

Contribution to the knowledge of the Leucospidae, Sapygidae and Vespidae (Apocrita: Hymenoptera) fauna from Bingöl, Diyarbakır and Muş provinces of Turkey

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KAPLAN, E. & YILDIRIM, E.: *Contribution to the knowledge of the Leucospidae, Sapygidae and Vespidae (Apocrita: Hymenoptera) fauna from Bingöl, Diyarbakır and Muş provinces of Turkey.*

Abstract: This study is based on material Leucospidae, Sapygidae and Vespidae specimens collected from Bingöl, Diyarbakır and Muş provinces of Turkey between 2016 and 2020. Two species from one genus of Leucospidae, three species from two genera of Sapygidae and 43 species from 18 genera in four subfamilies of Vespidae are recorded. In total, 48 species belonging to 21 genera are listed. Photographs of the identified species are provided.

Keywords: Hymenoptera, Apocrita, Leucospidae, Sapygidae, Vespidae, new records, Bingöl, Diyarbakır, Muş, Turkey,

Introduction

Numerous neoendemism (LJUBOMIROV & YILDIRIM 2008) were resulted by variable topography of Turkey with isolated highlands formed along the Turkish border with Georgia, Armenia and Iran emerged after the Pliocene. The Hymenoptera fauna of Turkey contains high diversity of species similarly to other mediterranean countries, which are well known for their high biodiversity (KAPLAN et al. 2018).

The Vespidae is rather big family of Aculeate wasps belonging to the superfamily Vespoidea. The data from previous studies, a total 269 species and 32 subspecies in 53 genera of the subfamilies Vespinae, Polistinae, Eumeninae, and Masarinae belonging to Vespidae are recorded from Turkey (YILDIRIM 2012, YILDIRIM & GUSENLEITNER 2012, 2015). The families of Leucospidae and Sapygidae are members of the smallest of the Apocrita suborder. A total 15 species in six genera of the subfamilies Fedtschenkiinae and Sapyginae belonging to Sapygidae are recorded from Turkey (YILDIRIM 2016). The Leucospidae family is one of the smallest of the Chalcidoidea families. This family have 143 species described in 4 genera in the world fauna (NOYES 2018, LIMA & DIAS 2018).

Material and methods

The material was collected at numerous localities in Bingöl, Diyarbakır and Muş provinces in Turkey between 2016 and 2020 (Fig. 1). The samples were collected by insect net. Identification was made by Prof. Dr. Erol Yıldırım. The specimens and, localities are given in alphabetical order in the list below. The collected specimens were deposited in the insect collection of the Department of Plant Protection, Faculty of Agriculture, Bingöl University.

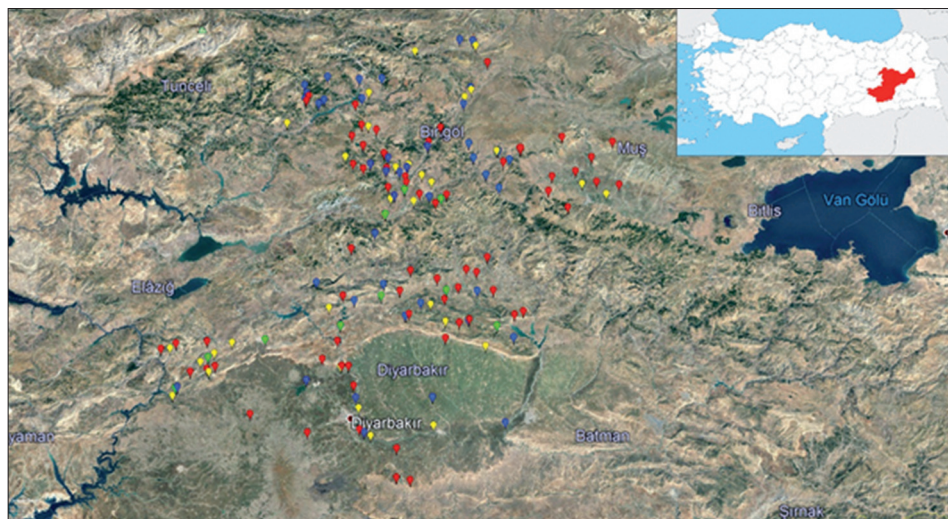


Fig. 1: Map of the investigated area in Turkey (2016, 2017: ●, 2018: ●, 2019: ●, 2020: ●)

Results

In this study, two species from one genera of Leucospidae, three species from two genera of Sapygidae and 43 species from 18 genera in four family of Vespidae are listed from Turkey. In total, 48 species belonging to 21 genera of Apocrita are recorded from Turkey.

Family: **Leucospidae** Fabricius, 1775

Genus: **Leucospis** Fabricius, 1775

Leucospis dorsigera Fabricius, 1775 (Fig. 2a)

Material examined: Bingöl: Sudüğünü, N 39° 03' 29.55", E 40° 24' 39.20", 1654 m, 20.VII.2017, ♀; Karlıova, Toklular, N 39° 15' 57.61", E 40° 59' 13.07", 1792 m, 03.VI.2018, ♂; Diyarbakır: Lice, Yolçatı, N 38° 22' 39.71", E 40° 40' 50.17", 1015 m, 18.IV.2018, ♂.

Leucospis intermedia Illiger, 1807 (Fig. 2b)

Material examined: Bingöl: Çavuşlar, N 38° 56' 11.52", E 40° 45' 49.57", 1363 m, 26.V.2019, ♂; Çayağzı, N 38° 48' 42.61", E 40° 33' 25.15", 1018 m, 19.V.2019, ♂; İnalı, N 38° 52' 47.72", E 40° 32' 33.82", 1030 m, 20.V.2019, ♀; Karlıova, Yeniköy, N 39° 11' 40.44", E 40° 55' 37.11", 1711 m, 31.V.2019, ♀; Diyarbakır: Silvan, Dolapdere, N 38° 18' 30.36", E 40° 53' 09.11", 910 m, 05.IV.2019, ♂.

Family: **Sapygidae** Latreille, 1810
Genus: **Polochrum** Spinola, 1805

Polochrum repandum Spinola, 1805 (Fig. 2c)

Material examined: Bingöl: Çeltiksuyu, N 38° 51' 15.29", E 40° 33' 30.58", 1015 m, 04.V.2018, ♀; Garip, N 38° 46' 50.09", E 40° 33' 17.79", 992 m, 20.V.2018, ♂; Kaleönü, N 38° 54' 08.82", E 40° 32' 33.71", 1040 m, 05.V.2018, ♀; Küçükterkören, N 38° 51' 01.40", E 40° 30' 02.62", 1182 m, 19.V.2019, ♀.

Genus: **Sapyga** Latreille, 1796

Sapyga caucasica schevyrevi F. Moravitz, 1889 (Fig. 2d)

Material examined: Bingöl: Çiçekyayla, N 38° 49' 22.83", E 40° 27' 48.78", 1511 m, 23.V.2019, ♂; Gözeler, N 38° 51' 17.14", E 40° 40' 36.42", 1153 m, 25.V.2019, ♂; İnalı, N 38° 53' 27.46", E 40° 31' 29.97", 1073 m, 26.V.2019, ♀; Kırkağıl, N 38° 54' 48.08", E 40° 22' 42.70", 1731 m, 27.V.2017, ♂; Sancak, N 39° 05' 37.64", E 40° 22' 39.54", 1586 m, 26.V.2018, ♀; Sarıçiçek, N 38° 52' 54.56", E 40° 34' 02.26", 1025 m, 04.V.2018, ♀; Yenibaşlar, N 38° 59' 50.35", E 40° 41' 37.75", 1177 m, 17.V.2018, ♂; Genç, Direkli, N 38° 36' 27.32", E 40° 22' 16.12", 988 m, 16.V.2019, ♂; Pınaraltı, N 38° 44' 49.56", E 40° 53' 58.55", 1017 m, 10.V.2018, ♂; Solhan, Dilektepe, N 38° 56' 58.39", E 41° 00' 05.06", 1288 m, 02.VI.2018, ♀; Diyarbakır: Çermik, Toplu, N 38° 06' 16.37", E 39° 33' 48.02", 779 m, 15.IV.2018, ♀; Lice, Dernek, N 38° 26' 45.49", E 40° 36' 25.47", 938 m, 13.V.2017, ♂; Silvan, Fisat, N 38° 16' 14.90", E 40° 55' 58.22", 999 m, 05.IV.2019, ♀.

Sapyga singla Kurzenko 1994 (Fig. 2e)

Material examined: Bingöl: Solhan, Dilektepe, N 38° 57' 17.43", E 40° 59' 15.07", 1291 m, 24.V.2018, ♀.

Family: **Vespidae** Latreille, 1802

Subfamily: **Eumeninae**

Genus: **Ancistrocerus** Wesmael, 1836

Ancistrocerus auctus Fabricius, 1793 (Fig. 2f)

Material examined: Bingöl: Solhan, Arakonak, N 38° 57' 26.93", E 41° 06' 54.36", 1612 m, 02.VI.2018, ♂.

Ancistrocerus claripennis ponticus Giordani Soika, 1970 (Fig. 2g)

Material examined: Bingöl: Aşağıçarşı, N 38° 53' 16.22", E 40° 29' 38.99", 1130 m, 19.IV.2017, ♂; Gökçeli, N 38° 53' 01.85", E 40° 44' 42.29", 1346 m, 25.V.2019, ♂; Genç, Sülünkaş, N 38° 49' 38.68", E 40° 56' 57.07", 1647 m, 25.V.2019, ♂; Yayla Bucağı, N 38° 38' 26.93", E 40° 30' 49.41", 1275 m, 16.V.2019, ♂; Kiğı, Nacaklı, N 39° 10' 03.31", E 40° 20' 40.59", 1569 m, 13.VI.2019, ♂; Solhan, N 38° 57' 36.43", E 41° 00' 48.83", 1333 m, 24.V.2019, ♂; Hazaşah, N 38° 58' 28.78", E 40° 35' 26.59", 1311 m, 26.V.2019, ♂; Diyarbakır: Çermik, Göktepe, N 38° 05' 43.12", E 39° 22' 31.06", 716 m, 24.III.2019, ♂; Dicle, Baltacı, N 38° 23' 17.24", E 38° 23' 17.24", 903 m, 27.III.2019, ♂; Bahçedere, N 38° 18' 52.41", E 40° 02' 11.77", 802 m, 28.III.2019, ♂; Hani, Uzunlar, N 38° 24' 34.34", E 40° 27' 03.41", 923 m, 27.III.2019, ♂.

