

A list of some Clytrinae (Col.: Chrysomelidae) from Turkey. Part II. *Clytra, Smaragdina, Cheilotoma**

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Summary

The material collected by the author mainly in Central Anatolia, and those collected from Turkey and deposited in Zoological Museums of Munich and East Berlin and in private collection of O. Tokmakoglu, Ankara were studied. Overall 14 species *Clytra*, *Smaragdina* and *Cheilotoma* (Clytrinae), are recorded, many localities being new to the distribution of respective species in Turkey. *Gynandrophthalma graeca* Lefèvre, 1872, *Gyn. flavicollis* var *picticollis* Weise, 1899 and *Gyn. amasina* Pic, 1897 are proposed new synonyms of *Smaragdina* (*Gynandrophthalma*) *flavicollis* Carpentier, 1825. For each species, old synonyms, if known locus typicus, distribution and localities, collection dates, host plants and occurrence of the new material are documented. The taxonomic status of some forms is also discussed.

Introduction

This work examines overall 14 species of *Clytra*, *Smaragdina* and *Cheilotoma* (Clytrinae) collected by the author in Central Anatolia where as possible as many localities were included. The species represented in Central Anatolia are also studied for the available specimens from other parts of Turkey and reviewed for the previous records from the whole Turkey. Nomenclature, taxonomic status, synonyms and order of taxa were given according to the catalogues by Heyden et al. (1906), Clavareau (1913), Winkler (1932) and Medvedev (1961). Wherever present, other recent

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taxonomic changes were also included. Other information presented consisted of general distribution, previous records from Turkey, where old and/or modified locality names were converted here to currently used Turkish names, records of new material studied and notes on occurrence. Most of the specimens were collected on vegetation by sweeping but identified host plants of some species were also recorded. New descriptions or redescriptions and drawings of diagnostic features and discussions of the taxonomy of some species upon the information gained from the new material examined were particularly included.

The new material collected by the author is preserved in his collection. The following abbreviations are employed in designating repositories of specimens examined : BZM : Zoologisches Museum der Humboldt - Universitaet, Berlin; MZS : Zoologische Staatssammlung, München; PM : Museum National d'Histoire Naturelle, Paris; HK : Halil Kasap, University of Cukurova, Adana; OT : Orhan Tokmakoglu, Sugar Institute, Ankara.

Clytra (Clitrella) aliena Weise, 1897

Locus typicus : Ankara (Turkey)

Distribution and Material examined : Known only from Turkey. Previous records belong to the type locality (Weise, 1897; Medvedev, 1961). A male specimen examined here was collected in Yildizeli (Sivas) - Tokat Highway 20. km., on 14.6.1978.

Occurrence : Very rare.

Discussion : The original description (Weise, 1897) of this species was based on external characteristics of the type specimen (male) but the aedeagus was neither described nor figured. In the revision of palaearctic species of *Clytra* Medvedev (1961) cited this species only in an identification key with two figures of clytral colouration. The female seems to be still unknown. Basing on present literature and another male specimen examined here this little known species was necessarily redescribed and its aedeagus was also first time figured below :

Head as compared with pronotum rather large; sulcus of vertex narrow but distinct; frons rugose with sparse, fine and fusiform punctures; anterior margin of pronotum feebly emarginate; corners largely rounded, sides strongly depressed and rugose with coarser punctures than at disc; elytral punctures coarser and sparser than of pronotum; pronotum and elytra glabrous but rest of body pubescent; 2 - 4th antennal segment flavous ventrally, elytra fulvous, rest of body black; each elytron with two smaller

transversely placed black spots in mid - centre plus larger shoulder spots (Medvedev, 1961 indicated that mid - central spots may be absent; in our specimen these spots was present but gradually disappeared after death); aedeagus as in Fig. 1.

