** Mount Lebanon: Nahr Al Hammam, 455 m, 25.V.2019, 1♂, det. Kasperek M., leg. Boustani M.; Maaser Al Chouf, 1364 m, 29.V.2019, det. Kasperek M., leg. Boustani M., all coll. MBOU.

N. Lebanon: Arz Tannourine, Tannourine Reserve Trail 4, 1714 m, 7.VI.2017, 3♂, det. Litman J., leg. Boustani M., coll. MBOU. Additional 3♀ and 20♂ from 18 records collected between 27.VI.2017 and 12.VII.2019, from Arz Tannourine, Qanat, Tannourine El Tahta, Hadath El Jebbe, Arz Bcharre, Bcharre, and Harissa.

S. Lebanon: Saidoun, Joura, 15.IV.2018, 1♀, det. Kasperek M., leg. Baghdadi A., coll. SOILS.

**Flower records.** Campanulaceae: *Michauxia campanuloides*; Fabaceae: *Medicago* sp., *Lotus* sp., *Ononis natrix*, *Vicia tenuifolia*; Lamiaceae: *Marrubium libanoticum*, *Phlomis chrysophylla*, *Stachys cretica*, *Stachys distans*; Rubiaceae: *Galium* sp.

Reported as highly polylectic by Müller (1996), Mavromoustakis (1955) also reported visits from Lebanon on *Calycotome* sp. (Fabaceae), *Lavandula stoechas* (Lamiaceae), and *Cirsium syriacum* (Asteraceae).

### **Genus *Stelis* Panzer, 1806**

Five species.

### ***Stelis (Pseudostelis) denticulata* Friese, 1899 \***

**Distribution: LEVANT:** Scattered records from the Levant (Kasperek 2015).

**Material examined.** N. Lebanon: Arz Tannourine, Reserve Outskirts, 1792 m, 1♀, 2♂, 13.VI.2017, det. Kasperek



M., leg. Boustani M., coll. MBOU.

**Flower record.** Plumbaginaceae: *Acantholimon libanoticum*.

***Stelis (Pseudostelis) minuta* Lepeletier & Audinet-Serville, 1825**

**Distribution:** WEST PALAEARCTIC: Central Europe (Ascher & Pickering 2021)

**Literature.** Kasperek (2015) distribution includes Lebanon.

Reported by Grace (2010) from Lebanon, Hezine. This locality name is probably a misspelling of Jezzine (S. Lebanon).

***Stelis (Stelidomorpha) nasuta* Latreille, 1809**

**Distribution:** WEST PALAEARCTIC: (Kasperek 2015, Ascher & Pickering 2021).

**Literature.** Mavromoustakis (1963): N. Lebanon: Near Becharre [Bcharre], 5.VII.1960, 1♀, 1♂; Kadisha river, 26.VI.1960, 1♀, 1♂; South Lebanon, Djezzine [Jezzine], 2.VI.1960, 2♀, all leg. & det. Mavromoustakis G.A.

***Stelis (Heterostelis) ruficornis* Morawitz, 1872**

**Distribution:** EAST MEDITERRANEAN: Greece, Turkey, Lebanon, Israel (Kasperek 2015, Ascher & Pickering 2021)

**Literature.** Reported from Lebanon by Kasperek (2015)

Under the synonym *Stelis ruficornis lebanensis* Mavromoustakis, 1962

South Lebanon, Djezzine [Jezzine], 2.VI.1953, 3♀, leg. & det. Mavromoustakis G.A.

**Material examined.** N. Lebanon: Donnieh nr. Qemmine (34°24'N 36°09'E) at 1600 m asl, 24.V.2012, 1♂, leg. & det. Kasperek M.

***Stelis (Protostelis) signata* Latreille, 1809**

**Distribution:** WEST PALAEARCTIC (Kasperek 2015, Ascher & Pickering 2021).

**Literature.** Under the synonym *Stelis signata* ssp. *eremica* Alfken, 1938. Reported from Lebanon by Kasperek (2015).

**Genus *Trachusa* Panzer, 1804**

One species.

***Trachusa (Archianthidium) verhoeffi* (Morawitz, 1872)**

*Anthidium pubescens verhoeffi* Mavromoustakis, 1954 (elevated to species rank by Kasperek 2018).

**Distribution:** EAST MEDITERRANEAN: Jordan, Palestine, Israel, Lebanon, Syria, South Turkey (Kasperek 2018).

**Literature.** Mavromoustakis (1954): Mount Lebanon: Baabdate, 24.V.1953, 1♂; S. Lebanon, Djezzine [Jezzin], 3.VI.1953, 2♂; all det. & leg. Mavromoustakis G.A.

Reported from Lebanon by Kasperek (2018): N. Lebanon, Donnieh: Sfiri, 808 m, 27.V.2012, det. & leg. Kasperek M.

**MEGACHILINI**

**Genus *Coelioxys* Latreille, 1809**

One species.

***Coelioxys (Mesocoelioxys) argenteus* Lepeletier, 1841 \***

**Distribution:** WEST PALAEARCTIC: Southern Europe, Centred around the Mediterranean except Egypt and Libya (Ascher & Pickering 2021).

**Material examined.** Mount Lebanon: Arz Al Barouk, 18.VI.1975, 1♂, det. Schwarz M., coll. AUB.

Notes: Friese (1895) reports the species from Syria, which could be located in current Lebanese territory.

## Genus *Megachile* Latreille, 1802

23 species.

All Examined Material determined by Praz C.

Floral preferences of the subgenera listed below seem to be focused on Fabaceae, Lamiaceae and Asteraceae (Praz 2017), a trend that we observe as well with the flower records listed below.

### *Megachile (Creightonella) albisecta* Klug, 1817 \*

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021)

**Material examined.** Mount Lebanon: Falouha, 17.VII.1975, 1♀., coll. AUB.

N. Lebanon: Hadath El Jebbe, Wadi Ain El Raha, 1633 m, 29.VI.2017, 1♂, leg. Boustani M.; Tannourine El Tahta, Wadi Ain El Raha, 1008 m, 19.VIII.2017, 1♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Carlina curetum* ssp. *orientalis*; Fabaceae: *Astragalus gummifer*.

Notes: Friese (1898) reports the species from Syria, could be located in current Lebanese territory.

### *Megachile (Chalicodoma) albonotata* Radoszkowski, 1886 \*

**Distribution:** PALAEARCTIC: North Mediterranean, Turkmenistan, Iran (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Hadath El Jebbe, Cedar Forest, 1639 m, 24.V.2017, 1♂, leg. Boustani M., coll. MBOU; Qanat, Qornet Dammouaa, 1231 m, 31.V.2017, 1♀, leg. Rasmont P., coll. PRAS; Fehta, El Biara, 1662 m, 28.VI.2017, 1♀, leg. Boustani M.; Harissa, El Jawar, 1738 m, 28.VI.2017, 1♀, leg. Boustani M.; Hadath El Jebbe, Wadi Al Fouar, 1553 m, 21.V.2018, 3♀, 2♂, leg. Boustani M.; Tannourine El Tahta, Wadi Al Fouar, 1187 m, 21.V.2018, 1♂, leg. Boustani M.; 1553 m, 22.V.2018, 1♀, leg. Boustani M.; 1♀, 22.V.2018, leg. Boustani M.; Fehta, El Biara, 1632 m, 23.VI.2018, 1♀, leg. Boustani M.; Bcharre, Forest of the Cedars of God, 1883 m, 4.VII.2018, 1♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Boraginaceae: *Echium italicum*; Fabaceae: *Lotus gebelia libanoticus*, *Vicia tenuifolia*.

### *Megachile (Eutricharaea) apicalis* Spinola, 1808 \*

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

Local distribution fig. 14. 12

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon, Monteverde, nr. Mansourieh, 350 m, 4.VI.1995, 1♀; 25.VI.1995, 1♂, det. Baker D., leg. Roche C.G.

**Material examined.** N. Lebanon: Arz Tannourine, 1747 m, 7.VI.2017, 1♂, leg. Boustani M., coll. MBOU. Additional 7♀ and 11♂ from 15 records collected between 21.VI.2017 and 19.VII.2018, from Tannourine El Tahta, Arz Tannourine, Harissa, Arz Bcharre, Fehta, and Hadath El Jebbe.

**Flower records.** Apiaceae: *Eryngium glomeratum*; Asteraceae: *Centaurea iberica*; *Echinops viscosus*, *Onopordum carduiforme*, *Picnomon acarna*; Caprifoliaceae: *Cephalaria setosa*, *Scabiosa argentea*; Fabaceae: *Medicago* sp.; Lamiaceae: *Stachys cretica*; Plumbaginaceae: *Acantholimon antilibanoticum*, *Acantholimon libanoticum*.

This species is reported to be polylectic with a preference for Carduae (Asteraceae) flowers (Müller & Bansac 2004) that we observe in the records above as well.

### *Megachile (Eutricharaea) burdigalensis* Benoist, 1940 \*

**Distribution:** WEST PALAEARCTIC: France, Slovenia, Croatia, Bosnia & Herzegovina, Armenia, Kazakhstan, Russia, Georgia (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Arz Tannourine, 1765 m, 22.VI.2017, 1♂, leg. Boustani M., coll. MBOU.

### *Megachile (Eutricharaea) inexpectata* Rebmann, 1968 \*

**Distribution:** WEST PALAEARCTIC: Eastern Mediterranean, Algeria (Ascher & Pickering 2021).

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon, Al Montazah, 11.IX.1994, 200 m, 1♂, det. Baker D., leg. Roche C.G.

**Material examined.** N. Lebanon: Fehta, El Biara, 1632 m, 18.VIII.2018, 1♀, leg. Boustani M., Jabbour J.

***Megachile (Creightonella) doriae* Magretti, 1890** (fig. 28.5)

**Distribution:** EAST MEDITERRANEAN (Ascher & Pickering 2021).

Local distribution fig. 14 .13

**Literature.** Magretti, 1890: Locus typicus, Mount Lebanon, Alei [Aley], 800 m, 4♀, 5♂.

**Material examined.** Mount Lebanon: Jabal Moussa Biosphere Reserve, 1404 m, 21.VIII.2018, 1♀, leg. Boustani M.; 1420 m, 21.VIII.2018, 1♀, 1♂, leg. Boustani M., Nemer N.; 1440 m, 21.VIII.2018, 1♀, leg. Boustani M.; 1441 m, 21.VIII.2018, 3♂, leg. Boustani M., all coll. MBOU.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 1187 m, 29.VI.2017, 1♂, leg. Boustani M.; Hadath El Jebbe, Wadi Ain El Raha, 1519 m, 28.VII.2017, 1♂, leg. Boustani M.; Tannourine El Tahta, Wadi Ain El Raha, 1187 m, 2.VIII.2017, 2♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Echinops gaillardotii*, *Echinops viscosus*.

***Megachile (Pseudomegachile) ericetorum* Lepeletier, 1841**

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

**Unpublished Records.** GBIF 2021: based on Dorchin & Praz (2018): N. Lebanon, Bcharre [Bcharre], 4.VII.1931, 1 specimen, sex unknown, leg. Zerny H.

**Literature.** Mavromoustakis (1963): Species mentioned in the listing of specimens collected in Bcharre Cedar Forest, summer of 1960.

**Material examined.** N Lebanon: Arz Bcharre, 1815 m, 22.VI.2017, 1♂, leg. Boustani M.; Bcharre, Reforestation Area, 1993 m, 27.VI.2017, 1♀, 1♂, leg. Boustani M.; Hadath El Jebbe, Wadi Ain El Raha, 1547 m, 29.VI.2017, 1♂, leg. Boustani M., Jabbour J.; Bcharre, Plateau Qornet Es Sawda, 2882 m, 12.VII.2018, 1♀, leg. Abi Khalil N, Boustani M., Jabbour J., Fakhry M.; Hadath El Jebbe, Wadi Al Fouar, 1553 m, 21.V.2018, 1♂, leg. Boustani M.; 1553 m, 28.VI.2018, 1♂, leg. Boustani M., Jabbour J.; Bcharre, Forest of the Cedars of God, 1883 m, 29.VI.2018, 1♂, leg. Boustani M., Jabbour J.; Hadath El Jebbe, Wadi Al Fouar, 1553 m, 19.VII.2018, 1♀, leg. Boustani M., Jabbour J., all coll. MBOU.

**Flower records.** Fabaceae: *Lotus gebelia* var *libanoticus*, *Ononis spinosa*.

Notes: Friese 1898: Mentioned from Syria, could be located in current Lebanese territory.

***Megachile (Eutricharaea) flabellipes* Pérez, 1895 \***

**Distribution:** WEST PALAEARCTIC: Southern Europe, Iran (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Arz Tannourine, 1792 m, 13.VII.2017, 1♂, leg. Boustani M.; 1781 m, 13.VII.2017, 1♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Dipsacaceae: *Cephalaria setosa*; Plumbaginaceae: *Acantholimon libanoticum*.

***Megachile (Pseudomegachile) foersteri* Gerstäcker, 1869**

= *Megachile marqueti* Pérez, 1897

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean (Ascher & Pickering 2021).

**Literature.** This taxon was described based on 2 specimens from Lebanon, Beirut, and one specimen labelled from Syria that could have been in current Lebanese territory (Pérez 1897).

**Material examined.** No Label, specimen from AUB collection, 1♀.

***Megachile (Eutricharaea) giraudi* Gerstäcker, 1869 \***

**Distribution:** PALAEARCTIC: Southern Europe, Near East, Uzbekistan (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 11.V.2017, 1♂, leg. Boustani M.; Arz Tannourine, 1714 m, 7.VI.2017, 1♂, leg. Boustani M.; Arz Bcharre, Reforestation Area, 1993 m, 27.VI.2017, 1♀, leg. Boustani M.; Arz Tannourine, 1754 m, 20.V.2018, 1♂, leg. Boustani M.; 8.VI.2018, 1♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Carduus argentatus*, *Centaurea eryngioides*; Fabaceae: *Lotus gebelia* var *libanoticus*.

***Megachile (Chalicodoma) hirsuta* Morawitz, 1893 \***

**Distribution:** PALAEARCTIC: Turkey, Israel, Uzbekistan, Tajikistan, Kyrgyzstan (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Arz Bcharre, Reforestation Area, 1936 m, 12.V.2017, 1♀, 1♂, leg. Boustani M.;

1967 m, 12.V.2017, 1♀, leg. Boustani M.; 1885 m, 12.V.2017, 4♀, leg. Boustani M.; Bcharre, Daher El Adib, 2441 m, 8.VI.2017, 2♀, 1♂, leg. Boustani M.; Bcharre, Reforestation Area, 2296 m, 27.VI.2017, 2♀, leg. Boustani M.; Bcharre, Plateau Qornet Es Sawda, 2882 m, 12.VII.2018, 2♀, 1♂, leg. Abi Khalil N, Boustani M., Jabbour J., Fakhry M.; Arz Bcharre, Reforestation Area, 1933 m, 18.IV.2018, 3♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Fabaceae: *Astragalus cruentiflorus*, *Onobrychis cornuta*.

***Megachile (Chalicodoma) hungarica* Mocsáry, 1877 \***

**Distribution:** EAST MEDITERRANEAN (Praz, pers. comm.).

**Material examined.** Beirut: AUB, 5.V.1984, 1♀, leg. Alice R., coll. AUB.

N. Lebanon: Fehta, Teleje, 2026 m, 14.VII.2017, 1♀, leg. Boustani M.; 2050 m, 14.VII.2017, 1♀, 1♂, leg. Boustani M. coll. MBOU.

S. Lebanon: Saidoun, El Mrouj, 24.VII.2017, 1♀, leg. Boustani M. coll. MBOU.

**Flower record.** Lamiaceae: *Phlomis brachyodon*.

***Megachile (Xanthosarus) lagopoda* (L., 1761)**

**Distribution:** PALAEARCTIC (Ascher & Pickering 2021).

**Literature.** Listed in Mavromoustakis (1956) as *Megachile lagopoda fulvohirta* Alfken, 1935, which can possibly be a distinct subspecies. Verification of type material is necessary in this case.

Mount Lebanon, Baabdate, 2♀, 1♂, 24.V.1953, det. & leg. Mavroumoustakis G.A.

***Megachile (Chalicodoma) monstifica* Morawitz, 1877**

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

Possibly conspecific with *M. manicata* (Praz, unpublished).

Mavromoustakis (1956): Listed under *M. monstifica* var. *lebanotica* Mavromoustakis, 1956

Bekaa: North of Ainata, 2200 m., 1♀, 1.VII.1953, det. Mavroumoustakis G.A., leg. Christiansen K.

***Megachile (Eutricharaea) leucomalla* Gerstäcker, 1869 \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 1187 m, 29.VI.2017, 1♂, leg. Boustani M., coll. MBOU.

**Flower record.** Astereaceae: *Echinops gaillardotii*.

***Megachile (Chalicodoma) manicata* Giraud, 1861 (fig. 20.4–5)**

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean (Ascher & Pickering 2021).

Local distribution fig. 14.14

**Literature.** Listed under *Megachile manicata* var. *hammanensis* Mavromoustakis, 1956

Mavromoustakis (1956) describes this variety from Lebanon with smaller size than *Megachile manicata*. He also reports that *M. manicata* “has the punctuation on anterior tergites somewhat finer than in my Lebanon females.”

Mount Lebanon: Hammana, 17.V.1953, 1♀; 16.V.1953, 1♀; Mount Lebanon, Jebel el Knaisse, 1♂, 18.V.1953;

Mount Lebanon, Brumanna, 11.V.1953, 2♂.

**Material examined.** Bekaa: Ainata, 1824 m, 30.V.2017, 1♀, leg. Boustani M., Rasmont P., coll. MBOU.

N. Lebanon: Arz Tannourine, 1800 m, 25.III.2002, 1♂, leg. Nemer N., coll. TCFNR; Horch Ehden, 1797 m, 4.V.2017, 1♀, leg. Boustani M., coll. MBOU. Additional 22♀ and 18♂ from 14 records, collected between 5.V.2017 and 9.VIII.2018 from Fehta, Hadath El Jebbe, Jord Tannourine, Bcharre, and Arz Tannourine.

**Flower records.** Fabaceae: *Astragalus angustifolius*, *Astragalus coluteoides*, *Astragalus cruentiflorus*, *Lotus gebelia libanoticus*, *Onobrychis cornuta*, *Vicia canescens*, *Vicia tenuifolia*; Lamiaceae: *Stachys ehrenbergii*.

Reported as having a preference for Fabaceae (Gogala 2014) that we also observe in the records above.

***Megachile (Chalicodoma) montenegrensis* Dours, 1873 \***

**Distribution:** PALAEARCTIC: Northern and eastern Mediterranean, Armenia, Azerbaijan, Iran, Afghanistan, Uzbekistan, Tajikistan, Algeria (Ascher & Pickering 2021).

Local distribution fig. 14.15

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 11.V.2017, 7♀, leg. Boustani M.,

coll. MBOU. Additional 30♀ and 10♂ from 17 records collected between 26.V.2017 and 23.VI.2018, from Fehta, Arz Tannourine, Tannourine El Tahta, Arz Bcharre, Harissa, and Hadath El Jebbe.

**Flower records.** Asteraceae: *Carduus argentatus*; Fabaceae: *Colutea cilicica*, *Lotus gebelia* var *libanoticus*, *Ononis natrix*, *Vicia tenuifolia*; Campanulaceae: *Michauxia campanuloides*; Lamiaceae: *Stachys distans*.

Reported as having a preference for Fabaceae (Praz 2017), as observed in the records above.

***Megachile (Chalicodoma) parietana* Geoffroy, 1785** (fig. 20.6, fig. 28.3)

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

Local distribution fig. 14.16

**Literature.** Mavroumoustakis (1956): Listed as *Megachile parietina nestorea* Brullé, 1832, as a form of *M. parietana* with an entirely black scopa.

Mount Lebanon, Hammana, 15.V.1953, 1♀, 1♂; 17.V.1953, 5♀, 4♂; Bekaa, Baalbeck, 25.V.1953, 1♀, 1♂, all det. & leg. Mavroumoustakis G.A.

**Material examined.** N. Lebanon: Bcharre, Daher El Adib, 2611 m, 20.VI.2016, 4♀, leg. Boustani M., coll. MBOU. Additional 25♀ and 3♂ from 16 records, collected between 4.V.2017 and 29.VII.2018, from Horch Ehden, Arz Bcharre, and Qanat.

S. Lebanon: Hlaliyeh, 29.V.1975, 1♀; Chhim, Khallat Chhim, 24.IV.1981, 1♂, all coll. AUB.

**Flower records.** Boraginaceae: *Echium italicum*; Fabaceae: *Astragalus angustifolius*, *Lotus gebelia* var *libanoticus*, *Onobrychis cornuta*; Lamiaceae: *Stachys ehrenbergii*; *Salvia multicaulis*.

Reported to visit mainly Fabaceae and Lamiaceae by Gogala (2014), both observed in our records as well.

***Megachile (Megachile) pilicrus* Morawitz, 1877 \***

**Distribution:** WEST PALAEARCTIC: Southern Europe and east to China (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 21.VI.2017, 1♂, leg. Boustani M.; Ehden, Ain Naasa, 1528 m, 2.VIII.2018, 1♂, leg. Boustani M.; Arz Tannourine, 1754 m, 16.VIII.2018, 1♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Centaurea pallescens*, *Centaurea* sp.

***Megachile (Eutricharaea) pilidens* Alfken, 1924 \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** Mount Lebanon: Jabal Moussa Biosphere Reserve, 1440 m, 21.VIII.2018, 1♂, leg. Boustani M., coll. MBOU.

N. Lebanon: Hadath El Jebbe, Wadi Ain El Raha, 1547 m, 29.VI.2017, 1♀, leg. Boustani M.; Arz Tannourine, 1798 m, 18.VII.2017, 1♀, leg. Boustani M.; Hadath El Jebbe, Wadi Ain El Raha, 1495 m, 28.VII.2017, 1♀, leg. Boustani M.; Tannourine El Tahta, Wadi Ain El Raha, 1200 m, 19.VIII.2017, 1♂, leg. Boustani M.; 1187 m, 21.V.2018, 1♀, leg. Boustani M.; Fehta, El Biara, 1632 m, 18.VII.2018, 1♀, leg. Boustani M., Jabbour J.; Hadath El Jebbe, Wadi Al Fouar, 1553 m, 19.VII.2018, 2♀, leg. Boustani M., Jabbour J.; Arz Tannourine, 1754 m, 18.VIII.2018, 1♀, leg. Boustani M., Jabbour J.; 1762 m, 18.VIII.2018, 1♀, 1♂, leg. Boustani M., Jabbour J.; Hadath El Jebbe, Cedar Forest, 1681 m, 22.VIII.2018, 1♂, leg. Boustani M., Jabbour J., all coll. MBOU.

**Flower records.** Apiaceae: *Eryngium glomeratum*; Asteraceae: *Echinops viscosus*; Caprifoliaceae: *Scabiosa argentea*; Fabaceae: *Ononis natrix*, *Ononis spinosa*.

***Megachile (Chalicodoma) pyrenaica* Lepelletier, 1841 \***

**Distribution:** PALAEARCTIC: Southern Europe, Turkey, west of the Caspian Sea, Tajikistan, Kazakhstan, Algeria, Israel (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Arz Bcharre, Reforestation Area, 1885 m, 12.V.2017, 1♂, leg. Boustani M.; Bcharre, Daher El Adib, 2437 m, 8.VI.2017, 1♂, leg. Boustani M.; Arz Bcharre, Reforestation Area, 2296 m, 27.VI.2017, 2♀, leg. Boustani M.; Bcharre, Plateau Qornet Es Sawda, 2882 m, 12.VII.2018, 4♀, 1♂, leg. Boustani M.; 2661 m, 9.VIII.2018, 1♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Fabaceae: *Onobrychis cornuta*; Lamiaceae: *Stachys ehrenbergii*.

***Megachile (Pseudomegachile) sanguinipes* Morawitz, 1875 \***

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean, Iran to Kyrgyzstan (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Hadath El Jebbe, Wadi Al Fouar, 1553 m, 19.VII.2018, 1♀, leg. Boustani M., Jabbour J., coll. MBOU.

**Flower record.** Fabaceae: *Ononis spinosa*.

***Megachile (Chalicodoma) sicula* Rossi, 1792 \***

**Distribution:** WEST PALAEARCTIC: Mediterranean basin (Ascher & Pickering 2021).

**Material examined.** S. Lebanon: Saidoun, El Mrouj, 30.IV.2017, 1♀; Saidoun, Joura, 18.III.2018, 1♂; Saidoun, Beehives, 25.III.2018, 1♂; all leg. Baghdadi A., coll. SOILS.

## APIDAE

All Material Examined determined by Terzo M.

Flower preferences have been little studied for *Xylocopa* and *Ceratina*, therefore few comparisons can be made with our observations.

## XYLOCOPINI

### **Genus *Xylocopa* Latreille, 1802**

Eight species

***Xylocopa (Copoxylla) iris* (Christ, 1791) (fig. 21.1)**

= *Xylocopa cyanescens* Brullé, 1832

**Distribution:** PALAEARCTIC: Mediterranean basin and Southern Europe, and further east to Tajikistan (Terzo & Rasmont 2014, Ascher & Pickering 2021).

Local distribution fig. 15.1

**Literature.** Maidl (1912): Listed under *Xylocopa cyanescens*

Beirut (labelled as Syria at time of the record), leg. Leuthner V, det. Maidl F.

**Material examined.** Bekaa: AUB Farm [Haush Sneid], IV.1979, 1♀, leg. Boghos D., coll. AUB.

Mount Lebanon: Bhamdoun, 1.V.1975, 1♂, coll. AUB; Jabal Moussa Biosphere Reserve, Peony Trail, 1440 m, 21.VIII.2018, 1♀, leg. Nemer N.; Marej Barja, Kaleet El Besten, 358 m, 26.IV.2019, 1♀, leg. Boustani M., all coll. MBOU; Al Barouk, Shouf Biosphere Reserve, 1690 m, 4.VII.2019, 1♂, leg. Van Achter X., coll. XVA.

N. Lebanon: Tannourine El Tahta, Wadi ain Al Raha, 1187 m, 2.VIII.2017, 1♀, leg. Boustani M.; Hadath El Jebbeh, Road to Wadi Al Fouar, 1553 m, 19.VII.2018, 1♂, leg. Boustani M., Jabbour J.; Hadath El Jebbeh, Al Fouar, 1529 m, 7.VI.2019, 1♂, leg. Boustani M., Mouawad G.; Tannourine El Tahta, Mar Boutros, 1207 m, 25.IV.2019, 1♀, leg. Boustani M.; 1182 m, 25.IV.2019, 1♀, leg. Rasmont P.; 1207 m, 5.V.2019, 2♂, 1♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Echinops gaillardotii*; Boraginaceae: *Anchusa hybrida*; Fabaceae: *Vicia tenuifolia*; Iridaceae: *Gladiolus segetum*; Lamiaceae: *Stachys distans*.

Terzo (2021) reports flower preferences for Asteraceae, Fabaceae and Lamiaceae, all three of which are found in our observations, he also reports a strong preference for *Eryngium campestre* (Apiaceae).

***Xylocopa (Proxylocopa) olivieri* Lapeletier, 1841 \* (fig. 21.2)**

= *Xylocopa hellenica* Spinola, 1843

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean to the western Caspian Sea, indicating two records from Lebanon detailed below (Terzo & Rasmont 2014).

Local distribution fig. 15.2

**Unpublished records.** GBIF 2021, SEMC:

listed under *Xylocopa hellenica* Spinola, 1843

S. Lebanon, Jezzine; 1♂, unknown collector and determiner.

**Material Examined.**

**BDFGM material.** ZSM: Beirut, No date, 1♂; N. Lebanon Becharre [Bcharre], V.1931, 1♂, leg. K/ZR.

**Author material.** Specimens with no labels or unreadable labels from AUB collection, 3♀, 1♂, coll. AUB.

Specimen labelled « J.E.B. » from AUB collection, 26.III.1981, 1♂.

Mount Lebanon: Bikfaya, 9.VI.1975, 1♀, coll. AUB; Jounieh, 12.VI.1984, 1♀, leg. Nahla B, coll. AUB.

N. Lebanon: Tannourine, Wadi Al Fouar, 1528 m, 17.VI.2016, 1♀, leg. Boustani M.; Tannourine Forest, 1784 m, 18.VI.2016, 1♂, leg. Kotan A.; Tannourine Forest, 1800 m, 5.VIII.2016, 1♀, leg. Kyrk S.; Hadath El Jebbe, Al Fouar, 1535 m, 30.V.2017, 3♂, leg. Boustani M., Rasmont P.; Hadath El Jebbe, Road to Wadi Al Fouar, 1553 m, 22.V.2018, 1♂, leg. Boustani M.; 1553 m, 6.VI.2018, 2♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Fabaceae: *Vicia tenuifolia*; Malvaceae: *Alcea apterocarpa*.

***Xylocopa (Ancylocopa) parviceps* Morawitz, 1895 \*** (fig. 21.3)

Males of the material examined for this species have both a white clypeus and clypeus without colouration. In his key, Warncke (1982) assigned both these forms to *X. parviceps*. In our case the specimens collected on the 28.V.2017 from the same locality had both forms flying at the same time. Further investigations are necessary to see if these two forms diverge in a significant manner.

**Distribution: PALAEARCTIC:** Iran, Afghanistan, Turkey (Terzo & Rasmont 2014) and further east to China (Ascher & Pickering 2021).

Local distribution fig. 15.3

**Material examined.** N. Lebanon: Donniah, 1200 m, 20.VI.2011, 1♂, leg. Kasperek M.; Bcharre, Dahr El Adib, 2611 m, 20.VI.2016, 1♀, leg. Boustani M.; Bcharre, Reforestation Area, 2174 m, 27.VI.2016, 1♀, leg. Boustani M.; Jord Tannourine, Jabal al Mnaitra, 2471 m, 28.V.2017, 23♂, leg. Boustani M., Rasmont P.; Bcharre, Qornet Es Sawda, 2863 m, 30.VI.2017, 2♂, leg. Boustani M.; Bcharre, Qornet Es Sawda, 2911 m, 21.VII.2017, 1♀, leg. Dayoub Y., all coll. MBOU.; Jord Tannourine, 2498 m, 26.VII.2018, 1♀, leg. Van Achter X.; Jord Tannourine, 2371 m, 9.VII.2019, 1♀, leg. Van Achter X., all coll. XVA.

**Flower records.** Asphodelaceae: *Asphodeline taurica*; Fabaceae: *Astragalus coluteoides*, *Onobrychis cornuta*, *Vicia canescens*; Lamiaceae: *Lamium striatum*.

***Xylocopa (Koptortosoma) pubescens* Spinola, 1838 \***

**Distribution: WEST PALAEARCTIC:** North Africa, north-eastern Mediterranean and east to Iran (Terzo & Rasmont 2014).

Local distribution fig. 15.4

**Material Examined.**

**BDFGM material.** Pauly 2013: One specimen from Beyrouth [Beirut], det. Pauly A., no date or collector details.

**Author material.** Specimens from USEK collection with no labels, 2♀.

Beirut: AUB Campus, 19.III.1960, 1♂, leg. Ibrahim, coll. AUB. Additional 26♀ and 18♂, from 13 records, collected between 7.VI.1978 and 26.VII.2019, from AUB Campus and Achrafieh.

Bekaa: AUB Farm [Hauch Sneid], 15.VI.1962, 1♂, leg. Yeganiantz L., coll. AUB. Additional 3♀ and 3♂ from 4 records collected between 1970 and 4.XI.2018, from AUB Farm and Anjar.

Mount Lebanon: Fanar, 9.IX.1969, 2♀, coll. USEK; Deirkoubel [Deir Qoubel], 10.XII.2004, coll. AUB, 1♂, leg. Ezzedine S., Merhbi K., coll. AUB; Jounieh, Kaslik, 28.IV.2017, 1♂, leg. Mhanna K., coll. USEK. Additional 4♀ and 13♂ from 5 records, collected between 26.VI.2019 and 5.VIII.2019, from Mansourieh, Sin El Fil and Kaslik (Jounieh).

**Flower records.** Asteraceae: *Echinops viscosus*; Fabaceae: *Parkinsonia aculeata*; Verbenaceae: *Duranta erecta*.

This species is found in coastal areas and the drier habitats in the Bekaa. It has been found mainly foraging on non-native decorative plants on the coastal area, in the few remaining urban gardens.

***Xylocopa (Proxylocopa) rufa* Friese, 1901 \***

**Distribution: WEST PALAEARCTIC:** Eastern Mediterranean to China (Terzo & Rasmont 2014, Ascher & Pickering 2021).

Local distribution fig. 15.5

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon: Monteverde, nr. Mansourieh, 350 m, 18.II.1996, 1♂, det. Baker, leg. Roche C.G.

**Material examined.** N. Lebanon: Bcharre, Wadi Quannoubine, 1129 m, 22.VI.2016, 1♀, leg. Boustani M.; Hadath El Jebbe, Chemin Wadi Ain El Raha, 1519 m, 28.VI.2017, 2♂, leg. Boustani M., all coll. MBOU; Tannourine El Tahta, Ain El Raha, Mar Yaacoub, 900 m, 27.VII.2018, 1♂, leg. Van Achter X., coll. XVA; Douma, 791 m, 1.VII.2019, 4♀, Gekière A., Ghisbain G., coll. UMONS.

S. Lebanon: Saidoun, El Mrouj, 13.V.2017, 2♂, leg. Baghdadi A., coll. SOILS.

**Flower records.** Asteraceae: *Echinops gaillardotii*; Fabaceae: *Ononis natrix*; Capparaceae: *Capparis spinosa*.

### *Xylocopa (Xylocopa) valga* Gerstaecker, 1872 \* (fig. 21.4, fig. 28.4)

**Distribution: WEST PALAEARCTIC:** Widespread in Europe and East of the Mediterranean basin to China, scattered records in N. Africa (Terzo & Rasmont 2014, Ascher & Pickering 2021).

Local distribution fig. 15.6

**Material examined.** Common and widespread.

Beirut: AUB Campus, 19.II.1989, 1♀, leg. Dolly - Shafik, 1♀, leg. Yeganiantz L., coll. AUB.

Bekaa: AUB Farm [Haush Sneid], 28.IV.1962, 1♀, leg. Bedirian K.; 27.V.1962, 1♀, leg. Khan A.R.; 28.V.1964, 1♀, leg. Attar W., coll. AUB; Ainata, 1824 m, 30.V.2017, 1♂, leg. Boustani M., Rasmont P., coll. MBOU.

