Edité par la Société royale belge d'Entomologie
Association sans but lucratif, fondée le 9 avril 1855
Siège social: rue Vautier 29, B-1040 Bruxelles

✡

Uitgegeven door de Koninklijke Belgische Vereniging voor Entomologie
Vereniging zonder winstoogmerk, opgericht op 9 april 1855
Sociale zetel: Vautierstraat 29, B-1040 Brussel

Les publications de la Société sont financées avec le concours du Ministère de l'Education Nationale, de la Fondation Universitaire de Belgique et de la province du Brabant.

✡

De publikaties van de Vereniging worden gefinancierd met de steun van het Ministerie van Onderwijs, de Universitaire Stichting van België en de provincie Brabant.

Bull. Annls Soc. r. belge Ent. 125 (1989): *163-212*

Contribution to the study of Legume Weevils of Turkey (Coleoptera: Bruchidae)

by J. DECELLE[1] and N. LODOS[2]

Accepted for publication: 7.XI.1988

[1] Section d'Entomologie, Musée royal de l'Afrique centrale, B-1980 Tervuren, Belgium.
[2] Department of Plant Protection, Faculty of Agriculture, University of Ege, 35100 Bornova-Izmir, Turkey.

Summary

The fauna of Legume Weevils of Turkey is rich. In the present work, the number of cited species comes up to 106. This list is based on the material collected all over Turkey by the authors, principally N. LODOS, on specimens seen in different museums by J. DECELLE and on references given by other workers. For each species, informations on its general distribution, its known distribution in Turkey, its material studied by the authors, its occurrence in Turkey and biological notes are given. The known host plants are critically reviewed with new records. A generic index of the host plants sorted into families and the specific index of the Bruchidae complete this work.

Résumé

La faune des Bruchidae de Turquie est riche. Dans ce travail, le nombre d'espèces répertoriées est porté à 106. Cette liste est basée sur le matériel collecté dans toute la Turquie par les auteurs, principalement N. LODOS, sur les specimens étudiés dans différents musées par J. DECELLE et sur les références données par les autres auteurs. Pour chaque espèce, des informations sont données sur sa distribution générale, sa distribution connue en Turquie, le matériel étudié par les deux auteurs ainsi que des notes biologiques. Les plantes-hôtes connues sont revues d'une manière critique avec de nouvelles observations. Un index générique des plantes-hôtes classées par famille et un index spécifique des Bruchidae complètent ce travail.

Note of the editors: We apoligize for the incorrect spelling of some Turkish names.

Contents

Introduction

The fauna of Legume Weevils of Turkey is quite rich but up to the present date it was not studied completely. There have been some publications on the Turkish species of this group but these are far from comprehensive and most of them give lists of Bruchidae species besides other groups of insects. Up to date, the species of this family in Turkey have been treated by the following authors: GANGLBAUER (1905), BODEMEYER (1906), SAHLBERG (1912-1913), GADEAU DE KERVILLE (1939), IYRIBOZ (1942), BODENHEIMER (1958), OZER (1961), ALKAN (1966), ILALAN-MENE (1976), SECKIN (1981), ZAMPETTI (1981 and 1984) and BOROWIEC (1984 and 1987b).

From these previous studies, only that of ALKAN is the most complete, but still it shows gaps in many respects. Other authors only dealt with Bruchid fauna on insufficient material. Therefore the informations given by them should be revised and necessitates a further detailed research on the Legume Weevils of Turkey.

In more general works on Bruchids, SCHILSKY (1905) cited 34 species with special reference to Turkey and PIC (1913) 21, but the given distribution of 35 others indicate a possibility of their presence in that country. In special works on the fauna of Turkey, SAHLBERG (1912-1913) enumerated 29 species, ALKAN (1966) 54, ZAMPETTI (1981 and 1984) a total of 50 and BOROWIEC (1987b) 79. A detailed review of all the present references allows nevertheless to list 94 species and with the present work, the number of cited species comes up to 106 with 6 uncertain. Some other species listed from neighbouring countries will certainly be found in the future. it is especially the case for the species known from the Sovietic Armenia cited by KARAPETYAN (1985), from the Caucasian fauna cited by TER MINASSIAN (1969) and from Georgia cited by LUKJANOVICH and TER MINASSIAN (1969) and by BATIASHVILI and ELERDASHVILI (1969).

If the majority of the species has no economic importance, some others cause sometimes serious damage to the seeds of leguminous plants. For instance, *Bruchus ervi* FRÖL. causes considerable damage nearly every year in southeastern parts of Turkey. Therefore in recent years attention has been focused on such economically important species and studies have started on their biology, host plants, population dynamics and control measures (KEYDER, 1965; KARMAN ve ERAKAY, 1970; ATAK, 1975; DÖRTBUDAK, 1975; ILALAN-MENE, 1976 and SECKIN, 1981).

The number of introduced species reported from Turkey is approximatively 10. Some of them are now well established.

The aim of this study is to give the basic knowledge of each species as a help for students interested in further research on this group, as well in Turkey as in neighbouring countries.

Materials

The following list is based on material collected almost all over Turkey by the authors, principally N. LODOS, and material seen by J. DECELLE in the museums of Basle, Geneva, London, Paris and elsewhere, completed with species cited by other workers on this group in Turkey even though the present authors have no representative specimens from this country. In total more than 3.000 specimens were studied.

The majority of the specimens was collected in the field sweeping plants with a net or at sight in flowers. For this reason, the mention « ... taken on ... » does not mean that the cited plant is the actual host of that species, as adults of Legume Weevils can be found on any plant in nature and are attracted by some flowers (Apiaceae, Compositaceae, Cistaceae).

Information on distribution, abundance, occurrence and host plants of the given species is mainly based on collected material as well as on observations made by the authors, material from different museums or from the relevant literature.

In many cases establishing the precise identity of Bruchids has been and still is a problem. The determination work is made more complex by the vagueness of descriptions of known species, the frequent lack of evident external characters, the uniform shape and colour of many species, the polymorphism of some of them and frequently the bad interpretation of previous descriptions by some authors. So bibliographical data on the identity of Bruchids have sometimes to be considered with reserve. In the same way, the informations

on host plants are not always to be trusted. Some authors considered as host plants the plants on which the adults of Bruchids were found and not necessarily the plants in the seeds of which their larvae are able to develop.

The identified specimens of the authors' samples are deposited in the collections of J. DECELLE (Musée royal de l'Afrique centrale, Tervuren, Belgium) and of the Department of Plant Protection, Faculty of Agriculture, University of Ege, Izmir, Turkey.

List of Bruchidae of Turkey

The given synonymy and references of the different species are limited to the minimum, with the purpose to relate this work to the catalogue or the main works on the family.

I. Subfamily: *Rhaebinae*

A. Genus: *Rhaebus* FISCHER, 1824

1. **Rhaebus mannerheimi** MOTSCHULSKY, 1845

General distribution: USSR (Southern part, Caucasia, Transcaucasia) and N-Iran.
Distribution in Turkey: New record for Turkey.
Material studied: Tuz Gölü, 20.V.1961, only 1 male, leg. CADAMUNO G. (collection DECELLE).
Occurrence: Very occasionally (To seek out near salted lakes).
Biological note: Their larvae feed in the seeds of *Nitraria schoberi* var. *caspica* (Zygophyllaceae) in Russia.

II. Subfamily: *Pachymerinae*

B. Genus: *Caryedon* SCHÖNHERR, 1823

2. **Caryedon germari** (KÜSTER, 1845)

Synonymy: *Pachymerus pallidus* auct. pars (nec OLIVIER, 1790), *Caryedon liseae* SOUTHGATE, 1971.
General distribution: Yugoslavia (Dalmatia), Greece, Bulgaria (Dobrudja), USSR (Crimea, Armenia, Georgia), Cyprus, Turkey.
Distribution in Turkey: Previously listed from Turkey as *Pachymerus pallidus*, without specific locality; cited as *Caryedon liseae* by ZAMPETTI(1984) from Tokat, Ankara (Kalecik), Bilecik (Osmaneli), Izmir (Efes) and by BOROWIEC (1984) from Izmir (Bergama).
Material studied: Aydin (Karacasu, Kusadasi), Denizli (Kemerbaraji), Diyarbakir (Cermik), Edirne, Gaziantep (Kilis), Izmir (Erikli, Karaburun), Yozgat, Anamas Gbg. (Pisisdischer Taurus). More than 50 specimens.
Occurrence: nearly common.
Biological note: It was collected between June and August, principally on umbelliferous

flowers (Apiaceae); some are caught by light traps. LUKJANOVITCH and TER-MINASSIAN (1957) mention as host plant the umbelliferous *Lisaea heterocarpa*.

3. **Caryedon akdamaricus** DECELLE, 1989

Material studied: Van (islet of Akdamar, 13.VI.1974, J. DECELLE), 23 specimens.
Biological note: It was found in flowers of an umbelliferous with a specimen of *Bruchidius orchesioides* (HEYDEN), doubtless a *Prangos*.

III. Subfamily: *Bruchinae*

C. Genus: *Bruchus* L., 1767

4. **Bruchus affinis** FRÖLICH, 1799

General distribution: Southern and Central-Europe, Northern Africa, USSR (Caucasia, Transcaucasia, Central-Asia), India, Syria, Turkey.
Distribution in Turkey: Recorded from Turkey by ZACHER (1954), LUKJANOVITCH and TER MINASSIAN (1957), HOFFMANN *et al.* (1962) and ALKAN (1966), without exact locality.
Material studied: Agri (Dogu Beyazit), Balikesir (Gönen), Uludag (20 km of Bursa) leg. I. LÖBL (Museum of Geneva). 3 specimens only.
Biological note: HOFFMANN gives *Lathyrus pratensis, silvestris* and *tuberosus* as host plants. In Russia, the following plant's names are given as hosts: *Lathyrus silvestris, Vicia sepium* and *Pisum sativum*. Moreover, ZACHER (1952) quotes other species of *Lathyrus* and *Ulex*. PARKER (1957) added *Vicia faba* and *Lotus decumbens*.

5. **Bruchus atomarius** (L., 1761)

General distribution: Europe, N.-Africa, USSR (Caucasia, Siberia), Iran, Lebanon, Syria, Turkey.
Distribution in Turkey: This species has been recorded previously from Turkey by SAHLBERG (1912-1913). He found it in Denizli (Babadag). More recently, ZAMPETTI (1981 and 1984) reported it from Bolu (Abant Gölü), Sivas (Camlibel Gecidi), Tokat, Tunceli (Pülümür Geçidi) and Ankara (Kazan). It seems to be distributed in a fairly large area in Turkey.
Material studied: Authors have no representative specimen of this species in their collection.
Biological note: ZAMPETTI reported it being collected from the beginning of June to the middle of July. Its host plants are different species of *Lathyrus*, *Vicia* and *Orobus*, but it can be found also on *Lens culinaris* (= *esculenta*) and *Pisum sativum*.

6. **Bruchus brachialis** FAHRAEUS, 1839

General distribution: W and C-Europe, N-Africa, USSR (Crimea, Caucasia, Siberia), Iran, Greece, Turkey; introduced in N-America.

Distribution in Turkey: SCHILSKY (1905) recorded it from Anatolia. ALKAN (1966) listed this species as occurring in Turkey based on earlier workers and stated that the exact finding locality is not known. ZAMPETTI (1981) reported it from Amasya (Turhal). It seems to have a wide distribution in Turkey.
Material studied: Afyon (Kocatepe), Antalya (Gündogmus, Korkuteli), Bilecik (Central province, Pazaryeri), Corum, Erzurum, Izmir (Bayindir, Bornova, Kozak), Kars, Kütahya (Tavsanli), Malatya (Central province, Suçati), Manisa (Alasehir), Mugla (Dalaman), Tekirdag, Aydin (Kusadasi). 30 specimens.
Occurrence: Common, but found in small numbers.
Biological note: Adults were collected in the fields from the end of March until the end of June, but mostly in May and June. They were taken on *Vicia faba, Onobrychis sativa, Medicago sativa* and different species of weeds and shrubs. HOFFMANN (1945) and LUKJANOVITCH and TER MINASSIAN (1957) give *Vicia sativa, villosa, cracca* and *panonica* as host plants of this species. ZACHER (1952) added *Lens culinaris* (= *esculenta*).

7. **Bruchus dentipes** BAUDI, 1886

General distribution: USSR (Southern part, Caucasia), Afghanistan, Iran, Irak, Syria, Lebanon, Israel, Egypt, Cyprus, Turkey, Greece, France (TEMPÈRE, 1957).
Distribution in Turkey: SCHILSKY (1905) cited it from Akbez; SAHLBERG (1912-1913) from Izmir and ZAMPETTI (1984) from Erzurum (Askale).
Material studied: Elazig (Central province, Hazar), Malatya (Central province, Içmeler, Suçati), Urfa (Siverek), Trabzon, Konya (collection PIC), Erzurum (collection PIC), Ordu (Tekkisaz, collection WITTMER). 25 specimens.
Occurrence: Relatively common, but found in small numbers.
Biological note: Adults were collected in the fields from the beginning of May until the beginning of August, mostly on leguminous plants.

This species is known as an important pest on broad beans (*Vicia faba*) in some Middle East countries. LUKJANOVITCH and TER MINASSIAN (1957) reported its variety *ochraceosignatus* HEYDEN, 1894 being injurious on *Vicia hyrcana* and *faba* in Russia. It is very prejudicial to *Vicia faba* in Syria.

Specimens of the nominal form and of the variety *ochraceosignatus* are collected about at the same localities in Turkey.

8. **Bruchus emarginatus** ALLARD, 1868

General distribution: S and C-Europe, N-Africa, USSR (Crimea, Transcaucasia), Syria, Lebanon, Israel, Iran, India, Turkey.
Distribution in Turkey: Recorded by SCHILSKY (1905) and BODEMEYER (1906) in Konya and by SAHLBERG (1912-1913) in Izmir. ZAMPETTI (1981 and 1984) reported it from Amasya (Cakilli), Bolu (Abant Gölü), Içel (Silifke) and Ankara (Kazan). BOROWIEC (1984) cited it from Bogazkale (Hattusas), 30 km SE of Sungurlu. Somewhat largely distributed in Turkey.
Material studied: Artvin, Aydin (Karacasu), Bilecik (Pazaryeri), Malatya (Suçati), Samsun, Denizli (Pamukkale), Izmir (Efes), Gaziantep, Maras (Museum of Basle),

Konya (Beysehir). 14 specimens.
Occurrence: Occasionally.
Biological note: Adults were collected in the fields from the end of April until the middle of June. They were taken on *Pisum sativum, Lens culinaris* and also a few on weeds. HOFFMANN (1945), HOFFMANN *et al.* (1962) reported it being injurious to *Lathyrus hirsutus, Pisum sativum* (= *arvense*) and *Cicer arietinum*. LUKJANOVITCH and TER MINASSIAN (1957) cited *Vicia peregrina, Lathyrus ochrous* and *Cicer arietinum* as host plants of this species in Russia. PARKER (1957) added *Lathyrus angustifolius*.

9. **Bruchus ervi** FRÖLICH, 1799

Synonymy: *Bruchus sertatus* ILLIGER, 1805.
General distribution: S and C-Europe, N-Africa, USSR (Siberia), Iraq, Iran, Israel, Lebanon, Syria, Turkey, Cyprus.
Distribution in Turkey: According to Alkan (1966), this species was recorded for the first time in Turkey in 1948. He found it in Malatya and Hatay (Iskenderun). Özer (1961) reported it from Bursa, Canakkale and Ankara. Later on, TUATAY *et al.* (1972), KALKAN (1972, DÖRTBUDAK (1975) and SECKIN (1981) recorded it in different parts of Turkey such as Diyarbakir, Istanbul, Mardin (Central province, Midyat), Urfa. BOROWIEC (1984) cited it from Bogazkale (Hattusas). *Bruchus ervi* seems to be distributed nearly all over the country.
Material studied: Adiyaman (Kahta), Antalya (Side), Elazig (Central province, Karakoçan), Izmir (Bayindir), Mardin (Midyat, Savur), Urfa (Siverek). Totally more than 100 specimens.
Occurrence: Common, sometimes found in large numbers.
Biological note: Adults have been found in the fields from the end of April to the beginning of July, being most abundant in mid June. This species is the most destructive pest of lentil in Turkey; especially in the southeastern part of the country, it causes serious damage to this crop. DÖRTBUDAK (1975) studied its biology and control measures of this pest in Mardin and surrounding areas.

10. **Bruchus hamatus** MILLER, 1881

General distribution: Yugoslavia, Greece, USSR (Crimea, Transcaucasia), Bulgaria, Syria, Turkey, Lebanon, France (TEMPÈRE et PONEL, 1983).
Distribution in Turkey: BODEMEYER (1906) reported it from Konya. Later on, ALKAN (1966) recorded it based on BODENHEIMER (1958) who didn't mention the exact finding locality. ZAMPETTI (1984) mentioned this speies from Ankara (Kazan), Erzurum (Askale) and Tunceli (Pülümür) and BOROWIEC (1984) from Bogazkale (Hattusas).
Material studied: Malatya (Hekinban), Ankara (Soguksu, Kizilcahaman, Museum of Basle), Konya (collection PIC, Museum of Paris). 4 specimens.
Biological note: According to LUKJANOVITCH and TER MINASSIAN (1957); its host plants are *Vicia variabilis* and some species of *Lathyrus* in Russia. Zacher mentioned *Vicia sativa* and *Vicia sp.* as host plants of this species.

11. **Bruchus incurvatus** MOTSCHULSKY, 1873

General distribution: USSR (Caucasia), N-Iran, Syria, Turkey.
Distribution in Turkey: This species is recorded from Turkey by ZAMPETTI (1984): Sinop (Dranaz).
Material studied: Trabzon (Mataraci). Only 1 specimen.
Biological note: Its host plant is still unknown.

