

## Contribution to the study of the genera *Acmaeodera* Eschscholtz and *Acmaeoderella* Cobos (Coleoptera, Buprestidae, Acmaeoderinae) of Turkey

Serdar TEZCAN\*

### Summary

This paper provides faunistic information about 20 species of *Acmaeodera* and *Acmaeoderella* genera of Acmaeoderinae subfamily of Buprestidae of Turkey. Material collected from the different parts of Turkey in the last 35 years are given with attached maps.

This paper also contains a survey of the literature about Turkish Acmaeoderinae.

### Introduction

Turkey is a country which located as a bridge between the continents of Europe and Asia. It has also different climatic conditions. Both geographic position and climatic differentiations have some effects on flora and on fauna. As a result of these existing factors very rich fauna comes into being in Turkey. It is very easy to find endemic elements and at the same time holomediterranean, ponto-mediterranean, Syrian, Iranian, Caspian, Siberian, Syrio-, Afro- and Irano-eremic faunal elements can also be seen in different parts of Turkey. Although the fauna of Turkey is quite rich, there have not been satisfactory faunistic and systematic studies on Buprestidae and also on Acmaeoderinae fauna of this country so far. The subfamily of Acmaeoderinae contains two genera, namely *Acmaeodera* and *Acmaeoderella* in Turkey.

Up to now faunistic records have been determined in some studies. Amongst those who have given some faunistic records on Turkish Buprestidae and also on Acmaeoderinae the names of Fairmaire (1866), Heyden et al. (1906), Sahlberg (1912-1913), Obenberger (1926), de Kerville (1939) may be listed.

---

\* Plant Protection Department, Agricultural Faculty, Ege University, 35100 Bornova, İzmir, Turkey Alınış (Received) : 6.6.1994

Recently, Niehuis (1989) listed 36 species from the genera of *Acmaeodera* and *Acmaeoderella* from Turkey, and also Tezcan (1992) cited 11 species in the faunistic study of İzmir province.

The Acmaeoderinae fauna of Turkey needs to be clarified and this study is a step towards the completion of Buprestidae fauna of Turkey. The aim of this study is to make contribution to some faunistic records of Buprestidae fauna of Turkey.

Material studied in this work have been collected from the different parts of Turkey during the years between 1960-1994 by the members of Department of Plant Protection, Faculty of Agriculture, University of Ege, Bornova, İzmir, Turkey. They are presently being protected in the collections of the same department.

Information about general distribution and the distribution in Turkey for each species is given below. Later, information from the labels of material on the localities, period of collection, plants on which the specimens collected are given by the number (s) of material studied.

The name of plant on the labels may not be the real hosts of insects. Further study is required to conform this fact. To clarify the understanding of Acmaeoderinae, previous faunistic records and also the localities of material studied have been given on the 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.

## Results

As a result of this study, totally 20 species belonging to the genera of *Acmaeodera* Eschscholtz and *Acmaeoderella* Cobos were determined.

### List of species :

1) *Acmaeodera (Acmaeodera) cecropia* Kiesenwetter, 1858

**General distribution:** Greece, Turkey (Obenberger, 1926; Niehuis, 1989).

**Distribution in Turkey:** Recorded by Niehuis (1989) from Antalya (Döşemealtı), İçel (Silifke-Olba) and Muğla (Marmaris). It seems to have distributed in the Mediterranean Region of Turkey.

**Material studied:** Antalya (Kemer). 1 specimen.

**Biological note:** Adult was collected by aerial collector between Antalya-Kemer on the 25th day of July, 1985. Its host plant is not known.

2) *Acmaeodera (Acmaeodera) pilosellae* (Bonelli, 1812)

**General distribution:** Holomediterranean (Schaefer, 1949).

**Distribution in Turkey:** It is reported from İçel (Erdemli-Güzeloluk) by Niehuis (1989).

**Material studied:** Antalya, Bingöl, Hakkari. 3 specimens.

**Biological note:** Adults have been collected on weeds and also by aerial collector from the first week of May up to the mid of June. Schaefer (1949) gave *Quercus* spp., *Pistacia terebinthus*, *Acer monspessulanus*, *Prunus dulcis*, *Crataegus* spp. as host plants of this species.