Mount Lebanon: Chouf Caza, 16.VI.1964, 1♀, coll. USEK; Maaniyye, Dhour El Maaniyye, 324 m, 25.V.2019, 1♀, leg. Boustani M., coll. MBOU. Additional 1♀ and 3♂ from 3 records collected on 29.V.2019 and 7.VIII.2019 from Maaser Al Chouf.

N. Lebanon: Bcharre, Bcharre Jord, 2723 m, 24.VI.2016, 1♂, leg. Van Achter X., coll. XVA. Additional 39♀ and 41♂ from 42 records collected between 5.V.2017 and 31.VII.2019, from Tannourine El Tahta, Arz Bcharre, Jord Tannourine, and Harissa.

**Flower records.** Asphodelaceae: *Asphodeline taurica*; Asteraceae: *Cousinia libanotica*, *Echinops viscosus*; Boraginaceae: *Anchusa hybrida*, *Solenanthes stamineus*; Caprifoliaceae: *Cephalaria stellipilis*; Fabaceae: *Astragalus angustifolius*, *Colutea cilicica*, *Onobrychis cornuta*, *Vicia canescens*, *Vicia tenuifolia*; Lamiaceae: *Eremostachys laciniata*, *Phlomis chrysophylla*, *Salvia microstegia*, *Stachys ehrenbergii*, *Stachys cretica*.

Terzo (2021) reports the species as polylectic within Fabaceae and Lamiaceae, the preference for both these families is also observed in our records above with other families.

### *Xylocopa (Xylocopa) varentzowi* Morawitz, 1895 \*

**Distribution: PALAEARCTIC:** Eastern Mediterranean to Afghanistan (Terzo & Rasmont 2014, Ascher & Pickering 2021).

Local distribution fig. 15.7

**Material examined.** Mount Lebanon: Jabal Moussa Biosphere Reserve, Peony Trail, 1420 m, 21.VIII.2018, 1♀, leg. Boustani M., coll. MBOU; Al Barouk, Shouf Biosphere Reserve, 1678 m, 2.VII.2019, 1♀, leg. Van Achter X., coll. XVA.

N. Lebanon: Hadath El Jebbeh, Road to Wadi Al Fouar, 1553 m, 21.V.2018, 1♀, leg. Boustani M.; Arz Bcharre, Reforestation Area, 2345 m, 4.VII.2018, 1♀, leg. Abi Khalil N., Boustani M., Fakhry M.; 2311 m, 11.VII.2018, 4♂, leg. Abi Khalil N., Boustani M., Fakhry M.; 2345 m, 29.VII.2018, 2♀, leg. Boustani M.; Wadi Al Fouar, Tannourine El Tahta, 1504 m, 13.V.2019, 1♀, leg. Boustani M., all coll. MBOU; Forest of the Cedars of God, Forest Limit, 1873 m, 3.VII.2019, 1♂, leg. Ghisbain G., coll. UMONS; Arz Bcharre, Reforestation Area, 2216 m, 25.VII.2019, 1♀, leg. Boustani M., coll. MBOU; 31.VII.2019, 1♀, 1♂, leg. Van Achter X., coll. XVA.

**Flower records.** Asteraceae: *Carlina involucrata*; Lamiaceae: *Eremostachys laciniata*, *Phlomis viscosa*, *Salvia microstegia*, *Vicia tenuifolia*.

### *Xylocopa (Xylocopa) violacea* (L., 1758) \*

**Distribution: PALAEARCTIC:** Widespread across Europe, scattered records from North Africa and further east in the Mediterranean to Tajikistan. (Terzo & Rasmont 2014, Ascher & Pickering 2021).

Local distribution fig. 15.8

**Material examined.** Abundant and widespread.

Specimens with no label from AUB and USEK collection, 6♀.

Beirut: AUB Campus, 19.III, 1♂, leg. Mulugeta; AUB Campus, 5.V.1980, 2♀, 1♂ leg. Charles Z.; Kohar B., Alice



R., all coll. AUB.

Mount Lebanon: Fanar, V.1971, 1♀, leg. Traboulsi R., coll. USEK. Additional 19♀ and 7♂, from 21 records, collected between V.1986 and 7.VIII.2019 from Choueifat, Jbeil, Daraya, Mtein, Beit Chabab, Keserwan, Hboub, Beit Chabab, Mastita, Bakish, Gharzouz, Ehmej, Maaniye, Mansourieh, Maaser Al Chouf, and Barouk.

N. Lebanon: Horch Ehden, VI.2014, 1♀, leg. Boustani C., Boustani M., coll. MBOU. Additional 31♀ and 46♂ from 40 records, collected between 20.VI.2016 and 23.VIII.2019, from Arz Bcharre, Tannourine El Tahta, Jord Tannourine, Bcharre, and Horch Ehden.

S. Lebanon: Saida, IV, 1♀, leg. Chamaa O., coll. USEK; Saidoun, 25.III.2018, 1♀, leg. Baghdadi A., coll. SOILS.

**Flower records.** Asphodelaceae: *Asphodelus microcarpus*; Asteraceae: *Cousinia libanotica*, *Echinops gaillardotii*, *Echinops viscosus*, *Onopordum heteracanthum*, Boraginaceae: *Anchusa hybrida*, *Solenanthus stamineus*; Caprifoliaceae: *Cephalaria stellipilis*; Fabaceae: *Astragalus angustifolius*, *Colutea cilicica*, *Coronilla emeroides*; Lamiaceae: *Eremostachys laciniata*, *Phlomis chrysophylla*, *Salvia microstegia*, *Stachys cretica*, *Stachys ehrenbergii*; Malvaceae: *Alcea apterocarpa*; Rosaceae: *Cotoneaster* sp., *Prunus* sp.

Terzo (2021) reports a preference for Fabaceae and Lamiaceae, both observed in our records above along with other families.

## CERATINI

### Genus *Ceratina* Latreille, 1802

17 species.

#### *Ceratina (Euceratina) acuta* Friese, 1896 \*

**Distribution: WEST PALAEARCTIC:** Mainly Ponto-Mediterranean, spanning Southern Europe and east to Kazakhstan (Terzo & Rasmont 2011, Ascher & Pickering 2021).

Local distribution fig. 15.9

**Material examined.** Bekaa: Jord Aarsal, Howiyit Al Borj, 2008 m, 11.VII.2019, 2♀, leg. Boustani M.

Mount Lebanon: Shouf Biosphere Reserve, Barouk-Maaser dirt road, 1769 m, 16.V.2019, 1♀, 1♂, leg. Boustani M.

N. Lebanon: Harissa, Al Jawar, 1765 m, 28.VI.2017, 1♂, leg. Boustani M.; Hadath El Jebbe, Road to Wadi Ain El Raha, 1547 m, 29.VI.2017, 1♀, leg. Boustani M.; Arz Tannourine, 1792 m, 13.VII.2017, 1♀, leg. Boustani M.; Hadath El Jebbe, Border of the Cedar Forest, 1618 m, 28.VII.2017, 1♀, leg. Boustani M.; Forest of the Cedars of God, Forest Limit, 1897 m, 2.VII.2019, 1♀, 1♂, leg. Boustani M.; Arz Tannourine, Main Gate, 1794 m, 4.VII.2019, 1♀, leg. Boustani M., coll. MBOU; Tannourine El Fawka, Salon de l'église, 1244 m, 4.VII.2019, 1♀, leg. Ghisbain G., coll. UMONS; Fehta, El Biara, 1664 m, 25.VII.2019, 3♀, leg. Boustani M.; Hadath El Jebbe, Al Fouar, 1529 m, 25.VII.2019, 1♀, leg. Boustani M., Mouawad G.; Tannourine Reserve, Trail 4, 1781 m, 27.VII.2019, 1♀, leg. Boustani M.; Forest of the Cedars of God, Forest Limit, 1897 m, 20.VIII.2019, 1♀, leg. Boustani M.; Hadath El Jebbe, Al Fouar, 1529 m, 23.VIII.2019, 2♀, Boustani M., Mouawad G., all coll. MBOU.

**Flower records.** Apiaceae: *Eryngium billardieri*; Boraginaceae: *Cynoglossum nebrodense*; Caryophyllaceae: *Dianthus* cf. *strictus*; Caprifoliaceae: *Scabiosa argentea*; Fabaceae: *Alyssum* sp., *Ononis natrix*; Lamiaceae: *Marrubium* cf. *cuneatum*; *Sideritis libanotica*, *Stachys distans*; Plumbaginaceae: *Acantholimon libanoticum*; Rosaceae: *Rubus sanctus*.

Few data are available for this species pollen preferences in literature (Terzo 2011), but it seems to have a wide range including Dipsacaceae, Asteraceae and Lamiaceae.

#### *Ceratina (Neoceratina) bispinosa* Handlirsch, 1889 (fig. 21.5)

**Distribution: WEST PALAEARCTIC:** Northern and eastern Mediterranean basin north to Croatia (Terzo & Rasmont 2011, Ascher & Pickering 2021).

Local distribution fig. 15.10

#### **Unpublished records.**

GBIF 2021, SEMC:

Mount Lebanon: Monteverde, near Mansourieh, 350 m, 19.VIII.1994, 1♀, determiner unspecified; 14.VIII.1994,

1♀, det. Baker D.; 18.VIII.1994, 1♂, det. Baker D.; Monteverde, 350 m, 28.VIII.1994, 1♂, det. Baker D.; 13.VIII.1995, 1♀, determiner unspecified; 1♂, det. Baker D. all leg. Roche C.G.; Montazah, near Mansourieh, 250 m, 26.VI.1996, 1♀, 1♂, det. Baker D.; 1♀, 1♂, determiner unspecified.

#### Literature.

Friese (1899): Mount Lebanon, Brumana, 14.IV–8.V.1899, among specimens from other localities, det. Friese H, leg. Morice F., Schmiedeknecht O.

Friese (1901): Specimen from Beirut.

Notes: Mentioned from Lebanon (Grace 2010).

#### Material examined.

**BDFGM material.** MNHNP: Coll. Pérez J.; Wadi Brumana, 1915; MNHUB: Brumana, 30.IV.1899, 1♀, 3.V.1899, 1♂

#### Author material.

Mount Lebanon: Barouk, 1086 m, 12.VIII.2019, 1♀, leg. Boustani M., coll. MBOU.

N. Lebanon: Horch Ehden, X.2014, 1♀, leg. Boustani M., Boustani C.; Hadath El Jebbe, Chemin Wadi Ain el Raha, 1519 m, 29.VI.2017, 1♀, leg. Boustani M.; 1495 m, 28.VII.2017, 1♀, leg. Boustani M.; Tannourine El Tahta, Wadi Ain El Raha, 19.VIII.2017, 2♀, leg. Boustani M., all coll. MBOU; Tannourine El Tahta, Ain El Raha, 890 m, 5.VIII.2018, 1♀, leg. Van Achter X., coll. XVA; Horch Ehden, Nabeh Jouit, 1405 m, 13.IV.2019, 1♀, 1♂, leg. Boustani M.; Tannourine El Tahta, 942 m, 25.IV.2019, 1♂, leg. Rasmont P.; Tannourine El Tahta, Mar Boutrous, 1207 m, 31.V.2019, 2♀, leg. Boustani M.; 27.VI.2019, 4♀, leg. Boustani M., all coll. MBOU; Horch Ehden, 1686 m, 24.VII.2019, 1♂, leg. Van Achter X., coll. XVA; Tannourine El Tahta, Mar Boutrous, 1207 m, 25.VII.2019, 2♀, leg. Boustani M.; 1207 m, 23.VIII.2019, 3♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Apiaceae: *Aethionema coridifolium*; Asteraceae: *Carlina curetum* ssp. *orientalis*; Caprifoliaceae: *Cephalaria* cf. *joppensis*, *Cephalaria* sp., *Scabiosa* sp., *Scabiosa argentea*; Fabaceae: *Ononis natrix*, *Medicago* sp.; Lamiaceae: *Stachys distans*.

Terzo (2011) reports floral records from Asteraceae, Fabaceae, Dipsacaceae (species listed above now in Caprifoliaceae), Lamiaceae all of which are observed in our records above.

#### *Ceratina (Euceratina) chalcites* Germar, 1839 \*

**Distribution: WEST PALAEARCTIC:** Holo-Mediterranean minus North Africa, and further north-east to Russia (Terzo & Rasmont 2011, Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Al Fouar, 1187 m, 21.V.2018, 1♀, leg. Boustani M.; Tannourine El Tahta, Al Mahbase, 893 m, 31.V.2019, 1♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Centaurea iberica*; Malvaceae: *Alcea apterocarpa*.

#### *Ceratina (Euceratina) chalybea* Chevrier, 1872 \*

**Distribution: WEST PALAEARCTIC:** Holo-Mediterranean and some scattered records further north in Europe

**Material examined.** N. Lebanon: Qanat, Qornet Dammouaa, 1231 m, 22.VI.2017, 1♀, leg. Boustani M.; Hadath El Jebbeh, Border of Cedar Forest, 1681 m, 19.VII.2018, 1♀, leg. Boustani M., Jabbour J., all coll. MBOU; Horch Ehden, 1686 m, 14.VII.2019, 1♂, leg. Van Achter X.; 1625 m, 24.VII.2019, 1♀, leg. Van Achter X., all coll. XVA.

**Flower records.** Asteraceae: *Centaurea pallescens*; Boraginaceae: *Echium italicum*.

#### *Ceratina (Ceratina) cucurbitina* (Rossi, 1972)

**Distribution: WEST PALAEARCTIC:** Holo-Mediterranean and further north to central Germany (Terzo & Rasmont 2011).

Local distribution fig. 15.11

#### Unpublished records.

GBIF 2021, SEMC:

Mount Lebanon, Monteverde, near Mansourieh, 350 m, 24.IV.1995, 1♂; Zandouka, 750 m, 10.V.1995, 1♀, all det. Baker D., leg. Roche C.G.

**Literature.** Specimens collected in Bcharre Cedar Wood in summer of 1960 (Mavromoustakis, 1963).

#### Material examined.

**BDFGM material.** RBIN: Mount Lebanon, Nab'as Safa [Nabeh Al Safa], 1000 m, V.1966, 1♀, leg. Fagel G.; ZSM:

Mount Lebanon, Brumana, 7.VIII.1899, 1♀.

**Author material.** Mount Lebanon: Der El Kamar, 800 m, 29.V.2019, 1♀, leg. Boustani M. Souk el Ghareb, Balamand University, 839 m, 23.VII.2019, 1♀, leg. Boustani M.; Barouk, 1086 m, 12.VIII.2019, 1♀, leg. Boustani M.; Maaniyye, Dhour El Maaniyye, 324 m, 25.V.2019, 3♀, leg. Boustani M., all coll. MBOU.

N. Lebanon: Tannourine Forest, 1784 m, 18.VI.2016, 2♀, leg. Boustani M., coll. MBOU. Additional 11♀ and 17♂ from 13 records, collected between 18.IV.2017 and 23.VIII.2019, from Tannourine El Tahta, Horch Ehden, Hadath El Jebbe and Tannourine El Fawka.

**Flower records.** Apiaceae: *Eryngium glomeratum*, Asphodelaceae: *Asphodelus microcarpus*; Asteraceae: *Anthemis pauciloba*, *Carduus argentatus*; Boraginaceae: *Anchusa hybrida*, *Echium glomeratum*; Caprifoliaceae: *Cephalaria* sp., *Cephalaria* cf. *joppensis*, *Scabiosa argentea*, *Scabiosa* sp.; Fabaceae: *Vicia tenuifolia*; Hypericaceae: *Hypericum triquetrifolium*; Lamiaceae: *Nepeta curviflora*; Malvaceae: *Alcea apterocarpa*; Rosaceae: *Rubus sanctus*.

Species reported to be widely polylectic (Terzo 2011).

#### ***Ceratina (Euceratina) dallatorreana* Friese, 1896 \***

**Distribution: WEST PALAEARCTIC:** Holo-Mediterranean and extending to Central Asia (Terzo & Rasmont 2011, Ascher & Pickering 2021).

GBIF 2021, SEMC: Mount Lebanon, Al Montazah, near Mansourieh, 100 m, 11.V.1995, 1♀, det. Baker D., leg. Roche C.G.

**Material examined.** Mount Lebanon: Laqlouq, Matoube, 1738 m, 6.VII.2019, 1♀, leg. Boustani M.; Hadath El Jebbe, Border of the Cedar forest, 1646 m, 25.VII.2019, 1♀, leg. Boustani M., all coll. MBOU.

N. Lebanon: Arz Tannourine, Tannourine Forest Reserve Outskirts, 1792 m, 13.VII.2017, 1♀, leg. Boustani M.; Hadath El Jebbe, Border of the Cedar Forest, 1618 m, 28.VII.2017, 1♀, leg. Boustani M.; Tannourine El Tahta, Wadi Al Fouar, 1187 m, 28.VI.2018, 1♀, leg. Boustani M., Jabbour J.; 19.VII.2018, 1♀, leg. Boustani M., Jabbour J., all coll. MBOU.

**Flower records.** Asteraceae: *Centaurea pallescens*; Caprifoliaceae: *Scabiosa argentea*; Fabaceae: *Ononis natrix*; Plumbaginaceae: *Acantholimon libanoticum*.

#### ***Ceratina (Euceratina) denesi* Terzo, 1998 \***

**Distribution: EAST MEDITERRANEAN:** Previously known only from the holotype in Adana, Turkey (Terzo & Rasmont 2011).

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Al Fouar, 1187 m, 19.IV.2018, 2♂, leg. Boustani M., coll. MBOU.

**Flower record.** Asteraceae: *Carduus argentatus*.

#### ***Ceratina (Euceratina) dentiventris* Gerstaecker, 1869 \***

**Distribution: WEST PALAEARCTIC:** Holo-Mediterranean distribution, but scarce in the Maghreb (Terzo & Rasmont 2011, Ascher & Pickering 2021).

Local distribution fig. 15.12

**Material examined.** Bekaa: Hadath, 1441 m, 7.VII.2019, 2♂, leg. Boustani M., Ghisbain G., coll. MBOU, UMONS.

Mount Lebanon: Jabal Moussa Biosphere Reserve, Peony Trail, 1440 m, 21.VIII.2018, 1♂, leg. Boustani M.; Laqlouq, 1594 m, 6.VII.2019, 1♂, leg. Boustani M., coll. MBOU.

N. Lebanon: Tannourine El Tahta, Mar Boutrous, 1207 m, 27.VI.2019, 2♂, leg. Boustani M.

Arz Tannourine, Gate, 1796 m, 29.VI.2019, 1♀, leg. Boustani M., all coll. MBOU; Bcharre, 2042 m, 14.VII.2019, 1♂, leg. Van Achter X.; Horch Ehden, 1686 m, 14.VII.2019, 1♂, leg. Van Achter X.; 1625 m, 22.VII.2019, 1♀, leg. Van Achter X., all coll. XVA.

**Flower records.** Apiaceae: *Eryngium creticum*; Caprifoliaceae: *Scabiosa argentea*, *Scabiosa* sp.; Lamiaceae: *Stachys cretica*.

#### ***Ceratina (Euceratina) mandibularis* Friese, 1896**

**Distribution: WEST PALAEARCTIC:** Ponto-Mediterranean (Terzo & Rasmont 2011, Ascher & Pickering 2021).

Local distribution fig. 15.13

**Literature.**

Friese (1899): Specimens from Beirut, 28.IV.1899; Brumana, 30.V.1899.

Mentioned by Grace (2010)

**Unpublished records.**

GBIF 2021, SEMC:

Aley, Ain Es Sayde, 15.VIII.1994, 1♂, det. Baker D., leg. Roche C.G.; Mount Lebanon: Monteverde, 350 m, 19.VIII.1994, 1♀, determiner unknown; 28.VIII.1994, 1♀, det. Baker D.; 1♂, determiner unknown, all leg. Roche C.G.

Al Montazah, near Mansourieh, 100 m, 11.V.1995, 2♂, det. Baker D., leg. Roche C.G.

**Material examined.**

**BDFGM material.** MNHUB: Beyrouth [Beirut], date unknown, 1♀, leg. Schmiedeknecht O.; 1♂, leg. Jehmirdek; 1♂, leg. Friese H.; 28.IV.1899, 1♀, leg. Friese H.; Bekaa: Baalbeck, 27.IV.1934, 1♂, leg. Stich R.; OÖLM: Beyrouth [Beirut], date and collector unknown, 1♂; RBIN: Beyrouth [Beirut], date and collector unknown, 1♀; BMNH: Mount Lebanon: Brumana, 30.IV.1899, 1♀, leg. Saunders E.; N. Lebanon: Trablous [Tripoli], 8.VI.1944, 1♀, leg. Cott H.B.; MNHNP: Bekaa, Ksarah, 1913, 4♀, leg. Clainysanain G.; ZSM: Mount Lebanon, Brumana, 7.V.1919, 1♀; 7.VIII.1899, 1♀.

**Author material.** Mount Lebanon: Maaser Al Chouf, 1143 m, 29.V.2019, 1♀, 1♂, leg. Boustani M.; 1364 m, 29.V.2019, 1♂, leg. Boustani M.; Barouk, Hayy Mar Geryos, 1121 m, 12.VIII.2019, 1♂, leg. Boustani M.; Barouk, 1086 m, 12.VIII.2019, 3♀, 3♂, leg. Boustani M., all coll. MBOU.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 901 m, 11.IV.2017, 3♂, leg. Boustani M.; 900 m, 18.IV.2017, 4♂, leg. Boustani M.; Qadisha Valley, 950 m, 5.V.2017, 3♀, 1♂, leg. Nemeth T.; Tannourine El Tahta, Wadi Ain El Raha, 900 m, 11.V.2017, 2♀, leg. Boustani M.; Tannourine El Tahta, Malaa Al Nahrein, 958 m, 2.VIII.2017, 1♂, leg. Boustani M.; Tannourine El Tahta, Al Mahbase, 893 m, 25.IV.2019, 1♀, leg. Boustani M.; Tannourine El Tahta, Wadi Al Fouar, 1504 m, 13.V.2019, 1♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Anthemis pauciloba*, *Anthemis* sp., *Carduus argentatus*; Caprifoliaceae: *Cephalaria* cf. *joppensis*, *Cephalaria joppensis*; Convolvulaceae: *Convolvulus arvensis*; Lamiaceae: *Eremostachys laciniata*, *Stachys cretica*, *Stachys distans*.

***Ceratina (Euceratina) moricei* Friese, 1899**

**Distribution: WEST PALAEARCTIC:** Scattered in northern and eastern Mediterranean and Iran (Terzo & Rasmont 2011, Ascher & Pickering 2021).

**Literature.** Friese (1899): Listed under the description of a variety; *Ceratina laevifrons* var. *moricei*

Mount Lebanon, Brumana, 30.IV.1899, 1♂, det. Friese H., leg. Morice F.

**Material examined.**

**BDFGM material.** ZSM: Mount Lebanon, Brumana, 7.VIII.1899, 1♂.

**Author material.** N. Lebanon: Arz Tannourine, Tannourine Forest Reserve Outskirts, 1792 m, 13.VII.2017, 1♀, leg. Boustani M.; Hadath El Jebbeh, Border of the Cedar Forest, 1681 m, 22.VIII.2018, 1♀, leg. Boustani M., Jabbour J., all coll. MBOU.

**Flower record.** Apiaceae: *Eryngium glomeratum*; Plumbaginaceae: *Acantholimon libanoticum*.

***Ceratina (Euceratina) nigroaenea* Gerstaecker, 1869 \***

**Distribution: WEST PALAEARCTIC:** Northern and eastern Mediterranean (Terzo & Rasmont 2011).

**Unpublished records.**

GBIF 2021, SEMC:

Monteverde, near Mansourieh, 350 m, 7.VIII.1994, 2♀, determiner unknown; Monteverde, 350 m, 21.V.1995; 1♂, det Baker D., 1♂, determiner unknown; Monteverde, near Mansourieh, 350 m, 4.VI.1995, 1♀, determiner unknown; Mount Lebanon: Deir Koubel, near Choueifat, 300 m, 2.VII.1995, 1♀, determiner unknown, all leg. Roche C.G.; Monteverde, near Mansourieh, 350 m, 28.IV.1996, 1♀, determiner unknown, all leg. Roche C.G.

**Material examined.** Mount Lebanon: Laqlouq, 1738 m, 6.VII.2019, 1♀, 1♂, leg. Boustani M.

N. Lebanon: Tannourine Forest, 1784 m, 18.VI.2016, 1♂, leg. Boustani M.; Qadisha Valley, 950 m, 5.V.2017, 1♂, leg. Nemeth T.; Tannourine El Tahta, Wadi Ain El Raha, 900 m, 11.V.2017, 1♀, 1♂, leg. Boustani M.; 1036

m, 2.VIII.2017, 1♀, leg. Boustani M.; Tannourine El Tahta, Al Mahbase, 893 m, 31.V.2019, 1♀, leg. Boustani M.; Tannourine El Fawka, Salon de l'église, 1244 m, 4.VII.2019, 3♀, leg. Ghisbain G.; Tannourine El Tahta, Mar Boutrous, 1207 m, 25.VII.2019, 4♀, leg. Boustani M.; Arz Tannourine, Trail 4, 1781 m, 27.VII.2019, 1♀, leg. Boustani M.; Hadath El Jebbe, Al Fouar, 1529 m, 23.VIII.2019, 1♀, leg. Boustani M., Mouawad G., all coll. MBOU.

**Flower records.** Asteraceae: *Carduus argentatus*, *Centaurea iberica*, *Echinops gaillardotii*; Caprifoliaceae: *Scabiosa argentea*; Lamiaceae: *Stachys distans*; Rosaceae: *Rubus sanctus*.

***Ceratina (Euceratina) nigrolabiata* Friese, 1896 \***

**Distribution: WEST PALAEARCTIC:** Holo-Mediterranean, absent from Maghreb (Terzo & Rasmont 2011).

**Material examined.** N. Lebanon: Arz Tannourine, Trail 4, 1767 m, 7.VI.2017, 1♂, leg. Boustani M., coll. MBOU.

***Ceratina (Ceratina) parvula* Smith, 1854 \***

**Distribution: WEST PALAEARCTIC:** Holo-Mediterranean, mainly coastal areas (Terzo & Rasmont 2011).

GBIF 2021, SEMC: Mount Lebanon, Al Montazah, near Mansourieh, 250 m, 6.VI.1995, 1♀, det. Baker D., leg. Roche C.G.

**Material examined.** Mount Lebanon: Jabal Moussa Biosphere Reserve, Peony Trail, 1441 m, 21.VIII.2018, 1♀, leg. Boustani M., coll. MBOU.

**Flower record.** Caprifoliaceae: *Scabiosa argentea*.

***Ceratina (Euceratina) sakagamii* Terzo, 1998 \***

**Distribution: WEST PALAEARCTIC:** Turkey and Iran (Terzo & Rasmont 2011).

**Material examined.** N. Lebanon: Arz Tannourine, Gate Area, 1754 m, 6.VII.2019, 1♀, leg. Gekière A., coll. UMONS; Horch Ehden, 1625 m, 12.VII.2019, 1♀, leg. Van Achter X., coll. XVA.

**Flower record.** Caprifoliaceae: *Scabiosa* sp.

***Ceratina (Neoceratina) schwarzi* Kocourek, 1998 \***

**Distribution: WEST PALAEARCTIC:** Northern and eastern Mediterranean to Iran (Terzo & Rasmont 2011, Ascher & Pickering 2021).

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon: Monteverde, near Mansourieh, 350 m, 28.VIII.1994, 1♀; 13.VIII.1995, 1♀, 1♂, determiner unknown, leg. Roche C.G.

**Material examined.** Bekaa: Hadath, 1441 m, 7.VII.2019, 2♂, leg. Boustani M., coll. MBOU.

N. Lebanon: Hadath el Jebbeh, Chemin Wadi Ain El Raha, 1633 m, 29.VI.2017, 2♀, leg. Boustani M.; Arz Tannourine, Reserve Outskirts, 1792 m, 13.VII.2017, 1♀, leg. Boustani M.; Hadath El Jebbeh, Border of Cedar Forest, 1681 m, 19.VII.2018, 2♀, leg. Boustani M., Jabbour J.; Tannourine El Tahta, Mar Boutrous, 1207 m, 27.VI.2019, 1♀, leg. Boustani M., all coll. MBOU; Ehden, 1686 m, 31.VII.2019, 1♀, leg. Van Achter X.; Arz Tannourine, Gate Area, 1797 m, 9.VII.2019, 1♀, leg. Van Achter X., all coll. XVA; Hadath El Jebbe, Border of the Cedar forest, 1646 m, 25.VII.2019, 3♀, leg. Boustani M., coll. UMONS; Arz Tannourine, Gate Area, 1797 m, 31.VII.2019, 1♂, leg. Van Achter X., coll. XVA; Hadath El Jebbe, Al Fouar, 1529 m, 23.VIII.2019, 1♀, leg. Boustani M., Mouawad G.; Hadath El Jebbe, Border of the Cedar forest, 1646 m, 23.VIII.2019, 1♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Apiaceae: *Eryngium creticum*, *Eryngium glomeratum*; Fabaceae: *Medicago* sp.; Caryophyllaceae: *Dianthus strictus*; Plumbaginaceae: *Acantholimon libanoticum*; Ranunculaceae: *Consolida hohenackeri*.

***Ceratina (Euceratina) schwarziana* Terzo, 1998 \***

**Distribution: EAST MEDITERRANEAN:** Known only from Turkey (Terzo & Rasmont 2011, Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Hadath El Jebbeh, Road to Wadi Al Fouar, 1553 m, 19.VII.2018, 1♂, leg. Boustani M., Jabbour J., coll. MBOU.

**Flower record.** Caprifoliaceae: *Scabiosa argentea*.

***Ceratina (Euceratina) tibialis* Morawitz, 1895 \***

**Distribution: WEST PALAEARCTIC:** Eastern Mediterranean to Iran (Terzo & Rasmont 2011).

**Material examined.** Bekaa: Blaika, 1223 m, 3.VII.2019, 1♀, leg. Boustani M., coll. MBOU.

**Flower record.** Asteraceae: *Centaurea cf pallescens*.

## ALLODAPINI

### Genus *Exoneuridia* Cockerell, 1911

One species.

#### *Exoneuridia (Exoneuridia) libanensis* (Friese, 1899)

**Distribution:** LEVANT: Syria, Lebanon, and Palestine (Terzo & Rasmont 2011, Ascher & Pickering 2021).

Local distribution fig. 15.14

**Unpublished records.** GBIF 2021, SEMC:

Bekaa, Deir Mar Maroun, 700 m, 19.V.1996, 1♀, det. Baker D., leg. Roche C.G.

**Literature.** Friese (1899):

Mount Lebanon: Near Broumana, 1000 m, V. 1899, males and females type series.

**Material examined.**

**BDFGM material.** MNHNP: Mount Lebanon, Brumana, no date, 1♀, leg. Friese H.; 3.V.1899, 1♀, det. Terzo M.; Bekaa, Ksarah, 1913, 2♀, 1♂, leg. Claimpanain J.; MNHUB: Mount Lebanon: Brumana, 1897, 1♀, leg. Schmiedeknecht O.; 1.V.1899, 1 F, leg. Friese H.; 3.V.1899, 2♀, leg. Friese H.; Beit Meri, 1899, 1♀, leg. Friese H.; OÖLM: Mount Lebanon, Beit Meri, 1900, 1♀, leg. Friese H.; Zoological Institute, Academy of Sciences of the U.S.S.R., St. Petersburg, Leningrad, Russia: Mount Lebanon, Brumana, 3.V.1899, 1♀, leg. Friese H.

**Author material.** Bekaa: Jord Aarsal, Wadi Al Heeban, 2000 m, 11.VII.2019, 1♀, leg. Boustani M.

Mount Lebanon: Jabal Moussa Biosphere Reserve, Peony Trail, 1491 m, 21.VIII.2018, 1♀, leg. Boustani M.; Laqlouq, Matoubé, 1698 m, 6.VII.2019, 1♂, leg. Boustani M.; Jabal Moussa Biosphere Reserve, Trail Qornet El Der, 1368 m, 18.VII.2019, 1♀, leg. Boustani M., all coll. MBOU.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 5.V.2017, 1♀, leg. Boustani M.; Hadath El Jebbe, Chemin Wadi Ain El Raha, 1519 m, 18.VII.2017, 1♀, leg. Boustani M.; Arz Tannourine, Trail 1, 1798 m, 28.VII.2017, 3♀, 1♂, leg. Boustani M.; Tannourine El Tahta, Wadi Ain El Raha, 1008 m, 19.VIII.2017, 1♀, leg. Boustani M., all coll. MBOU; Arz Tannourine, Trail 1, 1799 m, 27.VII.2018, 1♀, leg. Van Achter X., coll. XVA; Arz Tannourine, Trail 4, 1781 m, 30.VI.2019, 1♀, leg. Boustani M., coll. MBOU; Horch Ehden, 1686 m, 24.VII.2019, 1♀, leg. Van Achter X., coll. XVA; Hadath El Jebbe, Al Fouar, 1529 m, 25.VII.2019, 2♀, leg. Boustani M., Mouawad G.; 23.VIII.2019, 1♀, 1♂, leg. Boustani M., Mouawad G., all coll. MBOU.

**Flower records.** Asteraceae: *Carduus argentatus*, *Carlina curetum* ssp. *orientalis*, *Centaurea* sp., *Echinops gaillardotii*, *Onopordum carduiforme*, *Onopordum* sp.; Caprifoliaceae: *Cephalaria setosa*, *Scabiosa argentea*; Hypericaceae: *Hypericum triquetrifolium*.

## ANCYLINI

### Genus *Ancyla* Lepeletier, 1841

Two species.

#### *Ancyla (Ancyla) asiatica* Friese, 1922

**Distribution:** WEST PALAEARCTIC: Scattered records in south-eastern Europe, northern and eastern Mediterranean and Caucasus (Rasmont & Dehon 2014).

**Literature.** Warncke (1979): Reported from Beirut, 1912.

#### *Ancyla (Ancyla) stollii* Friese, 1922

**Distribution:** WEST PALAEARCTIC: Scattered record in Levant and Iran (Rasmont & Dehon 2014).

**Literature.** Warncke (1979): Reported from Beirut, 1912.

## NOMADINI

### Genus *Nomada* Scopoli, 1770

16 species.

This understudied and taxonomically challenging genus in the southern part of the West Palaearctic is probably one of the most species rich genera present in Lebanon because of the high species richness of their principal hosts, the *Andrena*. Future thorough revision of Lebanese *Nomada* material is likely to substantially increase the number of species present. Based on the ratio of *Nomada* to *Andrena* in Portugal (3:5; Baldock *et al.* 2018, Wood *et al.* 2020b) and Morocco (2:5; Lhomme *et al.* 2020), we estimate a likely Lebanese species richness of between 34–52 species.

