

**CHRYSOLINA (PARADIACHALCOIDEA) DACCORDI IN
PALAEARCTIC REGION AND REMARKS ABOUT THE ACTUAL
SUBGENERA SITUATION OF CHRYSOLINA IN TURKEY
(COLEOPTERA: CHRYSOMELIDAE: CHRYSOMELINAE)**

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ABSTRACT: This paper presents at first a short survey about the subgenera of *Chrysolina* in Turkey and at second a synopsis on the subgenus *Paradiachalcoidea* in Palaearctic region. *Chrysolina palmyrensis* is recorded for the second time from Turkey after Gruev & Tomov (1979). Type information of all Palaearctic taxa of the subgenus *Paradiachalcoidea* is provided. Erroneous information of type locality for *Ch. dohrnii dohrnii* (Fairmaire, 1865) and *Ch. palmyrensis palmyrensis* Bechyné, 1955 are amended as Syria, not Lebanon. The distribution area of all Palaearctic taxa of the subgenus *Paradiachalcoidea* is discussed. Consequently a key for the members of subgenus *Paradiachalcoidea* in Palaearctic region is also given.

KEY WORDS: *Chrysolina* subgenera, *Paradiachalcoidea*, *Chrysolina palmyrensis*, Turkey, Palaearctic region

Chrysolina Motschulsky, 1860 (Chrysomelidae: Chrysomelinae: Doryphorini: Chrysolinina) is a very large and diverse genus of leaf-beetles, represented in Turkey with a lot of subgenera and with some endemic species. After that the Palaearctic Catalogue 6 in 2010 has presented a detailed report about Chrysomelidae some interesting supplements have been published which regard also the fauna of Turkey. Therefore at first a short summary will be given here about the actual subgenus situation in Turkey.

Subgenus *Parachalcoidea* is scarcely recorded from Turkey and besides this, treated incorrectly in the literature. A detailed discussion of this subgenus including some corrections seems to be required and will be presented.

MATERIALS AND METHODS

During the study of Chrysomelidae specimens in our collections, we have identified two female specimens of the species *Ch. (Paradiachalcoidea) palmyrensis* Bechyné, 1955 collected from the province Şanlıurfa in the South-Eastern Anatolian Region of Turkey. These specimens were deposited at Nazife Tuatay Plant Protection Museum (NTM) (Turkey, Ankara).

Kippenberg (2010) and Warchałowski (2010) are used to distributional data of the taxa in the text chiefly.

RESULTS AND DISCUSSION

Actual list of the *Chrysolina* Motschulsky subgenera reported from Turkey (with number of Turkish species)

In Turkey, genus *Chrysolina* is represented by 24 subgenera (of 57 subgenera in the Palaearctic region). These are (Ekiz et al. 2013, Özdikmen 2014, Özdikmen et al. 2014; Şen, 2015):

- Bittotaenia* Motschulsky, 1860 (3 species)
- Chalcoidea* Motschulsky, 1860 (5 species)
- Chrysolina* Motschulsky, 1860 (2 species)
- Chrysolinopsis* Bechyné, 1950 (1 species)
- Chrysomorpha* Motschulsky, 1860 (1 species)
- Colaphodes* Motschulsky, 1860 (1 species)
- Colaphoptera* Motschulsky, 1860 (2 species)
- Colaphosoma* Motschulsky, 1860 (1 species)
- Diachalcoidea* Bechyné, 1955 (1 species)
- Erythrochrysa* Bechyné, 1950 (1 species)
- Euchrysolina* Bechyné, 1950 (1 species)
- Fastuolina* Warchalowski, 1991 (1 species)
- Hypericia* Bedel, 1892 (5 species)
- Lopatinica* Kippenberg, 2012 (6 species)
- Ovosoma* Motschulsky, 1860 (4 species)
- Ovostoma* Motschulsky, 1860 (1 species)
- Paradiachalcoidea* Daccordi, 1978 (1 species)
- Sphaeromela* Bedel, 1892 (1 species)
- Stichoptera* Motschulsky, 1860 (2 species)
- Sulcicollis* J. R. Sahlberg, 1913 (4 species)
- Synerga* Weise, 1900 (2 species)
- Taeniossticha* Motschulsky, 1860 (2 species)
- Threnosoma* Motschulsky, 1860 (1 species)
- Zeugotaenia* Motschulsky, 1860 (1 species)

