Maladera insanabilis (Brenske, 1894),(Coleoptera, Scarabaeidae, Melolonthinae, Sericini): A New Horticultural Pest In Egypt

Hedaya H. Karam and Abdel-Aziz M. El-Minshawy
Faculty of Agriculture, Department of Applied Entomology, Alexandria University

Received on: 19/9/2016 *Accepted: 20/10/2016*

Recently, since 2015 till now, some horticultural growers in Nobaria and Alhamam districts, North Coast, Egypt, suffer from an injurious small, light brown beetle. The adult feeds on the leaves, buds and flowers of several plants like sweet potato, citrus and guava. The C-shaped larvae (white grubs) feed on roots, where the sandy soil of these districts facilitate the females to borrow deeply to lay eggs. The collected specimens were examined by preparing the taxonomic diagnostic characters on slides (antennae, legs and male genitalia). Identification of the family, sub family and tribe was carried out by the first author using the keys of Borror *et al*.(1981), Baroud (1985) and Arnett *et al. (*1980),then Dr. Ales Bezdek in the institute of Entomology ASCR, Prague, Ceske Republic, kindly identified the species as *Maladera insanabilis* (Brenske,1894) (formerly known as *M. matrida* Argaman). Neither the genus nor the species were found in the list of Alfieri (1976) who surveyed Coleoptera of Egypt based on all the available collections at that time and his own precious collection. From time to time some new insects invade Egypt, therefore, search on the literature confirmed that *Maladera insanabilis* is an important economic insect pest that attacks ornamental and fruit plants in some countries of the world. It is invasive in the Mediterranean region, Arabian Peninsula, Iran and Israel. It is prevalent in Iran since 1970.

Ahrens *et al*.(2006) summarized the distribution of *M. insanabilis*, they recorded its presence in Yemen and in the Madeira island where it was accidentally introduced on Chrysanthemum plants. In addition they reported new records from different localities of Libya, where it certainly present since 1990.They reported the damage caused by this species to crops in the countries of eastern Mediterranean region and Asia, where it became a seriously spreading pest. It is also present in the Maghreb [Morocco] (Keith,2005),in Jordan (Al-Fwaeer, 2013), in some countries of Asia like Pakistan, Afghanistan and India (Mahta *et al*.,2008 and 2010). Golberg *et al.* (1989) indicated that it has two generations annually in Israel, adults emerge in March, April or May and disappear in October or November.

Sabatinelli and Pontuale (1998) treated the subfamily as a separate family (Melolonthidae) and raised the tribes to subfamily rank. They gave keys to its six subfamilies in Arabia including Sericinae

Al-Jassany *et al.*(2016) recorded this pest for the first time in Iraq during the year 2015-2016,they stated that adults are present during March-June, larvae stay in the soil for 6-7 months feeding on roots, causing damage leadng to the death of plants. They recorded the grubs in the soil planted with rose, olive, citrus, jasmine, nerium, christ thorn and cypress. This species appearing as new pest to Egypt and may spread in future to different sites.

Diagnostic charactes:

It is 8 mm, in length, yellowish brown (Fig. 1A& B), Labrum chitinous, visible externally, mandibles covered under clypeaus. Antenna (Fig. 1C)10 segmented ,the apical3 segments form a unilateral lamellate club. Procoxa transverse, protibia bidentate, externally with one apical spur (Fig. 1D), tarsus longer than tibia. Claws clefted (Fig. 1 F), not movable, equal in size. The two distal spurs of hind tibia placed one above and one below the tarsus joint (Fig. 1 E). Scutellum triangular. Elytra striated , interstriae with small shallow punctures. The sixth spiracle situated in the dorsal part of sternum (Pleurosticti). All abdominal spiracles covered with elytra except last one. Male genitalia (Fig. 1 G)is an important character in Scarabaeidae.

REFERENCES

Ahrens, D; Arnone, M. and Massa, B. (**2006**). *Maladera insanabilis* (Brenske, 1894), invasive species in the Mediterranean region and its distribution in Libya (Coleoptera, Scarabaeidae, Sericini) Naturalista Sicilia .**30 (2)** 349-357.

Alfieri, A. (**1976**). The Coleoptera of Egypt, Mem. Soc. Ent. Egypt, Vol. **50**:361 pp.

Al-Fwaeer, M.; Abo-abied, I.; Abo-allosh, A.; Halybih, M. M.; Obeidat, K.; Atawee, E. and Al-hawamleh, H. (**2013**). Study of pests attacking guava in Jordan. Ang. Biol. Forschung.1 (**3**):43-48.

Al-Jassany, R. F.; Al-Malo, E. M. and Al-Juboory, A. B. (**2016**). A new recording of the rose beetle *Maladera insanabilis* (Coleoptera, Scarabaeidae) on some ornamental and fruit plants in Iraq. Intl. J. Agri. Crop Sci. Vol., **9** (**1**): 55-56.

Arnett, R. A.; Downie, N. M. and Jaques, H. E.(**1980**). How to know the beetles (2nd edition) 416 pp.

Baroud, J. (**1985**). Coleopterres Scarabaeoidea, Fauna du Nord del Afrique, du Moroc au Sinaii.Editions Lechevalier, Paris. 651 PP.