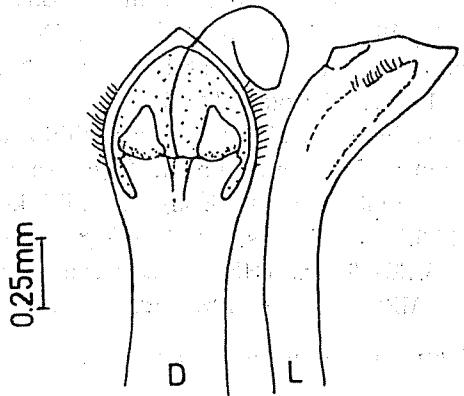


Fig. 1. Aedeagus of *Clytra aliena*. D. dorsal, L. lateral view

Clytra (Clitrella) atraphaxidis (Pallas, 1773)

Synonymy : *Clytra deficiens* Weise, 1900.

Locus typicus : S. France

Distribution : S. Europe, Asia M'nor, Russia and Iran (Medvedev, 1961). Previous records from Turkey : Boz Dağ, Keşan (Edirne), Denizli, Bergama, Bornova, Cumaovası (İzmir), Eskişehir, Dikmen and Ayaş (Ankara), Akşehir (Konya), Turhal (Amasya), (Fairmaire, 1866; Bodemeyer, 1900; Tuatay et al., 1972; Güllü-Zümreoglu, 1972; Tomov and Gruev, 1975).

Material examined : Beytepe Köyü (Ankara), 20.6. - 2.8.1977, 2 exs. on *Atraphaxidis* sp.; Ayaş Dağı (Ankara), 1200 m., 12.7.1978, 3 exs. on *Alyssum lepidonotum*; Tire (İzmir), 6.5 - 17.6.1979, 4 exs., (HK).

Occurrence : Not common.

Clytra (Clitrella) novempunctata Olivier, 1808

Synonymy : *Clytra elagans* Faldermann, 1837; *Clytra elata* Weise, 1882.

Locus typicus : S. Europe

Distribution : N. Africa, Europe, the Balkans, Asia Minor, Iraq, Iran, Russia to Central Asia (Medvedev, 1961). Previous records from Turkey : Gözne (İçel), Çiftehan (Niğde), Ereğli (Konya), Bornova (İzmir), Beydere (Manisa), Karagöl (Ankara), Amasya - Turhal, Balaban Dağı (Giresun) (Bodemeyer, 1900; Gül - Zümreoğlu, 1972; Tomov and Gruev, 1975).

Material examined : Bağlum Köyü, Temelli, Bayındır Brj., Lalahan, Ayaş (Ankara), 29.5 - 9.7.1977, 34 exs. on *Salix* sp.; Dodurga Köyü, Beynam, Kalecik, Kızılcahamam (Ankara), 9 - 12.6.1978, 10 exs.; Çubuk - Karagöl (Ankara), 20.6.1979, 1 ex.; Yozgat, 13.6.1978, 1 ex.; Bünyan (Kayseri), 19.6.1978, 1 ex.; Bor (Niğde), 20.6.1978, 1 ex.; Yıldızeli (Sivas), 14.6.1978, 2 exs. on *Papaver* spp.; Kızılıren, Cumra, Seydişehir (Konya), 15.6.1980, 6 exs.; between Hadim and Taşkent (Konya), 1450 km., 10.6.1980, 1 ex.; Sungurlu (Çorum), 12.6.1978, 14. exs. on *Glacium corniculatum*; Koparan, Boğazkale (Çorum) 25.5.1978 6 exs., (HK). Yılaklı Dağ (Kayseri), 21.6.1969 leg. Seidenstuecker, 1 ex. (MZS). Konya, 1899 leg. Korb, 1 ex. (OT).

Occurrence : Common but in small numbers.

