Faunistic, geographical and biological contributions to the bee genus *Andrena* (Hymenoptera, Andrenidae, Andreninae) from Turkey

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Abstract
A survey of the bee genus *Andrena* Fabricius, 1775 was conducted between 2004 and 2011 in Turkey. A total of 2271 bee specimens, including 1721 females and 550 males, were identified at the subgenus and species level. As a result of morphological studies, 165 species belonging to 45 subgenera were identified. Subgenus of *Truncandrena* had the highest number of species observed in this survey. Two species were determined as a first record in Turkey. Geographical distribution of the species are given in Turkey. Common and rare species are assigned. Flight periods of the species are determined.

Keywords
Insecta, Hymenoptera, Andrenidae, wild bees, diversity, distribution, Anatolia, Turkey

Introduction
Sandbees, *Andrena* Fabricius, 1775, is the largest genus of bees in terms of numbers of species according to present day classification (Michener 2007). To date, *Andrena* contains about 1500 valid species. However, the actual number of species
of *Andrena* may be higher, and estimated at about 2000 species (Dubitzky et al. 2010). *Andrena* is found throughout the holarctic region, and probably absent in the lowland tropics of Africa; it is also absent from the Antilles, and not known from Australia and south of Panama (Michener 2007). All species burrow their nests into the ground, often preferring sunny exposed areas with sparse or bare vegetation and sandy soils. Sandbees are typically solitary, that is, each female constructs its own nest. Many species of *Andrena* are polylectic and use pollen from more than a single plant family for the provision of their brood (Dubitzky 2005). Faunistic studies on the genus *Andrena* of Turkey are limited. Nevertheless there have been nearly 300 species reported from Turkey (Warncke 1966, 1969, 1974, 1975; Özbek 1976; Gusenleitner 1998; Patiny 1998; Gusenleitner and Schwarz 2000; Gusenleitner and Schwarz 2002; Grünwaldt et al. 2005; Dubitzky 2006; Scheuchl and Hazir 2008; Scheuchl and Gusenleitner 2009; Hazir et al. 2012; Scheuchl and Hazir 2012). This number is increasing over time.

**Materials and methods**

An extensive biogeographical survey was conducted during 2004–2010 (February -September) in seven different regions of Turkey (Central Anatolia, Mediterranean, Aegean, Black Sea, Eastern Anatolia, Southerneast Anatolia, Marmara). Bees were collected from wild flowers with sweepnets and aspirators. Bees were transferred to plastic boxes and killed with ethyl acetate vapors. The altitude and longitude and latitude coordinates were recorded for each site with a global positioning system (GPS) (Magellan) device. Adult bees were transported to the laboratory in plastic boxes and kept at 5°C until pinned. Identification of the species and subspecies were made according to Özbek (1975), Schönitzer et al. (1995), Michener (2000), Osytshnjuk et al. (2005), Warncke (1966, 1968, 1969, 1974, 1975) and Erwin Scheuchl’s unpublished book “Key to Palaearctic Andrena species” and by comparing the specimens with the bee collections of the Zoologische Staatssammlung München, Germany and Oberösterreichisches Landesmuseum/Biologiezentrum in Linz, Austria. The collected specimens were deposited in the Wild Bee Museum of Turkey (TUYAM) established at Adnan Menderes University, Faculty of Arts and Science, Aydın-Turkey and Erwin Scheuchl’s personnel collection in Germany. Distribution maps of most of species, also concerning Turkey, are to be found in Gusenleitner and Schwarz (2002).

**Results**

This study was a faunistic survey to determine the distribution of biological diversity of the bee genus *Andrena* in Turkey. 2271 bee specimens were collected from 7 regions...
Table 1. The list of identified species and their geographical distribution in Turkey.

<table>
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<tr>
<th>Subgenera</th>
<th>Species</th>
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<th>Male ♂♂</th>
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<th>Male ♂♂</th>
<th>Geographical distribution</th>
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<td><em>A. oralis</em> Morawitz, 1876</td>
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<td><em>A. platalea</em> Warncke, 1975</td>
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<td><em>A. crispa</em> Warncke, 1975</td>
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<td><em>A. dentiventris</em> Morawitz, 1874</td>
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<td><em>A. figurata</em> Morawitz, 1866</td>
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<td><em>A. iluca</em> Warncke, 1969</td>
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<td><em>A. labiata</em> Fabricius, 1781</td>
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<td><em>A. nucleola</em> Warncke, 1973</td>
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<td><em>A. nucleola</em> Warncke, 1973</td>
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<td><em>A. carneae</em> Strand, 1915</td>
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<td><em>A. medeninensis</em> ssp. <em>usura</em> Warncke, 1967</td>
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Faunistic, geographical and biological contributions to the bee genus *Andrena*...

<table>
<thead>
<tr>
<th>Subgenera</th>
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<th>Female ♀♀</th>
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<th>Geographical distribution</th>
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<td><em>A. urfanella</em> Scheuchl &amp; Hazir, 2012</td>
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<td><em>A. crecca</em> Warncke, 1965</td>
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<td><em>A. elegans</em> Giraud, 1863</td>
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<td><em>A. fulvitaris</em> Brulle, 1832</td>
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<td><em>A. heinrichi</em> Grünwaldt, 2005</td>
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<td><em>Ulandrena</em></td>
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<td><em>Zonadrena</em></td>
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<td><em>A. gazella</em> Friese, 1922</td>
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<td><em>A. gravidae</em> Imhoff, 1832</td>
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<td><strong>Total</strong></td>
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<td>1721</td>
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A: Aegean Region, B: Blacksea Region, C: Central Anatolia Region, E: Eastern Anatolia Region, MA: Marmara Region, ME: Mediterranean Region, S: Southeastern Anatolia Region.

**Taxonomy**

**Subgenus Aciandrena** Warncke, 1968

*Andrena aciculata* Morawitz, 1868
http://species-id.net/wiki/Andrena_aciculata

**Distribution in Turkey.** All parts of the country except south (Warncke 1974); Erzurum (Özbek 1976).

Andrena lamiana Warncke, 1965
http://species-id.net/wiki/Andrena_lamiana

Distribution in Turkey. All parts of the country (Warncke 1974); Erzincan, Erzurum, Muş, Tunceli (Özbek 1976).


Andrena tenuis Morawitz, 1877
http://species-id.net/wiki/Andrena_tenuis

Distribution in Turkey. Karaman (Madenşehir), Kayseri (Yeşilhisar), Nevşehir (Ürgüp), Niğde (Ulukışla) (Warncke 1974).


Subgenus Aenandrena Warncke, 1968

Andrena aeneiventris Morawitz, 1872
http://species-id.net/wiki/Andrena_aeneiventris

Distribution in Turkey. Aydın (Nazilli) (Warncke 1966); Çanakkale (Eceabat), Bursa (Kurulu), İzmir (Torbali) (Warncke 1969); All parts of the country (Warncke 1974); Erzurum (Oltu) (Özbek 1976); Aydın (Nazilli), Hakkari, Hatay (Antakya), Kars, Konya, Sivas (Gürün), Şanlıurfa, (Gusenleitner 1984).

Material examined. Ankara: Hacettepe Üniversitesi, Beytepe kampüsü, 6.VI.2005, 1 ♀, leg. B. Gülşü, C. Çobanoğlu, Çamlıdere çevresi, 40°32′42″N, 32°34′19″E, 1190 m, 17.VI.2006, 1 ♀, leg. B. Gülşü, E. Scheuchl; Burdur: Söğüt-Çavdır arası, 37°06′36″N, 29°44′00″E, 1116 m, 6.VI.2006, 1 ♀, leg. C. Çobanoğlu, E. Scheuchl; Erzincan: Kemaliye,

**Andrena bisulcata** Morawitz, 1877

http://species-id.net/wiki/Andrena_bisulcata

**Distribution in Turkey.** Adana (Ceyhan), Adapazarı, Balıkesir (Ayvalık), Çanakkale, Diyarbakır, Edirne, Hatay (İskenderun), Mersin (Tarsus), Samsun (Veziyköprü), Şanlıurfa, Tekirdağ (Warncke 1974); Hatay (Antakya), Süt (Gusenleitner 1984).


**Andrena hystrix** Schmiedeknecht, 1883

http://species-id.net/wiki/Andrena_hystrix

**Synonym:** *Andrena hystrix* ssp. *rufilata* Warncke, 1975

**Distribution in Turkey.** Ankara, Erzurum (Warncke 1974); Erzurum (Özbek 1976).

Subgenus *Avandrena* Warncke, 1968

*Andrena canohirta* (Friese, 1922)
http://species-id.net/wiki/Andrena_canohirta

**Distribution in Turkey.** Denizli (Acı göl), Konya (Warncke 1974).


Subgenus *Brachyandrena* Pittioni, 1948

*Andrena colletiformis* Morawitz, 1874
http://species-id.net/wiki/Andrena_colletiformis

**Distribution in Turkey.** Adana, Ankara, Hatay (Amanos dağları), Toros dağları (Warncke 1966); İstanbul (Selimpaşa), Çanakkale, Denizli (Pamukkale), Adapazari, İzmir (Torbalı), Tekirdağ, Edirne (İpsala), Bilecik (Osmanlı), Bursa (Gemlik, Kuru) (Warncke 1969); All parts of the country (Warncke 1974); Erzurum (Oltu, Tortum, Horasan, İspir) (Özbek 1976).


*Andrena pinguis* Ariana et al., 2009
http://species-id.net/wiki/Andrena_pinguis

Synonym: *Andrena punctatissima* sensu Warncke, nec Morawitz 1866


**Material examined.** Ankara: Hacettepe Üniversitesi, Beytepe kampüsü, 39°51’49”N, 32°45’06”E, 16.VI.2006, 1 ♀, 1 ♂, leg. E. Scheuchl; Antalya: Gölova-
Subgenus Campylogaster Dours, 1873

Andrena erberi Morawitz, 1871
http://species-id.net/wiki/Andrena_erberi

Distribution in Turkey. Adana (Ceyhan), Ankara, Nevşehir (Ürgüp) (Warncke 1966); All regions of the country (Warncke 1974).


Andrena incisa Eversmann, 1852
http://species-id.net/wiki/Andrena_incisa

Distribution in Turkey. Ankara (Warncke 1966); Ankara, Amasya, Erzurum, Karaman (Madenşehir), Konya (Akşehir), Kütahya (Gediz), Nevşehir, Samsun (Vezirköprü), Sivas (Gürün) (Warncke 1974); Erzurum (Oltu) (Özbek 1976).


Andrena lateralis Morawitz, 1876
http://species-id.net/wiki/Andrena_lateralis

Distribution in Turkey. Ankara, Konya (Akşehir, Beyşehir) (Warncke 1966); Ankara, Denizli, Erzurum (Horasan, İspir, Kandilli, Tatos dağları, Uzundere), Karaman (Madenşehir), Kırıkkale, Konya (Akşehir, Beyşehir), Kütahya (Gediz), Tunceli (Warncke 1974); Erzurum (Horasan, İspir, Kandilli, Tortum, Uzundere), Tunceli (Özbek 1976).

Subgenus Carandrena Warncke, 1968

Andrena falcinella Warncke, 1969
http://species-id.net/wiki/Andrena_falcinella

Distribution in Turkey. Adana, Diyarbakır, Muş, Şanlıurfa (Birecik) (Warncke 1974); Erzurum (Oltu), Muş (Özbek 1976).


Andrena purpureomicans Alfken, 1935
http://species-id.net/wiki/Andrena_purpureomicans

Distribution in Turkey. Adana, Ankara, Hatay, Konya (Warncke 1966); Adana, Ankara (Gölbaşı, Polatlı, Şereflikoçhisar), Erzurum (İspir), Hatay (Antakya), Kayseri (Yeşilhisar), Konya (Sarayönü) Muş, Niğde (Ulukışla) (Warncke 1974); Erzurum (İspir), Muş (Özbek 1976).


Andrena schlettereri Friese, 1896
http://species-id.net/wiki/Andrena_schlettereri

Distribution in Turkey. Adapazarı, Çanakkale, İstanbul (Üsküdar), Tekirdağ (Warncke 1966); Adapazarı, Ankara (Şereflikoçhisar), Bursa (Mustafakemalpaşa), Çanakkale, Diyarbakır (Ergani), Edirne, İstanbul (Üsküdar), Konya, Kütahya, Samsun, Tekirdağ (Warncke 1974).

Material examined. Antalya: Manavgat, Başlar köyü-Ormana arası, 37°07’80"N, 31°30’92”E, 1063 m, 21.V.2007, 1 ♀, leg. E. Scheuchl; Aydın: Bahçearası, 16.IV.2005,
Faunistic, geographical and biological contributions to the bee genus *Andrena*...


