

## **A New Record of the Genus *Cassida* Linnaeus, 1758 from Turkey: *Cassida ferruginea* Goeze, 1777 (Coleoptera: Chrysomelidae)**

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### **ABSTRACT**

*Cassida ferruginea* Goeze, 1777 is recorded for the first time from Turkey. A single specimen of the species was collected from Sakarya Province (north-western Turkey). This new record extends the known distribution area of the species through Southeastern Europe including Turkey. In the present study, the main morphological characters of the species are presented and its habitus is illustrated.

*Key words:* Chrysomelidae, *Cassida ferruginea*, new record, Turkey, distribution.

### **INTRODUCTION**

*Cassida* Linnaeus, 1758 is the most speciose genus within the subfamily Cassidinae and most of the species are distributed in the Old World, especially in the tropics and subtropics of Africa and Asia, excepting one native North American species (Borowiec, 2007a). The genus comprises 170 species in the Palaearctic Region and 40 of them are found in Turkey (Warchałowski, 2003; Borowiec and Sekerka, 2010; Doğan *et al.*, 2012; Ekiz, *et al.*, 2013).

During a faunistic survey carried out on the leaf beetles in north-western Turkey in 2012, one specimen belonging to the genus *Cassida* was collected. Examination of this specimen revealed that it belongs to *Cassida ferruginea* Goeze, 1777. As far as we know, *C. ferruginea* had not been reported from Turkey up to now. So, the aims of this study are to present a brief description of *C. ferruginea* and to provide new geographical data about the species.

### **MATERIAL AND METHODS**

This study is based on single female specimen collected from Sakarya Province (Turkey) in 2012. Sample was incidentally collected by sweep-netting of various plants. The habitus and venter of the specimen are photographed by Camedia C-5060 digital camera attached to the Olympus SZX12 stereomicroscope. The specimen is deposited at the Department of Biology, Faculty of Arts and Science, Süleyman Demirel University, Isparta, Turkey.

## RESULTS

### *Cassida ferruginea* Goeze, 1777 (Figs. 1 A-B)

Material examined. TURKEY: Sakarya prov., Sapanca town (40° 42' 8.00" N, 30° 11' 18.00"), 40 m, 10.v.2012, 1 ♀, leg Ö.D. Kaya.

### Description

*Total body length:* 6.2 mm. (Fig. 1A-B)

*Head.* Completely black; mouth parts black except reddish brown labrum, first six antennomeres yellow, the remaining parts light brown to dark brown. The first segment 1.5 times as long as the second, third segment 1.17 times as long as second, antennal segment ratios: (9:6:7:6:6:5:6:6:6:6:12) *Pronotum.* Moderately convex above the head and extending outwardly as broadly explanate margin; reddish with pale yellowish border along anterior margin and with broad reddish band along basal margin; at the base two times wider than its length and gradually narrowing towards the anterior margin; densely, deeply and confusedly punctate. *Scutellum.* Dark brown; triangular; hairless and without punctures. *Elytra.* Moderately convex and extending outwardly as broadly explanate margin; surroundings of the scutellum and the elytral suture reddish brown, anterior margin of elytra with black stripe and emarginate, remaining parts of elytra completely green; elytra 2.2 times longer than pronotum, about 1.1 times as long as shoulder width; almost parallel-sided and clearly narrowed and rounded towards apex; covered with coarse, dense and irregular punctures except two regular rows from  $\frac{1}{3}$  of elytra to apex near the elytral suture. *Venter.* Completely black with a yellow band extending along the margins of the abdominal segments 2-5; covered with short, scarce and whitish hairs. *Legs.* Coxa, trochanter and femur black, apex of femur yellow, all parts of tibia and tarsal segments yellow and tibia and tarsal segments covered with scarce, long white hairs.

### Distribution

*Cassida ferruginea* is a Western Palearctic species. The species is distributed in Europe in Austria, Bosnia Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, France, Germany, Greece, Hungary, Italy, Latvia, Poland, Romania, Slovakia, Slovenia, Russia (only South European Territory), Sweden, Switzerland, Ukraine, Serbia and Montenegro; in North Africa in Algeria (Borowiec and Sekerka, 2010).

