

# A Study on The Male and Female Genital Structures of Two *Cortodera* Species (Coleoptera: Cerambycidae) From Turkey<sup>1</sup>

## Türkiye'den İki *Cortodera* (Coleoptera: Cerambycidae) Türünün Erkek ve Dişi Genital Yapıları Üzerine Bir Çalışma

Research Article

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### ABSTRACT

In this study, the male and female genital structures of *Cortodera flavimana* (Waltl, 1838) and the female genital structures of *Cortodera colchica* Reitter, 1890 were examined. Three females of *C. colchica* were collected in the city of Ankara, Konya and Sivas, in June 14, 2011, June 6, 2009 and June 22, 2011. Five males and two females of *C. flavimana* were collected in the city of Eskişehir, Yozgat, Çankırı and Sivas, in June 16, 2010, May 26, 2011, June 4, 2011 and June 22, 2011. Description and drawings of male and female genital structures of *C. flavimana* and the female genital structures of *C. colchica* are given in details for the first time.

### Key Words

Male, female, genitalia, *Cortodera*, Cerambycidae, Turkey.

### ÖZET

Sunulan bu çalışma, *Cortodera flavimana* (Waltl, 1838)'nin dişi ve erkek genital yapıları ve *Cortodera colchica* Reitter, 1890'nun dişi genital yapısı incelenmiştir. *C. colchica*'ya ait üç dişi 14 Haziran 2011, 6 Haziran 2009 ve 22 Haziran 2011'de Ankara, Konya ve Sivas'tan toplanmıştır. *C. flavimana*'ya ait 5 erkek ve 2 dişi 16 Haziran 2010, 26 Mayıs 2011, 4 Haziran 2011 ve 22 Haziran 2011'de Eskişehir, Yozgat, Çankırı ve Sivas'tan toplanmıştır. *C. flavimana* türünün erkek ve dişi, *C. colchica* türünün dişi genital yapılarının tanımlamaları ve çizimleri ilk kez detaylı olarak verilmiştir.

### Anahtar Kelimeler

Erkek, dişi, genitalya, *Cortodera*, Cerambycidae, Türkiye.

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## INTRODUCTION

The female and male genital structures, which are often used in distinguishing insects at the species level, have not been described and drawn for *Cortodera flavimana* (Waltl, 1838) and *Cortodera colchica* Reitter, 1890. *C. flavimana* was erected by Waltl at 1838. This species are known to found in Palearctic region. While the Cerambycidae species were examined (at) a lot of studies (Ehara, 1956; Önalp, 1988, 1990, 1991; Sama, 1988; Hernandez, 1992; Hernandez and Ortuno, 1997; Hubweber and Schmitt, 2010) neither the male and the female genital structures of *C. flavimana* nor the female genital structures of *C. colchica* had been described. Herein, the male genitalia and spermathecae of *C. flavimana* and the spermathecae of *C. colchica* were described and drawn in this study and it is the first time at world of science.

## Methods

Three females of *C. colchica* were collected in the city of Ankara, Konya and Sivas, in June 14, 2011, June 6, 2009 and June 22, 2011. Five males and two females of *C. flavimana* were collected in the city of Eskişehir, Yozgat, Çankırı and Sivas, in June 16, 2010, May 26, 2011, June 4, 2011 and June 22, 2011. The male and female genitalia were pulled out using standart methods; figure were drawn with a stereoscopic binocular microscope (LeicaMz 16A). Nomenclature follows Tuxen (1970) and Ehara (1956).

## RESULTS and DISCUSSION

### *Cortodera flavimana* (Waltl, 1838)

**Male genitalia (in ventral view, Figure 1a, b):** Length 1,52-1,54 mm, chitinous; median lobe is bow like shape from basal to medio-distal, from medio-distal to apical direction almost parallel, its apical narrows like triangular shape, median oriface with blunt bulge, internal edge of median foramen is pointed; tegmen without roof; lateral lobes are separated and crosswise location vis a vis, anterior part with yellowish orange hairs; ring part is "V" shaped from basal to medial, like square shape from medial to apical, with strong projection at inner anterior part.

**Lateral view (Figure 1c):** Median lobe is strongly curved like a bow shape.

**Spermatheca(Figure 2a):** Spermatheca is 0.25 mm, brownish orange, chitinous, its shape like "C" letter with almost equal length arms, narrows from distal to apical.

### Distributions

**World:** Austria, Bulgaria, Hungary, Macedonia, Romania, Serbia, Slovakia, Switzerland and Turkey (Löbl and Smetana, 2010).