3) *Acmaeodera (Acmaeodera) flavolineata* Lap. & Gory, 1835

**General distribution:** Greece, Cyprus, Jordan, Israel, Lebanon, Syria, Turkey (Obenberger, 1926; 1940; Niehuis, 1989).

**Distribution in Turkey:** Niehuis (1989) listed it from Antalya (Kekova, Termessos, Topraktepe), Bingöl (Solhan, Buğlan Pass), Gaziantep, Hatay (Musa Mountain), İçel (Mut-Sertavul Pass, Tarsus) and Tunceli. Tezcan (1992) reported it from İzmir (Bornova, Selçuk).

**Material studied:** Antalya (Aksu). 1 specimen.

**Biological note:** Adult was collected at the end of April. Its host plant is not mentioned. This species was cited on *Quercus* sp. (Niehuis, 1989).

4) *Acmaeodera (Acmaeodera) brevipes* Kiesenwetter, 1858

**General distribution:** Greece, Jordan, Syria, Turkey (Obenberger, 1926; Niehuis, 1989).

**Distribution in Turkey:** Heyden et al. (1906) listed this species from Turkey without exact locality under the name of *A. brevipes* v. *paecox*. Recently, Niehuis (1989) reported it from Amasya, Antalya (Aksu, Termessos), İçel (Anamur, Erdemli, Silifke-Olba), İzmir (Selçuk-Meryemana), Muğla (Dalyan-Kaunos) and also Tezcan (1992) reported it from İzmir (Bornova).

**Material studied:** Adıyaman (Besni), İçel (Arslanköy), Manisa (Sultanyayla). 5 specimens.

**Biological note:** Adults were collected from the end of May up to the second week of July on weeds and on *Armeniaca vulgaris*.

5) *Acmaeodera (Loepotethya) ocellata* Abeille de Perrin, 1891

**General distribution:** Turkey (Amanos Mountain, Gaziantep) (Obenberger, 1926; 1940).

**Distribution in Turkey:** It is reported from Gaziantep (Ain-Tab) by Obenberger (1926) under the name of *A. hetita* and also from Amanos (Amanus) under the name of *A. kheili*. Later on, it is reported from Tunceli and İçel (Erdemli) by Niehuis (1989).

**Material studied:** Bingöl. 1 specimen.

**Biological note:** Adult was collected in mid June. Its host plant is not known.

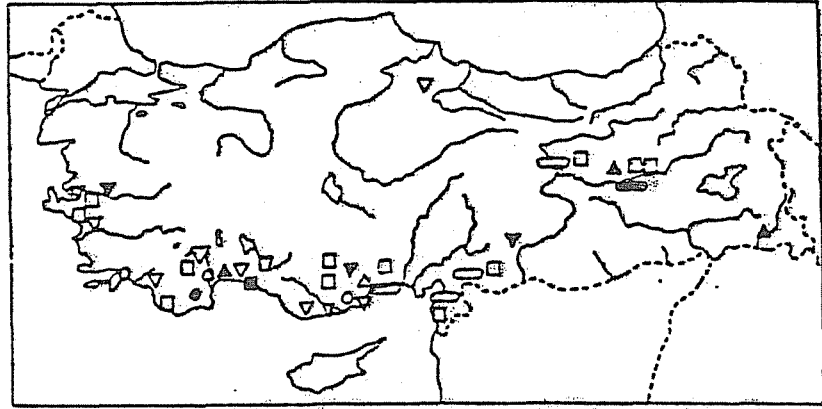


Figure 1. Distribution of *Acmaeodera cecropia* ○/● . *A. pilosella* △/▲ *A. flavolineata* □/▣  
*A. brevipes* ▽/▽ . and *A. ocellata* ◌/◍