12. **Bruchus laticollis** BOHEMAN, 1833

General distribution: S-Europe, USSR (Crimea, Armenia, Azerbaican, Turkmenia, Tadchikistan), Syria, Turkey.
Distribution in Turkey: It was listed from Turkey by HOFFMANN (1945), LUKJANOVITCH and TER MINASSIAN (1957) and ALKAN (1966) but without mentioning specific localities. BOROWIEC (1984) cited it from Konya (Catal Höyük) and Antalya (Termessos). It seems to be widely distributed in Turkey.
Material studied: Ankara (Kalecik), Artvin, Izmir (Selçuk), Kirklareli (Vize), Nigde (Aksaray), Sinop, Tokat (Zile), Urfa (Siverek), Trabzon. 14 specimens.
Occurrence: Occasionally, but found in very small numbers.
Biological note: Adults were collected in the fields starting from the beginning of May to mid August. They were taken on lentil, clover and different species of weeds. HOFFMANN (1945) and LUKJANOVITCH and TER MINASSIAN (1957) given *Lathyrus aphaca* as host plant of this species. ZACHER (1952) cited *Vicia sp.*

13. **Bruchus lentis** FRÖLICH, 1799

General distribution: S and C-Europe, N-Africa, USSR (Southern part, Ukraine, Crimea, Caucasia, Siberia), Iran, Iraq, Israel, Lebanon, Syria, Turkey, Jordan.
Distribution in Turkey: This species was recorded from Turkey by BODENHEIMER (1958) without specific locality. ÖZER (1961) reported it from Ankara. Later on, KEYDER (1965) found it in the regions of Marmara and Thrace. ALKAN (1966) cited it from Istanbul, Bursa, Tokat and Isparta. It is distributed nearly all over in Turkey.
Material studied: Corum, Denizli (Central province, Kizilcabölük), Istanbul, Izmir (Bornova), Manisa, Nigde (Aksaray), Tokat (Turhal), Kayseri. Totally 67 specimens.
Occurrence: Common, sometimes found in fairly large numbers.
Biological note: Adults have been collected in the fields from the end of April to mid August. They were taken mostly on lentil, sometimes also on chick-pea and different species of weeds. It is one of the most important pest of lentil in Turkey, especially in the western part of Anatolia including the regions of Marmara and Thrace. it can cause damage up to 30% of the lentil crop in some provinces. It was reared also from the seeds of *Glycine max* (= *Soja hispida*) and *Vicia ervilia* in Turkey (ÖZER, 1961; KEYDER, 1965). LUKJANOVITCH and TER MINASSIAN (1957) cited *Lens culinaris* (= *esculenta*) and *Vicia ervilia* as host plants in Russia. PARKER (1957) found it in the seeds of *Vicia lens*.

14. **Bruchus loti** PAYKULL, 1800

General distribution: S and C-Europe, USSR (Caucasia, Georgia, Siberia), Turkey.
Distribution in Turkey: ZAMPETTI (1981) reported it from Izmir and Bolu (Abant Gölü).
Material studied: Agri, Artvin, Trabzon. 6 specimens.
Occurrence: Occasionally.
Biological note: Adults were collected in the fields from the beginning of June up to the end of July. They were taken on *Lotus corniculatus* and also on weeds. HOFFMANN (1945) states that *Lotus corniculatus* and different species of *Lathyrus* are the host plants of this species in France. LUKJANOVITCH and TER MINASSIAN (1957) give different species of *Lathyrus, Oxytropis, Lotus* and *Lens* as host plants in Russia. ZACHER (1952) cites moreover *Cytisus purpureus*, two species of *Vicia, Sophora sp.* and certainly erroneously *Calystegia sp.* (Convolvulaceae).

15. **Bruchus lugubris** FAHRAEUS, 1839

General distribution: USSR (Armenia, Daghestan), Iran, Afghanistan.
Distribution in Turkey: New record for Turkey.
Material studied: Kars (Igdir), only 1 female specimen.
Biological note: According to LUKJANOVITCH and TER MINASSIAN (1957), its host plants are *Vicia sativa* and *panonica* in USSR.

16. **Bruchus luteicornis** ILLIGER, 1794

Often considered as a variety of *Bruchus rufipes* HERBST, 1793.
General distribution: S and C-Europe, N-Africa, USSR (Ukraine, Crimea, Caucasia). It seems to be restricted southeastern part of Turkey.
Distribution in Turkey: It was cited by BAUDI (1886a) from Erzurum.
Material studied: Adiyaman (Nemrut Dagi), Mardin (Mazi Dagi), Siirt (Baykan), Urfa (Siverek), Van (Edremit), Antakya (Museum of Geneva). 8 specimens.
Occurrence: Occasionally.
Biological note: Adults were collected in the fields mostly in the first half of June. The specimens were taken on weeds except one specimen which was collected on *Onobrychis sativa*. The host plants and biology of this species in Turkey are unknown. According to HOFFMANN (1945) and LUKJANOVITCH and TER MINASSIAN (1957), *Vicia sativa, cracca, angustifolia* and *sepium* are the host plants of this species. ZACHER (1952) cites different species of *Lathyrus* and *Vicia* and *Lens culinaris* (= *esculenta*). PARKER (1957) also gives *Calycotome spinosa*.

17. **Bruchus mirabilicollis** IABLOKOFF KHNZORIAN, 1964

Synonymy: *Bruchus mirabilicollis* TER MINASSIAN, 1968.
General distribution: USSR (Turkmenia).
Distribution in Turkey: New record for Turkey.
Material studied: Hakkari (Beytülsebab, 15.VI.1976, on *Medicago sativa*). Only 1 female specimen.
Biological note: Found on *Astragalus spinescens* in Turkmenia (TER MINASSIAN, 1968).

18. **Bruchus perezi** KRAATZ, 1868

General distribution: S-Europe, N-Africa, USSR (Caucasia), Syria, Turkey.
Distribution in Turkey: The only Turkish record is given by LUKJANOVITCH, who did not indicate its exact locality. The authors have no representative specimen of this species. For this reason further confirmation is necessary. The distribution of this species is principally West-Mediterranean.
Biological note: HOFFMANN (1945) gives *Calycotome villosa* as host plant in Corsica. ZACHER (1952) cited *Calycotome villosa* and *spinosa* and *Pisum sativum*.

19. **Bruchus pisorum** (L., 1758)

Synonymy: *Bruchus pisi* L., 1767.
General distribution: The pea-weevil, originating from the Middle-East like its host plant, is now subcosmopolite in the pea-crops.
Distribution in Turkey: It is found almost everywhere.
Material studied: Several specimens from many localities.
Occurrence: Common, sometimes found in large numbers.
Biological note: Its main host plant is *Pisum sativum* (=*elatius*, =*arvense*); also cited from some species of *Vicia* and *Lathyrus* by ZACHER (1952) and with doubt from *Phaseolus vulgaris* and *Cytisus*. It is one of the most important species that causes economic damage to pea in Turkey. Its biology and control measures are well known in the country.

20. **Bruchus rufimanus** BOHEMAN, 1833

General distribution: Originating from West Asia, now subcosmopolite in the broad bean which grows elsewhere.
Distribution in Turkey: Found more or less nearly in everywhere.
Material studied: Several specimens from many places.
Occurrence: Common, sometimes in large numbers.
Biological note: Its main host plant is *Vicia faba*. It causes serious damage to the seeds of this plant in Turkey. However it was also reported as being injurious to vetch, bean, lentil and chick-pea. In Russia, LUKJANOVITCH and TER MINASSIAN (1957) cited different species of *Vicia, Lathyrus sativus* and *Pisum sativum* as host plants. In addition ZACHER (1952) enumerates *Lens culinaris* (=*esculenta*).

21. **Bruchus rufipes** HERBST, 1783

Synonymy: *Bruchus nubilus* BOHEMAN, 1833.
General distribution: Europe, N-Africa, Canary Islands, USSR (Crimea, Caucasia), Turkey, Lebanon, Israël.
Distribution in Turkey: SCHILSKY (1905) and GANGLBAUER (1905) listed this species first time in Turkey under the name of *Bruchus nubilus* or *Laria nubila*. GANGLBAUER reported it from Istanbul (Haydarpasa) and Sakarya (Sapanca). SAHLBERG (1912-1913) cited it from Izmir (Yamanlar Dagi). Later, ÖZER (1961), ALKAN (1966), ILALAN-MENE (1976), SECKIN (1981), ZAMPETTI (1981) and BOROWIEC (1984) reported this species from Ankara, Bursa, Amasya (Cakilli), Sivas (Camlibel), Bilecik, Corum (Bogazkale), Antalya and Trabzon. Accordingly widely distributed in Turkey.
Material studied: Agri, Amasya (Merzifon), Artvin, Bilecik (Bozüyük, Central province, Pazaryeri, Sögüt), Bursa, Izmir (Bayindir, Bornova, Ödemis), Isparta (Keçiborlu), Kirklareli (Pinarhisar), Kütahya (Tavsanli), Sinop, Trabzon, Usak, Istanbul (Selimpasa). 43 specimens.
Occurrence: Common, but found in small numbers.
Biological note: According to several authors, this species lives in the seeds of *Vicia sativa* and *cracca* and other species of *Vicia* and also of *Lathyrus odoratus*. According to ÖZER (1961) and ALKAN (1966), it is a pest on lentil in Ankara, Bursa and Izmir. However, ILALAN-MENE (1976), and SECKIN (1981) state that its main host plant is *Vicia articulata* and to some degree it causes injury to the seeds of this plant. PARKER (1957) found it on different species of *Vicia* and *Lathyrus* in France.

22. **Bruchus signaticornis** GYLLENHAL, 1833

Synonymy: *Bruchus pallidicornis* BOHEMAN, 1833.
General distribution: S and C-Europe, N-Africa, Canary Islands, Syria, Lebanon, Turkey.
Distribution in Turkey: SECKIN (1981) listed this species from Bursa (Central province, Inegöl, Iznik, Keles, Orhaneli, Yenisehir), Istanbul (Erenköy, Silivri) and ZAMPETTI (1984) from Sivas and Ankara (Kazan).
Material studied: Istanbul (Göztepe, Silivri). 2 specimens.
Occurrence: Common in Marmara Region; sometimes found in small numbers.
Biological note: According to SECKIN (1981), the main host plant of this species is *Lens culinaris* and it also causes some damage to *Vicia articulata* in Marmara Region. She states that this species is more harmful to lentils then *Bruchus lentis* and *Bruchus ervi* in this region. Elsewhere, *Bruchus signaticornis* is known as being injurious to *Lens culinaris* (=*esculenta*). ZACHER (1952) also cites *Vicia monantha* (=*articulata*) and *Ceratonia siliqua* as host plants of this species.

Adults have been found in the fields from mid May to the end of July.

23. **Bruchus tetragonus** (BAUDI, 1886)

General distribution: Recorded up to now from Syria.
Distribution in Turkey: This is the first record of this species in Turkey. It seems to be restricted in the southeastern part of the country.
Material studied: Diyarbakir (Ergani, 24.V.1984), Siirt (Kurtalan, 14.V.1984), K. Maras (Göksun), 12.VI.1985. Mardin (V.1976). 10 specimens.
Biological note: It was reared from the seeds of *Vicia michauxii* in Diyarbakir (personal communication of Dr. Abuzer YÜCEL). So far *Vicia michauxii* is the only known host plant of this uncommon Bruchid.

24. **Bruchus tristiculus** FAHRAEUS, 1839

General distribution: S-Europe, N-Africa, Azores, Canary Islands, USSR (E-Caucasia,

Kopet Dagi), Iran, Syria, Turkey, Israel.

Distribution in Turkey: According to ALKAN (1966), who based his information on earlier literature the exact distribution of this species is unknown. However, SECKIN (1981) found it in several places at Bursa and Istanbul.

Material studied: Bursa (Mudanya, Yenisehir), Istanbul (Erenköy), Hakkari (Cukurca), Izmir (collection PIC, Museum of Paris). 8 specimens.

Occurrence: Common in the region of Marmara and sometimes found in fairly small numbers.

Biological note: According to LUKJANOVITCH and TER MINASSIAN (1957), its host plants are different species of *Lathyrus, Vicia faba* and, with reserve, *Pisum sativum* and *Lupinus termis*. HOFFMANN (1945) listed in France *Lathyrus odoratus* and *Cicer arietinum*. ZACHER (1952) gave different species of *Lathyrus* and *Lupinus, Lens esculenta, Cicer arietinum* and *Vicia sativa*. However, SECKIN (1981) gives *Vicia ervilia* as a main host plant of this species in Turkey. According to her statement, this species infects about 0.5% of the seeds of this plant.

Adults are found in the fields between May and July, mostly in June.

25. **Bruchus tristis** BOHEMAN, 1833

General distribution: S and C-Europe, N-Africa, Iran, Syria, Lebanon, Israel, Cyprus, Turkey.

Distribution in Turkey: DE KERVILLE (1939) listed this species from Izmir. ÖZER (1962) reported it from Ankara, Istanbul and Eskisehir; BOROWIEC (1984) from Izmir (Bergama). It seems to have a wide distribution in Turkey.

Material studied: Edirne, Elazig (Central province, Karakoçan), Izmir (Bornova), Kütahya (Tavsanli, Gediz). 16 specimens.

Occurrence: fairly common, but found in small numbers.

Biological note: Adults were collected in the fields from the beginning of April up to the first week of August, mostly in May and June. They were taken on different weeds and also on *Lathyrus sativus*. According to HOFFMANN (1945) and LUKJANOVITCH and TER MINASSIAN (1957), *Pisum sativum* (=*arvense*), *Vicia ervilia* and *faba, Lathyrus pratensis* and *sativus* are the host plants of this species.

26. **Bruchus ulicis** MULSANT et REY, 1858

General distribution: S-Europe, Canary Islands, N-Africa, USSR, Syria, Cyprus, Turkey, Jordan, Afghanistan.

Distribution in Turkey: SCHILSKY (1905) listed this species without exact locality. ALKAN (1966) stated that it was found in the following places: Bursa, Erzincan, Istanbul, Konya, Thrace and Urfa. SECKIN (1981) listed it from many places in Bursa. *Bruchus ulicis* seems to be distributed in fairly large areas in Turkey.

Material studied: Adiyaman (Gölbasi), Bursa (Orhaneli), Hakkari (Cukurca), Kocaeli (Iznik), Manisa (Kula), Nigde (Aksaray). 11 specimens.

Occurrence: fairly common, sometimes found in large numbers especially in Western Anatolia.

Biological note: Adults were collected in the fields from mid April to the end of July, but mostly in May and June. They were taken on vetch and on different species of weeds. In Russia, it is a pest on *Vicia ervilia*. HOFFMANN gives different host plants for this species: *Calycotome spinosa* and *Ulex parviflora*. ZACHER (1952) listes *Vicia ervilia* and *sativa, Ulex europaeus* and *parviflora, Calycotome spinosa, Lens esculenta* and *Pisum sativum*. In Turkey, it was shown as a pest in the seeds of *Pisum sativum, Phaseolus vulgaris, Lens culinaris* and *Vicia ervilia* (ALKAN, 1966 and SECKIN, 1981). According to SECKIN, it is a pest on *Vicia ervilia* near Bursa.

27. **Bruchus viciae** OLIVIER, 1795

General distribution: S and C-Europe, USSR (Crimea, Caucasia), Syria, Lebanon, Turkey.

Distribution in Turkey: SCHILSKY (1905), LUKJANOVITCH and TER MINASSIAN (1957) and BODENHEIMER (1958) listed this species from Turkey but without exact locality. ZAMPETTI (1981) reported it from Amasya. It seems to be rather restricted to middle Anatolia.

Material studied: Afyon (Cay), Ankara (Sereflikoçhisar), Bolu (Gerede), Cankiri (Orta), Corum (Central province, Sungurlu), Erzurum, Samsun (Ladik), Konya (collection PIC, Museum of Paris), Ankara (Soguksu, Kizilcahamam, Museum of Basle). 19 specimens.

Occurrence: Fairly common, but found in small numbers.

Biological note: Adults were collected in the fields from the beginning of April to the end of July, but mostly in June. They were taken occasionally on lentils, but mostly on different species of weeds. In Russia, its host plants are *Vicia sepium* and *angustifolia* and *Lathyrus niger* and *miniatus*. HOFFMANN (1945) gave *Vicia tenuifolia* as host plant in the South of France. Here PARKER (1957) found it on *Lathyrus sphaericus* and *pratensis*.

D. Genus: *Callosobruchus* PIC, 1902

28. **Callosobruchus analis** (F., 1781)

General distribution: Originating from Tropical Asia, it is now introduced and settled in other tropical and hot temperate areas; it can subsist in colder areas under artificial conditions in storehouses.

Distribution in Turkey: ÖZER (1961) found dead specimens in some storehouses in Bursa and Sakarya (Central province) which were supposed to attack peas. ALKAN (1966) stated that it was found in Turkey but the exact collecting locality is unknown. GÜL-ZÜMREOGLU (1972) recorded it from Izmir (Seferihisar).

Material studied: Izmir (Seferihisar). 7 specimens.

Biological note: On 25 th October 1932, 7 specimens were collected by Nihat Iyriboz, director of the Plant Protection Institute in Bornova-Izmir at that time. He reported that *Callosobruchus analis* was heavily infesting *Dolichos lablab* (now *Lablab purpureus*) in Seferihisar. Since that date, this species was never reported again from Seferihisar nor at any other place in Turkey, except by ÖZER (1961). It is an exotic species and might be introduced in Turkey from time to time by importation of leguminous seeds.

Apparently it is unable to establish itself in Turkey. Its host plants are different species of Phaseoleae especially dolichos (*Lablab purpureus*) and lentils (*Lens culinaris*).

29. **Callosobruchus chinensis** (L., 1758)

General distribution: Originating from the Far East, it is distributed nearly all over the world by importation of leguminous seeds. It is recorded in the Near and Middle East from Pakistan, Iran, Israel, Egypt, Syria, Iraq, Cyprus, Turkey.
Distribution in Turkey: FREEMAN (1957) reported it for first time as occurring in Turkey being detected in imported lentils that were sent from Hatay (Iskenderun) in 1954-1957. ÖZER (1961) found dead adults in Içel and Bursa that infested the seeds of pea and lentil in storehouses. ALKAN (1966) also found it in Ankara and Kocaeli infesting stored beans and chick peas.
Material studied: Içel (Central province). 2 specimens.
Biological note: Possibly this species might be living under natural conditions some parts of Southern Turkey and infested seeds carried from there to other parts where it is retricted to warehouses. However, its infestation is not alarming at the moment in Turkey. It is known as a past of stored legumes including broad bean, chick pea, garden pea, hyacinth bean (kidney bean), etc.