Clytra (Clitrella) valeriana Ménétries, 1832

Synonymy : *Clytra dissimilithorax* Desb., Loges, 1870

Locus typicus : Caucasia, ? «Talyceh»

Distribution : The Balkans, Asia Minor, Iran, Russia to Middle Asia (Medvedev, 1961). Previous records from Turkey : Akşehir (Konya), Selçuk (İzmir), Kavaklıdere (Ankara), Şerefiye (Sivas) (Lefèvre, 1872; Bodemeyer, 1900; Tuatay et al., 1972; Tomov and Gruev, 1975).

Material studied : Beytepe Köyü (Ankara), 3.5. - 27.6.1977, 5 exs. on *Euphorbia* sp., 18.5.1978, 2 exs.; Temelli, Bağlum, Lalahan, Beynam, Kızılcahamam (Ankara), 3.5 - 28.6.1977, 7 exs.; Gülsün (Nevşehir), 21.6.1978 ,3 exs. on *Amelanchias* sp.; Bünyan (Kayseri), 19.6.1978, 2 exs.; Sivas, 18.6.1978, 1 ex.; Konya, 15.6.1980, 2 exs., (HK). Akşehir (Konya), 1900 leg. Korb., 2 exs. (OT).

Occurrence : Not common.

Clytra (Clytra) appendicina Lacordaire, 1848

Locus typicus : Europe (? Hungary)

Distribution : Europe, Asia Minor, Russia, Iran (Medvedev, 1961).

Previous records from Turkey : Turkey, Karagöl (Ankara) (Lefèvre, 1872; Tomov and Gruev, 1975).

Material examined : Atatürk Orman Çiftliği (Ankara), 8 - 18.6.1977, 16 exs. on *Salix* and *Populus* spp.; Lalahan (Ankara), 26.6.1977, 1 ex., 7.6.1978, 8 exs. on *Quercus* sp.; Ayaş (Ankara), 29.5.1977, 1 ex.; Beynam (Ankara), 1.6.1978, 1 ex. on *Cretaegus* sp. (HK).

Occurrence : Not common.

Clytra (Clytra) laeviscula Ratzebürg, 1837

Synonymy : *Clytra quadripunctata* Olivier, 1791 (*nec. Linnaeus, 1758*).

Distribution : Europe to Japan (Clavareau, 1913; Medvedev, 1961). Previous records from Turkey : Sarayköy - at the banks of Menderes River (Denizli), Hasanoğlan (Ankara), Erciyes Dağı (Sahlberg, 1913; Tomov and Gruev, 1975).

Material examined : Bünyan (Kayseri), 19.6.1978, 37 exs. on *Prunus* and *Salix* spp.; Kızılıören (Konya), 15.6.1980, 2 exs. on *Quercus* sp., (HK). Afyon, 13 - 17.6.1965, leg. Gross, 3 exs. (MZS).

Occurrence : Not common.

Clytra (Ovoclytra) bodemeyeri Weise, 1900

Locus typicus : Konya (Turkey)

Distributin : Anatolia and Cyprus (Winkler, 1932). Previous records from Turkey : Zanapa (= Halkapınar) (Konya), Bolkar Dağı, Maden-Burna, Gözne (İçel), Hatay, Çiftehan (Niğde), Bilecik (Weise, 1900; Bodemeyer, 1906; Tomov and Gruev, 1975).

Material examined : Beytepe and Bağlum Köyü (Ankara), 3 - 30.5.1977, 16 exs.; Dodurga Köyü (Ankara), 11.6.1978, 1 ex.; Lalahan, Beynam 1400 m., Kalecik - Akyurt, 1 - 12.6.1978, 32 exs. on *Cretaegus* and *Prunus* spp.; Konya Centrum, Kızılıören (Konya), 15.6.1980, 8 exs., (HK). Zanapa (= Halkapınar) (Konya), 1900, leg. Bodemeyer, 1 ex., Bereketli (Konya), 12 exs. (MZS).

Occurrence : Not common.