6) *Acmaeodera (Palaeotethya) bipunctata* (Olivier, 1790)

**General distribution:** A holomediterranean species (Obenberger, 1926).

**Distribution in Turkey:** Obenberger (1953) reported this species from Ankara (Beynam) under the name of *A. bipunctata senex* ab. *beynamensis*. . Recently Niehuis (1989) reported it from Antalya (Kemer, Manavgat, Termessos). İçel (Naldöken Mountain, Namrun), Kütahya (Altıntaş). Yozgat (Sorgun) and also Tezcan (1992) listed it from İzmir (Karşıyaka, Urla).

**Material studied:** Adana (Karaisalı), Kahramanmaraş, Muğla (Bodrum). 3 specimens.

**Biological note:** Adults were collected from the beginning of May up to the mid of June. They were taken on graminaceous plants, *Quercus ilex*, *Pinus* sp.

7) *Acmaeodera (Acmaeotethya) crinita* Spinola, 1838

**General distribution:** Dalmatia, Greece, Cyprus, Bulgaria, Syria, Turkey (Obenberger, 1926; Mühle, 1980; Niehuis, 1989).

**Distribution in Turkey:** Niehuis (1989) reported it from Antalya (Kekova) and İçel (Erdemli) and Tezcan (1992) listed it from İzmir (Bornova).

**Material studied:** Çanakkale (Lapseki). 1 specimen.

**Biological note:** Adult was collected on the third week of May on *Quercus* sp.. *Quercus* sp. is also reported by Mühle (1980).

8) *Acmaeodera (Acmaeotethya) saxicola* Spinola, 1838

**General distribution:** Bulgaria, Greece, Italy, Jordan, Syria, Turkey (Obenberger, 1926; 1932; Niehuis, 1989).

**Distribution in Turkey:** It is reported from İçel (Bulgar Maden–Ali Hoca) by Bodemeyer (1900) and from İçel (Bulgar Mountain– Turunçlu) by Sahlberg (1912–1913) under the name of *A. spilophora*. Later on, Niehuis (1989) reported this species from Antalya (Kemer, Termessos), Çanakkale, Gaziantep (Nurdağı Pass), Hakkari (Şemdinli), Hatay (Amanos Mountains, Belen Pass), İçel (Anamur, Erdemli, Kuzucubelen, Namrun, Silifke, Toros Mountains), İzmir (Agamemnon), Muğla (Fethiye), Tunceli.

**Material studied:** Adana (Karaisalı), Antalya (Güllük Mountain, Side), Bitlis (Mutki), Şırnak (Beytüşşebap), Kahramanmaraş (Andırın). 8 specimens.

**Biological note:** Adults were collected from the end of April up to the beginning of July. They were taken on weeds, *Triticum* spp., *Medicago sativa*, *Rosa* sp. and *Juniperus* sp. Niehuis (1989) reported it on *Quercus ilex*. No satisfactory information on its host plants has been obtained.

9) *Acmaeodera (Acmaeotethya) ottomana* Frivaldszky, 1837

**General distribution:** Bulgaria, Cyprus, Greece, Palestine, Syria, Yugoslavia, Turkey (Obenberger, 1926; Mühle, 1980).

**Distribution in Turkey:** Fairmaire (1866) listed it from İzmir (Ödemiş, Kızılcavlu). Recently Niehuis (1989) reported this species from Antalya (Termessos), Balıkesir (Edremit), Gaziantep (Nurdağı Pass), İçel (Erdemli, Gülnar, Güzeloluk, Namrun), Muğla (Fethiye).

**Material studied:** Antalya, İçel (Central province, Silifke). 3 specimens.

**Biological note:** Adults were collected from the third week of April up to the end of May. They were taken on bushes, weeds and also collected by aerial collector. Niehuis (1989), extracted adults from *Quercus ilex*.