**Subgenus Charitandrena** Hedicke, 1933

*Andrena hattorfiana* (Fabricius, 1775)
http://species-id.net/wiki/Andrena_hattorfiana

**Distribution in Turkey.** Toroslar (Warncke 1966); Aydın, Mersin (Gülek) (Warncke 1974).


**Subgenus Chlorandrena** Pérez, 1890

*Andrena astica* Warncke, 1967
http://species-id.net/wiki/Andrena_astica

**Distribution in Turkey.** Adana (Misis), Balıkesir (Ayvalık) (Warncke 1974).

**Material examined.** Kahramanmaraş: Kahramanmaraş-Göksun arası, 37°39'69"N, 36°41'75"E, 546 m, 5.V.2007, 1 ♀, leg. B. Gülçü, C. Hazır.

*Andrena cinerea* Brullé, 1832
http://species-id.net/wiki/Andrena_cinerea

**Distribution in Turkey.** Bursa (İznil, Uludağ), İstanbul (Belgrad ormanı, Büyükdere, Üsküdar), Manisa, Muğla (Marmaris) (Warncke 1966, 1974).


27°51′14″E, 176 m, 1.VI.2006, 1 ♀, leg. B. Gülcü, S. Aydın, Kapıkırı, Bafa gölü, 37°29′46″N, 27°32′21″E, 11 m, 22.IV.2007, 11 ♂♀, leg. C. Çobanoğlu, B. Gülçü; Çanakkale: Bayramlı, Himidiye yolası yolun, 40°08′74″N, 26°17′60″E, 197 m, 31.V.2009, 1 ♀, leg. B. Gülçü, C. Demirtaş; Kirkkale: Çukurpinar, 41°51′41″N, 27°29′72″E, 409 m, 1.VI.2009, 1 ♀, leg. B. Gülçü, C. Demirtaş, Sarpdere çıkış, mağara yolu, 41°51′92″N, 27°34′93″E 390 m, 1.VI.2009, 1 ♀ leg. B. Gülçü, C. Demirtaş; Sivas: Koyulhisar-Mesudiye arası, 40°18′43″N, 37°50′34″E, 588 m, 12.VIII.2005, 1 ♀, leg. B. Gülçü, S. Hazır.

Andrena cinereophila Warncke, 1965
http://species-id.net/wiki/Andrena_cinereophila

Distribution in Turkey. Adapazarı, Bartın (Giresun), Mardin (Warncke 1966); All regions of the country (Warncke 1974).


Andrena clypella Strand, 1921
http://species-id.net/wiki/Andrena_clypella

Synonym: Andrena clypella ssp. hasitata Warncke, 1973

Distribution in Turkey. West Turkey (Warncke 1974).

Material examined. Aydın: Kuşadası, Güzelyazı, Aydeniz, 37°41′93″N, 27°14′97″E, 5 m, 28.V.2005, 1 ♀, leg. E. Scheuchl; Çanakkale: Çanakkaleye 10 km kala Fiat petrol ofisi karşısında, 31.V.2009, 1 ♀, leg. B. Gülçü, C. Demirtaş; Gelibolu yarimadası, Çanakkale şehitlik abidesi yolun, 40°07′49″N, 26°17′75″E, 56 m, 31.V.2009, 3 ♀♂, leg. B. Gülçü, C. Demirtaş; Çorum: 17-06-2005, 40°34′47″N, 34°38′73″E, 646 m, 17.VI.2005, 1 ♀, 1 ♂, leg. A.B. Yasan; Kirkkale: Sarpdere çıkış mağara yolu, 41°51′92″N, 27°34′93″E, 390 m, 1.VI.2009, 2 ♀♂, leg. B. Gülçü, C. Demirtaş; Muğla: Köyceğiz, 36°59′53″N, 28°38′83″E 15 m, 26.V.2005, 1 ♀, leg. S. Hazır, Gökova, Akya-
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Andrena exquisita Warncke, 1975
http://species-id.net/wiki/Andrena_exquisita

Distribution in Turkey. Balıkesir (Bigadiç), İstanbul (Büyükdere) (Warncke 1974); İstanbul (Büyükdere) (Warncke 1975; Blank and Kraus 1994).


Andrena humabilis Warncke, 1965
http://species-id.net/wiki/Andrena_humabilis

Distribution in Turkey. Adana, Balıkesir (Ayvalık, Bigadiç), Bursa (Karacabey, Mustafakemalpaşa), Çanakkale, Diyarbakır, İstanbul (Büyükdere) Mersin (Gülek), (Warncke 1966, 1974).


Andrena humilis Imhoff, 1832
http://species-id.net/wiki/Andrena_humilis

Synonym: Andrena humilis ssp. indigena Warncke, 1975

Distribution in Turkey. Balıkesir (Havran), İstanbul (Kilyos) (Warncke 1966); Bolu (Abant) (Warncke 1969).

Material examined. Adana: Pozantı otoban çevresi, 25.IV.2004, 1 ♀, leg. C. Çobanoğlu; Sambil, 38°04’25”N, 36°08’88”E, 1468 m, 6.V.2007, 1 ♂, leg. B.

**Andrena orientana** Warncke, 1965
http://species-id.net/wiki/Andrena_orientana


**Distribution in Turkey.** Adana (Mısıs), Adapazarı, Antalya (Akseki, Manavgat, Side), Çanakkale, Balıkesir (Ayvalık, Bigadiç), Bursa (İznil, Karacabey), Denizli (Acşöl, Pamukkale), Diyarbakır, Hatay (Antakya), İstanbul (Büyükdere), Manisa, Mersin (Tarsus) (Warncke 1974); Adana, Antalya (Side) (Schwenninger 2007).


**Andrena panurgimorpha** Mavromoustakis, 1957
http://species-id.net/wiki/Andrena_panurgimorpha

**Distribution in Turkey.** Balıkesir (Ayvalık), Çanakkale, Konya (Beyşehir) (Warncke 1966); All parts of the country (Warncke 1974); Erzurum (İspir), Muş (Özbek 1976).

Subgenus Chrysandrena Hedicke, 1933

Andrena fulvago (Christ, 1791)

http://species-id.net/wiki/Andrena_fulvago

Distribution in Turkey. Bolu (Abant) (Warncke 1969); Bolu (Abant göl, Karagöl), İstanbul (Belgrat ormanı) (Warncke 1974).

Material examined. Ankara: Kızılcahamam-Güvem arası, 40°34’05”N, 32°39’23”E, 1070 m, 18.VI.2006, 1 ♀, leg. B. Gülcü, E. Scheuchl; Kırklareli: Çukurpınar, 41°51’41”N, 27°29’72”E, 409 m, 1.VI.2009, 1 ♀, leg. C. Demirtaş.

Andrena glandaria Warncke, 1975

http://species-id.net/wiki/Andrena_glandaria

Distribution in Turkey. Antalya, Şanlıurfa (Warncke 1974).

**Andrena hesperia** Smith, 1853  
[http://species-id.net/wiki/Andrena_hesperia](http://species-id.net/wiki/Andrena_hesperia)

**Distribution in Turkey.** Adana, Balıkesir (Ayvalık), Konya (Warncke 1966); Adana, Ankara, Antalya (Akseki, Side), Balıkesir (Ayvalık), Bursa, Denizli (Acıgöl, Pamukkale), Diyarbakır, Erzurum (İspir), İstanbul (Büyücekmece, Büyükdere), Konya (Sarayönü), Manisa, Mersin (Tarsus) (Warncke 1974); Erzurum (İspir) (Özbek 1976).


**Andrena merula** Warncke, 1969  
[http://species-id.net/wiki/Andrena_merula](http://species-id.net/wiki/Andrena_merula)

**Distribution in Turkey.** Amasya, İstanbul (Belgrad ormanı), Mersin (Mut) (Warncke 1969, 1974).

Subgenus *Cordandrena* Warncke, 1968

*Andrena cordialis* Morawitz, 1878

http://species-id.net/wiki/Andrena_cordialis

**Distribution in Turkey.** Adapazarı, Ankara, Konya, Samsun (Warncke 1966); Adapazarı, Ankara (Şereflikoçhisar), Bursa (Mustafakemalpaşa), Erzurum, İğdir, Kırıkkale, Kayseri (Yeşilhisar), Konya (Kulu, Sarayönü), Kütahya, Mersin (Sertavul), Muş, Samsun, Tokat (Niksar) (Warncke 1974); Erzurum (Olta), Iğdır, Muş (Özbek 1976).


*Andrena cypria* Pittioni, 1950

http://species-id.net/wiki/Andrena_cypria

**Distribution in Turkey.** Konya (Warncke 1966); Ankara (Gölbaşı, Şereflikoçhisar), Erzurum, Kayseri (Yeşilhisar), Konya (Sarayönü), Kırşehir (Kaman), Mersin (Mut), Muş, Nevşehir (Ürgüp), Niğde (Ulukişla), Sivas (Gürün) (Warncke 1974); Erzurum, Muş (Özbek 1976).

**Material examined.** Aksaray: 38°32′05″N, 33°49′90″E, 966 m, 5.VI.2005, 1 ♀, 3 ♂♂, leg. S. Hazır, 38°38′22″N, 33°44′30″E, 929 m, 5.VI.2005, 2 ♀♀, leg. B. Gülcü, S. Hazır, 38°37′29″N, 33°45′21″E, 921 m, 3.V.2007, 1 ♀, leg. B.

*Andrena torda* Warncke, 1965
http://species-id.net/wiki/Andrena_torda

**Distribution in Turkey.** Konya (Beyşehir) (Warncke 1966); Ankara, Aydın (Bozdoğan), Diyarbakır, Konya (Beyşehir, Sarayönü) (Warncke 1974).

**Material examined.** Aydın: Milas-Akbük arası, 37°28'07"N, 27°20'20"E, 113 m, 11.IV.2006, 1 ♂, leg. C. Çobanoğlu, B. Gülcü.

*Subgenus Cryptandrena* Pittioni, 1948

*Andrena brumanensis* Friese, 1899
http://species-id.net/wiki/Andrena_brumanensis

**Synonym:** *Andrena clupeata* Brullé, 1832

**Distribution in Turkey.** Adana, Ankara, Bahcesir (Ayvalık, Bigadiç), Bursa, Çanakkale, İstanbul (Kilyos), Konya, Mersin (Mut), Muş, Şanlıurfa (Birecik) (Warncke 1974); Erzurum (Oltu), Muş (Özbek 1976).

**Andrena monacha** Warncke, 1965

http://species-id.net/wiki/Andrena_monacha

**Distribution in Turkey.** Adapazarı, Balıkesir (Ayvalık, Bigadiç), Toros dağları (Warncke 1966; Blank and Kraus 1994); Adana (Karataş), Adapazarı, Antalya (Aspendos, Finike, Side), Balıkesir (Ayvalık, Bigadiç), Bursa (Karacabey), Mersin (Gülek), Muğla, Osmaniye (Warncke 1974).


**Andrena ventricosa** Dours, 1873

http://species-id.net/wiki/Andrena_ventricosa

**Distribution in Turkey.** Adana (Karataş), Balıkesir (Ayvalık), Bilecik, Konya (Beyşehir), Manisa (Warncke 1966); All regions of the country (Warncke 1974); Erzurum (Horasan, İspir, Oltu) ( Özbek 1976).


**Subgenus Cubiandrena** Warncke, 1968

**Andrena cubiceps** Friese, 1914

http://species-id.net/wiki/Andrena_cubiceps

**Distribution in Turkey.** Adana, Eskişehir (Warncke 1966); Aydın (Söke), Çanakkale, Nevşehir (Göreme), Tekirdağ (Warncke 1969); Adana, Antalya, Aydın (Söke), Bil-
ecik, Çanakkale, Eskişehir, Hatay (Antakya), İstanbul, Karaman (Madenşehir), Konya, Mersin (Alata, Gülek, Mut, Silifke, Tarsus), Nevşehir (Göreme), Osmaniye, Şanlıurfa, Tekirdağ (Warncke 1974).

**Material examined.** Aydın: Yılmazköy, 3.VI.2006, 1 ♂, leg. E. Scheuchl; Erzurum: İspir-Bayburt arası, 40°26′29″N, 40°49′26″E, 1258 m, 2.VII.2006, 1 ♂, leg. E. Scheuchl; Mersin: Limonlu, 23.V.2005, 1 ♂, leg. E. Scheuchl.

*Andrena cubicepsella* Warncke, 1975

http://species-id.net/wiki/Andrena_cubicepsella

**Distribution in Turkey.** Ankara, Karaman (Madenşehir), Nevşehir (Avanos) (Warncke 1974).


Subgenus *Didonia* Gribodo, 1894

*Andrena mucida* Kriechbaumer, 1873

http://species-id.net/wiki/Andrena_mucida

**Distribution in Turkey.** Edirne (Çamlıca) (Warncke 1969); Denizli (Acı göl), Diyarbakır, Edirne, Erzurum (Horasan, Oltu), Hatay (Antakya), Kars (Sarıkamış) (Warncke 1974); Erzurum (Horasan, Oltu), Kars (Sarıkamış) (Özbek 1976).