***Nomada (Nomada) babiysi* Schwarz and Standfuss, 2007 \***

**Distribution:** WEST PALAEARCTIC: Northern Mediterranean and South Eastern Europe (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Horch Ehden, 1686 m, 24.VII.2019, 1♀, det. Straka J., leg. Boustani M., coll. MBOU.

***Nomada (Nomada) basalis* Herrich-Schäffer, 1839 \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** South Lebanon: Bramiye El Tahta, 25.IV.1973, 1♀, det. Straka J., coll. AUB.

Notes: Mentioned from Lebanon (Scheuchl & Willner 2016) without record details.

***Nomada (Nomada) bispinosa* Mocsáry, 1883 \***

**Distribution:** PALAEARCTIC: Europe, Maghreb, and further east to Pakistan (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Horch Ehden, Ain El Naasa, 1560 m, 22.V.2019, 1♂, det. Straka J., leg. Boustani M., coll. MBOU.

**Flower record.** Fabaceae: *Coronilla emeroides*.

***Nomada (Nomada) distinguenda* Morawitz, 1874 \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Tannourine Wadi Al Fouar, 1528 m, 17.VI.2016, 1♀, det. Schwarz M., leg. Boustani M., coll. MBOU.

***Nomada (Nomada) fucata* Panzer, 1798 \***

**Distribution:** PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** Bekaa: AUB Farm [Haush Sneid], 26.VII.1971, 1♂, det. Straka J., leg. Habibi, coll. AUB; Der El Ahmar, 995 m, 3.VII.2019, 1♂, det. Straka J., leg. Ghisbain G., coll. UMONS.

**Flower record.** Asteraceae: *Centaurea cf pallescens*.

***Nomada (Nomada) fuscipennis* Lepelletier, 1841 \***

**Distribution:** WEST PALAEARCTIC: Morocco, Algeria (Ascher & Pickering 2021).

**Material examined.** Mount Lebanon: Daichouniyé, 133 m, 3.IV.2017, 1♂, det. Schwarz M., leg. Boustani M., coll. MBOU.

***Nomada (Nomada) integra* Brullé, 1832 \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** Bekaa: Kefraya, Horch El Kaser, 992 m, 9.IV.2019, 1♂, det. Straka J., leg. Boustani M., coll. MBOU.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 6.IV.2017, 1♂, det. Schwarz M., leg. Mourad A., Mourad A., coll. MBOU.

***Nomada (Nomada) israelis* Schwarz, Smit & Gusenleitner, 2018 \***

**Distribution:** LEVANT: Known only from Israel (Schwarz, Smit & Gusenleitner 2018).

**Material examined.** Bekaa: AUB Farm [Haush Sneid], 17.IV.1961, 1♂, det. Straka J., coll. AUB.

Mount Lebanon: Tourzaya, 19.IV.2018, det. Straka J., leg. Lahoud V., coll. USEK.

***Nomada (Nomada) lucidula* Schwarz, 1967 \*** (fig. 21.6)

**Distribution:** EAST MEDITERRANEAN: Albania, Bulgaria, Greece, Turkey, Israel (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

**Material examined.** Mount Lebanon: Maaser Al Chouf, 1364 m, 29.V.2019, 1♂, det. Straka J., leg. Boustani M., coll. MBOU.

N. Lebanon: Qadisha, Lebanon Mountain Trail, 910 m, 9.V.2017, 1♀, det. Schwarz M., leg. Boustani M.; Qadisha, Lebanon Mountain Trail, 936 m, 9.V.2017, 1♀, det. Schwarz M., leg. Boustani M., all coll. MBOU; Hadath El Jebbeh, Al Fouar, 1656 m, 29.V.2017, 1♀, det. Schwarz M., leg. Rasmont P. coll. PRAS; Tannourine El Tahta, Wadi al Fouar, 1187 m, 19.IV.2018, 1♂, det. Schwarz M., leg. Boustani M.; Hadath El Jebbeh, Road to Wadi Al Fouar, 1553 m, 6.VI.2018, 1♂, det. Schwarz M., leg. Boustani M., all coll. MBOU; Tannourine El Tahta, Mar Boutrous, 1207 m, 5.V.2019, 1♂, det. Straka J., leg. Boustani M., coll. MBOU; Hadath El Jebbe, Al Fouar, 1529 m, 31.V.2019, 1♀, det. Straka J., leg. Boustani M., coll. MBOU.; 7.VI.2019, 1♀, 1♂, det. Straka J., leg. Boustani M., Mouawad G., coll. MBOU.

**Flower records.** Asteraceae: *Carduus argentatus*; Fabaceae: *Trifolium purpureum*, *Vicia tenuifolia*; Lamiaceae: *Nepeta* sp., *Stachys cretica*.

***Nomada (Nomada) nobilis* Herrich-Schäffer, 1839 \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

**Material examined.** N. Lebanon: Arz Tannourine, Wadi El Fouar, 1553 m, 22.V.2018, 1♀, det. Straka J., leg. Van Achter X., coll. XVA.

**Flower record.** Lamiaceae: *Phlomis viscosa*.

***Nomada (Nomada) pallispinosa* Schwarz, 1967 \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 18.IV.2017, 1♀, det. Schwarz M., leg. Boustani M.; Tannourine El Tahta, Al Mahbase, 893 m, 25.IV.2019, 1♂, det. Straka J., leg. Boustani M., all coll. MBOU.

***Nomada (Nomada) propinqua* Schmiedeknecht, 1882 \***

**Distribution:** WEST PALAEARCTIC: Scattered records in Europe and East Mediterranean (Ascher & Pickering 2021).

**Material examined.** Bekaa: Kefraya, Horch El Kaser, 992 m, 9.IV.2019, 1♂, det. Straka J., leg. Boustani M., coll. MBOU.

***Nomada (Nomada) radoszkowskii* Lozinski, 1922 \*** (fig. 22.1)

**Distribution:** PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Ehden, Nabeh Jouit, 1336 m, 24.IV.2019, 1♂, det. Straka J., leg. Rasmont P., coll. PRAS.

**Flower record.** Asteraceae: *Taraxacum* sp.

***Nomada (Nomada) striata* Fabricius, 1793 \***

**Distribution:** PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Hadath El Jebbe, Al Fouar, 1529 m, 7.VI.2019, 1♂, leg. Boustani M., Mouawad G., coll. MBOU.

**Flower record.** Fabaceae: *Vicia tenuifolia*.

***Nomada (Nomada) trispinosa* Schmiedeknecht, 1882 \***

**Distribution:** PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** S. Lebanon: Saidoun, 3.III.2018, 1♂; Saidoun, Beehives, 17.III.2018, 1♂; Saidoun, 15.IV.2019, 1♂, all det. Straka J., leg. Baghdadi A., coll. SOILS.



***Nomada (Nomada) yermasoyiae* Schwarz, Smit & Gusenleitner, 2018**

**Distribution:** EAST MEDITERRANEAN (Schwarz, Smit & Gusenleitner 2018).

**Material examined.** Bekaa: Kefraya, Horch El Kaser, 992 m, 9.IV.2019, 1♀, det. Straka J., leg. Boustani M., coll. MBOU.

## AMMOBATINI

**Genus *Ammobates* Latreille, 1809**

Three species.

***Ammobates (Ammobates) latitarsis* Friese, 1899**

**Distribution:** EAST MEDITERRANEAN: Levant to eastern Iran (Ascher & Pickering 2021).

**Literature.** Mavromoustakis, 1963: S. Lebanon, Jezzine, 2.VI.1953, 2♂, leg. & det. Mavromoustakis G.A.

Mentioned by Warncke (1983) and Grace (2010) from Lebanon.

***Ammobates (Ammobates) oraniensis* (Lepelletier, 1841) \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

**Material examined.** N. Lebanon: Arz Tannourine, Reserve Outskirts, 1739 m, 7.VI.2017, 1♂, det. Dufrière E., leg. Boustani M.; Arz Tannourine, 1765 m, 22.VI.2017, 1♀, det. Dufrière E., leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Anthemis* sp.; Fabaceae: *Medicago* sp.

***Ammobates (Ammobates) punctatus* (Fabricius, 1804) \***

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

**Material examined.** N. Lebanon: Arz Tannourine, Reserve Outskirts, 1792 m, 13.VII.2017, 2♂, det. Straka J., all leg. Boustani M., coll. MBOU.

**Flower record.** Plumbaginaceae: *Acantholimon libanoticum*.

## EUCERINI

**Genus *Eucera* Scopoli, 1770**

34 species.

All material examined determined by Risch S.

This genus is undergoing revisions in the Levant (Dorchin *et al.* 2018, Dorchin 2019), and the species listed here probably represents two thirds of the true richness. Many collected specimens could not be listed below as they are assigned to currently undescribed or ambiguous taxa. *Synhalonia* is included in the list below as a sub-genus of *Eucera* following Dorchin *et al.* (2018). The challenging taxonomy of this genus has made it difficult to gather ecological data such as floral preferences, particularly in the female sex. *Eucera* subgenus *Eucera* seem to show a trend for Fabaceae specialization, but this requires further research. Other *Eucera* species show either specialization on other botanical families or clear polylecty (TJW unpublished data), but substantial work is required on this genus.

Because of the taxonomic uncertainty, in order to make sure that all distributions are up to date, all distributional information given has been confirmed by Risch S in addition to those presented by Ascher & Pickering 2021 and Kuhlmann *et al.* 2021, so no specific citation is mentioned after each species.

***Eucera (Heterucera) aeolopus* Pérez, 1911 \***

**Distribution:** EAST MEDITERRANEAN: Turkey, Iran, Syria, Jordan, Israel, Lebanon.

**Material examined.** N. Lebanon: Horch Ehden, 1534 m, 2.V.2017, 1♂, leg. Boustani M.; Arz Tannourine, 1766 m, 6.V.2017, 1♀, 2♂, leg. Boustani M.; 1799 m, 6.V.2017, 1♀, 2♂, leg. Boustani M.; 1739 m, 25.V.2017, 1♀, leg. Boustani M.; 1744 m, 7.VI.2017, 4♀, leg. Boustani M.; 1771 m, 22.VI.2017, 1♀, leg. Boustani M.; 1781

m, 13.VII.2017, 1♀, leg. Boustani M.; 1792 m, 13.VII.2017, 1♀, leg. Boustani M.; Fehta, El Biara, 1632 m, 14.IV.2018, 1♂, leg. Boustani M.; Arz Tannourine, 1754 m, 19.IV.2018, 1♂, leg. Boustani M.; Arz Tannourine, 1762 m, 24.IV.2018, 2♂, leg. Boustani M.; Fehta, El Biara, 1632 m, 24.IV.2018, 1♂, leg. Boustani M.; Arz Tannourine, Gate, 1796 m, 3.VI.2019, 6♀, leg. Boustani M.; Hadath El Jebbe, Border of the Cedar forest, 1632 m, 27.VI.2019, 1♀, leg. Boustani M.; Arz Tannourine, Gate, 1794 m, 4.VII.2019, 1♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Asparagaceae: *Bellevalia* sp.; Asteraceae: *Centaurea eryngioides*, *Serratula pusilla*; Boraginaceae: *Solenanthus stamineus*; Caprifoliaceae: *Cephalaria setosa*; Caryophyllaceae: *Dianthus strictus*; Fabaceae: *Medicago* sp.; Lamiaceae: *Phlomis brachyodon*, *Stachys cretica*; Plumbaginaceae: *Acantholimon libanoticum*; Rubiaceae: *Asperula arvensis*.

***Eucera (Pareucera) albofasciata* Friese, 1895 \***

**Distribution: WEST PALAEARCTIC:** North Africa, Italy, south-eastern Europe, Near East, and Caucasus to Central Asia.

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 18.IV.2017, 2♀, det. leg. Boustani M.; Arz Bcharre, 1914 m, 9.V.2017, 1♂, leg. Boustani M.; Tannourine El Tahta, Al Mahbase, 893 m, 12.IV.2019, 1♀; Tannourine El Tahta, Mar Boutrous, 1207 m, 12.IV.2019, 1♀; 5.V.2019, 1♀; Hadath El Jebbe, Al Fouar, 1529 m, 2♀; 31.V.2019, 1♀, all coll. MBOU.

**Flower records.** Boraginaceae: *Anchusa hybrida*, *Solenanthus stamineus*; Fabaceae: *Lathyrus* sp., *Vicia sericocarpa*, *Vicia tenuifolia*.

***Eucera (Synhalonia) alternans* (Brullé, 1832) \***

**Distribution: WEST PALAEARCTIC:** North Africa and Iberia to south-eastern Europe and Near East.

**Unpublished records.** GBIF 2021, SEMC: Bekaa, Deir Mar Maroun, 700 m, 19.V.1996, 1♀, det. Baker D., leg. Roche C.G.

**Material examined.** S. Lebanon: Saidoun, El Mrouj, 7.V.2017, 1♂, det. Risch S., leg., coll. SOILS.

***Eucera (Rhyteucera) caerulescens* Friese, 1899**

**Distribution: EAST MEDITERRANEAN:** Cyprus, Near East, Turkey, records from Libya to be confirmed (Risch, pers. comm, 2020)

**Literature.** Friese (1899): Mount Lebanon, Brumana (and from Mersina, Cyprus), 2–5.IV.1899, some males and females, det. Friese H., leg. Morice F.

**Material examined.** Bekaa: Kefraya, Horch El Kaser, 992 m, 9.IV.2019, 1♂, leg. Boustani M., coll. MBOU.

Mount Lebanon: Marj Barja, Terbe, 17.IV.2017, 2♀, leg. Boustani M.; Marej Barja, Kaleet El Besten, 358 m, 26.IV.2019, 1♀, 2♂, leg. Boustani M., all coll. MBOU.

N. Lebanon: Arz Tannourine, 1799 m, 6.V.2017, 1♀, leg. Boustani M.; 1800 m, 6.V.2017, 1♀, leg. Boustani M.; 1739 m, 7.VI.2017, 1♀, leg. Boustani M., all coll. MBOU.

**Flower record.** Fabaceae: *Hymenocarpus circinnatus*, *Trifolium* sp.; Geraniaceae: *Geranium* c.f. *rotundifolium*.

***Eucera (Agatheucera) cinnamomea* Alfken, 1935 \***

**Distribution: LEVANT:** Syria, Lebanon, Jordan, Israel.

**Material examined.** Mount Lebanon: Alay [Aley], 1.VI.1973, 1♀, coll. AUB.; Maaniye, Dhour El Maaniye, 324 m, 25.V.2019, 4♀; Maaser Al Chouf, 1143 m, 29.V.2019, 1♂, all leg. Boustani M., coll. MBOU.

S. Lebanon: Saidoun, El Mrouj, 29.IV.2017, 2♂, leg. Baghdadi A., coll. SOILS.

Flower records: Asteraceae: *Anthemis pauciloba*, *Cirsium* sp.

***Eucera (Stilbeucera) clypeata* Erichson, 1835 \***

**Distribution: WEST PALAEARCTIC:** North Africa, Europe to Central Asia.

**Material examined.** Mount Lebanon: Marj Barja, Terbe, 17.IV.2017, 1♂, leg. Boustani M., coll. MBOU.

N. Lebanon: South of Jairoun, 1648m, 23.V.2012, 2♀, leg. Kasperek M.; Donnieh, Sfiri, 245 m, 27.V.2012, 1♀, leg. Kasperek M.; Donnieh, Nemrud, 245 m, 28.V.2012, 1♀, leg. Kasperek M., all coll. OÖLM; Hadath El Jebbe, Wadi Al Fouar, 1553 m, 21.V.2018, 1♂, leg. Boustani M.; Hadath El Jebbe, Wadi Al Fouar, 1553 m, 6.VI.2018, 1♀, leg. Boustani M.; Tannourine El Tahta, Mar Boutrous, 1207 m, 31.V.2019, 1♀, leg. Boustani M.; Hadath El Jebbe, Al

Fouar, 1529 m, 7.VI.2019, 2♀, leg. Boustani M., Mouawad G.; 27.VI.2019, 1♀, leg. Boustani M., Mouawad G., all coll. MBOU.

**Flower records.** Fabaceae: *Lotus gebelia libanoticus*, *Vicia tenuifolia*; Lamiaceae: *Phlomis chrysophylla*.; Malvaceae: *Alcea apterocarpa*.

***Eucera (Eucera) cypria* Alfken, 1933 \*** (fig. 22.2)

**Distribution:** EAST MEDITERRANEAN: Cyprus, East Aegean Island to Iran and Israel.

Local distribution fig. 15.15

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon: Monteverde, nr Mansourieh, 350 m, 28.IV.1996, 1♀, det. Baker D., leg. Roche C.G.

**Material examined.** Bekaa: Qaraoun, 792 m, 24.III.2013, 5♂, leg. Kasperek M., coll. OÖLM.

Mount Lebanon: Beit Meri, 19.IV.0000, 1♀, leg. Manassah R.; Fanar, 11.III.1965, 1♀, 2♂; Locality Unknown, 11.IV.1975, 2♀, 1♂., all coll. USEK; Daychounieh, Nahr Beirut Climbing Site, 133 m, 3.IV.2017, 6♀, 5♂, leg. Boustani M.; 27.IV.2017, 1♂, leg. Boustani M., all coll. MBOU; Falougha, 1478 m, 27.IV.2019, 2♂, leg. Boustani M., coll. PRAS.

N. Lebanon: Hadath El Jebbe, Wadi Al Fouar, 1553 m, 4.III.2018, 1♀, 1♂, leg. Boustani M., coll. MBOU. Additional 23♀ and 21♂, from 18 records, collected between 24.III.2017 and 11.V.2019, from Tannourine El Tahta, Arz Tannourine, Fehta, and Hadath El Jebbe.

S. Lebanon: Hlaliyeh, 11.IV.1975, 1♂; Saidoun, El Mrouj, 26.III.2017, 1♀, leg. Baghdadi A.; Saidoun, Lavender Garden, 4.III.2018, 2♂, leg. Baghdadi A.; Saidoun, 5.III.2018, 1♂, leg. Baghdadi A.; 24.III.2019, 1♂, leg. Baghdadi A., all coll. SOILS.

**Flower records.** Boraginaceae: *Anchusa hybrida*, *Solenanthus stamineus*; Fabaceae: *Vicia narbonensis*, *Vicia sericocarpa*; Lamiaceae: *Lavandula x intermedia*.

***Eucera (Eucera) dalmatica* Lepeletier, 1841 \***

**Distribution:** WEST PALAEARCTIC: East Mediterranean, Near East, Turkey, SE Europe to SE France, S Spain.

**Material examined.** Bekaa: Der El Ahmar, 995 m, 3.VII.2019, 2♀, leg. Boustani M.

Mount Lebanon: Bhmadoun, 23.V.1981, 1♂, leg. Mireille K., coll. AUB.

N. Lebanon: Qanat, Qornet Dammouaa, 1231 m, 31.V.2017, 1♀, leg. Rasmont P., coll. PRAS.; Arz Bcharre, Reforestation Area, 1973 m, 2.VII.2019, 1♀, leg. Boustani M., coll. MBOU; Qanat, Qornet Dammouaa, 1197 m, 5.VII.2019, 1♀, leg. Van Achter X., coll. XVA.

**Flower records.** Boraginaceae: *Echium italicum*, *Vicia tenuifolia*.

***Eucera (Heteuercera) ebmeri* Risch, 1999 \***

**Distribution:** EAST MEDITERRANEAN: East Aegean Islands to Turkey, Jordan and Israel.

**Material examined.** Mount Lebanon: Marej Barja, Terbe, 442 m, 24.III.2019, 1♀, leg. Boustani M., coll. MBOU.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 24.III.2017, 4♂; 18.IV.2017, 2♀; Tannourine El Tahta, Al Mahbase, 893 m, 12.IV.2019, 1♂, all leg. Boustani M., all coll. MBOU.

S. Lebanon: Saidoun, 3.III.2018, 1♂, leg. Baghdadi A., coll. SOILS.

**Flower records.** Fabaceae: *Trifolium clypeatum*, *Vicia sericocarpa*.

***Eucera (Pileteucera) fasciata* Risch, 1999 \***

**Distribution:** WEST PALAEARCTIC: Eastern Mediterranean, SE Europe to Iran and Israel.

**Material examined.** Bekaa: Ainata, 1556 m, 30.V.2017, 2♂, leg. Boustani M., Rasmont P.

N. Lebanon: Hadath El Jebbe, Cedar Forest, 1639 m, 1♂, leg. Boustani M., all coll. MBOU.

**Flower record.** Asteraceae: *Serratula pusilla*.

***Eucera (Atopeucera) friesei* Risch, 2003 \***

**Distribution:** EAST MEDITERRANEAN: south-eastern Turkey, Syria Jordan Israel.

**Material examined.** Bekaa: Qaraoun, 792 m, 24.III.2013, 1♂, leg. Kasperek M., coll. OÖLM.

S. Lebanon: Saidoun, 3.III.2018, 1♂, leg. Baghdadi A., coll. SOILS.

***Eucera (Atopeucera) gaullei* Vachal, 1907 \***

**Distribution:** EAST MEDITERRANEAN: Eastern Mediterranean; Cyprus, SE Turkey to Iran and Israel.

Local distribution fig. 15.16

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon, Brumana, 11.V.1953, 1♀, determiner unspecified, leg. Mavromoustakis G.A.

S. Lebanon: Liba'a [Lebaa], 1♀, det. Baker D.

**Material examined.** Locality Unknown, 11.IV.1975, 1♂; 21.V.1966, 1♀; No date and locality, 1♂, all coll. AUB.

Beirut: American University of Beirut, 2.III.1980, 1♀, leg. Baran S., coll. AUB.

Bekaa: Qaraoun, 792 m, 24.III.2013, 2♂, leg. Kasperek M., coll. OÖLM; Ainata, 1556 m, 30.V.2017, 3♀, leg. Rasmont P., coll. PRAS.

Mount Lebanon: Bhamdoun, 1.V.1975, 1♀., coll. AUB.; Shouf Biosphere Reserve, Horch El Baoruk, 1678 m, 2.VII.2019, 1♀; 1690 m, 4.VII.2019, 1♀, all leg. Van Achter X., coll. XVA.

N. Lebanon: Jord Ehden, 1629 m, 4.V.2017, 1♂, leg. Kotan A.; Fehta, 1715 m, 5.V.2017, 1♂, leg. Boustani M.; Hadath El Jebbe, Cedar Forest, 1639 m, 5.V.2017, 2♂, leg. Boustani M.; Hadath El Jebbe, Al Fouar, 1656 m, 24.V.2017, 1♀, leg. Rasmont P.; Hadath El Jebbe, Cedar Forest, 1639 m, 24.V.2017, 2♀, 2♂, leg. Boustani M.; 29.V.2017, 1♀, leg. Boustani M.; Fehta, El Biara, 1632 m, 14.IV.2018, 1♂, leg. Boustani M.; Arz Bcharre, 1883 m, 18.IV.2018, 2♂, leg. Boustani M.; Arz Tannourine, 1754 m, 19.IV.2018, 1♂, leg. Boustani M.; Hadath El Jebbe, Cedar Forest, 1681 m, 19.IV.2018, 2♂, leg. Boustani M.; Tannourine El Tahta, Mar Boutrous, 1207 m, 5.V.2019, 1♂, leg. Boustani M.; Arz Tannourine, Gate, 1796 m, 11.V.2019, 1♂; 1800 m, 13.V.2019, 2♂, leg. Boustani M.; Fehta, El Biara, 1664 m, 1♀; leg. Boustani M., all coll. MBOU; Arz Tannourine, Gate Area, 1754 m, 6.VII.2019, 1♀, leg. Gekièrè A., coll. UMONS.

**Flower records.** Asparagaceae: *Bellevalia flexuosa*; Boraginaceae: *Solenanthes stamineus*; Fabaceae: *Trifolium tomentosum*, *Vicia sericocarpa*, *Vicia tenuifolia*; Geraniaceae: *Geranium libanoticum*; Lamiaceae: *Salvia multicaulis*.

***Eucera (Heterucera) helvola* Klug, 1845**

**Distribution:** WEST PALAEARCTIC: Near East, Turkey, south-eastern Europe.

Local distribution fig. 16.1

**Unpublished records.** GBIF 2021, SEMC: S. Lebanon: Djezzine [Jezzine], 2.VI.1953, 2♀, det. Baker D., leg. Mavromoustakis G.A.

These could be additional specimens to the ones already reported in literature (see below) by Mavromoustakis (1963).

**Literature.** Mavromoustakis (1963):

Mount Lebanon: Baabdate, 25.V.1953, 1♀, 3♂, leg. & det. Mavromoustakis G.A.

S. Lebanon: Jezzine, 2.VI.1953, 6♀, 3♂, leg. & det. Mavromoustakis G.A.

**Material examined.** Mount Lebanon: Maaser Al Chouf, 1364 m, 29.V.2019, 4♂, leg. Boustani M., coll. Boustani M.

N. Lebanon: Donnieh, Wadi Cehennem, 23.V.2012, 1♂, leg. Kasperek M.; Donnieh, Wadi Cehennem, 30.V.2012, 1♂, leg. Kasperek M., all coll. OÖLM.; Qadisha Valley, 950 m, 5.V.2017, 1♂, leg. Nemet T.; Hadath El Jebbe, Al Fouar, 1656 m, 24.V.2017, 2♂, leg. Boustani M., all coll. MBOU. Additional 19♀ and 82♂ from 29 records, collected between 24.V.2017 and 6.VII.2019, from Hadath El Jebbe, Arz Tannourine, Fehta, Harissa, Horch Ehden, and Arz Bcharre.

S. Lebanon: Saidoun, 23.VI.2018, 1♀, leg. Baghdadi A., coll. SOILS.

**Flower records.** Boraginaceae: *Anchusa italica*; Fabaceae: *Vicia tenuifolia*, *Vicia villosa*; Geraniaceae: *Geranium* sp.; Hypericaceae: *Hypericum scabrum*; Lamiaceae: *Salvia fruticosa*, *Stachys cretica*.

***Eucera (Atopeucera) hermoni* Risch, 2003 \***

**Distribution:** LEVANT: Syria, Israel, Jordan.

**Material examined.** Mount Lebanon: Maaser Al Chouf, 1364 m, 29.V.2019, 1♀, leg. Boustani M., coll. MBOU.

N. Lebanon: Arz Bcharre, 9.V.2017, 1914 m, 1♀; Arz Tannourine, 1744 m, 7.VI.2017, 1♀; Hadath El Jebbe, Wadi Ain El Raha, 1519 m, 29.VI.2017, 2♀; Arz Tannourine, 1762 m, 24.IV.2018, 1♂; Hadath El Jebbe, Cedar Forest, 1681 m, 28.VI.2018, 1♀; Hadath El Jebbe, Wadi Al Fouar, 1553 m, 28.VI.2018, 1♀; Hadath El Jebbe, Al Fouar,

5.V.2019, 1529 m, 1♂; 31.V.2019, 1♀; 7.VI.2019, 2♀, all leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Centaurea eryngioides*; Boraginaceae: *Solenanthes stamineus*; Fabaceae: *Medicago* sp., *Ononis natrix*, *Vicia tenuifolia*.

***Eucera (Synhalonia) hungarica* Friese, 1896 \***

**Distribution: WEST PALAEARCTIC:** Spain, Central, Eastern and south-eastern Europe, Turkey, and the Near East to Central Asia.

**Material examined.** N Lebanon: Arz Bcharre, Reforestation Area, 1975 m, 27.V.2017, 5♂, leg. Boustani M., Rasmont P.; 1993 m, 27.VI.2017, 1♀, leg. Boustani M.; Arz Bcharre, Forest Limit, 1873 m, 5.VI.2019, 2♂, leg. Boustani M., all coll. MBOU.; 3.VII.2019, 1873 m, 2♀, leg. Ghisbain G., coll. UMONS.

**Flower records.** Boraginaceae: *Anchusa italica*; Ixioliriaceae: *Ixiolirion tataricum*; Fabaceae: *Vicia tenuifolia*; Lamiaceae: *Salvia microstegia*.

***Eucera (Eucera) interrupta* Baer, 1850 \***

**Distribution: WEST PALAEARCTIC:** Europe, Turkey, Near East.

Local distribution fig. 16.2

**Material examined.** Bekaa: AUB Farm [Haush Sneid], 1.VI.1980, 1♀, leg. Kuri W., coll. AUB; Der El Ahmar, 989 m, 3.VII.2019, 1♀; Hadath, Army Checkpoint, 1610 m, 7.VII.2019, 1♀, all leg. Gekièrè A., coll. UMONS.

Mount Lebanon: Maaser Al Chouf, 1364 m, 2♂, leg. Boustani M., coll. MBOU; 29.V.2019, Akoura, 1287 m, 30.VI.2019, 1♀, leg. Ghisbain G., coll. UMONS.

N. Lebanon: Donnieh, Wadi Cehennem oberth. Quemmmamine, 1393 m, 23.V.2012, 3♀, leg. Kasperek M.; South of Jairoun, 1648 m, 23.V.2012, 1♂, leg. Kasperek M.; Donnieh, Wadi Cehennem, 1600 m, 23.V.2012, 1♀, 1♂, leg. Kasperek M.; Donnieh, Wadi Cehennem, 924 m, 30.V.2012, 1♀, leg. Kasperek M., all coll. OÖLM; Hadath El Jebbe, Al Fouar, 1535 m, 24.V.2017, 1♂, leg. Boustani M., Rasmont P.; Fehta, El Biara, 1662 m, 26.V.2017, 1♂, leg. Boustani M.; Harissa, Al Jawar, 1738 m, 26.V.2017, 1♂, leg. Boustani M.; Horch Ehden, Ain El Bayda, 1691 m, 31.V.2017, 1♀, leg. Boustani M.; Bcharre, Forest of the Cedars of God, 1815 m, 22.VI.2017, 1♀, leg. Boustani M.; Arz Tannourine, 1762 m, 21.V.2018, 1♀, 7♂, leg. Boustani M.; Hadath El Jebbe, Al Fouar, 1553 m, 21.V.2018, 1♂, leg. Boustani M., all coll. MBOU. Additional 32♀ and 33♂ collected between 31.V.2019 and 6.VII.2019 from Bcharre, Arz Tannourine, Arz Bcharre, Fehta, and Hadath El Jebbe.

**Flower records.** Asteraceae: *Centaurea cf pallescens*; Boraginaceae: *Anchusa italica*; Fabaceae: *Ononis natrix*, *Vicia tenuifolia*, *Vicia villosa*; Lamiaceae: *Stachys cretica*.

***Eucera (Rhyteucera) laxiscopa* Alfken, 1935 \***

**Distribution: EAST MEDITERRANEAN:** Cyprus and East Aegean Islands to Iran and Israel.

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon: Salima, 800 m, 29.IV.1996, 1♀, det. Baker D., leg. Roche C.G.

**Material examined.** Bekaa: AUB Farm [Haush Sneid], 28.III.1961, 1♂, AUB Farm [Haush Sneid], 28.IV.1961, 1♂, all coll. AUB; Qaraoun, 24.III.2013, 1♀, leg. Kasperek M., coll. OÖLM.; Kefraya, Tahet El Ras, 969 m, 9.IV.2019, 1♂, leg. Boustani M., coll. MBOU.

South Lebanon: Saidoun, El Mrouj, 30.IV.2017, 1♀, leg. Baghdadi A., coll. SOILS.

***Eucera (Eucera) longicornis* (L., 1758) ssp. *atricollis* Friese, 1922 \* (fig. 22.3)**

**Distribution: PALAEARCTIC:** Europe to East Asia

**Distribution of *Eucera longicornis atricollis*:** EAST MEDITERRANEAN: Near East, Turkey, SE Europe (Risch, pers. comm, 2020).

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Al Fouar, 1187 m, 19.IV.2018, 2♀, leg. Boustani M.; Hadath El Jebbe, Al Fouar, 1535 m, 30.V.2017, 1♂, leg. Boustani M., Rasmont P., all coll. MBOU; Tourzaya [probably referring to Tourza], 19.IV.2018, 1♂, leg. Lahoud V.; Tannourine El Tahta, Wadi Al Fouar, 1187 m, 25.IV.2018, 1♀, leg. Boustani M.; Arz Tannourine, Trail 4, 1781 m, 13.V.2019, 1♀; Hadath El Jebbe, Al Fouar, 1529 m, 31.V.2019, 1♂; 7.VI.2019, 4♀, 6♂, leg. Boustani M., Mouawad G., all coll. MBOU.

**Flower records.** Boraginaceae: *Solenanthes stamineus*; Fabaceae: *Colutea cilicica*; *Vicia tenuifolia*.

***Eucera (Pteneucera) nigrifacies* Lepeletier, 1841 \***

**Distribution:** WEST PALAEARCTIC: North Africa and Spain to Near East and Western Asia.

Local distribution fig. 16.3

**Material examined.** Mount Lebanon: Chebaniyeh, 24.IV.1975, 1♂, coll. AUB.; Bourj Hammoud, 15.X.2018, 1♂, leg. Alalm, Debedrossian, Sujud, coll. USEK.

N. Lebanon: South of Jairoun, 1648 m, 23.V.2012, 3♂, leg. Kasperek M., coll. OÖLM; Arz Tannourine, 1794 m, 6.V.2017, 1♂, leg. Boustani M.; 1766 m, 6.V.2017, 1♂, leg. Boustani M.; 1794 m, 6.V.2017, 1♂M, leg. Boustani M.; 1800 m, 6.V.2017, 1♂, leg. Boustani M.; Tannourine El Tahta, Wadi Ain El Raha, 900 m, 11.V.2017, 1♀, leg. Boustani M.; Arz Tannourine, 1762 m, 21.V.2018, 1♂, leg. Boustani M., all coll. MBOU.; Arz Bcharre, 1975 m, 27.V.2017, 1♀, 1♂, leg. Boustani M., Rasmont P.; 1883 m, 29.VI.2018, 1♀, leg. Boustani M., Jabbour J.; Arz Tannourine, Trail 4, 1781 m, 3.VI.2019, 1♂; Arz Bcharre, Forest Limit, 1873 m, 2.VII.2019, 2♂, all leg. Boustani M., all coll. MBOU.

**Flower records.** Asteraceae: *Carduus argentatus*, *Crepis* sp., *Scorzonera* sp.; Boraginaceae: *Solenanthus stamineus*; Ixioliriaceae: *Ixiolirion tataricum*; Geraniaceae: *Geranium* sp.; Papaveraceae: *Glaucium leiocarpum*; Rubiaceae: *Asperula arvensis*.

