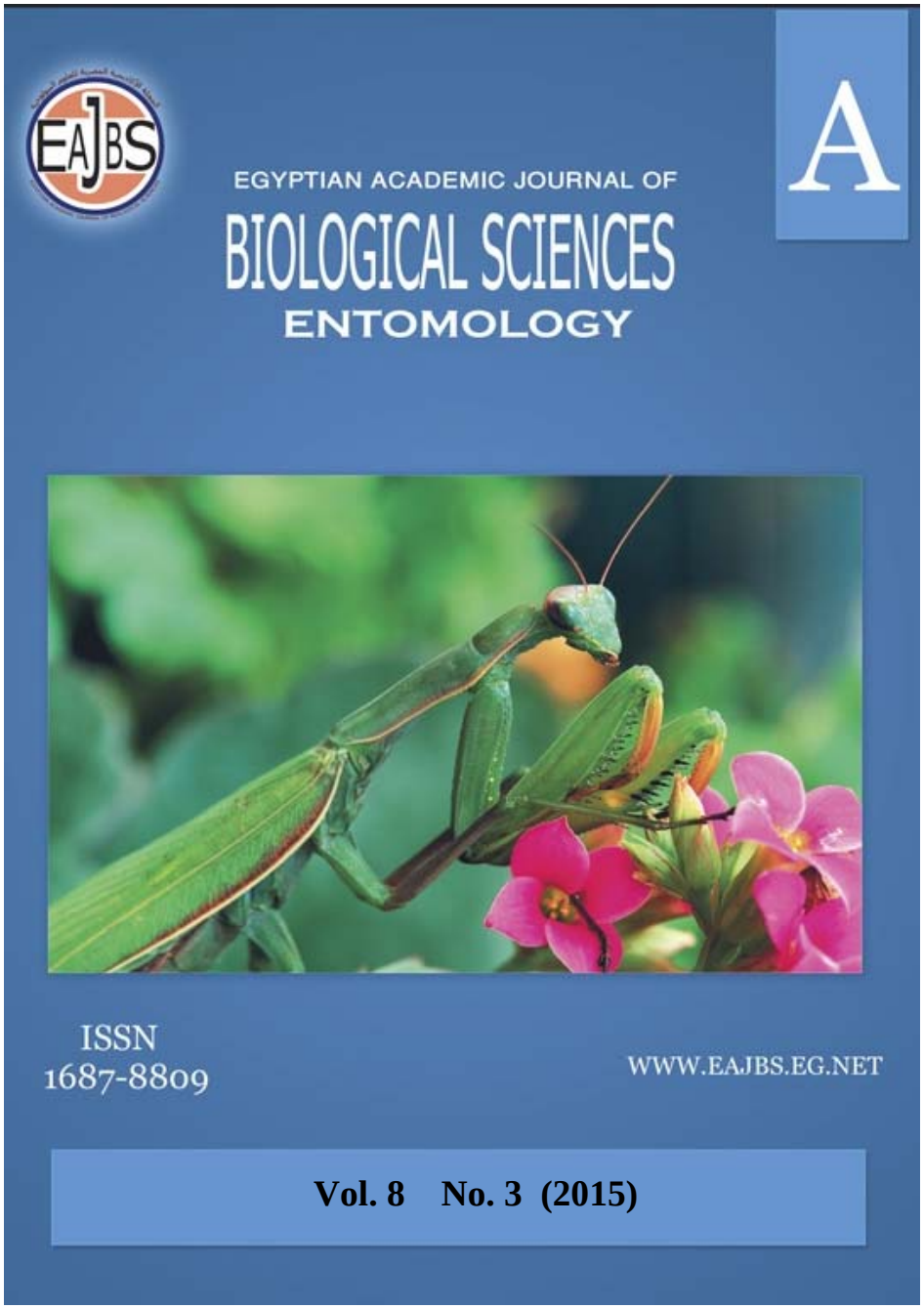


Egyptian Academic Journal of Biological Sciences is the official English language journal of the Egyptian Society for Biological Sciences, Department of Entomology, Faculty of Sciences Ain Shams University.

Entomology Journal publishes original research papers and reviews from any entomological discipline or from directly allied fields in ecology, behavioral biology, physiology, biochemistry, development, genetics, systematics, morphology, evolution, control of insects, arachnids, and general entomology.