10) *Acmaeodera (Acmaeotethya) quadrizonata* Abeille de Perrin, 1891

**General distribution:** Bulgaria, Cyprus, Greece, Israel, Jordan, Syria, Turkey (Obenberger, 1926; Niehuis, 1989).

**Distribution in Turkey:** It is listed as "Turcia" by Heyden et al. (1906) without giving the exact locality. Later on, Sahlberg (1912–1913) reported it from İzmir (Ephesus). Recently Tezcan (1992) reported it from İzmir (Central province, Bayındır, Buca, Çeşme, Karaburun, Kınık, Ödemiş).

**Material studied:** Aydın, İzmir (Bayındır, Torbalı), Muğla (Fethiye). 6 specimens.

**Biological note:** Adults were collected from the second week of April up to the mid of May. They were taken on weeds. Niehuis (1989) extracted this species from the dead trees of *Ficus carica*.

11) *Acmaeoderella (Liogastris) chrysanthemi* (Chevrolat, 1854)

**General distribution:** Bulgaria, Iraq, Jordan, Syria, Turkey (Niehuis, 1989).

**Distribution in Turkey:** It is reported by Niehuis (1989) from Antalya (Alanya, Manavgat, Termessos) and Kütahya (Altıntaş).

**Material studied:** Gaziantep (Central province, Islahiye, Oğuzeli, Yavuzeli), Hatay (Hassa-Akbez), Kahramanmaraş (Andırın). 11 specimens.

**Biological note:** They have been collected by aerial collector from the beginning of June up to the mid of July. Adults were also taken on *Althae* sp., *Knautia* sp., and on weeds.

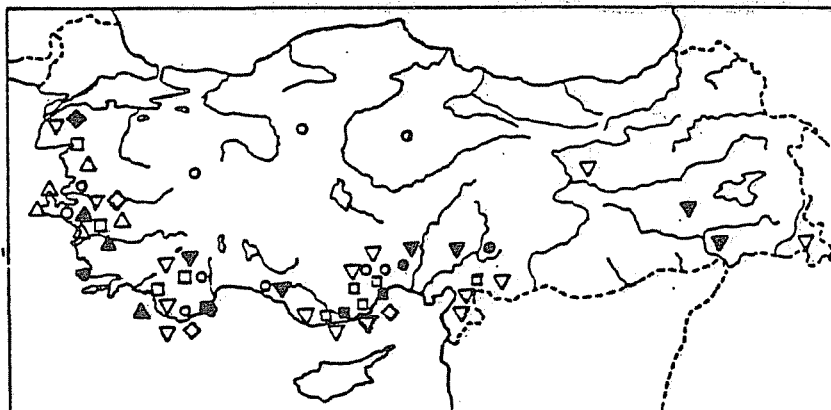


Figure 2. Distribution of *Acmaeodera bipunctata* ○/◊, *A. crinita* ◊/◊, *A. saxicola* ▽/▽, *A. ottomana* ◻/◻ and *A. quadrizonata* △/△

12) *Acmaeoderella (Liogastris) jonica* (Obenberger, 1934)

**General distribution:** Turkey (Niehuis, 1989).

**Distribution in Turkey:** Niehuis (1989) recorded it from Antalya (Termessos), Muğla (Marmaris).

**Material studied:** Antalya (Kekova). 1 specimen.

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

13) *Acmaeoderella (Acmaeoderella) serricornis* (Abeille de Perrin, 1900)

**General distribution:** Iran, Jordan, S.Russia, Syria, Turkey (Obenberger, 1926; Niehuis, 1989).

**Distribution in Turkey:** Niehuis (1989) cited it from Şanlıurfa (Harran).

**Material studied:** Gaziantep (Kilis, Oğuzeli). 5 specimens.

**Biological note:** Adults were collected in the fields on the first week of June. They were taken on weeds.

14) *Acmaeoderella (Acmaeoderella) cypriota* (Obenberger, 1940).

