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Preliminary list of Curculionidae (Coleoptera) with notes on distribution, abundance and biology of species in Turkey

III. *Brachycerus* Ol.

By
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Özet

Türkiye Curculionidae (Coleoptera) familyasına ait ilk liste III. *Brachycerus* Ol.

Bu yazı Türkiye Curculionidae faunası ile ilgili yazıların 3. 'sünü teşkil etmekte ve *Brachycerus* cinsine ait bulunmaktadır. Bu cinse ait türler genellikle Liliaceae familyası bitkilerinde zarar yapar. Erginleri bu bitkilerin yapraklarında, larvaları ise yumrularında beslenir. Bazı türler soğan, sarımsak ve nergis başta olmak üzere bir çok Liliaceae'lerde önemli zararlara sebep olabilir. Son yıllarda İzmir çevresinde, özellikle Karaburun'da *B. undatus*'un nergislerde göze batacak derecede zarara sebep olduğu görülmüştür. Bu çalışmada Türkiye'de bulunan 12 tür ile 4 varyete ele alınmış, bunların yayıldığı yerler, konukçuları ve önemleri hakkında bilgiler verilmiştir.

Introduction

The fauna of Brachycerinae of Turkey has not hitherto been investigated as a whole. Only some species have been mentioned in the lists of some works.

However, an account of certain aspects of the works should be recorded as adding to our knowledge on these weevils. Therefore, as the result of recent works, it was possible to establish all the species in our country before to everyone who interests on this subject.

The genus of *Brachycerus* which is the largest genus of the sub-family occurs mainly in the palearctic, Africa and Madagascan Regions

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and represents about 12 species and 4 varieties in Turkey at the present time. However, without any doubt there should be more await to discovery.

Genus of *Brachyerus* comprises nearly 400 species in the world and about 32 of which occurs in the palearctic region (Zumpt 1937). Majority species of the genus live depending on the Liliaceae family. Their larvae live in the bulbs and adults feed on the leaves of these plants. Some of them have been observed as a serious pest of garlic, onion, tulip and narcissus in France, Italy, Algeria and Morocco. Though up to date there is no record that any species belongs to this genus as a serious pest neither on cultivated nor uncultivated liliaceous plants in Turkey but, it would be useful to establish a short list, together with notes about their abundance, distribution and importance of the species involved. However in recent years *Brachycerus undatus* F. becoming a pest on narcissus in Karaburun areas (Izmir). In the following account these are discussed.

I am grateful to Mr. R. T. Thomson who kindly identified many species in this work.

***Brachycerus algirus* F. (Adult: Fig. 1)**

Synonymy: —*muricatus* Ol., 1790; —*planirostris* Gyll., 1833; —*sulcifrons* Gyll. 1. c.; —*cirrosus* Gyll., 1840; —*perodiosus* Gyll. 1. c.; —*se-miaeneus* Desbr., 1871; —*carinula* Rey, 1894; —*exemptus* Rey 1. c.; —var. *attenuatus* Vit., 1903.

General distribution: Tunisia, Algeria, Morocco, Spain, France, Italy Sicily, Corsica, Sardinia, Balearic Islands, Malta, Yugoslavia, Greece, Crete, Mykonos, Rhodes, and Turkey (Pape 1910; Zumpt 1937; Hoffmann 1950, 1963 a; Beffa 1949; Magnano 1964).

Distribution in Turkey: This species has been recorded in Turkey by Hoffmann (1950) and Magnano (1964) given without specific location. However Zumpt (1937) showed its locality as Istanbul.

The writer now is able to confirm presence of this species in several other localities in Turkey.

3 specimens from Bozöyük (Bilecik) 23.5.1971; 3 specimens from Seferihisar (Izmir) 28.XII. 1971; 2 specimens from Çeşme (Izmir) 9.XII.1971; 1 specimen from Alanya (Antalya) 20.IV.1971; 3 specimens from Bornova (Izmir) 3.V.1958 and 20.III.1971 (on Liliaceae); 3 specimens Yıldız (Istanbul) 16.V.1951 and 1 specimen from Elazığ 20.11. 1962 in my collection.

Occurrence: Common in western Anatolia but in small numbers.