30. **Callosobruchus maculatus** (F., 1775)

Synonymy: *Callosobruchus quadrimaculatus* (F., 1792); *Callosobruchus ornatus* (BOHEMAN, 1829).
General distribution: This is the most widespread species of *Callosobruchus*, found in all tropical areas and in the hotest regions of the temperate zones. It is presently very difficult to establish its precise origin, but it might as well be Afrotropical. In the Near and Middle East, it is recorded from Pakistan, Afghanistan, Iran, Iraq, Israel, Egypt and Turkey. It seems to be distributed and well established in most parts of Turkey.
Distribution in Turkey: According to ALKAN (1966), it was first detected in Turkey in 1952. He found it infesting pea and lentil in Ankara. Later on it was found in Urfa infesting the seeds of hyacinth bean. ÖZER (1961) reported it from Amasya, Antalya, Aydin, Balikesir, Bursa, Canakkale, Denizli, Elazig, Istanbul, Izmir, Kocaeli, Sakarya and Trabzon.
Material studied: 72 specimens in total from Ankara, Bursa, Elazig (Akçcakiraz), Izmir (Bornova). The collection PIC (Museum of Paris) possesses some specimens gathered at Amsterdam (Netherlands), VIII.1948, in seeds of *Cicer arietinum* coming from Izmir (leg. J.B. CORPORAAL).
Occurrence: Common, sometimes found in large numbers.
Biological note: Adults were collected in the fields starting from the end of May to the first week of August. However overwintering adults were also collected in October-December. They were taken on chick pea, hyacinth bean (*Lablab purpureus*), garden pea and also some on weeds. According to KARMAN *et al.* (1967), it was reported as infesting 52% hyacinth bean and 16.9% of chick pea in some parts the region of Aegean. ÖZER (1961) and KARMAN *et al.* (1967) studied its biology, host plants and control measures in Turkey. It also attacks other Phaseoleae as *Phaseolus* and *Vigna*.

E. Genus: *Acanthobruchidius* BOROWIEC, 1980

31. **Acanthobruchidius spiniger** (BAUDI, 1886)

Synonymy: *Bruchus discipennis* ALLARD, 1868 (nec FAHRAEUS, 1839).
General distribution: Israel, Syria, Lesbos, Turkey, Jordan, Iraq. Not in Sardinia as stated by SCHILSKY (1905) and BOROWIEC (1980): the specimens of this island cited by BAUDI (1886a) are *Mylabris discipennis* (FAHRAEUS, 1839) currently named *Bruchidius jocosus* (GYLLENHAL, 1833).
Distribution in Turkey: This species was previously listed from Turkey (Izmir, Efes) by SAHLBERG (1912-1913) under the name of *Acanthoscelides spiniger* (BAUDI). Later on, DE KERVILLE (1939), and recently BOROWIEC (1984) recorded it again from Izmir the latter from Bergama. It seems to be widely distributed in Turkey.
Material studied: Aydin (Samsun Dagi), Diyarbakir (Devegeçidi), Elazig, Gaziantep, Hatay (Akbez), Izmir (Karaburun, Kemalpasa), Urfa (Siverek), Aydin (Kusadasi), Adana (collection PIC, Museum of Paris). 46 specimens.
Occurrence: Occasionally, but sometimes found in small numbers.
Biological note: Adults were collected in the fields starting from the second half of May up to the first half of July. They were taken on different species of weeds and the Karaburun specimens (altogether 6) were caught on light. Up to now the exact host plant of this species was unknown. Recent studies however in Diyarbakir showed that its host plant is *Vicia aintabensis*. It was reared from this plant's seeds by Dr. Abuzer YÜCEL.

F. Genus: *Salviabruchus* DECELLE, 1982

32. **Salviabruchus retusus** (BAUDI, 1886)

General distribution: Lebanon, Syria, Israel, N-Iraq, SE-Turkey.
Distribution in Turkey: Reported by ZAMPETTI (1981) from Adana (Nurdagi) and by DECELLE (1982b) from Maras and Mardin. It seems to be restricted in the south and southeastern parts of Turkey.
Material studied: Maras, Mardin. 2 specimens.
Occurrence: Very occasionally.
Biological note: Collected in the seeds of *Salvia triloba* at Jerusalem and emerged from seeds of *Salvia acetabulosa* in the north of Iraq (ABDUL-RASSOUL *et al.*, 1986).

G. Genus: *Paleoacanthoscelides* BOROWIEC, 1985

33. **Paleoacanthoscelides gilvus** (GYLLENHAL, 1839)

General distribution: S-Europe, N-Africa, USSR (Caucasia, C-Asia), Iran, Iraq, Turkey, Afghanistan.
Distribution in Turkey: Reported from Kayseri (Yilanlidag) by GANGLBAUER (1905), from Konya by SCHILSKY (1905) and from Ankara (Kazan) by ZAMPETTI (1984). It seems to be distributed largely in Turkey.
Material studied: Adiyaman (Gölbasi), Ankara (Karagöl), Erzurum, Hakkari (Central

province, Beytülsebab, Cukurca), Kars (Central province, Igdir, Kagizman), Amasya (Museum of Basle); in the collection PIC (Museum of Paris), specimens from Ankara (Angora), Konya, Aksehir, Taurus Cil. (Karayol). 53 specimens.
Occurrence: Fairly common, but sometimes found in small numbers.
Biological note: Adults have been collected in the fields from the beginning of May to mid July. They were taken on *Onobrychis sativa, Medicago sativa, Tamarix sp.*, black thorn, lentil and also on weeds. According to HOFFMANN (1945), in France the host plants of this species are *Onobrychis sativa* and *Hedysarum spinosissimum*. In Sicilia, it is injurious to*Hedysarum coronarium*. In Algeria, it was reared from *Hedysarum capitatum*. LUKJANOVITCH and TER MINASSIAN (1957) gave *Onobrychis radiata, sativa* and *vaginalis* as host plants. In Iraq, it emerged from fruits of *Onobrychis schahuensis* (M.S. ABDUL-RASSOUL *et al.*, 1986). In Sicilia, PUCCI (1984) listed it also from *Onobrychis vicifolia*.

H. Genus: *Bruchidius* SCHILSKY, 1905

34. **Bruchidius albolineatus** (BLANCHARD, 1844)

General distribution: S-Spain, Sardinia, Sicilia, Algeria, Tunisia, Crete.
Material studied: Hatay (Kirikhan). 1 male specimen.
Biological note: In Algeria, DE LUCA (1962) reported *Hedysarum flexuosum* as a host plant.
Remark: This more western Mediterranean species was perhaps introduced in Turkey with the cultivation of fodder plants of the genus *Hedysarum*. It must be noted that, with the exception of *H. flexuosum*, there are more than 20 species of *Hedysarum* growing in Turkey.

35. **Bruchidius albopictus** (ALLARD, 1883)

General distribution: Syria, Lebanon, Israel, Cyprus, Turkey.
Distribution in Turkey: This species has been recorded from Turkey by HOFFMANN (1957). He reported it from Gaziantep. Later on, ZAMPETTI (1981) also listed it from Gaziantep (Nurdagi) and Manisa (Salihli). It seems to be restricted especially in south and southeastern parts of Turkey.
Material studied: Diyarbakir, Hakkari, Mardin (Nusaybin), Adana (Karatepe, Museum of Geneva), Malatya (Eski Kahta, near Nemrut Dagi), Amasya (Museum of Basle), Mersin (Museum of Genoa). 9 specimens.
Occurrence: Occasionally.
Biological note: Adults were collected in the fields from the beginning of June up to the beginning of August. At Hakkari, 3 specimens were taken on *Quercus sp.* According to HOFFMANN (1945 and 1957), the host plants of this species are *Cicer arietinum* and cultivated and wild species of *Pisum*; obtained from seeds of *Lens culinaris* in Syria (Dr. O. TAHHAN, personal communication).

36. **Bruchidius annulicornis** (ALLARD, 1868)

General distribution: S-Europe, USSR (W-Transcaucasia: Batum), Cyprus, Syria, Lebanon, Turkey.
Distribution in Turkey: This species was listed from Istanbul by BAUDI (1886-1887) and from Izmir by BAUDI (1890) and SCHILSKY (1905).
Material studied: Artvin, Istanbul (Göztepe), Içel (Gözne). 5 specimens.
Biological note: Adults were collected in the fields starting from the end of April up to the middle of June. They were taken on *Vicia faba* and also on weeds. However the exact host plant of this species is unknown.

37. **Bruchidius anobioides** (BAUDI, 1886)

General distribution: Cyprus, Greece (Crete, Paros), Israel, Jordan, Iraq, Turkey.
Distribution in Turkey: BAUDI (1890) listed it from Izmir.
Material studied: Diyarbakir (Ergani), Antalya (Kas, Kemer). 8 specimens.
Biological note: Specimens were collected in Diyarbakir on plants of *Lens culinaris* in the last week of May. Obtained in Iraq from fruits of *Scorpiurus muricatus* (ABDUL-RASSOUL *et al.*, 1896).

38. **Bruchidius astragali** (BOHEMAN, 1829)

General distribution: Hungary, SE-Europe, USSR (Crimea, Caucasia, C-Asia), Syria, Turkey, Iran, Iraq.
Distribution in Turkey: ZAMPETTI (1984) listed it from Konya (Beysehir), Gümüshane (Kale), Sivas (Camlibel, Celbiran) and Bitlis (Tatvan). It seems to be restricted in middle and eastern parts of Turkey.
Material studied: Agri, Kars, Kütahya. 9 specimens, representatives of the variety *fischeri* HUMMEL, 1827.
Occurrence: Occasionally.
Biological note: Adults were collected in Agri Dagi, in the first week of August on *Astragalus sp.* LUKJANOVITCH and TER MINASSIAN (1957) gave *Astragalus ponticus* and other species of *Astragalus* as host plants. In Iraq, reared from *Astragalus mollis* (ABDUL-RASSOUL *et al.*, 1986).
Remark: This species seems to be very variable. It might be so that different species are confounded under the name *astragali* (see BOROWIEC, 1985b).

39. **Bruchidius bagdassarjani** LUKJANOVITCH and TER MINASSIAN, 1954.

General distribution: USSR (Armenia), Turkey.
Distribution in Turkey: BOROWIEC (1987b) listed it from Ali Hadsha (is it not Ali Sha in Iran?).
Material studied: No specimens were available.
Biological note: Host plants unknown.

40. **Bruchidius biguttatus** (OLIVIER, 1795)

General distribution: S-Europe, N-Africa, USSR (Crimea, Caucasus), Cyprus, Turkey, Syria, Israel, Jordan.
Distribution in Turkey: BAUDI (1886a) reported this species from Izmir, SAHLBERG (1912-1913) from Mersin (Bolkar dagi) and Konya (Karaman). CANAKCIOGLU (1963) found it in Istanbul (Belgrad Ormani, Balaban Deresi). ZAMPETTI (1981) listed it from Isparta (Egridir), Trabzon (Maçka), Artvin (Borçka), Bilecik, Izmit (Karamürsel), Izmir, Mersin (Silifke) and BOROWIEC (1984) from Canakkale (Truva) and Trabzon. It seems to be largely distributed in Turkey.
Material studied: Antalya (Central province, Gündogdu, Kemer), Aydin (Germincik, Kusadasi), Bilecik, Corum (Erikli), Izmir (Bozdag), Tekirdag (Central province, Kesan). 16 specimens.
Occurrence: Common, but always in small numbers.
Biological note: Adults were collected in the fields from the end of April up to the end of August, on different weeds. Erroneously, many authors designated as host plants of this species different species of *Bupleurum* (Umbelliferae or Apiaceae), especially *B. falcatum*. CANAKCIOGLU (1963) reared it from the seeds of a species of *Cistus* (Cistaceae) in Istanbul. Y. DE LUCA (1971 and 1972a) obtained it from the capsules of *Cistus albidus, ladaniferus, monspeliensis, salviaefolius* and *villosus* in Southern France.
Remark: Some specimens show a more red maculation caused by external factors; the specimens hatched during the summer are generally more red.

41. **Bruchidius bimaculatus** (OLIVIER, 1795)

General distribution: S and W-Europe, N-Africa, USSR (Crimea, Caucasia), Syria, Iraq, Lebanon, Cyprus, Turkey, Israel, E-Jordan.
Distribution in Turkey: It was listed from Turkey by BAUDI (1886a) and reported from Bilecik (Bozüyük), Istanbul (Karaköy) and Sakarya (Sapanca) by GANGLBAUER (1905). Later on DE KERVILLE (1939), ALKAN (1966) and ZAMPETTI (1981) listed it from Ankara and Amasya respectively. Finally, BOROWIEC (1984) reported it from Bogazkale, Antalya and Canakkale (Truva). It is very widely distributed in Turkey.
Material studied: Adana, Aydin (Kusadasi), Amasya (Borabay), Ankara (Sereflikoçhisar), Antalya (Kumluca), Artvin, Balikesir, Bilecik (Bozüyük, Sögüt), Bolu, Corum, Hakkari, Istanbul (Selimpasa), Isparta (Egridir), Izmir (Bayindir, Bornova, Cesme, Ödemis), Konya (Ermenek, Karaman), Kütahya (Central province, Tunçbilek), Malatya (Central province, Içmeler, Suçati), Manisa (Kula), Urfa (Siverek), Samsun, Usak, Zonguldak (Kurucasile). More than 100 specimens in total.
Occurrence: Common, sometimes found in large numbers.
Biological note: Adults were collected in the fields starting from the beginning of April up to the first week of October. They were taken on alfalfa, wetch and also on other plants such as *Pinus, Juniperus, Urtica, Quercus, Ulmus* and weeds. HOFFMANN (1945) listed *Vicia sativa* as a host plant. However LUKJANOVITCH and TER MINASSIAN (1957) state that in Russia the main host plants are the species of *Medicago*, especially *M. rigidula, littoralis* and *orbicularis*. ZACHER (1952) indicated different species of *Medicago* and *Vicia* and *Astragalus sp.* In Diyarbakir, it was reared from the seeds of *Lathyrus inconspicuus* (personal communication with Dr. Abuzer YÜCEL). In Iraq, it was obtained from *Medicago hispida, orbicularis, radiata* and *sativa* (ABDUL-RASSOUL *et al.*, 1986).

42. **Bruchidius bituberculatus** SCHILSKY, 1905

Synonymy: *Bruchidius pusillus* var. *bituberculatus* SCHILSKY, 1905.
General distribution: Syria, Israel, Lebanon, Turkey, Cyprus, Greece, Jordan.
Distribution in Turkey: SCHILSKY (1905) listed it from Turkey, without exact locality under the name of *Bruchisius pusillus* var. *bituberculatus*. Always as variety, SAHLBERG (1912-1913) reported it from Mersin (Bolkardagi). BOROWIEC (1985d), gave it the status of a species, and cited it from Antalya (Arif, near Kemer), Izmir (Bergama), Canakkale (Truva), and from Izmir (Selçuk, Efes) in 1987.
Material studied: The authors have no representative specimens from Turkey.
Biological note: Adults emerged from seeds of *Hymenocarpus circinatus* in Iraq (ABDUL-RASSOUL *et al.*, 1986).

43. **Bruchidius caninus** (KRAATZ, 1869)

Synonymy: *Bruchus uniformis* BRISOUT, 1866 (nec LECONTE, 1858).
General distribution: S-Europe, N-Africa, Cyprus, Syria, Turkey.
Distribution in Turkey: This species has been listed from Turkey by SAHLBERG (1912-1913), namely Içel (Central province, Tarsus). ZAMPETTI (1984) recorded it from Sivas (Camlibel).
Material studied: Isparta (Gelendost), Kastamonu (Tasköprü), Izmir, Içel (Erdemli, Museum of Genova). 4 specimens.
Occurrence: Very occasionally.
Biological note: Adults were collected at the beginning of May. They were taken on *Trifolum sp.* According to HOFFMANN (1945), in France the host plant is *Bonjeania hirsuta*. For the same country, PARKER (1957) cited *Astragalus hamosus* and *Spartium junceum*. SCHILSKY (1905) gave *Astragalus chlorostachius*. For the variety *sordidatus* ALLARD, 1883, ZACHER (1952) cited *Astragalus baeticus* and *holostachius*.

44. **Bruchidius canus** (GERMAR, 1824)

Synonymy: *Bruchidius cisti* auct., pars; *Bruchidius debilis* auct., pars; *Bruchidius olivaceus* auct., pars; *Bruchidius unicolor* auct., pars.
The validity of this species was recently proved by ZAMPETTI (1982). The bibliographical data of the different taxa have to be considered with some reserve.
General distribution: S and C-Europe, USSR (Caucasia), Turkey, Iran.
Distribution in Turkey: It is listed from Izmir and Canakkale (Truva) by ZAMPETTI (1982 and 1984), from Canakkale (Truva), Izmir (Bergama) and Antalya (ancient Myra, Arif) by BOROWIEC (1984) and from Ulukizla by the same (1987b). It seems to be rather restricted to western Anatolia.
Material studied: Aydin (Kusadasi), only 4 specimens.
Biological note: Adults were collected in May, June and July, on weeds. No valide information on its host plants has been found.

45. **Bruchidius cinerascens** (GYLLENHAL, 1833)

Synonymy: *Bruchus eryngii* BRISOUT, 1863.
General distribution: S-Europe, N-Africa, Cyprus, Turkey, Syria, Israel, Iran, USSR (Crimea, Caucasia), Jordan.
Distribution in Turkey: GANGLBAUER (1905) reported it from Kayseri (Yilanlidag). Later on SAHLBERG (1912-1913) listed it from Denizli (Babadag). Recently ZAMPETTI (1981) reported it from Ankara (Kalecik), Kocaeli (Karamürsel), Eskisehir and Trabzon and BOROWIEC (1984) from Canakkale (Truva) and Antalya (Side). Largely distributed in Turkey.
Material studied: Aydin (Kusadasi), Diyarbakir (Lice), Kirsehir, Nevsehir (Hacibektas), Van, K.maras (Afsin). 12 specimens.
Occurrence: Somewhat common, but found is small numbers.
Biological note: Adults were collected from the end of May up to the mid of August. They were taken on *Astragalus, Myricaria* and weeds. PERRIS (1873) obtained it from fruits of *Eryngium campestre* (Apiaceae). Erroneously de PEYERIMHOFF (1926) believed that this species subsist in the marrow of the stems of different *Eryngium*. LUKJANOVITCH and TER MINASSIAN (1957) gave *Eryngium campestre, maritimum* and *triquetrum* as host plants in Russia.

