

Contribution to the study of the genus *Anthaxia* Eschscholtz, 1829 (subgenus *Haplanthaxia* Reitter, 1911) (Coleoptera, Buprestidae) of Turkey*

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Summary

This paper provides faunistic information about 22 species of *Anthaxia* Eschscholtz, 1829 (subgenus *Haplanthaxia* Reitter, 1911) cited from Turkey. Amongst those *Anthaxia bettagi* Niehuis, 1983 is the new record for Turkish fauna. *A. bosdaghensis*, *A. cavazzutii*, *A. mundula*, *A. niehuisi*, *A. ovaciki*, *A. parapleuralis* and *A. serena* are endemic species. Material collected from the different parts of Turkey are given with attached maps.

Key words: *Anthaxia*, (subgenus *Haplanthaxia*), Buprestidae, fauna, Turkey

Anahtar sözcükler: *Anthaxia*, (altcins *Haplanthaxia*), Buprestidae, fauna, Türkiye

Introduction

Anthaxia fauna of Turkey is quite rich. In the study of Karaman and Tezcan (1998) 39 species of *Anthaxia* (subgenus *Anthaxia*) have been evaluated. The species of *Anthaxia* (subgenus *Haplanthaxia*) is very rich. The studies of Bily (1977, 1980 a, 1980 b, 1984), Brandl (1984, 1987), Niehuis (1989), Novak (1994) have made great contribution to the richness of Turkish fauna.

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With this study, to make contribution to some faunistical records of *Anthaxia* (subgenus *Haplanthaxia*) of Turkey and to present the current situation to the specialists aimed at.

In this study, information about general distribution and the distribution in Turkey for each species is given. Information is also given about localities, period of collection, plants on which the specimens were collected from the labels of material. But the name of plant on all labels may not be the real hosts of larvae. The real host plants, if they are available and known, are also given referring to the previous works.

To clarify the understanding of *Anthaxia* (subgenus *Haplanthaxia*), previous faunistic records and the localities of material studied in this paper are given on maps of Turkey. Data from the literature is shown as an empty square, circle etc., data from the material studied is shown as covered square, circle etc.

Most of the material treated in this work have been collected from the different parts of Turkey by the specialists of Department of Plant Protection, Faculty of Agriculture, University of Ege, Bornova, İzmir, Turkey. *Anthaxia* specimens are preserved in the collections of the same department.

Results

As a result of this study 22 species belonging to *Anthaxia* (subgenus *Haplanthaxia*) were evaluated. Data about them are given as follows.

Anthaxia armeniaca armeniaca Obenberger, 1929

General distribution: Armenia, Azerbaidzhan, North Iraq, Southwest Iran (Bily, 1997).

Distribution in Turkey: Bily (1980 b) reported it from Adiyaman and Mardin.

Material studied: Adiyaman (Central province), Gaziantep (Central province), Mardin (Central province), Siirt (Central province) and Şanlıurfa (Central province, Hilvan). 21 specimens.

Biological note: Its host plant is *Pistacia vera* (Bily 1977, 1980 b). Adults were collected from the mid of June up to the mid of July during the period of 1972-1997. They were taken on *Pistacia vera*.

A. bettagi Niehuis, 1983

General distribution: Greece (Bily, 1997).

Distribution in Turkey: This species described from Greece and new record for Turkey.

Material studied: Antalya (Central province, Akseki, Kemer), Bilecik (Central province). 5 specimens.

Biological note: Adults were collected from the mid of May up to the end of July. They were taken on *Cistus* sp., *Daucus carota* and *Thymus* sp. Its host plants are not known.

A. bosdaghensis Obenberger, 1938

General distribution: Turkey (Bily, 1997).

Distribution in Turkey: This species is endemic. Described from Izmir (Bozdağ) and reported from Bursa (Inegöl) by Brandl (1984).

Material studied: Authors have no representatives of this species.

Biological note: Its host plants are not known.

A. cavazzutii Bily, 1980

General distribution: Turkey (Bily, 1997).

Distribution in Turkey: This species is endemic. Described from Gümüşhane (Kelkit, Şiran) and Tunceli (Pülümür Passage) by Bily (1980 a).

