

Description of middle -east flower scrub, *Oxythyrea cinctella* (Schaum, 1841) (Coleoptera:Scarabaeidae:Cetoniinae) from Sulaimani Governorate Kurdistan region-Iraq

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Abstract: *The present work includes a details description of middle - east flower scrub, *Oxythyrea cinctella* Schaum, 1841 from Sulaimani governorate Kurdistan region-Iraq. The species was collected from the flowers of some weeds and orchard trees during the period of April till July 2021. The species can be easily distinguished by the labrum dark yellow bilobed, posterior margin deeply emarginated at the middle. Antenna lamellate with three flattened segments apically. Lateral margins of pronotum with white line elongated oval white spot, posterior margin with two round white spots. Elytra with 14 irregulars white spots. Parameres hook like. The important taxonomic parts, labrum, mandibles, antenna and male genitalia have been photographed. Localities, plant hosts and date of the collection have been mentioned.*

Keywords: *Coleoptera, Scarabaeidae; Description; *Oxythyrea cinctella* ; Sulaimani Governorate, Kurdistan region ; Iraq.*

1. INTRODUCTION

The family Scarabaeidae Latreille, 1802 as presently defined consists of over 30,000 species of beetles worldwide (Ratcliffe et al., 2002). Cetoniinae is important subfamily, the adults range from 0.5 to 15.0 cm in length and are bright colored with patterned textures (Kumbhar et al., 2012). They feed diurnally on nectar, pollen, exudates, and fruits (Krikken, 1984), and fly long distances in search of food and other resources (Le Gall, 2010). Larvae and adults of the family play important roles in ecosystems. Adults of many species, pollinators of many plants specially, African orchid, (Peter and Johnson, 2009). The larvae are very important for decomposers, decaying vegetable matter and facilitating the development of other saproxylic species (Sánchez-Galván et al., 2014). *Oxythyrea* Mulsant, is one of the most important genus belonging the family and they are a conspicuous component of the beetle fauna in almost all ecosystems (Woodruff, 1973). The genus is one of the 21 genera of the Palearctic Cetoniini, and it presently comprises 11 species in Europe, West Asia, and Africa and comprises 10 species distributed in the Western Palearctic (Sabatinelli, 1981; Krajčák, 1998; Smetana, 2006; Tauzin, 2012). *Oxythyrea* species play an important ecological role because their larvae contribute to recycle the vegetable matters in decomposition. The adults are polyphagous and feed on plant host flowers and sometimes cause economic damage to fruit trees and other plants

(Awal, 2006). *Oxythyrea cinctella* is important specie of the genus. The adult causes damage to flowers of many orchard trees, like pear, cherry, European chestnut, apple, grapevine, peach, quince, citrus, malus. They can feed also on many flowering weeds of Compositae and Cruciferae (Lodos et al., 1978). In Iraq, Derwesh(1965) mention 10 species of the family in six genera. Al-Ali (1977) recorded six species include, *Oxythyrea cinctella* (Schaum).

2. MATERIALS AND METHODS

The specimens were collected from the period of April till July / 2021 from the flowers of some weeds (Wild safflowers; Mallow; Hoary cress and Dwarf rocket) and some of orchard trees (pear, apple and peach) in different localities of Sulaimani governorate (Bazyan; Pengwen ;Kalar and Kefri) Kurdistan region - Iraq. The specimens were placed in boiling water for 10-15 minutes to soften their parts. Then the parts were separated and put in 10% KOH, placed on fire with shaking for about (4-5) minutes for dissolving of lipids materials of the body and destroying the muscles. After that placed in distilled water for 2-3 minutes in order to neutralize the alkali. The parts are placed in ethyl alcohol 25% and dissected under microscope, then transferred to ethyl alcohol 50%, 75% and 100% respectively for two minutes of each concentration to dehydration of water, then placed in xylol for two minutes, for translucency, finely placed in DPX solution to support slides for subsequent examination under microscope (Lane and Grosskey,1993; Mawlood *et al.*, 2016; Abdulla et al., 2020). Photographs of habitus and important parts were captured through a digital camera (Ucmas series microscope camera). The body length was measured from the apex of the clypeus to the apex of the elytra, using eye piece linear micrometer and the body width was measured at the base of the pronotum (with the specimen in dorsal view). The species were identified with the help of available literature of (Rittner and Sabatinelli, 2010). Also, the species identified by Prof. Dr. Nabeel A. Mawlood, specialist of Coleoptera from Salahaddin University/ College of Agriculture/ Department of plant protection. The specimens were deposited in the insect laboratory of the Department of plant protection, Bakrajo Technical Institute - Sulaimani Polytechnic University.

