



(RESEARCH ARTICLE)



## Survey and revision of storage insects from several localities of Iraq

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### Abstract

Due to the importance of insects present in storages, which cause a lot of damage to stored materials (cereals, seeds, dates and other materials), the current study was proposed to determine the species spread in Iraq. It showed 31 species belonging to 16 genera under eight families and two orders. The specimens were collected from several storage spaces at several regions of Iraq. The species of *Tribolium castaneum* (Herbst, 1797) was most abundant population compared with other insects.

The study also included a revision of the species that recorded previously in Iraq.

**Keywords:** Cereals; Iraq; Revision; Storage insects; Survey

### 1. Introduction

The different products (cereals and foods) are stored in many places, like the kitchen or other storage places may become infested with various species of insects which belong to diverse orders that referred to as "pantry pests." These insects eat or contaminate the materials stored, thus making it inadequate for human consumption; also may be uncomfortable, because of they often leave the infested products and walking or fly inside the house [1].

Many insects may infest the grain in storage; the main pests that cause harm are: the adult and larval stages of coleopteran species and the larval stage of moths. All are most likely a causing trouble with their presence, whether live or dead, in grains that are to be processed for eating [2]. The major insect species in the distribution warehouses and stores are *Plodia interpunctella* (Hübner, 1813) (Lepidoptera, Pyralidae) and *Tribolium castaneum* (Herbst, 1797) (Coleoptera, Tenebrionidae); for domestic animal food at retail stores, the species of *Sitophilus* C. J. Schoenherr, 1838 (Coleoptera, Curculionidae) have been shown to be a damaging [3]. To addition, the main pest species at mills are *T. castaneum* and *P. interpunctella*; on the other hand, it has been found that the members of the genus *Sitophilus* are a problem for pasta at food processors [4, 5].

The aim of this study is to survey and revised checklist the store insect species in Iraq.

### 2. Material and methods

The adults and larvae specimens were collected from different localities of Iraq during the year 2021; they collected by hands and others by the aid of sieves specially the red flour beetles, and then killed by freezing for 24 hours.

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Some specimens were mounted by insect pins and other small by triangular labels and put in collecting boxes. The specimens were stored at the department of Entomology and Invertebrates, Iraq Natural history Research Center and Museum.

The specimens were identified by authors at level families, genera and species when possible in this survey and used different taxonomical keys such as: [6, 7, 8, 9, 10, 11, 12, 13, 14, 15]. The synonyms of the species are given according to [16].

### 3. Results and discussion

The investigation showed 31 species belonging to 16 genera under 8 families and 2 orders as below:

#### 3.1. Order: Coleoptera

##### 3.1.1. Family: Anobiidae

**Genus *Lasioderma*** Stephens, 1835

**Synonyms:**

*Hypora* Mulsant & Rey, 1864

*Ladioderma* Loeding, 1945

*Lasiderma* Schilsky, 1899-01

*Lasioderma* Dejean, 1833

*Lassioderna* Mukerji, 1955-01

*Losioderma* Borror & DeLong, 1954

*Pseudochina* Jacquelin du Val, 1860

*Pseudochinus* Zoological Record, 1865

*Tasioderma* Chenu, 1884

***Lasioderma serricorne*** Fabricius, 1792

**Common name:** Cigarette beetle.

**Synonyms:**

*Lasioderma brevis* (Wollaston, 1861)

*Lasioderma castaneum* Melsheimer, 1846

*Lasioderma fuscum* (Rey, 1892)

*Lasioderma testaceum* (Duftschmid, 1825)

*Lasioderma testaceum* Stephens, 1835

*Lasioderma torquatum* (Thomson, 1859)

*Pseudochina fuscum* Rey, 1892

*Ptilinus serricorne* Fabricius, 1792

*Ptilinus testaceus* Duftschmid, 1825

*Ptinus serricorne* Fabricius, 1792

*Ptinus serricornis* Fabricius, 1792

*Xyletinus brevis* Wollaston, 1861

*Xyletinus torquatum* Chevrolat, 1859

**Material examined:** 30 specimens from storage spices during 22-31.iii.2021, Al-Kadhomyia district, Baghdad.

**Distribution:** Iraq [17]; Syria [18]; widely distributed in Africa, Asia, Europe, North and South America and Oceania [19].