**Material examined.** Adana: Saimbeyli, 38°04′25″N, 36°28′88″E, 1468 m, 6.V.2007, 1 ♀, leg. B. Gülcü, C. Hazır.

*Andrena nasuta* Giraud, 1863

http://species-id.net/wiki/Andrena_nasuta

**Distribution in Turkey.** Ankara (Warncke 1966); Erzurum (Oltu) (Özbek 1976).

Subgenus *Euandrena* Hedicke, 1933

*Andrena bicolor* Fabricius, 1775

http://species-id.net/wiki/Andrena_bicolor

**Distribution in Turkey.** Balıkesir (Ayvalık), Kayseri (Erciyes dağı), Tekirdağ (Warncke 1966); Amasya, Ankara, Antalya (Akseki), Ardahan, Balıkesir (Ayvalık), Bursa (Uludağ), Diyarbakır, Erzurum (Oltu), Kayseri (Erciyes dağı), Konya, Nevşehir (Ürgüp), Tekirdağ (Warncke 1974); Ardahan, Erzincan, Erzurum (Oltu) (Özbek 1976).


*Andrena glabriventris* Alfken, 1935

http://species-id.net/wiki/Andrena_glabriventris

**Distribution in Turkey.** Ankara (Warncke 1966); Ankara (Gölbaşı, Hasanoğlan, Şereflikoçhisar), Erzurum, Nevşehir (Ürgüp), Niğde (Ulukışla), Konya (Warncke 1974); Erzurum (Özbek 1976).

**Andrena symphyti** Schmiedeknecht, 1883  
http://species-id.net/wiki/Andrena_symphyti

Synonym: *Andrena symphyti* ssp. *furcata* Friese, 1921

**Distribution in Turkey.** Ankara, Erzurum (Oltu, Tanyeri), Gümüşhane (Zigana geçidi), Hatay (Amanos dağları), İstanbul, Karaman (Madenşehir), Konya (Akselir, Sarayönü), Nevşehir (Ürgüp), Mersin (Mut, Gülek), Rize (Çinçiva), Topraklı, Hardman (Warncke 1974); Erzurum (Özbek 1976).

**Material examined.** Aydın: Malğaçmustafa-Ovacık arası, 37°59'11"N, 28°10'21"E, 771 m, 21.IV.2007, 1 ♀, 2 ♂♂, leg. B. Gülcü, S. Hazır.

**Subgenus Graecandrena** Warncke, 1968

**Andrena impunctata** Pérez, 1895  
http://species-id.net/wiki/Andrena_impunctata

**Distribution in Turkey.** Adapazarı, Ankara (Şereflikoçhisar), Balıkesir (Ayvalık), Bursa (Mustafakemalpaşa), Çanakkale, İstanbul, İzmir, Samsun (Warncke 1974).


**Subgenus Holandrena** Pérez, 1890

**Andrena labialis** (Kirby, 1802)  
http://species-id.net/wiki/Andrena_labialis

**Distribution in Turkey.** Toprakkale (Fahringer and Friese 1921); Bursa (Uludağ) (Fahringer 1922); Ankara (Şereflikoçhisar), Antalya (Finike), Erzurum (Kandilli, Oltu, Zigana köyü, Tatos dağları, İspir), Gümüşhane, Karaman (Madenşehir), Kars, Karay, Mersin (Sertavul, Gülek), Niğde (Ulukışla), Tunceli (Warncke 1974); Erzurum (Oltu, Tortum, İspir, Horasan, Narman, Hınıs), Muş, Iğdır, Tunceli, Bayburt, Elazığ (Özbek 1976).

**Material examined.** Ankara: Yeşilköy-Kızılcahamam arası, 40°24’15”N, 32°33’38”E, 1327 m, 17.VI.2006, 3 ♀♀, 1 ♂, Şabanözü-Çankırı arası, 40°30’23”N, 33°24’54”E, 1487 m, 18.VI.2006, 1 ♀, Kızılcahamam, 40°24’24”N, 32°34’20”E, 1317 m, 17.VI.2006, 1 ♀, Çamlıdere, 40°32’42”N, 32°34’19”E, 1190 m, 17.VI.2006, 3 ♀♀, leg. B. Gülçü, E. Scheuchl; Aydın: Ovacık, 38°03’02”N, 28°08’09”E, 1089 m, 24.VI.2008, 1 ♀, leg. B. Gülçü, S. Hazır; Burdur: Tefenni, 37°16’10”N, 29°52’44”E, 1150 m, 8.VI.2006, 1 ♀, leg. C. Çobanoğlu, E. Scheuchl; Çanakkale: Bayramlı,
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Distribution in Turkey. Amanos dağları, İstanbul (Warncke 1966); İzmir (Ensetepe) (Warncke 1969); All regions of the country (Warncke 1974); Erzurum (İspir), Iğdır (Tuzluca) (Özbek 1976).

Material examined. Adana: Karaisalı, 16.VI.2005, 1 ♀, leg. S. Hazır; Ankara: Kurtboğazı barajı çevresi, 40°16′28″N, 32°41′19″E, 1014 m, 17.VI.2006, 2 ♀♀, 2 ♂♂, Yeşilköy-Kızılcahamam arası, 40°24′15″N, 32°33′38″E, 1327 m, 17.VI.2006, 3 ♀♀, 2 ♂♂, leg. B. Gülcü, E. Scheuchl, Akyurt, 40°08′11″N, 33°11′95″E, 1329 m, 16.VI.2005, 1 ♀, leg. A.B. Yasan; Konya: Seydişehir-Bozkuş arası, 37°21′57″N, 32°05′01″E, 1098 m, 21.V.2007, 1 ♀, leg. E. Scheuchl; Kütahya: Simav-Saphane arası, 39°03′06″N, 29°06′02″E, 966 m, 4.VI.2007, 1 ♀, leg. E. Scheuchl, Emet-Tavşanlı arası, 39°27′30″N, 29°19′03″E, 881 m, 5.VI.2007, 3 ♀♀, 3 ♂♂, leg. E. Scheuchl; Mersin: Gündoğan, 36°40′40″N, 33°28′77″E, 1140 m, 24.V.2005, 2 ♀♀, 2 ♂♂, leg. S. Hazır; Sivas: Karakaya köyü, 39°49′07″N, 36°17′21″E, 1222 m, 18.VI.2005, 1 ♀, leg. A.B. Yasan.

Andrena variabilis Smith, 1853
http://species-id.net/wiki/Andrena_variabilis

Distribution in Turkey. Amanos dağları, İstanbul (Warncke 1966); İzmir (Ensetepe) (Warncke 1969); All regions of the country (Warncke 1974); Erzurum (İspir), Iğdır (Tuzluca) (Özbek 1976).


Andrena wilhelmi Schuberth, 1995
http://species-id.net/wiki/Andrena_wilhelmi

Distribution in Turkey. Adana (Ceyhan), Ankara (Şereflikoçhisar), Balıkesir (Ayvalık), Bursa (Karakabey), Hatay (Topboğazı), Iğdır, İstanbul (Florya), Konya (Beyşehir), Mersin (Mut, Namrum) (Schuberth 1995).

**Subgenus Hoplandrena Pérez, 1890**

*Andrena rosae* Panzer, 1801

http://species-id.net/wiki/Andrena_rosae

**Distribution in Turkey.** Erzurum (Tanyeri) (Warncke 1974).

**Material examined.** Konya: Bozkır-Yalnızca arası, 37°09′58″N, 32°15′75″E, 1464 m, 21.V.2007, 2 ♂♀, 1 ♂, leg. E. Scheuchl.

*Andrena trimmerana* (Kirby, 1802)

http://species-id.net/wiki/Andrena_trimmerana

**Distribution in Turkey.** İstanbul, Erzurum (Oltu, Tortum), Mersin (Gülek) (Warncke 1974); Erzurum (Oltu, Tortum) (Özbek 1976).

**Material examined.** Aydin: Aytepe, Adnan Menderes Üniversitesi kampüsü, 37°51′27″N, 27°51′14″E, 176 m, 21.VI.2006, 1 ♀, leg. B. Gülcü, S. Hazır; Kastamonu: Tosya-İskilip arası, 40°56′18″N, 34°15′10″E, 1507 m, 19.VI.2006, 1 ♂, leg. E. Scheuchl.

**Subgenus Hyperandrena Pittioni, 1948**

*Andrena bicolorata* (Rossi, 1790)

http://species-id.net/wiki/Andrena_bicolorata

**Distribution in Turkey.** İzmir (Warncke 1966); Bursa (Mustafakemalpaşa), İzmir (Seydiköy) (Warncke 1974).

**Material examined.** Aydın: Kuşadası, Davutlar, 15.IV.2005, 1 ♂, 1 ♂, leg. S. Hazır, Söke, Akçakonak köyü, 37°41′30″N, 27°21′35″E, 20 m, 10.IV.2006, 3 ♂♀, Söke, Güllübahçe, 37°40′40″N, 27°20′55″E, 20 m, 10.IV.2006, 2 ♂♀, leg. C. Çobanoğlu, B. Gülcü, Umurlu, Serçe köyü, 37°49′59″N, 27°55′50″E, 30 m, 13.III.2010, 1 ♂, leg. E. Scheuchl.
Subgenus *Larandrena* LaBerge, 1964

*Andrena larisana* Warncke, 1965
http://species-id.net/wiki/Andrena_larisana

Synonym: *Andrena tunetana* ssp. *larisana* Warncke, 1965

**Distribution in Turkey.** Adapazarı, Bursa (Mustafakemalpaşa), Balıkesir (Ayvalık, Bigadiç), İstanbul (Üsküdar) (Warncke 1974).

**Material examined.** Aydin: Çine, Çine Çayı, Söğütçük, 37°28'08"N, 28°09'33"E, 236 m, 12.III.2010, 1 ♀, 1 ♂, leg. E. Scheuchl.

*Andrena medioxima* Warncke, 1975
http://species-id.net/wiki/Andrena_medioxima

Synonym: *Andrena tunetana* ssp. *medioxima* Warncke, 1975

**Distribution in Turkey.** Ankara (Şereflikoçhisar), Antalya (Side), Denizli (Acıgöl), Kayseri (Yeşilhisar), Nevşehir (Ürgüp) (Warncke 1974); Nevşehir, Şanlıurfa (Birecik) (Warncke 1975).


*Andrena sericata* Imhoff, 1866
http://species-id.net/wiki/Andrena_sericata

**Distribution in Turkey.** Diyarbakır, Antalya (Elmalı) (Warncke 1974).

**Material examined.** Aydın: Baltaköy, 37°47'06"N, 27°53'07"E, 38 m, 23.II.2006, 1 ♀, 5 ♂♂, Göllhisar-Mesutlu arası, 37°47'57"N, 27°55'42"E, 48 m, 23.II.2006, 7 ♀♀, 2 ♂♂, Karahayıt köyü, 37°48'06"N, 28°00'55"E, 46 m, 23.II.2006, 6 ♀♀, 6 ♂♂, Tepeköy, 37°47'24"N, 27°53'43"E, 35 m, 23.II.2006, 1 ♀, 3 ♂♂, Yenipazar-Bozdoğan arası, Alarmut köyü, 37°48'49"N, 28°18'48"E, 61 m, 23.II.2006, 7 ♂♂, leg. B. Gülçü, S. Hazır, Umurlu, Serçeköy köyü, 37°49'59"N, 27°55'50"E, 30 m, 13.III.2010, 8 ♀♀, leg. E. Scheuchl.
Subgenus *Leimelissa* Osychnyuk, 1984

*Andrena ispida* Warncke, 1965

http://species-id.net/wiki/Andrena_ispida

**Distribution in Turkey.** Konya (Beyşehir) (Warncke 1966); Çanakkale (Ecebat); Erzurum (Oltu, Ispir, Uzundere-the old name is Azort), Kırşehir, Konya (Akşehir, Beyşehir), Nevşehir (Ürgüp), Niğde (Çiftehan), Mersin (Mut), Sivas (Gürün) (Warncke 1974); Erzurum (Oltu, Ispir, Tortum) (Özbek 1976).


Subgenus *Lepidandrena* Hedicke, 1933

*Andrena curvungula* Thomson, 1870

http://species-id.net/wiki/Andrena_curvungula

**Distribution in Turkey.** Amasya, Ankara, Aydın (Bozdoğan), Erzurum (İspir), Kayseri (Erciyes dağı) (Warncke 1974); Erzurum (İspir) (Özbek 1976).


*Andrena elisaria* Gusenleitner, 1998

http://species-id.net/wiki/Andrena_elisaria

**Distribution in Turkey.** Hakkari (Süvari Halil Geçidi, Yüksekova), Şırnak (Uludere) (Gusenleitner 1998).

**Material examined.** Adana: Pınarlı-Saimbeyli arası, 38°07'50"N, 36°10'00"E, 1442 m, 6.V.2007, 1 ♂, leg. B. Gülcü, C. Hazır; Antalya: Korkuteli-Elmalı arası, 36°56'39"N, 30°08'20"E, 1335 m, 7.VI.2006, 1 ♀, leg. E. Scheuchl.
Andrena florivaga Eversmann, 1852
http://species-id.net/wiki/Andrena_florivaga

Distribution in Turkey. İstanbul (Üsküdar) (Warncke 1966); Adana (Pozanti), İstanbul (Üsküdar), Erzurum (İspir), Muş, Samsun (Bafra) (Warncke 1974); Erzurum (Oltu, İspir), Muş (Özbek 1976).


