

مسح الخنافس الداكنة (Coleoptera, Tenebrionidae) في مناطق مختلفة من وسط العراق**أمير ابراهيم عبد الزهره****جامعة بابل كلية التربية الاساسية/ قسم العلوم****Survey of Darkling beetles (Coleoptera, Tenebrionidae)
in different regions of middle Iraq****Ameer Ibrahim Abdulzahra****Department of Science- College of Basic Education / University of Babylon,
Babylon, Iraq****Email: AmeerIbrahim2751988@gmail.com****Abstract**

The aim of this study is to survey species of Darkling beetles in some localities of middle Iraq. The current investigation showed 9 species belonging to eight genera, under three subfamilies, date and localities of collection were recorded. Two new records of *Eleodes dentipes* Eschscholtz, 1829 and *Omophlus lepturoides* (Fabricius, 1787) are recorded for the first time for Iraqi fauna.

Key words: Darkling beetles, Coleoptera, Iraq, Tenebrionine, Pimeliinae, Alleculinae, new records, Tenebrionidae.

المخلص:

الهدف من هذه الدراسة هو مسح أنواع الخنافس الداكنة في بعض مناطق وسط العراق. أظهر البحث الحالي 9 أنواع تنتمي إلى ثمانية أجناس ، تحت ثلاث عويلات ، تم تسجيل تاريخ ومواقع الجمع. تسجيلين جديدين *Eleodes dentipes* Eschscholtz, 1829 و *Omophlus lepturoides* (Fabricius, 1787) لأول مرة للفونا العراقية.

الكلمات المفتاحية: الخنافس الداكنة، Coleoptera، العراق، Tenebrionine، Pimeliinae، Alleculinae، تسجيلات جديدة، Tenebrionidae.

INTRODUCTION

Tenebrionidae are one of the largest Coleoptera families occurring in all terrestrial habitats from the sea shore up to dry desert and steppe habitats in all altitudinal belts, and in all types of forests (1). The Darkling beetles is a common name on family Tenebrionidae (Insecta: coleoptera), with about 200000 species in nearly 1700 genera of worldwide distribution, around 8,000 species are found in the Palaearctic Region (16, 17). Ten subfamilies are accepted now for this family (9). mostly rather large and flightless, although a few species living in rotten wood and in stored products are small (2) They live mainly in the soil, under logs, or in leaf litter, and feed on dead organic material (3).

Darkling beetles play an extraordinarily important ecological role in arid and semi-arid ecosystems as they are the dominant detritivores. They occupy a variety of habitats that differ in both climatic (temperature, humidity) and structural (soil texture, vegetation cover) characteristics. Larval tenebrionids are entirely fossorial and their food preferences include dead and living plant and animal matter (4). Some are also scavengers while very few species are predatory especially of wood boring beetles (6). The morphological diveristy of the members of this family is such that it is very difficult to diagnose the entire fauna (5). Darkling beetles are known vectors for a variety of pathogens that include Salmonella, infectious bursal disease virus, Aspergillus, Escherichia coli, and Marek's disease virus (7, 8).

MATERIAL AND METHODS

This investigation was carried out from the May 2018 to February 2020 in different regions of middle Iraq; the specimens were collected by Light trap. The metal clamp was also used to collect small insects from stored grain. placed in an airtight container containing Ethyl alcohol (concentration of about 70%). The specimens are washed by distilled water to remove alcohol from them. Then, they are saved by freezing. After that, They are examined with a binocular dissecting microscope. The Dino-lite digital microscope was used to film the species being studied. The specimens are diagnosed the according to many identification keys such as: (10, 12, 13, 20, 27, 29, 30, 31, 32, 37).

RESULTS AND DISCUSSION

This investigation showed 9 species belonging to eight genera under three subfamilies as follow:

(A) Subfamily: Tenebrionine

Tribe: Amphidorini

(1) *Eleodes dentipes* Eschscholtz, 1829 (Fig. 1 A)

Synonyms:

- = *Acheta domestica* (Linnaeus, 1758)
- = *Gryllus aegyptiacus* Haan, 1842
- = *Gryllus domesticus* Linnaeus 1758

Common name: Skunk Beetle, Pinacate Beetle.