Subgenus *Paradiachalcoidea* Daccordi, 1978: 752

Type species: *Chrysolina vignai* Daccordi, 1978

Subgenus *Paradiachalcoidea* was described by Daccordi (1978) for three Ethiopian species: *Chrysolina vignai* Daccordi, 1978 (type species), *Ch. copta* Daccordi, 1978 and *Ch. silvanae* Daccordi, 1978. *Ch. copta* Daccordi, 1978 is a synonym of *Ch. limbatella* (Weise, 1907). Later on *Ch. palmyrensis* Bechyné, 1955 from Israel, Iraq, Iran, Lebanon, Syria and Turkey was transferred by Bieńkowski (2001) from subgenus *Diachalcoidea* Bechyné, 1955 to subgenus *Paradiachalcoidea* Daccordi. Thus Kippenberg (2010) mentioned for the Palearctic only the species *Ch. palmyrensis* Bechyné, 1955 in the subgenus *Paradiachalcoidea*. In addition *Ch. dohrnii* (Fairmaire, 1865) from Syria and Lebanon was transferred by Bieńkowski & Orlova-Bieńkowskaya (2011) from subgenus *Zeugotaenia* Motschulsky, 1860 (Kippenberg 2010) to subgenus *Paradiachalcoidea* Daccordi, 1978.

Chrysolina dohrnii (Fairmaire, 1865)

(Fig. 1)

Chrysomela dohrnii Fairmaire, 1865: 81

- Chrysomela peyroni* Ancey, 1876: 94
Chrysomela (*Colaphosoma*/*Zeugotaenia*) *dohrni*: Winkler, 1930: 1279
Chrysomela (*Colaphosoma*/*Zeugotaenia*) *peyroni*: Winkler, 1930: 1279
Chrysolina (*Taeniossticha*) *dohrni*: Bourdonné & Doguet, 1991: 40
Chrysolina (*Taeniossticha*) *dohrnii peyroni*: Bieńkowski, 2001: 193
Craspeda (*Craspeda*) *dohrnii*: Bourdonné, 2005: 305, 2008: 20
Craspeda (*Craspeda*) *dohrnii* = *peyroni* (syn. nov.): Bourdonné, 2008: 20
Chrysolina (*Zeugotaenia*) *dohrnii dohrnii*: Kippenberg, 2010: 419
Chrysolina (*Paradiachalcoidea*) *dohrnii*: Bieńkowski & Orlova-Bieńkowskaya, 2011: 505
Chrysolina (*Zeugotaenia*) *dohrnii peyroni*: Kippenberg, 2010: 419

This species inhabiting the Near East (Syria and Lebanon) was placed by Winkler (1930) in the subgenus *Zeugotaenia*, by Bourdonné & Doguet (1991) in the subgenus *Taeniossticha* and later on by Bourdonné (2005) in the subgenus *Craspeda* (regarded as *Craspeda* subg. *Craspeda*). Bieńkowski & Orlova-Bieńkowskaya (2011) found out that *Ch. dohrnii* differs from representatives of the subgenus *Zeugotaenia* in the following characters: ultimate segment of maxillary palpus are narrow and elongate in both sexes; basal tarsal segments of male are not widened; lateral depression of pronotum is very shallow; and elytral striae are absolutely regular and paired, well visible against background of finer punctation of intervals. Based on this combination of characters, Bieńkowski & Orlova-Bieńkowskaya (2011) placed *Ch. dohrnii* in the subgenus *Paradiachalcoidea* Daccordi, 1978, sensu Bieńkowski (2001).