##### 3.1.2. Family: Bostrichidae

**Genus *Rhyzopertha*** Stephens, 1830

***Rhyzopertha dominica*** (Fabricius, 1792)

**Common name:** Lesser grain borer.

**Synonyms:**

*Synodendron dominicum* Lesne, 1898

**Material examined (9 specimens):** This species collected from stored grains; 3♂♂, 4♀♀, 7.vii.2018, Wasit Province, Az Zubaydiyah District . 2 ♂♂, 3.viii.2021, Diyala Province, Al Khalis District.

**Distribution:** Iraq [17]; Cosmopolitan species [20].

**Genus *Lyctus*** Fabricius, 1792

**Synonyms:**

*Eulyctus* Jacobson, 1916

*Lictus Melsheimer*, 1806

*Lygdus Fabricius*, 1792

*Xylotrogus Stephens*, 1830

***Lyctus brunneus*** (Stephens, 1830)

**Common name:** Powderpost beetles.

**Synonyms:**

*Lyctus carolina* Casey, 1891=

*Lyctus costatus* Blackburn, 1888

*Lyctus disputans* Walker, 1858

*Lyctus jatrophae* Wollaston, 1867

*Lyctus withdrawn* Walker, 1858

*Lyctus rugulosus* Montrouzier, 1861

*Xylotrogus brunneus* Stephens, 1830

**Material examined:** (30 specimens): 20 specimens, 21.iii.2021, Baghdad Province, Al-Kadhimiya District; 6 specimens, 10.iv.2021, Karbala Province, Karbala City; 4 specimens, 8.v.2018 from old furniture, Najaf, City center.

**Distribution:** Iraq [21]. This species is widely distribution in Palaearctic Region [22], such as: Algeria [23], Egypt [24], Taiwan [25], Austria [26]; Korea [27], Iran [28] and Himalayas [15].

### 3.1.3. Family: Chrysomelidae

**Genus *Callosobruchus*** Pic, 1902

***Callosobruchus maculatus*** Fabricius, 1775

**Common name:** Cowpea seed beetle.

**Material examined (71 specimens):** The specimens were collected from stored cowpea grains; 33 specimens, 9.v.2021, 16 specimens, 1.vi.2021, Baghdad City, Jisr Diyala District. 26 specimens, 22.vi.2021, Maysan Province, Amara City. 7 specimens, 11.vii.2021, Karbala Province, Karbala City. Distribution: Africa, tropical and sub-tropical parts of the world [29].

### 3.1.4. Family: Curculionidae

**Genus *Sitophilus*** Schoenherr, 1838

***Sitophilus granarius*** (Linnaeus, 1758)

**Common name:** Granary weevil, grain weevil.

**Synonyms:**

*Calandra granaria* (Linnaeus, 1758)

*Calandra granarius* G. J. Billberg, 1820

*Calandra laevicosta* Philippi & Philippi, 1864

*Cordyle granaria* (Linnaeus, 1758)

*Cordyle granarius* (Linnaeus, 1758)

*Curculio contractus* E. L. Geoffroy, 1785

*Curculio granarius* Linnaeus, 1758

*Curculio pulicarius* G. W. F. Panzer, 1798

*Curculio unicolor* T. Marsham, 1802

*Rhynchophorus granarius* (Linnaeus, 1758)

*Rhynchophorus ruber* F. P. Schrank, 1798

**Material examined (114 specimens):** 30♂♂, 20 ♀♀, 13.x.2021, 20.x.2021, Baghdad Province, Baghdad, Shorja Marketplace, collected from oat. 12♂♂, 25 ♀♀, 20.x.2021, 30.xi.2021, Wasit Province, An-Nu'maniyah District, collected from wheat. 17♂♂, 10 ♀♀, 10.xii.2021, Diyala Province, Al Khalis District, collected from *Cicer* sp.