Material Examined: 2♂♂ Babylon: Al Nile, May. 2018

Distribution: North America (20, 35); West America (21); Northern Mexico (36)

Tribe: Melanimini

(2) *Cheirodes californicus* (Horn, 1870) (Fig. 1 B)

Synonym:

- = *Anaemia californica* Horn, 1870

Material Examined: (4♂♂, 3♀♀): Karbala: Al Hindiyah, August. 2018.

Distribution: West America (38).

(3) *Cheirodes villiersi* (Ardoin, 1971) (Fig. 2 A)

Synonyms:

- = *Anemia villiersi* Ardoin, 1971

Common name: Verge Cricket

Materials Examined: (2♂♂, 1♀): ; Najaf: Kufa, June. 2019

Distribution: Madagascar (19)

Tribe: Blaptini LEACH, 1815

Genus: *Blaps* FABRICIUS, 1775

(4) *Blaps abbreviata abbreviata* MÉNÉTRIÉS, 1836 (Fig. 2 B)

Synonym: The species has no synonym.

Common name: cotton beetle.

Materials (3♂♂, 2♀♀) Babylon: Al-Mahawil, May. 2020

Distribution: Balkans, Greece, Turkey, Syrien, Iran (11); Turkey(18); Europe (Greece, Italy, Russia & Malta) (29).

Tribe: Opatrini

(5) *Opatroides punctulatus* Brullé 1832 (Fig. 2 C)

Synonym: The species has no synonym.

Common name: cotton beetle.

Materials (2♂♂, 4♀♀) Karbala: Al Hur, August. 2019.

Distribution: Europe (Greece, Italy, Russia & Malta) (28) ; Iraq (30); and Asia (29);Iran (32); Egypt (25); North America (12); Israel (31).

(B) Subfamily: Pimeliinae**(1) *Trachyderma hispida* (Forskål, 1775) (Fig. 2 D)****Synonym:**= *Ocnera hispida* (Forskål, 1775)= *Tenebrio hispidus* Forskål, 1775**Common name:** The species has no common names.**Materials** (1♀): Babylon: Al Qasim, September. 2019.**Distribution:** North Africa, Egypt (17, 25), Sudan (16). Kuwait (23). Algeria (24).**(2) *Mesostena arabica* (Gestro, 1881) (Fig. 3 A)****Synonym:**= *Ocnera hispida* (Forskål, 1775)= *Tenebrio hispidus* Forskål, 1775**Common name:** The species has no common names.**Materials** (1♀): Babylon: Al Nile, May. 2020.**Distribution:** Kuwait (23). Algeria (24).**(C) Subfamily: Alleculinae****(1) *Omophlus lepturoides* (Fabricius, 1787) (Fig. 3 B)****Synonym:**= *Cistela lepturoides* Fabricius, 1787**Common name:** alleculid beetle.**Materials** (2♂♂, 1♀): Karbala: Al Hur, May. 2018.**Distribution:** General distribution in Austria, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, France, Germany, Greece, Italy, Romania, Russia (Southern European Territory), Slovakia, Spain, Switzerland, Turkey, Ukraine (33, 34); Iran (26).**(2) *Cteniopus sulphureus* (Linnaeus, 1758) (Fig. 3 C)****Synonym:**= *Chrysomela sulphurea* Linnaeus, 1758= *Cistela sulphurea* (Linnaeus, 1758)= *Cteniopus flavus* (Scopoli, 1763)= *Tenebrio flavus* Scopoli, 1763**Common name:** Sulphur Beetle.**Materials** (1♂ 3♀♀) Karbala: Al-Hindiya, August. 2019.**Distribution:** Italy, Slovenia and Croatia (13); Kazakhstan (14); Turkey (15); Western Poland (22).