***Eucera (Heterucera) nigripes* Klug, 1845 \***

**Distribution:** EAST MEDITERRANEAN: Pontic; Near East (Mountains of Turkey, Iran, Azerbaijan, Israel, Lebanon).

**Material examined.** No Locality, 11.IV.1975, 1♂, coll. AUB.

N. Lebanon: Arz Tannourine, 1766 m, 6.V.2017, 5♂, leg. Boustani M.; Bcharre, Reforestation Area, 1967 m, 12.V.2017, 1♂, leg. Boustani M.; Bcharre, Qornet Es Sawda, 2694 m, 27.VII.2017, 6♀, leg. Boustani M.; Hadath El Jebbe, 1529 m, 31.V.2019, 1♂, leg. Boustani M.; Arz Tannourine, Gate, 1796 m, 29.VI.2019, 2♀, leg. Boustani M., all coll. MBOU.; Jord Tannourine, 2166 m, 30.VI.2019, 1♀, leg. Van Achter X., coll. XVA; Arz Bcharre, Forest Limit, 1873 m, 3.VII.2019, 2♀; Jord Tannourine, 2166 m, 6.VII.2019, 3♀, all leg. Ghisbain G., coll. UMONS.

**Flower records.** Asteraceae: *Centaurea eryngioides*, *Cousinia libanotica*; Boraginaceae: *Anchusa italica*, *Solenanthus stamineus*; Fabaceae: *Vicia tenuifolia*

***Eucera (Agatheucera) obsoleta* Pérez, 1911 \***

**Distribution:** WEST PALAEARCTIC: Near East, Turkey, south-eastern Europe, Italy.

**Material examined.** Mount Lebanon: Marej Barja, Terbe, 326 m, 17.IV.2017, 1♂, leg. Boustani M., coll. MBOU.

N. Lebanon: Arz Tannourine: Trail 4, 1781 m, 13.V.2019, 1♂, leg. Boustani M., coll. MBOU.

***Eucera (Heterucera) palaestinae* Friese, 1922 \***

**Distribution:** EAST MEDITERRANEAN: Turkey, Iran, Cyprus, Lebanon, Syria, Israel.

**Material examined.** Mount Lebanon: Falougha, Cedar woods, 1480 m, 27.IV.2019, 1♂, leg. Boustani M., coll. MBOU.

N. Lebanon: Arz Tannourine, 1766 m, 6.V.2017, 3♂, leg. Boustani M.; Hadath El Jebbe, Cedar Forest, 1639 m, 24.V.2017, 1♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Boraginaceae: *Solenanthus stamineus*; Fabaceae: *Vicia tenuifolia*.

***Eucera (Heterucera) parnassia* Pérez, 1902 \***

**Distribution:** EAST MEDITERRANEAN: SE Europe to Iran and Israel.

**Material examined.** Mount Lebanon: Barja, 17.IV.1980, 1♀, leg. Zrein S., coll. AUB.

***Eucera (Pteneucera) penicillata* Risch, 1997 \* (fig. 22.4–5)**

**Distribution:** EAST MEDITERRANEAN: Greece, Turkey, Jordan, Syria, Israel, Cyprus.

**Material examined.** Bekaa: Kefraya, 1009 m, 27.IV.2019, 2♂, leg. Boustani M., coll. MBOU; Aamiq, 985 m, 27.IV.2019, 3♂, leg. Boustani M., coll. MBOU; 1♀, 2♂, leg. Rasmont P., coll. PRAS.

**Flower records.** Asteraceae: *Onopordum heteracanthum*.

***Eucera (Rhyteucera) pici* Vachal, 1907 \***

**Distribution:** EAST MEDITERRANEAN: South-eastern Turkey, Syria, Jordan, Israel.

**Material examined.** S. Lebanon: Saidoun, 15.IV.2018, 1♀; 24.III.2019, 1♂, leg. Baghdadi A., coll. SOILS.

**Flower record.** Fabaceae: *Trifolium* sp.

***Eucera (Synhalonia) plumigera* Kohl, 1905 \*** (fig. 22.6–23.1)

**Distribution:** WEST PALAEARCTIC: Near East, Turkey, and south-eastern Europe.

Local distribution fig. 16.4

**Material examined.** Beirut: American University of Beirut, 4.V.1979, 1♂, leg. Zeina K.; 16.III.0000, 1♂, leg. Samet., all coll. AUB.

Bekaa: Ainata, 1824 m, 30.V.2017, 1♀, leg. Boustani M., Rasmont P., coll. MBOU.; Kefraya, 960 m, 27.IV.2019, 1♂, leg. Boustani M., coll. MBOU.; Aamiq, 27.IV.2019, 985 m, 1♂, leg. Rasmont P. coll. PRAS.

Mount Lebanon: Aabey, 21.VII.1975, 1♂; Kfar Selwan, 23.VII.1975, 1♂, all coll. AUB; Marej Barja, Terbe, 326 m, 17.IV.2017, 1♂, leg. Boustani M., coll. MBOU.; Marej Barja, Qaalet Al Besten, 362 m, 26.IV.2019, 2♀, leg. Rasmont P., coll. PRAS.; Maaser Al Chouf, 29.V.2019, 1♂, leg. Boustani M.; Horch El Barouk, Shouf Biosphere Reserve, 1614 m, 3.VII.2019, 1♀; 1458 m, 3.VII.2019, 1♀, leg. Van Achter X, coll. XVA.

N. Lebanon: Donniah, bei Quemmine, 23.V.2012, 1♂, leg. Kasperek M., coll. OÖLM. Additional 4♂ from 3 records collected between 23.V.2012 and 27.V.2012, from Jairoun, South of Jairoun and Donniah; Tannourine El Tahta, Wadi Ain El Raha, 900 m, 18.IV.2017, 1♂, leg. Boustani M., coll. MBOU. Additional 7♀ and 28♂ from 24 records, collected between 5.V.2017 and 27.VI.2019, from Tannourine El Tahta, Hadath El Jebbe, Arz Tannourine, Arz Bcharre, and Qanat.

S. Lebanon: Hilaliyah, 8.IV.1975, 1♂., coll. AUB.

**Flower records.** Asphodelaceae: *Asphodelus microcarpus*; Boraginaceae: *Anchusa italica*, *Anchusa hybrida*, *Echium italicum*; Fabaceae: *Vicia tenuifolia*, *Ononis natrix*; Lamiaceae: *Eremostachys laciniata*, *Phlomis chrysophylla*, *Phlomis viscosa*.

***Eucera (Eucera) punctulata* Alfken, 1942 \***

**Distribution:** WEST PALAEARCTIC: Near East, Turkey, and south-eastern Europe.

**Material examined.** N. Lebanon: Arz Tannourine, 1754 m, 02.IV.2018, 1♂; 1762 m, 14.IV.2018, 2♂; Tannourine El Tahta, Al Mahbase, 893 m, 12.IV.2019, 1♂, all leg. Boustani M., coll. MBOU.

**Flower record.** Boraginaceae: *Solenanthes stamineus*.

***Eucera (Atopeucera) spinipes* Risch, 2003 \***

**Distribution:** EAST MEDITERRANEAN: Turkey, Syria, Lebanon, Jordan, Israel, Iran.

**Material examined.** Mount Lebanon: Chebaniyah, 24.IV.1975, 1♂., coll. MBOU.

***Eucera (Heterucera) squamosa* Lepeletier, 1841 \***

**Distribution:** WEST PALAEARCTIC: Near East, Turkey, south-eastern Europe, North Africa.

**Material examined.** Specimen label unreadable, 1♀, coll. AUB.

Mount Lebanon: Laqlouq, 1752 m, 30.VI.2019, 5♀, leg. Boustani M., coll. MBOU.

N. Lebanon: Arz Tannourine, Gate area, 1754 m, 29.VI.2019, 1♀, 4♂, leg. Ghisbain G.; 6.VII.2019, 2♂, leg. Gekière A., all coll. UMONS.

***Eucera (Heterucera) syriaca* Dalla Torre, 1896 \***

**Distribution:** EAST MEDITERRANEAN: Near East, Cyprus.

**Material examined.** Mount Lebanon: Hammana, 17.VII.1975, 1♀, coll. AUB.

N. Lebanon: Arz Tannourine, 1762 m, 24.IV.2018, 1♂, leg. Boustani M., coll. MBOU.

***Eucera (Heterucera) taurica* Morawitz, 1870 \***

**Distribution:** PALAEARCTIC: Southern Europe, Turkey to Central Asia.

**Material examined.** Mount Lebanon: Maaser Al Chouf, 1143 m, 29.V.2019, 2♂, leg. Boustani M., coll. MBOU.

***Eucera (Rhyteucera) vulpes* Brullé, 1832 \***

**Distribution:** WEST PALAEARCTIC: France and NE-Spain to the Levant.

**Unpublished records.** GBIF 2021, SEMC: Listed under the synonym *Eucera parvula* Friese, 1896

Mount Lebanon, Brumana, 1.V.1899, 2♀, 1♂, det. Baker D.; 11.V.1953, 2♀, determiner unknown, all leg. Mavromoustakis G.A.; Mount Lebanon, Monteverde, nr. Mansourieh, 350 m, 30.IV.1995, 1♂, det. Baker D.; 5.IV.1996, 3♂, determiner unknown; 1♂, det. Baker D.; 28.IV.1996, 1♀, det. Baker D.; Al Montazah, nr. Mansourieh, 250 m; 30.IV.1996, 1♀, det. Baker D.; 1♀, determiner unknown; all leg. Roche C.G.

**Material examined.** Locality not precise: AUB Farm (Bekaa) or AUB campus (Beirut), 20.IV.1981, 1♂, leg. Mireille K., coll. AUB.

Bekaa: AUB Farm [Haush Sneid], 26.IV.1961, 1♂, leg. Hajj R., coll. AUB.

Mount Lebanon: Bhamdoun, 28.IV.1975, 1♂, coll. AUB.

### ***Eucera (Eucera) watti* Dorchin, 2019**

**Distribution: LEVANT:** Lebanon, Israel (Ascher & Pickering 2021).

Dorchin (2019) reports it from Lebanon based on an examined male specimen likely from Monteverde [Mount Lebanon: near Mansourieh, 300 m asl]. Many specimens from the Baker D. collection (SEMC) collected by Roche G.C. come from this locality.

**Material examined.** Label locality “Ebadyah”, could be referring to Mount Lebanon: Aabadiyeh (Aley), 11.IV.1975, 4♂, coll. AUB.

Mount Lebanon: Nahr Al Safa, 8.III.1973, 1♂, coll. AUB.

S. Lebanon: Hilaliyah, 11.IV.1975, 1♂, coll. AUB.

### ***Eucera (Synhalonia) zeta* Dalla Torre, 1896 \***

**Distribution: WEST PALAEARCTIC:** East Aegean Islands, Cyprus. Turkey to Central Asia.

**Material examined.** Bekaa: AUB Farm [Haush Sneid], 22.III.1964, 1♂, leg. Minassian, coll. AUB.

## **Genus *Tetralonia* Spinola, 1838**

Four species.

We consider *Tetraloniella* as a synonym of *Tetralonia* following Dorchin *et al.* (2018), however we retain *Tetralonia* as a separate well-supported genus.

All material examined determined by Risch S.

Bees of the genus are known to be floral specialists (Amiet 2007).

### ***Tetralonia (Tetralonia) graja* Eversmann, 1852 \***

**Distribution: WEST PALAEARCTIC:** Spain to Iran and Israel.

**Material examined.** N Lebanon: Arz tannourine, 1781 m, 13.VII.2017, 1♂, leg. Boustani M., coll. MBOU.

**Flower record.** Caprifoliaceae: *Cephalaria setosa*.

### ***Tetralonia (Tetraloniella) malvae* Rossi, 1790**

**Distribution: PALAEARCTIC:** Europe to Central Asia.

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon, Chouf, El Barak [El Barouk], 1100 m, 12.VI.1995, 1♂, det. Baker D., leg. Roche C.G.

**Literature.** The holotype of the synonymised taxon *Eucera crinita* Klug, 1845 labeled “Syria” is found in current Lebanese territory (Baker 1997)

**Material examined.** Mount Lebanon: Jabal Moussa, Roman ruins (Qornet el Der), 1403 m, 1♀; Jabal Moussa, Trail Qornet El Der, 1368 m, 1♂, leg. Van Achter X, coll. XVA.

N. Lebanon: Donnieh, Nemrud, 245 m, 28.V.2012, 2♂, leg. Kasperek M., coll. OÖLM; Tannourine, Wadi Al Fouar, 1528 m, 17.VI.2016, 1♀, 3♂, leg. Boustani M.; Harissa, Al Jawar, 1736 m, 23.VI.2018, 1♂, leg. Boustani M.; Fehta, El Biara, 1662 m, 28.VI.2017, 2♂, leg. Boustani M.; Harissa, Al Jawar, 1765 m, 28.VI.2017, 1♂, leg. Boustani M.; Harissa, Al Jawar, 1738 m, 28.VI.2017, 1♂, leg. Boustani M.; Hadath El Jebbe, Wadi Al Fouar, 1553 m, 8.VI.2018, 1♂, leg. Boustani M., Fakhry M., Abou Khalil N.; 28.VI.2018, 1♂, leg. Boustani M., Jabbour J.; Hadath El Jebbe, Al Fouar, 1529 m, 27.VI.2019, 2♂, leg. Boustani M., Mouawad G., Fehta, El Biara, 1664 m, 30.VI.2019, 1♂, leg. Boustani M.; all coll. MBOU.; Qanat, Qornet Dammouaa, 1197 m, 1♀, 2♂, leg. Van Achter X., coll. XVA.

**Flower record.** Malvaceae: *Alcea apterocarpa*.



***Tetralonia (Glazunovia) nigriceps* Morawitz, 1894 \***

**Distribution:** WEST PALAEARCTIC: North Africa. East Aegean Islands and Cyprus, Turkey to Central Asia, Israel.

**Material examined.** Bekaa: Der El Ahmar, 989 m, 3.VII.2019, 1♂, leg. Gekièrè A.; 995 m, 3.VII.2019, 4♀, leg. Gekièrè A.; 4♀, 1♂, leg. Ghisbain G., all coll. UMONS; 3♀, leg. Boustani M., coll. MBOU.

**Flower records.** Asteraceae: *Centaurea cf pallelescens*, *Onopordum heteracanthum*.

***Tetralonia (Tetralonia) scabiosae* Mocsáry, 1881 \***

**Distribution:** WEST PALAEARCTIC: Italy, Eastern Europe to East Mediterranean, southern Russia.

**Material examined.** Mount Lebanon: Barouk, 1086 m, 12.VIII.2019, 1♀, leg. Boustani M., coll. MBOU.

N. Lebanon: Arz Tannourine, 1800 m, 19.VIII.2006, 2♀, leg. Nemer N., coll. TCFNR; 1748 m, 28.VII.2017, 6♂, leg. Boustani M.; 1798 m, 28.VII.2017, 2♂, leg. Boustani M., coll. MBOU.; Arz Tannourine, Trail 1, 1799 m, 2♂, 27.VII.2018, 2♂, leg. Van Achter X, coll. XVA.

**Flower record.** Caprifoliaceae: *Cephalaria cf joppensis*, *Cephalaria setosa*.

## ANTHOPHORINI

Subgeneric classification follows Brooks (1988), and was verified by author Rasmont P. after examining type material. Type localities were added when the subgenus has been updated from the classification of Brooks. The floral preferences of this tribe are little known and require further investigations, especially in their eastern Mediterranean range.

Many specimens of this tribe could not be assigned to a species with a sufficient level of confidence, therefore we only list the taxa that could be confirmed through coloration and morphology and by comparison to type material.

All material examined determined by Rasmont P.

## Genus *Amegilla* Friese, 1897

Eight species.

***Amegilla (Zebramegilla) albigena* (Lepeletier, 1841) \* (fig. 23.3)**

**Distribution:** PALAEARCTIC: Holo-Mediterranean and extending east to Russia (Rasmont 2014a).

Local distribution fig. 16.5

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon, Aley, Ain Es Sayde, 15.VIII.1994, 1♂, det. Baker D., leg. Roche C.G.

**Material examined.** Common and widespread. Specimens with no labels: 1♀, coll. AUB.

Bekaa: Hadath, Army Checkpoint, 1610 m, 7.VII.2019, 1♀, leg. Boustani M., coll. MBOU; Passage Akoura-Hadath, 1820 m, 7.VII.2019, 1♀, leg. Gekièrè G.; 2 F, leg. Ghisbain G., coll. UMONS; Anjar, Army Barracks, 967 m, 23.VII.2019, 1♀, leg. Boustani M.; Anjar, Guest House, 973 m, 23.VII.2019, 5♂, leg. Van Achter X.; 1♂, leg. Boustani M., all coll. MBOU.

Mount Lebanon: Falougha, 24.VI.1975, 1♀; Qartaba, Matoube, 1648 m, 23.VII.2017, 2♀, leg. Boustani M., coll. MBOU. Additional 13♀ and 1♂ from 10 records, collected between Mansourieh, Akoura, Shouf Biosphere Reserve, Laqlouq, Jabal Moussa, Kaslik, and Barouk,

N. Lebanon: Qanat, Qornet Dammoua, 1231 m, 31.V.2017, 3♀, leg. Rasmont P., coll. PRAS. Additional 22♀ and 5♂ from 20 records, collected between 14.VII.2017 and 23.VIII.2019, from Fehta, Harissa, Bcharre, Arz Tannourine, Arz Bcharre, and Hadath El Jebbe.

South Lebanon: Saidoun, El Mrouj, 15.VI.2017, 1♀, leg. Baghdadi A., coll. SOILS.

**Flower records.** Apiaceae: *Eryngium glomeratum*; Asteraceae: *Centaurea pallelescens*, *Echinops gaillardotii*, *Echinops viscosus*; Boraginaceae: *Anchusa italica*, *Echium glomeratum*, *Echium italicum*, *Heliotropium* sp.; Fabaceae: *Astragalus cruentiflorus*, *Ononis spinosa*.; Hypericaceae: *Hypericum triquetrifolium*; Lamiaceae: *Lavandula x intermedia*, *Origanum ehrenbergii*, *Phlomis brachyodon*, *Phlomis cf brachyodon*, *Salvia hierosolymitana*, *Scutellaria brevibracteata*, *Stachys cretica*, *Stachys distans*, *Stachys ehrenbergii*; Ranunculaceae: *Consolida hohenackeri*.

***Amegilla albigena afra***

= *Anthophora albigena afra* Priesner, 1957

**Material examined.** N. Lebanon: Arz Bcharre, God Reforestation Area, 2345 m, 29.VI.2018, 2♀, leg. Boustani M., Jabbour J., coll. MBOU.

**Flower records.** Fabaceae: *Vicia canescens*; Lamiaceae: *Stachys ehrenbergii*.

***Amegilla (Micramegilla) fasciata (Fabricius, 1775)***

**Distribution: WEST PALAEARCTIC:** France, Iberian Peninsula, Greece and North Africa (Rasmont 2014a)

**Literature.** Mavromoustakis (1963): N. Lebanon, Qadisha, 22.VI.1960, 1♀, leg. & det. Mavromoustakis G.A.

***Amegilla (Amegilla) garrula (Rossi, 1790) \****

**Distribution: WEST PALAEARCTIC:** Southern Europe (Rasmont 2014).

Local distribution fig. 16.6

**Unpublished records.** GBIF: Ikerd (2019): Brooks R.W., 1988: Beirut, 15 mi E, 6.VIII.1964, det. Brooks R.W., 1988. This record was not found in Brooks (1988).

GBIF 2021, SEMC: Mount Lebanon, Aley, Ain Es Sayde, 15.VIII.1994, 1♂, det. Baker D., leg. Roche C.G.

**Material examined.** Mount Lebanon: Qartaba, Matoube, 1648 m, 23.VII.2017, 1♂, leg. Boustani M., coll. MBOU; Beit Meri, Deir El Kalaa, St John Baptist, 764 m, 3.VIII.2018, 1♂, leg. Van Achter X.; Mazraat Al Daher, 579 m, 19.VII.2019, 1♀, leg. Van Achter X., all coll. XVA.

S. Lebanon: Saidoun, 24.VI.2018, 1♀, 1♂, leg. Baghdadi A.; Saidoun, 4.VIII.2018, 1♂, leg. Baghdadi A., all coll. SOILS.

**Flower records.** Lamiaceae: *Lamium* sp., *Lavandula x intermedia*, *Salvia hierosolymitana*, *Stachys* sp.; Verbenaceae: *Lantana camara*.

***Amegilla (Micramegilla) montivaga (Fedtschenko, 1875) \****

**Distribution: WEST PALAEARCTIC:** Scattered records from North Africa (Rasmont 2014a)

**Material examined.** Mount Lebanon: Barouk, Hayy Mar Geryos, 1121 m, 12.VIII.2019, 1♂, leg. Boustani M., coll. MBOU.

**Flower record.** Boraginaceae: *Heliotropium* sp.

***Amegilla (Amegilla) quadrifasciata (de Villers, 1789) \**** (fig. 23.2)

**Distribution: WEST PALAEARCTIC:** Holo-Mediterranean, and further North in Europe (Rasmont 2014a).

**Material examined.** Bekaa: AUB Farm [Haush Sneid], 28.VI.1962, 1♀, leg. Ahmadi H., coll. AUB.

Mount Lebanon: Shouf Biosphere Reserve, 1679 m, 2.VII.2019, 1♀, leg. Van Achter X., coll. XVA.

N. Lebanon: Qanat, Qornet Dammoua, 1231 m, 31.V.2017, 1♀, leg. Rasmont P., coll. PRAS; Fehta, El Biara, 1632 m, 18.VIII.2018, 1♀, leg. Boustani M., Jabbour J.; Tannourine Reserve, Trail 4, 1781 m, 27.VII.2019, 1♀, leg. Boustani M., all coll. MBOU.

**Flower records.** Boraginaceae: *Echium italicum*, Lamiaceae: *Scutellaria brevibracteata*, *Stachys* sp.; Plumbaginaceae: *Plumbago europaea*.

Notes: Grace (2010): Records mentioned from Lebanon in June. No details on locality or year are given.

***Amegilla (Zebramegilla) salviae (Morawitz, 1876) \****

**Distribution: WEST PALAEARCTIC:** Southern Europe, Iberian Peninsula and Egypt (Rasmont 2014a).

**Material examined.** Mount Lebanon: Kaslik, 154 m, 5.VIII.2019, 1♀, leg. Van Achter X., coll. XVA.

N. Lebanon: Tannourine El Tahta, Mar Boutros, 1155 m, 27.VI.2019, 1♀, leg. Van Achter X., coll. XVA.

**Flower records.** Boraginaceae: *Heliotropium* sp., Fabaceae: *Ononis natrix*.

***Amegilla (Zebramegilla) savignyi (Lepelletier, 1841) \****

**Distribution: WEST PALAEARCTIC:** Scattered records from North Africa (Rasmont 2014a).

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon, Aley, Ain Es Sayde, 15.VIII.1994, 1♂, det. Baker D., leg. Roche C.G.

**Literature.** Friese (1897): Listed from Syria under *Amegilla (Zebramegilla) magnilabris* (Fedtschenko, 1875),

could be located in current Lebanese territory.

**Material examined.** N. Lebanon: Tannourine Reserve, Trail 4, 1781 m, 30.VI.2019, 1♀, leg. Boustani M., coll. MBOU; Arz Tannourine, Gate Area, 1797 m, 14.VII.2019, 1♀, leg. Van Achter X., coll. XVA; Hadath El Jebbe, Border of the Cedar Forest, 1646 m, 25.VII.2019, 1♀, leg. Boustani M.; Jord Tannourine, 2034 m, 27.VII.2019, 1♂, leg. Boustani M.; Arz Tannourine, Gate Area, 1796 m, 23.VIII.2019, 2♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Lamiaceae: *Scutellaria brevibracteata*; Plumbaginaceae: *Plumbago europaea*, Ranunculaceae: *Consolida hohenackeri*.

***Amegilla (Micramegilla) velocissima (Fedtschenko, 1875) \****

**Distribution: PALAEARCTIC:** Scattered records in Russia, Azerbaijan, Italy and Spain (Rasmont 2014a)

**Material examined.** N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 1008 m, 19.VIII.2017, 1♂, leg. Boustani M.

**Flower record.** Asteraceae: *Carlina curetum* ssp. *orientalis*.

**Genus *Anthophora* Latreille, 1803**

23 species

***Anthophora (Paramegilla) harmalae (Morawitz, 1877)***

**Distribution: PALAEARCTIC:** Scattered records in Russia, Azerbaijan, Turkey, Lebanon, Cyprus, Algeria (Rasmont 2014b).

**Literature.** Listed under *Amegilla harmalae* (Morawitz, 1877):

Mavromoustakis (1963): N. Lebanon, Bcharré, 19.VI.1960, 1♀, 1♂; Qadisha, 21.VI.1960, 2♀; Bcharre Forest, 4.VII.1960, 3♀, all leg. & det. Mavromoustakis G.A.

***Anthophora (Pyganthophora) aestivalis (Panzer, 1801) \**** (fig. 23.4–5)

**Distribution: WEST PALAEARCTIC:** Southern Europe and scattered in North Africa (Rasmont 2014b).

Local distribution fig. 16.7

GBIF 2021, SEMC: sudl. v. Trip (could be referring to South of Tripoli), III, 1♀, determiner unknown.

**Material examined.** Common.

Bekaa: AUB Farm [Haush Sneid], 15.IV.1961, 1♀, leg. Hajj R.; AUB Farm [Haush Sneid], 8.V.1964, 1♀, leg. Rashid; AUB Farm [Haush Sneid], 17.V.1964, 1♂, leg. Shaikh; AUB Farm [Haush Sneid], IV.1979, 1♀, leg. Haidar, all coll. AUB; Passage Akoura-Hadath, 1820 m, 7.VII.2019, 2♀, leg. Ghisbain G., coll. UMONS; Passage Akoura-Hadath, 1766 m, 7.VII.2019, 1♀, leg. Van Achter X., coll. XVA.

Mount Lebanon: Shouf Biosphere Reserve, Gate, 1769 m, 16.V.2019, 1♂, leg. Boustani M.; Shouf Biosphere Reserve, Barouk-Maaser dirt road, 1769 m, 16.V.2019, 1♂, leg. Boustani M., coll. MBOU; Shouf Biosphere Reserve, 1912 m, 5.VII.2019, 1♀, leg. Van Achter X., coll. XVA.

N. Lebanon: Donniah, bei Quemmamine, 1600 m, 23.V.2012, 4♂, leg. Kasperek M., coll. MKAS; Jairoun, 1042 m, 29.V.2012, 1♂, leg. Kasperek M.; Horch Ehden, 1567 m, 19.VI.2016, 1♀, leg. Boustani M.; Arz Tannourine, Reserve Outskirts, 1766 m, 6.V.2017, 1♂, leg. Boustani M., all coll. MBOU. Additional 121♀ and 50♂ from 53 records, collected between 12.V.2017 and 12.VII.2019, from Arz Bcharre, Hadath El Jebbeh, Arz Tannourine, Qanat, Horch Ehden, and Bcharre.

**Flower records.** Asparagaceae: *Bellevalia* cf. *trifoliata*, *Bellevalia flexuosa*; Boraginaceae: *Anchusa italica*, *Cynoglossum nebrodense*, *Echium italicum*, *Solenanthes stamineus*; Fabaceae: *Astragalus emarginatus*, *Onobrychis cornuta*, *Ononis natrix*, *Medicago* sp., *Vicia canescens*, *Vicia tenuifolia*, *Vicia villosa*; Lamiaceae: *Nepeta curviflora*, *Phlomis* cf. *brachyodon*, *Salvia fruticosa*, *Salvia multicaulis*, *Stachys ehrenbergii*; Papaveraceae: *Glaucium leiocarpum*; Plantaginaceae: *Anarrhinum orientale*.

***Anthophora (Lophanthophora) affinis* Brullé, 1832 \***

=*Anthophora biciliata* Lepeletier, 1841

=*Anthophora liturata* (Lepeletier, 1841)

**Distribution: WEST PALAEARCTIC:** Circum-Mediterranean, Russia, Turkey, Caucasus (Rasmont 1995). The

possible presence of the species in Central Asia is unclear.

Note: Brooks (1988) initiated a very confusing situation in mixing this taxon with *Anthophora mucida* Gribodo. These species are nevertheless well distinct. Rasmont (1995) made a complete re-description of both taxa and of the similar *Anthophora agama* Radoszkowski. (Rasmont 2014b)

**Material examined.** N. Lebanon: Ehden, Ain El Baida, 1626 m, 31.V.2017, 1♂, coll. PRAS; Horch Ehden, Ain El Naasa, 1560 m, 22.V.2019, 1♂, leg. Boustani M.; Arz Beharre, Forest Limit, 1873 m, 2.VII.2019, 1♀, leg. Boustani M., all coll. MBOU; Arz Beharre, Forest Limit, 1873 m, 3.VII.2019, 2♀, leg. Boustani M., coll. MBOU; 2♀, leg. Gekièrè A., coll. UMONS; 4♀, leg. Ghisbain G., coll. UMONS.

**Flower record.** Fabaceae: *Vicia tenuifolia*.

***Anthophora (Lophanthophora) agama* Radoszkowski, 1869 \***

**Distribution: WEST PALAEARCTIC:** Holo-Mediterranean, and further east to Russia (Rasmont 2014b).

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon, Deir El Harf, 1100 m, 19.V.1996, 1♀, det. Baker D., leg. Roche C.G.

**Literature.** Listed under *Anthophora caucasica* Radoszkowski, 1874

Friese (1897): Listed from Syria, could be located in current Lebanon, 2♂, det. Friese H., leg. Friese H.

**Material examined.** Specimens without label, 2♀, 1♂, coll. AUB.

Bekaa: Bawarij, 10.V.1975, 1♀, coll. AUB.

N. Lebanon: Qanat, Qornet Dammouaa, 1242 m, 5.VII.2019, 1♀, leg. Gekièrè A., coll. UMONS.

**Flower record.** Boraginaceae: *Echium italicum*.

***Anthophora (Lophanthophora) bifasciata* Fedtschenko, 1875 \***

**Distribution: WEST PALAEARCTIC:** Kazakhstan (Rasmont 2014b).

**Material examined. BDFGM:** Becharré [Bcharre], 20.VI.1931, 1♀, det. Rasmont P., leg. Zerny, coll. NMV.

***Anthophora (Lophanthophora) canescens* Brullé, 1832 \***

**Distribution: WEST PALAEARCTIC:** Holo-Mediterranean (Rasmont 2014b).

**Unpublished records.** GBIF 2021, SEMC: sudl. v. Trip, could be referring to South of Tripoli (N. Lebanon), III, 1♂, det. Baker D.

**Material examined.** Bekaa: AUB Farm [Haush Sneid], 10.IV.1961, 1♂; 17.IV.1961, 1♂, leg. Nasr H.; 22.V.1961, leg. Ali S.M., all coll. AUB.

Mount Lebanon: Aley, 5.V.1944, 1♀, leg. Talhouk A.S., coll. AUB.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 11.IV.2017, 1♂; Hadath El Jebbe, Road to Wadi Al Fouar, 1553 m, 2.IV.2018, 1♀, all leg. Boustani M., coll. MBOU.

**Flower records.** Asphodelaceae: *Asphodelus microcarpus*; Fabaceae: *Vicia sericocarpa*.

***Anthophora (Heliophila) concinna* (Klug, 1845)**

**Distribution: EAST MEDITERRANEAN:** Turkey, Egypt (Rasmont 2014b).

**Literature.** The holotype of *Megilla concinna* was described by Klug based on material collected by Ehrenberg and Hemprich in “Syria”, which is localised in current Lebanese territory based on the collection dates and the expedition itinerary (Baker 1997).

***Anthophora (Anthophora) crinipes* Smith, 1854 \* (fig. 23.6–24.1)**

**Distribution: PALAEARCTIC:** Holo-Mediterranean, further north in Europe and east to Kyrgyzstan (Ascher & Pickering 2021).

Local distribution fig. 16.8

**Material examined.** Bekaa: AUB Farm [Haush Sneid], 1♂, leg. Chaudry AH., coll. AUB.

Mount Lebanon: Ballouneh, 17.IV.2017, 1♂, leg. Mrad L, coll. USEK; Laqlouq, Matoube, 1657 m, 30.IV.2017, 1♂, leg. Boustani M., coll. MBOU; Reserve Naturelle de Bentaël, 340 m, 23.IV.2019, 1♂, leg. Rasmont P., coll. PRAS.

N. Lebanon: Harissa, Chir El Ribez, 1730 m, 11.VI.2017, 1♂, leg. Boustani M., coll. MBOU; Tannourine El Tahta, 942 m, 25.IV.2019, 1♀, 1♂, leg. Rasmont P., coll. PRAS.

**Flower records.** Boraginaceae: *Anchusa hybrida*; Lamiaceae: *Lamium* sp., *Salvia fruticosa*.

***Anthophora (Pyganthophora) dalmatica* Pérez, 1902 \*** (fig. 24.2)

**Distribution:** WEST PALAEARCTIC: Scattered records in south eastern Europe (Rasmont 2014b).

**Material examined.** N. Lebanon: Arz Bcharre, 1975 m, 27.V.2017, 1♂, leg. Rasmont P., coll. PRAS; Arz Bcharre, Forest Limit, 1873 m, 2.VII.2019, 1♀; 3.VII.2019, 1♂, all leg. Boustani M., coll. MBOU.

**Flower records.** Boraginaceae: *Anchusa italica*; Fabaceae: *Vicia tenuifolia*.

***Anthophora (Lophanthophora) dispar* Lepeletier, 1841 \***

**Distribution:** WEST PALAEARCTIC: Holo-Mediterranean (Rasmont 2014b).

**Literature.** Friese (1897): Mentioned from Syria, the locality could be in current Lebanese territory.

**Material examined.** Mount Lebanon: Bentaël, 11.III.2016, 1♂, leg. Boustani M., Zgheib Y.

N. Lebanon: Tannourine El Tahta, Wadi Ain El Raha, 900 m, 24.III.2017, 2♂; 940 m, 27.III.2017, 1♂; 11.IV.2017, 1♂; Hadath El Jebbe, Wadi Al Fouar, 1553 m, 2.IV.2018, 1♀; Tannourine El Tahta, Wadi Al Fouar, 1187 m, 7.IV.2018, 2♂; Tannourine El Tahta, Mar Boutrous, 1207 m, 12.IV.2019, 1♂, all leg. Boustani M., all coll. MBOU.