**General distribution:** Cyprus, Turkey.

**Distribution in Turkey:** Niehuis (1989) reported it from Antalya (Alanya).

**Material studied:** Isparta (Keçiborlu). 1 specimen.

**Biological note:** Adult was collected on the second week of July. The plant on which the specimen was taken is not known.

15) *Acmaeoderella (Omphalothorax) adpersula* (Illiger, 1803)

**General distribution:** Holomediterranean (Obenberger, 1926; Niehuis, 1989).

**Distribution in Turkey:** Niehuis (1989) reported this species from Antalya (Termessos, Manavgat), İçel (Silifke, Olba). It is also listed from İzmir (Bornova) by Tezcan (1992).

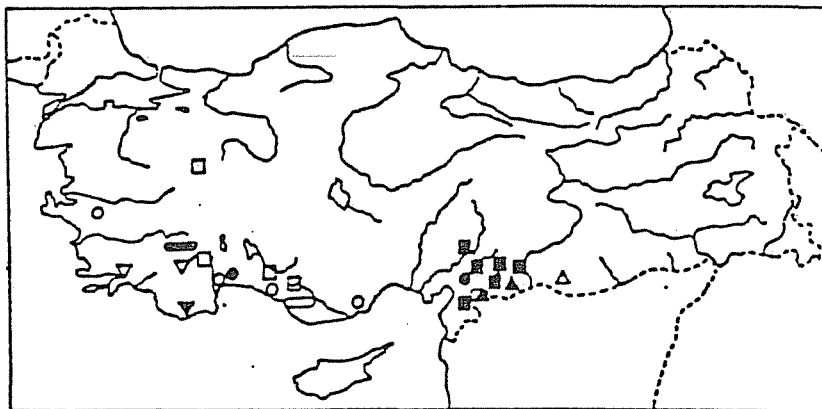


Figure 3. Distribution of *Acmaeoderella chrysanthemis* □/■, *A. jonica* ▽/▽, *A. serricornis* △/▲, *A. cypriota* ≡/≡ and *A. adpersula* ○/●

**Material studied:** Antalya, Gaziantep (Gavur Mountains) . 7 specimens.

**Biological note:** Adults were collected in the field on the third week of July and on the first week of August. They were taken on weeds.

16) *Acmaeoderella (Carininota) farinosa* (Reiche, 1856).

**General distribution:** Cyprus, Greece, Syria, Turkey (Obenberger, 1934).

**Distribution in Turkey :** It is reported from Antalya (Alanya, Termessos), İçel (Anamur, Erdemli, Kuzucubelen, Silifke), Karaman (Ermenek), Niğde (Çiftelhan) and Tunceli by Niehuis (1989). Tezcan (1992) listed it from İzmir (Bornova).

**Material studied:** Antalya, Isparta (Eğirdir), Karaman (Ermenek). 5 specimens.

**Biological note:** They were collected from the third week of May up to the first week of August. Most of the adults were taken on weeds and one of them was taken on *Fraxinus* sp.

17) *Acmaeoderella (Carininota) mimonti* (Boieldieu, 1865).

**Distribution in Turkey :** It is not known.

**Material studied:** Edirne. 1 specimen.

**Biological note:** Adult has been collected on *Prunus domestica* on the fourth day of July, 1972.

18) *Acmaeoderella (Euacmaeoderella) boryi* (Brullé, 1832).

**General distribution:** Greece, Iran, Iraq, Jordan, Syria, Transcaucasus, Turkey (Bily, 1983; Niehuis, 1989).

**Distribution in Turkey:** It is reported from İzmir (Ödemiş-Kızılcaavlu) under the name of *A. hyacinthina* by Fairmaire (1866) and also from Denizli (Sarayköy) by Sahlberg (1912–1913). Recently, Niehuis (1989) listed this species from Ankara (Emir Lake), Antalya (Akseki, Alanya, Side), Balıkesir (Edremit–Akçay), Hakkari (Zap Valley), İçel (Anamur, Kuzucubelen, Silifke), İzmir (Efes), Muğla (Marmaris). Tezcan (1992) reported it from İzmir (Bornova, Kemalpaşa).