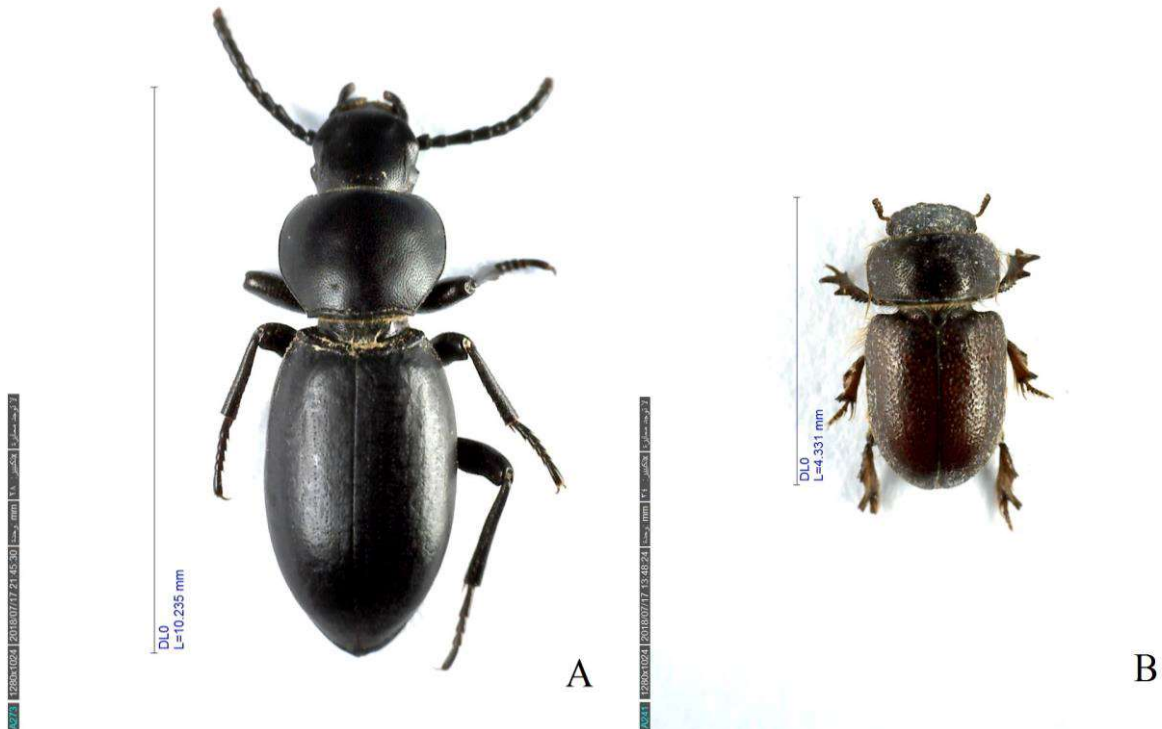
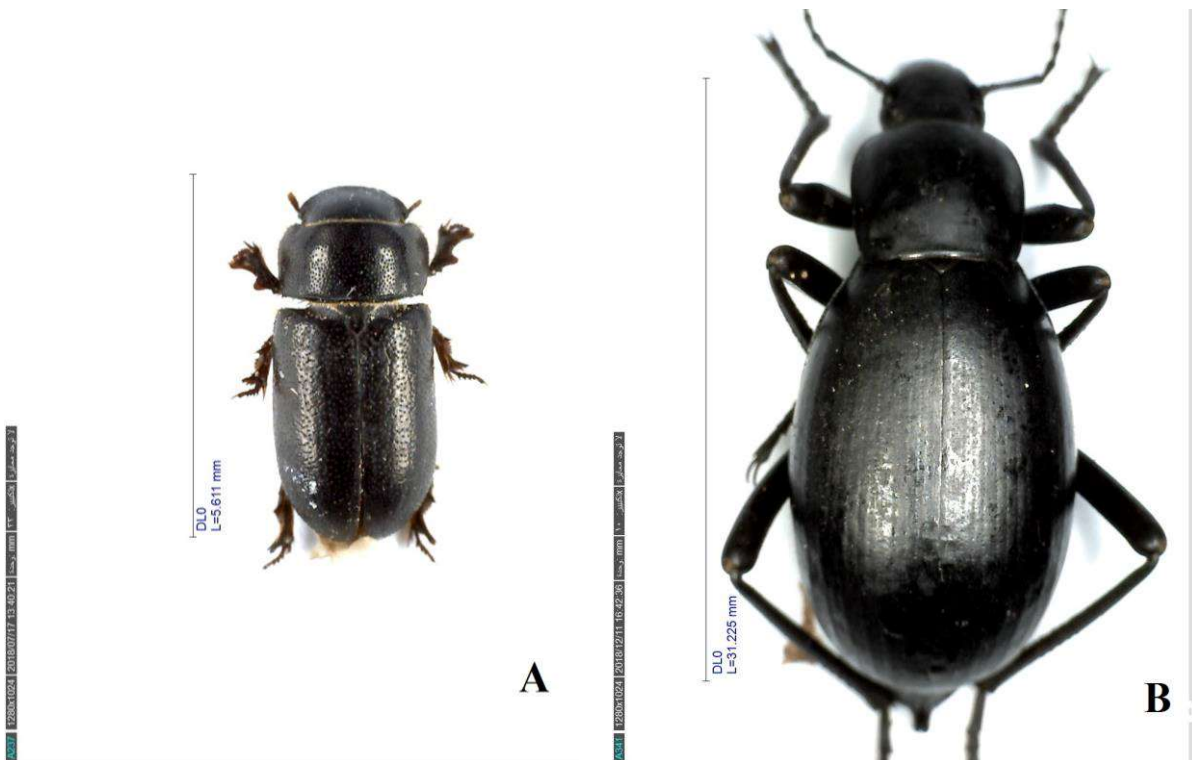