Ancistrocerus dusmetiolus (Strand, 1914) (Fig. 2h)

Material examined: Bingöl: Gümüşlü, N 38° 45' 66.81", E 40° 28' 49.70", 1087 m, 06.V.2018, ♂; Solhan, Mutluca, N 39° 01' 10.17", E 40° 52' 01.39", 1631 m, 26.V.2019, ♂.

Ancistrocerus parietum (Linnaeus, 1758) (Fig. 2i)

Material examined: Bingöl: Kuşburnu, N 38° 54' 19.64", E 40° 48' 13.49", 1584 m, 25.V.2019, ♂.

Genus: **Antepipona** Saussure, 1855

Antepipona deflenda (Saunders, 1853) (Fig. 2j)

Material examined: Bingöl: Kurudere, N 38° 54' 41.84", E 40° 27' 24.10", 1127 m, 13.VII.2016, 2♂♂;

Yoldaşan, N 38° 43' 88.00", E 40° 29' 15.49", 997 m, 05.X.2017, ♂; Solhan, Yenibaşak Bucağı, N 38° 48' 06.69", E 41° 00' 45.85", 1481 m, 25.V.2019, ♀; Yayladere, Zeyneli, N 39° 11' 49.13", E 40° 11' 51.78", 1202 m, 13.VI.2019, ♂.

***Antepipona orbitalis orbitalis* (Herrich-Schaeffer, 1839) (Fig. 2k)**

Material examined: Bingöl: Kardeşler, N 38° 54' 48.27", E 40° 40' 05.08", 1195 m, 26.V.2019, ♂.

Genus: *Cephalochilus* Blüthgen, 1939

***Cephalochilus draco* Giordani Soika, 1970 (Fig. 2l)**

Material examined: Bingöl: Çeltiksuyu, N 38° 52' 13.72", E 40° 34' 06.19", 1019 m, 20.VII.2017, ♀; Çiçekdere, N 38° 56' 57.98", E 40° 27' 04.84", 1380 m, 20.VII.2017, ♀; Çukurca, N 38° 57' 02.16", E 40° 29' 27.35", 1545 m, 20.VII.2017, ♀; Genç, Meşedal, N 38° 46' 45.53", E 40° 36' 49.91", 1010 m, 21.VII.2017, ♂; Yiğitbaşı, N 38° 44' 48.62", E 40° 45' 47.77", 1695 m, 21.VII.2017, ♂.

Genus: *Eumenes* Latreille, 1802

***Eumenes dubius* de Saussure, 1852 (Fig. 2m)**

Material examined: Bingöl: Karlıova, Toklular, N 39° 16' 10.81", E 40° 59' 88.91", 1804 m, 12.VII.2016, ♂; Diyarbakır: Yukarıkılçtaş, N 37° 57' 18.21", E 40° 15' 22.53", 608 m, 21.III.2019, ♀.

***Eumenes mediterraneus* Kriechbaumer, 1879 (Fig. 2n)**

Material examined: Bingöl: Düzyayla, N 38° 48' 05.38", E 40° 28' 57.28", 1373 m, 06.V.2018, ♂; Kurudere, N 38° 54' 41.84", E 40° 27' 24.10", 1127 m, 13.VII.2016, ♂; Ormanardı, N 38° 50' 20.82", E 40° 29' 42.92", 1281 m, 30.V.2020, ♂; Yenibaşlar, N 39° 58' 46.96", E 40° 41' 05.14", 1142 m, 07.VIII.2016, ♂; Adaklı, N 39° 13' 48.70", E 40° 27' 49.66", 1343 m, 05.VIII.2018, ♂; Genç, Dikpınar, N 38° 43' 24.50", E 40° 18' 35.18", 975 m, 17.V.2019, ♂; Meşedal, N 38° 46' 45.53", E 40° 36' 49.91", 1010 m, 26.V.2017, ♂; Karlıova, Alabalık, N 39° 18' 18.40", E 41° 09' 28.08", 1785 m, 04.VI.2018, ♂; Ortaköy, N 39° 24' 01.75", E 40° 53' 40.88", 1929 m, 01.VI.2019, ♂; Köprücük, N 39° 16' 31.26", E 41° 12' 21.18", 1747 m, 04.VI.2018, ♂; Kiğı, Hasbağlar, N 39° 10' 52.05", E 40° 22' 39.10", 1605 m, 05.VIII.2016, ♂; Solhan, Arakonak, N 38° 58' 40.46", E 41° 08' 31.48", 1775 m, 24.V.2019, ♂; Dilektepe, N 38° 57' 17.43", E 40° 59' 15.07", 1291 m, 24.V.2018, ♂; Şimşirpınar, N 38° 56' 26.96", E 41° 04' 38.92", 1555 m, 02.VI.2018, ♂; Diyarbakır: Dicle, N 37° 53' 24.16", E 40° 16' 29.34", 667 m, 10.V.2020, ♂; Çermik, Karakaya, N 38° 02' 48.67", E 39° 19' 62.05", 553 m, 15.IV.2018, ♂; Dicle, N 37° 52' 25.03", E 40° 15' 52.80", 594 m, 21.V.2019, ♂; Lice, Bağlan, N 38° 20' 03.93", E 40° 43' 41.69", 835 m, 28.IV.2018, ♂; Dernek, N 38° 26' 45.49", E 40° 36' 25.47", 938 m, 20.V.2017, ♂; Muş: Mercimekkale, N 38° 54' 43.90", E 41° 30' 51.07", 1152 m, 06.VI.2016, ♂; Varto, Bağıcı, N 39° 05' 41.68", E 41° 31' 31.93", 1332 m, 06.VIII.2016, ♂.

***Eumenes pedunculatus* (Panzer, 1799) (Fig. 2o)**

Material examined: Bingöl: Akdurmüş, N 38° 50' 40.56", E 40° 28' 30.44", 1467 m, 23.V.2019, ♂; Çeltiksuyu, N 38° 51' 06.77", E 40° 33' 56.61", 1013 m, 24.V.2019, 2♂♂; N 38° 51' 43.68", E 40° 34' 04.36", 1023 m, 19.V.2019, ♂; Ekin yolu, N 38° 53' 50.54", E 40° 36' 06.38", 1046 m, 26.V.2019, ♂; Garip, N 38° 47' 14.91", E 40° 33' 28.95", 995 m, 24.V.2019, ♂; Kuşburnu, N 38° 54' 19.64", E 40° 48' 13.49", 1584 m, 25.V.2019, ♂; Sancak, N 39° 05' 37.56", E 40° 22' 38.07", 1585 m, 26.V.2018, ♂; Yamaç Bucağı, N 38° 46' 12.67", E 40° 25' 59.75", 1364 m, 23.V.2019, ♂; Adaklı, N 39° 12' 59.81", E 40° 28' 09.21", 1360 m, 12.VI.2019, ♂; Genç, Sırmalıhoya, N 38° 38' 04.53", E 40° 11' 28.70", 1858 m, 17.V.2019, ♂; Karlıova, Kaynak, N 39° 14' 09.49", E 40° 54' 41.31", 1897 m, 31.V.2019, 2♂♂; Kiğı, Darköprü, N 39° 11' 58.53", E 40° 18' 02.73", 1226 m, 12.VI.2018, ♂; Hasbağlar, N 39° 10' 52.05", E 40° 22' 39.10", 1605 m, 05.VIII.2016, ♂; Solhan, Çermük, N 38° 59' 39.49", E 40° 50' 40.75", 1776 m, 26.V.2019, ♂; Düzağaç, N 38° 53' 12.22", E 40° 56' 01.31", 1332 m, 18.V.2019, ♂; Yenibaşak Bucağı, N 38° 48' 06.69", E 41° 00' 45.85", 1481 m, 25.V.2019, ♂; Yayladere, Güneşlik, N 39° 12' 01.30", E 40° 10' 43.52", 1371 m, 03.VI.2019, ♂; Diyarbakır: Dicle, Yeşilsirt, N 38° 20' 25.16", E 40° 02' 00.02", 748 m, 09.V.2020, ♂; Lice, Daralan, N 38° 27' 46.65", E 40° 32' 06.82", 1400 m, 18.IV.2019, ♂; Kabakaya, N 38° 21' 46.97", E 40° 44' 18.83", 927 m, 11.IV.2019, ♂; Silvan, Fisat, N 38° 16' 14.90", E 40° 55' 58.22", 999 m, 05.IV.2019, ♂; Silvan, Boyunlu, N 38° 14' 17.19", E 40° 58' 48.17", 991 m, 22.V.2020, ♂.



Fig. 2: a) *Leucospis dorsigera* (♀); b) *L. intermedia* (♀); c) *Polochrum repandum* (♀); d) *Sapyga caucasica schevyrevi* (♀); e) *S. singla* (♀); f) *Ancistrocerus auctus* (♂); g) *A. claripennis ponticus* (♂); h) *A. dusmetiolus* (♂); i) *A. parietum* (♂); j) *Antepipona deflenda* (♂); k) *A. orbitalis orbitalis* (♂); l) *Cephalochilus draco* (♀); m) *Eumenes dubius* (♀); n) *E. mediterraneus* (♂); o) *E. pedunculatus* (♂); p) *Euodynerus posticus* (♂); r) *Eustenancistrocerus amadanensis* (♀); s) *Eustenancistrocerus jerichoensis iconius* (♂)

Genus: **Euodynerus** Dalla Torre, 1904***Euodynerus posticus*** (Herrich-Schäffer, 1841) (Fig. 2p)

Material examined: Bingöl: Çayağzı, N 38° 48' 12.13", E 40° 33' 21.90", 1003 m, 20.V.2018, ♂; Karlıova, Derinçay, N 39° 08' 27.79", E 40° 51' 49.92", 1678 m, 31.V.2019, ♂.

Genus: **Eustenancistrocerus** Blüthgen, 1938***Eustenancistrocerus (Parastenancistrocerus) amadanensis*** (Saussure, 1856) (Fig. 2r)

Material examined: Bingöl: Çeltiksuyu, N 38° 52' 57.59", E 40° 35' 21.66", 1045 m, 20.V.2017, ♀; Genç, Meşedalı, N 38° 46' 47.59", E 40° 36' 50.63", 1002 m, 06.X.2017, ♀, ♂; Yayladere, Akçadamar, N 39° 12' 11.02", E 40° 04' 08.93", 1385 m, 13.VI.2019, ♂; Diyarbakır: Köprübaşı, N 38° 00' 54.22", E 40° 21' 58.13", 608 m, 21.V.2020, ♀; Dicle, Bultacı, N 38° 23' 17.24", E 38° 23' 17.24", 903 m, 27.III.2019, ♀.