Material studied: Authors have no representatives of this species.

Biological note: Its host plants are not known.

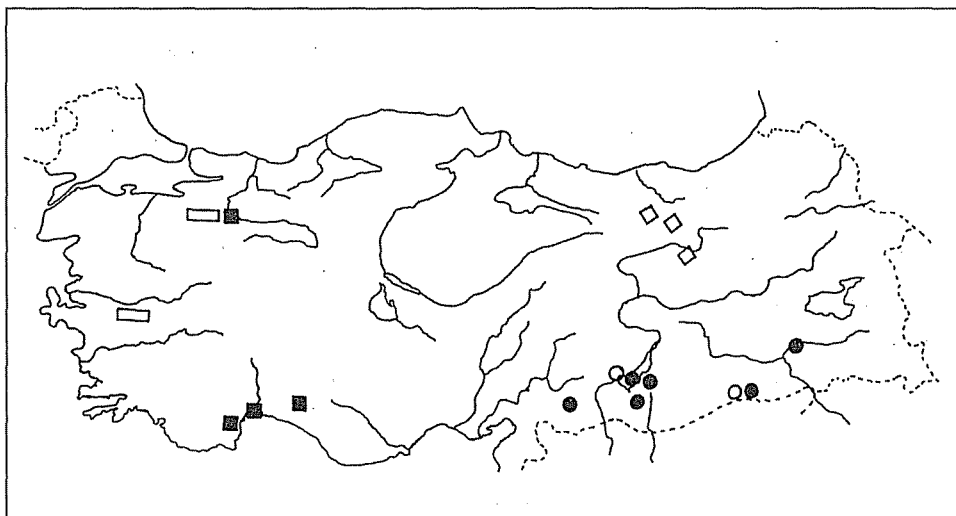


Figure 1. Distribution of *Anthaxia armeniaca armeniaca* ○/●; *A. bettagi* □/■; *A. bosdaghensis* □/▨ and *A. cavazzutii* ◇/◆.

***A. cichorii cichorii* Olivier, 1790**

General distribution: Austria, the Balcans, Belgium, Crete, Cyprus, Czech Republic, France, Germany, Hungary, Israel, Italy, Spain, Switzerland, Turkey and Ukraine (Bily, 1997).

Distribution in Turkey: Sahlberg (1912-1913) reported it from Içel (Bulgar Mountain, Tarsus). It was reported from Izmir by de Kerville (1939) and also from Edirne by Obenberger (1953). Recently Levey (1985) listed it from Mediterranean Region.

Material studied: Adana (Ceyhan-Misis, Karaisalı, Karataş, Kozan, Tuzla, Yumurtalık), Ankara (Central province), Antalya (Alanya, Gündoğmuş), Artvin (Central province), Aydın (Germencik, Kuşadası, Kuyucak, Samsun Mountain), Bartın (Ulus), Bolu (Düzce), Bitlis (Central province), Diyarbakır (Central province), Çermik, Gaziantep (Nizip), Hatay (Dörtyol), Hakkari (Central province), Içel (Erdemli-Cennet, Mut, Tarsus-Çamtepe), Izmir, (Bornova-Pınarbaşı, Menderes-Gölova, Dikili, Kemalpaşa-Örnekköy, Ören), Malatya (Central province), Manisa (Central province), Mardin (Nusaybin), Muğla (Köyceğiz), Sivas (Suşehri), Şırnak (Uludere) and Osmaniye (Gavur Mountain). 76 specimens.

Biological note: Adults were collected from the mid of April up to the beginning of August. They were taken on *Centaurea* sp., *Cerasus avium*, *Daucus carota*, *Matricaria* sp., *Melilothus* sp., *Paliurus* sp., *Populus* sp., *Prunus domestica*, *Quercus* sp., *Triticum* sp., some plants of Apiaceae, Poaceae and weeds. Gobbi (1986) cited *Acer campestre*, *Ceratonia siliqua*, *Cercis siliquastrum*, *Fagus sylvatica*, *Pistacia terebinthus*, *Prunus* sp. and *Salix alba* as host plants of this species.

***A. cylindrica* Abeille, 1900**

General distribution: Lebanon, Syria and Turkey (Bily, 1997).

