SURVEY OF THE INSECT PESTS FROM SOME ORCHARDS IN THE MIDDLE OF IRAQ

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Abstract

This study designed at identifying insect pests that attack some trees and shrubs grown in the orchards in different regions, middle of Iraq. The investigation included date palm, citrus, pomegranate trees and grape shrubs. During the survey, 10 species were recorded on date palms (the most infested was Ommatissus lybicu de Bergevin, 1930, followed by Oryctes elegans Prell, 1914), four species on citrus (the most infested was Aonidiella orientalis (Newstead, 1894) followed by whitefly Trialeurodes vaporariorum (Westwood, 1856), one species only on pomegranate (Aphis punicae Passerini, 1863), and one species Arboridia husseini (Ghauri, 1963) on Grapes. Given the importance of date palm trees in Iraq, the most important insect pests present and recorded in previous studies have been summarized. Also, the synonyms of the species and their geographical distribution are provided.

Keywords: Iraq, Orchards, Pests, Shrubs, Survey, Trees.

Introduction

The orchards in the middle of Iraq are one of the most important by farmers due to the important crops they offer in the local market, such as dates, citrus fruits, pomegranate, apples, apricots, etc. However, these crops have been facing numerous problems, including the infection by various pests; especially, the insects.

Date palms are one of the most important fruit trees that receive great farmer attention from, but the cultivating not easy, they attacked by different insect pests; from these insects which classify as important pests on palms because of their wide distribution and the seriousness of economic harm they can cause to different parts and stages of palms: dubas bug, the lesser date palm moth, the long horn stem borer, Bunch borer, frond borers, Arabian rhinoceros beetle (Abdel-Hussain, 1985; El-Haideri and Al-Hafeedh, 1986; Khalaf et al., 2013).

On citrus trees; the citrus trees can infection by many pests belonging to various insect orders are associated with flowers, shoots and roots; Futch (2011) stated many pests on citrus trees: leaf miners (Gracillariidae), mealybug, swallowtail butterfly, scale insects, whitefly and fruit fly. On the other hand, there are many pest on pomegranate for example: Deudorix isocrates Fabricus (Lepidoptera: Lycanidae), stem borer Coelosterna spinator Fabricius (Coleoptera: Cucujidae), whitefly Siphorinus phillyreae Haliday (Hemiptera: Aleyrodidae), shot hole borer Xyleborus perforans Wollastan (Coleoptera: Scolytidae), Thrips Scirtothrips dorsalis knob (Thysanoptera: Thripidae), and fruit borer Conogethes punctiferalis (Guenee) (Lepidoptera: Pyralidae) (Satyagopal et al., 2014).

The aim of this investigation, survey of insect pests infested tree orchards, and identifies the most prevalent species; also, provide a list of insect pests of date palms that registered previously in Iraq.

Materials and Methods

In this survey were collected many specimens of insects from orchards of the middle of Iraq, which planted with the following trees: date- palms, different species of citrus, pomegranates, figs and grapes randomly during the period from 1st March to 1st November.2019. There are many tools used to collect the specimens that including: nets, aspirators, light traps, and also by direct method using the forceps.

For identification insects used different Taxonomical Keys such as: Martin et al. (2000), Muniappan et al. (2012), Al Antary et al. (2014), Krell and Král (2017) and Ramos and Caballero (2017) and Muzaffarian (2018). The synonyms of species according to GBIF Secretariat (2019).

Results and Discussion

During the current investigation, there were collected 16 species belonging to 14 genera and 14 families under 4 orders from orchids from different localities of middle of Iraq; these species are listed below:

(1) Insects of date palm trees:

Order, Coleoptera

Family, Bostrichidae

Phonapate frontalis (Fähraeus, 1871)

Common name: Date palm frond borer


Distribution: Iraq (Hussain, 1963); Israel (Blumberg, 2008); Jordan (Al-Antary et al., 2014); Saudi Arabia, Yemen, Algeria and Oman (Al-Haideri and Al –Hafith, 1986); Libya (Atia et al., 2009).

Family, Dynastidae

Oryctes agamemnon Burmeister, 1847

Common name: Rhinoceros beetle


Distribution: Iraq (Abdul-Rassoul, 1976); Oman (Al-Sayed and Al-Tamiemi, 1999); Tunisia (Ehsine et al., 2009); Saudi-Arabia (Ibrahim and Alahmad, 2015).
Oryctes elegans Prell, 1914

Synonyms:
Oryctes piesbergeni Bodemeyer, 1916
Oryctes siniacus Petrovitz, 1957

Common names: Fruit stalk borer, bunch stalk borer.