**Distribution:** Iraq [30]; Algeria, Argentina, Australia, Canada, Chile, Denmark, France, Italy, Poland, Russia, Spain, South Africa, Sweden, Thailand, UK and USA [31]; Japan [32]; Yemen [33].

***Sitophilus linearis*** A. Hustache, 1930

**Common name:** Tamarind weevil.

**Synonyms:**

*Calandra linearis* Herbst, 1797

*Cordyle striatus* Thunberg, 1815

*Rhynchophorus linearis* Herbst, 1795

**Distribution:** Iraq [17]; Australia, Brazil, Costa Rica, Cuba, Kenya, Mexico, Spain, Ukraine and USA [16].

***Sitophilus oryzae*** (Linnaeus, 1763)

**Common names:** Rice weevil, lesser grain weevil.

**Synonyms:**

*Calandra funebris* Rey, 1895

*Calandra minor* Sasaki, 1910

*Calandra sasakii* Takahashi, 1928

*Curculio bituberculatus* Fabricius, 1781

*Curculio frugilegus* De Geer, 1775

*Curculio oryza* Linnaeus, 1763

**Material examined (50 specimens):** The specimens collected from rice; 10 ♂♂, 9 ♀♀, 20.x.2021, Baghdad Province, Shorta Al Khamsa. 15♂♂, 11 ♀♀ at 5.x.2021; Wasit Province, Az Zubaydiyah District. 2♂♂, 3 ♀♀, 5.xi.2021, Saladin Province, Tikrit City.

**Distribution:** Widely distributed in Africa, Asia, Europe, North and South America and Oceania (34).

***Sitophilus zeamais*** Motschulsky, 1855

**Common names:** Greater grain weevil, maize weevil.

**Synonyms:**

*Calandra chilensis* Philippi & Philippi, 1864

*Calandra platensis* Zacher, 1922

*Sitophilus oryzae* subsp. *zeamais* (Motschulsky, 1855)

*Sitophilus zea-mais* Motschulsky & V.de, 1855

**Material examined (41 specimens):** 7 ♂♂, 2 ♀♀, 22.xi.2021, Baghdad Province, Al-Mada'in District, the specimens were collected from private maize store. 2♂♂, 10 ♀♀, 5.x.2021, Wasit Province, Al-Aziziyah District, specimens were collected from a rice store; 11♂♂, 9 ♀♀, 10.x.2021, Diyala Province, Al-Muqdadia District, specimens were collected from private maize store.

**Distribution:** Widely distributed in Africa, Asia, Europe, North and South America and Oceania [35].

### 3.1.5. Family: Tenebrionidae

**Genus *Alphitobius*** Stephens, 1829

**Synonyms:**

*Cryptops* Solier, 1851

*Heterophaga* Dejean, 1834

*Heterophaga* Ludwig Redtenbacher, 1845

*Latetribolium* Lepesme, 1943

*Microphyes* MacLeay, 1873

***Alphitobius diaperinus*** (Panzer, 1797)

**Common name:** Lesser mealworm.

**Synonyms:**

*Alphitobius piceus* (Olivier, 1792)

*Tenebrio diaperinus* Panzer, 1797

**Material examined (10 specimens):** 4♂♂, 6♀♀, 4.xi.2021, Baghdad Province, Al-Kadhimiya District, Aden Square; the specimens were collected from poultry food in a private store.