Biological note: The larvae of this species live in the bulbs of cultivated or uncultivated liliaceous plants. Adults feed on the leaves of these plants. It is a serious pest on *Allium sativum* L., *A. triquetrum* L., *A. roseum* L., *Muscarr comosum* Mill., *Tulipa culisiana* D. C. and *T. gessneriana* L. in France and causes sometimes considerable damage to these plants (Hoffmann 1963 a,b). It is also recorded as an economic pest of garlic in Algeria, Morocco, Spain and Italy (Gomez 1934, Beffa 1949). For more detailed information about its bionomics, injury and control measures see above author's works as well as Vitale (1933).

Although in western Anatolia it is found mostly attacking to garlic, its population is not high enough to cause economic damage at the present time. Adults occur in the field from March to July, but they

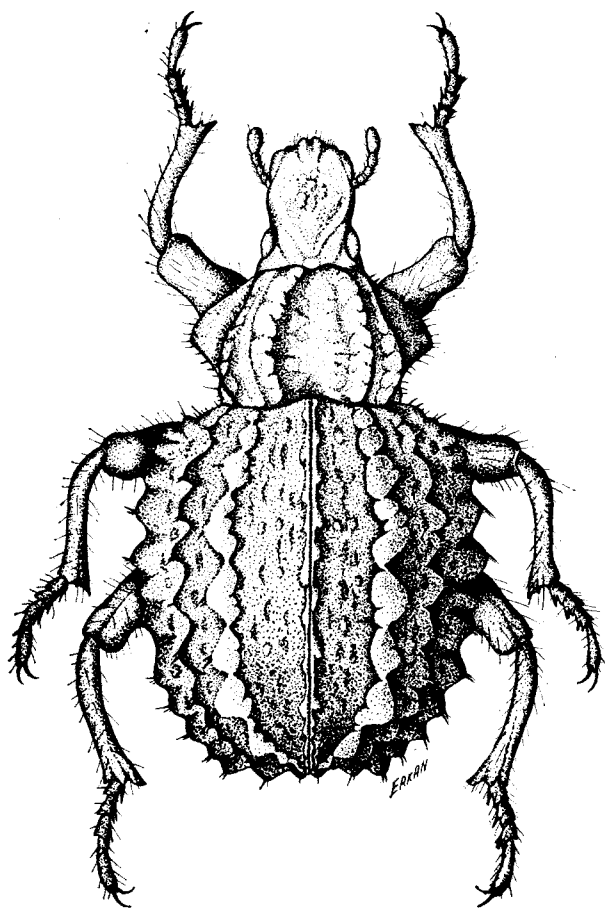


Fig. 1. *Brachycerus a girus*

may be collected also during the winter season under stones that found around the cultivated areas.

***Brachycerus argillaceus* Reiche 1857**

Synonymy : —***nodulosus*** Reiche l. c. ; —***aegyptiacus*** Bedel 1874.

This species was elevated to a species level by Zumpt (1937).

General distribution : Turkey, Cyprus, Syria, Lebanon, Israel, Rhodes (Pape 1910, Zumpt 1937).

Distribution in Turkey : Istanbul, Antakya, Adana (Zumpt 1937).

1 specimen from Gümüşsu (Izmir) 2.XII.1970; 4 specimens from Söke (Aydın) 4.XI.1971 and 1 specimen from Bozöyük (Bilecik) 23.V. 1971 in my collection.

Occurrence: Occasional.

***Brachycerus cribrarius* Ol. 1807**

Synonymy : —***ornatus*** Reiche 1857; —***fimbriatus*** Desbr. 1871.

This species was elevated to a species level by Zumpt (1937).

General distribution: Turkey, Lebanon, Israel (Pape 1910, Zumpt 1937).

Distribution in Turkey: Toros Mountains and Diyarbakır (Zumpt 1937).

Occurrence : Very occasional.

***Brachycerus foveicollis* Gyll. 1833**

Synonymy: —***muricatus*** F. 1792; —***ventralis*** Desbr. 1871; —***pygmaeus*** Vit. 1903.

General distribution: Austria, Hungary, Rumania, Bulgaria, Greece, Samos Island in the Aegean Sea (Pape 1910, Zumpt 1937).

Distribution in Turkey: Bursa, Bilecik, Eskişehir, Kütahya, Izmir, Isparta, Sultandağ, Konya, Ankara, Amasya, Bulgardağı (Zumpt 1937); Karaköy, Bilecik (Bodemeyer 1900).