46. **Bruchidius cisti** (F., 1775)

Synonymy: *Bruchus debilis* GYLLENHAL, 1833 ; *Bruchus unicolor* auct., partim.
General distribution: S, W and C-Europe, N-Africa, Lebanon, Iraq.
Distribution in Turkey: The specific name *cisti* F. was badly interpreted by some authors. So, the specimens listed from Turkey under the name *Spermophagus cisti* are in part *Spermophagus sericeus* (GEOFFROY, 1785).
Material studied: Izmir (Catalkaya), Urfa (Hilvan), Amasya (Museum of Basle). 6 specimens.
Occurrence: Occasionally.
Biological note: FABRICIUS (1775) described this species from specimens taken in the flowers of *Cistus helianthemum* in England. This Cistaceae is now considerated as a species of *Helianthemum*. In W-Europe, *Bruchidius cisti* is generally found in the flowers of *Helianthemum*. Recently in Iraq, specimens of this species were reared from fruits of *Helianthemum aegyptaecum* (ABDUL-RASSOUL *et al.*, 1986). The specimens named *debilis*, reared from *Lotus* and *Cytisus*, listed in the bibliography are certainly misidentified.

47. **Bruchidius dispar** (GYLLENHAL, 1833)

General distribution: Europe, Algeria, USSR (Crimea, Caucasia), Jordan, Syria, Lebanon, Turkey, Iraq.
Distribution in Turkey: It is listed by ZAMPETTI (1984) from Bolu (Abant), and by BOROWIEC (1984) from Izmir (Bergama) and Trabzon. Widely distributed in Turkey.
Material studied: Antalya (Sögüt), Kütahya (Tavsanli), Amasya (Museum of Basle). 3 specimens.

Occurrence: Very occasionally.
Biological note: Adults were collected in the field from the end of April to the end of June. According to HOFFMANN (1945), its main host plant in France is *Lotus uliginosus*.

48. **Bruchidius foveolatus** (GYLLENHAL, 1833)

Synonymy: *Bruchus grandicornis* BLANCHARD, 1844.
General distribution: S-Europe, N-Africa, Cyprus, Syria, Lebanon, Iran, Turkey, Jordan.
Distribution in Turkey: SCHILSKY (1905) recorded it from Izmir, BODEMEYER (1906) from Adana (Pozanti) and SAHLBERG (1912-1913) from Konya (Karaman). More recently, ZAMPETTI (1981) listed it from Izmir (Ephesus and Zeytindag, from this locality with the name of *grandicornis*), and Amasya (Turhal) and BOROWIEC (1984) from Izmir (Bergama) and Antalya. It is distributed nearly all over Turkey.
Material studied: Aydin (Kösk), Antalya (Akseki), Balikesir (Ayvalik, Balya), Bolu (Akçakoca), Bursa (Yenisehir), Canakkale (Can, Gökçeada), Edirne, Eskisehir, Izmir (Balçova, Bayindir, Catalkaya, Cumaovasi, Kinik, Narlidere, Ödemis; Seferihisar, Erikli), Kirklareli, Kocaeli, Kütahya (Simav), Manisa (Kula), Mugla (Bodrum, Marmaris), Samsun (Bafra), Sinop, Urfa (Siverek), Zonguldak (Eregli, Kurucasile), Aydin (Kusadasi), Istanbul, Hatay (Akbes). More than 200 specimens.
Occurrence: Common, sometimes found in large numbers.
Biological note: Adults were collected in the fields from the beginning of April to the end of July, being more abundant in May and June. Some specimens were collected in mid November under the barks of pine trees. Specimens were taken on alfalfa, lentil, *Cytisus, Lupinus, Paliurus, Spartium, Quercus, Mentha* and several species of weeds. According to HOFFMANN (1945), *Sarothamnus scoparius* is its host plant. *Spartium junceum* and *Genista sp.* seem also suitable host plants.
Remark: The form with red legs and antennae, has been considerated for a long time as another species and called *grandicornis*; it is more abundant during the summer.

49. **Bruchidius fulvus** (ALLARD, 1883)

General distribution: Egypt, Libya (Fezzan), Sinai, Iraq, Iran.
Distribution in Turkey: This species constitutes a new record for Turkey. It seems to be restricted to the southeastern part of Turkey.
Material studied: Diyarbakir (Bismil). 10 specimens.
Occurrence: Occasionally.
Biological note: The adults were reared in Diyarbakir from the seeds of *Glycyrrhiza glabra* (personal communication with Dr. Abuzer YÜCEL). In Iraq, it was obtained from seeds of *Glycyrrhiza glabra, Athagi graecorum* and *Medicago sativa* (ABDUL-RASSOUL *et al.*, 1986). In India, it was found in seeds of *Glycyrrhiza glabra* introduced from Iran (personal communication from Dr. S. R. WADHI).

50. **Bruchidius glycyrrhizae** (FAHRAEUS, 1839)

General distribution: USSR (Caucasia, Kazakhistan, Siberia), Hungary (under the name of *Bruchidius peregii* HAJOZZ, 1938, synonym of *Bruchidius glycyrrhizae*

obscuripennis LUKJANOVITCH and TER MINASSIAN, 1957), Iraq.
Distribution in Turkey: It is a new record for Turkey.
Material studied: Mus, Mersin (collection PIC, Museum of Paris). 2 specimens, the specimen of Mus of the dark form *obscuripennis*.
Occurrence: Occasionally.
Biological note: The specimen of Mus was taken on *Glyccyrhiza sp.* at 15.VI.1975. According to LUKJANOVITCH and TER MINASSIAN (1957), the host plants of this species are *Glycyrrhiza echinata, hirsuta* and *uralensis*. Found in India in seeds of *Glycyrrhiza sp.* coming from Iraq.

51. **Bruchidius holosericeus** (SCHÖNHERR, 1832)

Synonymy: *Bruchus steveni* GYLLENHAL, 1839.
General distribution: S-Europe, N-Africa, USSR (Transcaucasia), Cyprus, Turkey, Syria, Israel, Lebanon, Iraq, Iran.
Distribution in Turkey: It was cited from Turkey, without precise locality by BAUDI (1886a). SAHLBERG (1912-1913) reported it from Izmir (Ephesus and Yamanlardagi) and from Denizli (Babadag). Later on, DE KERVILLE listed it again from Izmir. ZAMPETTI (1981) recorded it from Içel (Silifke) and BOROWIEC (1984) from Canakkale (Truva) and Izmir (Bergama). It seems to be restricted rather to the west and southern parts of Turkey.
Material studied: Bolu (Mengen), Canakkale (Gökçeada), Istanbul (Büyük Ada), Antalya (Kemer), Aydin (Kusadasi), Hatay (Akbez, Iskenderun). 16 specimens.
Occurrence: Occasionally.
Biological note: Adults were collected in the fields in the end of April, in May and June. They were taken on weeds, on flowers of *Cistus* and on inflorescences of Umbelliferous plants (Apiaceae). HOFFMANN (1945) gives *Lathyrus latifolius* as host plant in the south of France. LUKJANOVITCH and TER MINASSIAN (1957) also listed *Bangos phoeniculata* (Apiaceae).

52. **Bruchidius imbricornis** (PANZER, 1795)

Synonymy: *Bruchidius varius* auctorum, partim.
General distribution: S and C-Europe, USSR (Transcaucasia, C-Asia), Cyprus, Turkey, Crete.
Distribution in Turkey: This species has been listed from Turkey by GANGLBAUER (1905), who reported it from Eskisehir, and by SCHILSKY (1905): Konya (Aksehir). BODEMEYER (1906) also recorded it from Sakarya (Sapanca). ZAMPETTI (1981) listed it from some places as Konya (Beysehir), Bolu (Abant, Akçakoca, Konuralp) and BOROWIEC (1984) from Ankara (Ancient Gordium). It seems to be restricted to middle Anatolia.
Material studied: Bolu (Mengen), Zonguldak (Eregli), Nigde (Aksaray-Koças). 3 specimens.
Occurrence: Occasionally.
Biological note: Adults were collected in the fields in May, June and the beginning of July, on weeds. According to HOFFMANN (1945), the host plants are different species of

Genista, especially *G. liniifolia* and *G. cinerea* in France. However LUKJANOVITCH and TER MINASSIAN (1957) cited *Galega bicolor, G. officinalis* and *Trifolim liniifolia* as host plants in Russia. In Greece, it was recently reared from *Galega officinalis* (Dr. A. BAKOYANNIS, personal communication).

53. **Bruchidius incarnatus** (BOHEMAN, 1833)

General distribution: It is a north African species, recorded from Algeria, Tunisia, Libya and Egypt, being very harmful in the last country on broadbean. It is also found in Turkey. It might be confused with *Bruchidius algiricus* (ALLARD, 1883).
Distribution in Turkey: ALKAN (1966) collected some specimens in Ankara and sent them to the British Museum (Natural History) where they were identidied as *Br. incarnatus*; no further records have been made. It is there for likely that it was introduced but not established in Turkey.
Material studied: The authors have no representative material of this species from Turkey.
Biological note: According to GENTRY (1965), broadbean (*Vicia faba*), pea (*Pisum sativum*) and chik-pea (*Cicer arietinum*) are the host plants of this species. ZACHER (1952) also cited *Lens culinaris* (= *esculenta*).

54. **Bruchidius incipiens** (KOLENATI, 1858)

General distribution: USSR (Transcaucasia, Georgia, Armenia, C-Asia), Turkey.
Distribution in Turkey: The only reference from Turkey is made by LUKJANOVITCH and TER MINASSIAN (1957), who reported it as «Small Asia«. Therefore its exact locality is unknown.
Material studied: Authors have no representative specimen of this species in their collection.
Remark: Perhaps confused or synonymous with *Bruchidius lutescens* (BLANCHARD, 1844).

55. **Bruchidius koenigi** SCHILSKY, 1906

General distribution: USSR (Georgia, Armenia), Turkey.
Distribution in Turkey: LUKJANOVITCH and TER MINASSIAN (1957) reported this species from Kasikoporan in the north eastern part of Turkey because it was described on specimens collected in Tiflis (= Tbilissi) in Georgia and in Kasikoporan, formerly in Russian Kurdistan.
Material studied: Authors have no representative specimens of this species in their collection.
Biological note: In Russian Armenia, the host plant of this species is *Onobrychis vaginalis*.

56. **Bruchidius kurdicus** DECELLE, 1989

General distribution: Endemic in Turkey.
Distribution in Turkey: Afyon (Banaz), Ankara (Central province), Diyarbakir (Devegeçidi), Hakkari (Cukurca, Semdinli Yolu), Hatay (Akbez, Institut of Natural

Sciences of Belgium), Giresun (Sebin), Bitlis, Mardin (Savur), Bilecik (Museum of Verona). 14 specimens. It seems to be largely distributed in Turkey.
Occurrence: Occasionally.
Biological note: Adults were taken in the fields in June and July, mostly on weeds. A specimen was collected on *Astragalus gummifera* at Hakkari (Semdinli).

57. **Bruchidius lineatus** (ALLARD, 1868)

General distribution: This species has a central and eastern Mediterranean distribution: Italy, Sardinia, Sicilia, Dalmatia, Greece, Turkey, Iraq, Bulgaria, Lebanon.
Distribution in Turkey: Cited from Istanbul by BAUDI (1886a) and from Izmir by the same author (1890). ZAMPETTI (1981) listed it from Gümüshane (Kale) and BOROWIEC (1984) from Antalya (Kemer) and Izmir (Bergama). It seems to be widely distributed in Turkey.
Material studied: Bursa (Central province), Balikesir (Bandirma), Izmir (Bornova,Urla), Konya (Ermenek), Usak (Esme), Mardin, Aydin (Kusadasi). 22 specimens.
Occurrence: Occasionally.
Biological note: Adults were collected in the fields from the end of March to the second half of June. They were taken on weeds or in umbelliferous inflorescences; one specimen was taken on *Vicia faba*.

58. **Bruchidius lividimanus** (GYLLENHAL, 1833)

Synonymy: *Bruchus velaris* FAHRAEUS, 1839; *Bruchus plumbeus* LUCAS, 1849; *Bruchus reichei* ALLARD, 1868.
General distribution: S and C-Europe, N-Africa, Crete, Cyprus, Turkey, Israel, Lebanon, Jordan.
Distribution in Turkey: SAHLBERG (1912-1913) reported it, under the name of *Bruchus reichei* from Içel (Bolkardagi) and Konya (Karaman). BOROWIEC (1984) listed it from Antalya (Kas and near Kemer). It seems to be restricted to the west and southern parts of Turkey.
Material studied: Izmir (Cesme, Inciralti), Mugla (Dalaman), Içel (Namrun, Mut, Silifke, Tarsus). 14 specimens.
Occurrence: Occasionally.
Biological note: The adults were collected in the fields from the beginning of April to the first week of October, principally on weeds, once on *Genista sp.* According HOFFMANN (1945), its host plants are species of *Genista, Ononis, Ulex, Sarothamnus scoparius, Spartium junceum, Calycotome spinosa* and *Cytisus liniifolius*. PARKER (1957) listed moreover *Vicia sativa, Lathyrus latifolius* and *Cytisus triflorus* in France, and CALDERON (1962) *Calycotome villosa* in Israel.

59. **Bruchidius longulus** SCHILSKY, 1905

Synonymy: *Bruchus longus* PIC, 1913; *Bruchus tibiellus* BAUDI, 1886 (nec GYLLENHAL, 1833).
General distribution: S-Europe, N-Afrika, USSR (Transcaucasia, C-Asia), Turkey, Israel,

Iraq, Afghanistan, Jordan.
Distribution in Turkey: SCHILSKY (1905) reported it from Konya (Aksehir), DE KERVILLE (1939) from Izmir. It seems to be restricted to the middle and the western parts of Turkey.
Material studied: Konya (Central province, Beysehir). 3 specimens.
Occurrence: Extremely occasionally.
Biological note: According to HOFFMANN (1952), in France, it was reared from fruits of *Astragalus monspessulanus*. However LUKJANOVITCH and TER MINASSIAN (1957) state that it lives in the seeds of *Trigonella grandiflora*. Recently, it was obtained in Iraq from *Trigonella monantha* (ABDUL-RASSOUL *et al.*, 1986).

60. **Bruchidius lucifugus** (BOHEMAN, 1833)

General distribution: USSR (SW, E-Caucasia), NE-Turkey.
Distribution in Turkey: LUKJANOVITCH and TER MINASSIAN (1957) reported it from the northeastern parts of Turkey, without exact locality.
Material studied: One female specimen labelled «Kl. Asien: Süd Taurus, W. Siehe» communicated by M.F. ZAMPETTI. Another from Urgüp, Selve, leg. A. RIEDEL (collection K. W. ANTON).

61. **Bruchidius lutescens** (BLANCHARD, 1844)

Synonymy: *Bruchus olivaceus* auct., pars; *Bruchus unicolor* auct., pars; *Laria olivacea* var. *anatolica* PIC, 1904.
General distribution: Sicilia, Sardinia, Italia, Yugoslavia, Greece, Bulgaria, Crete, Cyprus, Rhodos, Samos, Turkey, Iraq, Iran, Israel, Jordan.
Distribution in Turkey: It is reported by PIC (1904) under the name of *Laria olivacea* var. *anatolica* from Konya. Probably cited as *Bruchus olivaceus* by GANGLBAUER (1905), BODEMEYER (1906) and SAHLBERG (1912-1913) and as *Bruchidius unicolor* by ALKAN (1966). ZAMPETTI (1982) listed it from Konya (Kizilören) and Gaziantep (Nurdagi); the same ZAMPETTI (1984) from Konya (Aksehir, Kizilören), Amasya (Central province, Cakalli), Gaziantep (Nurdagi); Agri (Tutak), Corum (Bogazkale), Ankara (Kazan), Yozgat, Erzurum (Askale) and Izmir. Finally, BOROWIEC (1984) reported it from Antalya (near Kemer, Termessos, Kas) and from Izmir (Bergama). It distributes nearly all over in Turkey.
Material studied: Adiyama (Gölbasi, Kahta), Afyon (Basmakçi, Cay), Amasya (Merzifon), Antalya, Aydin (Bafagölü, Kusadasi), Balikesir (Edremit), Bilecik, Canakkale (Eceabat, Gökçeada), Cankiri (Orta), Corum, (Iskilip), Diyarbakir (Cermik), Elazig, Erzurum, Gaziantep (Oguzeli), Gümüshane (Bayburt), Içel (Namrun), Izmir (Efes), Kayseri, Konya, Manisa (Gördes), K. Maras (Afsin), Mardin (Cizre), Mersin, Nigde (Ortaköy), Siirt (Baykan), Van (Baskale), Hatay (Akbez). More than 200 specimens.
Occurrence: Common and sometimes found in large numbers.
Biological note: Adults were collected in the fields from the end of April to the end of August. They were taken on *Onobrychis sativa*, on *Cistus*, on umbelliferous inflorescences, on different species of leguminous plants or on weeds. In Iraq, it was reared from fruits of *Onobrychis caput-galli* (ABDUL-RASSOUL *et al.*, 1986).
Remark: In spring, the majortiy of specimens have black teguments; in summer and in

September, more specimens show a more or less invading with red coloration. The small specimens of this species are difficult to distinguish from specimens of *Bruchidius canus* or *Bruchidius poupillieri*.

62. **Bruchidius marginalis** (F., 1775)

General distribution: Found mainly in middle Europe, USSR (Caucasia) and Turkey.
Distribution in Turkey: This species was listed from Erzurum (Kopdagi) by ZAMPETTI (1984). It seems to be restricted to the eastern part of Turkey.
Material studied: The authors have no representative material of this species from Turkey.
Biological note: According to HOFFMANN (1945), its host plant is *Astragalus glycyphillos*. In Russia, BAGDASSARYAN (1941) listed moreover *Thermopsis lanceolata, Coronilla varia, Vicia silvatica* and *Oxytropis uralensis*.

63. **Bruchidius martinezi** (ALLARD, 1868)

General distribution: S-Europe and Middle Asia, Turkey, Jordan, Iran, Afghanistan.
Distribution in Turkey: BOROWIEC (1984) listed it from Antalya (Ancient Termessos).
Material studied: The authors have no representative specimens of this species from Turkey.

64. **Bruchidius monstrosicornis** (PIC, 1904)

Synonymy: *Bruchidius cinerascens* spp. *carthami* HOFFMANN, 1956 (Syn. nov.)
General distribution: Greece, Turkey, Iran.
Distribution in Turkey: PIC (1904) described this species from specimens collected in Anatolia (Aksehir). Later, ZAMPETTI (1981 and 1984) reported it from Ankara (Kalecik, Kazan) and from Bilecik (Osmaneli).
Material studied: Afyon (Dinar), Burdur, Canakkale (Eceabat), Isparta, Manisa (Alasehir), Usak. 17 specimens.
Occurrence: fairly common, but found in small numbers.
Biological note: Adults were collected in the fields from mid May to the first week of August. The host plant is unknown but is likely to be an Apiaceae.