S. Lebanon: Saidoun, Sahlet, 19.III.2017, 1♂, leg. Baghdadi A., coll. SOILS.

**Flower records.** Asphodelaceae: *Asphodelus microcarpus*; Boraginaceae: *Anchusa hybrida*.

***Anthophora (Caranthophora) dufourii* Lepeletier, 1841\***

**Distribution:** WEST PALAEARCTIC: South-eastern Europe, East Mediterranean and further east to Iran (Ascher & Pickering 2021)

**Literature.** Friese (1897): Mentioned from Syria, the locality could be in current Lebanese territory.

**Material examined.** N. Lebanon: Harissa, Chir El Ribez, 1730 m, 11.VI.2017, 2♀, leg. Saade N., coll. MBOU.

**Flower record.** Lamiaceae: *Salvia fruticosa*.

***Anthophora (incertae sedis) heliopolitensis* Pérez, 1910**

**Distribution:** LEVANT: Lebanon, Israel (Rasmont 2014b).

**Unpublished records.** GBIF 2021, SEMC: South Lebanon, Djezin [Jezzine], 1♀, det. Baker D.

**Literature.** Mavromoustakis (1963): Bekaa, Baalbeck, 29.V.1953 3♀; Bcharré, 20.VI.1960, 2♀; 22.VI.1960, 1♀, 23.VI.1960, 1♀; all leg. & det. Mavromoustakis G.A.

Notes: Records mentioned by Grace (2010)

***Anthophora (Lophanthophora) mucida* Gribodo, 1873 \*** (fig. 24.3–4)

= *Anthophora biciliata* Lepeletier, 1841

**Distribution:** WEST PALAEARCTIC: Holo-Mediterranean and east to Russia (Rasmont 2014).

Local distribution fig. 16.9

**Material examined.** Bekaa: Zahle, 6.V.1964, 1♀, leg. Arafat A., coll. AUB.

Mount Lebanon: Laqlouq, Matoube, 1657 m, 30.IV.2017, 1♂, leg. Boustani M., coll. MBOU; Marej Barja, Qaleet Al Besten, 362 m, 26.IV.2019, 1♀, leg. Rasmont P.; Falougha, 1478 m, 27.IV.2019, 1♀, leg. Rasmont P., all coll. PRAS.

N. Lebanon: Harissa, Fehta, 1700 m, 4.V.2017, 1♀, leg. Boustani M.; Hadath El Jebbeh, Al Fouar, 1535 m, 24.V.2017, 1♀, leg. Rasmont P.; Horch Ehden, Ain El Baida, 1626 m, 31.V.2017, 1♂, leg. Rasmont P.; Tannourine El Tahta, Wadi Al Fouar, 1187 m, 7.IV.2018, 2♀, leg. Boustani M.; Arz Bcharre, 1883 m, 18.IV.2018, 1♀, 1♂, leg. Rasmont P.; Horch Ehden, Nabeh Jouit, 1422 m, 24.IV.2019, 1♂, leg. Rasmont P., all coll. PRAS; Tannourine El Tahta, El Masbak, 1110 m, 25.IV.2019, 1♀, 2♂, leg. Boustani M., Rasmont P.; Fehta, El Biara, 1664 m, 11.V.2019, 1♀, leg. Boustani M., all coll. MBOU.

S. Lebanon: Saidoun, Beehives, 18.III.2018, 1♀, leg. Baghdadi A., coll. SOILS.

**Flower records.** Asparagaceae: *Muscari racemosum*; Boraginaceae: *Anchusa hybrida*; Fabaceae: *Vicia sericocarpa*, *Vicia villosa*; Lamiaceae: *Lamium* sp., *Lamium striatum*, *Phlomis* cf. *viscosa*., *Salvia multicaulis*.

***Anthophora (Pyganthophora) nigriceps* Morawitz, 1886** (fig. 23.5–6)

**Distribution:** WEST PALAEARCTIC: Scattered records in the Levant, south-eastern Europe and west of the Caspian Sea (Rasmont 2014b).

Local distribution fig. 16.10

**Unpublished records.** GBIF 2021, SEMC: South Lebanon, Liba'a [Lebaa], 1♂, det. Baker D.

**Literature.** Mavromoustakis (1963): Mount Lebanon, Falougha, 17.V.1953, 1♀; Jebel Knaisse, 18.V.1953, 7♀, 1♂, all det. & leg. Mavromoustakis G.A.

Mentioned by Grace (2010) from June without locality details.

**Material examined.** Abundant and widespread, on the wing from March until June.

Bekaa: Anjar, IV.1979, 1♀, leg. Boghos D; Quaraoun, 792 m, 24.III.2013, 1♂, leg. Kasperek M., coll. MKAS; Kefraya (West Bekaa), 1107 m, 27.IV.2019, 1♀, leg. Rasmont P., coll. PRAS.

Mount Lebanon: Shouf Biosphere Reserve, Barouk-Maaser dirt road, 1769 m, 16.V.2019, 1♀, leg. Boustani M., coll. MBOU.

N. Lebanon: Donnieh, 2142 m, 23.V.2012, 1♀, leg. Kasperek M.; Donnieh, Jairoun/Kfar Bebnine Forest, 1637 m, 26.V.2012, 1♀, leg. Kasperek M., coll. MKAS; Tannourine El Tahta, Ain El Raha, 900 m, 27.III.2017, 2♂, leg. Boustani M.; Chatine, Bifurcation de Balaa, 1440 m, 18.IV.2017, 1♀, leg. Boustani M., all coll. MBOU. Additional 86♀ and 20♂ from 43 records collected between 2.V.2017 and 30.VI.2019, from Horch Ehden, Fehta, Arz Tannourine, Hadath El Jebbeh, Tannourine El Tahta, Arz Bcharre, and Jord Tannourine.

S. Lebanon: Saidoun, South of Beehives, 25.III.2018, 1♀, leg. Baghdadi A., coll. SOILS.

**Flower records.** Asparagaceae: *Bellevalia flexuosa*, *Bellevalia* sp., *Bellevalia nivalis*, *Muscari racemosum*; Asphodelaceae: *Asphodeline lutea*; Boraginaceae: *Anchusa hybrida*, *Solenanthes stamineus*; Brassicaceae: *Thlaspi* sp.; Fabaceae: *Astragalus emarginatus*, *Onobrychis cornuta*, *Trifolium purpureum*, *Trifolium tomentosum*, *Vicia sericocarpa*, *Vicia villosa*; Lamiaceae: *Nepeta curviflora*, *Salvia multicaulis*.

***Anthophora (Pyganthophora) orientalis* Morawitz, 1877 \*** (fig. 25.1–2)

**Distribution:** PALAEARCTIC: Northern Mediterranean and Russia (Rasmont 2014b).

**Material examined.** Bekaa: West Bekaa, Kefraya, 1107 m, 27.IV.2019, 1♀, leg. Rasmont P.

N. Lebanon: Tannourine El Tahta, El Masbak, 1112 m, 25.IV.2019, 1♂; Tannourine El Tahta, Mar Boutros, 1181 m, 25.IV.2019, 3♂, leg. Rasmont P.

**Flower records.** Asparagaceae: *Bellevalia nivalis*; Boraginaceae: *Anchusa hybrida*.

***Anthophora (Pyganthophora) pedata* Eversmann, 1852 \*** (fig. 25.3)

**Distribution:** WEST PALAEARCTIC: Scattered in south eastern Europe (Rasmont 2014b).

**Material examined.** N. Lebanon: Bcharre, Dahr El Adib, 2585 m, 1♂; Jord Tannourine, 2469 m, 28.V.2017, 2♂; Tannourine, Jabal Al Mnaitra, 2455 m, 28.V.2017, 2♂; 2471 m, 1♂; Bcharre, Dahr El Adib, 2407 m, 8.VI.2017, 1♂; Arz Bcharre, 1883 m, 18.IV.2018, 1♂, all leg. Rasmont P., coll. PRAS; Jord Tannourine, 2296 m, 30.VI.2019, 1♀, leg. Ghisbain G., coll. UMONS.

**Flower records.** Fabaceae: *Astragalus angustifolius*, *Astragalus coluteoides*, *Onobrychis cornuta*, Lamiaceae: *Lamium striatum*.

***Anthophora (Melea) plagiata* (Illiger, 1806) \***

**Distribution:** PALAEARCTIC: North Mediterranean and further north in Europe, Russia, and Algeria (Rasmont 2014b).

**Material examined.** BDFGM: Material Examined from Lebanon (no locality added on the label), 1900, 1♂, leg. Schmiedeknecht O., coll. OÖLM.

***Anthophora (Anthophora) plumipes* (Pallas, 1772) \*** (fig. 25.4–5)

**Distribution:** PALAEARCTIC: Mediterranean basin, Europe and Russia (Rasmont 2014b).

Local distribution fig. 16.11

**Unpublished records.** GBIF 2021, SEMC:

Listed under "*Anthophora (Anthophora) plumipes palestinesis*"

Mount Lebanon, Monteverde, nr Mansourieh, 350 m; 18.II.1996, sex and determiner unknown; 22.II.1996, 1 specimen, sex unknown, det. Baker D.; 1 specimen, sex and determiner unknown, 18.III.1996, 1♀, det. Baker D.; all leg. Roche C.G.

**Material examined.** Common and widespread.

Specimen without label, 7♀, 1♂, coll. AUB.

Beirut: AUB Campus, 18.IV.1980, 1♂, leg. Kwaybah N.; AUB Campus, 4.III.2008, 1♂; AUB Campus, 25.III.2008, 1♂, leg. KB/RB., all coll. AUB.

Bekaa: AUB Farm [Haush Sneid], 19.III, 1♀; Anjar, 28.VI.1962, 1♀; AUB Farm [Haush Sneid], 27.III.1964, 1♀, leg. Minassian; Ras Baalbeck, 5.V.2018, 1♀, leg. Harran E., all coll. AUB.

Mount Lebanon: Bhamdoun, 30.IV.1981, 1♀, leg. Rawi, coll. AUB; Bentaël, 11.III.2016, 2♂, leg. Boustani M. Zgheib Y; Marej Barja, Daher, 350 m, 7.III.2017, 1♀, leg. Boustani M., all coll. MBOU. Additional 6♀ and 5♂ from 9 records collected between 12.IV.2017 and 16.V.2019, from Wadi Chahine, Faytroun, Laqlouq, Mradiyeh, Ain Saadeh, Marej Barja, Bentaël, Jbeil, and Shouf Biosphere Reserve.

N. Lebanon: Arz Tannourine, 1800 m, 22.V.2009, 1♀, leg. Nemer N., coll. TCFNR; Donnieh, Jairoun/Kfar Bebnine Forest, 1637 m, 26.V.2012, 1♀, leg. Kasperek M.; Jairoun, 1042 m, 29.V.2012, 1♀, leg. Kasperek M., all coll. MKAS; Tannourine El Tahta, Ain El Raha, 900 m, 24.III.2017, 2♂, leg. Boustani M.; 1♀, leg. Harb M, all leg. MBOU; Additional 82♀ and 46♂ from 50 records, collected between 27.III.2017 and 22.V.2019, from Tannourine El Tahta, Arz Tannourine, Horch Ehden, Fehta, Hadath El Jebbe, Harissa, Jord Tannourine, and Arz Bcharre.

S. Lebanon: Saida, 2.III.1980, 1♀, leg. Bana T.; Hilaliyah, 4.VIII.1995, 1♀; Hilaliyah, 22.VIII.1995, 1♀, all coll. AUB; Saidoun, El Mrouj, 26.III.2017, 1♂, leg. Baghdadi A., coll. SOILS. Additional 2♀ and 2♂ from 4 records collected between 13.V.2017 and 24.III.2019, all from Saidoun, coll. SOILS.

**Flower records.** Asphodelaceae: *Asphodeline brevicaulis*; Asteraceae: *Carduus argentatus*; Boraginaceae: *Anchusa hybrida*, *Solenanthes stamineus*; Brassicaceae: *Rapistrum rugosum*; Caryophyllaceae: *Silene* sp.; Fabaceae: *Astragalus* sp., *Lotus gebelia libanoticus*, *Trifolium clypeatum*, *Trifolium* sp., *Vicia sericocarpa*, *Vicia tenuifolia*, *Vicia villosa*; Lamiaceae: *Lamium* sp., *Lamium striatum*, *Nepeta* sp., *Salvia hierosolymitana*, *Salvia multicaulis*; Ranunculaceae: *Delphinium ithaburensense*; Scrophulariaceae: *Verbascum* sp.

#### *Anthophora (Paramegilla) ponomarevae* Brooks, 1988 \*

**Distribution:** WEST PALAEARCTIC: Ukraine, Israel (Rasmont 2014b).

**Material examined.** Bekaa: Passage Akoura-Hadath, 1820 m, 7.VII.2019, 1♀, leg. Boustani M., coll. MBOU; 1♀, leg. Gekière A., coll. UMONS; 1♀, leg. Ghisbain G., coll. UMONS.

**Flower records.** Fabaceae: *Astragalus cruentiflorus*; Lamiaceae: *Teucrium orientale*.

#### *Anthophora (Lophanthophora) robusta* (Klug, 1845)

**Distribution:** PALAEARCTIC: Southern Europe, scattered in North Africa, Russia (Rasmont 2014b).

Local distribution fig. 16.12

**Material examined.** Bekaa: AUB Farm [Haush Sneid], 3.IV.1962, 1♀, leg. Mirah; 13.IV.1962, 1♂, det. Shaikh; 12.V.1962, 1♀, leg. Mirah; 26.V.1962, 1♀, 1♂, leg. Chaudry A.H., all coll. AUB; Passage Bcharré-Ainata, 1982 m, 3.VII.2019, 1♀, leg. Boustani M., coll. MBOU; Passage Akoura-Hadath, 1820 m, 7.VII.2019, 1♀, leg. Ghisbain G., coll. UMONS.

Mount Lebanon: Shouf Biosphere Reserve, 1679 m, 2.VII.2019, 2♀, 1♂; 1614 m, 3.VII.2019, 2♀; 1679 m, 3.VII.2019, 3♀; 1912 m, 5.VII.2019, 1♀, all leg. Van Achter X., all coll. XVA.

N. Lebanon: Cedern b. Bécharré [Arz Bcharre], 1900 m, 30.VI.1931, 1♂, leg. Zerny, coll. NMV; Arz Tannourine, 1784 m, 18.VI.2016, 1♀, leg. Boustani M.; Bcharre Jord, 2723 m, 24.VI.2016, 1♀, leg. Boustani M.; Harissa, Chir Al Ribez, 1730 m, 3.VI.2017, 1♂; 11.VI.2017, 1♀, leg. Saade N., all coll. MBOU; Arz Tannourine, Gate Area, 1754 m, 23.VI.2018, 1♂, leg. Boustani M.; Arz Tannourine, Trail 4, 1762 m, 5.VII.2018, 1♀, leg. Boustani M.; Bcharre, Army Checkpoint, 2023 m, 2.VII.2019, 2♀, leg. Boustani M., coll. MBOU; 1♀, leg. Ghisbain G.; Arz Bcharre, Forest Limit, 3.VII.2019, 1873 m, 2♀, 3♂, leg. Ghisbain G., all coll. UMONS.

**Flower records.** Boraginaceae: *Anchusa italica*; Caprifoliaceae: *Centranthus* sp.; Fabaceae: *Vicia tenuifolia*; Lamiaceae: *Nepeta curviflora*, *Nepeta* sp., *Phlomis* cf. *brachyodon*, *Stachys* sp.; Ranunculaceae: *Delphinium ithaburensense*.

#### *Anthophora (Lophanthophora) robusta* (Klug, 1845) ssp. *caliginosa* Klug, 1845

**Literature.** The holotype of *Megilla caliginosa* was described by Klug based on material collected by Ehrenberg and Hemprich in “Syria”, which is localised in current Lebanese territory based on the collection dates and the expedition itinerary (Baker 1997).

Friese (1897): Mentioned from Syria, the locality could be in current Lebanese territory.

**Material examined.** Bekaa: Passage Bcharré-Ainata, 1982 m, 3.VII.2019, 1♀, leg. Ghisbain G., coll. UMONS. Mount Lebanon: Shouf Biosphere Reserve, 1679 m, 2.VII.2019, 1♀, leg. Van Achter X., coll. XVA. N. Lebanon: Jord Tannourine, 2231 m, 30.VI.2019, 1♀, leg. Ghisbain G.; Arz Bcharre, Forest Limit, 1873 m, 3.VII.2019, 2♀, leg. Ghisbain G., all coll. UMONS.

**Flower records.** Fabaceae: *Vicia tenuifolia*; Lamiaceae: *Stachys* sp.

***Anthophora (Pyganthophora) rogenhoferi* Morawitz, 1872** (fig. 25.6)

**Distribution:** WEST PALAEARCTIC: Levant, Greece, Italy (Rasmont 2014b).

Local distribution fig. 17.1

**Unpublished records.** GBIF 2021, SEMC: Bekaa (labelled Mt. Lebanon), Hazerta, 1400 m, 6.V.1996, 1♀, det. Baker D., leg. Roche C.G.

**Literature.** Mavromoustakis (1963): Mount Lebanon, Jebel Knaisse, 18.V.1953, 2♂, leg. & det. Mavromoustakis G.A.

**Material examined.** Specimens without labels, 1♀, 1♂, coll. AUB.

Bekaa: AUB Farm [Haush Sneid], 1964, 1♂, leg. Mechoui A, coll. AUB; Aamiq (West Bekaa), 985 m, 27.IV.2019, 1♀, leg. Boustani M., coll. MBOU.

N. Lebanon: Fehta, 1700 m, 4.V.2017, 1♂, leg. Boustani M.; Fehta, El Biara, 1664 m, 11.V.2019, 1♂, leg. Boustani M., all coll. MBOU.

**Flower records.** Fabaceae: *Trifolium repens*; Lamiaceae: *Salvia multicaulis*.

***Anthophora (Paramegilla) sagemehli* Morawitz, 1883 \***

**Distribution:** PALAEARCTIC: Iran, Azerbaijan, Russia (Rasmont 2014b).

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon, Deir El Harf, 1100 m, 1♀, det. Baker D., leg. Roche C.G.

**Material examined.** N. Lebanon: Bcharre, Plateau Qornet Es Sawda, 2882 m, 12.VII.2018, 2♀, leg. Boustani M., Jabbour J., coll. MBOU; Arz Bcharre, Forest Limit, 1873 m, 3.VII.2019, 2♀, leg. Ghisbain G., coll. UMONS.

**Flower records.** Fabaceae: *Astragalus cruentiflorus*, *Vicia tenuifolia*.

***Anthophora (Paramegilla) socia* (Klug, 1845)**

**Distribution:** WEST PALAEARCTIC: Greece, Syria (Rasmont 2014).

**Literature.** Holotype labelled “Syria” (Westrich 1999), and can be traced back to current Lebanese territory (Baker 1997) as the material is part of the material examined by Klug (1845).

**Genus *Habropoda* Smith, 1854**

Three species.

***Habropoda (Habropoda) hakkariensis* Schwarz & Gusenleitner, 2001 \*** (fig. 26.1–2)

**Distribution:** EAST MEDITERRANEAN: Turkey (Rasmont 2014c).

**Material examined.** N. Lebanon: Hadath El Jebbeh, Al Fouar, 1535 m, 24.V.2017, 1♀, 2♂, leg. Boustani M., Rasmont P., coll. PRAS; Arz Tannourine, Trail 3, 1790 m, 25.V.2017, 1♀, 3♂, leg. Boustani M.; Arz Tannourine, Ourskirts, 1769 m, 26.V.2017, 3♂, leg. Boustani M., all coll. MBOU; Hadath El Jebbeh, Al Fouar, 1535 m, 30.V.2017, 2♀, 10♂, leg. Boustani M., Rasmont P.; Horch Ehden, Ain El Baida, 1626 m, 31.V.2017, 2♂, leg. Rasmont P., coll. PRAS; Hadath El Jebbe, Al Fouar, 1529 m, 31.V.2019, 2♂, leg. Boustani M.; Hadath El Jebbe, Al Fouar, 1529 m, 7.VI.2019, 1♀, 9♂, leg. Boustani M., Mouawad G.; Arz Tannourine, Gate area, 1754 m, 7.VI.2019, 1♀, 1♂, leg. Boustani M., Mouawad G.; Hadath El Jebbe, 1704 m, 7.VI.2019, 1♀, leg. Boustani M., Mouawad G., all coll. MBOU; Arz Tannourine, Gate area, 1754 m, 29.VI.2019, 1♂, leg. Ghisbain G., coll. UMONS. S. Lebanon: Hilaliyah, 6.IV.1975, 1♀, coll. AUB.

**Flower records.** Fabaceae: *Vicia tenuifolia*; Caprifoliaceae: *Lonicera nummulariifolia*; Lamiaceae: *Stachys cretica*.



***Habropoda (Habropoda) tarsata* (Spinola, 1838) \*** (fig. 26.3–4)

**Distribution:** PALAEARCTIC: Northern Mediterranean, Levant and Russia (Rasmont 2014c).

Local distribution fig. 17.2

**Material examined.** Specimens without label, 1♀, 2♂, coll. AUB.

Beirut: AUB Campus, 10.III.1981, 1♂, leg. Dadnr M., coll. AUB.

Mount Lebanon: Bikfayya, 9.VI.1975, 1♂, Rousset El Ballout [Rouaysset El Ballout], 2.VII.1975, 1♂; Ehmej, 14.II.2018, 1♂, leg. Attieh P., all coll. AUB; Wadi Chahrour, 30.V.2017, 1♀, leg. Nemer N., coll. TCFNR.

N. Lebanon: Tannourine El Tahta, Wadi Ain Al Raha, 1406 m, 28.IV.2017, 1♂, leg. Boustani M., coll. MBOU. Additional 7♀ and 14♂ from 11 records, collected between 28.IV.2017 and 22.V.2019, from Tannourine El Tahta, Horch Ehden, and Hadath El Jebbeh.

S. Lebanon: Hilaliyah, 11.XI.1975, 2♀; 6.IV.1975, 2♂; Kfar Silwan, 23.VII.1975, 1♀, all coll. AUB.

**Flower records.** Asphodelaceae: *Asphodelus microcarpus*, *Asphodelus* sp.; Boraginaceae: *Anchusa hybrida*, *Solenanthes stamineus*; Fabaceae: *Coronilla emeroides*, *Lathyrus inermis*, *Vicia villosa*.

***Habropoda (Habropoda) zonatula* Smith, 1854 \*** (fig. 26.5–6)

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean and east to Azerbaijan (Rasmont 2014c).

**Material examined.** N. Lebanon: Hadath El Jebbeh, Al Fouar, 1535 m, 24.V.2017, 2♂, leg. Boustani M. Rasmont P.; Hadath El Jebbeh, Al Fouar, 1656 m, 24.V.2017, 3♀, leg. Rasmont P., all coll. PRAS; Harissa, Jabal El Jouar, 1738 m, 26.V.2017, 1♀, leg. Boustani M., coll. MBOU; Hadath El Jebbeh, Al Fouar, 1656 m, 29.V.2017, 2♀, leg. Rasmont P., coll. PRAS; Hadath El Jebbeh, Border of the Cedar Forest, 1646 m, 31.V.2019, 1♀, leg. Boustani M.; Arz Bcharre, Forest Limit, 1873 m, 5.VI.2019, 1♂, leg. Boustani M.; Arz Tannourine, Gate area, 1754 m, 7.VII.2019, 1♂, leg. Boustani M., Mouawad G., all coll. MBOU.

**Flower records.** Fabaceae: *Vicia tenuifolia*.

## MELECTINI

### Genus *Melecta* Latreille, 1802

Seven species.

#### *Melecta (Melecta) aegyptiaca* Radoszkowski, 1876

**Distribution:** WEST PALAEARCTIC: Scattered records around the Mediterranean basin (Rasmont 2016).

**Literature.** Lieftinck (1980): Mentioned from Beirut, 1924, det. Friese H., leg. Friese H.

#### *Melecta (Melecta) albifrons* (Forster, 1771)

**Distribution:** WEST PALAEARCTIC (Rasmont 2016).

**Literature.** Lieftinck (1980):

Mount Hermon, 1900 m, 9.VI.1975, 1♀, det. Lieftinck M.A., leg. Kaplan M.

Mount Hermon, 1900 m, 27.VII.1971, 1♀, det. Lieftinck M.A., leg. Bytinski-Salz H.

#### *Melecta (Melecta) albifrons* (Forster, 1771) ssp. *albovaria* (Erikson, 1840)

**Literature.** Lieftinck (1980): Bechara [Bcharre], 1900 m, 1♂, det. Lieftinck M.A., leg. Zerny; and one♀ reported from “Syria”.

#### *Melecta (Melecta) fulgida* Lieftinck, 1980

**Distribution:** WEST PALAEARCTIC (Rasmont 2016).

**Literature.** Lieftinck (1980): Syria, Beyruth [Beirut] located in current Lebanese territory, no date, 1♂, det. Lieftinck M.A., leg. Staudinger.

#### *Melecta (Melecta) guichardi* Lieftinck, 1980

**Distribution:** WEST PALAEARCTIC: Scattered records in northern and eastern Mediterranean, Spain and Caucasus (Rasmont 2016).

**Literature.** Lieftinck (1980): Beirut, 1900, 2♀, leg. Staudinger.

***Melecta (Eupavlovskia) obscura* Friese, 1895 \*** (fig. 27.1)

**Distribution: WEST PALAEARCTIC:** South-eastern Europe and Caucasus (Rasmont 2016).

***Melecta (Eupavlovskia) obscura* Friese, 1895 ssp. *simulatrix* (Lieftinck, 1969)**

**Material examined.** N. Lebanon: Hadath El Jebbeh, Al Fouar, 1535 m, 24.V.2017, 1♂, Rasmont P., Boustani M.; 30.V.2017, 3♂, leg. Boustani M., Rasmont P. all coll. PRAS; 1529 m, 7.VI.2019, 3♀, leg. Boustani M., Mouawad G., coll. MBOU.

**Flower record.** Fabaceae: *Vicia tenuifolia*.

***Melecta (Melecta) transcaspica* Morawitz, 1895**

**Distribution: WEST PALAEARCTIC:** North-eastern Mediterranean to the Caspian Sea East (Rasmont 2016).

**Unpublished records.** GBIF 2021, SEMC: Mount Lebanon, Deir el Harf, 1100 m, 1♀, 1♂, det. Baker D., leg. Roche C.G.

**Literature.** Lieftinck (1980): [N. Lebanon]: Nd. Liban., Cedern b. Becharré, 1900 m, 6.VI.1931, 1♂, det. Lieftinck M.A., leg. Zerny H.; Nr. Cedars Hotel, 6400 ft., 15.VI.1944, 1♂, det. Lieftinck M.A., leg. Cott H.B.

***Melecta (Melecta) tuberculata* Lieftinck, 1980**

**Distribution: WEST PALAEARCTIC:** Scattered records in Southern Europe and eastern Mediterranean (Rasmont 2016).

**Literature.** Lieftinck (1980): Labelled Syria, Beirut/12, located in current Lebanese territory, no date, 1♂, det. Lieftinck M.A., leg. Stoll, additional notes: “*M. aegyptiaca*, det.?” (MNB).

**Genus *Thyreus* Panzer, 1806**

Two species.

***Thyreus (Thyreus) histrionicus* (Illiger, 1806)**

**Distribution: WEST PALAEARCTIC:** Southern Europe and Mediterranean basin (Rasmont 2014d).

**Literature.** Lieftinck (1968): Beirut, IV.1919, 1♀, det. Lieftinck M.A., leg. Sewell E.S.

N. Lebanon, Bcharré, 4.VII.1931, 1♂, det. Lieftinck M.A., leg. Zerny H.

Bekaa, Akbé [Aaqbeh], VIII.1890, 1♀, det. Lieftinck M.A., leg. Delagrangue.

***Thyreus (Thyreus) ramosus* (Lepeletier, 1841)**

**Distribution: PALAEARCTIC:** Southern Europe and Mediterranean basin and further east to Russia (Rasmont 2014d).

**Unpublished records.** GBIF 2021, SEMC: Bekaa, Deri Mar Maroun, 700 m, 9.V.1996, 1♂; det. Baker D., leg. Roche C.G.

**Literature.** Lieftinck (1968): Beirut, 1967, 2♀, det. Lieftinck M.A.

## BOMBINI

**Genus *Bombus* Latreille, 1802**

Four species.

All Material examined determined by Rasmont P.

The wide range of floral preferences observed by Boustani *et al.* 2020, are reported here again with the addition of recent observations. Workers are referred to as “W”.

***Bombus (Megabombus) argillaceus* (Scopoli, 1763)** (fig. 27.2)

**Distribution: PALAEARCTIC:** Eastern Mediterranean distribution, stretching north to Czech Republic (Rasmont & Iserbyt 2010–2014) east to Russia, and south to Israel (Ascher & Pickering 2021).

Widespread in Lebanon from sea level to 2500 m of altitude and found in a wide range of habitats (Boustani *et al.* 2020). Local distribution fig. 17.3

**Unpublished records.** BDFGM: 1938, sex unknown, Reinig WF; Bcharre, VI.1977, 1♀, det. Campo & Rasmont, KLZR, coll. OOLL (mentioned in Boustani *et al.* 2020).

**Material examined.** Mount Lebanon: Dahr Al Baydar, 17.VII.1973, 1W, Sawfar, 1973, 1W, Bhamdoun, 28.IV.1975, 1♀, all coll. AUB; Arsoun, 2.V.2016, 1♀, leg. Boustani M., Kyrk S; Aintoura, Bkerki Valley, 8.V.2017, 1♀, leg. Nemeth T., all coll. MBOU. Additional 5W and 9♂ from 6 records collected between 14.VI.2017, and 15.VIII.2019, from Baskinta, Qornayel, Akoura, Mazraat Al Daher, Souk El Ghareb, and Maaser Al Chouf.

N. Lebanon: Horch Ehden, 1567 m, 19.VI.2016, 1♀, leg. Boustani M.; Arz Bcharre, 1928 m, 20.VI.2016, 1♀, leg. Boustani M., all coll. MBOU. Additional 10♀, 37W, and 12♂ from 36 records, collected between 2.V.2017 and 31.VII.2019, from Horch Ehden, Hadath El Jebbeh, Harissa, Horch Ehden, Arz Bcharre, Arz Tannourine, Horch Ehden, Bcharre, and Qanat.

S. Lebanon: Hilaliyah, 6.IV.1975, 1♀; Nahr Al Zahrani, 8.VI.1985, 1W, leg. Usayran W., all coll. AUB.

**Flower records.** Asteraceae: *Centaurea solstitialis*; Caprifoliaceae: *Cephalaria setosa* Caryophyllaceae: *Dianthus strictus*; Fabaceae: *Ononis natrix*, *Phlomis chrysophylla*, *Vicia canescens*, *Vicia tenuifolia*, *Vicia villosa*; Lamiaceae: *Marrubium libanoticum*, *Salvia microstegia*, *Scutellaria brevibracteata*, *Stachys ehrenbergii*; Plantaginaceae: *Linaria aucheri*; Ranunculaceae: *Delphinium ithaburense*.

### ***Bombus (Subterraneobombus) melanurus (Lepeletier, 1836)* (fig. 28.2)**

**Distribution: PALAEARCTIC:** Central Asia, reaching the Caucasus and eastern Turkey to the west (Rasmont *et al.* 2015).

Also restricted to altitudes above 1800 m in Lebanon (Boustani *et al.* 2020). Local distribution fig. 17.4

Literature mentioned in Boustani *et al.* (2020) from BDFGM: Qadisha, 1200 m, no date, 1♀, det. Williams P.H., leg. Higgins L.G., coll. BMNH; Arz Lubnan [Arz Bcharre], 1900 m, 5.VI.1931, 1♀, det. Williams P.H., leg. Zerny, coll. BMNH.

**Material examined.** N. Lebanon: Bcharre, Dahr El Adib, 2611 m, 20.VI.2016, 1W, leg. Boustani M.; Jord Bcharre, 2723 m, 24.VI.2016, 2♀, leg. Boustani M., all coll. MBOU. Additional 2♀, 18W, and 55♂, from 24 records, collected between 23.V.2017 and 20.VIII.2019, from Bcharre, Arz Bcharre, and Jord Tannourine.

**Flower records.** Asteraceae: *Cirsium lappaceum*, *Cousinia libanotica*; Boraginaceae: *Anchusa strigosa*; Fabaceae: *Vicia canescens*, *Vicia tenuifolia*; Lamiaceae: *Stachys ehrenbergii*; Papaveraceae: *Glaucium leiocarpum*.

### ***Bombus (Sibiricobombus) niveatus (Kriechbaumer, 1870) ssp. vorticosus (Gerstäcker, 1872)* (fig. 28.1)**

**Distribution: PALAEARCTIC:** Centred on the Aegean Sea, reaching the eastern part of European Russia to the north, Iran to the east, and Israel to the south (Rasmont *et al.* 2015).

Currently seems restricted to altitudes above 1800 m, despite older records from lower altitude areas (Boustani *et al.* 2020). Local distribution fig. 17.5

Literature records mentioned in Boustani *et al.* (2020), from BDFGM: 1 specimen, sex unspecified, 1870; Cedern b. Bisharri [Arz Bcharre], 12.VI.1931, 2 specimens, sex unspecified, Zerny H.; Locality not found “Barnasa, Duhor”, 17.V.1936, 2♀; 22.V.1936, 2♀, det. Arnoldi, coll. MZNSP; Bekaa, 1990, 2 specimens, sex unspecified; Mount Hermon, 2010, 1♂.

**Material examined.** Mount Lebanon: Qartaba, Matoube, 1648 m, 23.VII.2017, 1W, leg. Boustani M.

N. Lebanon: Horch Ehden, VI.2014, 1W, leg. Boustani C., Boustani M., Bcharre, Dahr El Adib, 2611 m, 20.VI.2016, 1♀, leg. Boustani M., coll. MBOU. Additional 23♀, 97W, and 76♂ from 52 records, collected between 8.VI.2017 and 20.VIII.2019, from Bcharre, Arz Bcharre, and Jord Tannourine.

**Flower records.** Asteraceae: *Centaurea pallescens*, *Cirsium lappaceum*, *Cousinia libanotica*; Fabaceae: *Astragalus angustifolius*, *Astragalus cruentiflorus*, *Vicia canescens*, *Vicia tenuifolia*; Lamiaceae: *Stachys cretica*, *Stachys ehrenbergii*.

### ***Bombus (Bombus) terrestris (L., 1758) ssp. calabricus Krüger, 1958* (fig. 27.3–4)**

**Distribution of *B. terrestris*: PALAEARCTIC:** Centered on the Mediterranean (except Egypt) stretching north to Stockholm and east to Altai (Rasmont *et al.* 2008, 2015; Rasmont & Iserbyt 2010–2014).