**Distribution:** Iraq [30]; Algeria, Austria, Australia, Belgium, Brazil, Canada, France, Greece, Germany, India, Norway, Korea, Lithuania, Mexico, Netherland, Poland, Poland, Spain, Sweden, Switzerland, Finland, USA, UK [16].

**Genus *Latheticus*** Waterhouse, 1880

***Latheticus oryzae*** Waterhouse, 1880

**Common name:** Long headed flour beetle.

**Material examined (22 specimens):** The specimens collected from private store on rice, 3.vi.2021, Saladin Province, Samarra District.

**Distribution:** Iraq [36]; Australia, Egypt, France, Germany, Japan, KSA, Mexico, Mozambique, Netherlands, Poland, South Africa, Spain, Sweden, UK, USA and Yemen [16].

**Genus *Tribolium*** Macley, 1825

**Synonyms:**

*Aphanotus* Leconte, 1862

*Eusemostene* Gebien, 1940

*Leanium* Uyttenboogaart, 1934

*Margus* Dejean, 1834

*Margus* Redtenbacher, 1842

*Stene* Stephens, 1829

*Tribolium* Mulsant, 1854

***Tribolium castaneum*** (Herbst, 1797)

**Common name:** Red flour beetle.

**Synonyms:**

*Colydium castaneum* Herbst, 1787

*Tribolium navale* (Fabricius, 1775)

**Material examined (260 specimens):** the specimens were collected from private stores on flour; 60 ♂♂, 60 ♀♀, 22.v.2021, Baghdad Province, Jaddria District. 27♂♂, 33 ♀♀, 5.vi.2021, Babylon Province, Al-Musayyib District. 30♂♂, 50 ♀♀, 10.vii.2021, Diyala Province, Baquba City.

**Distribution:** Worldwide distribution [37].

***Tribolium confusum*** Jaquelin, 188

**Common name:** Confused flour beetles

**Material examined:** It was not recorded during our investigation throughout 2021.

**Distribution:** Iraq [38]; worldwide distributed [39].

### 3.1.6. Family: Dermestidae

**Genus *Anthrenus*** Geoffroy, 1762

**Synonyms:**

*Anthremis* Hope, 1845

*Anthrenoides* Beal, 2003

*Anthrenops* Reitter, 1880

*Anthrenus* Pic, 1937

*Byrrhus* Sulzer, 1776

*Helcoernus* Wu, 1937

*Helocerus* Mulsant & Rey, 1867

*Hypoceuthes* Gerstaecker, 1871

*Peacockia* Menier & Villemant, 1993

*Ranthenus* Mroczkowski, 1962

*Setapeacockia* Háva, 2008

*Solskinus* Mroczkowski, 1951

***Anthrenus coloratus*** Reitter, 1881

**Common name:** Asian carpet beetle, carpet beetles.

**Material examined (5 specimens):** the specimens were collected from animal materials that stored in Iraq Natural History Research center and Museum, 1 ♂, 4 ♀♀, 30.vii.2021, Baghdad Province, Bab Al Muadham.

**Distribution:** Iraq [40]; Afghanistan, Algeria, Egypt, Eritrea, Guinea, India, Israel, Iraq, Japan, Kazakhstan, Kyrgyzstan, Morocco, Namibia, Oman, Qatar, Saudi Arabia, Sudan, Syria, Tadzhikistan, Tunisia, Turkey, Turkmenistan, United Arab Emirates, USA and Yemen [41, 42, 43]; Russia [44].

***Anthrenus flavipes*** Le Conte, 1856

**Common name:** Furniture carpet beetle.

**Synonyms:**

*Anthrenus fasciatus* Reitter, 1881

*Anthrenus vorax* Waterhouse, 1883

**Distribution:** Iraq [40]; Cosmopolitan species [45].

*Anthrenus pimpinellae* Fabricius, 1775

**Synonym:**

*Byrrhus pimpinellae* Fabricius, 1775

**Distribution:** Iraq [46]; Asia and portions of the Oriental region; Europe, Northern Africa, introduced to parts of North America [47].