Smaragdina biornata (Lefèvre, 1872)

Synonymy : *Cyaniris schelkownikowi* Jacobson, 1894

Locus typicus : Amasya (Turkey)

Distribution : Caucasus, Turkey and Mesopotamia (Winkler, 1932). Previous records from Turkey : Ankara, Göynük (Bolu), Merzifon - Sirikli (Amasya), Soğanlı (Gümüşhane) (Tomov and Gruev 1975; Gruev and Tomov, 1979).

Occurrence and Material examined : This common species was found from late April through June on *Alyssum lepidonotum*, *Lepidium latifolium*, *Adonis aestivalis*, *Anchusa*, *Ranunculus* and *Saliva* spp. and mostly collected in great numbers by sweeping the vegetation. Thus, usually few specimens were sampled for each locality. Totaly 139 exs. were examined. For the sake of shortness only collection localities are given : Beytepe, Temelli, Sögütözü, Gicik, Eymir Gölü, Beynam, Dodurga, Ayaş, Tuney Köyü - Kalecik, Çubuk - Karagöl, Şereflikoçhisar, Kızılıcahamam (Ankara); Cuhun Brj., Kaman - Selimağa (Kirşehir); Hacıbektaş, Kozaklı (Nevşehir); Eldivan (Çankırı); Kulu (Konya); Yozgat Centrum, Boğazlıyan, Çekerek (Yozgat); Kayseri Centrum, Bünyan, Sarıoğlan (Kayseri); Külliük Köyü, Sivas Centrum, Çamlıbel, Gürün (Sivas); Koparan, Alaca, Sungurlu (Çorum); Göynük (Bolu).

Smaragdina flavigollis (Charpentier, 1825)

Locus typicus : Austria

Synonymy : *Gynandrophthalma graeca* Lefèvre 1872 : 346, *syn. nov.*

(Locus typicus : Parnass, S. Greece.)

Gynandrophthalma flavigollis var. *picticollis* Weise,
1889 : 128, *syn. nov.*

(Locus typicus : Amasya, Turkey).

Gynandrophthalma flavigollis var. *picticollis* Weise,
1889 : 128, *syn. nov.*

Distribution : Algebra, Middle and Southern Europe, The Balkans and Turkey. Previous records from Turkey : Amasya (Pic, 1897 : 197, *Gyn. amasina*; Weise 1889 : 128, *Gyn. flavigollis* var. *picticollis*); Amasya, Ezine-pazari (Amasya), Urabat - Mersin (Medvedev, 1970 : 311, *Smaragdina graeca*); Amasya - Göynücek, Mersin (Tomov and Gruev, 1975 : 138, *Smaragdina flavigollis* var. *picticollis*).

Material examined : Yozgat, 13.6.1978, 1 ex.; Çekerek (Yozgat), Çamlıbel (Sivas), 26.5.1978, 2 exs.; Merzifon (Amasya), 25.5.1978, 5 exs.; Alaca - Deniz Köyü (Corum), 12.6.1978, 4 exs. all specimens collected on *Quercus* sp., (HK). «Teiyetos, Morea mer. 2 ♂♂ 13 ♀♀ (BZM).» Mt. Parnes, Greca,

ex museo Lefèvre 1 ♂ Type 1 ♀, *Gyn. amasina* «(PM).» Amasia, 1888 leg. Korb 13 ♂♂ 7 ♀♀ *Gyn. flavigollis* var. *picticollis* det. Weise «(MZS)».

