

**First Record of Red Palm weevil, *Rhynchophorus ferrugineus* (Olivier, 1790) on the Date Palm, *Phoenix dactylifera* in Basrah, Iraq**

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**Abstract:** Samples of insect adults, larvae and cocoons with pieces of infested declining palm leaves of *Phoenix dactylifera* were collected in Safwan area which is located south of Basrah, Iraq in mid-October 2015. The pest identified as a red palm weevil *Rhynchophorus ferrugineus*. This is the first record the pest in Iraq.

**Keywords:** Red palm weevil, *Rhynchophorus ferrugineus*, *Phoenix dactylifera*, Basrah, Iraq.

## **Introduction**

Palm tree *Phoenix dactylifera* is one of the blessed trees mentioned in holy books, the Koran and the Gospel, and it also represents the present and the future for the history of the Arabs and Iraq in particular happened this tree recently to a significant deterioration of many factors, including the being struck pests (2).

The red palm weevil (RPW) *Rhynchophorus ferrugineus* (Olivier) is the most dangerous scourge affecting the date palm. causing heavy losses to farmers. larval attacked plant and tissue feeding to turn into pupa..The adult insects either stay inside ,the cavities, causing damage to the Palm. Where are destroying the stem and continue to grow and thus produce multiple and overlapping generations. (4,6).

**Eggs:** Whitish-yellow, smooth, very shiny, cylindrical with rounded ends,

slightly narrower at the anterior end, averaging 0.98 by 2.96 mm”.

**Larvae:** Piriforme, apodous, colour, creamy white to ivory, cephalic capsule brown russet-red to brilliant brn-black. Bowody slightly curved. Last instar is 36 to 47 mm in length by 15 to 19 mm in width.

**Pupa:** There pupa inside the cocoon of a cylindrical fiber palm usually under the bark in Palm.The outer perimeter of the leg. and the color of the pupa inside the cocoon at the beginning of this phase White and her eyes. Large prominent, and the progress in life turns color to color light brown.

**Adult male:** Length: “19 to 42 mm, width 8 to 16 mm. Body elongate-oval, general colour ferruginous to black, legs lighter coloured than body; elytra dark red to black, shiny or dull, slightly pubescent; black spots on pronotum extremely variable Head: “dull to shiny; smooth to finely punctured;

interocular space slightly more than one-half width of rostrum at base.

**Antennae:** “arising laterally from scrobe at base of rostrum; scrobe deep, broad and widely opened ventrally; scape elongate, longer than funicle and club combined or equal to one-half length of rostrum; funicle with 6 segments; antennal club large usually ferruginous or reddish-brown; broadly triangular with several setae dorsally and ventrally; inner side of spongy area with 8 to 15 setae. Pronotum: “with sides gradually curved to apex and abruptly constricted anteriolaterally; slightly pubescent to shiny; posterior margin nearly rounded; colour mostly ferruginous and varying to dark brown and black; underside of pronotum mostly ferrugineous or dark brown, may vary to almost black, very minutely punctured. Scutellum varying from reddish brown to black; somewhat pointed posteriorly, one-quarter to one fifth elytral. Elytra: “smooth or slightly velvety pubescent, nearly rectangular, with punctuation along the outer edges with 5 deep striae and traces of 4 laterally; length of each elytron two and one-third times its own width. Abdomen: “usually ferruginous, but may vary from ferruginous to almost black; first abdominal sternite as long as third and fourth combined but much shorter than second.

**Adult female:** “Length 26 to 40 mm, width 10 to 16 mm. Very similar to

male in body size, colour, markings on pronotum, except rostral setae absent; snout longer, slender and more cylindrical, setae on front femur absent and on front tibia much shorter. (3).

## Materials and Methods

A field survey conducted in 1/10/2015 in the area Safwan border region between Iraq and Kuwait. The area contain more than some palm Berhi, hylawuy, Sayer and Boraim seen injury class Berhi and hylawuy than others (Fig. 1).

The samples of the pest with different development stages; larvae with various stages, pupae and adults were collected in sealed bags save in alcohol 70% and sent to the laboratory for the purpose diagnosis as it relied on the taxonomic key's Robin, *et al.* (7) insect identification were observed under binocular incident-light, also some samples sent to the Natural History Museum of the University of Baghdad for confirm identification by Prof. Dr. Mohammed Saleh Abdul- Rassul.

Some the palm should the symptoms infection with the red palm weevil by yellowish, wilting and rigorism as in (Fig 2), when injury could in the heart of Palm or fronds rules while the symptoms of yellowish did not appear in some palm fronds, but many infections in the crown or roots were fragile and soft with exit smells distasteful caused the result of the fall Palm when strong winds (Fig 3).



Fig. (1): Safwan border area (arrow) Fig. (2). symptoms are yellowish, wilting & rigorism



Fig. (3): Symptoms are attacked the crown area or roots.