*Anthrenus scrophulariae* (Linnaeus, 1758)

**Common name:** Common carpet beetle, buffalo carpet beetle.

**Synonyms:**

*Anthrenus scropulariae* (Linnaeus, 1758)

*Dermestes scrophulariae* Linnaeus, 1758

**Distribution:** Iraq [30]; Austria, Australia, Belarus, Bulgaria, Canada, Croatia, Estonia, Finland, France, Germany, Hungary, Italy, Lithuania, Norway, Poland, Romania, Russia, Serbia, Slovakia, Sweden, Switzerland, Turkey, Ukraine, USA [16].

*Anthrenus verbasci* (Linnaeus, 1767)

**Common name:** Varied carpet beetle.

**Synonyms:**

*Anthrenus florilegus* Geoffroy, 1785

*Anthrenus varius* (F., 1775)

*Byrrhus verbasci* Linnaeus, 1767

**Material examined:** (21 specimens), it was collected from insects that preserved in the Iraq Natural History Research Center and Museum; Baghdad Province; Bab Al Muadham, 7 specimens, 23.v.2021; 5 specimens, 11.vi.2021; 9 specimens, 1.vi.2021.

**Distribution:** Iraq [43]; also this species distribute in most of Europe, Eastern Palearctic and Nearctic realm, North Africa and Neotropical [48].

**Genus *Attagenus*** Latreille, 1802

**Synonyms:**

*Attagenus Háva*, 2007

*Brachysphyrus* Blackburn, 1903

*Eunorops* Gistel, 1856

*Lanorus* Mulsant & Rey, 1868

*Megatoma* Kugelann, 1792

*Pseudotelopes* Pic, 1916

*Telopes* Redtenbacher, 1843

*Telopus* Mulsant & Rey, 1868

*Attagenus bifasciatus* (Olivier, 1790)

**Synonym:**

*Dermestes bifasciatus* Olivier, 1790

**Distribution:** Afghanistan; Algeria; Caucasus, Egypt, India, Iran, Iraq, Israel, Lebanon, Libya, Morocco, Palestine, Russia, Syria, Turkmenistan, Tunisia and Turkey [49].

*Attagenus lobatus* Rosenhauer, 1856

**Synonyms:**

*Attagenus byturoides* Solskij, 1876

*Attagenus sericeus* Reitter, 1881

**Distribution:** Iraq [46]; Afghanistan, Egypt, France, Italy, Mongolia, Spain, Sudan and USA [16].

*Attagenus pellio* (Linnaeus, 1758)

**Common name:** Fur beetle.

**Synonyms:**

*Dermestes bipunctatus* De Geer, 1774

*Dermestes pellio* Linnaeus, 1758

**Distribution:** Iraq [43]; Austria, Australia, Belgium, Denmark, Estonia, Finland, France, Germany, Italy, Lithuania, Luxembourg, Netherlands, Norway, Poland, Slovakia, Sweden, Switzerland, UK [16].

***Attagenus unicolor*** (Brahm, 1790)

**Common name:** Black carpet beetle.

**Synonyms:**

*Attagenus megatoma* (Fabricius, 1798)

*Attagenus piceus* (Olivier, 1790)

*Dermestes megatoma* Fabricius, 1798

*Dermestes piceus* Olivier, 1790

*Dermestes unicolor* Brahm, 1790

**Distribution:** In Iraq, this species registered by [50] under the synonym name *Attagenus piceus* Olivier, 1790). Austria, Australia, Canada, Estonia, Finland, France, Germany, Greece, Italy, Japan, Korea, Poland, Portugal, Russia, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine and USA [16].