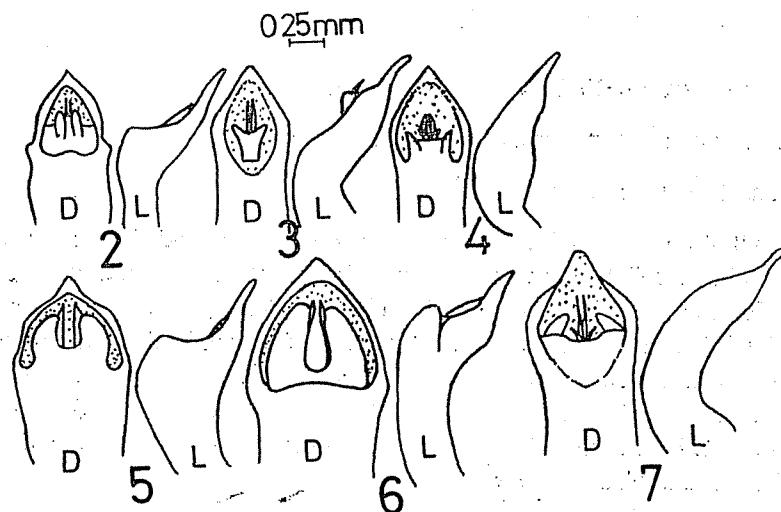
Occurrence : Not common.

Discussion : Pic (1897) distinguished *Smaragdina* (= *Gynandrophthalma*) *amasina* from *S. flavigollis* in having brighter dark green elytra. However, elytra of the type specimens of *S. amasina* examined here were dull green with rufus reflections. Such a change in colouration may depend on time lapse and preservation. *S. graeca* and *S. flavigollis* var. *picticollis* differ from *S. flavigollis* s. str. with some differences in colouration of coxae and pronotum. However, examination of types, topotypes and other material showed that these differences were almost variable, even in the same population. The aedeagus and spermatheca of all these four forms were of the same structures, aedeagus as in Fig. 4., spermatheca as in Fig. 10. Thus, *S. amasina*, *S. graeca* and *S. flavigollis* var. *picticollis* are apparently some variants, distinguished variations for the pronotal and coxal colouration, of *S. flavigollis*. Consequently, *S. amasina*, *S. graeca* and *S. flavigollis* var. *picticollis* are proposed here as new synonymys of *S. flavigollis*, which is the oldest available and valid name.

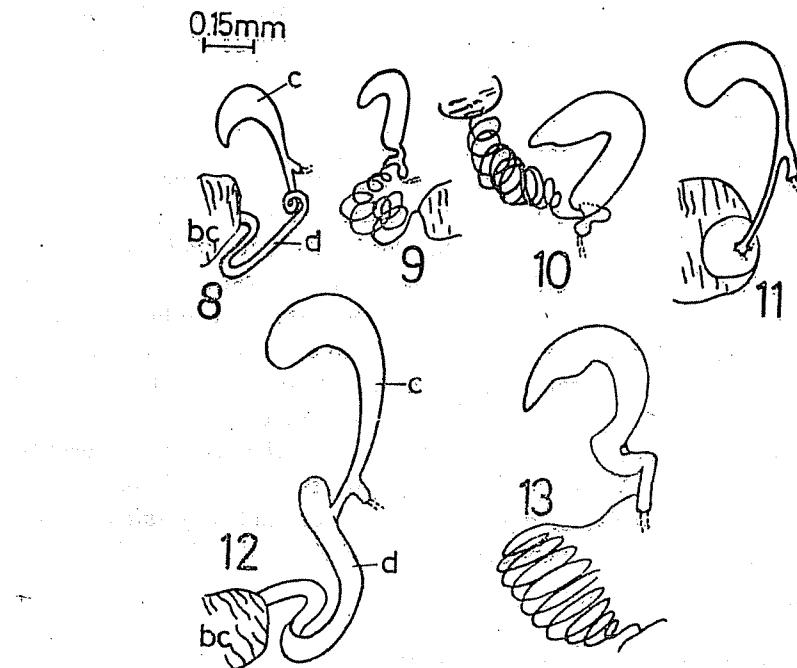
Smaragdina hypocrita (Lacordaire, 1848)

Locus typicus : Yugoslavia

Distribution : The Balkans, Russia and Turkey (Winkler, 1932). Previous records from Turkey : Istanbul, İznik-Kaynarca, Uludağ, Kavak, Bafra, Engiz (Samsun); Almus (Tokat), Gümüşhane, Soğuksu Milli Parkı, (Ankara) (Lefèvre, 1872; Medvedev, 1970, Gruev and Tomov, 1979).