Eustenancistrocerus (Eustenancistrocerus) jerichoensis iconius Blüthgen, 1957 (Fig. 2s)

Material examined: Bingöl: Kurudere, N 38° 54' 41.84", E 40° 27' 24.10", 1127 m, 13.VII.2016, ♂; Yukarıpınar, N 38° 51' 09.52", E 40° 28' 08.13", 1465 m, 23.V.2019, ♂; Genç, Şehitköy, N 38° 41' 05.12", E 40° 28' 52.53", 1198 m, 16.V.2019, ♂; Yayladere, Doyucak, N 39° 09' 46.49", E 40° 64' 27.75", 1462 m, 13.V.2019, ♂.

Genus: **Gymnomerus** Blüthgen, 1938***Gymnomerus leavipes*** (Shuckard, 1837) (Fig. 3a)

Material examined: Bingöl: Balıklıçay, N 39° 02' 35.06", E 40° 22' 53.35", 1548 m, 12.VI.2019, ♂; Büyükterkören, N 38° 50' 07.39", E 40° 33' 46.34", 1012 m, 20.V.2019, ♂; Çayağzı, N 38° 48' 12.13", E 40° 33' 21.90", 1003 m, 20.V.2018, ♀; Çayboyu, N 38° 54' 00.51", E 40° 30' 43.78", 1079 m, 26.V.2019, ♀; Çeltiksuyu, N 38° 51' 06.77", E 40° 33' 56.61", 1013 m, 24.V.2019, ♂; Gözeler, N 38° 56' 44.27", E 40° 33' 38.98", 1498 m, 22.V.2019, ♂; İncesuyu, N 38° 51' 51.50", E 40° 38' 09.08", 1095 m, 25.V.2019, ♂; Küçükterkören, N 38° 51' 18.63", E 40° 29' 58.29", 1185 m, 06.V.2018, ♀; N 38° 51' 01.40", E 40° 30' 02.62", 1182 m, 19.V.2019, ♀; Sancak, N 39° 05' 37.56", E 40° 22' 38.07", 1585 m, 26.V.2018, ♀; N 39° 05' 50.91", E 40° 22' 51.78", 1594 m, 12.VI.2019, ♂; Sudüğünü, N 39° 03' 10.23", E 40° 25' 38.99", 1648 m, 26.V.2018, ♀; Yenibaşlar, N 38° 53' 10.67", E 40° 32' 00.35", 1053 m, 27.V.2017, ♂; Yukarıağaçeli, N 38° 58' 41.92", E 40° 42' 36.27", 1422 m, 26.V.2019, ♂; Adaklı, N 39° 12' 59.81", E 40° 28' 09.21", 1360 m, 12.VI.2019, ♀; Arıca, N 39° 14' 00.32", E 40° 31' 38.49", 1324 m, 12.VI.2019, ♀; Genç, Sülünkaş, N 38° 49' 38.68", E 40° 56' 57.07", 1647 m, 25.V.2019, ♂; Karlıova, N 39° 16' 47.62", E 40° 59' 55.84", 1822 m, 04.VI.2018, ♂; Solhan, Bozkanat, N 38° 52' 15.36", E 40° 53' 33.49", 1118 m, 26.V.2019, ♀; N 38° 52' 06.11", E 40° 53' 14.78", 1100 m, 18.V.2019, ♀; Çermük, N 38° 59' 39.49", E 40° 50' 40.75", 1776 m, 26.V.2019, ♀; Yayladere, N 39° 13' 09.93", E 40° 04' 27.53", 1486 m, 14.VI.2019, ♂; Aydınlar, N 39° 10' 24.61", E 40° 03' 53.16", 1626 m, 14.VI.2019, ♂; Günlük, N 39° 10' 09.98", E 40° 08' 20.42", 1156 m, 13.VI.2019, ♀; Zeyneli, N 39° 11' 49.13", E 40° 11' 51.78", 1202 m, 13.VI.2019, ♂; Yedisu, N 39° 25' 53.77", E 40° 30' 14.53", 1442 m, 02.VI.2019, ♂; Diyarbakır: Kulp, Köprübaşı, N 38° 16' 51.87", E 41° 17' 03.47", 825 m, 21.V.2017, ♂; Lice, Oyuklu, N 38° 12' 32.95", E 39° 22' 09.37", 1007 m, 24.III.2019, ♂.

Genus: **Jucancistrocerus** Blüthgen, 1938***Jucancistrocerus jucundus*** (Mocsáry, 1883) (Fig. 3b)

Material examined: Bingöl: Çeltiksuyu, N 38° 51' 44.46", E 40° 34' 06.40", 1017 m, 20.V.2018, ♂; İnalı, N 38° 52' 22.49", E 40° 32' 05.49", 1053 m, 19.V.2019, ♂; Kaleönü, N 38° 53' 53.74", E 40° 33' 25.10", 1031 m, 05.V.2018, ♂; Sancak, N 39° 58' 46.96", E 40° 41' 05.14", 1142 m, 29.V.2016, ♂; N 39° 05' 50.91", E 40° 22' 51.78", 1594 m, 12.VI.2019, ♀; Sarıççek, N 38° 53' 16.55", E 40° 53' 16.55", 1028 m, 04.V.2018, ♂; Adaklı, Topağaçlar, N 39° 12' 21.20", E 40° 26' 59.27", 1393 m, 12.VI.2019, ♂; Genç, Gözütok, N 38° 46' 51.24", E 40° 41' 07.08", 1283 m, 18.V.2019, ♂; Kepçeli, N 38° 49' 27.91", E 40° 48' 57.90", 1570 m, 18.V.2019, ♀; Pınaraltı, N 38° 44' 49.56", E 40° 53' 58.55", 10321 m, 10.V.2018, ♂; Sülünkaş, N 38° 49' 38.68", E 40° 56' 57.07", 1647 m, 25.V.2019, ♂; Karlıova, Dört Yol, N 39° 22' 33.58", E 40° 58' 16.63", 1813 m, 06.VI.2018, ♀;

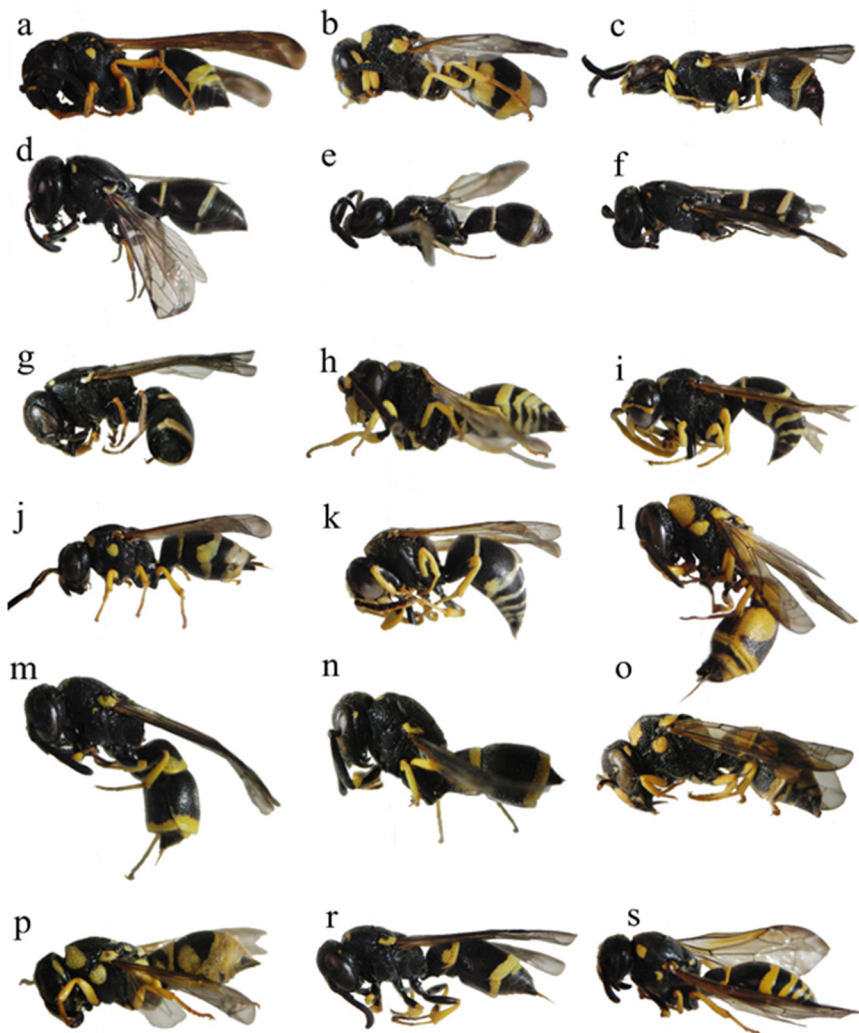


Fig. 3: a) *Gymnomerus leavipes* (♀); b) *Jucancistrocerus jucundus* (♀); c) *Leptochilus regulus* (♂); d) *L. hermon* (♀); e) *Microdynerus appeninicus* (♂); f) *M. confinis* (♂); g) *M. microdynerus* (♀); h) *Odynerus albopictus* (♂); i) *O. femoratus* (♂); j) *O. melanocephalus armeniacus* (♀); k) *O. poecilus* (♂); l) *Stenodynerus aequisculptus* (♀); m) *S. bluethgeni* (♀); n) *S. chevrieranus* (♀); o) *S. simulatus* (♂); p) *Syneuodynerus egregius* (♀); r) *Symmorphus bifasciatus* (♀); s) *S. crassicornis* (♀)

Kaşıkcı, N 39° 24' 12.94", E 41° 00' 20.64", 1917 m, 01.VI.2019, ♂; Kiğı, Hasbağlar, N 39° 10' 52.05", E 40° 22' 39.10", 1605 m, 05.VIII.2016, ♂; Solhan, Arakonak, N 38° 56' 49.12", E 41° 07' 40.34", 1660 m, 24.V.2019, ♀; Yayladere, Aydınlar, N 39° 10' 24.61", E 40° 03' 53.16", 1626 m, 14.VI.2019, ♂; Korlu, N 39° 10' 36.36", E 40° 09' 19.47", 1231 m, 13.VI.2018, ♂; Diyarbakır: Çüngüş, Yenice, N 38° 17' 05.87", E 39° 15' 28.49", 1209 m, 20.IV.2018, ♂; Ergani, Ahmetli Bucağı, N 38° 11' 30.97", E 39° 50' 35.49", 798 m, 25.IV.2020, ♀; Lice, Çavundur, N 38° 19' 34.16", E 40° 40' 31.58", 975 m, 01.IV.2019, ♂; Muş: Karabey, N 38° 55' 26.60", E 41° 08' 34.76", 1771 m, 25.V.2018, ♂.