Distribution in Turkey: Obenberger (1930) and Winkler (1924-1932) reported it from Turkey without giving exact locality.

Material studied: Antalya (Akseki, Serik), Içel (Anamur). 5 specimens.

Biological note: Adults were collected from the end of May up to the beginning of July. Its host plants are *Pinus* spp. but they were taken on *Cistus* sp., *Pyrus elaeagnifolia* and *Quercus* sp.

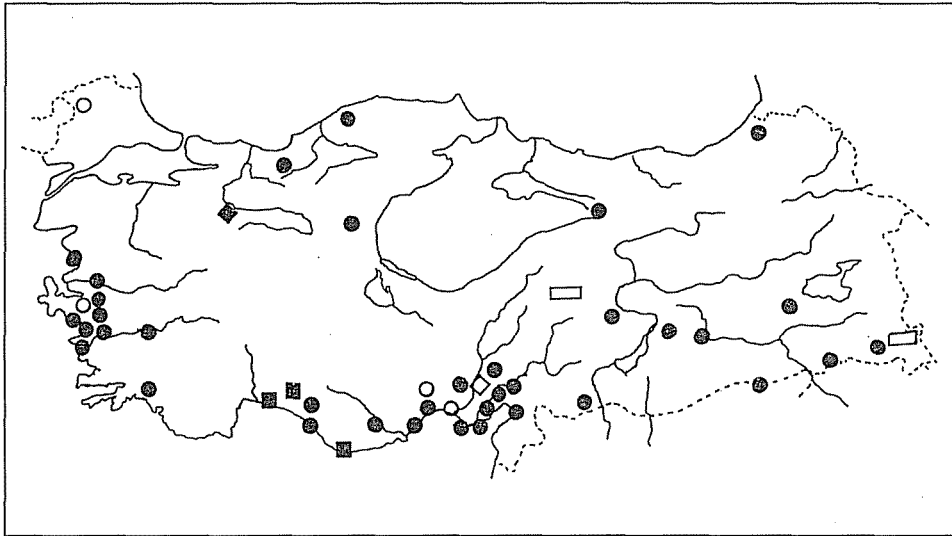


Figure 2. Distribution of *Anthaxia cichorii cichorii* ○/● ; *A. cylindrica* □/■ ;
A. flavicomis □/■ and *A. karsanthiana* ◇/◆ .

***A. flavicomis* Abeille, 1900**

General distribution: Armenia, Iran, Iraq and Turkey (Bily, 1997).

Distribution in Turkey: Novak (1994) reported it from Hakkari (Yüksekova) and Sivas (Gürün).

Material studied: Authors have no representatives of this species.

Biological note: Bily (1983) reported *Amygdalus elaeagnifolia* as host plant of this species.

***A. karsanthiana* Pic, 1917**

General distribution: Cyprus and Turkey (Bily, 1997).

Distribution in Turkey: Obenberger (1930) reported it from Toros Mountains and Richter (1949) listed it from Adana (Karsanti). Recently it was reported from western parts of Turkey by Levey (1985).

Material studied: Bilecik (Central province). 1 specimen.

Biological note: Adult was collected at the mid of May. Its host plants are not known.

***A. kiesenwetteri* Marseul, 1865**

General distribution: Bulgaria, Georgia, Greece, Israel, Syria and Turkey (Bily, 1997).

Distribution in Turkey: This species reported from Turkey without precise locality by Richter (1949).

Material studied: Adana (Karaisalı), Osmaniye (Gavur Mountain). 2 specimens.

Biological note: Adults were collected at the beginning of June on *Quercus* sp. and weeds. Gobbi (1986) collected this species on *Cichorium* spp.

***A. laticeps navratili* Bily, 1984**

General distribution: Crete, Cyprus, Syria and Turkey (Bily, 1997).

Distribution in Turkey: Its exact locality in Turkey is not known.

Material studied: Antalya (Finike). 1 specimen.

Biological note: Adult was collected at the end of July on *Pinus* sp.

***A. millefolii millefolii* (Fabricius, 1801)**

General distribution: Austria, the Balcans, Cyprus, Czech Republic, Hungary, Italy, Slovakia, Turkey and Ukraine (Bily, 1997).