Figs. 2-7. Aedeagus (D. dorsal, L. lateral view) of (2) *S. hypocrita*, (3) *S. tibialis*, (4) *S. flavigollis*, (5) *S. limbata*, (6) *S. biornata*, (7) *S. xanthapsis*.



Figs. 8-13. Spermatheca of (8) *S. hypocrita*, (9) *S. tibialis*, (10) *S. flavidollis*, (11) *S. limbata*, (12) *S. biornata*, (13) *S. xanthapsis*. bc. bursa copulatrix, c. spermathecal capsul, d. spermathecal duct

Material examined : Karagöl (Ankara) 1150 m., 20.6.1979, 2 exs. (HK). Gümüşhane-Trabzon, 14-16.6.1967, leg. Reichter, 3 exs.; Kastamonu-Taşköprü, 17.6.1969, leg. Gross, 1 ex. (MZS).

Smaragdina limbata (Steven, 1806)

Synonymy : *Clytra dorsalis* Olivier, 1808

Locus typicus : S. Russia

Distribution : Russia, Caucasia, Turkey, Syria and Greece (Clavareau, 1913; Winkler, 1932). Previous records from Turkey : İstanbul, İznik-Kaynarca, Karacabey (Bursa), Göynük (Bolu), Bozdağ, Yamanlar Dağı, Boranova (İzmir), Manisa, Eskişehir, Çubuk Brj. (Ankara), Kavaklı, Ezine Pazari, Karatepe (Samsun), Amasya, Bolkar Dağı, Ergani (Diyarbakır), Sandıklı (Afyon), Kestep (Muğla) (Lefèvre, 1872; Sahlberg, 1913; Bodemeyer, 1900; Medvedev, 1970; Tuatay et al., 1972; Gül-Zümreoglu, 1972; Tomov and Gruev, 1975; Gruev and Tomov, 1979).

Material examined : Lalahan, Kızılcahamam (Ankara), 7-9.6.1978, 14 exs.; Sorgun, Boğazlıyan (Yozgat), 13-21.5.1978, 40 exs.; Çekerek (Yozgat),

15.6.1978, 1 ex.; Alaca-Deniz Köyü (Çorum), 12.6.1978, 40 exs.; Koparan Geçidi 1500 m., Yazılıkaya (Çorum), 25.5.1978, 30 exs.; Merzifon (Amasya), 25.5.1978, 6 exs.; Kızılcaören (Konya), 15.6.1980, 1 ex., all specimens collected on *Quercus* sp., (HK); Konya, 1888 leg. Korb, 1 ex. (MZS).

Occurrence : Not common but sometimes found in large numbers on *Quercus* sp., thus the material examined was collected by sampling.

Smaragdina tibialis (Brullè, 1832)

Synonymy : *Gynandrophthalma grazca* Weise, 1895 (*nec* Lefèvre, 1872).

Locus typicus : Greece

Distribution : Greece, Turkey, Cyprus and Syria (Clavareau, 1913; Winkler, 1932). Previous records from Turkey : İstanbul, İznik-Kaynarca, Yeniçağa (Bolu), Akşehir (Konya), Soğuksu Milli Parkı (Ankara), Karaağaç (Manisa), Toros Mnts. (Kraatz, 1872; Lefèvre, 1872; Heyden, 1888; Bodemeyer, 1900; Medvedev, 1970; Güllü - Zümreoglu, 1972).

Material examined : Beynam 1100 - 1400 m., Soğuksu Milli Parkı (Ankara) 1200 m., 1-2.6.1978, 103 exs.; Kızılırmak (Çankırı), 9.6.1978, 1 ex.; Alaca, Koparan (Çorum), 12-25.5.1978, 3 exs., all collected on *Quercus* spp. (HK).

