

**PTEROPTRIX AEGYPTICA EVANS & ABD-RABOU  
(HYMENOPTERA: APHELINIDAE) AS A BIOAGENT OF  
PARLATORIA BLANCHARDII ((HOMOPTERA: DIASPIDIDAE)  
INFESTING DATE PALMS IN EGYPT**

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**Abstract**

*Pteroptrix aegyptica* Evans & Abd-Rabou (Hymenoptera: Aphelinidae) was recorded for the first time in Egypt parasitizing the date palm scale insect *Parlatoria blanchardii* (Targioni-Tozzetti) (Homoptera: Diaspididae) during 2005. The present work deals with the distribution and the role of this parasitoid as a bioagent of *P. blanchardii* during 2005-2006. *P. aegyptica* recorded distributed in Fayoum, Giza, Ismailia and North Sinai (El-Arish). Percent parasitism ranged between 4.4 and 15.1 %.

**INTRODUCTION**

The date palm scale insect, *Parlatoria blanchardii* (Targioni-Tozzetti) (Homoptera: Diaspididae) is a cosmopolitan pest of date palm. It was recorded attacking 4 host plant species in 9 localities at 8 Governorates (Abd-Rabou and Moustafa, 2006). The economic importance of the natural enemies in controlling *P. blanchardi* was studied by Carpenter and Elmer, 1978. In Egypt, Abd-Rabou, 2000 found that parasitoid species, *Encarsia lounsburyi* Berl. recorded associated with the pest. *Pteroptrix aegyptica* Evans & Abd-Rabou (Hymenoptera: Aphelinidae) was recorded for the first time in Egypt, as a parasitoid on the date palm scale insect, *P. blanchardii* in 2005 (Evans and Abd-Rabou, 2005). As well three other parasitoid species from family Aphelinidae (*Aphytis phoenicis* De Bach & Rosen, *Encarsia citrina* (Craw.) and *P. aegyptica* Evans & Abd-Rabou) and predator species from the two families, Coccinellidae (*Chilocorus bipustulatus* L. *Rodalia cardinalis* Muls. *Scymnus syriacus* Muls.) and Chrysopidae (*Chrysopa carnea* Steph. and *Chrysopa vulgaris*) were recorded attacking the pest on date palm (Abd-Rabou and Moustafa, 2006).

The present work deals with the role of *P. aegyptica* as a parasitoid for controlling the date palm scale, *P. blanchardii* on date palm in some locations in Egypt.

**MATERIALS AND METHODS**

Four locations [Fayoum, Giza, Ismailia and North Sinai governorates] heavily infested with the date palm scale, *P. blanchardi* were selected for the study and were

sampled monthly during 2005-2006. During the study, no chemical control for the pest was performed on the sampled trees. In each location (Ibshwai in Fayoum, El-Aiyat in Giza, Ismailia city in Ismailia and El-Arish in North Sinai) 15 trees were selected randomly for sampling. Each sample consisted of 15 infested twigs (20 cm long) and 30 infested leaves. The samples were detached off and brought to the laboratory for inspection. Each twig or leaf was stored in a well-ventilated emergence glass tube and monitored daily for parasitoids emergence. Rate of parasitism was determined by dividing the number of emerging parasitoids from each by the number of hosts scale existing. The parasitoids were identified by comparing them with voucher specimens. Dissection of *P. blanchardi* stages obtained from the above mentioned samples was used to detect prepupa and pupa parasitoids. It is difficult to differentiate larval and egg stages between *Encarsia*, *Aphytis* and *Pteroptrix* species. However, pupae of these three genera are very different in appearance. *Encarsia*, and species *Encarsia* pupae are black, *Aphytis* pupae are yellow and *Pteroptrix* pupae, mesoscutum, scutellum are black while gaster pale yellow.

## RESULTS AND DISCUSSION

In Fayoum, *P. aegyptica* parasitized *P. blanchardi* with average parasitism rates of 4.4 and 5.9 % during the two successive years 2005-2006, respectively. Peaks of parasitism were 13.4 and 15.1%, respectively during November (Fig.1). *P. aegyptica* was recorded in this location for the first time.

In Giza, *P. aegyptica* parasitized *P. blanchardi* with average parasitism rates of 2.3 and 2.7 % during the two successive years 2005-2006, respectively. Peaks of parasitism were 7.9 and 8.7 %, respectively during October (Fig.2).

In Ismailia, *P. aegyptica* parasitized *P. blanchardi* with average parasitism rates of 1.2 and 1.6 % during the two successive years 2005-2006, respectively. Peaks of parasitism were 4.9 and 5.5 %, respectively during November (Fig.3). *P. aegyptica* recorded in this location for the first time.

In North Sinai ( El-Arish), *P. aegyptica* parasitized *P. blanchardi* with average parasitism rates of 2.5 and 3.6 % during the two successive years 2005-2006, respectively. Peaks of parasitism were 4.4 and 5.8 %, respectively during November (Fig.4). This parasitoid recorded in North Sinai ( El-Arish) for the first time.

Genus *Pteroptrix* attacks different armored scale insect species (Thompson, 1958; Herting, 1972; and Fry, 1989) and is distributed in different parts of the world (Hayat, 1983). The role of this genus in the biological control of diaspidid scale was studied by (Herting, 1972; Komosinska, 1975 and Yasnosh, 2001).

The present work agree with the results conducted by ( Abd-Rabou and Moustafa, 2006). They stated that *P. blanchardi* parasitized by *P. aegyptica* with average parasitism rates of 0.4 % and the peak reached 1.9 %.