This species includes two subspecies: the nominal subspecies and *Ch. dohrnii peyroni* (Ancey, 1876).

***Chrysolina dohrnii dohrnii* (Fairmaire, 1865)**

- Chrysomela dohrnii* Fairmaire, 1865: 81
Chrysomela (*Colaphosoma*/*Zeugotaenia*) *dohrni*: Winkler, 1930: 1279
Chrysolina (*Taeniossticha*) *dohrni*: Bourdonné & Doguet, 1991: 40
Craspeda (*Craspeda*) *dohrnii*: Bourdonné, 2005: 305, 2008: 20
Chrysolina (*Zeugotaenia*) *dohrnii dohrnii*: Kippenberg, 2010: 419
Chrysolina (*Paradiachalcoidea*) *dohrnii*: Bieńkowski & Orlova-Bieńkowskaya, 2011: 505

According to Bieńkowski (2001) and Kippenberg (2010), this subspecies is known only from Lebanon. However this subspecies occurs only in Syria. Since *Ch. dohrnii* was originally described by Fairmaire (1865) with original combination *Chrysomela dohrnii* from Syria, not Lebanon, according to original description [syntype in MNHN (Museum National d'Histoire Naturelle, Paris, France), examined by Bourdonné, 2008].

***Chrysolina dohrnii peyroni* (Ancey, 1876)**

- Chrysomela peyroni* Ancey, 1876: 94
Chrysomela peyroni: Weise, 1916: 85
Chrysomela (*Colaphosoma*/*Zeugotaenia*) *peyroni*: Winkler, 1930: 1279
Chrysolina (*Taeniossticha*) *dohrnii peyroni*: Bieńkowski, 2001: 193
Craspeda (*Craspeda*) *dohrnii* = *peyroni* (syn. nov.): Bourdonné, 2008: 20
Chrysolina (*Zeugotaenia*) *dohrnii peyroni*: Kippenberg, 2010: 419

According to Kippenberg (2010), this subspecies is reported from Lebanon and Syria erroneously. However this subspecies occurs only in Lebanon as stated by Bieńkowski (2001). Since *Ch. dohrnii peyroni* (Ancey, 1876) with original combination *Chrysomela peyroni* from Lebanon: "Mont Sannin, près de Beyrouth" [syntype in MNSB (Museum of Natural Sciences, Bruxelles, Belgium), examined by Bourdonné, 2008].

***Chrysolina palmyrensis* Bechyné, 1955**

- Chrysomela rufomarginata*: Baly, 1879: 191 [homonym, nec Suffrian, 1851: 65]
Chrysomela rufomarginata: Marseul, 1887: 127 [homonym, nec Suffrian, 1851: 65]
Chrysolina palmyrensis palmyrensis: Bechyné, 1955: 350
Chrysolina palmyrensis assurensis: Bechyné, 1955: 350
Chrysolina palmyrensis: Gruev & Tomov, 1979: 263
Chrysolina palmyrensis palmyrensis: Bieńkowski, 2001: 127
Chrysolina palmyrensis assurensis: Bieńkowski, 2001: 127
Chrysolina palmyrensis: Aslan et al., 2003: 588
Chrysolina palmyrensis palmyrensis: Kippenberg, 2010: 412
Chrysolina palmyrensis assurensis: Kippenberg, 2010: 412

Ch. palmyrensis Bechyné, 1955 was originally included in the subgenus *Diachalcoidea* Bechyné, 1955. Gruev & Tomov (1979) stated that aedeagus of *Ch. palmyrensis* is somewhat different from those of other members of *Diachalcoidea*. Then, *Ch. palmyrensis* from Turkey, Syria, Lebanon, Israel, Iraq, Iran was transferred by Bieńkowski (2001) from the subgenus *Diachalcoidea* to the subgenus *Paradiachalcoidea*. Bieńkowski (2001) stated that *Ch. palmyrensis* Bechyné, 1955 corresponds to the diagnosis of the subgenus *Paradiachalcoidea* and its aedeagus structure is very close to *Ch. silvanae* and *Ch. limbatella*.