65. **Bruchidius mordelloides** (BAUDI, 1886)

General distribution: USSR (Crimea), Syria, Jordan, Lebanon, Greece, Cyprus, Rhodos, Israel.
Distribution in Turkey: This species constitutes a new record for Turkey.
Material studied: Van (8.VIII.1977). Only 1 specimen.
Biological note: Its host plant is unknown.

66. **Bruchidius mulsanti** (BRISOUT, 1863)

General distribution: S-Europe, USSR (Crimea, Transcaucasia, C-Asia), Turkey, Cyprus, Hungary, Jordan.

Distribution in Turkey: This species was listed from Turkey by SCHILSKY (1905). SAHLBERG (1912-1913) reported it from Denizli (Sarayköy); ZAMPETTI (1981) recorded it again from Bolu (Abant, Gerede). it seems have a fairly wide distribution in Turkey.
Material studied: Adiyaman (Gölbasi, 10.V.1967, leg. Cl. BESUCHET, Museum of Genova). 2 specimens.
Occurrence: Very occasionally.
Biological note: According to LUKJANOVITCH and TER MINASSIAN (1957) the host plants of this species are *Cytisus proliferus* and with some doubt *Oxytropis pilosa*. It was beaten from the same plant in the South of France (HOFFMANN, 1945).

67. **Bruchidius murinus** (BOHEMAN, 1829)

General distribution: S-Europe, N-Africa, USSR (Caucasia), Crete, Cyprus, Turkey, Syria, Israel.
Distribution in Turkey: This species has been listed from Turkey by BODEMEYER (1906). He reported it from Konya under the name of *Mylabris murina*. Later on, SAHLBERG (1912-1913) recorded it from Denizli (Babadag). ILALAN-MENE (1976) reported it from Istanbul (Göztepe, Silivri, Yalova) and Bursa (Seyran, Karahidir). Widely distributed in Turkey.
Material studied: Aydin (Madran, Sultanhisar), Balikesir, Bursa (Central province, Urünü), Canakkale, Izmir (Bornova, Bozdag, Cumaovasi, Ödemis), Manisa (Gördes, Kula), Mugla (Dalaman), Sinop, Trabzon. 24 specimens.
Occurrence: Common, but found in small numbers.
Biological note: Adults were collected in the fields starting from the beginning of March to the end of July. They were taken on *Medicago sativa, Vicia faba, Vicia ervilia, Trifolium pratense, Pirus malus, Castaneum sativum* and also on different species of weeds. According to HOFFMANN (1945), the host plants of *Bruchidius murinus* are different species of *Pisum* and *Vicia*, especially *Vicia angustifolia* in the south of France.

68. **Bruchidius nanus** (GERMAR, 1824)

General distribution: S-Europe, N-Africa, USSR (Crimea, Caucasia), Crete, Turkey, Iran, Afghanistan.
Distribution in Turkey: GANGLBAUER (1905) reported it from Istanbul (Karaköy) and Bilecik under the name of *Laria nana*. BODEMEYER (1906) listed it from Adana (Pozanti) under the name of *Mylabris nana*. However, SAHLBERG (1912-1913) reported it from Içel (Bolkardagi) and Konya (Karaman). More recently, BOROWIEC (1984) cited it from Izmir (Ephesus). Widely distributed in Turkey.
Material studied: Artvin, Bolu (Mudurnu), Kirklareli, Mersin, Istanbul (British Museum). 5 specimens.
Occurrence: Very occasionally.
Biological note: Adults were collected in the fields in May and June, on weeds. According to HOFFMANN (1945), its host plants are different species of Genisteae especially *Spartium junceum* and likely *Calycotome spinosa* in France.

69. **Bruchidius nudus** (ALLARD, 1868)

General distribution: S-Europe, N-Africa, Turkey.
Distribution in Turkey: SCHILSKY (1905) listed it from Turkey, without exact locality. BOROWIEC (1984) reported it from Antalya (Side, N-Manavgat).
Material studied: The authors have no representative specimens from Turkey.
Biological note: Obtained by HOFFMANN (1945) from seeds of *Cytisus triflorus*.
Remark: The specimens recorded from Turkey are probably misidentified and probably belong to the species *Bruchidius parumpunctatus* (BAUDI, 1886a). The two species are very similar exteriorly but their male genitalia are different. The distribution of the true *nudus* is West Mediterranean.

70. **Bruchidius obscuripes** (GYLLENHAL, 1839)

General distribution: S and C-Europe, N-Africa, USSR (Caucasia, Armenia), Turkey, Syria, Lebanon, Iraq, Afghanistan, Israel.
Distribution in Turkey: GANGLBAUER (1905) reported it from Kayseri (Erciyes Dagi). ZAMPETTI (1981) listed it from Diyarbakir and recently, BOROWIEC (1984) from Antalya (Side) and Erzurum (Ispir). Widely distributed in Turkey.
Material studied: Ankara (Sereflikoçhisar), Izmir (Balçova, Karaburun), Konya (Karaman), Malatya (Suçati), Samsun, Sivas (Susehri), Tokat (Turhal), Siirt, Aydin (Kusadasi). 20 specimens.
Occurrence: Occasionally.
Biological note: Adults were collected in the fields from the end of March to the first half of July. They were all taken on different weeds except two which were caught on light. According to LUKJANOVITCH and TER MINASSIAN (1957), its host plant is *Veronica orientalis* (Scrophulariaceae) in Russia.

71. **Bruchidius orchesioides** (HEYDEN, 1892)

General distribution: USSR (E-Transcaucasia, Armenia, C-Asia), N-Iran, Turkey.
Distribution in Turkey: It was recently listed from Kars (Göle) by ZAMPETTI (1984). It seems to be restricted in eastern part of Turkey.
Material studied: Kars, Van (Akdamar islet in the Lake of Van). 3 specimens.
Occurrence: Very occasionally.
Biological note: The specimens were collected in mid June and in July, on weeds, that of Van on umbelliferous flowers, probably a species of *Prangos*. According to LUKJANOVITCH and TER MINASSIAN (1957), its host plants are the species of *Prangos*, but they are doubtful about it.

72. **Bruchidius parumpunctatus** (BAUDI, 1886)

General distribution: Syria, Israel.
Distribution in Turkey: This species constitutes a new record for Turkey. It seems to be restricted rather along the Mediterranean coast of Turkey.
Material studied: Adana, Adiyaman (Kahta), Antalya (Alanya), Aydin (Kusadasi), Konya (Bucakkisla), Içel (Aydincik, Ovacik) (Museum of Basle). 36 specimens.
Occurrence: Occasionally.
Biological note: Adults were collected in the fields from the end of March up to the beginning of June, on different weeds, principally on umbelliferous inflorescences at Kusadasi. Its host plant is unknown.

73. **Bruchidius picipes** (GERMAR, 1824)

Synonymy: *Bruchus tarsalis* GYLLENHAL, 1833; *Bruchidius ganglbaueri* SCHILSKY, 1905; *Bruchidius hoffmanni* TEMPÈRE, 1954; *Bruchidius varius* auct., pars. BOROWIEC (1987b) established the real identity of this species.
General distribution: S-Europe, Hungary, Turkey, Caucasus, Iran and Afghanistan.
Distribution in Turkey: It was listed from Turkey, without exact locality, under the name *ganglbaueri* by SCHILSKY (1905), but recently it is reported from Bolu (Abant) and Artvin by ZAMPETTI (1981) as *tarsalis*.
Occurrence: Very occasionally.
Material studied: The specimens of Turkey reported by SCHILSKY (Museum für Naturkunde, Berlin).
Biological note: Reared from *Trifolium incarnatum* in France by TEMPÈRE (1957).

74. **Bruchidius plagiatus** (REICHE et SAULCY, 1857)

General distribution: USSR (Armenia), Greece, Turkey, Cyprus, Israel, Lebanon, Syria.
Distribution in Turkey: It was listed from Konya and Hatay (Akbez, formerly in Syria) by SCHILSKY (1905). BODEMEYER (1906) reported it also from Konya (Sultandagi). It seems to be restricted to middle and southeastern parts of Turkey.
Material studied: Adiyaman (Besni), Cankiri (Eldivan), Yozgat, Konya (collection PIC, Museum of Paris), Adana (Karsanti, collection PIC). 6 specimens.
Occurrence: Very occasionally.
Biological note: The specimens were collected on weeds, in July and in the first week of August. According to CALDERON (1962), the host plant in Israel is *Astragalus macrocarpus*.

75. **Bruchidius poecilus** (GERMAR, 1824)

General distribution: S-Europe, N-Africa, USSR (Crimea, Caucasia), Syria, Turkey, Crete, Iran, Jordan.
Distribution in Turkey: SCHILSKY (1905) reported it from Konya. More recently, BOROWIEC (1984) listed it from Corum-Sungurlu (Bogazkale-Yazilikaya) and from Trabzon. Widely distributed in Turkey.
Material studied: Adana (Pozanti), Aydin (Kusadasi), Bursa (Karahidir), Konya (Karaman), Izmir (collection PIC, Museum of Paris), Mersin (Silifke, Museum of Geneva), Urfa (Siverek), Konya (Aksehir) (collection PIC). 9 specimens.
Occurrence: Occasionally.
Biological note: Adults were collected from the end of April to the first week of June. They were taken on *Vicia faba, Lens culinaris* and also on *Juniperus sp.* Its host plant is unknown.

76. **Bruchidius poupillieri** (ALLARD, 1868)

General distribution: Algeria, Tunisia, Balearic isles, Sardinia, Sicilia, S-Italia, S-Spain, Malta, Turkey, Cyprus, Egypt, Iraq, Jordan.
Distribution in Turkey: ZAMPETTI (1982 and 1984) listed it from Ankara (Kazan) and Yozgat. It seems to be restricted to middle Anatolia.
Material studied: The authors have no representative specimens from Turkey.
Biological note: According to GENDUSO (1953), its main host plant in Sicilia is *Hedysarum coronarium*. He noted that the hibernating specimens are black and that the specimens of the estival generation are partially red. In Sicilia, it was reared from the seeds of *Hedysarum sp.*
Remark: It is possible that this species might be confused with *Bruchidius canus* (GERMAR, 1824) and with small specimens of *Bruchidius lutescens* (BLANCHARD, 1844). The status of this group of species was reviewed recently by ZAMPETTI (1982).

77. **Bruchidius pusillus** (GERMAR, 1824)

Synonymy: *Bruchidius seminarius* auct., pars; *Bruchidius discrepans* LABLOKOFF-KHNZORIAN, 1964.
General distribution: This species has longtime been confused with *Bruchidius seminarius* (L.). It is distributed in S and C-Europe, USSR, Turkey, Cyprus, Jordan, Iraq and Iran.
Distribution in Turkey: BOROWIEC (1985d and 1987b) listed it from Antalya (ancient Termessos) and from Izmir (Selçuk-Efez).
Material studied: Antalya (Termessos), Aydin (Kusadasi). Only 4 specimens.
Occurrence: Very occasionally.
Biological note: The adults were collected in May and June. Due to the confusion with *seminarius*, no exact data are available on the host plants of this species. Recently, it was reared from *Vicia sp.* in Greece (Dr. A. BAKOYANNIS, personal communication).

78. **Bruchidius pygmaeus** (BOHEMAN, 1833)

Synonymy: *Bruchus perparvulus* BOHEMAN, 1839; *Bruchus anxius* FAHRAEUS, 1839.
General distribution: S-Europe, N-Africa, Turkey, Crete, Jordan.
Distribution in Turkey: SALHBERG (1912-1913) reported it from Izmir under the name of *B. perparvulus*. Under the same name, ZAMPETTI (1981) listed it from Eskisehir (Bözüyük), Tokat (Ardiçili-Niksar), Canakkale (Küçükkuyu) and Izmir (Bozdag). Recently, BOROWIEC (1984) cited Canakkale (Truva) and Izmir (Bergama). It seems to be widely distributed in Turkey.
Material studied: Bilecik, Kirklareli (Pinarhisar), Manisa (Gördes), Izmir (Tire), Aydin (Kusadasi). 14 specimens.
Occurrence: Occasionally.
Biological note: Adults were collected in May and June; ZAMPETTI (1981) also listed the months July and August. According to HOFFMANN (1945), the main host plants of this species are different species of *Trifolium*. PERRIS (1873) found the adults in the flowers of *Lotus corniculatus* and supposed that this plant was the host of their larvae. LUKJANOVITCH and TER MINASSIAN (1957) gave *Medicago sativa* as host plant and ZACHER (1952) also listed *Hedysarum coronarium*. The material studied from Turkey was taken on *Trifolium*, on *Onobrychis sativa* (1 specimen) or on weeds.

79. **Bruchidius quinqueguttatus** (OLIVIER, 1795)

Synonymy: *Bruchus leucophaeus* ALLARD, 1883
General distribution: SE-Europe, (especially Yugoslavia, Bulgaria, Greece), Crete, Cyprus, Turkey, USSR (Caucasia, Armenia), Iran, Iraq, Syria, Lebanon, Israel, Gaza Strip and Jordan.
Distribution in Turkey: BAUDI (1890) listed it from Izmir under the name of *Mylabris leucophaea*. GANGLBAUER (1905) reported it from Kayseri (Yilanlidag) under the name of *Laria leucophaea*. BODEMEYER (1906) also listed it from Adana (Pozanti). However SAHLBERG (1912-1913) recorded it from Izmir (Ephesus) and DE KERVILLE (1939) from the same place. ZAMPETTI (1981) cited it from Bilecik (Osmaneli), Corum (Bogazkale), Gaziantep (Nurdagi Geçidi), Diyarbakir, Izmir (Ephesus), Konya (Aksehir), Izmir (Bozdag); ZAMPETTI (1984) from Ankara (Kazan) and finally BOROWIEC (1984) from Alanya, Corum (Bogazkale-Hattusas), Canakkale (Truva) and Antalya (ancient Myra). It distributes in most parts of Turkey.
Material studied: Adiyaman, Artvin, Aydin (Kusadasi), Burdur, Cankiri, Canakkale, Corum, Diyarbakir, Erzincan, Erzurum, G. Antep, Izmir, Maras, Hatay, Kirklareli (Vize), Malatya, Mardin, Mugla, Usak, Yozgat. More than 100 specimens.
Occurrence: Common and sometimes found in fairly large numbers.
Biological note: Adults were collected in the fields from the end of March to the beginning of August. They were taken on *Cicer arietinum, Vicia faba*, different other species of *Vicia* and on weeds. *Cicer arietinum, Vicia faba* and *sativa* are known as host plants of this species.
Remark: The coloration of the estival generation is generally more red than the vernal one. This species was sometimes confused with the Western-Mediterranean *Bruchidius jocosus* (GYLLENHAL, 1833).

80. **Bruchidius reitteri** SCHILSKY, 1906

General distribution: USSR (Caucasia, Armenia), Turkey, Iran.
Distribution in Turkey: LUKJANOVITCH and TER MINASSIAN (1957) reported it from norteastern Turkey, probably because the species was described on specimens of two origins, one of which two males of Kasikoporan, formerly in Russian Kurdistan now in Turkey. ZAMPETTI (1981) listed this species from Konya (Aksehir) and Erzurum (Kopdagi) and the same (1984) from Sivas (Camlibel) and Bitlis (near Tatvan).
Material studied: With doubt one female from Aydin (Madran).
Occurrence: Very occasionally.
Remark: This species belongs to the group of *Bruchidius astragali* which needs further studies.

81. **Bruchidius richteri** TER MINASSIAN, 1954.

General distribution: USSR (Armenia), Turkey, Iran.

Distribution in Turkey: ZAMPETTI (1984) listed it from Sivas (Camlibel). It seems to be restricted to the eastern part of Turkey.
Material studied: The authors have no representative specimens of this species from Turkey.
Biological note: As for the preceding, the host plant of this species is unknown.

82. **Bruchidius rufisurus** (ALLARD, 1883)

General distribution: Greece, Crete, Rhodos, Cyprus, Turkey, Syria, Lebanon, Israel, Jordan, Iraq.
Distribution in Turkey: BOROWIEC (1984) reported it from Antalya (near Kemer) and Izmir (Bergama). It seems to be restricted to the western and southern parts of Turkey;
Material studied: Antalya, Perge, Tatvan, 5 specimens.
Occurrence: Very occasionally.
Biological note: The specimens from Turkey were collected in May. Its host plant is unknown.

83. **Bruchidius seminarius** (L., 1767)

Synonymy: *Bruchus basalis* GYLLENHAL, 1833; *Bruchus picipes* auct. (nec GERMAR, 1824); *Bruchidius pusillus* auct., pars.
Remark: In consideration of the confusion of this species with others, principally with *Bruchidius pusillus* (GERMAR, 1824), the bibliographical data on *Bruchidius seminarius* are to be considered reservedly (see BOROWIEC, 1985a and 1987a).
General distribution: S and C-Europe, N-Africa, Crete, Cyprus, Turkey, Syria, Lebanon, Israel, Iraq, Iran, Jordan.
Distribution in Turkey: This species was certainly reported by SAHLBERG (1912-1913) under the names *Bruchus pusillus* var. *basalis* and var. *picipes* from Içel (= Mersin, Bolkardagi). SECKIN (1981) listed it form Bursa and Istanbul, ZAMPETTI (1981) from Bilecik, Bolu (Abant, Gerede), Bursa (Nazifpasa), Canakkale (Küçükkuyu), Kocaeli (Karamürsel). More recently, BOROWIEC (1984) cited it from Canakkale (Truva), Izmir (Bergama), Antalya (Arif, near Kemer, ancient Termessos, Manavgat near Side). This species seems to be widely distributed in Turkey.
Material studied: Adana, Antalya (Alanya), Aydin (Kusadasi)), Artvin, Bilecik, Bolu (Akçakoca), Bursa, Canakkale (Gökçeada), Diyarbakir (Ergani), Izmir (Bornova, Cesme, Efes), Istanbul (Göztepe, Yalova), Konya (Ermenek), Malatya, Mugla (Dalaman), Mardin (Nuseybin), Mus (Solhan), Samsun, Tekirdag, Zonguldak (Eregli). More than 100 specimens.
Occurrence: Common and sometimes found in fairly large numbers.
Biological note: Adults were collected in the fields from mid April to mid August chiefly in May and June. They were taken on *Trifolium repens, Medicago sativa, Pisum sativum, Lens culinaris, Vicia sp.*, umbelliferous inflorescences and also on weeds. HOFFMANN (1945) gives *Lotus uliginosus* as host plant. LUKJANOVITCH and TER MINASSIAN (1957) gave *Coronilla varia, Ornithopus sativus, isthmocarpus* and *perpusillus*. ZACHER (1952) also cited *Lotus corniculatus*. In Iraq, specimens of this species were reared from *Scorpiurus muricatus* (ABDUL RASSOUL *et al.*, 1986).