1 specimen from Abant (Bolu) 23.VIII.1969; 4 specimens from Kemalpaşa (Izmir) 7.II.1971; 5 specimens from Bozöyük (Bilecik) 23.V. 1971 in my collection.

Occurrence: Occasional.

***Brachycerus foveifrons* Bedel 1874**

General distribution : Turkey, Syria, Israel (Pape 1910, Zumpt 1937).

Distribution in Turkey : Gaziantep, Mardin (Zumpt 1937).

1 specimen from Bozova (Urfa) 19.IV.1972 and 1 specimen from Çüngüş (Diyarbakır) 11.IV.1977 in my collection.

Occurrence : Very occasional.

***Brachycerus freyi* Zumpt 1937**

This species probably a special one for Turkey. It is recorded so far up to now only from Bursa, Bilecik and Bulgardağı (Zumpt 1937).

Occurrence : Very occasional.

***Brachycerus junix* Licht. 1796**

Synonymy: *—sculus* Gyll. 1833; *—tauricus* Desbr. 1871; *—aegyptiacus* Vitale 1902.

General distribution : Italy, Sicily, Yugoslavia, Greece, some Islands in the Aegean Sea (such as Mikonos, Khios, Siros, Naxos, Crete, Rhodes etc.), Turkey, Lebanon and Syria (Pape 1910, Zumpt 1937, Hoffmann 1963 b).

Distribution in Turkey: Turkey (Pape 1910, Magnano 1964); Izmir, Çanakkale, Toros Mountains, Isparta, Mersin, Adana and Tokat (Zumpt 1937).

3 specimens from Adana May, 1970; 1 specimen from Çeşme (Izmir) 9.XII.1971; 1 specimen from Söke (Aydın) 4.XI.1971; 2 specimens from Gümüşsu (Izmir), 2.XII.1970; 2 specimens from Seferihisar (Izmir) 28.XII.1971 and 1 specimen from Izmit, 25.IV.1975 in my collection.

***Brachycerus junix* Licht. var. *aegyptiacus* Ol. 1807**

Synonymy: *—incertus* Desbr. 1871; *—olivieri* Desbr. l.c.

General distribution : Crete, Turkey, Syria, Lebanon, Israel, Egypt (Bodemeyer 1900, Pape 1910, Zumpt 1937, Kerville 1939, Hoffmann 1957, Magnano 1964).

Distribution in Turkey: Dried places in Turkey (Bodemeyer 1900); Izmir (Kerville 1939).

Occurrence : Occasional.

***Brachycerus lutosus* Gyll. 1833**

Synonymy: *—superciliosus* Gyll. l.c.; *—cinereus* Bedel 1874.

General distribution : France, Italy, Sicily, Yugoslavia, Greece, Aegean Islands (such as Mikonos, Siros, Naxos, Samos, Crete) and Turkey (Pape 1910, Zumpt 1937).

Distribution in Turkey: Istanbul (Zumpt 1937).

Occurrence : Extremely occasional.

***Brachycerus lutosus* Gyll. var. *graecus* Zumpt 1937**

This variety introduced as a new one by Zumpt (1937).

General distribution : Izmir (Zumpt 1937).

Occurrence : Extremely occasional.

***Brachycerus orbipennis* Reiche 1857**

This species was elevated to a species level by Zumpt (1937).

General distribution : Sicily, Turkey, Greece, Syria, South of Russia, Caucasia, Israel, Egypt (Pape 1910, Zumpt 1937, Hoffmann 1957).

Distribution in Turkey : Gazi - Ankara (Hoffmann 1957).

Occurrence : Extremely occasional.

***Brachycerus plicatus* Gyll. 1833**

Synonymy: —*europaeus* Gyll. 1.c.; —*superciliosus* var. B. Gyll. 1840; —*tetanicus* Luc. 1849; —*insignis* Miller 1861; —*opacus* Wollst. 1864; —*scutipennis* Desbr. 1871; —*vespertilio* Desbr. 1.c.

General distribution : Algeria, Tunisia, Morocco, Libya, Canary Islands, Spain, Sicily, Rhodes, Turkey and Greece (Pape 1910, Zumpt 1937).

Distribution in Turkey: Izmir (Zumpt 1937), Turkey (Hoffmann 1964).

1 specimen from Izmir 30.VII.1970; 2 specimens from Bornova (Izmir) 30.III.1971 (on liliaceous plants) in my collection.