Widespread in Lebanon on the entire altitude range, missing information from Southern parts of Lebanon (Boustani

*et al.* 2020). Local distribution fig. 17.6

**Material examined.** Abundant and widespread.

Bekaa: Bawarij, 10.V.1975, 1W, coll. AUB; Ammiq, 973 m, 17.VIII.2017, 1♂, leg. Yammine W.; Ammiq, 973 m, 5.IX.2017, 3W, leg. Yammine W., all coll. Yammine W.; Kefraya, 1101 m, 27.IV.2019, 2♀, leg. Boustani M., coll. MBOU.

Mount Lebanon: Sawfar, 21.VI.1973, 2W; Falougha, 24.VI.1975, 2W; Aley, 25.VIII.1975, 1♂, all coll. AUB; Maameltein, Ras Al Maameltein, 21.III.1981, 1♀, leg. Shwayri; Hboub, 2.XII.2013, 1♀, leg. Makdissi R., all coll. USEK. Additional 2♀, 14W, and 8♂ from 14 records, collected between 3.XII.2014 and 7.VIII.2019, from Halate, Arsoun, Fatri, Baskinta, Beit Chabab, Qartaba, Jounieh, Qornayel, Jabal Moussa Biosphere Reserve, Mansourieh, Mazraat Al Daher, and Barouk.

N. Lebanon: Donnieh, 1200 m, 20.VI.2011, 7W, 1♀; Donnieh, Wadi Cehennem oberth. Quemmamine, 1393 m, 23.V.2012, 4W, 1♂; Donnieh, Nemrud-See, 245 m, 28.V.2012, 1♂; Jairoun, 1042 m, 29.V.2012, 6W; Jairoun, 29.V.2012, 1W, all leg. Kasperek M, coll. MKAS.; Horch Ehden, V.2014, 1W; Horch Ehden, VI.2014, 2W, 1♂; Horch Ehden, VII.2014, 2W, 1♂, all leg. Boustani C, Boustani M., all coll. MBOU; Batroun, XI.2014, 1♀, leg. Najem N., Saade C., coll. USEK; Horch Ehden, 1567 m, 19.VI.2016, 2W, 2♂, leg. Boustani M., Kyrk S.; Arz Bcharre, 1928 m, 20.VI.2016, 1W, leg. Boustani M., all coll. MBOU. Additional 15♀, 49W, and 87♂ from 69 records, collected between 22.VI.2016 and 23.VIII.2019, from Arz Bcharre, Hadath El Jebbe, Wadi Quannoubine, Jord Bcharre, Arz Tannourine, Horch Ehden, Harissa and Jord Tannourine.

**Flower records.** Apiaceae: *Prangos asperula*; Asphodelaceae: *Asphodelus microcarpus*; Asteraceae: *Centaurea eryngioides*, *Cousinia libanotica*, *Echinops gaillardotii*, *Echinops viscosus*; Berberidaceae: *Berberis libanotica*; Boraginaceae: *Cynoglossum nebrodense*, *Echium italicum*, *Solenanthes stamineus*; Caprifoliaceae: *Cephalaria setosa*, *Lonicera nummulariifolia*; Fabaceae: *Colutea cilicica*, *Genista libanotica*, *Ononis natrix*, *Vicia canescens*, *Vicia tenuifolia*, *Vicia villosa*; Lamiaceae: *Lotus gebelia* var *libanoticus*, *Marrubium libanoticum*, *Nepeta italica*, *Origanum ehrenbergii*, *Stachys cretica*, *Stachys ehrenbergii*; Malvaceae: *Alcea apterocarpa*; Ranunculaceae: *Ranunculus demissus*; Salicaceae: *Salix* sp.; Scrophulariaceae: *Verbascum* sp.

## APINI

### Genus *Apis* L., 1758

One species.

*Apis mellifera* L., 1758. Domesticated, widespread.

## Discussion

This paper assembles a total of **573** species of which **492** are taxa confirmed from examined material and primary literature sources. The high number of newly reported species, **289**, shows that Lebanon has been undersampled and understudied for wild bees as is the case for most other insect groups. Though these initial results allow for preliminary biogeographical analysis and regional comparisons, they also illuminate the very substantial knowledge shortfalls concerning the conservation status and population trends of the Lebanese bee fauna.

Though the results we present here are the most comprehensive to date, a more accurate assessment of the true level of bee diversity in Lebanon requires a clearer picture of the local species groups. Currently, several genera and species complexes occurring in the Levant are undergoing revisions such as *Andrena* (Wood *et al.* 2020a), *Anthophora* (Rasmont *et al.* in prep.) *Anthidiini* (Kasperek, in prep.), and *Eucera* (Dorchin *et al.* 2018). A good example of poorly understood genera can be found in the tribe Anthophoriini, in which *Anthophora* and *Amegilla* were last revised by Brooks (1988). Since then, no relevant update has been made, with many undescribed species and specimens with unclear identities from the Levant that require taxonomic attention.

In addition, some species have none or very little information available on their floral preferences and nesting ecology. Here we provide flower records for most species, including preferences of some of the less common taxa reported here for the first time. These observations allow for a preliminary assessment of the foraging range of some species, but require further verifications through pollen load analysis. Understanding floral preferences are important

for the conservation of native plants, and many of the reported species forage on plants endemic to Lebanon (i.e. *Vicia canescens*, *Cousinia libanotica*, *Stachys ehrenbergii*). The foraging preferences of the local bee fauna can also be expanded to their potential role in pollinating introduced plant species and agricultural crops. In addition, a good knowledge of the adequate nesting resources allows for a more accurate evaluation when designating protected areas for instance, as the presence of the food plant or host species is not always enough. Therefore, this ecological insight is also valuable in a decision-making context.

The species reported from Lebanon are predominantly composed of West Palaearctic taxa (n=311, 54.3%), others with a broader Palaearctic distribution (n=108, 18.8%), a rather similar proportion of taxa restricted to the East Mediterranean region (n=124, 21.7%), with an additional 4.9% (n=28) of species further restricted to the Levant. This leaves 0.3% (n=2) endemic species (i.e. *Andrena scrophulariae* and *Andrena prodigiosa*). These proportions follow similar patterns to the Portuguese bee fauna (Baldock *et al.* 2018, Wood *et al.* 2020b), with a majority of widespread taxa but with 21.1% of species restricted to the West Mediterranean, of which a third (6.2% of all species) are endemic to Iberia. Until now, the only known Lebanese endemics are the newly described species of *Andrena* (Wood *et al.* 2020a), both of which are likely to occur elsewhere in the Levant. On the other hand, the nearby island of Cyprus has 21 endemic reported bee species (Varnava *et al.* 2020). We expect its number of endemics to be much higher than in Lebanon even though both countries have comparable surface areas. Indeed, Cyprus is an island whereas the Lebanese territory is shaped by the great rift, extending the Mediterranean and arid habitats from Turkey in the north and to Egypt in the south, and the potential for movement of species across the borders is therefore much greater. In addition, the Anti-Lebanon mountain chain is shared with two neighbouring countries. This means that there is no geographical barrier around Lebanon that would be suitable for faunal endemism. The biogeography of the Lebanese bee fauna is therefore better analysed at the scale of the entire Levant, which is more geographically relevant to draw conclusions. However, being in a highly rugged area at the heart of the Levant, the Lebanese bee fauna is already highly diverse within the territory and the current surface/diversity ratio is high with 573 species from a surface area of 10,452 km<sup>2</sup>, compared to other Mediterranean mainland countries such as Portugal (Baldock *et al.* 2018) that has 722 species total for 92,000 km<sup>2</sup>. Further comparisons with small sized countries can also be made as the case of Slovenia (20,300 km<sup>2</sup>): 632 species, and Croatia (56,600 km<sup>2</sup>): 724 species (Ascher & Pickering 2021, see Lhomme *et al.* 2020), highlighting again the important number of bee taxa in Lebanon compared to its size. The true number of species is probably closer to 700 when considering the local coastal and arid areas that have been poorly sampled so far, and the aforementioned taxonomic issues that makes the identification of certain species groups difficult.

Overall, affinities of the Lebanese bee fauna seem to include (i) species from the mountains of Turkey, and more broadly Western Asia for many taxa found at the higher altitudes, (ii) species with Holo-Mediterranean and Ponto-Mediterranean distributions typical to humid Mediterranean habitats, and (iii) species found in arid habitats of the Levant and the Maghreb. The faunal affinities with the Turkish mountains observed by Boustani *et al.* (2020) for high altitude bumblebees, and by Wood *et al.* (2020a) for *Andrena* seem to be present in other groups as well. In the Xylocopinae for instance, *Xylocopa parviceps* that is predominantly restricted to altitudes above 1900 m in the mountains of Turkey and *Ceratina denesi* which was previously known from Adana (Turkey) (Terzo & Rasmont 2014) were both found in the higher altitudes of Mount Lebanon. Another example is *Habropoda hakkariensis* that until now was only reported from the Hakkari mountains in Turkey above 1000 m of altitude (Schwarz & Gusenleitner 2001, Rasmont 2014c). This work expands the known distribution range of these species, while providing records from their southernmost limit. As the mountainous plateau that follows the occidental fault stretching from Turkey south to the Sinai dwindles in altitude after the 3000 m peak of Mount Lebanon, and the 2814 m peak of Mount Hermon, these species are very unlikely to be found further south. These geographically isolated bee populations on the higher altitude plateau should be prioritised when working on conservation plans. On the other hand, it should also be recognised that many of the bee taxa presented here are also widespread throughout the Mediterranean basin, as can be seen with comparisons to the recently compiled Cypriot (Varnava *et al.*, 2020), Portuguese (Baldock *et al.* 2018, Wood *et al.* 2020b), and Maltese faunas (Balzan *et al.* 2016). Similarities with the Maghreb fauna are shown through many common *Anthophora* and *Xylocopa* species with Morocco, and roughly a quarter to two thirds common taxa in other genera such as *Andrena*, *Ceratina*, *Lasioglossum*, and *Eucera* (Lhomme *et al.* 2020). In addition, genera *Halictus* and *Lasioglossum* are among the most species rich along with *Andrena*, in line with findings of Lhomme *et al.* (2020) for Morocco and Varnava *et al.* (2020) for Cyprus. To date, no comprehensive work has summarised the state of the art knowledge of the bee faunas of Algeria, Tunisia, and Libya, but the

common species between the Lebanese and Moroccan faunas are likely to be found throughout Northern Africa (Patiny & Michez 2007).

The current knowledge of the Lebanese bee fauna provides little insight into the rarity and population trends of the local bees, and needs to be put in an appropriate context. Available IUCN conservation statuses of bee species have been assessed largely based on European distributions until now (Nieto *et al.* 2014), and country level assessments have been produced only for countries with a long history of bee fauna documentation like Switzerland, Belgium, or the Czech Republic (Cordillot & Klaus 2011, Straka & Bogusch 2017, Drossart *et al.* 2019). A detailed knowledge of the local distribution of bees is essential to produce accurate assessments, and this lack of knowledge for Lebanon highlights the importance of working towards a monitoring program that will allow the production of a national Red List of bees based on recent empirical data. However, this can be limited by access difficulties to several Lebanese regions due to geographical barriers and safety reasons.

Finally, additional collections in the coastal strip, the Bekaa valley and the Anti-Lebanon mountains are necessary to further our knowledge on the local bee fauna and to have a better representation of all habitats within Lebanon. Additionally, in order to allow for local expertise on bee taxa to develop, reference collections should be deposited in a suitable Lebanese institution such a university or a natural reserve where they can be accessible for study.

## Conclusion

This checklist highlights the diversity of the wild bee fauna of Lebanon and encourages further research and monitoring the present taxa. The compiled data in this paper that comes mainly from recent collections and literature contributes to a first checklist of the local bee fauna.

The local bee species have to be considered in conservation regulations as entities to protect, but also as active participants in the reproductive ecology of wild plants. They can also be introduced in long-term plans for sustainable agriculture as more information is available to estimate their pollination service value. This list also aims to provide preliminary ecological information on the currently known species, which can be used to inform environmental decision making. The local apifauna should be taken into account as well before importing non-native pollinators such as honeybees and bumblebees for agricultural pollination.

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## ANNEX I. Additional species list

This Annex assembles all species reported solely from the online databases GBIF and Discover life (Ascher & Pickering 2021), specimens in literature without original records or examined material to back them up, and unpublished records that have not been recently validated. This list also includes reports from the Lebanese border that could not be placed in Lebanon with certainty, such as older records from the borders along Mount Hermon, and all the material labelled “Syria” before the end of the French mandate, and that could be in the current Lebanese territory.

Material from the OÖLM has been checked for the following species as many collections from the Levant have been deposited there. We could not find specimens from Lebanon for any of them. It is likely that physical specimens from these taxa are present in other historical collections, and their presence in neighbouring countries implies that they are probably present in Lebanon as well. However, without a record from literature based on a physical specimen or recent material they cannot be added to the confirmed taxa list.

The order of the taxa follows the same order as the main manuscript listing.

## HYLAEINAE

### Genus *Hylaeus* Fabricius, 1793

#### *Hylaeus (Hylaeus) angustatus* (Schenck, 1859)

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

Mentioned from Lebanon by Ascher & Pickering (2021) and Scheuchl & Willner (2016).

#### *Hylaeus (Dentigera) brevicornis* Nylander, 1852

**Distribution:** PALAEARCTIC (Ascher & Pickering 2021).

Mentioned from Lebanon by Ascher & Pickering (2021) and Scheuchl & Willner (2016).

#### *Hylaeus (Dentigera) gredleri* Förster, 1871

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

Mentioned from Lebanon by Ascher & Pickering (2021) and Scheuchl & Willner (2016).

#### *Hylaeus (Prosopis) maculatus* (Alfken, 1904)

**Distribution:** WEST PALAEARCTIC: East Mediterranean to Iran, Algeria (Ascher & Pickering 2021).

Mentioned from Lebanon (Ascher & Pickering 2021).

#### *Hylaeus (Spatulariella) punctatus* (Brullé, 1832)

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

Mentioned from Lebanon by Ascher & Pickering (2021) and Scheuchl & Willner (2016).

#### *Hylaeus (Dentigera) rubicola* Saunders, 1850

**Distribution:** WEST PALAEARCTIC: Scattered records from NE Mediterranean, Egypt, Spain (Ascher & Pickering 2021).

Mentioned from Lebanon (Ascher & Pickering 2021).

#### *Hylaeus (Hylaeus) trifidus* (Alfken, 1936)

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean (Ascher & Pickering 2021).

Mentioned from Lebanon (Ascher & Pickering 2021).

## Andrenidae

## ANDRENINAE

### Genus *Andrena* Fabricius, 1775

The species below were listed in Wood *et al.* (2020a) and are reproduced here without distribution details or notes to avoid redundancy. General distribution categories can be found in ANNEX III.

#### *Andrena (Truncandrena) bassana* Warncke, 1969

#### *Andrena (Truncandrena) canae* Strand, 1915

#### *Andrena (Simandrena) combinata* (Christ, 1791)

#### *Andrena (Simandrena) dorsata* (Kirby, 1802)

#### *Andrena (Notandrena) erythrocnemis* Morawitz, 1870

*Andrena (Carandrena) falcinella* Warncke, 1969

*Andrena (Melandrena) grandilabris* Pérez, 1903

*Andrena (Margandrena) hyacinthina* Mavromoustakis, 1958

*Andrena (Nobandrena) iliaca* Warncke, 1969

*Andrena (Poecilandrena) kilikiae* Warncke, 1969

*Andrena (Simandrena) lepida* Schenck, 1861

*Andrena (Didonia) mucida* Kriechbaumer, 1873

*Andrena (Parandrenella) nisoria* Warncke, 1969

*Andrena (Notandrena) nitidiuscula* Schenck, 1853

*Andrena (Fumandrena) pandosa* Warncke, 1968

*Andrena (Poliandrena) polita* Smith, 1847

*Andrena (Chlorandrena) tadauchii* Gusenleitner, 1998

*Andrena (Poliandrena) toelgiana* Friese, 1921

*Andrena (Truncandrena) truncatilabris* Morawitz, 1877

*Andrena (Truncandrena) ulula* Warncke, 1969

*Andrena (Notandrena) urdula* Warncke, 1965

*Andrena (Simandrena) venerabilis* Alfken, 1935

## PANURGINAE

Genus *Camptopoeum* Spinola, 1843

*Camptopoeum (Camptopoeum) nigrotus* (Warncke, 1987)

**Distribution:** PALAEARCTIC: Levant, Uzbekistan (Ascher & Pickering 2021).  
Mentioned from Lebanon (Ascher & Pickering 2021).

*Camptopoeum (Camptopoeum) sacrum* Alfken, 1935

**Distribution:** PALAEARCTIC: Levant, Pakistan (Ascher & Pickering 2021).  
Mentioned from Lebanon (Ascher & Pickering 2021).

*Camptopoeum (Camptopoeum) variegatum* (Morawitz, 1876)

**Distribution:** PALAEARCTIC: Northern and eastern Mediterranean to Turkmenistan, Maghreb (Ascher & Pickering 2021).  
Mentioned from Lebanon (Ascher & Pickering 2021).

## HALICTIDAE

### ROPHITINAE

#### Genus *Rophites* Spinola, 1808

##### *Rophites (Rophites) algirus* Pérez, 1895

**Distribution:** WEST PALAEARCTIC: Spanning Europe to the Caucasus East and Scattered around the Mediterranean basin (Pauly & Patiny 2011).

Mentioned from Lebanon by Ascher & Pickering (2021) and Scheuchl & Willner (2016).

#### Genus *Dufourea* Lepeletier, 1841

##### *Dufourea (Cyprirophites) cypria* Mavromoustakis, 1952

**Distribution:** LEVANT (Ascher & Pickering 2021).

Mentioned from Lebanon (Ascher & Pickering 2021).

## HALICTINI

#### Genus *Lasioglossum* Curtis, 1833

##### *Lasioglossum (Evyllaenus) calceatum* (Scopoli, 1763) [= *L. (Sphecodogastra) calceatum*]

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

Mentioned from Lebanon by Ascher & Pickering (2021) and Scheuchl & Willner (2016).

##### *Lasioglossum (Evyllaenus) debiliior* (Pérez, 1910) [= *L. (Sphecodogastra) debiliior*]

**Distribution:** WEST PALAEARCTIC: Northern and eastern Mediterranean to eastern Iran (Pauly 2016a).

Mentioned from Lebanon (Ascher & Pickering 2021).

##### *Lasioglossum (Evyllaenus) euboense* (Strand, 1909) [= *L. (Sphecodogastra) euboense*]

**Distribution:** WEST PALAEARCTIC: Scattered records in Southern Europe (Pauly 2016a).

Mentioned from Lebanon by Ascher & Pickering (2021) and Scheuchl & Willner (2016).

##### *Lasioglossum (Dialictus) ituraeum* Ebmer, 1972

**Distribution:** WEST PALAEARCTIC: Levant and Iran (Pauly 2016c).

**Literature.** Ebmer *et al.* 1990: Mount Hermon, 1♂, coll. leg. MNHUB.

Bytinki & Ebmer 1974: Mount Hermon, 1♀, det. Pauly A.

##### *Lasioglossum (Ctenonomia) vagans* (Smith, 1857)

**Distribution:** PALAEARCTIC: Stretching from North Africa and the East Mediterranean to Japan (Ascher & Pickering 2021).

Mentioned from Lebanon (Ascher & Pickering 2021).

#### Genus *Seladonia* Robertson, 1918

##### *Seladonia (Seladonia) gemmea* (Dours, 1872)

**Distribution:** WEST PALAEARCTIC: Mediterranean basin (Pauly 2016d).

**Literature.** Blüthgen (1955): Listed under *Halictus gemmeus*, Dours, 1952



Reported from Syria, through a Friese specimen labelled so. The locality could be in current Lebanese territory.

## DASYPODAINAE

### Genus *Dasyпода* Latreille, 1802

#### *Dasyпода (Dasyпода) pyriformis* Radoszkowski, 1887

**Distribution:** WEST PALAEARCTIC: Northern Mediterranean basin (Michez *et al.* 2004).

**Literature.** Listed under *Dasyпода schlettereri* Friese, 1900

Friese (1901): 1♂ reported from Syria. Locality could be in current Lebanese territory.

## MEGACHILIDAE

## OSMIINI

### Genus *Chelostoma* Latreille, 1809

#### *Chelostoma (Foveosmia) forcipatum* (Benoist, 1928)

**Distribution:** EAST MEDITERRANEAN: Turkey, Israel (Müller 2021).

Mentioned from Lebanon (Ascher & Pickering 2021).

### Genus *Stenoheriades* Tkalcu, 1984

#### *Stenoheriades (Stenoheriades) asiatica* (Friese, 1921)

**Distribution:** EAST MEDITERRANEAN (Ascher & Pickering 2021).

GBIF 2021, SEMC: Labeled *Stenoheriades asiaticus*

Mount Lebanon, Monteverde nr. Mansourieh, 350 m, 6.V.1994, 1♂, leg. Roche C.G., determiner unknown.

### Genus *Hoplitis* Klug, 1807

#### *Hoplitis (Hoplitis) erythrogastra* (Mavromoustakis, 1954)

**Distribution:** WEST PALAEARCTIC: Scattered records in the eastern Mediterranean and North Africa (Müller 2021).

Mentioned from Lebanon by Müller (2021) and Ascher & Pickering (2021).

#### *Hoplitis (Anthocopa) semirubra* (Friese, 1899)

**Distribution:** LEVANT (Müller 2021).

**Literature.** Friese (1899): Mentioned from Syria, could be located in current Lebanese territory.

### Genus *Osmia* Panzer, 1806

#### *Osmia (Pyrosmia) laticauda* Stanek, 1969

**Distribution:** EAST MEDITERRANEAN: Turkey, Israel (Müller 2021).

GBIF 2021, SEMC: Identified as *Osmia tichodroma* Warncke, 1992

Mount Lebanon, Monteverde nr. Mansourieh, 350 m, 28.IV.1996, 1♀; Mount Lebanon, Salima, 800 m, 29.IV.1996, 1♀; determiner not specified for both occurrences, leg. Roche C.G.

#### *Osmia (Pyrosmia) hellados* Zanden, 1984

**Distribution:** WEST PALAEARCTIC: South-eastern Europe and Levant (Müller 2021)

GBIF 2021, SEMC: Identified as *Osmia gallarum hellados* Zanden, 1984.  
Mount Lebanon, Monteverde nr. Mansourieh, 350 m, 28.IV.1996, 1♀, leg. Roche C.G.

***Osmia (Helicosmia) signata* Erichson, 1835**

**Distribution: WEST PALAEARCTIC:** Southern Europe, Scattered records in Northern Africa, Levant, and further east to Russia (Müller 2021).

GBIF 2021, SEMC: Unknown location, label indicates Libanon [Lebanon], 1♂, 1900, det. Zanden G., leg. Schmiedeknecht O.

**Genus *Ochreriades* Mavromoustakis 1956**

***Ochreriades (Ochreriades) fasciatus* (Friese, 1899)**

**Distribution: LEVANT:** Syria, Jordan, Israel (Müller 2021)

**Unpublished records.** GBIF 2021, SEMC: South Lebanon, probably from Chaaitiyeh, June, 1♀, det. Baker D.

**Literature.** Friese (1899): Listed from Syria, could be located in current Lebanon.

**ANTHIDIINI**

**Genus *Anthidium* Fabricius, 1804**

***Anthidium (Anthidium) tessellatum* Klug, 1832**

**Distribution: WEST PALAEARCTIC:** Northern Africa, Eastern Mediterranean, Turkey, Iran (Ascher & Pickering 2021).

**Literature.** Mentioned from Lebanon by Warncke (1980) with no locality or date.

The presence of this species cannot be confirmed until recently collected material from this taxon has been found.

**Genus *Icteranthidium* Michener, 1948**

***Icteranthidium (Icteranthidium) ferrugineum* (Fabricius, 1787)**

The species needs taxonomic revision.

**Distribution: WEST PALAEARCTIC:** Scattered around the Mediterranean, Arabian Peninsula, and east to Kazakhstan (Ascher & Pickering 2021).

GBIF 2021, SEMC: S. Lebanon, Sour, 8.VIII.1995, 1♂, det. Baker D., leg. Roche C.G.

**Genus *Pseudoanthidium* Friese, 1898**

***Pseudoanthidium (Neanthidium) octodentatum* (Pérez, 1895)**

**Distribution: WEST PALAEARCTIC:** Records from Morocco and Libya. Ascher & Mentioned from Lebanon (Ascher & Pickering 2021).

**Genus *Stelis* Panzer, 1806**

***Stelis (Heterostelis) annulata* (Lepeletier, 1841)**

**Distribution: WEST PALAEARCTIC:** Extending from Algeria in the west to Turkey in the east in the Mediterranean. Stretching North to France and Switzerland (Kasperek 2015).

Mentioned from Lebanon without locality details (Ascher & Pickering 2021).

***Stelis (Stelis) simillima* Morawitz, 1876**

**Distribution:** WEST PALAEARCTIC (Kasperek 2015, Ascher & Pickering 2021, Kuhlmann *et al.* 2021).

This species was only reported by Grace (2010) under the synonym *Stelis genalis* Pasteels, 1969, Kasperek (2015) does not report it from Lebanon. This species listing is yet to be confirmed.

**Literature.** Grace (2010) reports it from Lebanon only, without date or locality details.

## MEGACHILINI

### Genus *Coelioxys* Latreille, 1809

***Coelioxys (Coelioxys) aurolimbata* Förster, 1853**

**Distribution:** WEST PALAEARCTIC (Kuhlmann *et al.* 2021).

Mentioned from Lebanon by Ascher & Pickering (2021) and Scheuchl & Willner (2016).

### Genus *Megachile* Latreille, 1802

***Megachile (Eutricharaea) communis* Morawitz, 1875**

**Distribution:** WEST PALAEARCTIC: Central Asia (Ascher & Pickering 2021).

GBIF 2021, SEMC: Bekaa, Der Mar Maroun, 700 m, 26.V.1996, 1♂, determiner unknown; 2.VI.1996, 1♀, determiner unknown, 1♂, det. Baker D.; 9.VI.1996, 1♂, determiner unknown; all leg. Roche C.G.

Viewing the distribution of this species, the taxon name may be wrongly assigned to the specimens, they have to be re-examined for confirmation.

***Megachile (Chalicodoma) lefebvrei* (Lepelletier, 1841)**

**Distribution:** WEST PALAEARCTIC: Northern and Western Mediterranean basin, Iran (Ascher & Pickering 2021).

GBIF 2021, SEMC: S. Lebanon: Hasbaya, 22.VI.1945, 1♀, det. Baker D., leg. Cawkell E.; Sour s.l., 28.V.1995, 1♀, det. Baker D., leg. Roche C.G.

***Megachile (Eutricharaea) schmiedeknechti* Costa, 1884**

**Distribution:** WEST PALAEARCTIC: Scattered records in France, Italy, Malta (Ascher & Pickering 2021).

GBIF 2021, SEMC: N. Lebanon, Jebel Kammouha, 1200 m, 1.X.1995, 1♂, det. Baker D., leg. Roche C.G.

***Megachile (Eutricharaea) rubrimana* Morawitz, 1893**

**Distribution:** WEST PALAEARCTIC: Scattered records in Southern and Eastern Europe and Central Asia (Ascher & Pickering 2021).

GBIF 2021, SEMC: S. Lebanon, Sour s.l., 28.V.1995, 1♂, det. Baker D., leg. Roche C.G.

## APIDAE

### NOMADINI

#### Genus *Nomada* Scopoli, 1770

***Nomada (Nomada) glaberrima* Schmiedeknecht, 1882**

**Distribution:** WEST PALAEARCTIC: South-eastern Europe, northern and eastern Mediterranean to Eastern Russia (Ascher & Pickering 2021).

**Literature.** Reported by Grace (2010) with no details.

***Nomada (Nomada) caspia* Morawitz, 1894**

**Distribution: PALAEARCTIC:** Stretching between Croatia to the west and Turkmenistan to the east (Ascher & Pickering 2021).

Mentioned from Lebanon (Ascher & Pickering 2021).

***Nomada (Nomada) confinis* Schmiedeknecht, 1882**

**Distribution: WEST PALAEARCTIC:** Southern Europe, Levant and east to Iran (Ascher & Pickering 2021).

Mentioned from Lebanon by Ascher & Pickering (2021) and Scheuchl & Willner (2016).

***Nomada (Nomada) fenestrata* Lepeletier, 1841**

**Distribution: PALAEARCTIC:** Scattered records around the Mediterranean and east to Pakistan (Ascher & Pickering 2021).

Mentioned from Lebanon (Ascher & Pickering 2021).

## EPEOLINI

**Genus *Epeolus* Latreille, 1802**

***Epeolus (Epeolus) bischoffi* (Mavromoustakis, 1954)**

**Distribution: EAST MEDITERRANEAN:** Levant and Cyprus (Ascher & Pickering 2021).

Mentioned from Lebanon (Ascher & Pickering 2021).

## CERATINI

**Genus *Ceratina* Latreille, 1802**

***Ceratina (Euceratina) bifida* Friese, 1900**

**Distribution: WEST PALAEARCTIC:** Ponto-Mediterranean (Terzo & Rasmont 2011).

Reported from Lebanon by Terzo (1998).

***Ceratina (Euceratina) zwakhalsi* Terzo & Rasmont 1997**

**Distribution: EAST MEDITERRANEAN:** Levant and further east to Iran (Terzo & Rasmont 2011).

Mentioned from Lebanon (Ascher & Pickering 2021), reported from Anti-Lebanon mountains (Terzo & Rasmont 2011).

## AMMOBATOIDINI

**Genus *Ammobatoides* Radoszkowski, 1868**

***Ammobatoides (Ammobatoides) abdominalis* (Eversmann, 1852)**

**Distribution: WEST PALAEARCTIC** (Ascher & Pickering 2021).

Mentioned from Lebanon (Ascher & Pickering 2021) and reported by Grace (2010) with no details.

## EUCERINI

**Genus *Eucera* Scopoli, 1770**

***Eucera (Atopeucera) alfkeni* Risch, 2003**

**Distribution: EAST MEDITERRANEAN** Israel, Syria and Iran.

Mentioned from Lebanon: N. Lebanon: Cedern bei Becharre [Arz Bcharre] (Ascher & Pickering 2021).

***Eucera (Cubitalia) baal* Engel, 2006**

**Distribution:** LEVANT: Lebanon, Israel (Ascher & Pickering 2021).

A very similar species *Cubitalia monstruosa* (Risch, 1999) has been described from Turkey.

**Literature.** Engel M.S., 2006: Mount Hermon, 1500 m, 26.IV.1992, 1♀, det. Engel M. leg. Kasher R.

***Eucera (Heterucera) bidentata* Pérez, 1887**

**Distribution:** WEST PALAEARCTIC: SE Europe, Cyprus, Turkey, Syria, Jordan, Israel. To be expected in Lebanon.

GBIF 2021, SEMC: Beirut, Garden of St. Joseph University, 28.III.1949, 1♂, determiner unspecified, leg. Kullenberg B.

***Eucera (Eucera) nigrescens* Pérez, 1879**

**Distribution:** PALAEARCTIC: Southern Europe and east to Russia, eastern Mediterranean and further east to Turkmenistan (Ascher & Pickering 2021).

GBIF 2021, SEMC: Beirut, Jardin des Jésuites, 1♂, determiner unknown, leg. Kullenberg B.

Mount Lebanon, Monteverde, nr. Mansourieh, 350 m, 27.III.1994, 1♂, det. Baker D.; 22.II.1996, 1♂, det. Baker D.; 18.III.1996, 1♂, determiner unknown, all leg. Roche C.G.

Notes: *Eucera nigrescens* Pérez is replaced in the east Mediterranean area by the similar *E. cypria* Alfken. The occurrence of *E. nigrescens* is very unlikely.

***Eucera (Pareucera) nigrita* Friese, 1895**

*Eucera nigrita* is a junior synonym of *E. albofasciata* Friese.

**Distribution:** WEST PALAEARCTIC (Ascher & Pickering 2021).

One non referenced record from Lebanon without locality (Ascher & Pickering 2021).

## ANTHOPHORINI

**Genus *Amegilla* Friese, 1897**

***Amegilla (Zebramegilla) punctifrons* (Walker, 1871)**

**Distribution:** EAST MEDITERRANEAN: Egypt (Rasmont 2014a).

GBIF 2021, SEMC: Bekaa, Xara [Ksara], VII–VIII.1934, 1♂, det. Brooks R., leg. Werner.

**Genus *Anthophora* Latreille, 1803**

***Anthophora (Lophanthophora) atricilla* Eversmann, 1846 \***

**Distribution:** WEST PALAEARCTIC: Scattered records in the Caucasus and eastern Mediterranean (Rasmont 2014b).

**Material examined.** Specimen without label, 1♀, coll. AUB

This taxon will need to be confirmed with recent material as the only specimen examined has no label.

***Anthophora (Pyganthophora) atroalba* Lepeletier, 1841**

**Distribution:** WEST PALAEARCTIC: Southern Europe, Mediterranean basin (Rasmont 2016).

Mentioned from Lebanon (Ascher & Pickering 2021).

This taxon is possibly confused with *A. dalmatica* which is present in Lebanon.

***Anthophora (Lophanthophora) biciliata* Lepeletier, 1841**

**Distribution:** WEST PALAEARCTIC: Scattered records in the Northern Mediterranean basin. (Ascher & Pickering 2021).

Taxon wrongly synonymised with *A. affinis* and *A. mucida* (Rasmont 1995).

GBIF 2021, SEMC: Mount Lebanon, Nahr El Kelb [Naher Al Kaleb] (from label information), 12.V.1953, 1♀, determiner unknown, leg. Mavromoustakis G.A.

***Anthophora (Paramegilla) blanda* Pérez, 1895**

**Distribution: WEST PALAEARCTIC:** Scattered records in the Maghreb (Rasmont 2014b).

BDFGM: Syria, VIII.1899, 1♂, det. Rasmont P., leg. Morice F., coll. Vogt, Leiden.

This locality probably refers to current Lebanon.

***Anthophora (Lophanthophora) hispanica* (Fabricius, 1787)**

**Distribution: WEST PALAEARCTIC:** Western, southern and eastern Mediterranean basin (Rasmont 2014b).

**Literature.** Friese (1897): Mentioned from Syria, the locality could be in current Lebanese territory.

## MELECTINI

**Genus *Melecta* Latreille, 1802**

***Melecta (Melecta) ashabadensis* Radoszkowski, 1893**

**Distribution: PALAEARCTIC:** Very few records from Turkmenistan, and Turkey (unconfirmed) (Rasmont 2014).

**Literature.** Friese (1895): Mentioned from Syria, could be located in current Lebanon.

***Melecta (Melecta) festiva* Lieftinck, 1980**

**Distribution: WEST PALAEARCTIC:** Southern Europe, East Mediterranean, Caucasus (Rasmont 2016).

**Literature.** Lieftinck 1980: Records from Israel: Mount Hermon, 1650 m, 8.VI.1975, 4♂, det. Lieftinck M.A., leg. Kugler; 1700 m, 11.VI.1976, 1♀, 1♂, det. Lieftinck M.A., leg. Simon D.; 1400 m, 31.V.1978, 1♂, det. Lieftinck M.A., leg. Furth D.; 1800 m, 11.VI.1976, 1♂, det. Lieftinck M.A., leg. Freidberg A.; 1650 m, 8.VI.1975, 1♀, det. Lieftinck M.A., leg. Kugler.