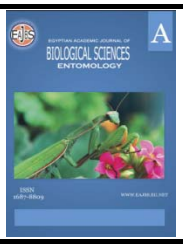
www.eajbs.eg.net

Citation: *Egypt. Acad. J. Biolog. Sci. (A. Entomology) Vol.8 (3)pp.31-33 (2015)*

Egypt. Acad. J. Biolog. Sci., 8(3): 31-33 (2015)

Egyptian Academic Journal of Biological Sciences
A. Entomology

ISSN 1687- 8809
www.eajbs.eg.net



Newly host plants of cotton mealybug *Phenacoccus solenopsis* Tinsley (Hemiptera: Pseudococcidae) in Egypt

Abdel-Razzik, M.,I. ; Angel R. Attia and M., Abdel Aziz
Plan Protection Res. Ins., Agric Res Center, Dokki Giza

ARTICLE INFO

Article History
Received: 27/9/2015
Accepted:19/11/2015

Keywords:
Host plants, cotton mealybug, *Phenacoccus solenopsis*

ABSTRACT

A new mealybug (*Phenacoccus solenopsis* Tinsley) appeared recently in Egypt from 2013 to 2015 and has attained the status pest on wide range of host plants. It was recorded on 29 host plant species including field crops (3), vegetables (3), ornamentals (7), weeds (13), fruits (3). These plants belong to the families of Amarantheceae, Asteraceae, Buddleiaceae, Compositae, Fabaceae, Lauraceae, Malvaceae, Moraceae, Myrtaceae, Pedaliaceae, Poaceae, Portulacaceae, Rosaceae, Solanaceae, Verbenaceae and Zygophyliaceae.

INTRODUCTION

The cotton mealybug, *Phenacoccus solenopsis* Tinsley (Hemiptera: Sternorrhyncha: Coccoidea: Pseudococcidae) was recorded recently for the first time in Egypt infesting *Hibiscus* sp. in September, 2009 (Abd-Rabou *et a*l., 2010) while Samah *et al*. 2015 was recorded this pest on tomatoes as a new host plant in Egypt.

Since 2005, this newly world species (*P. solenopsis*) has emerged as serious pest of Cotton in Pakistan and India, and now it is a serious threat to Cotton in China, it has been reported from 173 species in 45 plant families and from 26 countries in different ecological zones (Abbas *et al*., 2010).

In Southern Iran, a total of 43 plant species belonging to 20 plant families including field crops, vegetables, ornamentals, weeds, bushes and trees were collected, among them, 9 species were represented new host plant records and most *P. solenopsis* hosts belonging to families Solanaceae, Malvaceae and Cucurbitaceae, representing for 48% of the reported host plants (Fallahzadeh *et al.* 2014).

In Pakistan, *P. solenopsis* was recorded from 154 host plant species. It is a polyphagous pest in nature including, field crops, vegetables, ornamental, weeds, bushes and trees. Most of these belong to the families Malvaceae, Solanaceae, Asteraceae, Euphorbiaceae, Amaranthaceae and Cucurbitaceae. Economical damage was observed on cotton, brinjal, okra, tomato, sesame, sunflower and china rose and reached plant death in severe conditions (Arif *et al*., 2009).

MATERIAL AND METHODS

The pest cotton mealybug *P. solenopsis* was closely observed on different host plants including field crops, vegetables , ornamentals ,weeds and fruits located in some districts of Giza ,Cairo, Behera and Qaluobaya during the Summer months of

2013 to 2015 years. Collected mealybug species were identified at Scale insect Department, Plant Protection Research Institute, Agric. Res. Center, Giza, Egypt. Weeds were identified at Weed Research Central laboratory, Agric. Res. Center, Giza, Egypt. (Prof. Dr. Ahmed Sadek Kholousy) and ornamental plants was identified in Horticulture Department of Ornamental Plants, Faculty of agricultural, Cairo university (Researching assistant, Mohammed Abd El Samiaa Sayed).
Host plants were listed in alphabetical order of families.

RESULT AND DISCUSSION

Results of this study have been summarized in Table (1), showed the list of host plant species in alphabetical order of families.

Table 1: List of host plants species of *Planococcus solenopsis* (in alphabetical order of families) during summer months of 2013 to 2015.