Andrena gamskrucki ssp. eburnea Warncke, 1975

Distribution in Turkey. Balıkesir (Ayvalık, Bigadiç, Sındırgı), Burdur, Denizli (Acı göl), Nevşehir (Warncke 1974).


Andrena paucisquama Noskiewicz, 1924
http://species-id.net/wiki/Andrena_paucisquama

Synonym: Andrena paucisquama ssp. curonica Warncke, 1975

Distribution in Turkey. Ankara, Balıkesir (Sındırgı), Bursa (Karacabey), Manisa (Akhisar, Kayapınar) (Warncke 1974).

Material examined. Ankara: Kızılcahamam-Çerkeş arası, 40°31′18″N, 32°38′11″E, 1113 m, 18.VI.2006, 1 ♀, leg. E. Scheuchl; Aydın: Paşayılası, 37°55′47″N, 27°53′44″E, 1151 m, 3.VI.2006, 1 ♀, leg. E. Scheuchl, Aytepe, Adnan Menderes Üniversitesi Kampüsü, 37°51′48″N, 27°51′49″E, 197 m, 23.IV.2011, 1 ♀, leg. E. Scheuchl; Kütahya: Demirci-Simav arası, 39°06′11″N, 28°43′96″E, 1348 m, 4.VI.2007, 1 ♀, 1 ♂, leg. E. Scheuchl.
Subgenus *Leucandrena* Hedicke, 1933

*Andrena mistrensis* Grünwaldt, 2005
http://species-id.net/wiki/Andrena_mistrensis

**Distribution in Turkey.** Aydın (Hazir et al. 2012).


*Andrena parviceps* Kriechbaumer, 1873
http://species-id.net/wiki/Andrena_parviceps

**Distribution in Turkey.** Bursa (Uludağ), Erzincan (Kemaliye), Muş (Warncke 1974); Erzurum (Oltu), Muş (Özbek 1976).


Subgenus *Melanapis* Cameron, 1902

*Andrena fuscosa* Erichson, 1835
http://species-id.net/wiki/Andrena_fuscosa

**Distribution in Turkey.** Adana (Ceyhan, Karataş), Adapazarı, Amanos dağları, Ankara, Balikesir (Ayvalık) (Warncke 1966); Aydın (Kuşadası), Bilecik (Warncke 1969); All regions of the country (Warncke 1974); Erzurum (İspir, Horasan) (Özbek 1976).

**Subgenus Melandrena Pérez, 1890**

*Andrena albopunctata* (Rossi, 1792)
http://species-id.net/wiki/Andrena_albopunctata

Synonym: *Andrena albopunctata* ssp. *funebris* Panzer, 1798

**Distribution in Turkey.** Ankara, Bursa, Kayseri (Erciyes), Konya (Beyşehir), Toros dağları (Warncke 1966); All regions of the country (Warncke 1974); Erzurum (Horasan) (Özbek 1976).


*Andrena assimilis* Radoszkowski, 1876
http://species-id.net/wiki/Andrena_assimilis

**Distribution in Turkey.** Balıkesir (Ayvalık), Kayseri (Erciyes) (Warncke 1966); Balıkesir (Ayvalık), Diyarbakir, Erzurum (Oltu, Tortum), Kayseri (Erciyes dağı), Malatya (Warncke 1974); Erzurum (Oltu, Tortum) (Özbek 1976).


*Andrena atrotegularis* Hedicke, 1923
http://species-id.net/wiki/Andrena_atrotegularis

**Distribution in Turkey.** Ankara (Warncke 1966); Amasya, Ankara, Kahramanmaraş, Karaman (Madenşehir), Konya, Şanlıurfa (Warncke 1974).

**Material examined.** Aydın: Kuşadası, Davutlar, Ağacı köyü, 37°43’95”N, 27°19’08”E, 185 m, 28.V.2005, 5 ♀♀, leg. S. Hazır.
**Andrena cussariensis** Morawitz, 1886
http://species-id.net/wiki/Andrena_cussariensis

**Distribution in Turkey.** Erzurum, Hakkari (Yüksekova), Kayseri (Erciyes dağı) (Warncke 1974); Erzincan, Erzurum (Özbek 1976).

**Material examined.** Sivas: Yıldızeli, 39°53'26"N, 36°34'28"E, 1380 m, 18.VI.2005, 1 ♀, leg. A.B. Yasan.

**Andrena danuvia** Stöckhart, 1950
http://species-id.net/wiki/Andrena_danuvia

Synonym: *Andrena cineraria* ssp. *danuvia* Stöckhart, 1950

**Distribution in Turkey.** Amanos dağları, Arvin, Erzurum (Oltu, Tortum), İstanbul (Belgrat ormanı), Karaman (Madenşehir), Kastamonu (İlgaz dağı), Kayseri (Erciyes dağı), Konya (Beyşehir), Manisa (Kayapınar), Mersin (Sertavul), Trabzon (Hamsıköy, Soğanlı geçiti) (Warncke 1974); Erzurum (Başaklı-Oltu) (Özbek 1976).

**Material examined.** Aydın: Kuşadası, Dilek yarımadası milli parkı, 37°41'56"N, 27°09'55"E, 0 m, 10.IV.2006, 4 ♀♀, leg. B. Gülçü, C. Çobanoğlu; Manisa: Spil dağı, 38°34'21"N, 27°24'00"E, 972 m, 23.IV.2007, 2 ♀♀, 38°35'15"N, 27°26'16"E, 612 m, 23.IV.2007, 1 ♀, leg. B. Gülçü, C. Hazır.

**Andrena dubiosa** Kohl, 1905
http://species-id.net/wiki/Andrena_dubiosa

**Distribution in Turkey.** Amanos dağları, Ankara, Kayseri (Erciyes), Toros dağları (Warncke 1966); Amanos dağları, Ankara, Karaman (Madenşehir) (Warncke 1974).

**Material examined.** Erzincan: Kemaliye, Osnohot, 39°19'07"N, 38°29'20"E, 1333 m, 5.VII.2005, 1 ♀, Kemaliye, Venk çayı çevresi, 39°17'08"N, 38°31'44"E, 1366 m, 13.VII.2005, 1 ♀, leg. C. Çobanoğlu.

**Andrena fuscocalcarata** Morawitz, 1878
http://species-id.net/wiki/Andrena_fuscocalcarata

**Distribution in Turkey.** Ankara, Konya (Beyşehir) (Warncke 1966); Ankara, Erzurum (İspir, Uzundere), Kayseri (Yeşiñhisar), Konya (Beyşehir, Karapınar), Mersin (Sertavul geçiti), Niğde (Ulukışla), Sivas (Warncke 1974); Erzurum (İspir, Horasan, Tortum) (Özbek 1976).

Faunistic, geographical and biological contributions to the bee genus Andrena...


**Andrena limata** Smith, 1853

[http://species-id.net/wiki/Andrena_limata](http://species-id.net/wiki/Andrena_limata)

**Synonym:** *Andrena nitida* ssp. *batesiae* Cockerell, 1910

**Distribution in Turkey.** Adana, Adapazarı, Amasya, Ankara, Balıkesir (Ayvalık), Burdur, Kayseri (Erciyes), Nevşehir (Ürgüp) (Warncke 1966); Aydın (Germencik), İzmir (Ensetepe) (Warncke 1969); Erzurum (Tortum, Oltu-Başaklı) (Özbek 1976).


**Andrena morio** Brullé, 1832

[http://species-id.net/wiki/Andrena_morio](http://species-id.net/wiki/Andrena_morio)

**Distribution in Turkey.** Adapazarı, Amanos dağları, Ankara, Aydın (Kuşadası), Balıkesir (Ayvalık), Eskişehir, İzmir, Konya (Beyşehir) (Warncke 1966); All regions of the country (Warncke 1974); Aydın (Kuşadası), Toros dağıları (Warncke 1969); Erzurum (Oltu-Başaklı, Tortum) (Özbek 1976).

Andrena nigroaenea ssp. candiae Strand, 1915

Distribution in Turkey. All regions of the country (Warncke 1974); Erzurum (Oltu) (Özbek 1976).

Faunistic, geographical and biological contributions to the bee genus Andrena...

Andrena nitida (Müller, 1776)  
http://species-id.net/wiki/Andrena_nitida

**Distribution in Turkey.** Erzurum (İspir, Kandilli, Ovacık), Gümüşhane (Zigana dağı), Rize (Çayeli, Çinçiva), Trabzon (Soğanlı geçiti), İstanbul (Belgrat ormanı) (Warncke 1974); Erzurum (İspir, Kandilli, Ovacık) (Özbek 1976).

**Material examined.** Ankara: Çamlıdere-Emlali arası, 40°25'51"N, 32°28'01"E, 1278 m, 17.VI.2006, 1 ♀, leg. B. Gülcü, E. Scheuchl.

Andrena nitidemula Scheuchl & Hazır, 2012  
http://species-id.net/wiki/Andrena_nitidemula

**Distribution in Turkey.** Ankara (Çamlıdere), Burdur, Hakkari, Konya, Mersin (Limonlu, Mut), Sivas (Scheuchl and Hazır 2012).


Andrena pyropygia Kriechbaumer, 1873  
http://species-id.net/wiki/Andrena_pyropygia

**Distribution in Turkey.** Amanos dağları, Amasya, Bursa, Toros dağları (Warncke 1966); Aydın (Kuşadası) (Warncke 1969).

Andrena thoracica (Fabricius, 1775)
http://species-id.net/wiki/Andrena_thoracica

Synonym: Andrena thoracica ssp. kotschyi Mavromoustakis, 1953

Distribution in Turkey. Amanos dağları, Amasya, Balıkesir (Ayvalık), Eskişehir (Sivrihisar), İstanbul, Manisa, (Warncke 1966); İşik dağları (Warncke 1969); Erzurum (Oltu-Başaklı) ( Özbek 1976).


Subgenus Melittoides Friese, 1921

Andrena curiosa (Morawitz, 1877)
http://species-id.net/wiki/Andrena_curiosa

Distribution in Turkey. Erzurum (Horasan, İspir, Kandilli, Tatos dağları, Tortum), Hatay (Amanos dağları), İzmir, Karaman (Madenşehir), Konya (Warncke 1974); Erzurum (Aşkale, Horasan, İspir, Tortum) ( Özbek 1976).


Subgenus Micrandrena Ashmead, 1899

Andrena alfkenelloides Warncke, 1965
http://species-id.net/wiki/Andrena_alfkenelloides

Synonym: Andrena alfkenelloides ssp. alfkenelloides Warncke, 1965; Andrena alfkenelloides ssp. cardalia Warncke, 1975

Distribution in Turkey. Ankara, Antalya (Akseki, Side), Denizli (Çardak), Mersin (Gülek) Nevşehir (Ürgüp), Niğde (Çiftehan), Tunceli (Warncke 1974); Tunceli ( Özbek 1976).

*Andrena enslinella* Stöckhert, 1924
http://species-id.net/wiki/Andrena_enslinella

Distribution in Turkey. Ankara, Çorum, İstanbul (Üsküdar), Konya (Akşehir), Mersin (Sertavul), Sivas (Gürün) (Warncke 1974).


*Andrena magunta* Warncke, 1965
http://species-id.net/wiki/Andrena_magunta

Distribution in Turkey. Adana, Amanos dağları, Balıkesir (Ayvalık), Kayseri (Erciyes) (Warncke 1966); Adana, Ağrı (Ararat), Amanos dağları, Ankara, Antalya (Akseki), Balıkesir (Ayvalık), Erzurum (Horasan, İspir, Tortum), Gümüşhane, Hatay (Antakya), Kayseri (Erciyes dağı), Konya, Mersin (Namrun, Sertavul), Nevşehir (Ürgüp), Niğde (Ulukışla), Sivas (Gürün) (Warncke 1974); Erzurum (Horasan, İspir, Tortum) (Özbek 1976).


*Andrena oenas* Warncke, 1975
http://species-id.net/wiki/Andrena_oenas

Distribution in Turkey. Ankara, Erzurum (Horasan), Konya (Warncke 1974); Erzurum (Horasan) (Özbek 1976).

Andrena stoeckhertella Pittioni, 1948
http://species-id.net/wiki/Andrena_stoeckhertella


Andrena tringa Warncke, 1973
http://species-id.net/wiki/Andrena_tringa

Distribution in Turkey. Ankara (Şereflikoçhisar), Ardahan, Burdur, Erzurum (Oltu), Kayseri (Yeşilhisar), Konya (Sarayönü), Nevşehir (Ürgüp) (Warncke 1974); Ardahan, Erzurum (Oltu, Tortum), Kars (Özbek 1976).


Andrena virgata Warncke, 1975
http://species-id.net/wiki/Andrena_virgata

Distribution in Turkey. Ağrı (Ararat), Ankara, Erzurum (Horasan) (Warncke 1974); Ağrı (Doğubayazıt), Erzurum (Horasan) (Özbek 1976).