Materials examined (44 specimens): Baghdad, Jaddria, 6♂♂; 4.iii.2019; Wasit, Al-Numaniyah, 8♀♀; 23.vi.2019; Al-Najaf, Najaf district, 9♀♀; 4.ix.2019; Karbala, Karbala district, 10♀♀; 7.x.2019; Babylon, Musayyib district, 11♀♀; 20.x.2019.

Distribution: Iraq (Abdul-Rassoul, 1976); Qatar (Al-Azawi, 1986); Iran (Kerll, 2006); Saudi Arabia (Al-Deghaier, 2007); UAE (Krell and Král, 2017); Bahrain (Abded Karim et al., 2016).

Oryctes sahariensis De Miré, 1960

Materials examined (10 specimens): Al-Najaf, Najaf, 6♂♂, 4♀♀; 5.ix.2019.

Distribution: Iraq (Al-Saeedi, 2015); Egypt (Carpenter, 1975); Chad and Sudan (Carpenter and Elmer, 1978); Qatar (Mokhtar, 2009).

Family, Cerambycidae
Jebusaea hammerschmidtii Reiche, 1878

Synonyms:
Bagdatocerambyx durei Pic, 1901
Jebusaea hammerschmidtii Aurivillius, 1912
Jebusaea persica Fuchs, 1956
Jebusaea persica Reitter, 1907
Jebusaea persica Villiers, 1967
Pseudophilus testaceus Gahan, 1893

Common name: Long-horn Date-palm Stem borer.


Distribution: Iraq (Derwesh, 1965); Qatar (Al-Azawi, 1986); Palestine, Iran (GBIF Secretariat, 2019).

Family, Curculionidae
Coccotrypes dactyliperda (Fabricius, 1801)

Synonyms:
Bostrichus dactyliperda Fabricius, 1801
Coccotrypes bassiavorus Hopkins, 1915
Coccotrypes borassii Beeson, 1939
Coccotrypes eggersi Hagedorn, 1904
Coccotrypes elaecarpi Beeson, 1939

Common names: Date stone beetle, palm seed borer

Distribution: Iraq (Bureau of Entomology and Plant Quarantine, 1950); Iran (Shafiane, 2017); Morocco (Ait-Oubahou and Yahia, 1999); Jordan (Mashal and Albeidat, 2006); Oman (Elwan, 2000); Saudi Arabia (Al Dhafer and Alayyeid, 2014); Egypt (El-Sherif et al., 1998).

Order, Lepidoptera
Family, Batrachedridae
Batrachedra amydraula Meyrick, 1916

Common name: Lesser Date Moth

Distribution: This species reported in Iraq by Wiltshire (1957) under the family Momphidae; Israel (Blumberg, 1975); Oman (Elwan, 2000); Egypt (Harhash et al., 2003); Iran (Latifian et al., 2004); Khuzestan (Latifian and Nejadian, 2009); India (Haldhar et al., 2017); Pakistan (Jatoi et al., 2020).

Family, Pyralidae
Aphomia sabella (Hampson, 1901)

Synonym: Arenipses sabella Hampson, 1901

Common name: Greater Date Moth.

Distribution: This species reported in Iraq under the name Areipises sabella Hampson, 1901 by Buxton (1920); Israel (Kehat and Greenberg, 1969); Far east and North Africa (El-Haidari and Al-Hafidah, 1986); Libya (Bitaw and Ben Saad, 1990); Egypt (Abdul Salam, 1993); Sultanate of Oman (Elwan, 2000); Saudi Arabia (Badr El-Sabah et al., 2010); Jordan (Al-Antary et al., 2014).

Order, Hemiptera
Family, Asterolecaniidae
Palmapis phoenicis (Ramachandra Rao, 1922)

Synonym: Asterolecanium phoenicis Ramachandra Rao

Common name: Green scale insect

Distribution: This species registered in Iraq under the synonym Asterolecanium phoenicis by Green (1923); Israel (Kehat and Greenberg, 1969); Saudi Arabia (Beccari, 1971); Sudan (Abbas and El Nasr, 1992); Qatar (Yousof et al., 2013); Iran (Moghaddam, 2013); Jordan (Al-Antary et al., 2014).