**Material studied:** Adana (Karaisalı), Aydın (Samsun Mountain), Gaziantep (Oğuzeli), Hatay (Hassa), Kahramanmaraş (Central province, Andırın), Muğla (Bodrum). 11 specimens.

**Biological note:** Adults were collected on the first half of June . They were collected by aerial collector and also taken on weeds.

19) *Acmaeoderella (Euacmaeoderella) gibbulosa* (Ménétriés, 1832).

**General distribution:** Bulgaria, Dalmatia, Greece, Iran, Iraq, Jordan, Syria, Transcaucasus, Turkey (Mühle, 1980; Bily, 1983; Niehuis, 1989).



**Distribution in Turkey:** It is reported from Denizli (Sarayköy) and Ankara (Dam) under the name of *A. lugens* by Sahlberg (1912–1913) and Obenberger (1953). Later on, Niehuis (1989) reported it from Antalya (Termessos), Bolu (Akçakoca), Hatay (Musa Mountain), İçel (Erdemli), Karaman, Şanlıurfa (Harran). Tezcan (1992) listed it from İzmir (Bornova, Ödemiş).

**Material studied:** Gaziantep (Araban), Kahramanmaraş (Nurhak Mountains), Şanlıurfa (Ceylanpınar). 5 specimens.

**Biological note:** Adults were collected on the first half of June on weeds.

20) *Acmaeoderella (Euacmaeoderella) vetusta* (Ménétriés, 1823).

**Synonymy:**– *cuprifera* (Lap. & Gory, 1835).

**General distribution:** Greece, Iran, Iraq, Transcaucasus, Turkey (Bily, 1983).

**Distribution in Turkey:** This species reported from İzmir (Ödemiş–Kızılcavlu) by Fairmaire (1866); later on it was reported from İzmir by de Kerville (1939); and from Ankara (Dam) by Obenberger (1953) under the name of *A. cuprifera*.



Figure 4. Distribution of *Acmaeoderella farinosa* □/▬, *A. mimonti* ▽/▽, *A. boryi* ○/●, *A. gibbulosa* △/▲ and *A. vetusta* □/▮

**Material studied:** Diyarbakır (Ergani), Gaziantep (Oğuzeli), Hakkâri (Şemdinli), Hatay (Hassa–Akbez), İçel (Mut), Kahramanmaraş (Andırın, Nurhak Mountain, Türkoğlu), Mardin (Cizre), Muğla (Bodrum), Şanlıurfa (Ceylanpınar). 18 specimens.

**Biological note:** Adults were collected from the end of May up to the end of June. They were taken on weeds, gramineous plants and also on *Medicago sativa*.

## Discussion

At the end of this study from the different parts of Turkey 20 species of Acmaeoderinae have been determined. 10 of which belong to *Acmaeodera* and the rest to *Acmaeoderella* genera.

They have been collected from the mid of April up to the mid of August, mostly in May and in June.

They have been collected mostly from the plants such as weeds, *Quercus* spp., gramineous plants, and also by aerial collector. Further study is required to conform this fact.

By that study, it has been understood that most of the species were holomediterranean and ponto-mediterranean. Because of the scarcity of their population in nature it has encountered a small number of material in this study.

## Özet

### Türkiye *Acmaeodera* Eschscholtz ve *Acmaeoderella* Cobos (Coleoptera, Buprestidae, Acmaeoderinae) türleri üzerinde faunistik notlar

Bu çalışmada, Türkiye'nin değişik yerlerinden 1960-1994 yılları arasında toplanarak E. Ü. Ziraat Fakültesi Bitki Koruma Bölümü koleksiyonunda saklanmakta olan *Acmaeodera* ve *Acmaeoderella* cinslerine bağlı toplam 20 tür ele alınmıştır. Her türün yayılışı, toplandığı yöre ve üzerinden toplandığı bitkiler belirtilerek konuyla ilgili önceki literatürün ışığı altında Türkiye'deki yayılışları haritalarla gösterilmiştir.