**Genus *Dermestes*** Linnaeus, 1758

**Synonyms:**

*Dermalius* Háva, 2001

*Dermestaes* Latreille, 1802

*Dermestida* Leach, 1815

*Dermestinus* Zhantiev, 1967

*Dermestites* Laporte de Castelnau, 1840

*Montandonia* Jacquet, 1886

***Dermestes ater*** DeGeer, 1774

**Common name:** Black larder beetle

**Synonyms:**

*Dermestes cadaverinus* Fabricius, 1775

*Dermestes hispidulus* Montrouzier, 1860

**Distribution:** Cosmopolitan [51].

***Dermestes frischii*** Kugelann, 1792

**Common name:** Dermestid beetle

**Distribution:** Cosmopolitan [51].

***Dermestes maculatus*** DeGeer, 1774

**Common name:** Hide beetle

**Synonyms:**

*Dermestes truncatus* Casey, 1916

*Dermestes vulpinus* Fabricius, 1781

**Distribution:** Iraq [46]; USA, Canada, Hawaii, Southeast Asia, and Italy [52].

**Genus *Phradonoma*** Jacquelin du Val, 1859

**Synonyms:**

*Orbeola* Mulsant & Rey, 1867

*Phraeonoma* Pic, 1933

***Phradonoma nobile*** (Rietter, 1881)

**Synonyms:**

*Trogoderma nobile* Reitter, 1881

**Distribution:** Iraq [46]; Afghanistan, Algeria, Cyprus, Egypt, England, Eritrea, Greece, India, Iran, Iraq, Israel, Jordan, Libya, Morocco, Namibia, Nigeria, Pakistan, Portugal, Qatar, Spain, South Africa, Sudan, Tanzania, Tunisia, Saudi Arabia, Syria, Tadjikistan, Turkmenistan, United Arab Emirates, Uzbekistan and Zimbabwe [42, 53].

**Genus *Trogoderma*** Dejean, 1821

**Synonyms:**

*Acolpus* Jayne, 1882

*Asidora* Mulsant & Rey, 1867

*Ditorines* Normand, 1935

*Entomotrogus* Ganglbauer, 1904  
*Eucnocerus* Sharp, 1902  
*Eurhopalus* Solier, 1849  
*Globicornis* Mulsant & Rey, 1868  
*Macropirion* Hope, 1840  
*Ocelliger* Philippi, 1864  
*Psacus* Pascoe, 1866  
*Pseudomegatoma* Pic, 1915  
*Tragoderma*, Deville 1935  
*Trochoderma* Dahl, 1823  
*Trododerma* Pic, 1950  
*Trogoderma* Háva, 2007  
*Trogoderma* Gistel, 1856

***Trogoderma granarium*** Everts, 1898

**Common name:** Khapra beetle, cabinet beetle

**Synonyms:**

*Trogoderma afrum* Priesner, 1951

*Trogoderma khapra* Arrow, 1917

**Material examined (47 specimens):** 10 specimens, Wasit Province, Al-Aziziyah District, 19.v.2021; 23 specimens, 13.VI.2021, Dibuni District. Baghdad Province, Al-Mada'in District, 14 specimens, 29.iv.2021.

**Distribution:** Iraq [17]; Australia, Belgium, Egypt, Germany, India, Israel, Kenya, Korea, Netherlands, Pakistan, Sri Lanka, South Africa, Sweden, Switzerland, Syria, UK and USA [16].

***Trogoderma variabile*** Ballion, 1878

**Common name:** Warehouse beetle

**Synonyms:**

*Trogoderma parabile* Beal, 1954

*Trogoderma persica* Pic, 1914

**Distribution:** Iraq [54]; Australia, Canada, Germany, Iran, Mexico, Sweden, UK and USA [16].

***Trogoderma versicolor*** (Creutzer, 1799)

**Synonym:**

*Anthrenus versicolor* Creutzer, 1799

**Distribution:** Iraq [17]; Austria, France, Germany, Italy, Montenegro, Netherlands, Nicaragua, Spain, Sweden, Switzerland and USA [16].