This species includes two subspecies: the nominal subspecies and *Ch. palmyrensis assurensis*. In Turkey the subspecies *Ch. palmyrensis assurensis* is represented only (Ekiz et al. 2013, Özdikmen 2014, Özdikmen et al. 2014).

***Chrysolina palmyrensis palmyrensis* Bechyné, 1955**

- Chrysomela rufomarginata*: Baly, 1879: 191 [homonym, nec Suffrian, 1851: 65]
Chrysomela rufomarginata: Marseul, 1887: 127 [homonym, nec Suffrian, 1851: 65]
Chrysolina palmyrensis palmyrensis: Bechyné, 1955: 350
Chrysolina palmyrensis palmyrensis: Bieńkowski, 2001: 127
Chrysolina palmyrensis palmyrensis: Kippenberg, 2010: 412

This subspecies is distributed in Israel, Lebanon and Syria. *Ch. palmyrensis* was originally described by Bechyné (1955) from Palmyra in Syria, not Lebanon, [holotype in NMB (Naturhistorische Museum Basel (collection G. Frey), Basel, Switzerland)]. It was reported by Bechyné (1955) from Israel (Kallia env., Jericho, Jerusalem env., Gvulot, Ein Rafa, Nahalal, Kinneret, Deganya, Sha'ar Hagolan, Ein Gev). It was also recorded by Baly (1879) and Marseul (1887) from Mesopotamia (?Syria), Chikatunov et al. (1999, 2004) from Israel: Nahal (Carmel Mt.) and Bieńkowski (2001) from Israel: Jericho env..

***Chrysolina palmyrensis assurensis* Bechyné, 1955**

(Figs. 2, 3)

- Chrysolina palmyrensis assurensis* Bechyné, 1955: 350
Chrysolina palmyrensis: Gruev & Tomov, 1979: 263.
Chrysolina palmyrensis assurensis: Bieńkowski, 2001: 127.
Chrysolina palmyrensis: Aslan et al., 2003: 588.
Chrysolina palmyrensis assurensis: Kippenberg, 2010: 412.

This subspecies is distributed in Iran, Iraq and Turkey. *Ch. palmyrensis assurensis* was originally described by Bechyné (1955) from Iraq: Assur [holotype in NMB (Naturhistorische Museum Basel (collection G. Frey), Basel, Switzerland)]. It was also recorded by Bieńkowski (2001) from Iran (Mehran and Khuzestan) and Iraq (Erbil and Aski Kalak). *Ch. palmyrensis* was reported by Gruev & Tomov (1979) only from Gaziantep province in South-Eastern Anatolian Region of Turkey on the base of one male specimen dated 17.5.1963. This record

was regarded as the subspecies *Ch. palmyrensis assurensis*, and it was repeated by some authors for Turkey (Bieńkowski, 2001; Aslan et al., 2003; Ekiz et al., 2013; Özdikmen, 2014; Özdikmen et al., 2014). The record of Gruev & Tomov (1979) from Turkey is discussed below.

Material examined. Turkey, Şanlıurfa province, Göbeklitepe, 770 m., 28.IV.2015, 2 ♀♀. These specimens were deposited at Nazife Tuatay Plant Protection Museum (NTM) (Turkey, Ankara).

Remarks. This subspecies is recorded for the second time for Turkey after Gruev & Tomov (1979). Thus it is the first record for Şanlıurfa province that is located in Southern part of Turkey in North of Syria. Body length and width of the present female specimens changes 6.5–6.6 mm and 4.5–4.6 mm respectively. Bechyne (1955) characterized the females having a feeble furrow beneath of the first tarsomere of the hind tarsi only. According to Warchałowski (2010), in females of *Ch. palmyrensis* the underside of first tarsomere of mid and hind tarsi entirely is covered by short setae without a median nude stripe. However, the present female specimens have a clear median nude stripe underside of first tarsomere of mid and hind tarsi (Fig. 2). Anyway, *Chrysolina palmyrensis assurensis* differs from nominal subspecies by relatively smaller body (6 mm) and relatively stronger and deeper punctures of elytra according to Bechyne (1955). In connection with this, the present female specimens can be belonging to a new subspecies of *Chrysolina palmyrensis*. However, we avoid to describe a new taxon only based on 2 females now. We should study and compare material too, and make it evident.