Figure (1) A: *Eleodes dentipes* ; B: *Cheirodes californicus*



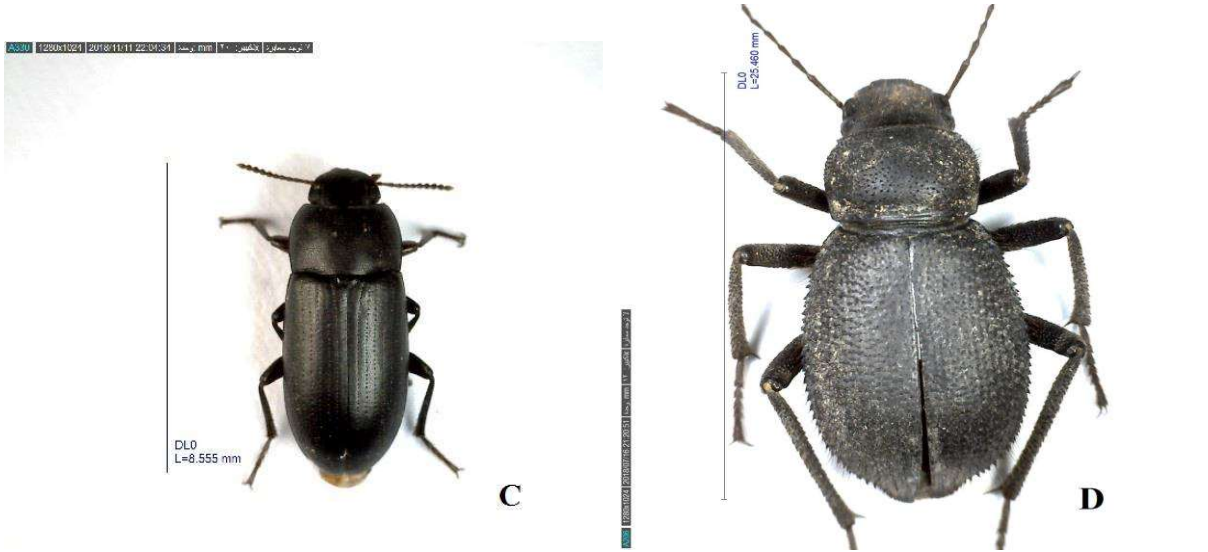


Figure (2) A: *Cheirodes villiersi*; B: *Blaps abbreviata abbreviata*; C: *Opatroides punctulatus*; D: *Trachyderma hispida*