Borror, D. J.; DeLong, D. M. and Triplhorn, C. A. (**1981**). An introduction to the study of insects (fifth edition) Sanders College publishing, New York.827 pp.

Golberg, A. M.; Yathom, S.; Almogi-Labin, A. and Fridland-Wunder (**1989**). Diurnal and seasonal occurrence, feeding habits and mating behavior of *Maladera matrida* adult in Israel. Phytoparasitica **17**: 81 – 89.

Keith, D. (**2005**). A new invasive species in the Maghreb: *Maladera insanabilis* (Coleoptera, Scarabaeoidea, Melolonthidae). Bull.de la soc.entom.de France (**110**):42-45.

Mahta,P. K.;Chandel, R. S. and Mathur, H. (**2008**). Phytophagous white grubs of Himachal Pradesh. Technical Bulletin: Dept. of Entomology, CSK HPKV, Palampur, 13 pp.

Mahta,P. K.; Chandel, R. S. and Mathur, H. (**2010**). Status of white grubs in north western Himalaya. J insect science. **23 (1)**:1-14.

Sabatinelli, G. and Pontuale, G.(**1998**). Melolonthinae and Pachydeminae of Arabia (Coleoptera,Scarabaeoidea, Melolonthidae). Fauna of Arabia **17**:107-146.

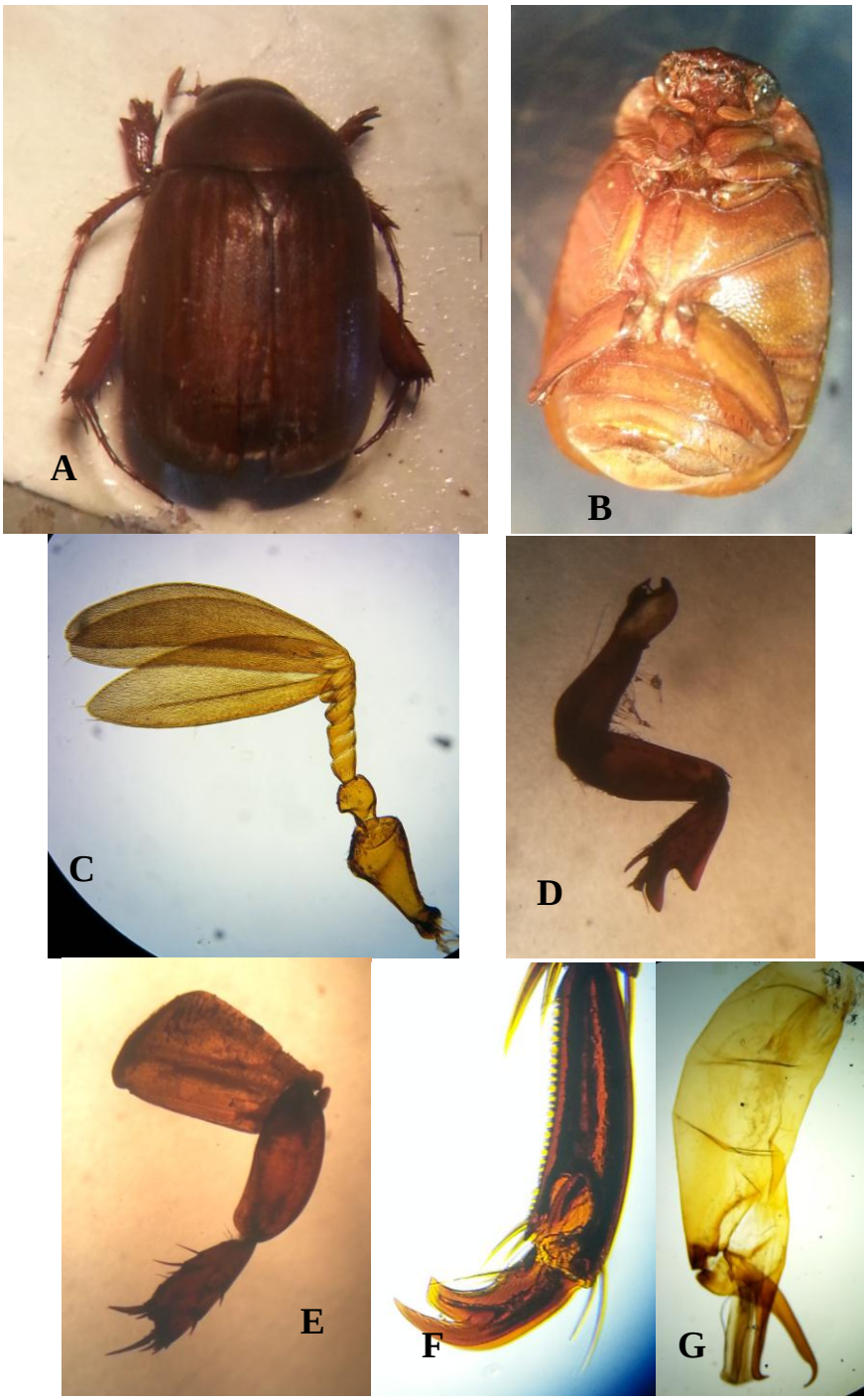

Figure 1: *Maladera insanabilis* A) dorsal view; B) ventral view; C) antennae; D) fore leg; E) hind leg; F) claw; G) male genitalia.