Distribution in Turkey: Obenberger (1953) reported it from Ankara (Barrage), Kocaeli (Mollafeneri) and Osmaniye (Gavur Mountain) and Ural et al. (1973) listed it from Eastern Blacksea Region of Turkey.

Material studied: Adana (Central province), Aydın (Samsun Mountain), Çorum (Dodurga, Iskilip), Gaziantep (Central province), Hatay (Hassa-Akbez, Yayladağ), Isparta, (Keçiborlu), İzmir (Menemen-Emiralem, Ödemiş, Bergama-Kozak, Bornova-Pınarbaşı), Kastamonu (Cide), Osmaniye (Zorkun), Sivas (Koyulhisar, Suşehri) and Zonguldak (Central province). 22 specimens.

Biological note: Adults were collected from the beginning of May up to the beginning of August during the years of 1962-1988. They were taken on *Anthemis* sp., *Cistus* sp., *Laurus* sp., *Prunus domestica*, *Quercus* sp. and some plants of Asteraceae, Leguminosae and weeds. Ural et al. (1973) reported *Corylus avellana* and also Gobbi (1986) listed *Ceratonia siliqua*, *Nerium oleander*, *Pistacia lentiscus* and *Pyrus amygdaliformis* as host plants of this species.

***A. mundula* Kiesenwetter, 1857**

General distribution: Turkey (Bily, 1997).

Distribution in Turkey: It is endemic although Obenberger (1930) reported this species also from the Balkans. Sahlberg (1912-1913) reported it from İçel (Mersin) and also Obenberger (1953) listed it from Adana (Bürücek).

Material studied: Adana (Karaisalı, Tufanbeyli), Adıyaman (Besni), Ankara (Central province), Antalya (Central province, Akseki, Alanya, Finike, Gündoğmuş, Manavgat), Aydın (Kuşadası), Balıkesir (Dursunbey), Burdur (Gölkisar), Diyarbakır (Central province), Hatay (Yayladağ), İçel (Anamur, Arslanköy, Cehennemdere, Çamlıyayla, Fındıkpınarı, Mut, Silifke), İzmir (Bornova, Karagöl, Karaburun-Mordoğan, Çeşme-Uzunkoy, Urla-Çeşmealtı), Kahramanmaraş (Central province), Karaman (Ermenek), Manisa (Gördes, Spil Mountain), Mardin (Yeşilli), Muğla (Köyceğiz), Osmaniye (Zorkun) and Siirt (Central province). 633 specimens.

Biological note: Adults were collected from the beginning of May up to the beginning of August during the years of 1960-1997. They were taken on *Cerasus avium*, *Cirsium* sp., *Cistus* sp., *Daucus carota*, *Juniperus* sp., *Juglans regia*, *Mentha* sp., *Phlomis* sp., *Pimpinella anisum*, *P. saxifraga*, *Pistacia vera*, *Rhus* sp., *Tamarix* sp., *Verbascum* sp. and mostly on weeds.