84. **Bruchidius sericatus** (GERMAR, 1824)

Synonymy: *Bruchidius horvathi* HOFFMANN, 1964.
General distribution: S and C-Europe, USSR (Crimea, Caucasia), Cyprus, Turkey, Syria, Lebanon, Israel, Jordan.
Distribution in Turkey: SAHLBERG (1912-1913) reported it from Içel (Bolkardagi) and Izmir. BOROWIEC (1984) listed it from Izmir (Bergama, Efes) and Trabzon. It seems widely distributed in Turkey.
Material studied: Aydin (Kusadasi), Antalya (Termessos), Izmir (Efes). 14 specimens.
Occurrence: Occasionally.
Biological note: GERMAR (1824) described this species from specimens of Crimea (before Tauria) obtained from *Trifolium pannonicum*. SCHÖNHERR (1833) cited this species living in *Trifolim expansum* and *bracteatum*. In France, according to HOFFMANN (1945) its host plant is *Hippocrepis comosa*.

85. **Bruchidius serraticornis** (F., 1775)

General distribution: It was described from «Orient» and reported from Nazaret now in Israel, by ALLARD (1883); recently recovered in Israel.
Distribution in Turkey: This species constitutes a new record for Turkey. It seems to be restricted in the southeastern part of Turkey.
Material studied: Mardin (E - Midyat, leg. W. SCHACHT, collection DECELLE), Urfa (Hilvan, Siverek). 6 specimens.
Occurrence: Occasionally.
Biological note: The specimens of Hilvan and Siverek were reared in Diyarbakir from seeds of *Vicia balansae* (personal communication with Dr. Abuzer YÜCEL).

86. **Bruchidius sivasensis** ZAMPETTI, 1984

General distribution: So far it is known, endemic in Turkey.
Distribution in Turkey: ZAMPETTI (1984) described it on the specimens collected in Sivas (Camlibel) and Agri (Tutak).
Material studied: Ankara (Kizilcahamam, Museum of Basle), Bitlis (Motki Yolu), Konya (Karapinar), K. Maras (Göksun). 13 specimens. It seems to be restricted in the middle and eastern parts of Turkey.
Occurrence: Occasionally.
Biological note: Adults were collected from the end of April to the beginning of July. The 8 specimens from Karapinar are labelled «on *Astragalus*».

87. **Bruchidius suratus** (MOTSCHOULSKY, 1873)

Synonymy: *Bruchidius seminarius* sensu ZAMPETTI, 1984; ? *Bruchidius loebli* BOROWIEC, 1985 (described on a single female specimen).
General distribution: Turkey; the holotypus of *loebli* comes from Iran (Fars, Dasht-e-Arjan).
Distribution in Turkey: MOTSCHOULSKY described *suratus* from Turkey without exact

locality; the single, black specimen, from Izmir (Bozdag) reported as *seminarius* by ZAMPETTI (1984) belongs probably to this species.
Materialstudied: Giresun (Sebinkarahisar), Amasya (Museum of Basle). 2 male specimens.
Occurrence: Very occasionally.
Biological note: So far no host plant of this species is known.

88. **Bruchidius tibialis** (BOHEMAN, 1829)

General distribution: S and C-Europe, N-Africa, USSR (Crimea, Transcaucasia), Turkey, Syria, Iran, Lebanon, Jordan.
Distribution in Turkey: SCHILSKY (1905) listed it from Anatolia. BODEMEYER (1906) reported it from Adana (Pozanti) under the name of *Mylabris tibialis*. SAHLBERG (1912-1913) listed it from Konya (Karaman). SECKIN (1976) found it in Bursa and Istanbul (Yalova). ZAMPETTI (1981) recently reported it from Bolu (Abant), Kocaeli (Hereke), Sinop and Tokat (Ardiçli). Finally, BOROWIEC (1984) gave the locality of Antalya (near Kemer). This species seems to be widely distributed.
Material studied: Antalya (Akseki, Aksu, Side), Bursa (Göynük), Bolu (Düzce, Mengen), Izmir (Bayindir, Bornova, Cumaovasi, Doganlar, Ödemis), Isparta, Konya, Malatya (Içmeler), Mugla (Dalaman), Manisa (Kula, Sultandagi), Sakarya (Central province, Sapanca), Samsun (Ladik), Sinop, Zonguldak (Karabük, Kurucasile, Ulus). More than 100 specimens.
Occurrence: Common, sometimes found in fairly large numbers.
Biological note: Adults were collected in the fields from the end of March to the first week of July. They were taken on *Medicago sativa, Trifolium sp.*, *Vicia faba* and *sativa, Ammi majus, Scrophularia sp.* and different species of weeds. HOFFMANN (1945) reported this species in the flowers of *Calycotome spinosa*, and CAILLOL (1954) on *Cistus monspeliensis*.

89. **Bruchidius trifolii** (MOTSCHOULSKY, 1873)

Synonymy: *Bruchidius alfieri* PIC, 1922 (1923).
General distribution: N-Africa, Egypt, Israel, Lebanon, Turkey, Jordan, Syria, Crete, Greece, described from Carniola, also listed from Ukraine (SCHILSKY, 1905).
Distribution in Turkey: This species has been reported previously from Turkey by BODENHEIMER (1941), but without locality. ALKAN (1966) gave information on this earlier record.
Material studied: Balikesir (Savastepe), Bilecik, Izmir (Bozdag, Inciralti), Sakarya (Hendek), Urfa (Siverek). 23 specimens.
Occurrence: Somewhat common, but found in very small numbers.
Biological note: Adults were collected in the field from the first week of April to the end of May. They were taken on *Onobrychis sativa, Trifolium sp.*, *Lens culinaris* and also on weeds. It is known as an important pest of the seeds of alfalfa and clover in Egypt and Israel. In Egypt, it causes serious damage especially in the seeds of *Trifolium alexandrinum*. According to BODENHEIMER (1941), the host plant is the same in Turkey. BAUDI (1886-1887) listed it from seeds of *Trifolium pratense* in Egypt. ZACHER (1952) cited also *Trifolium ochraceum* and *ochroleucum* and finally DE LUCA (1962) reported it from *Trifolium incarnatum* and *maritimum* in Algeria.
Remark: ABOU-RAYA (1954) studied the two forms of this species: the black typical form and the more or less red form *alfieri*. The red form is immediately sexualy mature; the typical form becomes sexually mature after some time and after to be fed. The being of this two forms is the same phenomenon observed in other species of *Bruchidius (biguttatus, canus, foveolatus, lutescens* and *poupillieri*).
The cultivation of some of its host plants enlarged doubtless the area of this distribution.

90. **Bruchidius tuberculatus** (HOCHHUT, 1847)

Synonymy: *Bruchus annulipes* ALLARD, 1868.
General distribution: S-Europe, N-Africa, USSR (Caucasia, Transcaucasia, C-Asia), Bulgaria, Greece, Crete, Cyprus, Turkey, Syria, Lebanon, Israel, Iraq, Iran, Jordan, Afghanistan.
Distribution in Turkey: SAHLBERG (1912-1923) reported it, under the name of *Bruchus annulipes* ALLARD, from Denizli (Babadag). Later on DE KERVILLE (1939) found it in Izmir. SECKIN (1981) also found it in Bursa (Mudanya). ZAMPETTI (1981) listed it in several places such as: Adana (Nurdagi), Amasya (Turhal), Ankara (Kalecik), Bilecik (Osmaneli), Bursa (Uludag), Diyarbakir, Edirne (Uzunköprü), Gaziantep (Fevzipasa), VAN (Güzelsu), Bitlis (Tatvan). Finally BOROWIEC (1984) reported it from Antalya (near Kemer, Side and Termessos). It is one of the commonest species, all over distributed in Turkey.
Material studied: Adiyaman (Besni, Gerger, Gölbasi, Nemrut), Burdur, Aydin (Kusadasi), Antalya, Canakkale, Denizli, Diyarbakir (Cüngüs, Devegeçidi, Lice), Elazig (Karakoçan), Hakkari (Semdinli), Isparta, Istanbul, Kirklareli (Türkgeldi), Maras, Mardin (Derik, Mazidagi, Midyat, Nusaybin, Savur), Malatya, Mugla (Dalaman, Fethiye, Gökova, Marmaris), Samsun, Tokat (Erbaa), Urfa (Siverek). More than 200 specimens.
Occurrence: Very common and sometimes found in fairly large numbers.
Biological note: Adults were collected in the fields from the beginning of May to the end of July. They were taken on *Medicago sativa, Lens culinaris, Vicia faba*, weeds and also collected on trees such as *Populus, Quercus, Pirus, Prunus*, etc.. According to LUKJANOVITCH and TER MINASSIAN (1957), its host plant is *Centaurea iberica* (Compositae).

91. **Bruchidius varipictus** (MOTSCHOULSKY, 1873)

Synonymy: *Laria stylophora* K. DANIEL, 1904.
General distribution: S-Europe, N-Africa, Turkey, Israel.
Distribution in Turkey: *Laria stylophora* was described from specimens coming from Istanbul collected by Korb, and from Sabandsha (now Sakarya: Sapanca) and Goek Dagh (now Ankara: Gökdag) collected by BODEMEYER. BODEMEYER (1906) reported likewise this two last localities. SAHLBERG (1912-1913) recorded this species from Izmir (Ilica). More recently, ZAMPETTI (1981) listed it from Corum (Mecitözü), Izmir (Bozdag) and Sinop. It seems widely distributed in Turkey.
Material studied: Antalya, Aydin (Kusadasi), Bursa (Yenisehir), Izmir (Bornova). 12 specimens.

Occurrence: Occasionally.
Biological note: The specimens were collected between March and July, on weeds. According HOFFMANN (1945), this species, erroneously named *Bruchidius stylographus* (error pro *stylophorus*), is to be found in the flowers of *Calycotome spinosa*. ZACHER (1952) cited also *Medicago turbinata* as host plant.
Remark: *Bruchidius stylophorus* is considered as variety of *Bruchidius murinus* (BOHEMAN, 1829) by some authors.

92. **Bruchidius varius** (OLIVIER, 1795)

General distribution: S and C-Europe, N-Africa, USSR (Crimea, Caucasia), Crete, Cyprus, Turkey, Syria, Lebanon, Israel, Iran.
Distribution in Turkey: GANGLBAUER (1905) listed it, under the name *Laria varia* from Sakarya (Sapanca) and Eskisehir. SAHLBERG (1912-1913) reported it from Konya (Karaman); ZAMPETTI (1981) from Amasya (Turhal), Ankara (Kizilcahamam), Antalya (Beydaglari), Bolu (Abant, Gerede), Kocaeli (Hereke) and Tokat (Niksar-Ardiçli); finally BOROWIEC (1984) from Antalya (Side, Termessos), Canakkale (Truva) and Izmir (Efes, Bergama). It seems to be distributed fairly large areas in Turkey.
Material studied: Aydin (Kusadasi), Corum, Içel (Tarsus), Izmir (Kemalpasa), Kars (Igdir), Kocaeli (Central province), Samsun (Gelemen), Zonguldak (Kurucasile). 18 specimens.
Occurrence: Somewhat common, but found in very few numbers.
Biological note: Adults were collected in the fields from mid May to the first week of August. They were taken on *Medicago sativa, Vicia sativa, Trifolium sp.* ans also on weeds. According to HOFFMANN (1945), it lives in the seeds of different species of *Trifolium* especially *repens* and *stellatum* in France. ZACHER (1952) and LUKJANOVITCH and TER MINASSIAN (1957) listed also as host plants: *Genista cinerea* and *liniifolia, Lotus corniculatus*, different species of *Trifolium* and *Galega persica* (= *officinalis*).

93. **Bruchidius villosus** (F., 1792)

Synonymy: *Bruchus cisti* sensu PAYKULL, 1800 (not FABRICIUS, 1775); *Bruchus ater* MARSHAM, 1802; *Bruchus fasciatus* auct. (not OLIVIER, 1795).
For this problem, see ALDRIDGE and POPE (1986).
General distribution: Europe, USSR (Crimea), Turkey, introduced in USA.
Distribution in Turkey: CANAKCIOGLU (1963) reported this species first time from Turkey. He collected many specimens in Istanbul (Büyükada, Heybeliada). It seems to be restricted to the northwestern part of Turkey.
Material studied: Kastamonu (Ilgaz), Zonguldak (Caycuma). Only 2 specimens.
Occurrence: Very occasionally.
Biological note: Adults were collected in the fields in May, June and July. They were taken on *Pinus* and *Rosa* which are not its host plants. According different authors, its main host plants are *Sarothamnus scorparius, Genista cinerea* and *Spartium junceum*. It seems able to live in the seeds of other Genisteae. The data on the host plants of *Bruchidius cisti* and *fasciatus* given by ZACHER (1952) are to be considered reservedly in consideration misidentifications of the Bruchids. Only the citations of *Sarothamnus, Genista, Spartium, Cytisus* and *Laburnum* are credible, that of *Robinia pseudacacia*, given before by HOFFMANN (1945) is doubting, the others are likely wrong. However, CANAKCIOGLU (1963) found this species only in the seeds of *Spartium junceum* in Istanbul. He states that majority of the adults leave the seeds before October though some can stay inside the seeds until the following spring.

94. **Bruchidius virgatus** (FAHRAEUS, 1839)

Synonymy: *Bruchidius varipubens* PIC, 1953 (syn. nov.).
General distribution: USSR (Caucasia), N-Iran, Turkey, Syria, Lebanon and Algeria after SCHILSKY (1905).
Distribution in Turkey: BAUDI (1886-1887) listed it from Erzurum. The holotypus of *Bruchidius varipubens* is also labelled « Erzurum ». It seems to be restricted in the eastern part of Turkey.
Material studied: The holotypus of *Bruchidius varipubens* and another specimen also from Erzurum (collection PIC, Museum of Paris).
Occurrence: Very occasionally.
Biological note: LUKJANOVITCH and TER MINASSIAN (1957) gave with doubt *Astragalus talyshensis* as host plant.
Remark: This species belongs to the group of *Bruchidius astragali* with very variable species. Perhaps the specimens listed as *virgatus* from Syria and Lebanon are *Bruchidius brignolii* ZAMPETTI, 1979 and the specimens reported from Algeria *Bruchidius leprieuri* (JACQUET, 1886).

95. **Bruchidius zampettii** BOROWIEC, 1985

Synonymy: *Bruchidius seminarius* auct., pars; *Bruchidius pusillus* auct., pars.
General distribution: Lebanon, Turkey, Greece (Rhodos).
Distribution in Turkey: BOROWIEC (1985d) listed it from Antalya (Side near Manavgat).
Material studied: Aydin (Kusadasi) and K. Maras (Türkoglu). 8 specimens.
Occurrence: Very occasionally.
Remark: Some specimens have the elytra and the body partially red; they were collected in the second part of June or in July; the specimens collected sooner own black elytra and body.

I. Genus: *Acanthoscelides* SCHILSKY, 1905

96. **Acanthoscelides obtectus** (SAY, 1831)

Synonymy: *Acanthoscelides obsoletus* auct., *Bruchus irresectus* FAHRAEUS, 1839.
General distribution: The bean weevil, originating from the New World like its main host plant, *Phaseolus vulgaris* is now cosmopolitan.
Distribution in Turkey: This species was detected for the first time in Turkey in 1940 by ALKAN (1966). Since that date, it is found everywhere in the country.
Material studied: Several specimens from many places in Turkey.
Occurrence: Common, sometimes found in fairly large numbers.

Biological note: The biology, host plants and control measures of this species are well studied in Turkey (see ATAK, 1975).

J. Genus: *Mimosestes* BRIDWELL, 1946

97. **Mimosestes mimosae** (FABRICIUS, 1781)

General distribution: Native of the tropical zone of the New World; introduced elsewhere but rarely established: Grand Canaria, Sicilia; listed from Italy, Egypt and Turkey by PIC (1913).
Distribution in Turkey: This species has been listed from Turkey by PIC (1913) without specific locality; this information was taken up again by HOFFMANN (1945) and ALKAN (1966).
Material studied: The authors have no specimens of this species from Turkey.
Biological note: KINGSOLVER and JOHNSON (1978) gave *Acacia cymbispina, farnesiana, hindsii, pennatula* and *Caesalpinia coriara* as main host plants. They cited also *Ceratonia siliqua* but asserted that many of the host records listed by ZACHER (1952) must be verified.
Remark: In the Old World, this species was sometimes confused with *Acanthoscelides obtectus*.

K. Genus: *Pseudopachymerina* ZACHER, 1952

98. **Pseudopachymerina spinipes** (ERICHSON, 1834)

Synonymy: *Bruchus (Pachymerus) lallemanti* MARSEUL, 1875.
General distribution: Native of South America, this species was introduced and now is established in the south and the east of the Mediterranean Region: Algeria, Tunisia, Egypt, Israel, Syria, Crete, Turkey, Lebanon. The citation of China and Senegambia are erroneous as pointed out by DECELLE (1966).
Distribution in Turkey: Listed from Turkey by different authors without exact locality. ACATAY (1962-1963) found it in Antalya (Alanya). It seems to be restricted in the southern part of Turkey.
Material studied: Antalya (Aksu, Antalya), Adana (Museum of Geneva). 12 specimens.
Occurrence: Occasionally.
Biological note: The specimens of Aksu were taken on *Mimosa*, doubtless *Acacia farnesiana*. ACATAY (1962-1963) found this species in the seeds of *Acacia odorosa*, infesting up to 90 per cent of the seeds (he reported that adults left the seeds in December and January) In South America, this Bruchid listed from the seeds of different species of *Acacia*, especialy *aromatica, cavenia, cyanophila, farnesiana* and perhaps *Caesalpinia melanocarpa* (see TERAN, 1962). In Algeria, *Bruchus lallemanti* was described by DE MARSEUL (1875) from the seeds of *Astragalus caprinus* and later listed from the seeds of *Acacia farnesiana* (see OLIVIER, 1887) and *Ceratonia siliqua* (see HOFFMANN, 1945, teste BONNAIRE). OLIVIER (1887) reported specimens introduced in Hyères (Var, South of France) with seeds of *Cassia sp.* originating from Brazil.