Biological note : This species has been recorded as a pest on garlic, onion and tulip (Hoffmann 1964) and also it attacks to the bulbs of *Ornithogalum amoenum* Batt. (Liliaceae) in Algeria (Hoffmann 1963 a). Its biology was studied by Peyerimhoff (1926).

***Brachycerus sinuatus* Ol. 1807 (Adult: Fig. 2).**

Synonymy: —*psifernus* Thunb. 1799; —*besseri* Kryn. 1832; —*insularis* Desbr. 1871; —*junix* Kraatz 1875.

General distribution : South of Russia, Rumania, Yugoslavia, Sicily, Greece and Turkey (Pape 1910, Zumpt 1937, Hoffmann 1963 b).

Distribution in Turkey : Izmir, Soma (Manisa), Eskişehir, Afyon, Sultandağ, Isparta, (Zumpt 1937); Karacadağ—Diyarbakır (Hoffmann 1963 b).

2 Specimens from Bornova (Izmir) 20.VI.1962; 1 specimen from Söke (Aydın) 4.II.1971; 1 specimen from Adana, May 1970; 2 specimens from Diyarbakır 17.V.1972; 1 specimen from Bismil (Diyarbakır) 4.IV.1972; 3 specimens from Çamalan (Adana) 5.VI.1972; 2 specimens from Kemalpaşa (Izmir) 21.VII.1972; 4 specimens from Ağrı 12.V.1974; 4 specimens from Cumaovası (Izmir), 12.V.1974; 1 specimen from Çeşme (Izmir) 23.III.1972 and 2 specimens from Söke (Aydın), 4.XI.1971 in my collection.

Occurrence: Common but in small numbers.

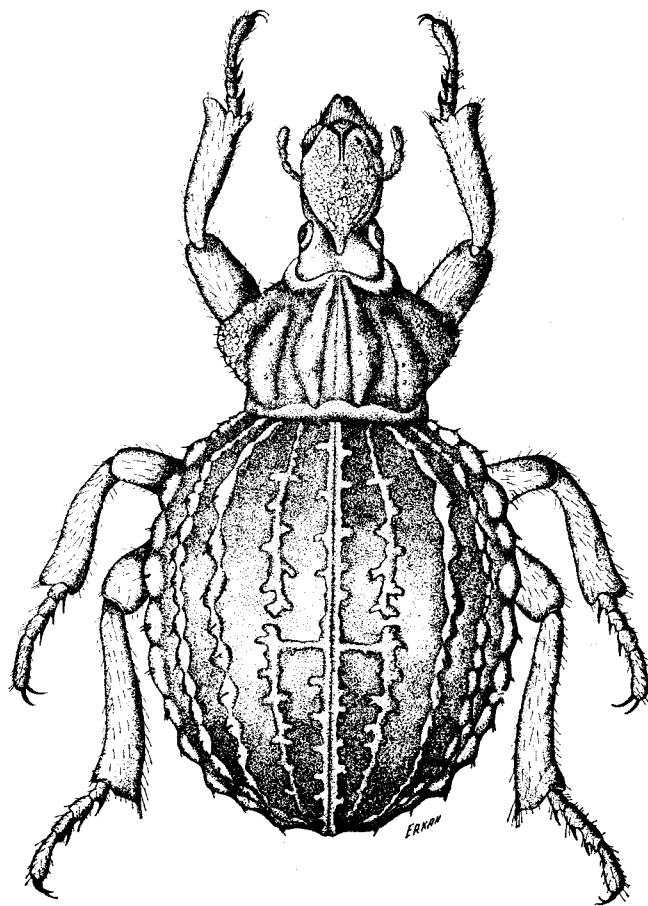


Fig. 2. *Brachycerus sinuatus*

Brachycerus sinuatus Ol. var. *lutulentus* Gyll. 1833

Synonymy: — *besseri* var *B.* Gyll. 1840.

General distribution: South of Russia, Turkey and Cyprus (Zumpt 1937).

Distribution in Turkey: Toros Mountains and Amasya (Zumpt 1937); Toros Mountains, Konya (Voss 1962); Diyarbakır (Hoffmann 1963 b).

Occurrence: Extremely occasional.

Brachycerus sinuatus Ol. *quadrisulcatus* Fisch. Wold 1830

Synonymy: — *difformis* Fald. 1837.