3. RESULTS AND DISSECTION

Synonyms: *Oxythyrea albella* Illiger, 1802 (Cetonia); *O. variegata* Pallas in Gory & Percheron, 1833 (Cetonia); *O. longula* Desbrochers des Loges, 1872 (Cetonia); *O. cinctelloides* Reitter, 1898 (*Leucocelis*); The synonyms are given according to Tauzin (2012).

Description

***Oxythyrea cinctella* (Schaum, 1841)**

Body (Fig.1 a): Rectangular shaped, black. Length 7.4- 8.8 mm.

Head: Wide oval. Vertex shiny black, weakly convex, densely white setose and fine punctuate. Eyes prominent, brown, nearly oval, 0.8 -0.9 mm long, canthus of eyes long, reaching nearly into the middle. Frons shiny black, slightly concave with densely white setose and fine punctuate. Clypeus rectangular slightly concave, surface with low dense of pale white setose and fine punctures. Labrum (Fig.1b) dark yellow bilobed, posterior margin deeply emarginated at the middle with row of pale yellow setae. Mandible (Fig.1c) irregular shaped, bear three teeth, upper part cylindrical, low sclerotized, apical rounded, high sclerotized, molar area with row of fine pale yellow setae. Maxilla (Fig.1d) dark brown, 4th segment of maxillary palps oval elongated oval 3.5 times as long as 3rd segment, lacinia tubular, apical part bear high density of setae, galea oval covered by high density of long setae. Labium (Fig.1e) brown, prementum nearly oval 3rd segment of labial palp nearly oval elongated 3.3 times as long as 2nd segments.

Antenna (Fig.1f) Lamellate, dark brown, 1.7-2.1 mm, the three apical segments are flattened nearly same sized.

Thorax: Pronotum shine black, nearly globular shaped, surface with moderate dense yellow setae and punctures. Lateral margins of pronotum with white line elongated oval white spot, posterior margin with two round white spots. prosternal process black, triangular shaped. Scutellum black, triangular shaped covered by yellow setae. Elytra (Fig.1g) shine black, surface with densely pale white setae and fine puncters with 14 irregular white spots. Hind wing (Fig.1h) oval, membranous, dark brown, stigma (radius veins r1 +2 joined) very small, r4 vein radius, r5 begging from the middle and ending at the posterior margin of the wing, M4+Cu veins reached to posterior margin of the wing. Fore legs (Fig.1 i) black bears moderate -heigh density of short yellow setae. Fore coxae cylindrical shaped; trochanter triangular, femur thick, cylindrical as long as the femur, Protibia with two teeth anteriorly; apical teeth 1.2 times as long as the lateral once, apical part with single spur as long as 1st and 2nd tarsal segments combined, protarsus tubular, 1st tarsus 0.4 times as long as 2nd, 5th segment 1.3 times as long as 4th segment, claw simple, short slightly curved. Middle legs resemble with fore legs except the coxae is oval, mesotibia shorter than the femur, one-third of outer margin of mesotibia shorter with small tooth, apical part with a pair of spurs. Hind legs (Fig. 1j) resemble the fore legs except, coxa plate shaped, metatibia longer than the femur; one-third of outer margin of metatibia with small tooth, apical part with a pair of spurs.

Abdomen: shiny black, oval shaped, seven segmented. Ventral surface of abdomen have seven visible sternites black, sclerotized, lateral part of 2nd -5th sternites with white spot, the segments 1st -6th rectangular, 7th sternite plate shaped. Each sternites bear two rows of white setae. Dorsal surface of abdomen have seven tergites, 1st -6th tergites membranous, nearly same long. Pygidium (7th tergite) (Fig. 1k) high sclerotized and cup shaped.

Male genitalia: Aedeagus (Fig.1m) brown – dark brown, moderately sclerotized. Length 1.9-2.6 mm. Phallobase yellow, rectangular, 2.6 times as long as the parameres. Basiphallus low sclerotized, moderately emarginated at the meddle. Parameres hook like, high sclerotized, 2.1–2.6 mm long. Penis slightly shorter than parameres, Educatory duct long, tubular shaped. Spiculum gastrale (Fig.1 l) pale yellow, low sclerotized, inverted Y- shaped, apical arm two times as long as the laterals.

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Figure 1: *Oxythyrea cinctella* Mulsan

a. Habitus(7X) b. Labrum c. Mandible d. Maxilla e. Labial palp f. Antenna g. Elytra
 h. Hind wing i. Fore leg j. Hindleg k. Pygidium l. Spiculum gastrale m. Aedeagus
 (Dorsal view) (Scale bar a , b, c and e= 0.1 mm: The others =0.2m)

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