Family, Tropiduchidae
Ommatissus lybicus de Bergevin, 1930

Common name: Dubas Bug

Materials examined: Many infested trees of date palms by Dubas bug (nymph and adults on leaves and fruits during spring and autumn) from many regions of some provinces in the middle of Iraq during May 2019.: Baghdad (Al Ta'ji, Al-Mada'in and Abu-Ghraib districts); Karbala (Al-Autaishy and Al-husainiya subdistrict, and Al-Hindiya districts); Najaf (Kufa District); Babylon (Al-Musayyib and Al-Ḥillah districts) and Diyala (Al Wajehiya and Miqdadiyah districts).

Distribution: Iraq (Hussein, 1963); Qatar (Al-Azawi, 1986); Sudan (El-Haidarei, 1982); Morocco (Wilson, 1987); Libya (Bitaw and Ben Saad, 1990); from central Iran to the coasts of Persian Gulf and Oman Sea in all palm growing areas.
(Gharib 1998); Tunisia (Zoubi and Raeesi, 2010); Pakistan (Shah et al., 2012).

(2) INSECTS OF CITRUS TREES:

Order, Diptera

Family, Tephritidae

*Ceratitis capitata* (Wiedemann, 1824)

**Synonyms:**
- *Ceratitis asparagi* Bezzi, 1924
- *Ceratitis citripeda* Efflatoun, 1924
- *Ceratitis hyspanica* Breme, 1842
- *Pardalaspis asparagi* Bezzi, 1924
- *Tephritis capitata* Wiedemann, 1824
- *Trypetia capitata* (Wiedemann, 1824)

**Common name:** Mediterranean fruit fly


**Distribution:** This fly invasive to Iraq (Al-Haidary, 1947). It irradiated and appeared again as outbreak in Abu Sa’ida district, Diyala province at 2006 in citrus orchids (Al-Barak 1994, Al-Jboory et al., 2004), and appears again in 2019 in citrus orchids.

**Remark:** This species were found in Iraq and be serious pest of citrus orchards in 1992-1994 (Al-Barak 1994, Al-Jboory et al., 2004), and appears again in 2019 in citrus orchards.

**Distribution:** Iraq (Gentry,1965); Florida (Heppner, 1993); Egypt (Abd El-Aziz, 1995); Lebanon (Methni, 1996); Morocco (Boughdad et al.,1999); Japan (Ujiye, 2000); Syria (Abu Kaf et al., 2006); Pakistan (Mustafa et al., 2013); Algeria (Dahmane and Chakali, 2020).
Kadhimiya 5.iii.2019; and Wasit province, Al-Numaniyah, 10.v.2019.

**Distribution:** This species is a tropical and subtropical with a wide-distribution, including: Middle East, West Indies, India, southern Asia, East Africa and South Africa, and northern Australia (CIE, 1978). In Iraq, it is reported by Hussain (1963).

(3) INSECTS OF POMEGRANATE TREES

**Order, Hemiptera**

**Family, Aphididae**

*Aphis punicae* Passerini, 1863

**Synonyms:**
- *Aphis durantae* Theobald & F.V., 1917
- *Aphis durranti* Das & B.C., 1918
- *Aphis punicae* Shinji, 1922
- *Cerosipha punicae* (Passerini, 1863)

**Common name:** Pomegranate aphid.

**Materials examined:** many aphids showed on the leaves and stems of Pomegranate trees from orchards in Diyala province, Miqdadiyah district, 24.vi.2019; Wasit province, Al-Numaniyah, 10.v.2019.

**Distribution:** Iraq (Bodenheimer and Swirski, 1957); Egypt (EL-Kady et al., 1980); India (Ghosh, 1986); Iran (Alikhani et al., 2010); Japan (Sugimoto, 2011); Tunisia (Ben Halima, 2012); Turkey (Görür et al., 2012) Korea (Lee et al., 2015); Mediterranean area (Cuozzo et al., 2016).

(4) INSECTS OF GRAPE SHRUBS

**Order, Hemiptera**

**Family, Cicadellidae**

*Arboridia hussaini* (Ghauri, 1963)

**Synonym:** *Zygina hussaini* Ghauri, 1963

**Common name:** Grape vine leaf hopper.

**Materials Examined:** many specimens of this leafhopper were collected from the lower surface of leaves from Baghdad, 16.vi. 2019; Karbala province, Al–Autoaisyh district, 30.v.2019; Diyala province, Miqdadiyah, 20.vi.2019

**Distribution:** Iraq (Ghauri, 1963) as *Zygina hussaini*.

References


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