**Turkey:** Adana, Afyon, Aksaray, Ankara, Antalya, Artvin, Bayburt, Bolu, Bursa, Çanakkale, Erzurum, Gümüşhane, İçel, Isparta, İzmir, Kahramanmaraş, Kars, Kastamonu, Kayseri, Kocaeli, Konya, Niğde, Rize, Samsun, Sinop, Sivas, Tokat, Yozgat (Özdikmen, 2011)

### *Cortodera colchica* Reitter, 1890

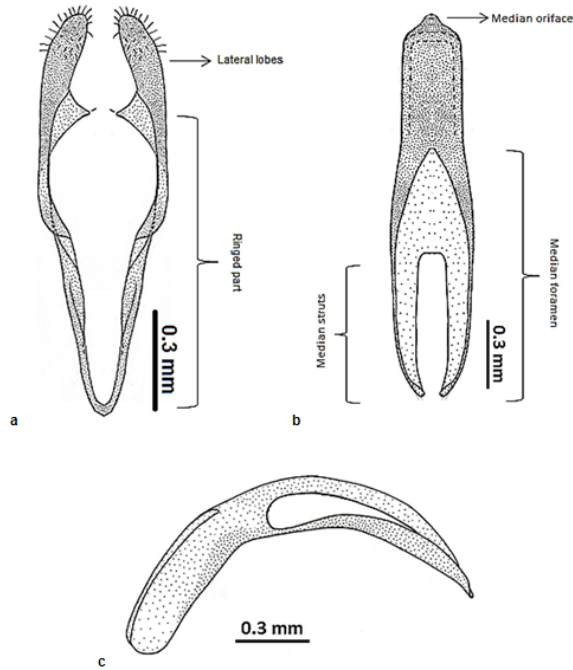
**Spermatheca (Figure 2b):** Spermatheca is 0.3 mm, brownish yellow, chitinous, its arms is not equal length, curved strongly at anterior, slightly at posterior part, narrows from distal to apical.

### Distributions

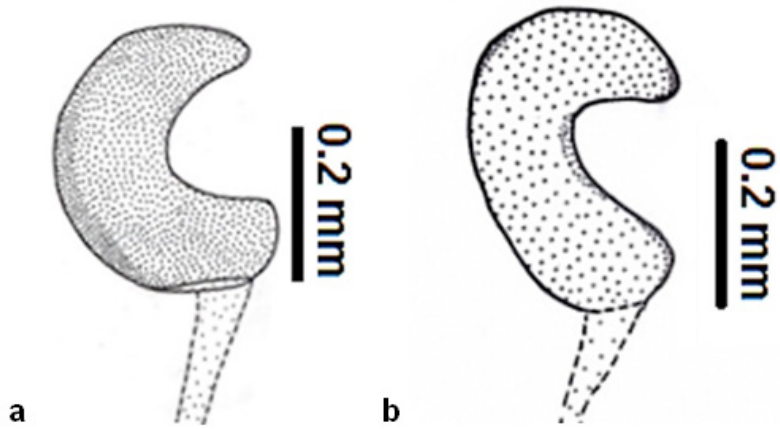
**World:** Armenia, Azerbaijan, Georgia, Iran, Lebanon, Russia, Syria and Turkey (Löbl and Smetana, 2010).

**Turkey:** Adana, Adıyaman, Aksaray, Ankara, Antalya, Artvin, Bingöl, Burdur, Bayburt, Erzurum, Hakkari, İçel, Kars, Kayseri, Konya and Sivas (Özdikmen, 2011).

Male genital organ structure belonging to *C. flavimana* studied in this study was compared with male genitalia of *C. humeralis* (Adlbauer, 1988). These two species have distinctive differences in the sense of median lobe and lateral lobe. While in *C. flavimana* analyzed in this study, median lobe runs parallel until distal and gets narrow close towards apical; it gets distinctively narrow from medio-distal in *C. humeralis*. While inner side of median foramen is sharp and runs towards medio-distal in *C. flavimana*, it is blunt and runs towards distal in *C. humeralis*; which forms an important difference. Median arms could not be compared since they were not drawn in *C. humeralis*. When lateral lobes are considered; it is seen in *C. flavimana* that they have the same width from basal to apical and are get close to each other in apical and bend. In spite



**Figure 1.** *C. flavimana* **a)** Paramer (ventral) **b)** Median Lob (ventral) **c)** Median lob (lateral).



**Figure 2.** Spermatheca **a)** *C. flavimana* **b)** *C. colchica*.

of this, *C. humeralis* lateral lobes have the narrow form in basal and widen distinctively towards medial and gets narrow from distal to apical.

When female spermatheca belonging to *Cortodera colchica* and *C. flavimana* species are compared it is seen that body parts of both of them resemble to "c". However the letter "c" of *C. colchica* is wider and longer in the upper arm compared to lower arm and apex of the body is

more circular while in *C. flavimana*; the arms of letter "c" is equal to each other in length and width and apex of body is narrower and sharp, in this sense *C. colchica* differs from *C. flavimana*.

It would be possible by examining the other species of genus, the features using for species identification that explained above are genus features or not.

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