***Melecta (Melecta) luctuosa* (Scopoli, 1770)**

**Distribution: WEST PALAEARCTIC:** (Rasmont 2016).

Mentioned from Lebanon (Ascher & Pickering 2021).

## ANNEX II

Excluded species. This Annex groups all of the species which we are confident have been incorrectly identified. They are therefore excluded from the list of unconfirmed species.

**Genus *Panurgus* Panzer, 1806**

***Panurgus (Panurgus) cavannae* Gribodo, 1880**

**Literature.** Friese (1901): Several specimens from Beirut, 21.IV–5.V.

**Notes.** Synonymised with *Panurgus siculus* Morawitz, 1872 by Warncke (1972). *Panurgus siculus* has a distribution of southern Italy, Corsica, and Sardinia (Patiny 2012). Warncke (1972) treated both *P. siculus* and *P. posticus* as subspecies of *P. dentipes* Latreille, 1811 due to their morphological similarity. Additionally, the *P. posticus* material that Warncke described from Lebanon was also from Beirut, and so we suspect that it may be the same material that Friese called *P. cavannae*. Certainly, we consider the presence of a Corsico-Sardinian-Italian endemic in Lebanon highly unlikely.

**Genus *Halictus* Latreille, 1804**

***Halictus atrovirens* Pérez, 1903**

**Distribution: WEST PALAEARCTIC:** Mediterranean basin (Pauly 2016c).

Junior synonym of *Lasioglossum soror* (Saunders, 1901), see Pauly (2016c).

**Literature.** Bytinski-Salz & Ebmer (1974): Reported from Mount Hermon.

### **Genus *Protosmia* Ducke, 1900**

#### ***Protosmia (Nanosmia) asensioi* Griswold & Parker, 1987**

The restricted distribution of this taxon to Spain and Portugal (Müller 2021) is likely to indicate a misidentification. Examination is necessary to confirm this record.

GBIF 2021, SEMC: Bekaa (labelled Mt. Lebanon), Hazerta, 1400 m, 6.V.1996, 1♂, det. Baker D., leg. Roche C.G.

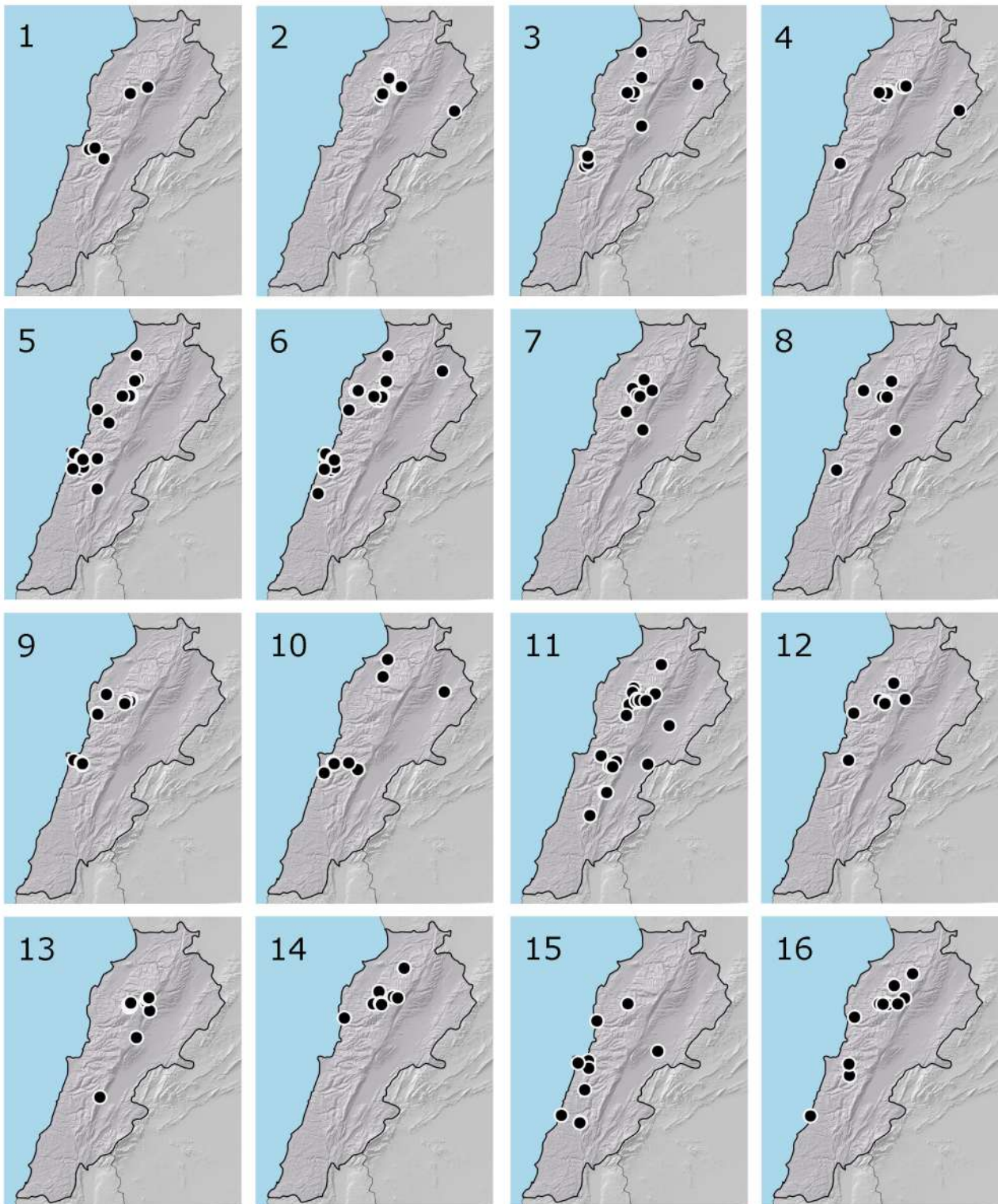
### **Genus *Xylocopa* Latreille, 1802**

#### ***Xylocopa hottentotta* Smith, 1854**

**Distribution:** Sub-Saharan Africa (Terzo & Ramont 2014).

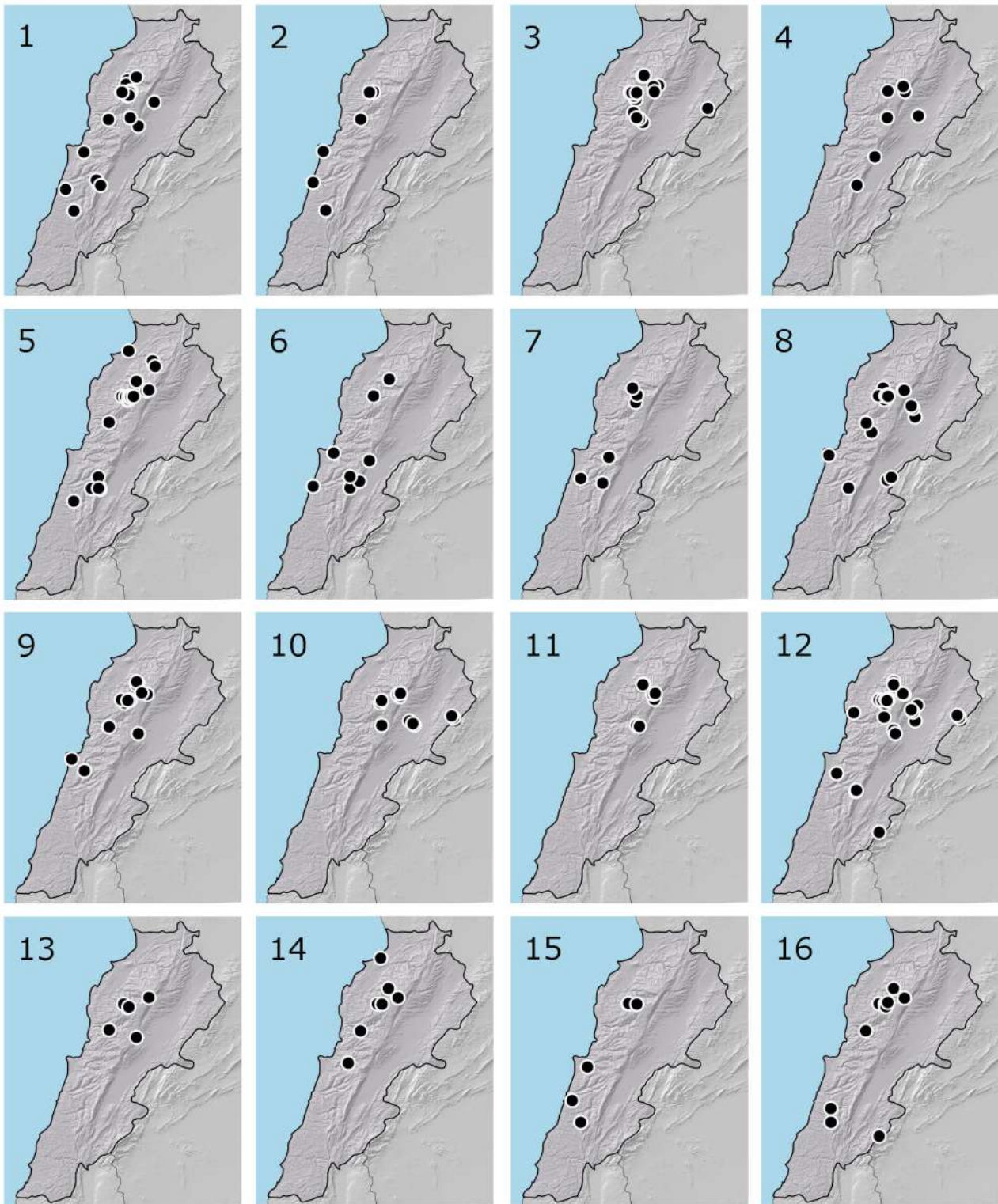
**Literature.** Friese (1901): Mentioned from Syria without locality details.

There has been a great deal of confusion on the old records of this taxon in Northern Africa and the Levant. These records could be either referable to either *X. sulcatipes* Maa, 1970 or *X. ustulata* Smith, 1854 (Terzo & Ramont 2014), but we feel confident that they do not correspond to true *X. hottentotta*.

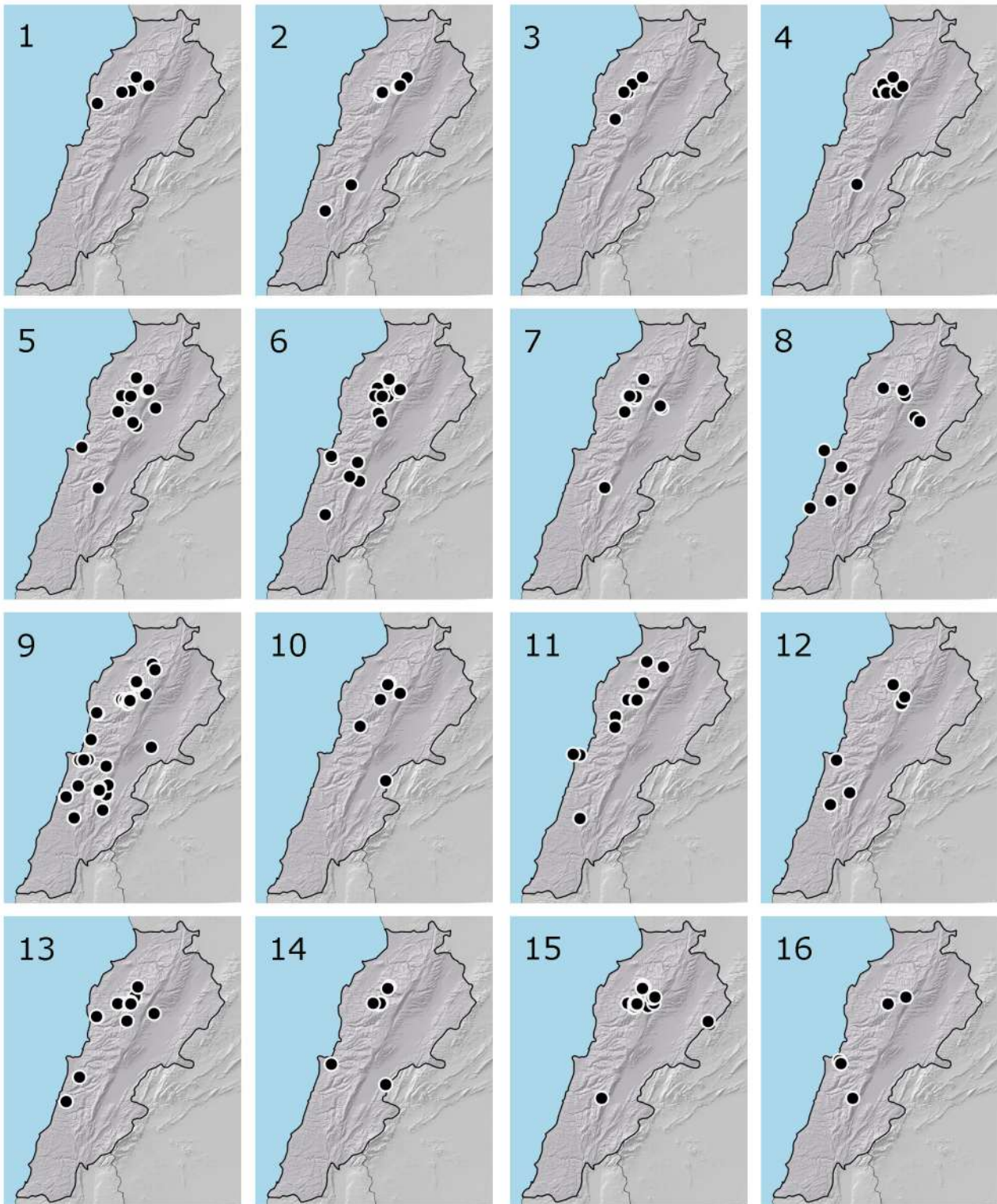


**FIGURE 10.** Local distribution maps of material examined and literature of 1 *Colletes similis*, 2 *Colletes tuberculatus*, 3 *Hylaeus imparilis*, 4 *Hylaeus kahri*, 5 *Hylaeus lineolatus*, 6 *Hylaeus longimacula*, 7 *Hylaeus meridionalis*, 8 *Hylaeus syriacus*, 9 *Hylaeus taeniolatus*, 10 *Hylaeus variegatus*, 11 *Andrena flavipes*, 12 *Andrena hesperia*, 13 *Andrena labialis*, 14 *Andrena nigroaenea*, 15 *Andrena rufomaculata*, 16 *Andrena similis*.

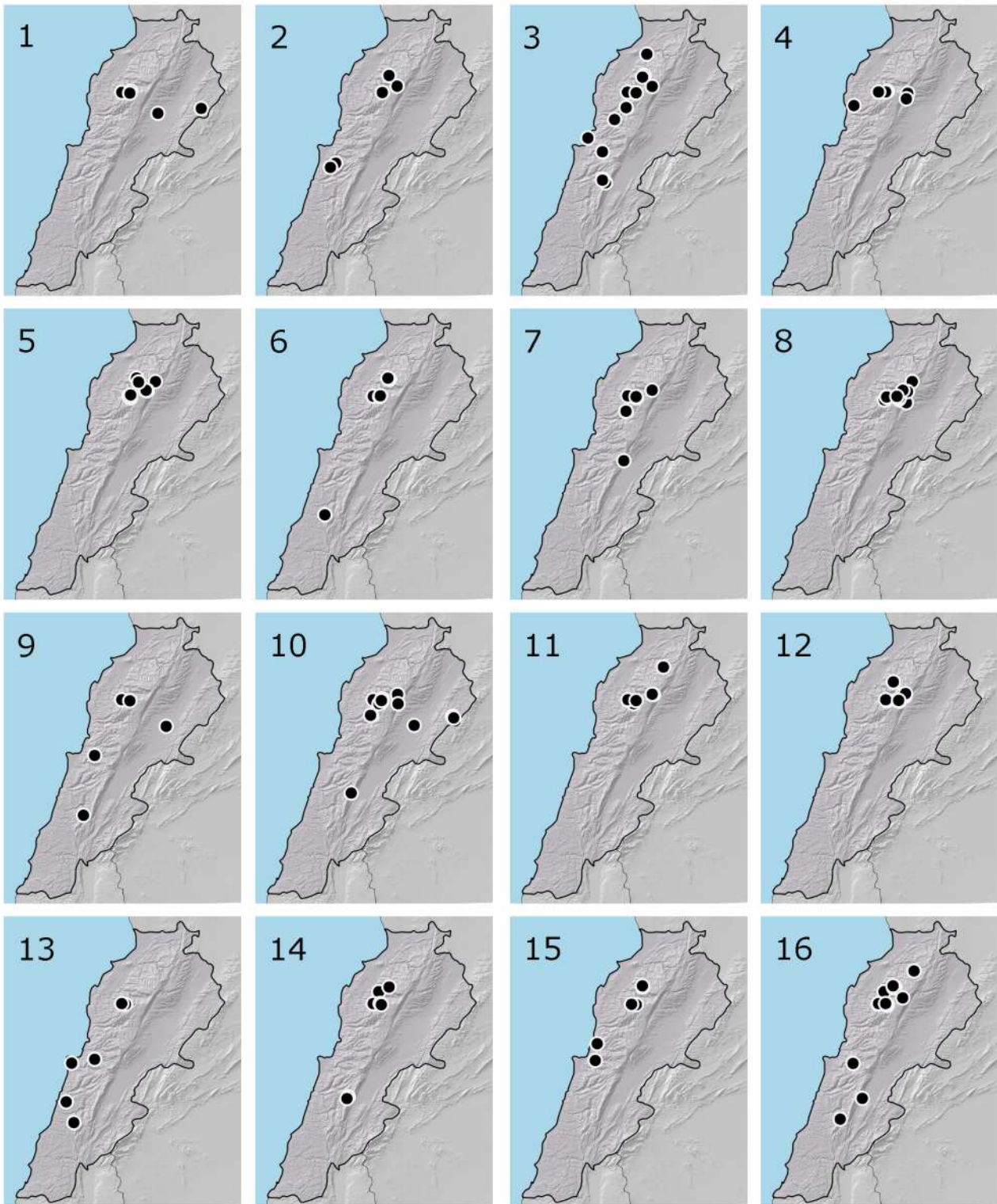




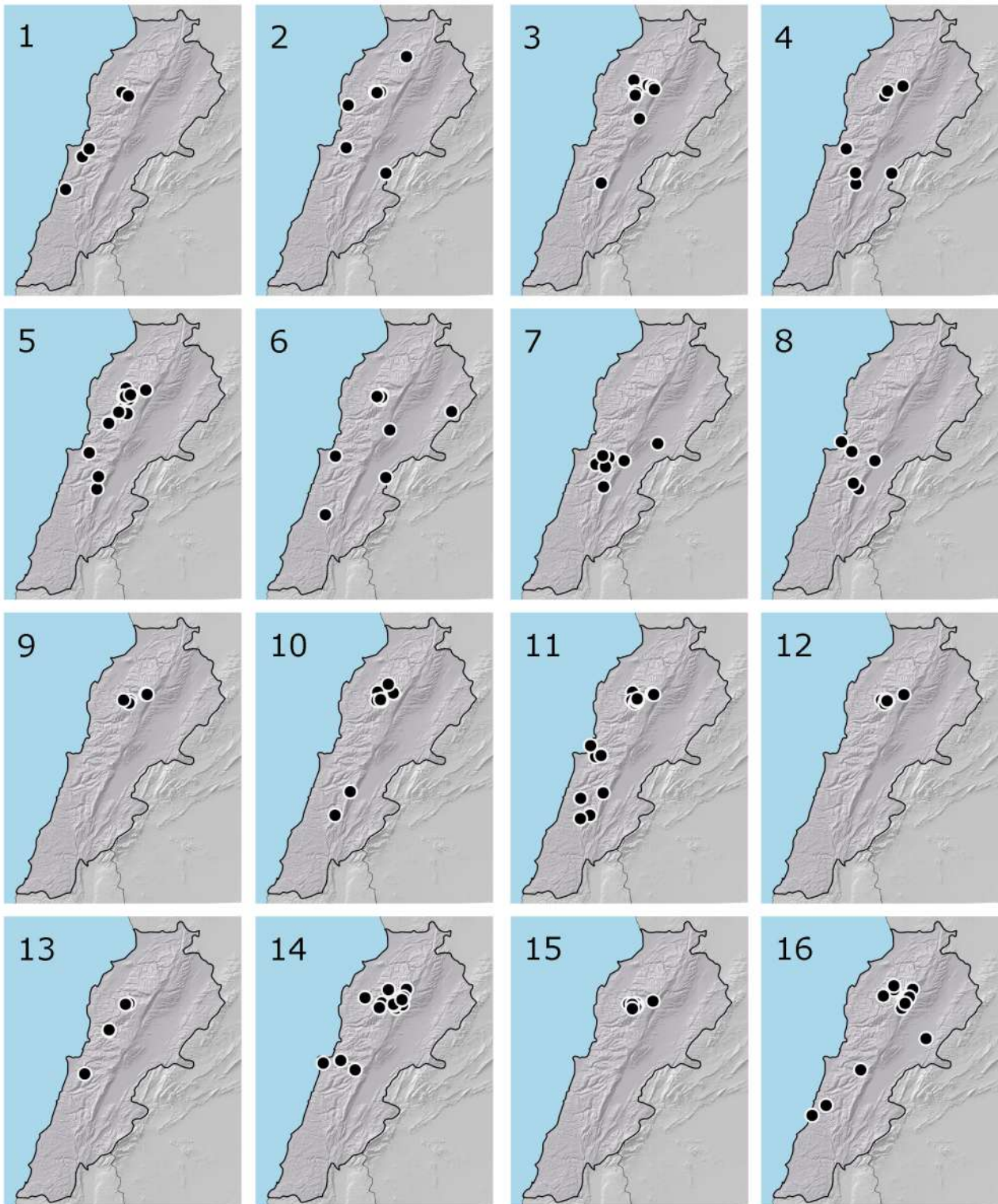
**FIGURE 11.** Local distribution maps of material examined and literature of **1** *Halictus aegypticola*, **2** *Halictus berlandi*, **3** *Halictus beytueschebapensis*, **4** *Halictus brunnescens*, **5** *Halictus patellatus*, **6** *Halictus resurgens*, **7** *Halictus sexcinctus*, **8** *Seladonia cephalica*, **9** *Seladonia subaurata*, **10** *Seladonia tuberculata*, **11** *Seladonia vestita*, **12** *Lasioglossum anellum*, **13** *Lasioglossum angusticeps*, **14** *Lasioglossum brevicorne*, **15** *Lasioglossum cristula*, **16** *Lasioglossum dolichocephalum*.



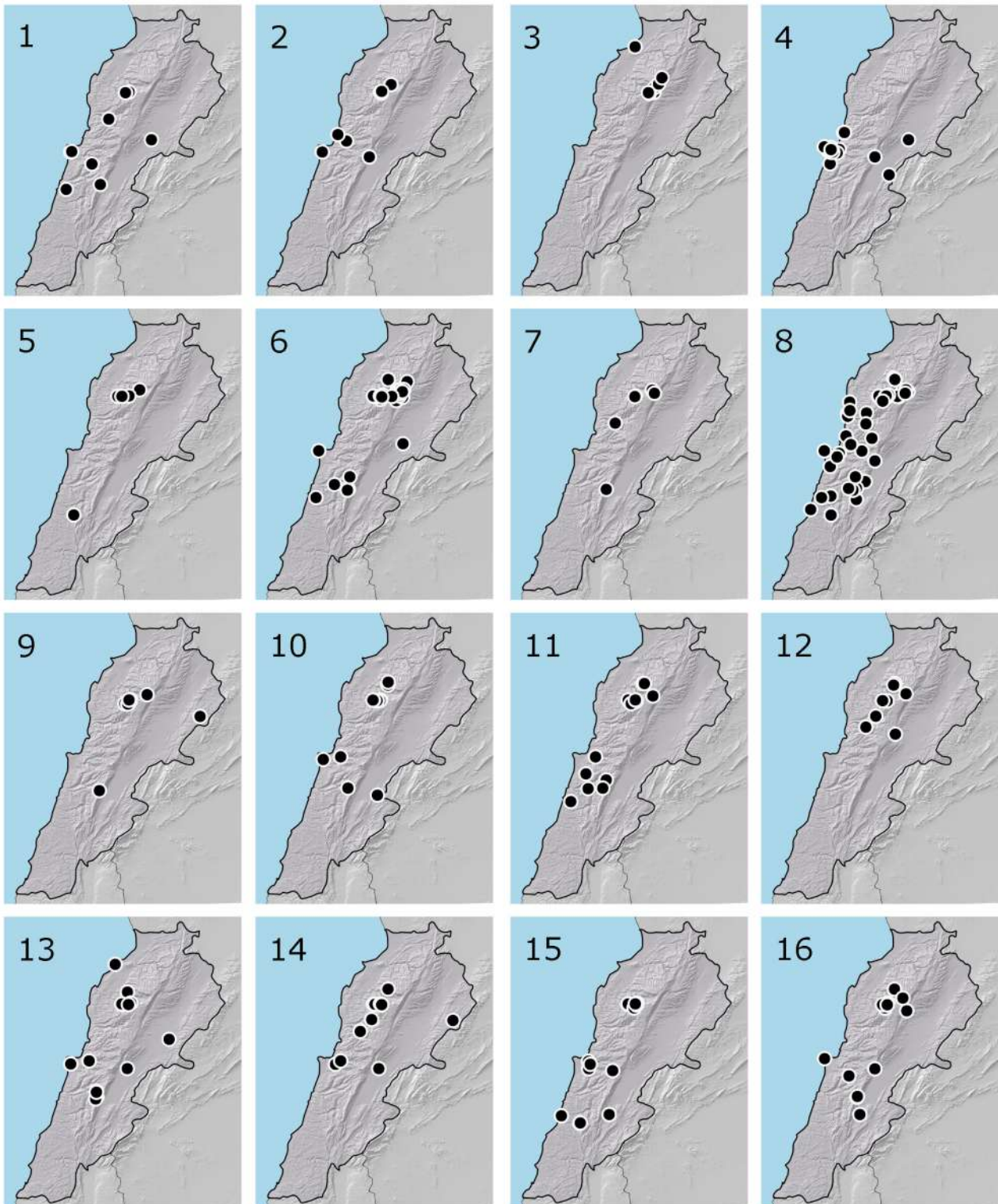
**FIGURE 12.** Local distribution maps of material examined and literature of 1 *Lasioglossum elatum*, 2 *Lasioglossum enslini*, 3 *Lasioglossum interruptum*, 4 *Lasioglossum laeve*, 5 *Lasioglossum laticeps*, 6 *Lasioglossum lineare*, 7 *Lasioglossum longirostre*, 8 *Lasioglossum malachurum*, 9 *Lasioglossum marginatum*, 10 *Lasioglossum morio*, 11 *Lasioglossum nigripes*, 12 *Lasioglossum politum*, 13 *Lasioglossum pseudosphecodimorphum*, 14 *Lasioglossum punctatissimum*, 15 *Lasioglossum semiaeneum*, 16 *Lasioglossum tadschicum*.



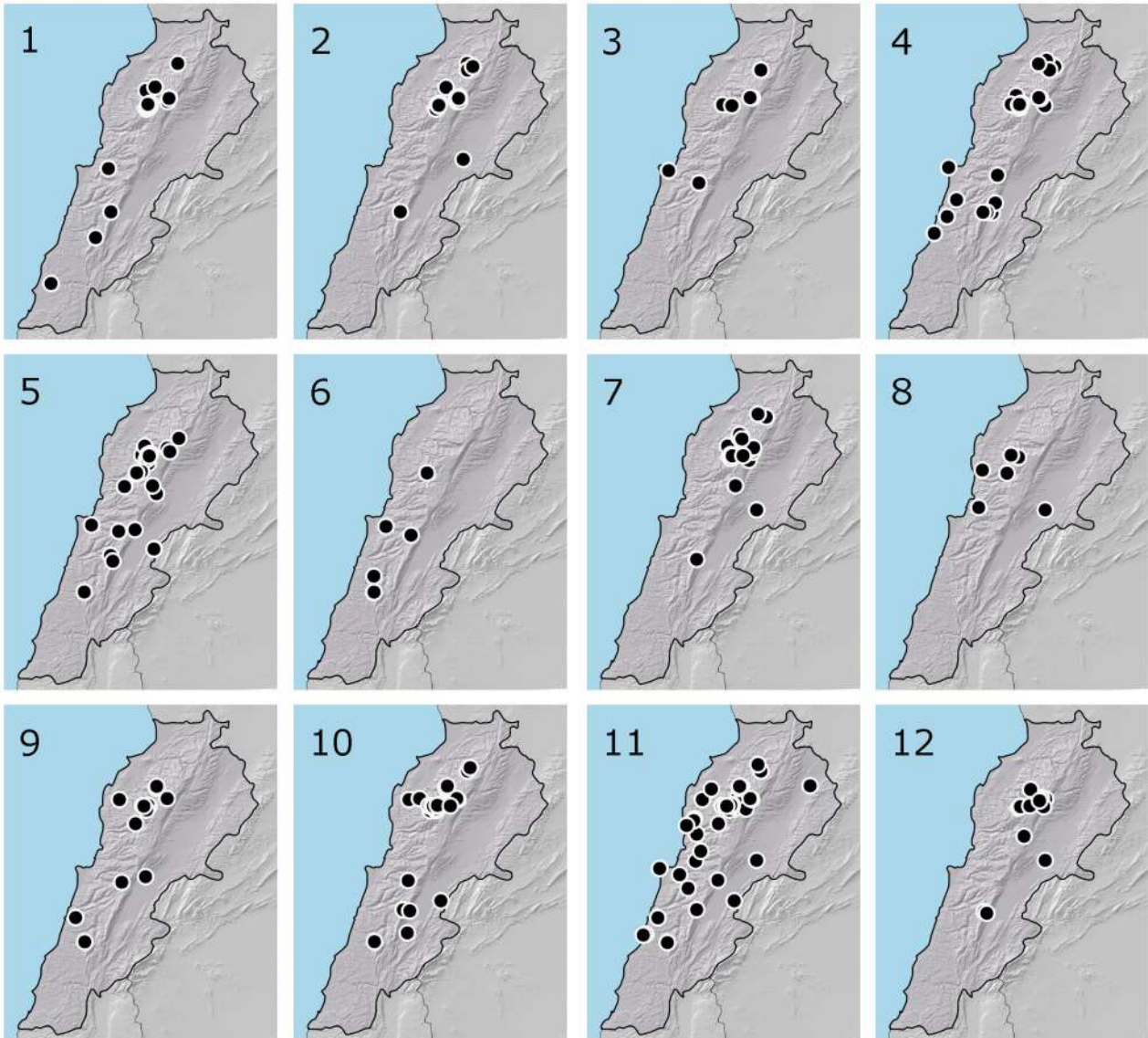
**FIGURE 13.** Local distribution maps of material examined and literature of 1 *Lasioglossum truncaticolle*, 2 *Lasioglossum villosulum*, 3 *Heriades truncorum*, 4 *Hoplitis pallicornis*, 5 *Osmia aurulenta*, 6 *Osmia bicornis*, 7 *Osmia caerulescens*, 8 *Osmia difficilis*, 9 *Osmia dimidiata*, 10 *Osmia distinguenda*, 11 *Osmia melanogaster*, 12 *Osmia mustelina*, 13 *Osmia niveata*, 14 *Osmia scutellaris*, 15 *Osmia submicans*, 16 *Protosmia longiceps*.



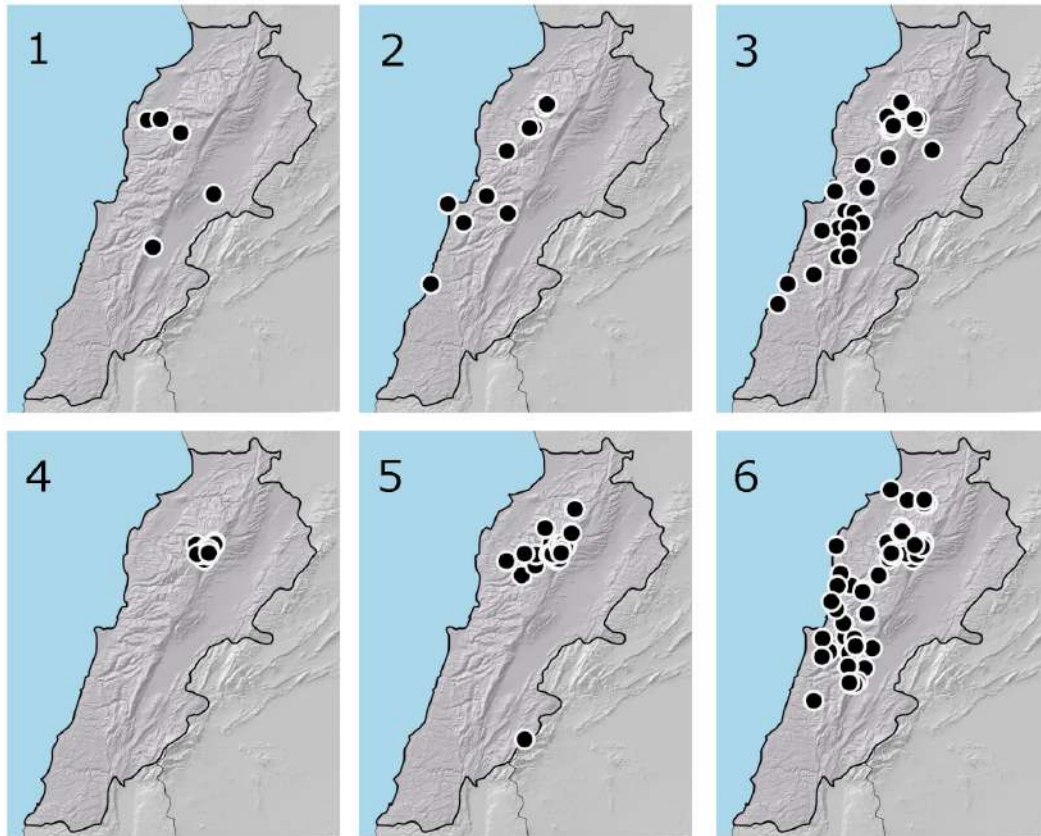
**FIGURE 14.** Local distribution maps of material examined and literature of **1** *Protosmia monstrosa*, **2** *Anthidiellum strigatum*, **3** *Anthidium christianseni*, **4** *Anthidium loti*, **5** *Anthidium manicatum*, **6** *Anthidium undulatum*, **7** *Anthidium wuestneii*, **8** *Eoanthidium judaeense*, **9** *Icteranthidium grohmanni*, **10** *Rhodanthidium caturigense*, **11** *Rhodanthidium septemdentatum*, **12** *Megachile apicalis*, **13** *Megachile doriae*, **14** *Megachile manicata*, **15** *Megachile montenegrensis*, **16** *Megachile parietana*.