## Acknowledgements

I am very grateful to Prof.Dr.N.Lodos, Prof.Dr.F.Önder, Prof. Dr.E.Pehlivan, Yard. Doç. Dr. R. Atalay, Doç.Dr.Y.Karsavuran, Doç.Dr. E.Erkin for the collection of material and also to Dr.S.Bily (Prague) for his identifications and confirmations.

## Literature

- Bily, S., 1983. Results of the Czechoslovak-Iranian entomological expeditions to Iran. Coleoptera, Buprestidae. *Acta Ent. Mus. Nat. Pragae*, 41:29-89.
- Bodemeyer, H.E., 1900. Quer durch Klein-Asien in den Bulghar-Dagh. Die Druck und Verlags-Aktien Gesellschaft Vormals Dölter, Emmendingen, 169 p.
- de Kerville, H.G., 1939. Récit sommaire du voyage et liste méthodique des invertébrés et des vertébrés récoltés en Asie-Mineure. Voyage Zoologique D'Henri Gadeau de Kerville en Asie-Mineure (Avril-Mai, 1912), Tome I. Paul LeChevalier. Paris, 148 p.

- Fairmaire, M.L., 1866. Notice sur les Coléoptères recoltés par M.J.Lédérer sur le Bosz-Dagh (Asie Mineure). *Annls.Soc.ent.Fr.*, 35 :249-280.
- Heyden, L.V., E. Reitter et J. Weise. 1906. *Catalogus Coleopterorum Europae, Caucasi et Armeniae Rossicae* Paskau, 774 p.
- Mühle, H., 1980. Ergebnisse der Albanien-Expedition 1961 des Deutschen Entomologischen Institutes. *Beitrag zur Entomologie*, 30 (2) : 369-383.
- Niehuis, M., 1989. Contribution to the knowledge of the Jewel Beetles (Coleoptera: Buprestidae) of the Near East. *Zoology in the Middle East*, 3 :73-110.
- Obenberger, J., 1926. *Coleopterorum Catalogus*. Vol.12 (Junk & Schenkling), Pars: 84. Buprestidae I, Berlin, 212 p.
- Obenberger, J., 1932. Catalogue raisonné des Buprestides de Bulgarie.II. *Bull.Inst.Roy. Hist. natur. Sofia*, 5:49-115.
- Obenberger, J., 1934. *Coleopterorum Catalogus*. Vol.12 (Junk & Schenkling), Pars: 132. Buprestidae III.Berlin, 569-782.
- Obenberger, J., 1940. Ad regionis palaearticae Buprestidarum cognitionem addita manta. *Sbornik Narodniho Musea v Praze*, 2 (6): 111.
- Obenberger, J., 1953. Resultats de l'expédition scientifique zoologique du Museum National de Praha en Turquie. 423, Coleoptera IV, Buprestidae. *Acta Ent.Mus. Pragae*, 29 :5-24.
- Sahlberg, J., 1912-1913. Coleoptera mediterranean orientalia.Öfversigt at Finska Vetenskaps-Societetens *Förhandlingar*, 55 (19): 272.
- Schaefer, L., 1949. Les Buprestides de France. *Misc. Entomol. Paris: Supplement*, 511 p.
- Tezcan, S., 1992. İzmir ilinde bulunan Buprestidae (Julodinae, Polycestinae, Acmaoderinae, Chalcophorinae, Chrysobothrinae, Agrilinae, Trachyinae) türleri üzerinde faunistik araştırmalar. Türkiye II. Entomoloji Kongresi Bildirileri. 28-31 Ocak 1992. Adana. Entomoloji Derneği Yayınları No:5, 737-746.