A key for the members of *Chrysolina* (*Paradiachalcoidea*) in the Palaearctic region

1. Red lateral stripe of elytra encroach partly on anterior margin; red bordering of elytra rather broad; rows of primary punctures on elytra distinctly geminate, dense, intervals very finely and sparsely punctate; lateral impressions on pronotum feeble.....2
- Red lateral stripe of elytra does not encroach on anterior margin; red bordering of elytra rather narrow; rows of primary punctures on elytra almost equidistant; lateral impressions on pronotum stronger.....3

2. First antennal segment reddish apically; red lateral stripe of elytra encroach partly on anterior margin, reaching almost to scutellum.....*Ch. dohrnii dohrnii*
- Antennae entirely black; red lateral stripe of elytra encroach partly on anterior margin, but not reaching to scutellum.....*Ch. dohrnii peyroni*

3. Body relatively smaller; elytra with relatively stronger punctures.....
-*Ch. palmyrensis assurensis*
- Larger and feebly punctured.....*Ch. palmyrensis palmyrensis*

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Figure 1. *Chrysolina dohrnii* (ex. coll. H. Kippenberg).



Figure 2. Median nude stripe underside of first tarsomere of hind tarsi of *Chrysolina palmyrensis* from Şanlıurfa province (♀).

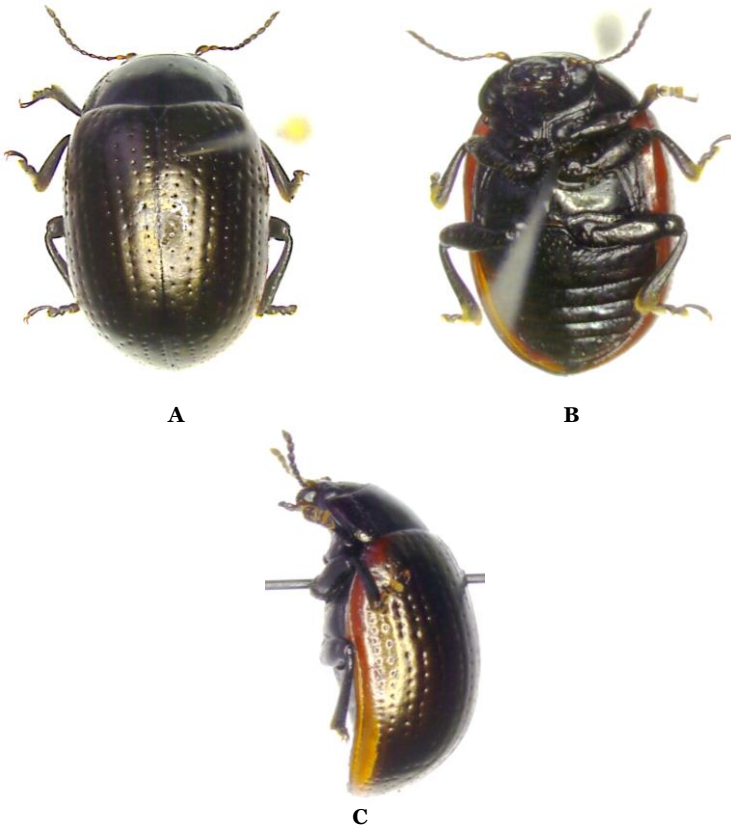


Figure 3. *Chrysolina palmyrensis* from Turkey (♀): **A**. Dorsal view, **B**. Ventral view, **C**. Lateral view.