**FIGURE 15.** Local distribution maps of material examined and literature of 1 *Xylocopa iris*, 2 *Xylocopa olivieri*, 3 *Xylocopa parviceps*, 4 *Xylocopa pubescens*, 5 *Xylocopa rufa*, 6 *Xylocopa valga*, 7 *Xylocopa varentzowi*, 8 *Xylocopa violacea*, 9 *Ceratina acuta*, 10 *Ceratina bispinosa*, 11 *Ceratina cucurbitina*, 12 *Ceratina dentiventris*, 13 *Ceratina mandibularis*, 14 *Exoneuridia libanensis*, 15 *Eucera cypria*, 16 *Eucera gaullei*.



**FIGURE 16.** Local distribution maps of material examined and literature of **1** *Eucera helvola*, **2** *Eucera interrupta*, **3** *Eucera nigrifacies*, **4** *Eucera plumigera*, **5** *Amegilla albigena*, **6** *Amegilla garrula*, **7** *Anthophora aestivalis*, **8** *Anthophora crinipes*, **9** *Anthophora mucida*, **10** *Anthophora nigriceps*, **11** *Anthophora plumipes*, **12** *Anthophora robusta*.



**FIGURE 17.** Local distribution maps of material examined and literature of **1** *Anthophora rogenhoferi*, **2** *Habropoda tarsata*, **3** *Bombus argillaceus*, **4** *Bombus melanurus*, **5** *Bombus niveatus*, **6** *Bombus terrestris*.



**FIGURE 18.** 1 *Hylaeus sidensis*♂, 2 *Andrena colletiformis*♂, 3 *Andrena elmaria*♀, 4 *Andrena flavipes*♀, 5 *Andrena rufula*♀, 6 *Hoplitis pallicornis*♂. All pictures by Pierre Rasmont.





**FIGURE 19.** 1 *Osmia andrenoides*♂, 2 *Osmia difficilis*♂, 3 *Osmia dilaticornis*♀, 4 *Osmia versicolor*♂, 5 *Anthidium manicatum*♀, 6 *Anthidium manicatum*♂. All pictures by Pierre Rasmont.



**FIGURE 20.** 1 *Anthidium trispinosum*♂, 2 *Rhodanthidium caturigense*♀, 3 *Rhodanthidium septemdentatum*♂, 4 *Megachile manicata*♀, 5 *Megachile manicata*♂, 6 *Megachile parietana*♀. All pictures by Pierre Rasmont.



**FIGURE 21 . 1** *Xylocopa iris* ♀, **2** *Xylocopa olivieri* ♂, **3** *Xylocopa parviceps* ♂, **4** *Xylocopa valga* ♂, **5** *Ceratina bispinosa* ♂, **6** *Nomada lucidula* ♂. All pictures by Pierre Rasmont.



**FIGURE 22.** 1 *Nomada radoszkowskii* ♂, 2 *Eucera cypria* ♀, 3 *Eucera longicornis atricollis* ♂, 4 *Eucera penicillata* ♀, 5 *Eucera penicillata* ♂, 6 *Eucera plumigera* ♀. All pictures by Pierre Rasmont.



**FIGURE 23.** 1 *Eucera plumigera*♂, 2 *Amegilla quadrifasciata*♀, 3 *Amegilla albigena*♀, 4 *Anthophora aestivalis*♀, 5 *Anthophora aestivalis*♂, 6 *Anthophora crinipes*♀. All pictures by Pierre Rasmont.



**FIGURE 24.** 1 *Anthophora crinipes*♂, 2 *Anthophora dalmatica*♂, 3 *Anthophora mucida*♀, 4 *Anthophora mucida*♂, 5 *Anthophora nigriceps*♀, 6 *Anthophora nigriceps*♂. All pictures by Pierre Rasmont.



**FIGURE 25.** 1 *Anthophora orientalis*♀, 2 *Anthophora orientalis*♂, 3 *Anthophora pedata*♂, 4 *Anthophora plumipes*♀, 5 *Anthophora plumipes*♂, 6 *Anthophora rogenhoferi*♀. All pictures by Pierre Rasmont.



**FIGURE 26.** 1 *Habropoda hakkariensis*♀, 2 *Habropoda hakkariensis*♂, 3 *Habropoda tarsata*♀, 4 *Habropoda tarsata*♂, 5 *Habropoda zonatula*♀, 6 *Habropoda zonatula*♂. All pictures by Pierre Rasmont.





**FIGURE 27.** 1 *Melecta obscura simulatrix*♂, 2 *Bombus argillaceus*♀, 3 *Bombus terrestris calabricus*♀, 4 *Bombus terrestris calabricus*♂. All pictures by Pierre Rasmont.



**FIGURE 28.** 1 *Bombus niveatus vorticoides* ♀ on *Vicia canescens*, 2 *Bombus melanurus* ♀ on *Cousinia libanotica*, 3 *Megachile parietana* ♀ on *Lotus gebelia libanoticus*, 4 *Xylocopa valga* ♂ on *Vicia canescens*, 5 *Megachile doriae* ♂ on *Echinops* sp., 6 *Dasypoda spinigera* ♀ on *Scabiosa argentea*. Pictures taken by Mira Boustani.

Boustani et al. 2021. *Bees of Lebanon* . ANNEX III, Taxon distribution

Taxon	Endemic	Levant	East Mediterranean	West palaearctic	Palaearctic	New to Lebanon	Material Examined	Literature	ANNEX I	ANNEX II
<i>Colletes cariniger</i>			X			X	X			
<i>Colletes caskanus</i>				X		X	X			
<i>Colletes mlokoszewiczi</i>					X	X	X			
<i>Colletes nasutus</i>				X		X	X			
<i>Colletes similis</i>					X		X	X		
<i>Colletes tuberculatus</i>					X	X	X			
<i>Hylaeus armeniacus</i>			X			X	X			
<i>Hylaeus clypearis</i>				X		X	X			
<i>Hylaeus communis</i>					X	X	X			
<i>Hylaeus cornutus</i>				X		X	X			
<i>Hylaeus crispulus</i>			X			X	X			
<i>Hylaeus damascenus</i>				X		X	X			
<i>Hylaeus imparilis</i>					X	X	X			
<i>Hylaeus iranicus</i>			X			X	X			
<i>Hylaeus kahri</i>				X		X	X			
<i>Hylaeus kotschisus</i>			X			X	X			
<i>Hylaeus lineolatus</i>				X		X	X			
<i>Hylaeus longimacula</i>				X		X	X			
<i>Hylaeus meridionalis</i>					X	X	X			
<i>Hylaeus pictus</i>				X		X	X			
<i>Hylaeus punctulatissimus</i>				X		X	X			
<i>Hylaeus punctus</i>				X		X	X			
<i>Hylaeus rugicollis</i>			X			X	X			
<i>Hylaeus sidensis</i>			X			X	X			
<i>Hylaeus soror</i>				X		X	X			
<i>Hylaeus styriacus</i>					X	X	X			
<i>Hylaeus syriacus</i>			X			X	X			
<i>Hylaeus taeniolatus</i>				X		X	X			
<i>Hylaeus variegatus</i>					X	X	X			
<i>Andrena abruptifovea</i>		X						X		
<i>Andrena albopunctata</i>					X			X		
<i>Andrena alfkenella</i>				X				X		
<i>Andrena alfkenelloides</i>				X				X		
<i>Andrena anatolica</i>				X				X		
<i>Andrena aruana</i>		X						X		
<i>Andrena asiatica</i>			X					X		
<i>Andrena bicolor</i>					X			X		
<i>Andrena bisulcata</i>				X				X		
<i>Andrena brumanensis</i>				X				X		
<i>Andrena bytinskii</i>			X					X		
<i>Andrena cedricola</i>		X						X		
<i>Andrena christineae</i>			X					X		
<i>Andrena colletiformis</i>					X			X		
<i>Andrena cyanomicans</i>				X				X		
<i>Andrena dauma</i>			X					X		
<i>Andrena dorsana</i>				X				X		
<i>Andrena elmaria</i>			X					X		
<i>Andrena exquisita</i>			X					X		
<i>Andrena flavipes</i>					X			X		
<i>Andrena forsterella</i>				X				X		
<i>Andrena freidbergi</i>		X						X		
<i>Andrena fuligula</i>			X					X		
<i>Andrena fulvitaris</i>				X				X		
<i>Andrena fuscata</i>					X			X		
<i>Andrena gallinula</i>			X					X		
<i>Andrena garrula</i>			X					X		
<i>Andrena hesperia</i>					X			X		
<i>Andrena hova</i>			X					X		
<i>Andrena humabilis</i>		X						X		
<i>Andrena humilis</i>					X			X		
<i>Andrena isabellina</i>			X					X		
<i>Andrena krausiella</i>		X						X		
<i>Andrena labialis</i>					X			X		
<i>Andrena labiata</i>					X			X		
<i>Andrena leucopsis</i>				X		X	X			
<i>Andrena limata</i>					X			X		
<i>Andrena lindbergella</i>			X					X		
<i>Andrena magunta</i>				X				X		
<i>Andrena medeninensis</i>				X				X		
<i>Andrena melittoides</i>			X					X		
<i>Andrena merula</i>			X					X		
<i>Andrena minutula</i>				X				X		
<i>Andrena minutuloides</i>				X				X		
<i>Andrena monacha</i>			X					X		
<i>Andrena morio</i>					X			X		
<i>Andrena nigroaenea</i>					X			X		
<i>Andrena oedicnema</i>			X					X		
<i>Andrena optata</i>				X				X		
<i>Andrena orientana</i>				X				X		
<i>Andrena ovatula aggregate</i>				X				X		
<i>Andrena pallidicincta</i>			X					X		
<i>Andrena panurgimorpha</i>			X					X		
<i>Andrena pilipes</i>					X			X		

<i>Andrena pinkeunia</i>		X						X	
<i>Andrena prodigiosa</i>	X							X	
<i>Andrena pyropygia</i>					X			X	
<i>Andrena rotundilabris</i>			X					X	
<i>Andrena rufitibialis</i>			X					X	
<i>Andrena rufomaculata</i>			X					X	
<i>Andrena rufula</i>				X				X	
<i>Andrena rugothorace</i>				X				X	
<i>Andrena rugulosa</i>				X		X	X		
<i>Andrena rusticola</i>			X					X	
<i>Andrena schencki</i>					X			X	
<i>Andrena scrophulariae</i>	X							X	
<i>Andrena serraticornis</i>			X					X	
<i>Andrena sigiella</i>		X						X	
<i>Andrena similiis</i>				X				X	
<i>Andrena simantornyella</i>				X				X	
<i>Andrena sphecodimorpha</i>				X				X	
<i>Andrena spreta aggregate</i>				X				X	
<i>Andrena statusa</i>			X					X	
<i>Andrena stenofovea</i>		X						X	
<i>Andrena thomsoni</i>				X				X	
<i>Andrena thoracica</i>					X			X	
<i>Andrena tiaretta</i>				X				X	
<i>Andrena torda</i>			X					X	
<i>Andrena transitoria</i>					X			X	
<i>Andrena trimmerana</i>				X				X	
<i>Andrena tringa</i>				X				X	
<i>Andrena tscheki</i>				X				X	
<i>Andrena ungeri</i>				X				X	
<i>Andrena uncinata</i>			X					X	
<i>Andrena unifasciata</i>		X						X	
<i>Andrena variabilis</i>					X			X	
<i>Andrena ventricosa</i>				X				X	
<i>Andrena vetula</i>					X			X	
<i>Panurgus posticus</i>			X				X	X	
<i>Panurgus pyropygus</i>			X					X	
<i>Melitturga praestans</i>				X				X	
<i>Halictus aegypticola</i>			X				X	X	
<i>Halictus asperulus</i>				X		X	X		
<i>Halictus berlandi</i>			X				X	X	
<i>Halictus beytueschebapensis</i>			X			X	X		
<i>Halictus brunnescens</i>					X	X	X		
<i>Halictus fatsensis</i>			X			X	X		
<i>Halictus galilaeus</i>					X	X	X		
<i>Halictus hermon</i>		X				X	X		
<i>Halictus maculatus</i>					X	X	X		
<i>Halictus patellatus</i>				X		X	X		
<i>Halictus resurgens</i>				X		X	X		
<i>Halictus sexcinctus</i>				X		X	X		
<i>Halictus squamosus</i>			X				X	X	
<i>Halictus subalfkenellus</i>			X				X	X	
<i>Halictus tetrazonianellus</i>				X			X	X	
<i>Seladonia cephalica</i>			X				X	X	
<i>Seladonia phryganica</i>			X			X	X		
<i>Seladonia pollinosa</i>					X	X	X		
<i>Seladonia seladonia</i>					X	X	X		
<i>Seladonia subaurata</i>				X			X	X	
<i>Seladonia submediterranea</i>				X		X	X		
<i>Seladonia tuberculata</i>			X				X	X	
<i>Seladonia vestita</i>				X			X		
<i>Lasioglossum adaliae</i>		X				X	X		
<i>Lasioglossum aegyptiellum</i>				X		X	X		
<i>Lasioglossum algericoellum</i>				X		X	X		
<i>Lasioglossum algirum</i>					X	X	X		
<i>Lasioglossum anellum</i>				X		X	X		
<i>Lasioglossum angusticeps</i>				X		X	X		
<i>Lasioglossum annulipes</i>					X	X	X		
<i>Lasioglossum bluethgeni</i>				X		X	X		
<i>Lasioglossum brevicorne</i>				X		X	X		
<i>Lasioglossum caspicum</i>					X	X	X		
<i>Lasioglossum clypeare</i>				X		X	X		
<i>Lasioglossum clypeiferellum</i>			X			X	X		
<i>Lasioglossum convexiusculum</i>				X		X	X		
<i>Lasioglossum corvinum</i>				X		X	X		
<i>Lasioglossum costulatum</i>				X		X	X		
<i>Lasioglossum crassepunctatum</i>				X		X	X		
<i>Lasioglossum cristula</i>				X		X	X		
<i>Lasioglossum damascenum</i>				X		X	X		
<i>Lasioglossum discum</i>				X		X	X		
<i>Lasioglossum dolichocephalum</i>				X		X	X		
<i>Lasioglossum elatum</i>			X			X	X		
<i>Lasioglossum enslini</i>		X					X	X	
<i>Lasioglossum epipygiale</i>				X		X	X		
<i>Lasioglossum filipes</i>					X	X	X		
<i>Lasioglossum glabriusculum</i>				X		X	X		
<i>Lasioglossum griseolum</i>				X		X	X		
<i>Lasioglossum hethiticum</i>				X		X	X		

<i>Lasioglossum interruptum</i>				X		X	X			
<i>Lasioglossum iranicum</i>			X			X	X			
<i>Lasioglossum israelense</i>			X			X	X			
<i>Lasioglossum kussariense</i>				X		X	X			
<i>Lasioglossum laeve</i>				X		X	X			
<i>Lasioglossum laeviodorsum</i>				X		X	X			
<i>Lasioglossum laevinode</i>				X		X	X			
<i>Lasioglossum laticeps</i>				X		X	X			
<i>Lasioglossum leucozonium</i>					X	X	X			
<i>Lasioglossum limbelloides</i>			X				X		X	
<i>Lasioglossum lineare</i>				X		X	X			
<i>Lasioglossum longirostre</i>			X			X	X			
<i>Lasioglossum lucidulum</i>					X	X	X			
<i>Lasioglossum malachurum</i>				X		X	X			
<i>Lasioglossum marginatum</i>					X	X	X			
<i>Lasioglossum mesosclerum</i>				X		X	X			
<i>Lasioglossum montifringillum</i>			X			X	X			
<i>Lasioglossum morio</i>				X		X	X			
<i>Lasioglossum nigripes</i>				X		X	X			
<i>Lasioglossum nitidiusculum</i>				X		X	X			
<i>Lasioglossum pallens</i>				X		X	X			
<i>Lasioglossum politum</i>					X	X	X			
<i>Lasioglossum pseudolittorale</i>			X						X	
<i>Lasioglossum pseudosphecodimorphum</i>			X			X	X			
<i>Lasioglossum punctatissimum</i>				X		X	X			
<i>Lasioglossum puncticolle</i>				X		X	X			
<i>Lasioglossum pygmaeum</i>				X		X	X			
<i>Lasioglossum semiaeneum</i>					X	X	X			
<i>Lasioglossum soror</i>				X		X	X			
<i>Lasioglossum subaenescens</i>				X		X	X			
<i>Lasioglossum subfasciatum</i>				X		X	X			
<i>Lasioglossum tadschicum</i>					X	X	X			
<i>Lasioglossum transitorium</i>				X		X	X			
<i>Lasioglossum truncaticolle</i>				X		X	X			
<i>Lasioglossum villosulum</i>					X	X	X			
<i>Lasioglossum xanthopus</i>				X		X	X			
<i>Thrincohalictus prognathus</i>			X				X		X	
<i>Sphecodes barbatus</i>			X			X	X			
<i>Sphecodes dusmeti</i>					X	X	X			
<i>Sphecodes gibbus</i>					X	X	X			
<i>Sphecodes monilicornis</i>					X	X	X			
<i>Sphecodes pellucidus</i>					X	X	X			
<i>Sphecodes puncticeps</i>					X	X	X			
<i>Sphecodes spinulosus</i>					X	X	X			
<i>Nomiapis diversipes</i>					X	X	X			
<i>Nomiapis equestris</i>			X				X		X	
<i>Pseudapis nilotica</i>				X					X	
<i>Nomioides minutissimus</i>					X	X	X			
<i>Dasygaster spinigera</i>				X		X	X			
<i>Lithurgus chrysurus</i>				X					X	
<i>Chelostoma aegaicum</i>			X			X	X			
<i>Chelostoma bytinskii</i>		X				X				
<i>Chelostoma diodon</i>			X			X	X			
<i>Chelostoma comosum</i>			X						X	
<i>Chelostoma foveolatum</i>				X		X	X			
<i>Chelostoma lucens</i>			X			X	X			
<i>Chelostoma maidli</i>			X			X	X			
<i>Chelostoma mocsaryi</i>					X	X	X			
<i>Chelostoma schlettereri</i>			X						X	
<i>Chelostoma ventrale</i>				X		X	X			
<i>Heriades clavicornis</i>					X				X	
<i>Heriades punctulifera</i>				X			X		X	
<i>Heriades rubicola</i>				X		X	X			
<i>Heriades truncorum</i>					X	X	X			
<i>Stenoheriades levantica</i>		X					X		X	
<i>Hoplitis acuticornis</i>					X	X	X			
<i>Hoplitis annulata</i>				X			X		X	
<i>Hoplitis bisulca</i>				X		X	X			
<i>Hoplitis campanularis</i>				X		X	X			
<i>Hoplitis ciliaris</i>				X		X	X			
<i>Hoplitis daniana</i>			X			X	X			
<i>Hoplitis duckeana</i>				X		X	X			
<i>Hoplitis libanensis</i>		X							X	
<i>Hoplitis lysholmi</i>		X							X	
<i>Hoplitis obtusa</i>				X			X		X	
<i>Hoplitis pallicornis</i>				X		X	X			
<i>Hoplitis pici</i>				X			X			
<i>Hoplitis praestans</i>				X		X	X			
<i>Hoplitis lebanotica</i>			X						X	
<i>Hoplitis unispina</i>			X			X	X			
<i>Hoplitis yemasoyiae</i>				X					X	
<i>Osmia amathusica</i>				X		X	X			
<i>Osmia andreoides</i>				X		X	X			
<i>Osmia aquila</i>			X			X	X			
<i>Osmia aurulenta</i>				X			X		X	
<i>Osmia avosetta</i>			X				X		X	
<i>Osmia bicornis</i>				X		X	X			

<i>Osmia bidentata</i>				X		X	X			
<i>Osmia breviata</i>			X			X	X			
<i>Osmia caerulescens</i>				X		X	X			
<i>Osmia cephalotes</i>				X		X	X			
<i>Osmia clypearis</i>			X			X	X			
<i>Osmia cornuta</i>				X		X	X			
<i>Osmia difficilis</i>					X		X	X		
<i>Osmia dilaticornis</i>				X		X	X			
<i>Osmia dimidiata</i>				X			X	X		
<i>Osmia distinguenda</i>				X		X	X			
<i>Osmia forticornis</i>				X		X	X			
<i>Osmia gutturalis</i>			X			X	X			
<i>Osmia kuznetzovi</i>				X		X	X			
<i>Osmia labialis</i>				X		X	X			
<i>Osmia melanogaster</i>				X		X	X			
<i>Osmia mirhiji</i>			X						X	
<i>Osmia moreensis</i>				X		X	X			
<i>Osmia mustelina</i>				X			X	X		
<i>Osmia nana</i>				X			X	X		
<i>Osmia nigrohirta</i>				X		X	X			
<i>Osmia niveata</i>				X			X	X		
<i>Osmia oramara</i>				X		X	X			
<i>Osmia rhodoensis</i>				X			X	X		
<i>Osmia rufohirta</i>				X		X	X			
<i>Osmia saxicola</i>					X	X	X			
<i>Osmia scutellaris</i>				X		X	X			
<i>Osmia signata</i>				X		X	X			
<i>Osmia spinigera</i>				X					X	
<i>Osmia subcornuta</i>					X	X	X			
<i>Osmia submicans</i>				X			X	X		
<i>Osmia sybarita</i>				X		X	X			
<i>Osmia teunissenii</i>				X		X	X			
<i>Osmia thoracica</i>				X		X	X			
<i>Osmia versicolor</i>				X			X	X		
<i>Protosmia glutinosa</i>				X		X	X			
<i>Protosmia longiceps</i>			X				X	X		
<i>Protosmia monstrosa</i>				X			X	X		
<i>Protosmia paradoxa</i>			X						X	
<i>Protosmia tiflensis</i>				X		X	X			
<i>Afranidium lebanense</i>			X						X	
<i>Afranidium pusillum</i>					X		X	X		
<i>Anthidiellum troodicum</i>				X			X	X		
<i>Anthidiellum strigatum</i>				X			X	X		
<i>Anthidium christianseni</i>			X				X	X		
<i>Anthidium syriacum</i>		X					X	X		
<i>Anthidium diadema</i>				X		X	X			
<i>Anthidium florentinum</i>				X			X	X		
<i>Anthidium gussakovskiji</i>				X		X	X			
<i>Anthidium loti</i>				X			X	X		
<i>Anthidium manicatum</i>					X		X	X		
<i>Anthidium venustum</i>				X					X	
<i>Anthidium rotundum</i>			X				X	X		
<i>Anthidium spiniventre</i>					X	X	X	X		
<i>Anthidium taeniatum</i>				X			X	X		
<i>Anthidium trispinosum</i>				X			X	X		
<i>Anthidium undulatifforme</i>				X			X	X		
<i>Anthidium undulatum</i>				X				X	X	
<i>Anthidium wuestneii</i>				X				X	X	
<i>Eoanthidium hoplostomum</i>			X						X	
<i>Eoanthidium insulare</i>				X			X	X		
<i>Eoanthidium judaeense</i>			X				X	X		
<i>Icterantheidium cimbiciforme</i>				X		X	X	X		
<i>Icterantheidium fedtschenkoi</i>				X					X	
<i>Icterantheidium grohmanni</i>				X				X	X	
<i>Pseudoanthidium aff. cribratum</i>				X					X	
<i>Pseudoanthidium melanurum</i>				X					X	
<i>Pseudoanthidium reticulatum</i>				X				X	X	
<i>Pseudoanthidium stigmaticorne</i>				X		X	X			
<i>Rhodanthidium aculeatum</i>			X					X	X	
<i>Rhodanthidium caturigense</i>				X				X	X	
<i>Rhodanthidium exsectum</i>				X					X	
<i>Rhodanthidium septemdentatum</i>				X				X	X	
<i>Stelis denticulata</i>		X				X	X			
<i>Stelis minuta</i>				X					X	
<i>Stelis nasuta</i>				X					X	
<i>Stelis ruficornis</i>			X						X	
<i>Stelis signata</i>				X					X	
<i>Trachusa verhoeffi</i>			X						X	
<i>Coelioxys argenteus</i>				X		X	X			
<i>Megachile albisecta</i>				X		X	X			
<i>Megachile albonotata</i>					X	X	X			
<i>Megachile apicalis</i>				X		X	X			
<i>Megachile burdigalensis</i>				X		X	X			
<i>Megachile inexpectata</i>				X		X	X			
<i>Megachile doriae</i>			X					X	X	
<i>Megachile ericetorum</i>				X				X	X	
<i>Megachile flabellipes</i>				X		X	X			

<i>Megachile foersteri</i>				X			X	X		
<i>Megachile giraudi</i>					X	X	X			
<i>Megachile hirsuta</i>					X	X	X			
<i>Megachile hungarica</i>		X				X	X			
<i>Megachile lagopoda</i>					X				X	
<i>Megachile monstiflora</i>				X					X	
<i>Megachile leucomalla</i>				X		X	X			
<i>Megachile manicata</i>				X			X	X		
<i>Megachile montenegrensis</i>					X	X	X			
<i>Megachile parietana</i>				X			X	X		
<i>Megachile pilicrus</i>				X		X	X			
<i>Megachile pilidens</i>				X		X	X			
<i>Megachile pyrenaica</i>					X	X	X			
<i>Megachile sanguinipes</i>				X		X	X			
<i>Megachile sicula</i>				X		X	X			
<i>Xylocopa iris</i>					X		X	X		
<i>Xylocopa olivieri</i>				X		X	X			
<i>Xylocopa parviceps</i>					X	X	X			
<i>Xylocopa pubescens</i>				X		X	X			
<i>Xylocopa rufa</i>				X		X	X			
<i>Xylocopa valga</i>				X		X	X			
<i>Xylocopa varentzowi</i>					X	X	X			
<i>Xylocopa violacea</i>					X	X	X			
<i>Ceratina acuta</i>				X		X	X			
<i>Ceratina bispinosa</i>				X			X	X		
<i>Ceratina chalcites</i>				X		X	X			
<i>Ceratina chalybea</i>				X		X	X			
<i>Ceratina cucurbitina</i>				X			X	X		
<i>Ceratina dallatorreana</i>				X		X	X			
<i>Ceratina denesi</i>		X				X	X			
<i>Ceratina dentiventris</i>				X		X	X			
<i>Ceratina mandibularis</i>				X			X	X		
<i>Ceratina moricei</i>				X			X	X		
<i>Ceratina nigroaenea</i>				X		X	X			
<i>Ceratina nigrolabiata</i>				X		X	X			
<i>Ceratina parvula</i>				X		X	X			
<i>Ceratina sakagami</i>				X		X	X			
<i>Ceratina schwarzi</i>				X		X	X			
<i>Ceratina schwarzi</i>				X		X	X			
<i>Ceratina tibialis</i>				X		X				
<i>Exoneuridia libanensis</i>		X					X	X		
<i>Ancyla asiatica</i>				X					X	
<i>Ancyla stollii</i>				X					X	
<i>Nomada babiyi</i>				X		X	X			
<i>Nomada basalis</i>				X		X	X	X		
<i>Nomada bispinosa</i>					X	X	X			
<i>Nomada distinguenda</i>				X		X	X			
<i>Nomada fucata</i>					X	X	X			
<i>Nomada fuscipennis</i>				X		X	X			
<i>Nomada integra</i>				X		X	X			
<i>Nomada israelis</i>		X				X	X			
<i>Nomada lucidula</i>			X			X	X			
<i>Nomada nobilis</i>				X		X	X			
<i>Nomada pallispinosa</i>				X		X	X			
<i>Nomada propinqua</i>				X		X	X			
<i>Nomada radoszkowskii</i>					X	X	X			
<i>Nomada striata</i>					X	X	X			
<i>Nomada trispinosa</i>					X	X	X			
<i>Nomada yemasoyiae</i>			X			X	X			
<i>Ammobates latitarsis</i>		X							X	
<i>Ammobates oraniensis</i>				X		X	X			
<i>Ammobates punctatus</i>				X		X	X			
<i>Eucera aeolopus</i>		X				X	X			
<i>Eucera albofasciata</i>				X		X	X			
<i>Eucera alternans</i>				X		X	X			
<i>Eucera caerulea</i>			X				X	X		
<i>Eucera cinnamomea</i>		X				X	X			
<i>Eucera clypeata</i>				X		X	X			
<i>Eucera cypria</i>			X			X	X			
<i>Eucera dalmatica</i>				X		X	X			
<i>Eucera ebmeri</i>			X			X	X			
<i>Eucera fasciata</i>				X		X	X			
<i>Eucera friesei</i>			X			X	X			
<i>Eucera gaullei</i>			X			X	X			
<i>Eucera helvola</i>				X			X	X		
<i>Eucera hermoni</i>		X				X	X			
<i>Eucera hungarica</i>				X		X	X			
<i>Eucera interrupta</i>				X		X	X			
<i>Eucera laxiscopa</i>			X			X	X			
<i>Eucera longicornis</i>					X	X	X			
<i>Eucera nigrifacies</i>				X		X	X			
<i>Eucera nigripes</i>			X			X	X			
<i>Eucera obsoleta</i>				X		X	X			
<i>Eucera palaestinae</i>			X			X	X			
<i>Eucera parnassia</i>			X			X	X			
<i>Eucera penicillata</i>			X			X	X			
<i>Eucera pici</i>			X			X	X			

<i>Eucera plumigera</i>				X		X	X			
<i>Eucera punctulata</i>				X		X	X			
<i>Eucera spinipes</i>			X			X	X			
<i>Eucera squamosa</i>				X		X	X			
<i>Eucera syriaca</i>			X			X	X			
<i>Eucera taurica</i>					X	X	X			
<i>Eucera vulpes</i>				X		X	X			
<i>Eucera wattsi</i>		X					X	X		
<i>Eucera zeta</i>				X		X	X			
<i>Tetralonia graja</i>				X			X	X		
<i>Tetralonia malvae</i>					X	X	X			
<i>Tetralonia nigriceps</i>				X		X	X			
<i>Tetralonia scabiosae</i>				X		X	X			
<i>Amegilla albigena</i>					X	X	X			
<i>Amegilla fasciata</i>				X			X	X		
<i>Amegilla garrula</i>				X		X	X			
<i>Amegilla montivaga</i>				X		X	X			
<i>Amegilla quadrifasciata</i>				X		X	X			
<i>Amegilla salviae</i>				X		X	X			
<i>Amegilla savignyi</i>				X		X	X	X		
<i>Amegilla velocissima</i>					X	X	X			
<i>Anthophora harmalae</i>					X				X	
<i>Anthophora aestivalis</i>				X		X	X			
<i>Anthophora affinis</i>				X		X	X			
<i>Anthophora agama</i>				X		X	X			
<i>Anthophora bifasciata</i>				X		X	X			
<i>Anthophora canescens</i>				X		X	X			
<i>Anthophora concinna</i>		X							X	
<i>Anthophora crinipes</i>					X	X	X			
<i>Anthophora dalmatica</i>				X		X	X			
<i>Anthophora dispar</i>				X		X	X			
<i>Anthophora dufourii</i>				X		X				
<i>Anthophora heliopolitensis</i>		X							X	
<i>Anthophora mucida</i>				X		X	X			
<i>Anthophora nigriceps</i>				X			X	X		
<i>Anthophora orientalis</i>					X	X	X			
<i>Anthophora pedata</i>				X		X	X			
<i>Anthophora plagiata</i>					X	X	X			
<i>Anthophora plumipes</i>					X	X	X			
<i>Anthophora ponomarevae</i>				X		X	X			
<i>Anthophora robusta</i>					X		X	X		
<i>Anthophora rogenhoferi</i>				X			X	X		
<i>Anthophora sagemehli</i>					X	X	X			
<i>Anthophora socia</i>				X					X	
<i>Habropoda hakkariensis</i>		X				X	X			
<i>Habropoda tarsata</i>					X	X	X			
<i>Habropoda zonatula</i>				X		X	X			
<i>Melecta aegyptiaca</i>				X					X	
<i>Melecta albifrons</i>				X					X	
<i>Melecta fulgida</i>				X					X	
<i>Melecta guichardi</i>				X					X	
<i>Melecta obscura</i>				X		X	X			
<i>Melecta transcaspica</i>				X					X	
<i>Melecta tuberculata</i>				X					X	
<i>Thyreus histrionicus</i>				X					X	
<i>Thyreus ramosus</i>					X				X	
<i>Bombus argillaceus</i>					X		X	X		
<i>Bombus melanurus</i>					X		X	X		
<i>Bombus niveatus vorticosus</i>					X		X	X		
<i>Bombus terrestris calabricus</i>					X		X	X		
<i>Apis mellifera</i>					X					
<i>Hylaeus angustatus</i>				X					X	X
<i>Hylaeus brevicornis</i>					X				X	X
<i>Hylaeus gredleri</i>				X					X	X
<i>Hylaeus maculatus</i>				X						X
<i>Hylaeus punctatus</i>				X					X	X
<i>Hylaeus rubicola</i>				X						X
<i>Hylaeus trifidus</i>				X						X
<i>Andrena bassana</i>			X							X
<i>Andrena canae</i>			X							X
<i>Andrena combinata</i>					X					X
<i>Andrena dorsata</i>					X					X
<i>Andrena erythrocnemis</i>				X						X
<i>Andrena falcinella</i>			X							X
<i>Andrena grandilabris</i>			X							X
<i>Andrena hyacinthina</i>			X							X
<i>Andrena iliaca</i>			X							X
<i>Andrena kilikiae</i>			X							X
<i>Andrena lepida</i>					X					X
<i>Andrena mucida</i>				X						X
<i>Andrena nisoria</i>		X								X
<i>Andrena nitidiuscula</i>				X						X
<i>Andrena pandosa</i>				X						X
<i>Andrena polita</i>				X						X
<i>Andrena tadauchii</i>				X						X
<i>Andrena toelgiana</i>			X							X
<i>Andrena truncatilabris</i>					X					X