### Habitat

Previous host plant records for *C. ferruginea* were given as *Pulicaria dysenterica*, *P. uliginosa*, *P. prostrata* and *Inula salicina* belonging to the family Asteraceae (Borowiec and Świętojańska, 2012). The species occurs generally in moist areas where *Pulicaria dysenterica* and *Inula salicina* grow (Szafranski, 1992). The present specimen of *C. ferruginea* was collected from the İkinci Bahar Nursery, which has various plants, in Sakarya Province (Turkey), but it was not possible to determine the host plant of *C. ferruginea* because the single specimen was collected by sweep-netting. Among aforementioned formerly known host plants, *P. dysenterica* and *I. salicina* are found

*A New Record of the Genus Cassida Linnaeus, 1758 from Turkey*

in Turkey, but only one of them, *P. dysenterica*, is present in the Sakarya province. Although it is not definite, current state made us think that the species was possibly feeding on *P. dysenterica*.

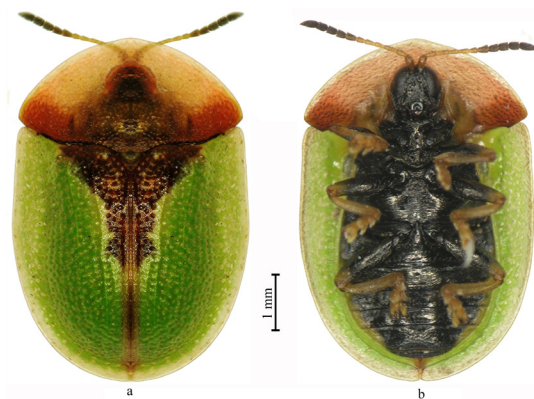


Fig. 1. *Cassida ferruginea* Goeze, 1777 Habitus, A) dorsal view B) ventral view.

## DISCUSSION

A list and distribution records of Cassidinae fauna of Turkey was presented by Kismalı and Sassi (1994). According to this study, Turkish Cassidinae fauna included 35 species of which 32 belonging to the genus *Cassida*. Later on, Kismalı and Sassi (1997) published an emendation paper for the former paper and corrected the species identification quoted as *C. hexastigma* Suffrian, 1844 and *C. humeralis* Kraatz, 1874 to *C. inquinata* Brullé, 1832 and *C. fausti* Spaeth et Reitter, 1926 respectively. Afterwards, *C. strejceki* Sekerka, 2006 was described as a new species from eastern Turkey (Sekerka, 2006). Recently *C. elongata* Weise, 1893, *C. flaveola* Thunberg, 1794, *C. parvula* Boheman, 1854, *C. sanguinosa* Suffrian, 1844 were added to the *Cassida* species known from Turkey (Özdikmen, 2011). Finally, *C. pusilla* Suffrian, 1844 was firstly recorded from western Turkey (Dogan *et al.*, 2012). As shown by the mentioned studies, Turkish *Cassida* fauna included a total of 40 species up to now. With the present study including the new record of *C. ferruginea*, the *Cassida* fauna of Turkey reached to 41 species. Although Borowiec (2007b) stated that Cassidinae fauna of Turkey is well known, recent studies indicated that new records for the country or even new species belonging to Cassidinae still could be discovered in Turkey. Therefore, further studies, especially in the Black Sea Region and the Southeastern Anatolia Region, are needed to determine the exact number of Cassidinae species of Turkish fauna.

According to Borowiec and Sekerka (2010), the species is distributed in Europe (except Portugal, Spain, Ireland, Belgium, the Netherlands, Lithuania, Belarus, Kaliningrad (Russia), Ukraine, Moldova and Norway) and Algeria (North Africa) and South European Territory of Russia. This shows that the species enlarges its

distribution area through Southeastern Europe. On the other hand, the species may actually be distributed in aforementioned countries just not found yet. It is also quite probable that *C. ferruginea* is distributed more widely in Turkey and can be expected in the whole Black Sea Region of Turkey. However, further studies are needed to investigate the exact range of this species.

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