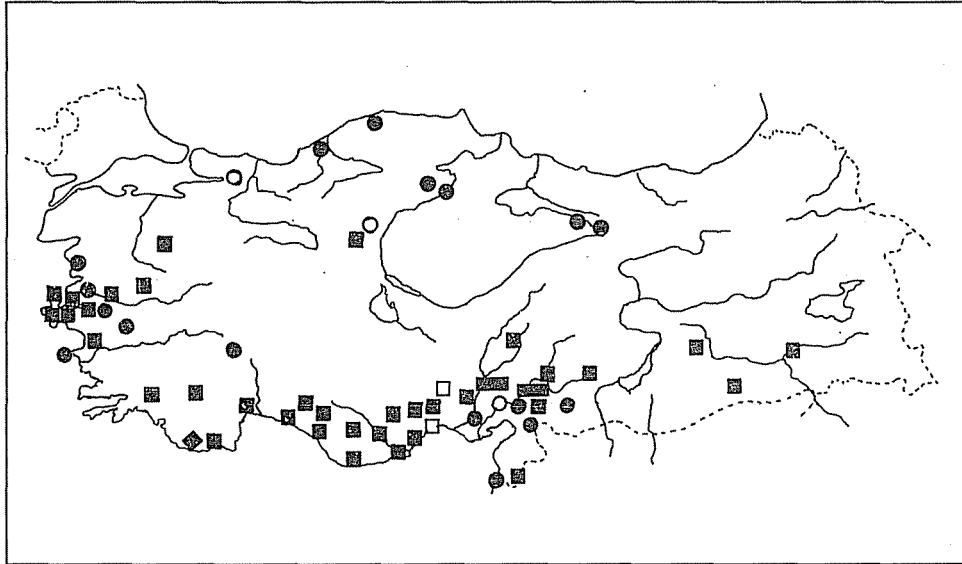


Figure 3. Distribution of *Anthaxia kiesenwetteri* □ / ■ ; *A. laticeps navratili* ◇ / ◆; *A. millefolii millefolii* ○ / ● and *A. mundula* □ / ■ .

***A. niehuisi* Brandl, 1987**

General distribution: Turkey (Bily, 1997).

Distribution in Turkey: This species is endemic and described from the material collected from Antalya (Güllük Mountain-Termessos) (Brandl, 1987).

Material studied: Antalya (Güllük Mountain), Izmir (Urla-Çeşmealtı, Kemalpaşa). 29 specimens.

Biological note: Adults were collected from the end of May up to the end of July on the plants of the Apiaceae such as *Pimpinella anisum*.

***A. olympica olympica* Kiesenwetter, 1880**

General distribution: Armenia, the Balcans, Czech Republic, Georgia, Hungary, Turkey and Ukraine (Bily, 1997).

Distribution in Turkey: de Kerville (1939) reported it from Izmir and also Obenberger (1953) listed it from Edirne.

Material studied: İçel (Gözne), Izmir (Bornova), Siirt (Aydınlar) and Sivas (Suşehri). 4 specimens.

Biological note: Adults were collected from the mid of April up to the mid of July. They were taken on Poaceaeous plants and weeds. Host plant of this species is *Cerasus* spp. (Bily, in litt.).

***A. ovaciki* Novak, 1994**

General distribution: Turkey (Bily, 1997).

Distribution in Turkey: This species is endemic. Novak (1994) described it from the material collected in Tunceli (Ovacık).

Material studied: Authors have no representatives of this species.

Biological note: Its host plants are not known.

***A. parapleuralis* Obenberger, 1929**

General distribution: Turkey (Bily, 1997).

Distribution in Turkey: This species is endemic and its exact localities are not known.

Material studied: Authors have no representatives of this species.

Biological note: Its host plants are not known.

***A. praeclara* Mannerheim, 1837**

General distribution: Algeria, Greece, Israel, Italy, Morocco, Portugal, Spain, Syria and Turkey (Bily, 1997).

Distribution in Turkey: Bodemeyer (1900) reported it from Içel (Alihoca, Bulgarmadeni) and Tosun (1976) listed it from Antalya (Kumköy, Serik-Belek).

Material studied: Adana (Ceyhan-Misis, Karatepe-Kozan, Saimbeyli), Antalya (Central province, Gündoğmuş, Kaş, Korkuteli, Kumluca, Manavgat), Aydın (Kuyucak), Hatay (İskenderun-Arsuz), Içel (Anamur, Arslanköy, Mut, Silifke), İzmir (Bergama, Bornova, Buca, Çeşme, Kemalpaşa-Örnekköy, Narlıdere, Torbalı), Kilis (Central province), Muğla (Marmaris) and Osmaniye (Zorkun). 59 specimens.

Biological note: Adults were collected from the end of April up to the mid of August mostly in June and July during the years of 1962-1997. They were taken on *Cerasus avium*, *Cirsium* sp., *Daucus carota*, *Hypericum* sp., *Ligustrum* sp., *Pinus* sp., *Pyrus elaeagnifolia*, *Quercus* sp., *Vitex agnus-castus* and weeds. Gobbi (1986) reported *Hypericum* sp., *Pinus halepensis*, *Ranunculus* sp., some plants of Asteraceae and Apiaceae as host plant of this species. Tosun (1976) reared this species on branches of *Pinus pinea*.