Genus: *Leptochilus* Saussure, 1853

Leptochilus (Lionotulus) hermon Gusenleitner, 1971 (Fig. 3d)

Material examined: Bingöl: Sarıçiçek, N 38° 52' 54.56", E 40° 34' 02.26", 1025 m, 04.V.2018, ♀; Adaklı, Karaçubuk, N 39° 11' 48.76", E 40° 28' 28.42", 1418 m, 06.VII.2018, ♂; Genç, Dikköy, N 38° 48' 51.40", E 40° 40' 19.68", 1019 m, 29.V.2020, ♂; Karlıova, Yeniköy, N 39° 11' 50.05", E 40° 56' 07.35", 1748 m, 03.VI.2018, ♂; Diyarbakır: Çınar, Aşağıkonak, N 37° 38' 02.25", E 40° 27' 63.74", 705 m, 26.IV.2018, ♀; Çüngüş, Malkaya, N 38° 14' 19.47", E 39° 16' 37.75", 1136 m, 20.IV.2018, ♀; Ergani, Yolköprü, N 38° 13' 28.02", E 39° 38' 32.90", 905 m, 25.IV.2020, ♀.

Leptochilus (Neoleptochilus) regulus (Saussure, 1855) (Fig. 3c)

Material examined: Bingöl: Karlıova, Dörtüyl, N 39° 22' 33.58", E 40° 58' 16.63", 18133 m, 06.VI.2018, ♂.

Genus: *Microdynerus* Thomson, 1874

Microdynerus appeninicus (Giordani-Soika, 1960) (Fig. 3e)

Material examined: Diyarbakır: Dicle, Baltacı, N 38° 23' 17.24", E 38° 23' 17.24", 903 m, 27.III.2019, ♂; Çüngüş, Oyuklu, N 38° 12' 32.95", E 39° 22' 09.37", 1007 m, 24.III.2019, ♂.

Microdynerus confinis Gusenleitner, 1979 (Fig. 3f)

Material examined: Diyarbakır: Hazro, Bahçe, N 38° 15' 26.47", E 40° 47' 33.19", 1088 m, 13.V.2017, ♂.

Microdynerus (Alastorynerus) microdynerus (Dalla Torre, 1889) (Fig. 3g)

Material examined: Diyarbakır: Ergani, Çayırdere, N 38° 11' 50.80", E 39° 34' 19.42", 803 m, 21.IV.2017, ♀.

Genus: *Odynerus* Latreille, 1802

Odynerus (Odynerus) albopictus Saussure, 1856 (Fig. 3h)

Material examined: Bingöl: Erentepe, N 38° 40' 33.74", E 40° 28' 26.94", 1462 m, 23.V.2019, ♂; Yayladere, Günlük, N 39° 10' 09.98", E 40° 08' 20.42", 1156 m, 13.VI.2019, ♂; Diyarbakır: Çermik, Asmalı, N 38° 11' 14.72", E 39° 31' 34.40", 707 m, 27.IV.2017, ♂; Çüngüş, Akbaşak, N 38° 15' 58.97", E 39° 18' 26.90", 1385 m, 28.IV.2017, ♂; Hazro, Bağyurdu, N 38° 14' 25.36", E 40° 49' 34.44", 988 m, 15.V.2017, ♂.

Odynerus (Odynerus) femoratus de Saussure, 1856 (Fig. 3i)

Material examined: Diyarbakır: Ergani, Bozyer, N 38° 11' 04.25", E 39° 45' 19.47", 798 m, 12.V.2017, ♂.

Odynerus (Odynerus) melanocephalus armeniacus (Morawitz, 1885) (Fig. 3j)

Material examined: Bingöl: Balıklıçay, N 39° 02' 35.06", E 40° 22' 53.35", 1548 m, 12.VI.2019, ♀; Beyaztoprak, N 38° 54' 53.11", E 40° 37' 24.07", 1068 m, 26.V.2019, ♀; N 38° 55' 32.50", E 40° 38' 24.54", 1089 m, 21.V.2019, ♀; Büyüktürkören, N 38° 50' 35.45", E 40° 34' 13.20", 1017 m, 20.V.2018, ♀; N 38° 50' 07.39", E 40° 33' 46.34", 1012 m, 20.V.2019, ♂; Çayağzı, N 38° 48' 42.61", E 40° 33' 25.15", 1018 m, 19.V.2019, 2♀♀; Çayboyu, N 38° 54' 45.97", E 40° 28' 47.88", 1111 m, 07.V.2016, ♀; Çavuşlar, N 38° 55' 03.54", E 40° 46' 23.84", 1453 m, 25.V.2019, ♀; N 38° 56' 11.52", E 40° 45' 49.57", 1363 m, 26.V.2019, ♂; Çeltiksuyu, N 38° 51' 53.01", E 40° 53' 44.99", 1016 m, 29.V.2019, ♂; Çevrîmpınar, N 38° 55' 49.40", E 40° 22' 12.63", 1318 m, 15.V.2019, ♀; Çiçekdere, N 38° 57' 05.81", E 40° 27' 49.41", 1640 m, 22.V.2019, ♀;