### 3.1.7. Family: Silvanidae

**Genus *Oryzaephilus*** Ganglbauer, 1899

***Oryzaephilus surinamensis*** (Linnaeus, 1758)

**Common name:** Saw-toothed grain beetle.

**Synonyms:**

*Anobium frumentarium* Fabricius, 1775

*Dermestes sexdentatus* Fabricius, 1792

*Dermestes surinamensis* Linnaeus, 1758

*Oryzaephilus bicornis* (Erichson, 1846)

*Oryzaephilus cursor* (Fabricius, 1792)

*Oryzaephilus frumentarius* (Fabricius, 1775)

*Oryzaephilus sexdentatus* (Fabricius, 1792)

*Oryzaephilus sexdentatus* (Herbst, 1783)

*Silvanus bicornis* Erichson, 1846

*Silvanus surinamensis* (Linnaeus)

*Tenebrio cursor* Fabricius, 1792

**Materials examined (28 specimens):** This species collected from date store; 9 specimens, 1.v.2021, Baghdad Province, Adhamiya District. 11 specimens, 17.vi.2022, Wasit Province, Al-Sawaira District. 8 specimens, 30.vi.2022, Diyala Province, Nahrawan District.

**Distribution:** World-wide distributed [55].



### 3.2. Order: Lepidoptera

#### 3.2.1. Family: Pyralidae

**Genus *Cadra*** Walker, 1864

**Synonym:**

*Xenephestia* Gozmány, 1958

***Cadra cautella*** (Walker, 1863)

**Common name:** Almond moth, date moth, dried currant moth, fig moth

**Synonyms:**

*Cadra defectella* Walker, 1864

*Cadra desuetella* (Walker, 1866)

*Cadra formosella* (Wileman & South, 1918)

*Cadra irakella* (Amsel, 1959)

*Cadra passulella* (Barrett, 1875)

*Cadra rotundatella* (Turati, 1930)

*Ephestia cautella* (Walker, 1863)

*Ephestia passulella* Barrett, 1875

*Pempelia cautella* Walker, 1863

*Phycita formosella* (Wileman & South, 1918)

**Material examined (44 specimens):** the species were collected from dates stores; 5♂♂, 11♀♀, 14.iv.2021, Baghdad Province, Karrada District; 7♀♀, 31.iv.2021, Abu-Ghraib. 2♂♂, 11♀♀, 11.v.2021, Al Anbar Province, Al-Karmah District. 8♂♂, 22.v.2021, Babylon Province, Al Eskandariya District.

**Distribution:** Cosmopolitan [56].

**Genus *Ephestia*** Guenee, 1845

**Synonym:**

*Hyphantidium* Scott, 1859

***Ephestia kuehniella*** (Zeller, 1879)

**Common name:** Mediterranean flour moth.

**Synonym:**

*Anagasta kuehniella* (Zeller, 1879).

*Ephestia fuscofasciella* (Ragonot, 1887)

*Ephestia gitonella* (Druce, 1896)

*Ephestia ischnomorpha* (Meyrick, 1931)

**Material examined (26 specimens):** 5♂♂, 9♀♀, 17.iv.2021, Diyala Province; Baquba City. 7♂♂, 2♀♀, 2.vi.2021, Wasit Province, Az Zubaidiyah District. 2♂♂, 1♀, 22.iv.2021, Babylon Province, Hillah City.

**Distribution:** Cosmopolitan [57].

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## 4. Conclusion

The investigation showed the beetles of the most important that attacked store materials in Iraq and caused damages. The current study is reviewed and updating the scientific names according to recent catalogues and checklists.

In addition to providing a unified list of those interested in this field, because the available data are scattered and not up to date. Therefore, the current study provides a solution to most of the inquiries related to the Iraqi storage insects' database as much as possible.

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## Compliance with ethical standards

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*Disclosure of conflict of interest*

The authors declare no conflict of interest.

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