Plant family	Host category	English name	Latine name	Region	Year
Amaranthaceae	Weeds	Prichly chaff flower	*Achyranthes aspera*	Giza	2014
Amaranthaceae	Weeds	Livid amaranth	*Amaranthus*	Giza	2015
Amaranthaceae	Ornamentals	Bloodleaf plant	*Iresine herbstii*	Giza	2015
Asteraceae	Ornamentals	Dahlia	*Dahlia* x *hybrida*	Giza	2015
Asteraceae	Ornamentals	Wedelia	*Wedelia triobata*	Giza	2014
Asteraceae	Weeds	Spiny cocklebur	*Xanthium pungens*	Qalubia	2014
Buddleiaceae	Ornamentals	Asiane butter fly	*Buddleia asiatica*	Giza	2015
Compositae	Weeds	Black jack	*Bidens pilosa*	Giza	2015
Compositae	Weeds	Fleobane	*Conyza aegyptiaca*	Giza	2015
Fabaceae	Ornamentals	Lead trees and white popinac	*Leucaenia leucocephala*	Giza	2014
Lauraceae	Fruit trees	Avocado	*Persea americana*	Giza	2013
Malvaceae	Vegetables	Okra	*Abelmoshus esculentus*	Giza	2015
Malvaceae	Weeds	Jew's mallow	*Corchorus olitorius*	Giza	2013
Malvaceae	Crops	Egyption Cotton	*Gossypium barbadese*	Behera	2013
Malvaceae	Ornamentals	Shoe flower	*Hibiscus rosa sinensis*	Giza	2014
Malvaceae	Weeds	False mallow	*Malvastrum coromendeliamum*	Qalubia	2015
Malvaceae	Weeds	Prickly sida	*Sida alba*	Qalubia	2015
Moraceae	Fruit trees	Mulberry	*Morus mulberry*	Giza	2014
Myrtaceae	Fruit trees	Guava	*Psidium guava*	Giza	2014
Pedaliaceae	Crops	Sesame	*Sesamum indecum*	Giza	2013
Poaceae	Crops	Corn	*Zea mays L.*	Giza	2013
Portulacaceae	Weeds	Purselane	*Portulaca oleracea*	Giza	2015
Rosaceae	Weeds	American red	*Rubus strigosus*	Giza	2013
Solanaceae	Vegetables	Tomatoes	*Lycopersicon*	Cairo	2014
Solanaceae	Vegetables	Eggplant	*Solanum melogena*	Cairo	2014
Solanaceae	Weeds	Black nigtshade	*Solanum nigrum*	Giza	2015
Solanaceae	Weeds	Clustered withania	*Withania somnifera L.*	Giza	2015
Verbenaceae	Ornamentals	Lantana	*Lantana camara*	Giza	2014
Zygophyliaceae	Weeds	Malta cross - puncture vine	*Tribulus longipetalus*	Giza	2015

In the present study, a total of 29 host plant belonging to 16 families including field crops (3), vegetables (3), ornamentals (7), weeds (13), fruits (3). These plants belonging to the families Amarantheceae, Asteraceae, Buddleiaceae, Compositae, Fabaceae, Lauraceae, Malvaceae, Moraceae, Myrtaceae, Pedaliaceae, Poaceae, Portulacaceae, Rosaceae, Solanaceae and Verbenaceae and Zygophyliaceae. Economical damage was observed on cotton , tomato, eggplant, okra and sesame.

Data represented in Table,1 indicated that, 35.71% of the host plants belonging to families Malvaceae and solanaceae and an average of 21.43 % of them belong to families Amaranathaceae and Asteraceae, the previous four families were contained 57.14% of host plants infested with *P. solenopsis.*

As host plant category, 44.84 % for weeds, 24.14 % for ornamental plants while 10.34 % for each of crops ,vegetables and fruits.

Weeds was represented the high percent of host plants (44.84 %) infested with *P. solenopsis,* so control of weeds are an important process to control the population of cotton mealybug.

In this concern, Abd- Rabou 2010 recorded *P. solenopsis* as a new pest in Egypt on the ornamental plant, *Hibiscus rosa sinensis* and Samah *et al*.2015 recorded it as a new pest on tomato plants in Egypt while 27 host plants in this paper are newly recorded.

REFERENCES

Abbas,G.; M.,J,.Arif ,M.; Asfaq ,M.; Aslam and S. Saeed (2010). Host Plant Distribution and Overwintering of Cotton Mealybug (*Phenacoccus solinopsis*: Himeptera : Pseudococcidae). Int. J. Agric. Biol., 12:421-425.

Abd- Rabou,S., Germain,J.F. and Malausa, T. (2010). *Phenacoccus parvus* Morrison and *P. solenopsis* Tinsley, two new scale insects for Egypt. Bulletin de la societe Entomologique de France., 115(4): 509-510.

Arif, M.I., M. Rafiq and A. Ghaffar, (2009). Host plants of cotton mealybug (*Phenacoccus solenopsis*): a new menace to cotton agroecosystem of Punjab, Pakistan. Int. J. Agric. Biol., 11: 163–167.

Fallahzadeh, M., Abdimaleki, R. and Saghaei, N. (2014). Host plants of the newly invasive mealybug species, *Phenacoccus solenopsis* (Hemiptera: Pseudococcidae), in Hormozgan province, south Iran. Entomofauna, 35 (9):169-176.

Samah S. I., Fatma A. M. and Nesreen M. A. (2015) The Cotton mealybug, *Phenacoccus Solenopsis* Tinsley (Hemiptera: Pseudococcidae) as anew insect pest on tomato plants in Egypt. J. plant protection Research, 55(1): 48 – 51.