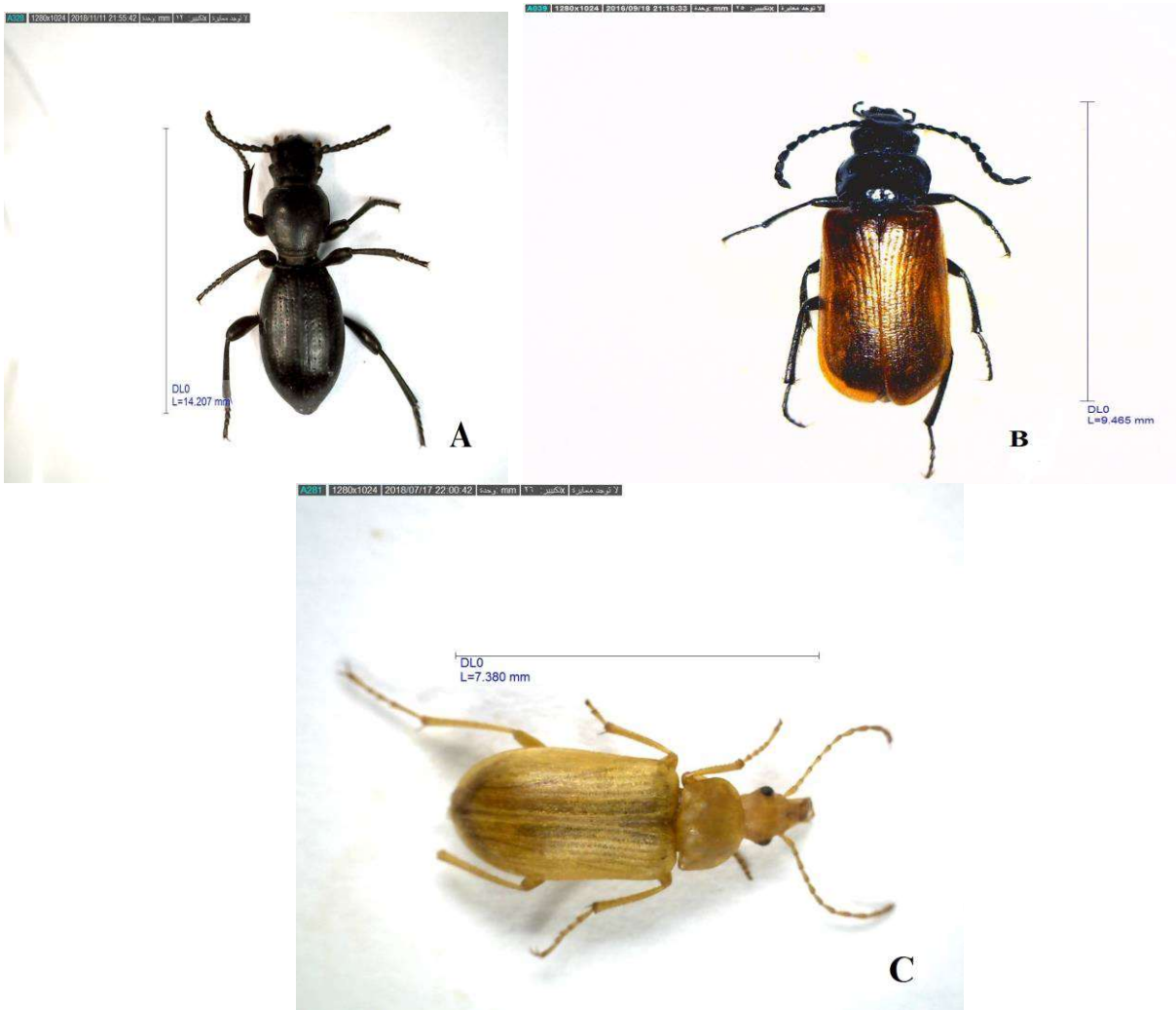


Figure (3): A: *Mesostena arabica*; B: *Omoplus lepturoides*; C: *Cteniopus sulphureus*

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