IV. Subfamily: *Amblycerinae*

L. Genus: *Spermophagus* SCHÖNHERR, 1833

99. **Spermophagus calystegiae** (LUKJANOVITCH and TER MINASSIAN, 1957)

Synonymy: *Spermophagus cisti* auct., pars; *Spermophagus sericeus* auct., pars; *Spermophagus cardui* auct., pars.
General distribution: All Europe except the North; Morocco, Algeria, Tunisia, Egypt, Jordan, Saudi Arabia, Israel, Turkey, Iraq, Iran, USSR as far as Uzbekistan.
Distribution in Turkey: This species formerly confused with *Spermophagus sericeus* was first reported from Turkey by DECELLE (1982) without precise locality. BOROWIEC (1985a) listed it from Ankara (Maliköy) and Istanbul (Beykoz). It seems widely distributed in Turkey.
Material studied: Aydin (Kusadasi), Antalya (Alanya), Amasya (Museum of Basle), Erzurum (Askale-Kop Dagi), Gümüshane. 12 specimens.
Occurrence: In all likelihood but confused with *Sp. sericeus*.
Biological note: Adults were taken in May, June and July on weeds and in flowers. According to LUKJANOVITCH and TER MINASSIAN (1957), the host plant of this species is *Calystegia sepium* (Convolvulaceae) in Russia. In Western Europe, *C. sepium* and also *C. soldanella* seem the normal host plants, perhaps also some *Convolvulus*.

100. **Spermophagus caricus** DECELLE, 1982

General distribution: Turkey, Greece (Rhodos), Lebanon, Iran, USSR (Uzbek SSR). (see BOROWIEC, 1985a).
Distribution in Turkey: DECELLE (1982) listed it from Bilecik and Mugla.
Material studied: Antalya (Güllük), Bilecik, Mugla. 6 specimens.
Occurrence: Occasionally.
Biological note: The 6 specimens were collected in June and July; The host plant and the biology of this are unknown.

101. **Spermophagus caucasicus** BAUDI, 1886

General distribution: USSR (Transcaucasia, C-Asia), Iran, Afghanistan, Turkey. The specimens reported by BAUDI (1886a) from Syria and by WENDT (1983) from Jordan belong probably to *Spermophagus klapperichi* BOROWIEC, 1985.
Distribution in Turkey: DECELLE (1982) listed it from Turkey without exact locality.
Material studied: Maras (Museum of Basle), Tokat (Museum of Paris). 3 specimens.
Occurrence: Very occasionally.
Remark: The biology and the host plant of this species are unknown.

102. **Spermophagus confusus** BOROWIEC, 1986

Synonymy: *Spermophagus variolopunctatus* sensu SCHILSKY, 1905 (nec GYLLENHAL, 1833).

General distribution: SE-Europe (especially Yugoslavia, Bulgaria, Greece), Hungary, Romania, USSR (Georgia, Crimea, Daghestan), Turkey.
Distribution in Turkey: SCHILSKY (1905) reported it from Istanbul, under the name of *Spermophagus variolosopunctatus*. Always under this name, ZAMPETTI (1981) listed it from Amasya, BOROWIEC (1984) from Antalya (ancient Termessos), and BOROWIEC (1985a) from Izmit. Lastly BOROWIEC (1986a) cited it again from Termessos as *Spermophagus confusus*. Somewhat widely distributed in Turkey.
Material studied: Artvin, Amasya, Hatay (Amanus Mts. now Gavur Daglari, Museum of Brussels), SE-Turkey (without exact locality, Museum of Geneva). 4 specimens.
Occurrence: Very occasionally.
Biological note: ZACHER (1952) cited *Convolvulus arvensis* as host plant for this species. DECELLE (1982) collected some specimens in the flowers of *Calystegia sepium* in Bulgaria.
Remark: The true *Spermophagus variolosopunctatus* GYLLENHAL, 1833, reviewed recently by BOROWIEC (1986a) and its variety *maculatus* SCHILSKY, 1905 are described from Tauria, former name of the actual Crimea.

103. **Spermophagus kuesteri** SCHILSKY, 1905

Synonymy: *Spermophagus variolosopunctatus* auct., pars.
General distribution: Widely distributed in S-Europe, N-Africa (Morocco, Algeria, Tunisia), USSR (Caucasia, Uzbek SSR), Iran, Afghanistan, Turkey, Cyprus, Lebanon, Israel, Jordan, Syria.
Distribution in Turkey: The lectotypus and some paralectotypes, designated by BOROWIEC (1985a), are from Konya (Aksehir). SAHLBERG (1912-1913) reported this species from Içel (Bolkardagi), Konya (Karaman). Later on, ALKAN (1966) reported it from Ankara. SECKIN (1976) found it in many places of Bursa and Istanbul. ZAMPETTI (1981) listed it from Amasya (Central province, Cakalli), Ankara (Kazan), Bilecik (Bozüyük, Gölpazari), Edirne (Uzunköprü), Erzurum (Kopdagi Geçidi), Hatay (Yayladagi), Izmir (Ephesus), Konya (Aksehir), Van (Ercis), Yozgat. Lastly, BOROWIEC (1984) cited it from Antalya (Termessos, Myra), Corum (Bogazkale, Sungurlu), Canakkale (Troy or Truva), Izmir (Bergama). It is widely distributed.
Material studied: Agri, Aydin (Kusadasi), Artvin, Balikesir (Manyas, Bandirma), Canakkale, Denizli (Tavas), Diyarbakir, Hakkari (Beytülsebab), Kars (Kagizman, Igdir), Kayseri, Mardin (Mazidagi), Mus, Nigde, Van. More than 100 specimens.
Occurrence: Very common and sometimes found in fairly large numbers.
Biological note: Adults were collected in the fields from the beginning of May to the first week of August. They were taken on *Pimpinella anisum, Medicago sativa, Vicia sativa*, on inflorescences of umbelliferous, in flowers of *Convolvulus sp.* and also on several species of weeds. Its host plants are different species of *Convolvulus* especially *arvensis*. LUKJANOVITCH and TER MINASSIAN (1957) listed also *Calystegia sepium* and, astonishingly, *Centaurea iberica*, a Compositae.

104. **Spermophagus pubiventris** BAUDI, 1886

Synonymy: *Spermophagus variolosopunctatus* var. *pubiventris* BAUDI, 1886; *Spermophagus kuesteri* var. *pubiventris*: SCHILSKY, 1905.

General distribution: Greece, Crete, Lebanon. The mention of Niger by HOFFMANN (1945) is based on misidentified specimens.
Distribution in Turkey: This species was never listed from Turkey before.
Material studied: Adana (Museum of Genova), Urfa (Hilvan). 3 specimens.
Occurrence: Very occasionally.
Remark: The identity of this species was established recently by BOROWIEC (1985a).

105. **Spermophagus sericeus** (GEOFFROY, 1785)

Synonymy: *Spermophagus sericeus* auct., pars; *Spermophagus cisti* auct., pars; *Spermophagus cardui* auct., pars.
General distribution: Widely distributed in a great part of the Palearctic Region, reaching the North-East of Asia. It is reported in Near East countries from Cyprus, Turkey, Syria, Lebanon, Israel, Jordan, Saudi Arabia, Iraq and Iran.
Distribution in Turkey: This species, long confused with *Spermophagus calystegiae*, was several times listed from Turkey in many localities. It is one of the commonest species widely distributed.
Material studied: Over 200 specimens collected in most parts of the country.
Occurrence: Very common, found sometimes in large numbers.
Biological note: Adults were collected in the fields from the mid of April to the first week of August, mostly in June and July. They were taken on *Medicago sativa, Pimpinella anisum*, on inflorescences of others umbelliferous, in flowers of several Compositae (*Centaurea, Carduus*) and *Convolvulus*. Its host plants are different species of *Convolvulus* especially *Convolvulus arvensis*, and *Calystegia* especially *Calystegia sepium*.
Remark: The discrimination of *Spermophagus sericeus* from *Spermophagus calystegiae* needs the study of the structure of the male or female genitalia.

M. Genus: *Zabrotes* HORN, 1885

106. **Zabrotes subfasciatus** (BOHEMAN, 1833)

Synonymy: *Bruchus nesapius* FAHRAEUS, 1839 (**syn. nov.**).
General distribution: Its origine is the northern part of South America and from there was introduced by commerce in the greatest part of the warm and temperate regions and is now well settled elsewhere in hot climates. It was redescribed several times under different names. *Bruchus nesapius* FAHRAEUS, here synonymized, was reported from Western Iran (Persia occidentalis).
Distribution in Turkey: ÖZER (1962) found several dead adults specimens in beans and peas in warehouses in Adana and Istanbul. Never reported again.
Biological note: Its main host plant is the bean, *Phaseolus vulgaris*, but it is known on other cultivated leguminous plants as *Pisum sativum* and *arvense, Cicer arietinum* and *Vicia faba*.

Generic index of the host plants sorted into families

The given numbers are related to the listed species of Bruchidae.

Apiaceae (Umbelliferae):

Bangos: 51
Eryngium: 45
Lisaea: 2
Prangos: 3, 71

Cistaceae:

Cistus: 40
Helianthemum: 46

Asteraceae (Compositae):

Centaurea: 90

Convolvulaceae:

Calystegia: 99, 101, 103, 105
Convolvulus: 101, 103, 105

Lamiaceae:

Salvia: 32

Leguminosae:

Caesalpinioideae:

Caesalpinia: 97, 98
Cassia: 98
Ceratonia: 22, 97, 98

Faboideae:

Alhagi: 49
Astragalus: 17, 38, 41, 43, 56, 59, 62, 74, 86, 94, 98
Bonjeania: 43
Calycotome: 16, 18, 26, 41, 58, 68, 91
Cicer: 8, 20, 24, 29, 30, 35, 53, 79, 106
Coronilla: 62, 83
Cytisus: 14, 58, 66, 69, 93
Galega: 52, 92
Genista: 48, 52, 58, 92, 93
Glycine: 10
Glycyrrhiza: 49, 50
Hedysarum: 33, 34, 76, 78
Hippocrepis: 84
Hymenocarpus: 42
Lablab: 28, 30
Laburnum: 93
Lathyrus: 4, 5, 8, 10, 12, 14, 16, 19, 20, 21, 24, 25, 27, 41, 51, 58
Lens: 5, 6, 9, 13, 14, 16, 20, 21, 22, 24, 26, 28, 29, 30, 35, 53
Lotus: 4, 14, 47, 78, 83, 92
Lupinus: 24
Medicago: 41, 49, 78, 91
Onobrychis: 33, 55, 61
Ononis: 58
Ornithopus: 83
Orobus: 5
Oxytropis: 14, 62, 66
Phaseolus: 26, 30, 96, 106
Pisum: 4, 5, 8, 18, 19, 20, 25, 26, 29, 30, 35, 53, 67, 106
Robinia: 93
Sarothamnus: 48, 58, 93
Scorpiurus: 38, 83
Sophora: 14
Spartium: 43, 48, 58, 68, 93
Thermopsis: 62
Trifolium: 52, 73, 78, 84, 89, 92
Trigonella: 59
Ulex: 4, 26, 58
Vicia: 4, 5, 6, 7, 8, 10, 12, 13, 16, 19, 20, 21, 22, 23, 24, 25, 26, 27, 31, 41, 53, 58, 62, 67, 77, 79, 85, 106
Vigna: 30

Mimosoideae:

Acacia: 97, 98

Scrophulariaceae:

Veronica: 70

Zygophyllaceae:

Nitraria: 1

Specific index of the Bruchidae

The given numbers are related to the present catalogue.

References

ABDUL-RASSOUL, M. S., OTHMAN, N. Y. and DAWAH, H. A., 1986. - Observation on the biology, host plants and distribution of Iraqi Bruchidae (Insecta, Coleoptera), *Journal biolog. Sci. Res.*, Baghdad, 17: 207-222.

ABOU-RAYA, A. K., 1954. - *Bruchidius alfierii* PIC, a biologic race of *Bruchidius trifolii* MOTSCH. (Coleoptera: Bruchidae). *Bull. Soc. Fouad 1er Ent.*, 38: 193-203.

ACATAY, A., 1962-1963. - Uber das Auftreten von einigen Forstschädlingen. *Zeitschr. angew. Ent.*, 51: 114-121.

ALDRIDGE, R. J. W. and POPE, R. D., 1986. - The British species of *Bruchidius* SCHILSKY (Coleoptera: Bruchidae). *Entomologist's Gazette*, 37: 181-193.

ALKAN, B., 1966. - Türkiye'nin zararli tohum böcekleri (Coleoptera: Bruchidae) faunasi üzerinde çalismalar. Ankara Üniversitesi, Ziraat Fakültesi Yayinlari, 227(174): 56 pp.

ALLARD, E., 1883. - Mélanges entomologiques. *Ann. Soc. ent. Belgique*, 27: 5-13.

ATAK, U., 1975. - Fasulya Tohum Böcegi (*Acanthoscelides obtectus* SAY)'nin biyo-ekolojisi ve mücadelesi üzerinde arastirmalar. *Zir. Müc. Kar. Gnl. Md. Teknik Bülten*, 7: 64 pp.

BAGDASSARYAN, B. A., 1941. - The seed beetles (Bruchidae, Coleoptera) of the Armenia USSR and their plant association, particularly the leguminous plants (in Russian). *Nauch. Tr. Erevansk. Gos. Univer.* 16: 309-374.

BATIASHVILI, I. D. and ELERDASHVILI N. L., 1969. - The seed beetles (Coleoptera - Bruchidae) of Georgia. (in Russian). *Ent. Oborz.*, 48: 524-531. (translated in English: *Ent. Rev. Washington*, 48: 335-340).

BAUDI, F., 1886a - Rassegna della specie della famiglia dei Milabridi (Bruchidi degli autori) viventi in Europe e regioni finitime. *Nat. Siciliano*, 6 (4-5): 1-119.

BAUDI, F., 1886-1887. - Mylabridum seu Bruchidum (Lin. Schöh. All.) europeae et finitimarum regionum Faunae recensitio. *Deutsche ent. Zeitschr.*, 30: 385-416, 31: 33-80 and 449-494.

BAUDI, F., 1890. - Mylabridum seu Bruchidum recensioni a Flaminio BAUDI conscriptae addenda. *Deutsche ent. Zeitschr.*, 34: 337-347.

BAUDI, F., 1891. - Mylabridis seu Bruchidis alterum supplementum. *Deutsche ent. Zeitschr.*, 35: 251-252.

BODEMEYER, E. V., 1906. - Beiträge zur Käferfauna von Klein Asien. *Beutsche ent. Zeitschr.*, Jahrgang 1906: 417-433.

BODENHEIMER, F. S., 1941. - Türkiye Entomolojisi 1. Entomolojiye Giris. Bruchidae. *Zir. Vek. Nes.*, 527 (6): 154-155.

BODENHEIMER, F. S., 1958. - Türkiye'de Ziraata ve Agaçlara Zararli Olan Böcekler ve Bunkarla Savas Hakkinda Bir Etüd. Ceviren: Naci Kenter, Bayur Matbassi. Ankara, 341 pp.

BOROWIEC, L., 1980. - Eine neue paläarktische Gattung der Samenkäfer (Coleoptera, Bruchidae). *Polskie Pismo ent.*, 50: 127-131.

BOROWIEC, L., 1984. - The seed-beetles from Turkey (Coleoptera, Bruchidae). *Polskie Pismo ent.*, 54: 295-301.

BOROWIEC, L., 1985a. - Notes on the Palaearctic *Spermophagus* SCHOENHERR (Coleoptera, Bruchidae, Amblycerinae), with description of two new species. *Polskie Pismo ent.*, 55: 3-24.

BOROWIEC, L., 1985b. - The status of *Bruchus tragacanthae* OLIVIER (Coleoptera, Bruchidae, Bruchinae). *Polskie Pismo ent.*, 55: 245-249.
BOROWIEC, L., 1985c. - A new genus of Palaearctic seed-beetles (Coleoptera, Bruchidae, Bruchinae). *Polskie Pismo ent.*, 55: 457-462.
BOROWIEC, L., 1985d. - The *seminarius*-group of *Bruchidius* SCHILSKY (Coleoptera, Bruchidae), with description of three new species. *Polskie Pismo ent.*, 55: 767-779.
BOROWIEC, L., 1986a. - The specific status of *Spermophagus variolosopunctatus* GYLLENHAL, 1833 (Coleoptera, Bruchidae, Amblycerinae), with description of a new species. *Polskie Pismo ent.*, 56: 161-164.
BOROWIEC, L., 1986b. - The seed-beetles from Yugoslavia, Albania and Greece (Coleoptera, Bruchidae). *Polskie Pismo ent.*, 56: 577-592.
BOROWIEC, L., 1987a. - The type-material of *Bruchus pusillus* GERMAR and *B. picipes* GERMAR (Coleoptera, Bruchidae). *Polskie Pismo ent;*, 57: 591-592.
BOROWIEC, L., 1987b. - The seed-beetles (Coleoptera, Bruchidae) from the Middle East. *Polskie Pismo ent.*, 57: 601-616.
CAILLOL, H., 1954. - *Catalogue des Coléoptères de Provence.* 4e partie. Museum Hist. natur. Paris.: 7-30.
CALDERON, M., 1962 - The Bruchidae of Israel. *Riv. Parassitologia*, 23: 207-216.
CANAKCIOGLU, H., 1963. - Orman Agaçlarimizin Tohumlarina Ariz Olan Böcekler ve Bazi Önemli Türlerin Mücadeleleri Üzerine Arastirmalar. *Tar. Bak. Orm. Gen. Md. Yay.*, 343 (17): 100 pp.
DANIEL, K. und DANIEL, J., 1904. - Neue paläarktische Koleopteran. *Münchener Koleopterol. Zeitschr.*, 2: 76-93.
DECELLE, J., 1966. - La bruche sud-américaine des acacias *Pseudopachymerina spinipes* (ERICHSON). *Bull. Ann. Soc. R. Ent. Belg.*, 102: 109-116.
DECELLE, J., 1975. - Les Bruchidae (Coleoptera) des îles Canaries. *Bull. Annls Soc. r. belge Ent.*,111: 109-142.
DECELLE, J., 1982a. - Une nouvelle espèce de *Spermophagus* SCHÖNHERR (Coleoptera: Bruchidae: Amblycerinae) de Turquie. *Bull. Annls Soc. r. belge Ent.*, 118: 31-34.
DECELLE, J., 1982b. - Une espèce de Coleoptera Bruchidae du Proche-Orient inféodée aux *Salvia* (Dicotylédones, Tubiflores, Lamiaceae). *Bull. Annls Soc. r. belge Ent.*, 118: 243-248.
DECELLE, J., 1983. - Le genre *Spermophagus* SCHÖNHERR en Europe occidentale (Col. Bruchidae Amblycerinae). *Bull. Soc. ent. France*, 88: 235-241.
DÖRTBUDAK, N. 1975. - Mardin ili merdimeklerine ariz olan (*Bruchus ervi* FRÖHL.)'ün biyo-ekolojisi ve mücadele metotlari üzerinde arastirmalar. *Gida-Tar. Hay. Bak. Zir. Müc. Kar. Gen. Md. Ar. Enst.*, ser. n° 39, 46 pp.
FABRICIUS, J. Ch., 1775. - Systema Entomologiae. Flensburgi et Lipsiae: 65.
FREEMAN, J. A., 1957. - Stored products infestation and its control in Turkey. Report on a visit to Turkey in September, 1957: 88 pp.
GADEAU DE KERVILLE, H., 1939. - Récit sommaire du voyage et liste méthodique des invertébrés et des vertébrés récoltés en Asie-Mineure. Coléoptères. in Voyage zoologique en Asie-Mineure (avril-mai 1912). P. LE CHEVALIER, Ed., Paris, 1: 82-116.
GANGLBAUER, K. L., 1905. - Familie Lariidae. in PENTHER A. und ZEDERBAUER, E., Ergebnisse einer naturwissenschaftlichen Reise zum Erdschias-Dagh (Kleinasien), 1. Zoologischer Teil. *Annalen k. k. naturhist. Hofmuseum Wien*, 20: 263-264.