General distribution: Syria, Turkey, Ermenia (Zumpt 1937).

Distribution in Turkey: Gaziantep, Antakya, Malatya, Diyarbakır, Van (Zumpt 1937).

Occurrence : Occasional.

Brachycerus undatus F. 1798 (Adult : Fig. 3)

Synonymy: **-barbarus** L. 1767; **-algirus** Ol. 1790; **-europeus** Thunb. 1799; **-quadratus** Voet 1806; **-crispatus** Latr. 1807; **-lacunatus** Latr. 1. c.; **-mauritanicus** Ol. 1807; **-serratus** Ol. 1. c.; **-ovatus** Brullé 1832; **-peterygomalis** Gyll. 1833; **-corrosus** Gyll. 1. c.; **-incultus** Gyll. 1. c.; **-capensis** Schön. 1833; **-subvariolatus** Desbr. 1871; **-hispidus** Desbr. 1. c.; **-nubilus** Desbr. 1. c.; **-sericeus** Desbr. 1. c.; **-cornifrons** Desbr. 1. c.; **-tuberculatus** Rey 1894; **-parallellus** Rey 1. c.; **-lyrae** Vit 1905.

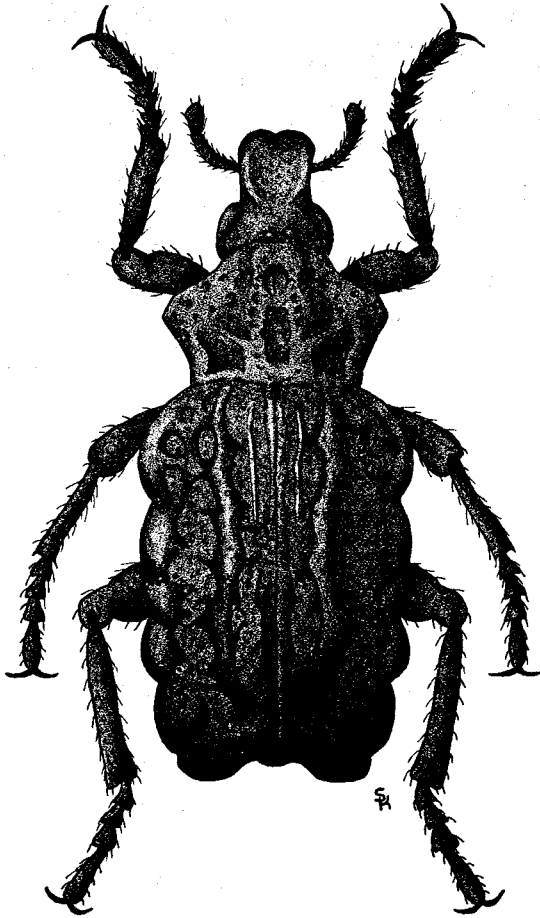


Fig. 3. *Brachycerus undatus*

General distribution: Algeria, Spain, Southern France, Italy, Balearic Islands, Sardinia, Sicily, Corsica, Yugoslavia, Greece, Crete, Siros and Turkey (Pape 1910; Zumpt 1937; Beffa 1949; Hoffmann 1950, 1963 a,b; Bonnemaïson 1962).

Distribution in Turkey: This species has been recorded from Turkey only from Istanbul (Zumpt 1937). Since then it has not been recorded again.

8 specimens from Karaburun (Izmir) 1.VIII.1970 (on narcissus) in my collection.

Occurrence: Occasional but sometimes in fairly large numbers.

Biological note: According to Hoffmann (1950, 1963 a) this species is a serious pest on garlic (*Allium sativum*) and narcissus (*Narcissus tazetta*, *N. odor*) in France. It is also recorded as a pest of garlic in Northern Africa and Italy (Hoffmann l.c.).

This species have been seen attacking to *N. odor* in Mordoğan and Karaburun (Izmir). Adults appearing in the fields from March to July. Since, it is a pest of garlic and narcissus elsewhere in the Mediterranean countries, it requires careful watching.

Summary

This paper is a continuation of the fauna of Turkish Curculionidae and restricted only the genus of *Brachycerus* Ol. The species of this genus feed exclusively on liliaceous plants. The present work deals 12 species and 4 varieties which occur presently in Turkey. The informations are given the distribution, occurrence, host plants and short life history of the species involved.

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