## Results

The examined specimens should that the insect is based on different taxonomical keys which identified to the family Curculinoidea, The following description:

**Eggs:** Creamy white, oblong, narrower at the anterior end, shiny, with diementia  $2.62 \times 1.12$  mm (Fig. 4.a).

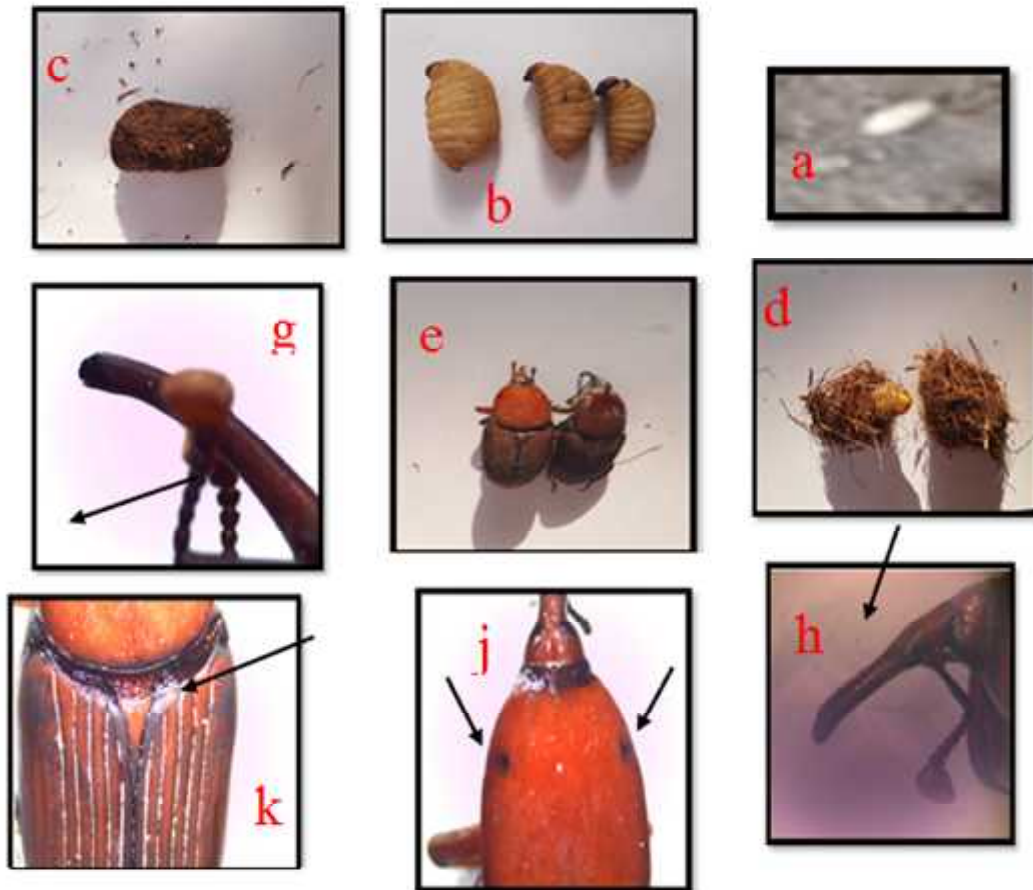
**Larvae:** 35 mm long, brown head, white body composed of 13 segments, mouthparts well developed and

strongly chitinized, average length of fully grown larvae 50 mm, and maximum width (in middle) 20 mm (Fig. 4.b).

-Pupae: Pupal inside the cocoon of a cylindrical fiber palm case  $50-95 \times 25-40$  mm, pupae cream colored, and then brown, with shiny surface, greatly comprising about one-third of total length. In male, dorsal apical half of rostrum covered by a patch of short brownish hairs, in female, rostrum bare, more slender, curved and a little longer than in that male.

**Adults:** Reddish brown (Fig. 4.e), about 35 × 10 mm, with long curved rostrum, dark spots, head and rostrum

furrowed and reticulated, average size 35 mm × 15 mm (Fig. 4.c,d).



**Fig. (4): Description of *Rhynchophorus ferrugineus* a: Eggs, b: larval developmental stage, c, d: pupa inside the cocoon of a cylindrical fiber palm, e: adult, g: female rostrum, h: male rostrum, j: pronotum (marked gradual curvature, k: Scutellum.**

## Discussion

Red Palm weevil have been known and reported from many regions of the world such as India (original home) (5,8), Pakistan in 1999, Sri Lanka and Andenossia, the Philippines, Burma, Pennekladash, Thailand, Malaysia, Iran in 1990, Qatar in 1985, Oman 1993, Saudi Arabia in 1987, the UAE in 1985, Kuwait in 1993, Jordan in 1999,

Palestine in 1999, Egypt in 1992 and Spain in 1996, Morocco in 2010, Syria, Turkey, Greece, Albania and Italy all in 2004 and France in 2006 and Libya in 2009 (1,5,10).

The spread the pest to the new distribution area included present Iraqi area (Safwan, Basrah), may be from the neighbour countries e.g. Kuwait.

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اول تسجيل لحشرة سوسة النخيل الحمراء *Rhynchophorus ferrugineus*

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**المستخلص:** جمعت عينات من الكاملات واليرقات والعدارى للحشرة مع أجزاء من السعف المتضرر لنخيل التمر *Phoenix dactylifera* من منطقة صفوان التي تقع جنوب محافظة البصرة، العراق في منتصف تشرين الثاني. وشخصت الآفة على أنها سوسة النخيل الحمراء *Rhynchophorus ferrugineus* (Olivier, 1790) بالاعتماد على الخصائص المظهرية لها. يعتبر هذا أول تسجيل للحشرة في العراق.

**كلمات مفتاحية:** سوسة النخيل الحمراء، *Rhynchophorus ferrugineus*، نخلة التمر، العراق.