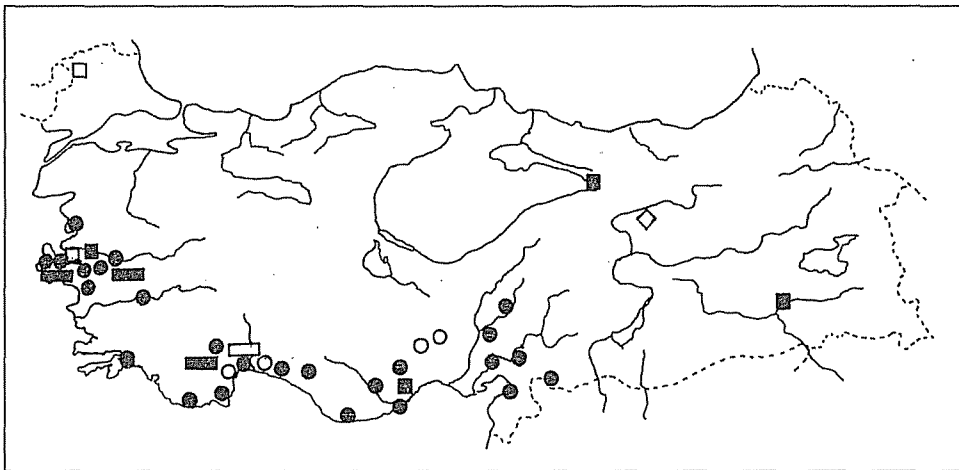


Figure 4. Distribution of *Anthaxia niehuisi* □/■ ; *A. olympica olympica* □/■ ; *A. ovaciki* ◇/◆ and *A. praeclara* ○/● .

***A. puella* Bily, 1980**

General distribution: North Iraq and Turkey (Bily, 1997).

Distribution in Turkey: Bily (1980 a) described it from the material collected from Mardin and Tunceli.

Material studied: Authors have no representatives of this species.

Biological note: Its host plants are not known.

***A. rossica* Daniel, 1903**

General distribution: Bulgaria, Greece, Hungary, Romania, Turkey and Ukraine (Bily, 1997).

Distribution in Turkey: Obenberger (1953) reported it from Ankara (Barrage).

Material studied: Izmir (Bornova), Kırklareli. 4 specimens.

Biological note: Adults were collected at the end of April and at the beginning of July on weeds. Its host plants are not known.

***A. serena* Daniel, 1903**

General distribution: Turkey (Bily, 1997).

Distribution in Turkey: This endemic species reported from Turkey without precise locality by Winkler (1924-1932), Obenberger (1930), Richter (1949) and Bily (1997).

Material studied: İçel (Fındıkpınarı). 1 specimen.

Biological note: Adult was collected at the beginning of July on weeds. Its host plants are not known.

***A. umbellatarum* (Fabricius, 1787)**

General distribution: Algeria, Armenia, Austria, Crete, France, Hungary, Iraq, Italy, Morocco, Portugal, Slovakia, Spain, Syria, Turkey and Ukraine (Bily, 1997).

Distribution in Turkey: Bodemeyer (1906), Obenberger (1930) and Richter (1949) reported it from Turkey without precise locality.

Material studied: Aydın (Central province, Nazilli), Çanakkale (Eceabat), Izmir (Bornova-Pınarbaşı, Urla-Çeşmealtı, Ödemiş, Selçuk-Pamucak), Manisa (Salihli) and Muğla (Bodrum). 103 specimens.

Biological note: Adults were collected from the end of April up to the mid of July. They were taken on *Daucus carota*, *Pimpinella anisum*, *Prunus domestica* and weeds. Levey (1985) and Gobbi (1986) reported *Acacia karoo*, *Castanea sativa*, *Ficus carica*, *Pistacia lentiscus*, *P. terebinthus*, *Prunus persica* and *Ulmus campestris* as host plants of this species.

***A. ursulae* Niehuis, 1989**

General distribution: Eastern Anatolia and Iran (Bily, 1997).