Subgenus Nobandrena Warncke, 1968

Andrena anatolica Alfken, 1935
http://species-id.net/wiki/Andrena_anatolica

Distribution in Turkey. Ankara, Eskişehir, Konya, Mersin (Mut) (Warncke 1966); Ankara, Erzurum (Horasan), Eskişehir, Karaman (Mađenšehir), Konya (Ereğli), Mersin (Mut), Sivas (Gürün) (Warncke 1974); Erzurum (Horasan) (Özbek 1976).

Material examined. Ankara: Hacettepe Üniversitesi, Beytepe kampüsü, 39°51’49”N, 32°45’06”E, 29.V.2005, 1 ♂, leg. E. Scheuchl, 3.VI.2005, 1 ♀, leg. C. Çobanoğlu, Kızılcahamam-Güvem arası, 40°34’05”N, 32°39’23”E, 1070 m,

**Andrena athenensis** Warncke, 1965
http://species-id.net/wiki/Andrena_athenensis

**Distribution in Turkey.** Erzurum (Horasan), Konya (Warncke 1974); Erzurum (Horasan) (Özbek 1976).

**Material examined.** Afyon: Köroğlu dağ geçidi, 38°55'20"N, 30°53'40"E, 1295 m, 21.VI.2006, 2 ♀♂, 1 ♂, leg. E. Scheuchl; Burdur: Gölhisar-Altınyayla arası, 37°05'34"N, 29°31'51"E, 977 m, 6.VI.2006, 1 ♀, Söğüt-Çavdır arası, 37°06'36"N, 29°44'00"E, 1116 m, 6.VI.2006, 1 ♀, 1 ♂, 37°08'05"N, 29°41'18"E, 1015 m, 6.VI.2006, 2 ♀♂, Yeşilova, 37°29'01"N, 29°46'37"E, 1239 m, 8.VI.2006, 1 ♀, leg. C. Çobanoğlu; Kütahya: Demirci-Simav arası, 39°08'00"N, 28°47'26"E, 686 m, 4.VI.2007, 1 ♀, leg. C. Hazır, S. Hazır, Dereköy, 39°11'44"N, 29°17'45"E, 868 m, 4.VI.2007, 1 ♀, leg. E. Scheuchl.

**Andrena flavobila** Warncke, 1965
http://species-id.net/wiki/Andrena_flavobila

**Synonym:** *Andrena flavobila* ssp. *albicilla* Warncke, 1975

**Distribution in Turkey.** Konya (Sarayönü) (Warncke 1966), Ankara (Şereflikoçhisar), Denizli (Açı göl), Nevşehir (Ürgüp), Niğde (Ulukışla) (Warncke 1974).


**Andrena nobilis** Morawitz, 1874
http://species-id.net/wiki/Andrena_nobilis

**Distribution in Turkey.** Aksaray, Ankara, Kayseri, Kırıkkale, Konya (Beyşehir), Toros dağları (Warncke 1966); Adana (Pozanştı), Aksaray, Amasya, Ankara, İzmir (Selçuk),
Erzurum (Aëršt, Ispı̈r, Horasan, Tanyeri), Karaman (Madenşehir), Kayseri, Kırıkkale, Konya (Beyshehir), Mersin (Gülek, Sertavul), Nevşehir (Ürgüp) (Warncke 1974); Erzurum (Oltu, Tortum, Ispı̈r, Horasan) (Özbek 1976).

**Material examined.** Aksaray: 38°28′97″N, 33°53′31″E, 977 m, 5.VI.2005, 1♀, leg. B. Gülçü, S. Hazır; Ankara: Karakeçili, 39°35′00″N, 33°24′67″E, 762 m, 4.VI.2005, 1♀, leg. B. Gülçü, S. Hazır, Beypaźarı, Kargı köyü, 9.VI.2005, 1♀, leg. E. Aytekin; Aydın: Aytepe, Adnan Menderes Üniversitesi kampüsü, 37°51′27″N, 27°51′14″E, 176 m, 19.IV.2007, 1♂, Ovacık, 38°01′18″N, 28°10′75″E, 1292 m, 24.VI.2008, 7♀♀, Uzunlar-Ovacık arası, 38°00′86″N, 28°10′80″E, 1300 m, 24.VI.2008, 6♀♀, leg. B. Gülçü, S. Hazır; Burdur: Söğür-Çavdır arası, 37°06′36″N, 29°44′00″E, 1116 m, 6.VI.2006, 2♀♀, Tefenni, 37°16′10″N, 29°52′44″E, 1150 m, 8.VI.2006, 1♀, leg. C. Çobanoğlu, E. Scheuchl; Çorum: Bayat, 40°40′06″N, 34°27′19″E, 715 m, 17.VI.2005, 2♀♀, leg. S. Hazır, B. Gülçü; İzmir: Ödemiş-Bozdağ arası, 38°17′45″N, 28°03′56″E, 1018 m, 28.V.2006, 1♀, leg. B. Gülçü, S. Hazır; Karaman: Göktepe-Ermenek arası, 36°38′95″N, 32°41′13″E, 1616 m, 22.V.2007, 1♀, leg. B. Gülçü, S. Hazır; Konya: Seydişehir-Bozkr arası, 37°23′56″N, 32°01′06″E, 1097 m, 21.V.2007, 1♀, Akören, 37°31′22″N, 32°38′71″E, 1030 m, 23.V.2007, 3♀♀, leg. B. Gülçü, S. Hazır; Kütahya: Gediz-Hisarcık arası, 39°07′55″N, 29°21′05″E, 1009 m, 4.VI.2007, 1♀, leg. E. Scheuchl; Nevşehir: Gülhisar, 38°43′42″N, 34°41′00″E, 1011 m, 4.VI.2005, 5♂♂, leg. B. Gülçü, S. Hazır; Yozgat: 39°40′86″N, 35°45′89″E, 1254 m, 18.VI.2005, 2♀♀, leg. S. Hazır, B. Gülçü.

**Andrena probata** Warncke, 1973
http://species-id.net/wiki/Andrena_probata

**Distribution in Turkey.** Erzurum (Warncke 1974; Özbek 1976).

**Material examined.** Ankara: Kızılcahamam-Güvem arası, 40°34′05″N, 32°39′23″E, 1070 m, 18.VI.2006, 1♀, leg. B. Gülçü, E. Scheuchl; Bursa: Uludağ, Soğuk Pınar yol, 40°03′84″N, 29°07′11″E, 1029 m, 3.VI.2009, 2♂♂, leg. B. Gülçü, C. Demirtaş; Karaman: Göktepe-Ermenek arası, 36°38′95″N, 32°41′13″E, 1616 m, 22.V.2007, 2♀♀, leg. B. Gülçü, S. Hazır; Konya: Seydişehir-Bozkr arası, 37°23′56″N, 32°01′06″E, 1097 m, 21.V.2007, 1♀, Akören, 37°31′22″N, 32°38′71″E, 1030 m, 23.V.2007, 3♀♀, leg. B. Gülçü, S. Hazır; Kütahya: Gediz-Hisarcık arası, 39°07′55″N, 29°21′05″E, 1009 m, 4.VI.2007, 1♀, leg. E. Scheuchl; Nevşehir: Gülhisar, 38°43′42″N, 34°41′00″E, 1011 m, 4.VI.2005, 5♂♂, leg. B. Gülçü, S. Hazır; Yozgat: 39°40′86″N, 35°45′89″E, 1254 m, 18.VI.2005, 2♀♀, leg. S. Hazır, B. Gülçü.

**Subgenus Notandrena** Pérez, 1890

**Andrena erythrocnemis** Morawitz, 1870
http://species-id.net/wiki/Andrena_erythrocnemis

**Distribution in Turkey.** Antalya (Finike), İzmir (Selçuk), Muğla (Marmaris), Samsun (Warncke 1974).
Material examined. Kirkareli: Sarpdere çıkışı mağara yolu, 41°51'92"N, 27°34'93"E, 390 m, 1.VI.2009, 1 ♀, leg. B. Gülcü, C. Demirtaş; Samsun: Samsun-Ankara arası, 41°05'24"N, 36°05'04"E, 728 m, 3.VII.2006, 1 ♀, leg. E. Scheuchl.

*Andrena fulvicornis* (Schenck, 1853)
http://species-id.net/wiki/Andrena_fulvicornis

Synonym: *Andrena nitidiuscula* sensu Warncke 1974 partim, nec Schenck 1853

Distribution in Turkey. Antalya, Erzurum, Hakkari (Schmid-Egger and Doczkal 1995); Erzurum (Schwenninger 2013).


*Andrena langadensis* ssp. *clanga* Warncke, 1965

Distribution in Turkey. Adana (Ceyhan, Kadırlı) (Warncke 1966); Adana (Ceyhan, Kadırlı, Karataş), İzmir (Selçuk), Mersin (Tarsus) (Warncke 1974).


*Andrena recurvirostra* Warncke, 1975
http://species-id.net/wiki/Andrena_recurvirostra

Distribution in Turkey. Konya (Beyşehir), Muş, Şanlıurfa (Warncke 1974); Konya (Beyşehir) (Warncke 1975); Erzurum (Oltu), Muş (Özbek 1976).

**Andrena selcuki** Scheuchl & Hazir, 2008  
http://species-id.net/wiki/Andrena_selcuki

**Distribution in Turkey.** Konya (Kulu) (Scheuchl and Hazir 2008).

**Material examined.** Konya, Kulu, 38°54’98”N, 32°59’56”E, 1145 m, 19.V.2005, 2 ♂♂, leg. E. Scheuchl.

**Andrena stellaris** Warncke, 1965  
http://species-id.net/wiki/Andrena_stellaris

**Distribution in Turkey.** Aksaray (Warncke 1966); Aksaray, Nevşehir (Ürgüp), Niğde, Kayseri (Yeşilhisar, Sultanhanı) (Warncke 1974).


**Andrena ungeri** Mavromoustakis, 1952  
http://species-id.net/wiki/Andrena_ungeri

**Distribution in Turkey.** Adana (Ceyhan, Kadirli), Hatay (Warncke 1966).


**Subgenus Opandrena** Robertson, 1902

**Andrena schencki** Morawitz, 1866  
http://species-id.net/wiki/Andrena_schencki

**Distribution in Turkey.** All regions of the country (Warncke 1974); Erzurum (Oltu, Hınıs, Pasinler, Horasan) (Özbek 1976).

**Material examined.** Ankara: Çamlıdere, 40°32’42”N, 32°34’19”E, 1190 m, 17.VI.2006, 1 ♀, Kızılcahamam, 40°24’24”N, 32°34’20”E, 1317 m, 17.VI.2006, 1 ♀, Kurtboğazı baraji çevresi, 40°16’28”N, 32°41’19”E, 1014 m, 17.VI.2006, 2 ♀♀,
Faunistic, geographical and biological contributions to the bee genus Andrena...

Subgenus Orandrena Warncke, 1968

Andrena acrana Warncke, 1967
http://species-id.net/wiki/Andrena_acrana

Distribution in Turkey. Aksaray, Ankara (Gölbaşı, Şereflikoçhisar), Erzurum, Kayseri (Yeşilhisar), Nevşehir (Ürgüp), Niğde (Ulukişla), Konya (Sarayönü) (Warncke 1974); Erzurum (Ozbek 1976).


Andrena garrula Warncke, 1965
http://species-id.net/wiki/Andrena_garrula

Distribution in Turkey. Ankara (Şereflikoçhisar), Edirne, Kayseri (Yeşilhisar), Konya (Sarayönü), Nevşehir (Ürgüp), Muş (Warncke 1974); Erzurum (Oltu), Muş (Ozbek 1994); Konya (Sarayönü) (Blank and Kraus 1994).

Andrena oralis Morawitz, 1876
http://species-id.net/wiki/Andrena_oralis


Andrena platalea Warncke, 1975
http://species-id.net/wiki/Andrena_platalea

Distribution in Turkey. Erzurum, Niğde (Ulukışla), Sivas (Gürün) (Warncke 1974); Erzurum (Özbek 1976).

Subgenus Oreomelissa Hirashima & Tadauchi, 1975
Andrena coitana ssp. xema Warncke, 1975

Distribution in Turkey. Bayburt, Erzurum (Tatos dağıları 1600 m), Gümüşhane (Ziğana dağı), Rize (İkizdere, 2100 m) (Warncke 1974); Bayburt, Erzurum (İspir) (Özbek 1976); Rize (İkizdere) (Blank and Kraus 1994).
Material examined. Rize: İspir yolu, Sivrikaya köyü, 40°40'32"N, 40°42'33"E, 1860 m, 2.VII.2006, 1 ♀, 1 ♂, leg. C. Çobanoğlu.