Ekinyolu, N 38° 53' 50.54", E 40° 36' 06.38", 1046 m, 26.V.2019, ♀; Göltepesi, N 38° 57' 05.89", E 40° 35' 40.86", 1496 m, 22.V.2019, ♂; Gümtüslü, N 38° 45' 66.81", E 40° 28' 49.70", 1087 m, 06.V.2019, ♀; Haziran, N 38° 49' 13.15", E 40° 26' 57.10", 1672 m, 23.V.2019, ♀; İnalı, N 38° 53' 27.46", E 40° 31' 29.97", 1073 m, 26.V.2019, ♀; İncesuyu, N 38° 51' 51.50", E 40° 38' 09.08", 1095 m, 25.V.2019, ♀; Kaleönü, N 38° 53' 28.91", E 40° 33' 25.74", 1025 m, 21.V.2019, ♀; Komgeçit, N 38° 47' 23.71", E 40° 36' 33.81", 996 m, 24.V.2019, ♂; Küçükterkören, N 38° 51' 01.40", E 40° 30' 02.62", 1182 m, 19.V.2019, ♀, ♂; Üçyaka, N 38° 50' 57.05", E 40° 27' 09.72", 1701 m, 23.V.2019, ♀; Sancak, N 39° 58' 46.96", E 40° 41' 05.14", 1142 m, 29.V.2016, ♂; Adaklı, N 39° 12' 59.81", E 40° 28' 09.21", 1360 m, 12.VI.2019, ♂; Araçubuk, N 39° 11' 52.69", E 40° 28' 20.28", 1408 m, 11.VI.2018, ♀; Donattepe, N 39° 12' 17.51", E 40° 27' 22.56", 1371 m, 11.VI.2018, ♂; Hasbağlar, N 39° 11' 01.77", E 40° 22' 23.77", 1569 m, 12.VI.2019, ♀; Genç, Döşekkaya, N 38° 38' 11.11", E 40° 23' 07.23", 1015 m, 16.V.2019, ♀, ♂; Günkondü, N 38° 37' 17.87", E 40° 10' 42.03", 1651 m, 17.V.2019, ♂; Meşedalı, N 38° 47' 30.40", E 40° 38' 05.29", 1008 m, 21.VII.2017, ♀; Tavus, N 38° 48' 08.64", E 40° 58' 08.43", 1893 m, 25.V.2019, ♀; Karlıova, N 39° 11' 40.44", E 40° 55' 37.11", 1711 m, 31.V.2019, ♀; Bahçeköy, N 39° 13' 22.87", E 40° 54' 12.20", 1862 m, 01.VI.2019, ♂; Çilligöl, N 39° 10' 59.87", E 40° 51' 18.85", 1843 m, 06.VI.2020, ♀; Derinçay, N 39° 08' 27.79", E 40° 51' 49.92", 1678 m, 31.V.2019, ♀; Hacılar, N 39° 05' 01.63", E 40° 49' 21.67", 1417 m, 31.V.2019, 2♀♀, ♂; Kaynak, N 39° 14' 09.49", E 40° 54' 41.31", 1897 m, 31.V.2019, ♀; Sırmalıoya, N 38° 38' 04.53", E 40° 11' 28.70", 1853 m, 17.V.2019, ♀; Sudurağı, N 39° 06' 52.44", E 40° 51' 06.87", 1648 m, 31.V.2019, ♀; Kiğı, Dallica, N 39° 15' 32.11", E 40° 19' 04.67", 1358 m, 13.VI.2019, ♀; Demirkanat, N 39° 12' 25.30", E 40° 19' 05.79", 1324 m, 29.V.2017, ♀, ♂; Sabırtaş, N 39° 15' 56.52", E 40° 11' 42.22", 1366 m, 13.VI.2019, ♀; Solhan, Arakonak, N 38° 56' 49.12", E 41° 07' 40.34", 1660 m, 24.V.2019, ♀; Arslanbeyli, N 38° 45' 18.50", E 41° 05' 48.16", 1491 m, 25.V.2019, ♀; Elbaşı, N 38° 59' 08.01", E 41° 03' 15.73", 1583 m, 24.V.2019, ♂; Yenidal, N 38° 54' 29.31", E 40° 55' 54.28", 1114 m, 18.V.2019, ♀, ♂; N 38° 54' 38.51", E 40° 55' 42.87", 1210 m, 26.V.2019, ♂; Yayladere, Akçadağ, N 39° 12' 11.02", E 40° 04' 08.93", 13385 m, 13.VI.2019, ♀; Zeyneli, N 39° 11' 49.13", E 40° 11' 51.78", 1202 m, 13.VI.2019, ♀; N 39° 12' 18.24", E 40° 09' 49.04", 1363 m, 13.VI.2019, ♂; Yolgüden, N 39° 10' 37.60", E 40° 04' 16.59", 1462 m, 13.VI.2019, ♂; Diyarbakır: Avcısıy, N 38° 03' 44.55", E 39° 59' 22.13", 741 m, 23.III.2019, ♀; Köprübaşı, N 37° 59' 64.39", E 40° 22' 59.69", 602 m, 21.III.2019, ♀; Oyalı, N 38° 07' 59.04", E 40° 01' 49.14", 773 m, 30.IV.2017, ♂; Bismil, Güroluk, N 38° 01' 38.44", E 40° 35' 18.97", 647 m, 19.III.2019, ♂; Oğuzlar, N 38° 03' 02.09", E 40° 94' 39.12", 654 m, 19.III.2018, ♂; Tatlıcaayır, N 37° 59' 33.41", E 40° 36' 24.42", 620 m, 19.III.2019, ♂; Çermik, N 38° 67' 30.98", E 39° 27' 42.06", 766 m, 24.III.2019, ♀; Bademli, N 38° 05' 00.48", E 39° 23' 46.69", 609 m, 27.IV.2017, ♀; Bayrak, N 38° 03' 42.19", E 39° 22' 45.42", 572 m, 27.IV.2017, ♀; Gönülağan, N 38° 01' 44.96", E 39° 20' 49.48", 657 m, 27.IV.2017, 2♀♀; Gürüz, N 37° 59' 49.31", E 39° 22' 59.44", 847 m, 27.IV.2017, ♂; Kayagediği, N 38° 09' 16.86", E 39° 34' 28.52", 1085 m, 15.IV.2018, ♂; Çınar, N 37° 38' 02.25", E 40° 27' 53.74", 705 m, 26.IV.2017, ♂; Bozçalı, N 37° 45' 19.49", E 40° 21' 08.98", 669 m, 30.III.2018, ♂; Çüngüş, Balçılar, N 38° 14' 21.81", E 39° 27' 05.14", 1036 m, 28.IV.2017, ♂; Geçitköy, N 38° 10' 54.32", E 39° 15' 30.04", 572 m, 24.III.2019, ♀; Seyhandede, N 38° 01' 31.26", E 39° 16' 39.54", 740 m, 28.IV.2017, 2♂♂; Üçpınar, N 38° 14' 09.51", E 39° 10' 03.78", 1050 m, 28.IV.2017, ♂; Dicle, Arıköy, N 38° 23' 10.80", E 40° 17' 29.72", 913 m, 28.III.2019, 2♂♂; Başköy, N 38° 23' 58.21", E 40° 14' 10.50", 1255 m, 27.III.2019, ♀; Bozbaba, N 38° 20' 28.52", E 40° 05' 32.33", 834 m, 11.V.2017, ♂; Degirmeneli, N 38° 24' 37.51", E 40° 11' 42.67", 1255 m, 27.III.2019, ♂; Döğer, N 38° 21' 57.31", E 39° 13' 41.14", 756 m, 12.V.2017, ♂; Yeşilsirt, N 38° 20' 25.58", E 40° 03' 30.70", 797 m, 12.V.2017, ♂; Eğil, Bahçedere, N 38° 17' 48.00", E 40° 03' 07.76", 936 m, 23.V.2016, ♂; Dere, N 38° 14' 38.21", E 40° 05' 01.66", 912 m, 23.V.2017, ♀, 4♂♂; Kalkan, N 38° 09' 42.95", E 40° 04' 41.44", 805 m, 12.V.2017, ♂; Kazanlı, N 38° 14' 01.91", E 40° 09' 13.48", 860 m, 23.V.2016, ♀; Konak, N 38° 10' 44.39", E 40° 05' 08.55", 853 m, 12.V.2017, ♀; Oyalı, N 38° 08' 27.84", E 40° 02' 25.72", 874 m, 23.V.2016, ♀; N 38° 08' 27.84", E 40° 02' 25.72", 874 m, 23.V.2016, ♀; Ergani, Akçoban, N 37° 55' 56.21", E 39° 41' 19.67", 970 m, 27.IV.2017, ♂; Armutova, N 38° 15' 58.67", E 40° 36' 51.36", 966 m, 11.V.2017, ♀, 2♂♂; Kesentaş, N 38° 12' 18.08", E 39° 35' 48.49", 875 m, 21.IV.2018, ♂; Sallar, N 38° 16' 01.70", E 39° 38' 59.32", 962 m, 11.V.2017, ♀; Selmanköy, N 38° 08' 21.64", E 39° 41' 11.12", 822 m, 23.V.2016, ♀; N 38° 11' 45.04", E 40° 08' 46.13", 809 m, 12.V.2017, ♀, ♂; N 38° 10' 49.97", E 40° 10' 22.14", 831 m, 28.III.2019, ♂; Yakacık, N 38° 16' 43.64", E 39° 49' 38.53", 933 m, 12.V.2017, ♂; Yapraklı, N 38° 16' 32.57", E 39° 38' 39.00", 977 m, 11.V.2017, ♀, ♂; N 38° 17' 19.02", E 39° 41' 06.67", 998 m, 11.V.2017, ♂; Hani, Gürbüz, N 38° 23' 11.32", E 40° 22' 24.49", 1057 m, 11.V.2017, ♂; Kalabe, N 38° 25' 52.76", E 40° 25' 02.34", 1106 m, 27.III.2019, ♂; Meydan, N 38° 19' 22.17", E 40° 13' 59.83", 761 m, 21.IV.2018, ♂; Süslü, N 38° 23' 27.97", E 40° 19' 13.30", 1072 m, 12.V.2017, 2♀♀; Hazro, Bağyurdu, N 38° 14' 25.36", E 40° 49' 34.44", 988 m, 13.V.2017, ♀; Bahçe, N 38° 15' 26.47", E 40° 47' 33.19",

1088 m, 13.V.2017, ♂; Dadaş, N 38° 16' 01.30", E 40° 42' 28.51", 1082 m, 04.IV.2019, ♂; Mutluca, N 38° 16' 44.84", E 40° 53' 50.71", 1017 m, 13.V.2017, ♀; Ormankaya, N 38° 18' 13.20", E 40° 44' 29.38", 1099 m, 19.IV.2019, ♂; Ülgen, N 38° 14' 41.98", E 40° 53' 36.99", 1080 m, 04.IV.2019, ♀; N 38° 15' 29.50", E 40° 54' 23.83", 1196 m, 26.IV.2019, ♂; Kocaköy, Arkbaşı, N 38° 16' 17.21", E 40° 33' 52.22", 834 m, 28.V.2016, ♀; Saklat, N 38° 19' 44.89", E 40° 29' 36.83", 893 m, 01.IV.2019, ♀; Kulp, Argunköy, N 38° 28' 48.51", E 41° 05' 16.22", 977 m, 12.IV.2019, ♀, ♂; Güllük, N 38° 27' 30.85", E 40° 54' 27.81", 912 m, 17.V.2020, 2♀♀; Hamzalı Bucağı, N 38° 18' 47.22", E 41° 10' 59.06", 731 m, 12.IV.2019, ♂; Taşköprü, N 38° 21' 14.98", E 40° 55' 57.30", 860 m, 12.IV.2019, ♀; Lice, Abalı, N 38° 31' 40.75", E 40° 32' 48.20", 962 m, 28.V.2016, ♀; Acar, N 38° 21' 52.84", E 40° 11' 88.34", 726 m, 12.V.2017, ♂; Bağlan, N 38° 19' 48.65", E 40° 43' 28.15", 934 m, 11.IV.2019, ♀; Budak, N 38° 24' 02.06", E 40° 44' 59.33", 830 m, 14.V.2017, ♀; Dallica, N 38° 23' 36.64", E 40° 47' 27.94", 790 m, 20.IV.2019, ♀; Gürbeyli, N 38° 27' 21.78", E 40° 42' 52.01", 876 m, 28.V.2016, ♀; Kabakaya, N 38° 20' 21.67", E 40° 44' 26.39", 873 m, 28.IV.2018, ♀; N 38° 21' 34.35", E 40° 44' 09.08", 922 m, 28.IV.2018, ♂; Savat Bucağı, N 38° 20' 44.50", E 40° 37' 46.50", 1100 m, 25.IV.2018, ♂; Silvan, Çarıklı, N 38° 03' 31.08", E 41° 11' 32.52", 591 m, 29.IV.2018, ♀; Dolapdere, N 38° 18' 30.36", E 40° 53' 09.11", 910 m, 05.IV.2019, 2♂♂; N 38° 18' 51.84", E 40° 53' 45.96", 956 m, 13.V.2017, ♂; Fisat, N 38° 16' 14.90", E 40° 55' 58.22", 999 m, 05.IV.2019, ♂; Görentepe, N 38° 13' 04.13", E 40° 58' 05.27", 1313 m, 14.V.2017, ♂; Samanyolu, N 38° 05' 26.46", E 41° 12' 51.69", 611 m, 29.IV.2018, ♂.

Odynerus poecilus de Saussure, 1856 (Fig. 3k)

Material examined: Diyarbakır: Ergani, Selmanköy, N 38° 08' 21.64", E 39° 41' 11.12", 822 m, 23.V.2016, ♂; Kulp, Özbek, N 38° 29' 13.80", E 40° 57' 52.88", 942 m, 21.V.2017, ♂.

Genus: *Stenodynerus* Saussure, 1863

Stenodynerus aequisculptus (Kostylev, 1940) (Fig. 3l)

Material examined: Bingöl: Genç, Gönülağan, N 38° 37' 05.72", E 40° 16' 33.17", 1373 m, 21.VI.2017, ♀.

Stenodynerus bluethgeni van der Vecht, 1971 Fig. 3m)

Material examined: Bingöl: Adaklı, Arica, N 39° 14' 00.32", E 40° 31' 38.49", 1324 m, 12.VI.2017, ♀; Merkez, Ekinyolu, N 38° 54' 30.05", E 40° 35' 01.69", 1044 m, 19.V.2017, ♀; Yayladere, Merkez, N 39° 13' 11.16", E 40° 04' 10.77", 1553 m, 30.V.2017, ♀.

