

Short Communication

Economically Importance Insects of the Plantations in Basrah Province, Iraq

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The Agri-system of Basrah province, Iraq varied depending on the regions which have different ecosystems, the southern, eastern, and northern which divided into the desert area and sedimentary area. The southern and the eastern region are commercial plantations for date palm trees and leaf crop and other vegetable crops, while the desert is planting with tomato crop under tunnels annually, and the field crops and date palms usually are planted in the sedimentary area.

Date palms, which are one of the most economic fruit tree in Iraq, highly susceptible to different pests. Several pests including important economic insects such as the longhorn palm stem borer *Jebu saea hammerschmidt* (Coleoptera : Cerambycidae), fruit stalk beetle *Oryctes* spp. (Coleoptera: Scarabaeidae) (Figure 1), lesser date moth *Batrachedra amydraula* (Lepidoptera : Batrachedridae) (Figure 2), and mite pest, date palm dust mite *Oligonychus afrasiaticus* (McGregor) cause significant damage and yield losses up to 25% in some varieties of date palm in Basrah. For controlling these pests, varies methods of were suggested to suppress the pests under the Economic thresholds ET [1-3]. Recently, for the first time in Iraq, the date palms of Basrah were invaded by the red palm weevils *Hyncophorous ferrugineus* (Olivier, 1790) (Figure 3) in December 2015 after two infestations patches of RPW were spotted in Safwan county about three Km from Iraq- Kuwait border [4]; After RPW has been listed as a quarantine pest and the intensive chemical control have been applied during the five years, the pest did not spread to the other regions of Basrah province depending on the data of Iraqi Ministry for Agriculture. Jujube *Ziziphus* spp. is the second important fruit tree in eastern region that infested with different pests, such as jujube fruit fly *Carpomyia incomplete*, *Tarucus rosaceus* (Lycaenidae : Lepidoptera) and white fly *Acaud aleyrodes rachipora* (Siph) (Hemiptera : Aleyrodidae). Jujube fruit fly is the serious pest infesting Jujube fruits casing significant damage and falling off more than 50% of infested fruits during the two insect generations after hatching, the larva of C incomplete bores into the fruit and feeds there until larval development is complete (Figure 4) [5]; the control applications should be applied by spraying the trees twice by using chemical insecticides such as Methomyl and Cyfluthrin in the beginning of the growing season [6-10]. The leaf crops and many vegetables, in these

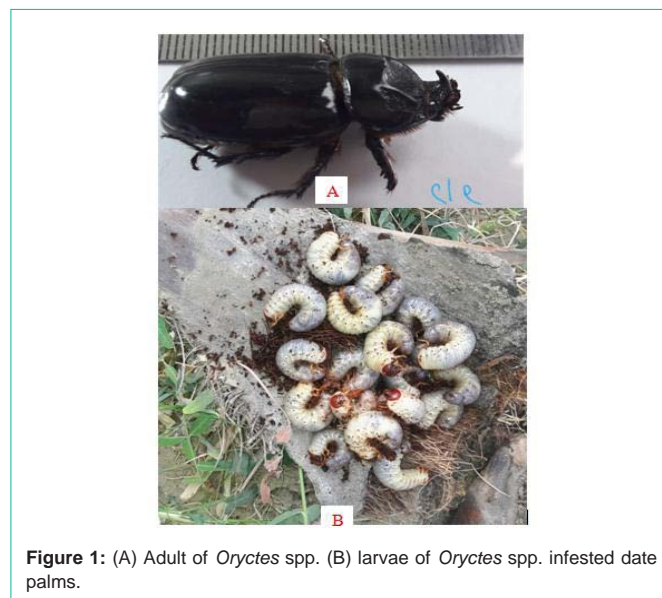


Figure 1: (A) Adult of *Oryctes* spp. (B) larvae of *Oryctes* spp. infested date palms.



Figure 2: Symptoms of infestation of lesser date moth *Batrachedra amydraula*, with red, damage, small fruits.

regions, are attacked by numerous insects which cause economic and cosmetic damages for the valuable plant parts such as the leaf and fruits. To manage and minimize their impacts, many researches have been carried out on the control of vegetable pests including aphids, Lepidoptera pests, beetles, mites, like *Tetranych usurticae* and many other pests on radish, celery, leek, onion, beans, Okra, cabbage, Lettuce, and others [11-19].

In the desert part of the northern region, tomato crop fields are infested with many pest, but the most dangerous pests are the whitefly *Bemisia tabaci* (Aleyrodidea: Hemiptera) and tomato leaf miner, *Tuta absoluta* (Lepidoptera : Gelechiidae); Many studies have been conducted in tomato planting in low tunnels and greenhouse trying to help growers to increase and improve the production by controlling of the white flies which are known as a vector for the viral disease



Figure 3: (A) Date palm infested by red palm weevil. (B) Adult of red palm weevil *Hypochlorous ferrugineus*.

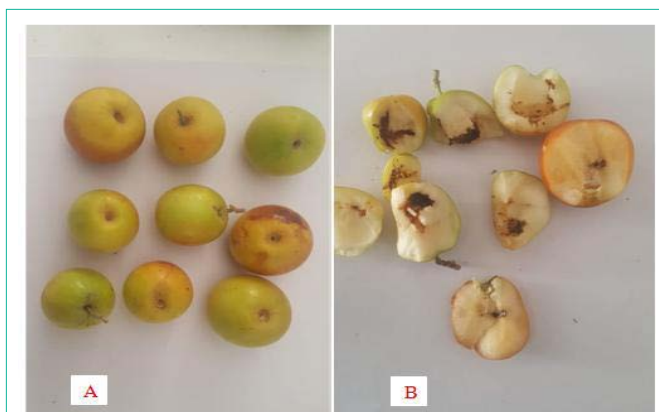


Figure 4: (A) Uninfested jujube fruits and (B) infested fruit with jujube fruit fly *Carpomyia* in complete.



Figure 5: Mass trapping of *Tuta absoluta* using pheromone and sticky traps.

of tomato plants [20]. *Tuta absoluta* was first recorded in northern Iraq in 2009 and first recorded in Basrah during 2011; the population density of *T. absoluta* was determined using the pheromone traps (Figure 5), reaching the top peak of 75.24 insects per trap in Basrah. It also infested potatoes, eggplant, beans, chickpeas, and legumes; *T. absoluta* was effectively controlled by chemical control with Proclaim (P) and Neem [21-23]. However, wheat, barley, corn and sorghum are infested by different species of aphids, lepidoptera pest and mites in sedimentary area of the northern region [24,25]. The most common key pest is *Schizaphis graminum* infested wheat crop annually causes yield losses due to the transmission of the viral disease [26].

In Basrah, numerous key insect and mite pests infest the important economic crops and trees, and the growers use intensive chemical insecticides to control these pests; IPM programs for these pests should be developed to minimize the side effects of chemical control.

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