Subgenus Pallandrena Warncke, 1968
Andrena korbella Grünwaldt, 2005
http://species-id.net/wiki/Andrena_korbella

Distribution in Turkey. Ağrı, Erzincan, Erzurum, Hakkari (Grünwaldt et al. 2005).
Material examined. Adana: Saimbeyli çevresi, 38°04’15”N, 36°08’52”E, 1470 m, 6.V.2007, 3 ♂♂ leg. S. Hazır, B. Gülcü, Pınarlar-Saimbeyli arası, 38°07’31”N, 36°10’00”E, 1440 m, 6.V.2007, 3 ♀♀, leg. S. Hazır, B. Gülcü.
Subgenus *Parandrenella* Popov, 1958

*Andrena crispa* Warncke, 1975
http://species-id.net/wiki/Andrena_crispa

**Distribution in Turkey.** Erzurum (Horasan) (Warncke 1974; Özbek 1976; Blank and Kraus 1994).


*Andrena dentiventris* Morawitz, 1873
http://species-id.net/wiki/Andrena_dentiventris

**Distribution in Turkey.** Aksaray, Konya (Warncke 1966); Aksaray, Ankara (Gölbaşı, Polatlı), Erzurum, Kayseri (Sultanhanı, Yeşilhisar), Konya (Sarayönü), Nevşehir (Ürgüp), Niğde (Ulukışla) (Warncke 1974); Erzurum, Muş (ÖZBEK 1976).


*Andrena figurata* Morawitz, 1866
http://species-id.net/wiki/Andrena_figurata

**Distribution in Turkey.** Adapazarı, Ankara, Konya (Warncke 1966); Adapazarı, Ankara (Gölbaşı), Erzurum (Horasan), Kayseri (Yeşilhisar), Konya (Sarayönü), Mersin (Sertavul), Nevşehir (Ürgüp), Niğde (Ulukışla), Sivas (Gürün) (Warncke 1974); Erzurum (Horasan) (ÖZBEK 1976).


Subgenus Plastandrena Hedicke, 1933

Andrena bimaculata (Kirby, 1802)
http://species-id.net/wiki/Andrena_bimaculata


Andrena pilipes Fabricius, 1781
http://species-id.net/wiki/Andrena_pilipes

Synonym: Andrena carbonaria (Linné, 1767)


Faunistic, geographical and biological contributions to the bee genus *Andrena*

**Andrena tibialis** (Kirby, 1802)

http://species-id.net/wiki/Andrena_tibialis


**Distribution in Turkey.** Amasya (Warncke 1966); Amasya, Ardahan (Warncke 1974); Ardahan (Özpek 1976).


**Subgenus Poecilandrena** Hedicke, 1933

**Andrena crassana** Warncke, 1965

http://species-id.net/wiki/Andrena_crassana


**Distribution in Turkey.** Antalya (Finike), Bursa (Karacabey), Muğla (Marmaris) (Warncke 1974).

*Andrena efeana* Scheuchl & Hazir, 2012
http://species-id.net/wiki/Andrena_efeana

**Distribution in Turkey.** Aydın (Scheuchl and Hazir 2012).

**Material examined.** Aydın: Malgaçmustafa-Ovacık arası, 38°01'17" N, 28°09'57" E, 1084 m, 21.IV.2007, 7 ♀♀, 1 ♂, leg. S. Hazır, B. Gülcü.

*Andrena hybrida* Warncke, 1975
http://species-id.net/wiki/Andrena_hybrida

**Distribution in Turkey.** Erzurum, Konya, Muş (Warncke 1974); Erzurum, Muş (Özbek 1976); Konya (Blank and Kraus 1994).

**Material examined.** Aydın: Madran dağı, 37°39'12"N, 28°11'51"E, 1546 m, 17.V.2007, 6 ♀♀, 2 ♂♂, leg. B. Gülcü, S. Hazır; Konya: Eskil-Karapınar arası, 38°08'18"N, 33°30'49"E, 900 m, 19.V.2005, 1 ♂, leg. E. Scheuchl, Kulu-Cihanbeyli arası, 39°40'85"N, 32°55'32"E, 985 m, 19.V.2005, 1 ♂, leg. E. Scheuchl, Karapınar, 38°02'05"N, 33°34'75"E, 945 m, 1 ♂, leg. E. Scheuchl.

*Andrena iliaca* Warncke, 1969
http://species-id.net/wiki/Andrena_iliaca

**Distribution in Turkey.** Diyarbakır (Hazir et al. 2012).


*Andrena labiata* Fabricius, 1781
http://species-id.net/wiki/Andrena_labiata

**Synonym:** *Andrena labiata* ssp. *labiata* Fabricius, 1781


**Andrena laticeps** Morawitz, 1877

http://species-id.net/wiki/Andrena_laticeps

**Distribution in Turkey.** Adapazarı, Kayseri, Konya (Warncke 1966); Adapazarı, Erzincan (Refahiye), Kayseri, Konya, Niğde (Uluküsla), Mersin (Sertavul), Sivas (Gürün) (Warncke 1974); Erzincan (Refahiye) (Özbek 1976).


**Andrena seminuda** Friese, 1896

http://species-id.net/wiki/Andrena_seminuda

**Distribution in Turkey.** Balıkesir (Bigadiç, Sındırgı), Çorum (İskilip), İstanbul (Üsküdar), Gümüşhane (Zigana köyü), Samsun (Warncke 1974).


**Andrena semirubra** Morawitz, 1875

http://species-id.net/wiki/Andrena_semirubra

**Distribution in Turkey.** Ankara, Antalya (Akseki), Bursa (Uludağ), Erzincan (Refahiye), Erzurum (Tortum, İspir), Sivas (Gürün) (Warncke 1974); Erzincan (Refahiye), Erzurum (Tortum, İspir) (Özbek 1976).

**Material examined.** Adana: Göksun-Tufanbeyli arası, 38°14’76”N, 36°18’22”E, 1449 m, 6.V.2007, 1 ♂, leg. B. Gülçü, C. Hazır; Ankara: Hacettepe Üniversitesi

Subgenus Poliandrena Warncke, 1968

Andrena kriechbaumeri Schmiedeknecht, 1883

http://species-id.net/wiki/Andrena_kriechbaumeri


Material examined. Ankara: Kızılcahamam-Gerede arası, 40°32’17”N, 32°36’33”E, 1001 m, 17.VI.2006, 1 ♀, leg. C. Çobanoğlu; Antalya: Manavgat, Başlar köyü-Ibradi arası, 37°05’71”N, 31°33’47”E, 1010 m, 21.V.2007, 1 ♂, leg. E. Scheuchl; Balıkesir: Kazdağları, Kıcikkuyu-Kircı yolu, 39°36’01”N, 26°34’51”E, 477 m, 30.V.2009, 1 ♀, leg. B. Gülcü, C. Demirtaş; Kırklareli: Çukurpınar, 41°52’65”N, 27°30’78”E, 369 m, 1.VI.2009, 1 ♂, 4 ♀♂, 41°51’41”N, 27°29’72”E 409 m, 1.VI.2009, 4 ♀♂, Sarpdere çıkış mağara yolu, 41°51’92”N, 27°34’93”E, 390 m, 1.VI.2009, 1 ♀, 1 ♂, Sarpdere, Dupnitsa mağarası yolu, 41°50’71”N, 27°33’57”E, 410 m, 1.VI.2009, 1 ♀, 1 ♂, leg. B. Gülcü, C. Demirtaş; Mersin: Gülnar, 36°22’42”N, 33°46’46”E, 740 m, 24.V.2005, 2 ♀♂, leg. S. Hazır; Muğla: Gökova, Akyaka, 37°03’09”N, 28°18’67”E, 0 m, 26.V.2005, 5 ♀♂, 6 ♀♂, leg. S. Hazır.

Andrena limbata Eversmann, 1852

http://species-id.net/wiki/Andrena_limbata

Distribution in Turkey. Çanakkale, Konya (Beyşehir) (Warncke 1966); Ankara, Çanakkale, Erzurum (Horasan), İstanbul, İzmir, Konya (Beyşehir), Mersin (Mut) (Warncke 1974); Erzurum (Horasan) (Özbek 1976).

Material examined. Ankara: Kızılcahamam-Çerkes arası, 40°31’18”N, 32°38’11”E, 1113 m, 17.VI.2006, 3 ♀♂, leg. B. Gülcü, E. Scheuchl; Aydın: Akçaköy-Ödemiş arası, 37°58’21”N, 28°01’04”E, 627 m, 28.V.2006, 1 ♀, leg. E. Scheuchl; Çankırı: Saçakbeli dağı geçiti, 40°41’53”N, 33°00’46”E, 1473 m, 18.VI.2006, 1 ♀, leg. B. Gülcü, E. Scheuchl; Burdur: Dirimli dağı geçiti, 36°57’57”N, 29°34’53”E, 1581 m, 6.VI.2006, 2 ♀♂, leg. C. Çobanoğlu, E. Scheuchl.
**Andrena polita** Smith, 1847
http://species-id.net/wiki/Andrena_polita

Distribution in Turkey. Hatay, Toros dağları (Warncke 1966); Ardahan, Erzincan (Refahiyê, Tanyeri), Erzurum (Oltu), Karaman (Madenşehir), Konya, Nevşehir (Ürgüp), Sinop, Sivas (Gürün) (Warncke 1974); Ardahan, Erzincan (Refahiyê), Erzurum (Oltu) (Özbek 1976).


**Andrena toelgiana** Friese, 1921
http://species-id.net/wiki/Andrena_toelgiana

Distribution in Turkey. Amanos dağları, Balıkesir (Ayvalık) (Warncke 1966); Adana (Ceyhan), Amanos dağları, Antalya (Side), Balıkesir (Ayvalık) (Warncke 1974).


**Andrena westensis** Warncke, 1965
http://species-id.net/wiki/Andrena_westensis

Distribution in Turkey. Ankara, Antalya (Anamur, Finike), Balıkesir (Bigadiç), Manisa (Kayapınar), Mersin (Gülek) (Warncke 1974).

**Material examined.** Antalya: Ibradi-Akseki arası, 37°03'02"N, 31°43'54"E, 98 m, 21.V.2007, 1 ♂, leg. E. Scheuchl; Aydın: Yılmazköy-Paşayaylası arası, 37°52'49"N, 27°53'57"E, 339 m, 30.IV.2006, 1 ♀, Karacasu, 37°40'16"N, 28°38'49"E 630 m, 24.IV.2007, 1 ♀, 1 ♂, leg. B. Gülcü, S. Hazır.
Subgenus *Proxiandrena* Schmid-Egger, 2005

*Andrena alutacea* Stöckhert, 1942
http://species-id.net/wiki/Andrena_alutacea

Synonym: *Andrena proxima* sensu Warncke 1974 partim, nec (Kirby 1802)

**Distribution in Turkey.** Ağrı, Amasya, Erzurum (Horasan), Hakkari, Kars (Karakurt), Konya, Mersin (Mut), Muş, Nevşehir, Sivas (Gürün) (Schmid-Egger 2005).

**Material examined.** Ankara: Hacettepe Üniversitesi, Beytepe kampüsü, 39°51′49″N, 32°45′06″E, 29.V.2005, 2 ♀♀, leg. E. Scheuchl, Çamlıdere, 40°32′22″N, 32°30′15″E, 1345 m, 17.VI.2006, 2 ♀♀, leg. E. Scheuchl, Kızılcahamam-Güvem arası, 40°34′05″N, 32°39′23″E, 1070 m, 18.VI.2006, 1 ♀, leg. E. Scheuchl; Aydın: Akçaköy-Ödemiş arası, 37°58′49″N, 28′00′42″E, 711 m, 28.V.2006, 1 ♀, leg. E. Scheuchl; Çankırı: Saçakbeli dağ geçidi, 40°41′53″N, 33°00′46″E, 1473 m, 18.VI.2006, 7 ♀♀, leg. E. Scheuchl; Konya: Akören-Seydişehir arası, 37°28′22″N, 32°20′69″E, 1159 m, 23.V.2007, 1 ♀, leg. E. Scheuchl, Kütahya: Demirci-Simav arası, 39°06′11″N, 28°43′96″E, 1348 m, 4.VI.2007, 1 ♀, leg. E. Scheuchl.

Subgenus *Ptilandrena* Robertson, 1902

*Andrena vetula* Lepeletier, 1841
http://species-id.net/wiki/Andrena_vetula

**Distribution in Turkey.** Adana (Karataş), Mersin (Tarsus) (Warncke 1966); Adana (Karataş), Adıyaman (Pınarbaşı), Amasya, Ankara, Erzurum (Narman), Mersin (Güllek, Mut, Namrun, Silifke, Tarsus) (Warncke 1974); Erzurum (Narman, Oltu, Tortum) (Özbek 1976).

Subgenus *Scitandrena* Warncke, 1968

*Andrena scita* Eversmann, 1852
http://species-id.net/wiki/Andrena_scita

**Distribution in Turkey.** Aksaray, Ankara, Çanakkale, Bilecik, Denizli (Pamukkale), Kayseri (Erciyes), Konya (Beyşehir), Toros dağları (Warncke 1966); Erzurum (Oltu, Tortum, İspir, Horasan, Hınıs) (Özbek 1976).