Stenodynerus chevrieranus (Saussure, 1855) (Fig. 3n)

Material examined: Bingöl: Kartal, N 39° 01' 05.56", E 40° 23' 28.63", 1675 m, 26.V.2017, ♂; Nacaklı, N 39° 10' 05.38", E 40° 21' 33.32", 1537 m, 26.V.2018, ♂; Genç, Meşedalı, N 38° 46' 47.59", E 40° 36' 50.63", 1002 m, 06.X.2017, ♂; Karlıova, Merkez, N 39° 17' 28.27", E 40° 59' 22.94", 1888 m, 12.VII.2016, ♂; Solhan, Merkez, N 38° 57' 36.43", E 41° 00' 48.83", 1333 m, 24.V.2019, ♂; Muş: Alanıçı, N 39° 39' 13.76", E 41° 21' 18.45", 1726 m, 25.V.2018, ♂.

Stenodynerus simulatus Gusenleitner, 1981 (Fig. 3o)

Material examined: Bingöl: Kiğı, Hasbağlar, N 39° 10' 52.05", E 40° 22' 39.10", 1605 m, 05.VIII.2016, ♂.

Genus: *Syneuodynerus* Blüthgen, 1938

Syneuodynerus egregius (Herrich-Schäffer, 1839) (Fig. 3p)

Material examined: Bingöl: Büyüktürkören, N 38° 49' 49.46", E 40° 34' 28.59", 1009 m, 16.V.2019, ♀; İnalı, N 38° 52' 47.72", E 40° 32' 33.82", 1030 m, 20.V.2019, ♂.

Genus: *Symmorphus* Wesmael, 1836

Symmorphus bifasciatus (Linnaeus, 1761) (Fig. 3r)

Material examined: Bingöl: Çeltiksuyu, N 38° 51' 43.68", E 40° 34' 04.36", 1023 m, 19.V.2019, ♀.

***Symmorphus crassicornis* (Panzer, 1798) (Fig. 3s)**

Material examined: Bingöl: Ekin yolu, N 38° 54' 15.91", E 40° 34' 33.20", 1044 m, 19.V.2018, ♀; Çukurca, N 38° 55' 13.31", E 40° 31' 17.62", 1215 m, 05.V.2018, ♀; Derinçay, N 39° 08' 27.79", E 40° 51' 49.92", 1678 m, 31.V.2019, ♀.

***Symmorphus gracilis* (Brullé, 1832) (Fig. 4a)**

Material examined: Bingöl: Genç, Harmancık, N 38° 33' 40.32", E 40° 16' 39.89", 883 m, 17.V.2019, ♂; Solhan, N 38° 57' 36.43", E 41° 00' 48.83", 1333 m, 24.V.2019, ♀; Dilektepe, N 38° 56' 12.96", E 41° 00' 08.44", 1299 m, 24.V.2019, ♂.

***Symmorphus murarius* (Linnaeus, 1758) (Fig. 4b)**

Material examined: Bingöl: Çevrimpınar, N 38° 55' 49.40", E 40° 22' 12.63", 1318 m, 15.V.2019, ♂; Adaklı, Topağaçlar, N 39° 12' 21.20", E 40° 26' 59.27", 1393 m, 12.VI.2019, ♂; Karlıova, Teknedüzü, N 39° 16' 09.65", E 41° 13' 20.05", 1691 m, 04.VI.2018, ♂; Kiğı, Dallica, N 39° 15' 32.11", E 40° 19' 04.67", 1358 m, 13.VI.2019, ♂; Solhan, Bozkanat, N 38° 52' 06.11", E 40° 53' 14.78", 1100 m, 18.V.2019, ♂; Diyarbakır: Çüngüş, Akbaşak, N 38° 15' 47.59", E 39° 18' 27.74", 1372 m, 24.III.2019, ♂.

Genus: *Tachyancistrocerus* Giordani Soika, 1957***Tachyancistrocerus schmidtii* (Kokujev, 1912) (Fig. 4c)**

Material examined: Bingöl: Genç, Doğanca, N 38° 42' 49.25", E 40° 32' 17.06", 1135 m, 21.VII.2017, ♀.

Subfamily: *Masarinae***Genus: *Ceramius* Latreille, 1810*****Ceramius palaestinensis* (Giordani Soika, 1957) (Fig. 4d)**

Material examined: Bingöl: İncesuyu, N 38° 51' 41.86", E 40° 37' 27.74", 1065 m, 05.V.2018, ♀; Karlıova, Kızılcıbuk, N 39° 23' 17.89", E 40° 50' 47.87", 1874 m, 28.V.2017, ♀; Solhan, Yenibaşak Bucağı, N 38° 48' 06.69", E 41° 00' 45.85", 1481 m, 25.V.2019, ♀; Diyarbakır: Çermik, Gözerek, N 38° 08' 49.67", E 39° 33' 18.21", 1052 m, 15.IV.2018, ♀; Güzel, N 38° 01' 08.45", E 39° 11' 31.16", 840 m, 15.IV.2018, ♂; Kalecik, N 38° 06' 46.52", E 40° 29' 32.35", 906 m, 13.IV.2018, ♀; Çüngüş, Kayapınar, N 38° 18' 28.44", E 39° 11' 32.32", 756 m, 20.IV.2018, ♀; Dicle, Acar, N 38° 21' 28.03", E 40° 11' 08.74", 728 m, 21.III.2019, ♀; Ergani, Çayırdere, N 38° 11' 50.80", E 39° 34' 19.42", 803 m, 21.IV.2018, ♂; Dağlararası, N 38° 13' 08.55", E 39° 35' 55.84", 1029 m, 21.IV.2018, ♀; Salar, N 38° 15' 41.31", E 39° 41' 26.43", 899 m, 21.IV.2018, ♂; Hazro, Ormankaya, N 38° 17' 10.83", E 40° 47' 46.39", 1077 m, 27.IV.2018, ♂; Ülgen, N 38° 14' 59.02", E 40° 53' 17.26", 989 m, 27.IV.2018, ♀; Kulp, Güllük, N 38° 28' 35.13", E 40° 54' 37.84", 869 m, 29.IV.2018, ♀; Lice, Angül, N 38° 23' 13.08", E 40° 32' 56.04", 877 m, 25.IV.2018, ♀; Silvan, Gündüz, N 38° 16' 29.97", E 39° 55' 10.39", 911 m, 29.IV.2018, ♂.

Subfamily: *Polistinae***Genus: *Polistes* Latreille, 1802*****Polistes atrimandibularis* Zimmermann, 1930 (Fig. 4e)**

Material examined: Bingöl: Kiğı, Duranlar, N 39° 15' 46.46", E 40° 21' 01.32", 1207 m, 13.VI.2019, ♀.

***Polistes biglumis alpium* Blüthgen, 1957 (Fig. 4f)**

Material examined: Muş: Bulanık, Gülova, N 39° 04' 00.80", E 42° 19' 27.59", 1564 m, 02.VI.2017, ♀.

***Polistes dominulus* (Christ, 1791) (Fig. 4g)**

Material examined: Bingöl: Çavuşlar, N 38° 55' 03.54", E 40° 46' 23.84", 1453 m, 25.V.2019, ♀; Ekinyolu, N

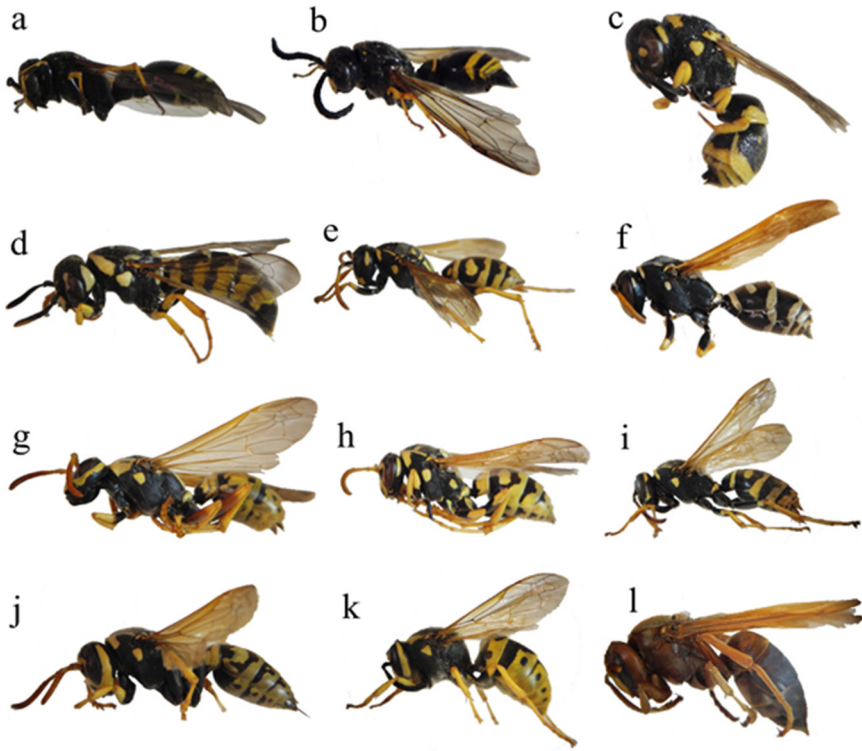


Fig. 4: a) *Symmorphus gracilis* (♂); b) *S. murarius* (♂); c) *Tachyancistrocerus schmidtii* (♀); d) *Ceramius palaestinusensis* (♀); e) *Polistes atrimandibularis* (♀); f) *P. biglumis alpium* (♀); g) *P. dominulus* (♀); h) *P. gallicus* (♀); i) *P. nimpha* (♀); j) *P. sulcifer* (♀); k) *Vespula germanica* (♀); l) *V. orientalis* (♀)