Distribution in Turkey: Niehuis (1989) described it from the material collected from Bingöl (Buğlan Passage, Solhan), Bitlis (Sarikonak), Hakkari (Aşağıdereli, Beytüşşebap, Çiğlisuyu, Süvarihalil Passage), Muş (Central province), Tunceli (Pülümür Passage).

Material studied: Bilecik (Central province). 1 specimen.

Biological note: Adult was collected at the mid of July. Niehuis (1989) reported Asteraceae and Apiaceae plants as host plants of this species.

Discussion

In consequence of this study totally 22 species belonging to the *Anthaxia* (subgenus *Haplantaxia*) have been discussed in Turkey. Amongst those *Anthaxia bettagi* is new record for Turkish fauna and *A. bosdaghensis*, *A. cavazzutii*, *A. mundula*, *A. niehuisi*, *A. ovaciki*, *A. parapleuralis* and *A. serena* are endemic species.

On the other hand *A. cichorii*, *A. millefolii*, *A. mundula*, *A. praeclara* and *A. umbellatarum* species are widespread in the Turkish fauna.

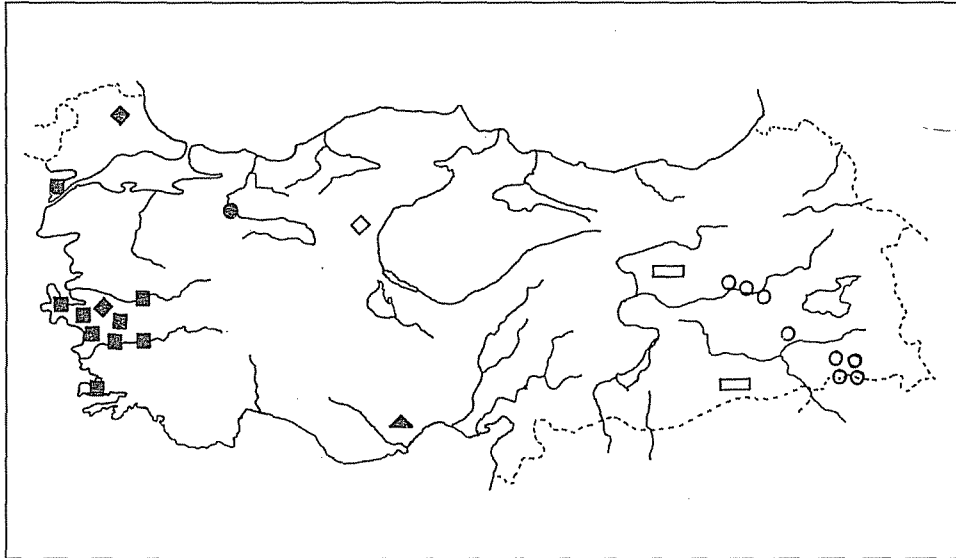


Figure 5. Distribution of *Anthaxia puella* □/▨ ; *A. rossica* ◇/◆ ; *A. serena* Δ/▲ ; *A. umbellatarum* □/▨ and *A. ursulae* ○/⊕.

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Özet

Türkiye *Anthaxia* Eschscholtz, 1829 (subgenus *Haplanthaxia* Reitter, 1911) (Coleoptera, Buprestidae) türleri üzerinde faunistik notlar

Bu çalışmada, Türkiye'nin değişik yerlerinden 1960 yılından sonra toplanarak Ege Üniversitesi Ziraat Fakültesi Bitki Koruma Bölümü müzesi koleksiyonunda korunmakta olan *Anthaxia* (subgenus *Haplanthaxia*) cinsine bağlı 22 tür ele alınmıştır. Her türün yayılışı, toplandığı yöre ve üzerinden toplandığı bitkiler belirtilerek konuyla ilgili önceki literatürün ışığında Türkiye'deki yayılışları haritalarla gösterilmiştir. Bunlardan *A. bettagi* Türkiye faunası için ilk kayıttır. *A. bosdaghensis*, *A. cavazzutii*, *A. mundula*, *A. niehuisi*, *A. ovaciki*, *A. parapleurialis* ve *A. serena*'nın endemik türler olduğu belirlenmiştir. *A. cichorii*, *A. millefolii*, *A. praeclara* ve *A. umbellatarum* ise en yaygın ve bol olan türlerdir.

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