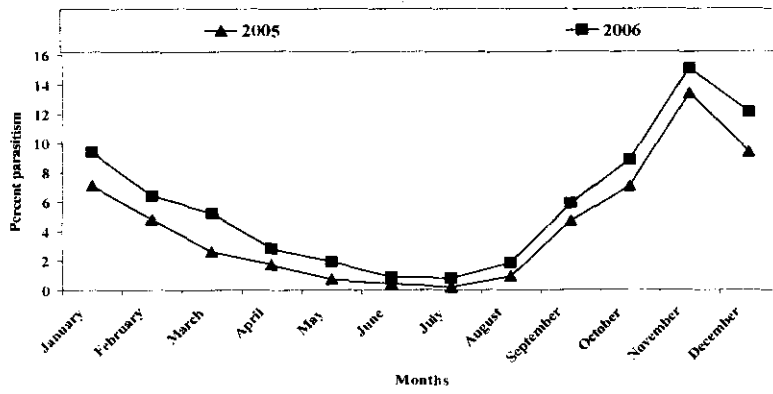


Fig. 1 : Percent parasitism by the parasitoid *Pteroptrix aegyptica* attcking *Parlatoria blanchardii* in Fayoum

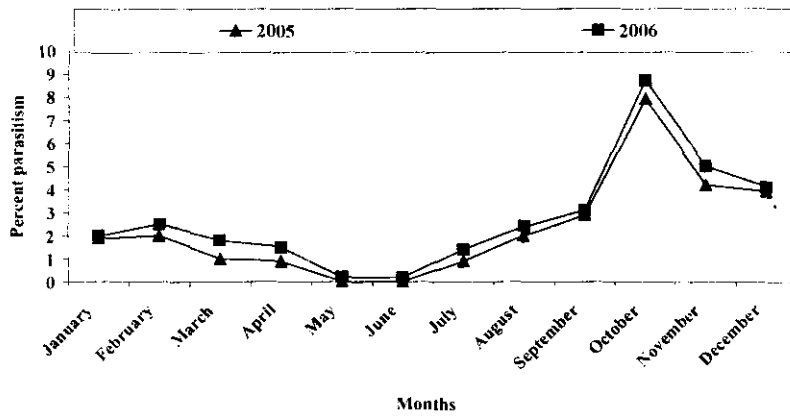


Fig. 2 : Percent parasitism by the parasitoid *Pteroptrix aegyptica* attcking *Parlatoria blanchardii* in Giza

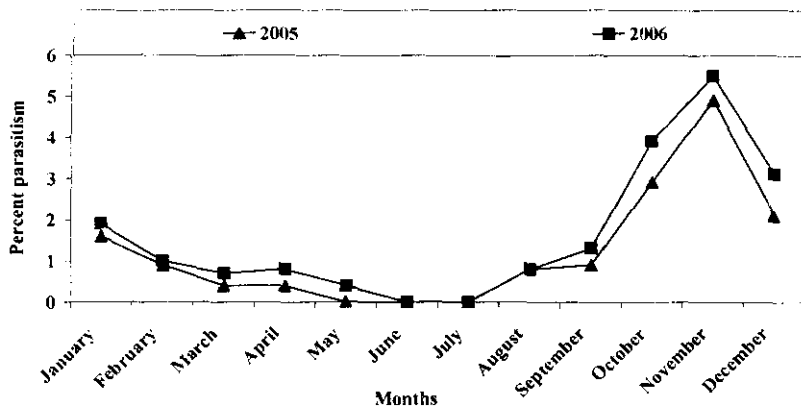


Fig. 3 : Percent parasitism by the parasitoid *Pteroptrix aegyptica* attcking *Parlatoria blanchardii* in Ismailia

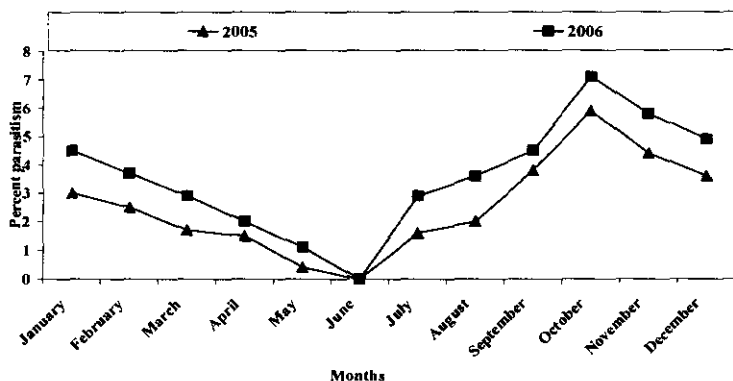


Fig. 4 : Percent parasitism by the parasitoid *Pteroptrix uegyptica* attacking *Parlatoria blanchardii* in North Sinai ( El-Arish)

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طفيل بيتيروبتركس إيجيبتيكس ( إيفانس و عبدربه ) كعامل حيوى فى مكافحة حشرة  
بارلاتوريا النخيل القشرية التى تصيب نخيل البلح

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سجل طفيل بيتيروبتركس إيجيبتيكس ( إيفانس و عبدربه ) لأول مرة فى مصر على حشرة  
بارلاتوريا النخيل القشرية التى تصيب نخيل البلح سنة ٢٠٠٥. تضمن هذا العمل التوزيع الجغرافى  
و دور طفيل بيتيروبتركس إيجيبتيكس كعامل حيوى فى مكافحة حشرة بارلاتوريا النخيل القشرية  
التي تصيب نخيل البلح أثناء الفترة من ٢٠٠٥-٢٠٠٦. وقد أشارت النتائج الى أن هذا الطفيل  
متواجد فى محافظات الفيوم و الجيزة و الأسماعيلية و شمال سيناء. وأن نسبة التطفل قد ترواحت  
بين ٤,٤ و ١٥,١ .