38° 53' 53.54", E 40° 34' 31.81", 1033 m, 17.V.2018, ♀; Haziran, N 38° 49' 13.15", E 40° 26' 57.10", 1672 m, 23.V.2019, ♀; İncesuyu, N 38° 51' 41.86", E 40° 37' 27.74", 1065 m, 05.V.2018, ♀; Kırkağıl, N 39° 54' 48.08", E 40° 22' 42.70", 1732 m, 20.VII.2017, ♀; Genç, Binekli, N 38° 45' 47.45", E 40° 52' 23.88", 1496 m, 10.V.2018, ♀; Keşçeli, N 38° 49' 27.91", E 40° 48' 57.90", 1570 m, 18.V.2019, ♀; Sürekli, N 38° 46' 25.37", E 40° 36' 49.76", 1095 m, 18.V.2019, ♀; Yiğitbaşı, N 38° 44' 48.62", E 40° 45' 47.77", 1695 m, 21.VII.2017, ♀; Karlhova, Kaşıkçı, N 39° 24' 12.94", E 41° 00' 20.64", 1917 m, 01.VI.2019, ♀; Sarıkuşak, N 39° 23' 27.29", E 40° 50' 01.10", 1833 m, 01.VI.2019, ♀; Kiğı, Demirkanat, N 39° 13' 16.52", E 40° 20' 37.14", 1454 m, 12.VI.2018, ♀; Solhan, Arslanbeyli, N 38° 45' 18.50", E 41° 05' 48.16", 1491 m, 25.V.2019, ♀; Solhan, Dilektepe, N 38° 57' 18.96", E 40° 59' 35.60", 1306 m, 31.V.2017, ♀; N 38° 56' 12.96", E 41° 00' 08.44", 1299 m, 24.V.2019, ♀; Yayladere, Akçadamar, N 39° 12' 11.02", E 40° 04' 08.93", 1385 m, 13.VI.2019, ♀; Kalkanlı, N 39° 09' 03.20", E 40° 02' 16.09", 1267 m, 30.V.2017, ♀; Yedisu, Elmalı, N 39° 26' 09.24", E 40° 44' 45.32", 2056 m, 28.V.2017, ♀; N 39° 23' 01.20", E 40° 37' 41.99", 1569 m, 29.V.2017, ♀; Kabaoluk, N 39° 25' 51.01", E 40° 30' 03.85", 1451 m, 28.V.2017, ♀; Muş: Arpagazi, N 38° 46' 50.33", E 41° 23' 37.27", 1306 m, 03.VI.2017, ♀; Bulanık, Akçaarmut, N 38° 54' 14.17", E 41° 58' 10.43", 1722 m, 02.VI.2017, ♀; Kırkgöze, N 39° 00' 35.69", E 42° 22' 24.73", 1635 m, 02.VI.2017, ♀; Korkut, Pınarüstü, N 38° 44' 37.44", E 41° 45' 47.24", 1303 m, 02.VI.2017, ♀; Diyarbakır: Avcısuyu, N 38° 03' 44.55", E 39° 59' 22.13", 741 m, 23.III.2019, ♀; Dicle, N 38° 23' 10.86", E 40° 17' 29.72", 913 m, 28.III.2018, ♀; Ergani, Yolköprü, N 38° 15' 03.79", E 39° 42' 03.03", 864 m, 21.IV.2018, ♀; Lice, Çavundur, N 38° 19' 34.16", E 40° 40' 31.58", 975 m, 01.IV.2019, ♀;

Kutlu, N 38° 21' 36.47", E 40° 46' 45.42", 798 m, 12.IV.2019, ♀; Yalaza, N 38° 20' 07.75", E 40° 41' 03.75", 919 m, 01.IV.2019, ♀; Yolçatı, N 38° 23' 50.16", E 40° 41' 02.65", 910 m, 20.V.2017, ♀; Silvan, Yeşilköy, N 38° 06' 50.15", E 41° 08' 51.27", 696 m, 15.V.2017, ♀.

Polistes gallicus Linnaeus, 1761 (Fig. 4h)

Material examined: Bingöl: Altınışik, N 38° 49' 41.39", E 40° 27' 31.72", 1511 m, 23.V.2019, ♀; Çayağzı, N 38° 48' 21.94", E 40° 33' 16.50", 1005 m, 24.V.2019, ♀; Elmalı, N 39° 02' 11.07", E 40° 44' 45.03", 1280 m, 07.VIII.2016, ♀; Gökçekanat, N 38° 57' 08.41", E 40° 20' 09.83", 1298 m, 15.V.2019, ♀; Gözeler, N 38° 51' 17.14", E 40° 40' 36.42", 1153 m, 25.V.2019, ♀; Güveçli, N 38° 51' 17.54", E 40° 31' 57.43", 1050 m, 19.V.2019, ♀; Haziran, N 38° 49' 13.15", E 40° 26' 57.10", 1672 m, 23.V.2019, ♀; Kaleönü, N 38° 53' 24.02", E 40° 33' 08.32", 1037 m, 20.VII.2017, ♀; N 38° 53' 29.47", E 40° 35' 49.73", 1045 m, 21.V.2019, ♀; Ormanardı, N 38° 49' 33.98", E 40° 30' 43.33", 1203 m, 06.V.2018, ♀; Sarıçiçek, N 38° 54' 06.79", E 40° 36' 37.86", 1059 m, 17.V.2018, ♀; Seitgölü, N 39° 04' 51.31", E 40° 20' 07.71", 1613 m, 27.V.2017, ♀; Südüğünü, N 39° 03' 32.78", E 40° 24' 11.34", 1582 m, 05.VIII.2016, ♀; Üçyaka, N 38° 50' 57.05", E 40° 27' 09.72", 1701 m, 23.V.2019, ♀; Adaklı, N 39° 12' 59.81", E 40° 28' 09.21", 1360 m, 12.VI.2019, ♀; Arıca, N 39° 14' 00.32", E 40° 31' 38.49", 1324 m, 12.VI.2019, ♀; Dayankaya, N 39° 11' 08.33", E 40° 34' 54.57", 1675 m, 21.V.2017, ♀; Genç, Arıçdibi, N 38° 46' 46.34", E 40° 36' 50.87", 1007 m, 06.X.2017, ♀; Çobançeşmesi, N 38° 32' 35.75", E 40° 16' 48.42", 868 m, 17.V.2019, ♀; Doğanca, N 38° 42' 51.19", E 40° 32' 44.66", 1164 m, 16.V.2019, ♀; Sırmalıoya, N 38° 38' 04.53", E 40° 11' 28.70", 1858 m, 17.V.2019, ♀; Yaylabağı, N 38° 37' 45.24", E 40° 30' 45.83", 1247 m, 26.V.2017, ♀; Yoldaşan, N 38° 43' 88.00", E 40° 29' 15.49", 997 m, 05.V.2017, ♀; Karlıova, N 39° 12' 33.66", E 40° 57' 24.32", 1734 m, 03.VI.2018, ♀; Suçatı, N 39° 23' 09.50", E 40° 54' 35.15", 1805 m, 28.V.2017, ♀; Taşlıçay, N 39° 16' 28.62", E 40° 58' 56.74", 1852 m, 28.VIII.2016, ♀; Kiği, Çanakal, N 39° 09' 16.98", E 40° 18' 43.73", 1585 m, 13.VI.2019, ♀; Sabırtaş, N 39° 15' 56.52", E 40° 11' 42.22", 1366 m, 13.VI.2019, ♀; Solhan, Bozkanat, N 38° 52' 15.36", E 40° 53' 33.49", 1118 m, 26.V.2019, ♀; N 38° 52' 06.11", E 40° 53' 14.78", 1100 m, 18.V.2019, ♀; N 39° 15' 32.11", E 40° 19' 04.67", 1358 m, 13.VI.2019, ♀; Çevrimpinar, N 38° 51' 03.96", E 40° 58' 48.67", 1183 m, 26.V.2019, ♀; Yayladere, Haktanır, N 39° 11' 32.58", E 40° 03' 55.69", 1465 m, 13.VI.2019, ♀; Yedisu, Eskibalta, N 39° 26' 24.19", E 40° 28' 16.59", 1415 m, 06.VI.2019, ♀; Kabaoluk, N 39° 25' 55.09", E 40° 29' 59.21", 1412 m, 06.VII.2018, ♀; Şenköy, N 39° 25' 17.82", E 40° 31' 48.37", 1493 m, 06.VII.2018, ♀; Diyarbakır: Bismil, Göksu, N 37° 50' 00.00", E 40° 31' 40.57", 550 m, 19.III.2019, ♀; Köseli, N 37° 50' 51.99", E 40° 36' 49.64", 558 m, 30.III.2018, ♀; Çermik, Karakolan, N 38° 07' 09.44", E 39° 24' 21.15", 764 m, 27.IV.2017, ♀; Dicle, Biçer, N 38° 21' 59.34", E 40° 01' 33.98", 957 m, 20.IV.2018, ♀; Hazro, Uzunargıt, N 38° 14' 07.05", E 40° 46' 58.96", 942 m, 04.IV.2019, ♀; Kocaköy, Yazıköy, N 38° 18' 55.71", E 40° 31' 21.30", 901 m, 01.IV.2019, ♀; Lice, Oyuklu, N 38° 19' 42.29", E 40° 45' 40.36", 957 m, 14.V.2017, ♀; Tuzla, N 38° 29' 33.46", E 40° 32' 42.28", 990 m, 28.V.2016, ♀; Silvan, Babakaya, N 38° 14' 40.39", E 41° 06' 48.67", 787 m, 05.IV.2019, ♀; Muş: Hasköy, N 38° 41' 12.45", E 41° 41' 11.76", 1276 m, 03.VI.2017, ♀; Yukarıuçadam, N 38° 38' 40.17", E 41° 49' 16.02", 1276 m, 03.VI.2017, ♀; Korkut, Oğulbalı, N 38° 43' 25.44", E 41° 49' 43.09", 1297 m, 02.VI.2017, ♀.