GENDUSO, P., 1953. - Osservazioni sui Bruchidi dei semi di sulla, *Bruchidius gilvus* GYLL., *Bruchidius poupillieri* ALL. *Atti Accad. Palermo*, (4) 12: 67-94.
GENTRY, J. W., 1965. - Crop insects of Northeast Africa-Southwest Asia. *Agriculture Handbook*, 273, Agric. Ser., U.S. Dept. agric., Washington D.C.: 210 pp.
GERMAR, E. F., 1824. - Insectorum species novae aut minus cognitae, descriptionibus illustratae. Coleoptera. Halle: 624 pp.
GÜL-ZÜMREOGLU, S., 1972. - Böcek ve Genel Zararlilar Katalogu, 1928-1969. *Böl. Zir. Müc. Ar. Enst.*, Izmir-Bornova, 119 pp.
HEYDEN (von), L. F., REITTER, E. et WEISE, J., 1906. - Catalogus Coleopterorum Europae, Caucasi et Armeniae Rossicae. Ed. E. REITTER, Pascau: 586-588.
HOFFMANN, A., 1945. - Coléoptères Bruchides et Anthribides. *Faune de France*, 44, 184 pp;, Ed. P. LECHEVALIER, Paris.
HOFFMANN, A., 1950. - Descriptions et observations concernant divers Coléoptères phytophages de la région paléarctique. *Rev. franç. Ent.*, 157: 192-199.
HOFFMANN, A., 1956. - Sur divers Coléoptères Phytophages de la faune française. 1re note. *L'Entomol.*, 12: 88-95.
HOFFMANN, A., 1957. - Description d'une espèce nouvelle du genre *Hypera* et observations sur divers Coléoptères rapportés de Turquie et de Crète, par le Dr K. LINDBERG. *Kungl. Fysiografiska Sallskapets I Lund Förhandlingar*, 27 (13): 173-176.
HOFFMANN, A., LABEYRIE, V. et BALACHOWSKY, A. S., 1962. - Famille des Bruchidae. in BALACHOWSKY, A. S. Entomologie appliquée à l'agriculture, Tome 1, Coléoptères, 1er volume. 564 pp.: 434-494. Ed. MASSON et Cie., Paris.
ILALAN-MENE, G., 1976. - Istanbul, Bursa illeri ve çevrelerinde bakla ve nohutta zarar yapan Bruchidae (Baklagil Tohum Böcekleri) türleri, taninmalari, zararlari ve ekonomik önemleri üzerinde arastirmalar. Istanbul, 87 pp. (unpublished M. Sc. thesis).
IYRIBOZ, N., 1942. Fasulya, mercimek, bakla, nohut ve benzerlerinin böceklenmesi ve çareleri. *Zir. Vek. Nes. Sayi*: 550, Halk bro. N° 33, Bornova Zir. Müc. Ist. N° 31: 11 pp.
KALKAN, M., 1972. - Orta Anadolu Bölgesinde bakliyata zarar veren baklagil tohum böceklerinin tür, yayilis ve zarar oranlari üzerinde arastirmalar. Zirai Mücadele Arastirma Enstitüsü. Ankara: 64.
KARAPETYAN, A. P., 1985. - Bruchidae. in *Fauna of Armenian SSR*. Akad. Nauk Armenia SSR, Erevan, 171 pp. (in Russian). (*Fauna Armyanskoi SSR*, Nasekomya zhestkokrylye, Zernovki, Bruchidae. Izdatel'stvo Akademii Nauk Armyanskoi SSR).
KARMAN, M. ve ERAKAY, S., 1970. - Nohutsinegi ve baklagil tohum böcekleri. *Tar. Bak. Zir. Müc. Zir. Kar. Gen. Müd. Mes. Nes.*, Ser. C.B. Sayi, 53: 19 pp.
KEYDER, S., 1965. - Baklagil *Bruchus*'lari. Ciftçi Brosürü, 5. Tar. Bak. Zir. Müc. Zir. Kar. Gen. Müd. Nes., Yenilik Basimevi, Istanbul, 8 pp.
KHNZORIAN (IABLOKOFF), S. B., 1964. - New genera and species of Coleoptera from Transcaucasia and Middle Asia. *Zool. Sb.*, Erevan, 13: 151-186. (in Russian).
KINGSOLVER, J. M. and JOHNSON, C. D., 1978. - Systematics of the genus *Mimosestes* (Coleoptera: Bruchidae). *Techn. Bull.*, 1590, 106 pp. U.S. Dept. Agric., Washington D.C.
KÜSTER, H. C., 1848. - Die Käfer Europa's, 15. Nuremberg, 100 n.
LUCA (DE), Y., 1958. - Sur l'identité spécifique de *Bruchidius trifolii* MOTSCH. et *Bruchidius alfieri* PIC (Col. Bruchidae). *Ann. Ecole nation. Agricult. Alger*, 1: 3-19.

LUCA (DE), Y., 1961a. Sur trois formes affines *B. hoffmanni* TEMPÈRE, *B. dispar* GYLL., *B. varius* OL. (Coléoptères, Bruchidés). *Bull. Soc. Hist. nat. Alger*, 52: 172-200.

LUCA (DE), Y., 1961b (1962). - Contribution aux Bruchides (Coléoptères) d'Algérie. Leurs hôtes. Leurs parasites. Leurs stations. *Mém. Soc. Hist. nat. Afrique N.*, 7, N.S., 115 pp.

LUCA (DE), Y., 1962. - Contribution aux Bruchides (Col.) d'Algérie. Leurs hôtes. Leurs parasites. Leurs stations. (Deuxième note). *Ann. Ecole nation. Agric. Alger*, 3: 15 pp.

LUCA (DE), Y., 1971. - Redescription de *Bruchidius biguttatus* OL. (Genitalia, patron chromatique, victus, répartition). *Ann. Soc. Hortic. Hist. nat. Hérault*, Montpellier, 111: 76-86.

LUCA (DE), Y., 1972a. - Biologie de *Bruchidius biguttatus* OL. sur ciste (Morphologie et éthologie larvaire. Cycle). *Ann. soc. Hortic. Hist. nat. Hérault*, Montpellier, 112: 266-273.

LUCA (DE), Y., 1972b. - Mise au point concernant *Bruchidius nudus* ALLARD (Coleoptera-Bruchidae). *Bull. Soc. Etude Sc. nat. Nîmes*, 52: 43-53.

LUKJANOVITCH, F. K. and TER MINASSIAN, M. E., 1957. - Seed beetles (Bruchidae). *Fauna USSR, Coleoptera*, 24, 209 pp. Zool. Inst. Akad. Nauk SSR (in Russian).

MOTSCHOULSKY, V., 1873 (1874). - Enumération des nouvelles espèces de Coléoptères rapportés de ses voyages. 13e article. Bruchides. *Bull. Soc. imp. Natur. Moscou*, 46: 203-252.

NORMAND, H., 1937. - Contribution au catalogue des Coléoptères de la Tunisie. 11e fascicule. *Bull. Soc. Hist. nat. Afrique N.*, 28: 116-143.

OLIVIER, E., 1887. - *Ann. Soc. ent. Fr.*, 6, 7. Bull.: 67.

ÖZER, M., 1961. - Türkiye'de baklagil tanelerinde zarar yapan bazi *Bruchus* türleri uzerinde incelemeler. *Ankara Univers. Ziraat Fakult. Yilligi*, 4: 353-369.

ÖZER, M., 1962. - Researches on some pests of milled products and legumes in Turkey. *Univers. Ankara Yearbook Facult. Agric.*, 4: 71-80.

PARKER, H. L., 1957. - Notes sur quelques Bruches et leurs parasites élevés des graines de Légumineuses (Col.). *Bull. Soc. ent. France*, 62: 168-179.

PERRIS, E., 1873. - Résultats de quelques promenades entomologiques. *Ann. Soc. ent. France*, 5 (3): 61-98.

PEYERIMHOFF (DE), P., 1915. - Notes sur la biologie de quelques Coléoptères phytophages du Nord-africain (deuxième série). *Ann. Soc. ent. France*, 84: 19-61.

PEYERIMHOFF (DE), P., 1926. - Notes sur la biologie de quelques Coléoptères Phytophages du Nord africain (quatrième série). *Ann. Soc. ent. France*, 95: 319-390.

PIC, M., 1904. - Sur divers Lariidae ou Bruchidae et *Urodon* anciens et nouveaux. *Echange*, 20: 39-40.

PIC, M., 1913. - Bruchidae. in JUNK, W., *Coleopterorum Catalogus*, 55, 74 pp.

PIC, M., 1953. - Coléoptères du globe (suite). *Echange*, 69: 13-16.

PUCCI, C., 1984. - Osservazioni sul comportamento riproduttivo di *Bruchidius gilvus* GYLL. (Coleoptera: Bruchidae). *Redia*, 67: 269-280.

SAHLBERG, J., 1912-1913. - Coleoptera Mediterranea orientalia, quae in Aegypta, Palaestinia, Syria, Caramania atque in Anatolia occidentalis anno 1904 collegerunt John SAHLBERG et Unio SAALAS. *Ofversight Finska Vetenskaps. Soc.*, 55, 19: 1-282. (Bruchidae determinated by SCHILSKY: 236-240).

SCHATZMAYR, A., 1939 (1941). - Nuovi contributi alla conoscenza della fauna delle Isole Italiane delle Egeo. XIV. Cacce coleopterologiche nel Dodecaneso. *Bol. Lab. Zool. Gen. e. Agric. r. Istituto Super. Agric. Portici*, 31: 342-368.

SCHAUFUSS, C., 1916. - Calwer's Kaeferbuch. Einführung in die Kenntnis der Kaefer. Europas, 6, II. Lariidae: 1018-1024.

SCHILSKY, J., 1905. - Bruchidae. in KÜSTER, H. C. und KRAATZ, G., Die Käfer Europas's, 41: 100 n.

SCHILSKY, J., 1906. - Bruchidae. in KÜSTER, H. C. und KRAATZ, G., Die Käfer Europas's, 42: n. 95-97.

SCHÖNHERR, C. J., 1833. - Genera et species Curculionidum. Paris, I: 31-113.

SECKIN, H., 1981. - Istanbul, Bursa illeri ve çevrelerindeki bezelye, mercimek ve burçak'ta zarar yapan önemli Bruchidae türleri, taninmalari, zararlari ve ekonomik önemleri üzerinde arastirmalar. *Zir. Müc. Zir. Kar. Gen. Müd. Istanbul Böl. Zir. Müc. Aras. Enst. Müd., Aras. Es.* Ser. N° 15: 123 pp.

SHOMAR, N.F.H., 1964. - A monographic revision of the Bruchidae of Egypt (U.A.R.) (Coleoptera). *Bull. Soc. ent. Egypte*, 47: 141-196.

SOUTHGATE, B. J., 1971. - On the identity of *Caryedon pallidus* (OLIVIER) (Col., Bruchidae), and the description of two new *Caryedon* spp. *Bull. ent. Res.*, 60: 409-414.

TEMPÈRE, G., 1954. - Sur quelques coléoptères Anthribides et Bruchides français. *Rev. franç. Ent.*, 21: 47-51.

TEMPÈRE, G., 1957. - Sur quelques coléoptères Anthribides et Bruchides français (deuxième note). *Rev. franç. Ent.*, 24: 105-108.

TEMPÈRE, G. et PONEL, P., 1983. - Une bruche probablement nouvelle pour la faune française: *Bruchus hamatus* (Col. Bruchidae). *L'Entomologiste*, 39: 117-118.

TERAN, A. L., 1962. - Observaciones sobre Bruchidae (Coleoptera) del Noroeste Argentino. *Acta zool. Lilloana*, 18: 211-242.

TER MINASSIAN, M. E., 1968. - A new species of the genus *Bruchus* L. from the fauna of USSR (Coleoptera, Bruchidae). *Rev. ent. URSS*, 47: 181-183 (in Russian).

TER MINASSIAN, M. E., 1969. - New species of seed beetles (Coleoptera, Bruchidae) in the Caucasian fauna. *Dokl. Akad. Nauk. Armyan CCP, Erevan*, 49: 273-276 (in Russian).

TER MINASSIAN, M. E., 1975. - New species of seed beetles (Coleoptera, Bruchidae). *Dokl. Akad. Nauk. Armyan CCP*, 61: 301-305.

TUATAY, N., KALKANDELEN, A. ve CAGATAY-AYSEV, N., 1972. - Nebat Koruma Müzesi Katalogu (1961-1971). *Zir. Müc. Zir. Kar. Gnl. Müd. Yay. Mesl., Kit. Serisi*: 119 pp.

WENDT, H., 1983. - Bruchiden aus dem Museum A. KOENIG, Bonn, Gesammelt von H. KLAPPERICH (Col.: Phytophaga). *Deutsche ent. Zeitschr.*, N.F., 30: 93-98.

ZACHER, F., 1952. - Die Nährpflanzen der Samenkäfer. *Zeitschr. angew. Ent.*, 33: 460-480.

ZACHER, F., 1954. - Bruchidae. in BLUNCK, H., Handbuch der Pflanzenkrankheiten, 5 Band, Tierische Schädlinge an Nutzpflanzen, 2 Teil, 5. neubearbeitte Auflage. 2 Lieferung, Coleoptera: 380-397.

ZAMPETTI, F., 1979. - Contributo alla conoscenza dei Bruchidae del Libano (Coleoptera). *Fragmenta ent.*, Roma, 15: 201-207.

ZAMPETTI, F., 1981. - Contributo alla conoscenza dei Bruchidi di Turchia. I. (Coleoptera, Bruchidae). *Fragmenta ent.*, Roma, 16: 73-87.

ZAMPETTI, F., 1982. - Posizione sistematica di alcune specie appartenenti al genere *Bruchidius* SCHILSKY (Coleoptera, Bruchidae). *Boll. Museo civico Storia nat.*, Verona, 8 : 383-410.

ZAMPETTI, F., 1984. - Contributo alla conoscenza dei Bruchidi di Turchia. II (Coleoptera, Bruchidae). *Fragmenta ent.*, Roma, 17: 395-406.

✡ ✡ ✡ ✡ ✡

Bull. Annls Soc. r. belge Ent. 125 (1989) : *213-235*

Considérations sur les espèces africaines, au sud du Sahara, rapportées au genre **Ceraphron** Jurine, 1807

par Paul DESSART

Manuscrit déposé le 4 mai 1988.
Section d'Entomologie, Institut royal des Sciences naturelles de Belgique, rue Vautier 29, B-1040 Bruxelles.

Summary

The description of two new species, one from La Réunion, *Ceraphron amphimelas* n. sp., another from Zimbabwe, *C. striolatus* n. sp., gives the opportunity to emphasize the scarcity of our knowledge on the African Ceraphronid species (south of the Sahara). The author lists the species associated with the generic names *Ceraphron* JURINE, 1807, or its synonym *Calliceras* NEES, 1834, mentions the ones transferred to *Aphanogmus* THOMSON, 1858, and suggests a new transfer: *Aphanogmus vernoniae* (RISBEC, 1953),and *A. vernoniae* var. *nuxiae* (RISBEC, 1953) n. comb., ex *Ceraphron*. He tentatively proposes a key for all the species, grounded on the original descriptions and on its own former revisions, reproducing the original iconography : such a key makes evident the huge amount of the remaining task, and is considered as a starting-point which necessitates many improvements.

Résumé

La description de 2 nouvelles espèces, l'une de La Réunion, *Ceraphron amphimelas* n. sp., l'autre du Zimbabwé, *C. striolatus* n. sp., fournit l'occasion d'insister sur la pauvreté de nos connaissances des Céraphronidés africains au sud du Sahara. L'auteur dresse la liste des espèces qui sont ou qui ont été associées aux noms génériques *Ceraphron* JURINE, 1807, ou son synonyme *Calliceras* NEES, 1834, cite celles qui ont été transférées au genre *Aphanogmus* THOMSON, 1858, et suggère un nouveau transfert : *Aphanogmus vernoniae* (RISBEC, 1953) et *A. v.* var. *nuxiae* (RISBEC, 1953), n. comb. Il propose, à titre d'essai, une clé des espèces, fondée sur les descriptions originales et sur ses révisions antérieures, en reproduisant l'iconographie originale : une telle clé met bien en évidence l'énormité du travail qui reste à faire, elle n'est qu'un point de départ et nécessite de nombreuses améliorations.