Occurrence : Not common, but sometimes in considerable numbers.

Smaragdina xanthapsis (Germar, 1824)

Synonymy : *Smaragdina thoracica* Kuester, 1846

Locus typicus : ? Germany

Distribution : Europe, Turkey, Syria. Previous records from Turkey : İznik-Kaynarca, Bilecik, Amasya, Tavşan Dağı, Taşdelen-Zigana Dağı, Artvin, Hasanoğlan (Ankara) (Bodemeyer, 1906; Medvedev, 1970; Tomov and Gruev, 1975).

Material examined : Beytepe Köyü (Ankara), 25.5-20.6.1977, 5 exs., 30.5-27.6.1978, 8 exs.; Bağlum Köyü (Ankara), 1.7-1.9.1977, 21 exs.; Dodurga Köyü (Ankara), 11.6.1978, 17 exs.; Lalahan (Ankara), 8-28.6.1977, 11 exs., 7.6.1978, 4 exs.; Ayaş (Ankara), 12.7.1978, 3 exs.; Beynam (Ankara), 1-26.6.1978, 8 exs.; Soğuksu Milli Parkı 1300 m., 18.6.1972, 2 exs.; Çubuk-Karaköy (Ankara), 7.7.1978, 14 exs., 20.6.1979, 19 exs.; Gezi (Kayseri), 21.5.1978,

1 ex.; Deniz Köyü-Alaca (Corum), 12.6.1978, 1 ex., (HK). Kızılcahamam (Ankara), 1969 leg. Seidenstuecker, 2 exs. (MZS).

Occurrence : Common.

Cheilotoma beldei Kasap, 1984

Locus typicus : Soğuksu Milli Parkı, Kızılcahamam (Ankara), Turkey.

Distribution : Turkey.

Material examined : Soğuksu Milli Parkı, Kızılcahamam (Ankara), 9.6-13.7.1978, 4 ♂♂, 7 ♀♀; Çifteler Harası (Eskişehir), 17.5.1979, 1 ♀; Kozaklı (Nevşehir), 21.5.1978, 1 ♂; Yıldızeli (Sivas), 14.6.1978, 1 ♂.

Occurrence : Not common.

Discussion : The only record of *Cheilotoma* from Turkey before the description of *C. beldei* was for a male specimen of *C. musciformis* Goeze (Gruev and Tomov, 1979), which is closely related to *C. beldei*; however, this specimen was proved to belong also to *C. beldei* (Kasap, 1984). Thus, *C. beldei* is so far the only species representing *Cheilotoma* in Turkey.

Özet

Türkiye'den bazı Clytrinae (Col. : Chrysomelidae) türleri Kısim II. *Clytra*, *Smaragdina*, *Cheilotoma*

Yazarın, çoğunu İç Anadolu'dan topladığı, ayrıca Münih ve D. Berlin Zooloji Müzeleri ile O. Tokmakoğlu'nun Ankara Şeker Enstitüsünde bulunan Türkiye Clytrinae örneklerini içeren *Clytra*, *Smaragdina* ve *Cheilotoma* cinslerine ait 14 tür incelenmiştir. Kayıtlardan çoğu, türlerin Türkiye'deki yayılış alanları için yenidir. *Gynandrophthalma graeca* Lefèvre, 1872, *Gyn. flavidollis* var. *picticollis* Weise, 1889 ve *Gyn. amasina* (Carpentier, 1825)'nin *Smaragdina* (*Gynandrophthalma*) *flavidollis* (Carpentier, 1825)'in sinonimleri olduğu ilk kez saptanmıştır. Her tür için, varsa sinonimleri, tip yeri, genel yayılışı, yeni materyalin toplandığı yer, tarih ve konukçu bitkisi belirtilmiş ve bazı türlerin taksonomik durumları tartışılmıştır.

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