Polistes nimpha (Christ, 1791) (Fig. 4i)

Material examined: Bingöl: Beyaztoprak, N 38° 54' 35.93", E 40° 37' 04.20", 1065 m, 26.V.2019, ♀; Çavuşlar, N 38° 55' 03.54", E 40° 46' 23.84", 1453 m, 25.V.2019, ♀; Haziran, N 38° 49' 13.15", E 40° 26' 57.10", 1672 m, 23.V.2019, ♀; Kaleönü, N 38° 53' 28.91", E 40° 33' 25.74", 1025 m, 21.V.2019, ♀; Köklü, N 38° 56' 00.43", E 40° 38' 48.68", 1092 m, 19.V.2018, ♀; Kardeşler, N 38° 54' 53.33", E 40° 37' 24.74", 1068 m, 17.V.2018, ♀; Küçükterkören, N 38° 49' 49.46", E 40° 34' 28.59", 1009 m, 16.V.2019, ♀; N 38° 50' 41.90", E 40° 30' 17.75", 1156 m, 06.V.2018, ♀; N 38° 51' 01.40", E 40° 30' 02.62", 1182 m, 19.V.2019, ♀; Nacaklı, N 39° 10' 05.38", E 40° 21' 33.32", 1537 m, 26.V.2018, ♀; N 39° 10' 03.31", E 40° 20' 40.59", 1569 m, 13.VI.2019, ♀; Sancak, N 39° 05' 37.58", E 40° 22' 36.40", 1587 m, 29.V.2016, ♀; N 39° 05' 37.56", E 40° 22' 38.07", 1585 m, 26.V.2018, ♀; Sarıçiçek, N 38° 53' 02.44", E 40° 35' 02.83", 1057 m, 19.V.2019, ♀; Südüğünü, N 39° 03' 32.78", E 40° 24' 11.34", 1582 m, 05.VIII.2016, ♀; Yamaç Bucağı, N 38° 46' 12.67", E 40° 25' 59.75", 1364 m, 23.V.2019, ♀; Yeşilköy, N 38° 50' 20.35", E 40° 29' 44.38", 1280 m, 31.V.2020, ♀; Yukarıpinar, N 38° 50' 57.05", E 40° 27' 09.72", 1701 m, 23.V.2019, ♀; Adaklı, Gökçeli, N 39° 11' 50.31", E 40° 25' 15.91", 1626 m, 11.VI.2018, ♀; Genç, Dikpinar, N 38° 43' 24.50", E 40° 18' 35.18", 975 m, 17.V.2019, ♀; Şehitköy, N 38° 42' 04.23", E 40° 30' 41.61", 1147 m, 14.V.2018, ♀; Karlıova, Kaynak, N 39° 14' 09.49", E 40° 54' 41.31", 1897 m, 31.V.2019, ♀; Kıractepe, N 39° 12' 33.66", E 40° 57' 24.32", 1734 m, 03.VI.2018, ♀; Çilligöl, N 39° 10' 13.31", E 40° 55' 33.91", 1854 m, 31.V.2019, ♀; Kiği, Sabırtaş, N 39° 15' 56.52", E 40° 11' 42.22", 1366 m,

13.VI.2019, ♀; Solhan, Arakonak, N 38° 58' 40.46", E 41° 08' 31.48", 1775 m, 24.V.2019, ♀; Dilektepe, N 38° 56' 56.65", E 40° 59' 15.12", 1278 m, 24.V.2019, ♀; Elbaşı, N 38° 59' 08.01", E 41° 03' 15.73", 1583 m, 24.V.2019, ♀; Kale, N 38° 47' 17.38", E 41° 02' 28.54", 1312 m, 25.V.2019, ♀; Mutluca, N 39° 01' 10.17", E 40° 52' 01.39", 1631 m, 26.V.2019, ♀; Yenidal, N 38° 54' 29.31", E 40° 55' 54.28", 1114 m, 18.V.2019, ♀; Yenibaşak Bucağı, N 38° 48' 06.69", E 41° 00' 45.85", 1481 m, 25.V.2019, ♀; Yayladere, Bilekkaya, N 39° 11' 23.75", E 40° 11' 08.71", 1453 m, 30.V.2017, ♀; Doyucak, N 39° 09' 46.49", E 40° 64' 27.75", 1462 m, 13.VI.2019, ♀; Kalkanlı, N 39° 09' 03.64", E 40° 01' 50.85", 1401 m, 30.V.2017, ♀; Zeyneli, N 39° 12' 18.24", E 40° 09' 49.04", 1363 m, 13.VI.2019, ♀; Yedisu, Elmalı, N 39° 22' 04.62", E 40° 39' 12.28", 1885 m, 06.VI.2018, ♀; Şenköy, N 39° 25' 04.25", E 40° 32' 00.47", 1527 m, 29.V.2017, ♀; N 39° 25' 13.69", E 40° 31' 52.37", 1496 m, 06.VI.2018, ♀; Diyarbakır: Köprübaşı, N 37° 59' 64.39", E 40° 22' 59.69", 602 m, 21.III.2019, ♀; Ziyaret, N 38° 06' 47.28", E 40° 24' 05.43", 658 m, 21.III.2019, ♀; Dicle, Yokuşlu, N 38° 24' 21.66", E 40° 00' 56.08", 798 m, 28.III.2019, ♀; Eğil, N 38° 14' 54.73", E 40° 06' 08.25", 801 m, 28.III.2019, ♀; Ergani, Boğazköy, N 38° 15' 45.62", E 39° 41' 21.63", 890 m, 24.III.2019, ♀; Hani, Yukarıturalı, N 38° 28' 22.43", E 40° 27' 13.81", 988 m, 27.III.2019, ♀; Hazro, Ormankaya, N 38° 18' 13.20", E 40° 44' 29.38", 1099 m, 19.IV.2019, ♀; Kocaköy, Gökçen, N 38° 18' 32.65", E 40° 32' 24.30", 901 m, 01.IV.2019, ♀; Tepecik, N 38° 16' 16.78", E 40° 32' 38.13", 888 m, 01.IV.2019, ♀; Lice, Dallica, N 38° 24' 14.68", E 40° 45' 51.13", 786 m, 12.IV.2019, ♀; Daralan, N 38° 27' 46.65", E 40° 32' 06.82", 1400 m, 18.IV.2019, ♀; Kabakaya, N 38° 20' 12.94", E 40° 44' 06.70", 839 m, 11.IV.2019, ♀; Oyuklu, N 38° 19' 55.42", E 40° 45' 05.76", 925 m, 11.IV.2019, ♀; Savat Bucağı, N 38° 21' 03.07", E 40° 39' 10.00", 923 m, 19.IV.2019, ♀.

***Polistes sulcifer* Zimmermann, 1930 (Fig. 4j)**

Material examined: Bingöl: Genç, Ericek, N 38° 34' 05.02", E 40° 15' 15.02", 1067 m, 17.V.2019, ♀; Solhan, Arakonak, N 38° 58' 40.46", E 41° 08' 31.48", 1775 m, 24.V.2019, ♀.

Subfamily: Vespinae Latreille, 1802

Genus: *Vespula* Thomson, 1869

***Vespula germanica* (Fabricius, 1793) (Fig. 4k)**

Material examined: Bingöl: Çayağzı, N 38° 47' 44.47", E 40° 33' 15.35", 998 m, 20.V.2018, ♀; Çeltiksuyu, N 38° 51' 06.77", E 40° 33' 56.61", 1013 m, 24.V.2019, ♀; Ekinyolu, N 38° 54' 13.80", E 40° 35' 10.08", 1040 m, 17.V.2018, ♀; İnalı, N 38° 52' 22.49", E 40° 32' 05.49", 1053 m, 19.V.2019, ♀; N 38° 52' 47.72", E 40° 32' 33.82", 1030 m, 20.V.2019, ♀; Sarıççek, N 38° 53' 43.75", E 40° 35' 56.25", 1045 m, 16.V.2019, ♀; Sudüğünü, N 39° 03' 51.38", E 40° 24' 56.57", 1587 m, 29.V.2016, ♀; Yamaç Bucağı, N 38° 46' 12.67", E 40° 25' 59.75", 1364 m, 23.V.2019, ♀; Genç, N 38° 45' 47.82", E 40° 34' 26.72", 1001 m, 26.V.2017, 2♀♀; Çanakal, N 38° 45' 55.39", E 40° 43' 58.57", 1530 m, 26.V.2017, ♀; Kartal, N 39° 01' 05.56", E 40° 23' 28.63", 1675 m, 26.V.2018, ♀; Komgeçit, N 38° 47' 45.84", E 40° 37' 57.35", 1003 m, 09.V.2018, ♀; Sülünkaş, N 38° 49' 38.68", E 40° 56' 57.07", 1647 m, 25.V.2019, ♀; Yayla Bucağı, N 38° 38' 20.25", E 40° 31' 57.34", 1369 m, 16.V.2019, ♀; Karlhova, Hacılar, N 39° 05' 01.63", E 40° 49' 21.67", 1417 m, 31.V.2019, ♀; Kaynarpınar, N 39° 23' 02.82", E 40° 45' 42.74", 1767 m, 01.VI.2019, ♀; Yeniköy, N 39° 11' 50.05", E 40° 56' 07.35", 1748 m, 03.VI.2018, ♀; Kığı, Yeşilyurt, N 39° 16' 58.79", E 40° 21' 24.37", 1323 m, 12.VI.2018, ♀; Solhan, Arakonak, N 38° 56' 49.12", E 41° 07' 40.34", 1660 m, 24.V.2019, ♀; Yayladere, N 39° 13' 11.16", E 40° 04' 10.77", 1553 m, 30.V.2017, ♀; Yaylabağ, N 39° 11' 11.13", E 40° 06' 17.29", 1379 m, 13.VI.2018, ♀; Yedisu, Gelinpertek, N 39° 27' 24.30", E 40° 24' 24.93", 1410 m, 28.V.2017, ♀; Diyarbakır: Çüngüş, Güneydere, N 38° 13' 31.61", E 39° 18' 57.67", 1099 m, 28.IV.2017, ♀; Dicle, Değirmeneli, N 38° 24' 37.51", E 40° 11' 42.67", 1255 m, 27.III.2019, ♀; Hani, Kırım, N 38° 23' 44.75", E 40° 26' 24.13", 863 m, 27.III.2019, ♀; Uzunlar, N 38° 24' 34.34", E 40° 27' 03.41", 923 m, 27.III.2019, ♀; Hazro, Kavaklı, N 38° 57' 36.43", E 41° 00' 48.83", 1333 m, 24.V.2019, ♀; Kocaköy, N 38° 16' 03.92", E 40° 34' 20.94", 828 m, 28.V.2016, ♀; Tepecik, N 38° 16' 03.92", E 40° 34' 20.94", 828 m, 28.V.2016, ♀; Muş: Hasköy, N 38° 41' 12.45", E 41° 41' 11.76", 1276 m, 13.VI.2017, ♀; Karakütük, N 38° 38' 47.85", E 41° 46' 17.73", 1305 m, 03.VI.2017, ♀.

***Vespula orientalis* (Linnaeus, 1771) (Fig. 4l)**

Material examined: Bingöl: Genç, Çanakçı, N 38° 47' 07.85", E 40° 43' 50.07", 1312 m, 18.V.2019, ♀; Dedebağı, N 38° 40' 37.61", E 40° 19' 33.71", 1234 m, 16.V.2019, ♀; Dikköy, N 38° 48' 42.96", E 40° 39' 50.00", 1012 m, 09.V.2018, ♀; Diyarbakır: Dicle, N 37° 52' 50.22", E 40° 14' 33.39", 625 m, 30.IV.2016, ♀.

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