Subgenus *Simandrena* Pérez, 1890

*Andrena combinata* (Christ, 1791)
http://species-id.net/wiki/Andrena_combinata

**Distribution in Turkey.** Toroslar (Warncke 1966).

Andrena dorsata (Kirby, 1802)
http://species-id.net/wiki/Andrena_dorsata

Distribution in Turkey. Adana, Adapazarı, Eskişehir (Sivrihisar), İstanbul, Konya, Tekirdağ, Toros dağları (Gülek) (Warncke 1966), Afyon (Çay), Ankara (Delice), Hatay (Samandağ) (Warncke 1969); Bingöl, Erzincan, Erzurum (Oltu), Kars (Kağızman), Muş (Öz bék 1976).

Faunistic, geographical and biological contributions to the bee genus Andrena...

Andrena lepida Schenck, 1859
http://species-id.net/wiki/Andrena_lepida

Synonym: Andrena lepida ssp. eleonorae Warncke, 1967


Andrena melba Warncke, 1965
http://species-id.net/wiki/Andrena_melba

Distribution in Turkey. Ağrı (Ararat), Erzurum (Horasan) (Warncke 1974); Ağrı, Erzurum (Horasan), Kars (Karakurt) (Özbek 1976).

**Andrena nucleola** Warncke, 1973  
http://species-id.net/wiki/Andrena_nucleola

**Distribution in Turkey.** Amasya, Erzurum (Oltu, Tortum) (Warncke 1974); Erzurum (Oltu, Tortum) (Özbek 1976).  

**Andrena propinqua** Schenck, 1853  
http://species-id.net/wiki/Andrena_propinqua

**Distribution in Turkey.** No record  

**Andrena transitoria** Morawitz, 1871  
http://species-id.net/wiki/Andrena_transitoria

**Distribution in Turkey.** Ankara, Elazığ, Eskişehir, Hatay, Konya (Beyşehir), Nevşehir (Ürgüp) (Warncke 1966); Erzurum (Tortum), Kars (Kağızman) (Özbek 1976).  
Subgenus *Thysandrena* Lanham, 1949

*Andrena albiscopa* Warncke, 1967
http://species-id.net/wiki/Andrena_albiscopa


**Distribution in Turkey.** Ağrı (Ararat), Amasya, Ankara (Şereflikoçhisar), Erzurum (Horasan), Eskişehir (Sivrihisar), Hatay (Antakya), Kayseri (Sultanhanı, Yeşilhisar), Konya (Kulu, Sarayönü), Kütahya, Mersin (Sertavul), Nevşehir, Samsun (Vezirköprü), Şanlıurfa, Tokat (Nıksar) (Warncke 1974); Erzurum (Horasan) (Özbek 1976).

**Material examined.** Aksaray: 38°28′97″N, 33°53′30″E, 975 m, 5.VI.2005, 1 ♀, leg. E. Scheuchl; Çorum: 40°37′10″N, 34°17′80″E, 648 m, 17.VI.2005, 1 ♀, leg. A.B. Yasan; Konya: Akören, 37°31′22″N, 32°38′71″E, 1030 m, 23.V.2007, 1 ♀, leg. E. Scheuch.

*Andrena ranunculorum* Morawitz, 1877
http://species-id.net/wiki/Andrena_ranunculorum

**Distribution in Turkey.** Ankara, Çorum (İskilip), Erzurum (Horasan, İspir, Kandilli, Oltu, Tortum), Eskişehir (Sivrihisar), Konya (Sarayönü), Niğde (Ulukışla), Mersin (Sertavul), Trabzon (Soğanlı geçitii) (Warncke 1974); Erzurum (Horasan, İspir, Kandilli, Oltu, Tortum) (Özbek 1976).


Subgenus *Trachandrena* Robertson, 1902

*Andrena haemorrhoa* (Fabricius, 1781)
http://species-id.net/wiki/Andrena_haemorrhoa

**Distribution in Turkey.** Antalya (Akseki), İstanbul (Belgrad ormanı), Erzurum (Horasan), Kütahya, Samsun (Çarşamba), Tekirdağ (Warncke 1974); Erzurum (Horasan) (Özbek 1976).

**Material examined.** Aydın: Umurlu, Serçeköy köyü, 37°49′59″N, 27°55′50″E, 30 m, 13.III.2010, 1 ♀, leg. E. Scheuchl.
Subgenus *Truncandrena* Warncke, 1968

*Andrena asiatica* Friese, 1921

http://species-id.net/wiki/Andrenaasiatica

**Distribution in Turkey.** Ağrı dağı, Amanos dağları (Warncke 1966); Amanos dağları, Balıkesir (Sındırgı-Karaköy), Erzurum (Horasan), Manisa (Akhisar) (Warncke 1974); Erzurum (Horasan) (Özbek 1976).


*Andrena bassana* ssp. *etesiaca* Warncke, 1975

**Distribution in Turkey.** Amasya, Ankara (Gölbashi), Kayseri (Sultanhanı) (Warncke 1974).


*Andrena caneae* Strand, 1915

http://species-id.net/wiki/Andrenalaneae

**Distribution in Turkey.** Adıyaman (Pinarbaşı), Antalya, İstanbul (Prens adaları) (Warncke 1974).

**Material examined.** Aydın: Aytepe, Adnan Menderes Üniversitesi kampüsü, 39°51'49"N, 32°45'06"E, 3.VI.2005, 1 ♀, leg. E. Scheuchl.

*Andrena combusta* Morawitz, 1876

http://species-id.net/wiki/Andrena_combusta

**Synonym:** *Andrena oulskii* ssp. *oulskii* sensu Warncke 1974, nec Radoszkowski 1867.

**Distribution in Turkey.** Ağrı (Ararat), Kayseri (Yeşilhisar) (Warncke 1974); Erzurum (Oltu), Iğdır (Özbek 1976).

*Andrena delphiensis* Warncke, 1965
http://species-id.net/wiki/Andrena_delphiensis

**Distribution in Turkey.** Denizli (Hazir et al. 2012).

**Material examined.** Denizli: 37°50'01"N, 29°02'51"E, 345 m, 12.IV.2006, 1 ♀, leg. C. Çobanoğlu, B. Gülcü.

*Andrena medeninensis* ssp. *usura* Warncke, 1967

**Distribution in Turkey.** Antalya (Akseki), Balıkesir (Ayvalık, Bigadiç), Çorum (İskilip), Malatya, Mersin (Güle) (Warncke 1974); Malatya (Özbek 1976).


*Andrena noacki* Alfken, 1935
http://species-id.net/wiki/Andrena_noacki

Synonym: *Andrena oulskii* ssp. *noacki* Alfken, 1935

**Distribution in Turkey.** Ankara (Şereflikoçhisar), Erzurum (Warncke 1974); Erzurum (Özbek 1976).

Andrena optata Warncke, 1975
http://species-id.net/wiki/Andrena_optata

Synonym: Andrena rufomaculata ssp. optata Warncke, 1975

Distribution in Turkey. Antalya (Serik, Side), Aydın (Kuşadası), Balıkesir (Ayvalık), Bursa, Denizli (Acıgöl), İstanbul (Üsküdar), İzmir (Selçuk), Konya, Manisa (Kayapınar) (Warncke 1974).


Andrena paramythensis Mavromoustakis, 1957
http://species-id.net/wiki/Andrena_paramythensis

Synonym: Andrena rufomaculata ssp. paramythensis Mavromoustakis, 1957

Distribution in Turkey. No record.


Andrena roseotincta Warncke, 1975
http://species-id.net/wiki/Andrena_roseotincta

Synonym: Andrena oulskii ssp. roseotincta Warncke, 1975

Distribution in Turkey. Şanlıurfa (Birecik) (Warncke 1974).

**Andrena rotundilabris** Morawitz, 1877

http://species-id.net/wiki/Andrena_rotundilabris

**Distribution in Turkey.** Adana (Warncke 1966); Adana, Erzurum (Horasan), Hakkari (Zapsuyu), İstanbul, Kayseri (Pınarbaşı), Mersin (Gözne, Gülek, Sertavul), Niğde (Çiftihan), Sivas (Gürün) (Warncke 1974); Erzurum (Horasan) (Özbek 1976).

**Material examined.** Ankara: Kızılabamam-Çerkes arası, 40°31’18”N, 32°38’11”E, 1113 m, 18.VI.2006, 1 ♀, leg. E. Scheuchl; Bursa: Uludağ, Soğuk Pınar-Keleş yolu, 40°01’74”N, 29°07’44”E, 798 m, 3.VI.2009, 2 ♂♂, leg. B. Gülcü, C. Demirtaş; Mersin: Şahmurlu köyü, 36°38’58”N, 34°01’23”E, 970 m, 23.V.2005, 1 ♀, 2 ♂♂, leg. E. Scheuchl.

**Andrena rufomaculata** Friese, 1921

http://species-id.net/wiki/Andrena_rufomaculata

**Synonym:** *Andrena rufomaculata* ssp. *rufomaculata* Friese, 1921

**Distribution in Turkey.** Amanos dağları (Warncke 1966, 1974).

**Material examined.** Hatay: Belen-Kırıkhan arası, 36°28’85”N, 36°15’88”E, 625 m, 4.V.2007, 1 ♀, leg. B. Gülcü, C. Hazır.

**Andrena schmiedeknechti** Magretti, 1883

http://species-id.net/wiki/Andrena_schmiedeknechti

**Distribution in Turkey.** Adapazarı, Balıkesir (Ayvalık, Bigadiç) (Warncke 1966); Adapazarı, Balıkesir (Ayvalık, Bigadiç), Bursa (Mustafakemalpaşa), Erzurum (Horasan), İzmir (Selçuk), Karaman (Madenşehir), Kars (Sarıkamış), Kayseri (Yeşilhisar), Konya, Manisa, Nevşehir (Ürgüp), Niğde (Ulukışla) (Warncke 1974); Erzurum (Horasan), Kars (Sarıkamış) (Özbek 1976).

**Andrena seitzi** Alfken, 1935
http://species-id.net/wiki/Andrena_seitzi

Synonym: *Andrena citrinella* Warncke, 1967

**Distribution in Turkey.** Ankara (Warncke 1966); Ankara, Diyarbakır, Konya (Warncke 1974).


**Andrena truncatilabris** Morawitz, 1877
http://species-id.net/wiki/Andrena_truncatilabris

**Distribution in Turkey.** Adana, Adapazarı, Amanos dağları, Ankara, Balıkesir (Ayvalık), Konya, Mersin (Tarsus) (Warncke 1966); All parts of the country (Warncke 1974); Erzurum (Tortum, Oltu, Namran, İspir, Horasan), Kars, Muş (Özbek 1976).

Faunistic, geographical and biological contributions to the bee genus Andrena...

Andrena tscheki Morawitz, 1872
http://species-id.net/wiki/Andrena_tscheki

Synonym: Andrena tscheki ssp. tritica Warncke, 1965

Distribution in Turkey. Elma Dağı, Karaman (Göktepe), Bulgar Dağ (Bolkar dağı) (Warncke 1974).


Andrena ulula Warncke, 1969
http://species-id.net/wiki/Andrena_ulula

Distribution in Turkey. Diyarbakır, Karaman (Madenşehir), Konya (Beyşehir) (Warncke 1974).


Andrena urfanella Scheuchl & Hazir, 2012
http://species-id.net/wiki/Andrena_urfanella

Distribution in Turkey. Ankara, Aksaray, Diyarbakır, Hatay (Altınözü), Gaziantep, Kahramanmaraş, Konya (Beyşehir), Kilis, Mersin, Mardin (Derik), Şanlıurfa (Ceylanpınar, Harran) (Scheuchl and Hazir 2012).


Subgenus Ulandrena Warncke, 1968

Andrena cantiaca Warncke, 1975
http://species-id.net/wiki/Andrena_cantiaca

Distribution in Turkey. Erzurum (Horasan), Konya, Mersin (Sertavul), Nevşehir, Niğde (Ulukışla), Şanlıurfa (Birecik) (Warncke 1974); Erzurum (Horasan) (Özbek 1976); Niğde (Ulukışla) (Blank and Kraus 1994).

Faunistic, geographical and biological contributions to the bee genus Andrena...

**Andrena combaella** Warncke, 1966  
http://species-id.net/wiki/Andrena_combaella

**Distribution in Turkey.** Erzurum (Horasan), Konya (Warncke 1974); Erzurum (Horasan) (Özbek 1976).

**Material examined.** Ankara: Peçenek-Çamlılık arası, 40°27’21”N, 32°25’21”E, 1144 m, 17.VI.2006, 1 ♀, leg. E. Scheuchl; Çankırı: Saçakbeli dağı geçidi, 40°41’53”N, 33°00’46”E, 1473 m, 18.VI.2006, 1 ♀, 1 ♂, leg. B. Gülcü, E. Scheuchl.

**Andrena crecca** Warncke, 1965  
http://species-id.net/wiki/Andrena_crecca

Synonym: *Andrena concinna* ssp. crecca Warncke, 1965

**Distribution in Turkey.** Amasya, Ankara, Bursa (Uludağ), Erzincan (Tanyeri), Erzurum (Horasan), İzmir, Konya (Beyşehir), Niğde (Ulukışla) (Warncke 1974); Erzurum (Horasan) (Özbek 1976).


**Andrena elegans** Giraud, 1863  
http://species-id.net/wiki/Andrena_elegans

**Distribution in Turkey.** Ankara (Beynam), Erzincan (Tanyeri), Erzurum (Oltu) (Warncke 1974); Erzurum (Oltu) (Özbek 1976).

*Andrena fulvitarsis* Brullé, 1832
http://species-id.net/wiki/Andrena_fulvitarsis

**Distribution in Turkey.** Adana, Ankara, Çanakkale, İstanbul (Belgrat ormanı, Halkali), Toros dağları (Warncke 1966); Adana, Ankara, Antalya (Anamur, Side), Çanakkale, Diyarbakır, Edirne, Erzurum (Horasan), İstanbul (Belgrat ormanı, Büyükdere), Karaman (Madenşehir), Kayseri (Yeşilhisar), Mersin (Güllüde, Gülek), Muğla (Marmaris), Niğde (Ulucığa), Şanlıurfa (Birecik) (Warncke 1974); Erzurum (Horasan) (Özbek 1976).


*Andrena heinrichi* Grünwaldt, 2005
http://species-id.net/wiki/Andrena_heinrichi

**Distribution in Turkey.** Aydın (Kuşadası) (Grünwaldt et al. 2005).

Andrena neocypriaca Mavromoustakis, 1956
http://species-id.net/wiki/Andrena_neocypriaca

Distribution in Turkey. Adapazarı, Hatay (Warncke 1966); Adapazarı, Antalya (Anamur, Side), Hatay (Antakya, Topboğazı), İzmir, Mersin (Mut), Muğla (Fethiye, Marmaris), Şanlıurfa (Birecik) (Warncke 1974).


Andrena osychniukae Osytshnjuk, 1977
http://species-id.net/wiki/Andrena_osychniukae


Distribution in Turkey. All regions of the country (Warncke 1974); Erzurum (Horasan, Tortum) (Özbek 1976).

Material examined. Aksaray: 38°38′22″N, 33°44′31″E, 930 m, 5.VI.2005, 4 ♂♂, leg. E. Scheuchl Ankara: Kazan, 40°11′54″N, 32°60′73″E, 848 m, 6.VI.2004, 1 ♀, leg. S. Hazır; Aydın: Atça, 37°52′40″N, 28°13′52″E, 52 m, 22.IV.2007, 1 ♀, leg. B. Gülçü, S. Hazır; Çanakkale: Gelibolu yarımadası, Bayramlı-Çiftlik yolu, 40°08′04″N, 26°16′79″E, 95 m, 31.V.2009, 1 ♀, Bayramlı, Himidiye yarımadası yolu, 40°08′74″N, 26°17′60″E, 197 m, 31.V.2009, 1 ♀, leg. B. Gülçü, C. Demirtaş; Gaziantep: Gaziantep-Kahramanmaraş arası, 37°14′58″N, 37°15′56″E, 849 m, 5.V.2007, 2 ♀♀, leg. B. Gülçü, C. Hazır; Hatay: Serinyol, 36°22′07″N, 36°11′89″E, 152 m, 4.V.2007, 2 ♂♂, leg. B. Gülçü, C. Hazır; Karaman: Gökçepe-Ermeneş arası, 36°38′95″N, 32′41′13″E, 1616 m, 22.V.2007, 5 ♂♂, leg. B. Gülçü, S. Hazır; Kırklareli: Sarıdere çıkış mağara yolu, 41°51′92″N, 27°34′93″E, 390 m, 1.VI.2009, 1 ♀, leg. B. Gülçü, C. Demirtaş; Kırşehir: Kırşehir: Karakaya köyü, 39°26′34″N, 33°28′24″E, 971 m, 4.VI.2005, 1 ♀, leg. E. Scheuchl; Konya: Eskil-Aksaray arası, 37°42′74″N, 33°05′85″E, 920 m, 19.V.2005, 6 ♂♂, Tuz gölü çevresi, 38°44′83″N, 33°03′56″E, 940 m, 19.V.2005, 2 ♂♂, leg. S. Hazır, Ahırı-Bozkır arası, 37°11′48″N, 32°12′89″E, 1200 m, 21.V.2007, 5 ♂♂, Bozkır-Yalnızca arası, 37°09′58″N, 32′15′75″E, 1464 m, 21.V.2007, 1 ♀, leg. B. Gülçü, Akören-Seydisehir arası, 37°28′22″N, 32°20′69″E, 1159 m, 23.V.2007, 1 ♀, 2 ♂♂, leg. B. Gülçü, S. Hazır; Kütahya: Emet-Tavşanlı arası, 39°23′66″N, 29°21′27″E, 1172 m, 5.VI.2007, 1 ♀, leg. C. Hazır, S. Hazır; Mersin: Sertavul-Mut arası, 36°48′36″N, 33°19′48″E, 1270 m, 21.V.2005, 1 ♂, leg. S. Hazır.
**Andrena paradoxa** Friese, 1921

http://species-id.net/wiki/Andrena_paradoxa

Synonym: *Andrena concinna* ssp. *paradoxa* Friese, 1921

**Distribution in Turkey.** Mersin (Gülek), Amanos dağları (Warncke 1974).


**Andrena schulzi** Strand, 1921

http://species-id.net/wiki/Andrena_schulzi

**Distribution in Turkey.** Çanakkale (Hazır et al. 2012).

**Material examined.** Çanakkale: Çanakkaleye 10 km kala, 31.V.2009, 1 ♂, leg. B. Gülcü, C. Demirtaş.

**Subgenus Zonandrena** Hedicke, 1933

**Andrena flavipes** Panzer, 1798

http://species-id.net/wiki/Andrena_flavipes

**Distribution in Turkey.** Balıkesir (Edremit), Bilecik, Bolu (Abant), Burdur, Çanakkale (Truva, Gelibolu), Denizli (Pamukkale), İstanbul (Selimpaşa), İzmir (Ensetepe), Karaman, Samsun (Dikbiyik) (Warncke 1969); All regions of the country (Warncke 1974); Erzurum (Oltu, Tortum, İspir, Horasan, Hınıs, Aşkale), Iğdır, Tunceli, Elazığ (Özbek 1976).

Faunistic, geographical and biological contributions to the bee genus Andrena...
Andrena gazella Friese, 1922
http://species-id.net/wiki/Andrena_gazella

Synonym: Andrena gazella ssp. gazella Friese, 1922

Distribution in Turkey. Diyarbakır, Erzurum, Mersin (Sertavul), Şanlıurfa (Warncke 1974); Erzurum (Özbek 1976).

Faunistic, geographical and biological contributions to the bee genus Andrena...

Andrena gravida Imhoff, 1832
http://species-id.net/wiki/Andrena_gravida

Distribution in Turkey. Balıkesir (Bigadiç), İstanbul (Büyükdere, Belgrad ormanı), İzmir (Selçuk), Karaman (Madenşehir), Kayseri (Erciyes dağı), Manisa (Kayapınar) (Warncke 1974).


Discussion
Sandbees are morphologically similar and genera or subgenera are often difficult to differentiate typologically (Michener 2007). Currently 101 subgenera have been recognized with 51 of them restricted to the Palearctic (Dubitzky et al. 2010). Warncke (1975) recorded 294 species and 53 subgenera from Turkey demonstrating that it has a rich Andrena fauna with more than half of the subgenera and about 20% of species in the world. This result can be partially explained by its climatic richness. Turkey has Mediterranean, Iranian-Turanian and Euro-Siberian phytogeographical regions which lie at the intersection of different topographic-climatic features. This produces a wealth of plants and arid land which is suitable for building nests of Andrena species and may have been a driver in bee diversity.

The present study was a faunistic survey to determine the distribution of biological diversity of the genus Andrena in Turkey. The highest number of Andrena species (107 species) was found in Central Anatolia. This region has steppes and a dry continental climate. It occurs in the Iran-Turanian phytogeographic region with rich floral diversity (Avcı 2005). This wealth of plant diversity and an abundance of dry land is conducive for nest building and may have encouraged Andrena species diversity.

The numbers of Andrena species in the Black Sea, Eastern and Southeastern Anatolia regions were lower than those found in Central Anatolia for reasons relegated mostly to access to collecting sites. In the case of the Black Sea region it is because it receives rain at any time of the year which often prevents the collection of sufficient samples at flowers. Warncke collected bee samples in Black Sea region in different years and identified 59 species. Compared with other regions in Turkey, the Black Sea region represents the lowest number of Andrena species (Warncke 1966, 1969, 1974, 1975). Contrastingly, security problems in East and Southeast Anatolia regions substantially limited our field studies for political and safety reasons. We hypothesize that the diversity of Andrena species will be higher in future field studies in these regions with unfettered

In this study, 9 species in the genus *Andrena* in the Eastern region were identified. Seven of them had been recorded by Özbek (1975) in the same region. However, *A. dubiosa* and *A. cubiceps* species were recorded as a first time from Erzincan and Erzurum province, respectively.

The distribution of *A. dubiosa* in Central and Southern Anatolia regions and *A. cubiceps* in Aegean, Central, Marmara, Mediterranean and Southern Anatolia regions had been reported by Warncke (1966, 1969, 1974).

According to our data, *A. humilis*, *A. labialis* and *A. truncatilabris* are the most widely spread species in Turkey. These species were found in 6 geographic regions. *A. humilis* was reported in two regions of Turkey before (the Black Sea and Marmara regions) by Warncke (1966, 1969) whereas, *A. labialis* was reported in five regions of Turkey (Fahringer and Friese 1921, Fahringer 1922, Warncke 1974, Özbek 1976). *A. humilis* species was found for the first time in Aegean region with this study. It is known that *A. truncatilabris* prefers steppe areas and we have commonly found them in Central Anatolia. Although we haven’t found *A. truncatilabris* in the Eastern region, previous studies reported that this species was present in this region (Özbek 1976). Thus, *A. truncatilabris* has been reported in every region of Turkey. Other common species are *A. lamiana*, *A. flavipes*, *A. panurgimorpha* and *A. fulvitarsis* have been seen in all parts of the country (Warncke 1974).

The most number of specimens (154 females and 45 males) belong to *A. flavipes*. This species was collected from 5 different geographical regions (the Mediterranean, Aegean, Central Anatolia, Black Sea, and Marmara regions) and 31 provinces. However, this species was recorded in the Eastern region (Özbek 1976). Warncke (1974) reported that *A. flavipes* was an ubiquitous species. Özbek (1978) reported that populations of this species could be found close to honey bee populations in some regions in apple orchards. The high prevalence of *A. flavipes* may be explained by having a long flight period with two generations per year, polylectic host behavior and high ecological flexibility of the species (Özbek 1975; Osytnshnjuk et al. 2005). Although *A. flavipes* species had generally big populations, some of the species were rarely encountered. These were: *A. erberi*, *A. astica*, *A. torda*, *A. cubicepsella*, *A. mucida*, *A. cussariensis*, *A. nitida*, *A. oralis*, *A. iliaca*, *A. propinquua*, *A. haemorrhboa*, *A. basana ssp. etesiaca*, *A. delphiensis*, *A. paramythensis*, *A. rufo-maculata*, *A. seitzi*, *A. tscheki*, *A. schulzi*. Only one specimen was caught from these species. Having a short flight period and/or specific host plant preference could be the reason of low prevalence.

The presence of *A. elisaria* and *A. platalea* are confirmed in the Mediterranean region for the first time with this study. However, the previous studies recorded *A. elisaria* and *A. platalea* species in the Eastern and Southeastern Anatolia regions (Gusenleitner 1998) and the Central and Eastern Anatolia regions (Warncke 1974, 1975; Özbek 1976), respectively.
Similar to previous studies, we have collected some species from only one region of Turkey. *A. tenuis, A. selcuki* and *A. stellaris* were obtained from only Central Anatolia region. On the other hand *A. mistrensis, A. efeana, A. propinqua, A. delphiensis* and *A. heinrichi* were obtained from only Aegean region. *A. paramythensis* and *A. rufomaculata* were determined in Mediterranean region. *A. schulzi* and *A. ilia* were obtained from only Marmara and Southeastern Anatolia region, respectively. According to the data, the distribution of these species is possibly restricted to the determined regions.

Dubitzky (2005) indicates that most of the *Andrena* species fly from early spring until early summer and a few species occur in the summer or fall. The data obtained in our study support this observation. *Andrena* species are usually active in the spring according to our results. The flight period of the 112 identified species and 2 subspecies were between April and June.

According to our data, *A. bicolor* and *A. thoracica* have a longer flight period than previously reported. Although *A. bicolor* and *A. thoracica* were collected from April to July and April to August, respectively (Warncke 1966, 1974; Özbek 1976), we obtained them from February to August. Considering the long flight period of *A. thoracica* and *A. bicolor*, it is reasonable to hypothesize that these species are bivoltine in Turkey.

In this study, two *Andrena* species, *A. propinqua* and *A. paramythensis* were identified as a first record in Turkey.

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**References**


