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Coccophagoides Girault (Hymenoptera: Aphelinidae) of Egypt with new species, *Coccophagoides aegypticus* Abd-Rabou sp.nov

Shaaban Abd-Rabou**ABSTRACT**

Females of the genus *Coccophagoides* Girault (Hymenoptera: Aphelinidae) are primary endoparasitoids of armored scale insects (Hemiptera: Diaspididae) and the males are obligate secondary ectoparasitoids of the prepupae and pupae of their females. The aim of this work is to study Genus *Coccophagoides* in Egypt. During the present work, a list of three species was recorded in Egypt. *Coccophagoides aegypticus* Abd-Rabou sp.nov. is also described here as a new species as well as a constructed key of the Egyptian member of this genus.

Keywords: *Coccophagoides* Girault, *Coccophagoides aegypticus* Abd-Rabou sp.nov, Aphelinidae, biological control, Egypt.

1. Introduction

Coccophagoides Girault (Hymenoptera: Aphelinidae) is a cosmopolitan genus belonging to the family Aphelinidae. The species of this genus are parasitoids of diaspidid scale insects (Hemiptera: Diaspididae). Females are diploid, produced from eggs laid by mated females, and are primary internal parasitoids; males are produced from eggs laid by unmated females (arrhenotokous); are parasitoids of other hymenopterans, including females of their species; it contains 16 species of the world^[6]. Two species of them from Egypt^[5].

The diagnosis of this Genus recognized by: Antenna 7–8 segmented, flagellum elongate spindle-shaped, F6 conical; maxillary palps with 2 segments; Forewing with stigmal vein relatively short, usually not longer than 0.25x the marginal vein, postmarginal vein absent or very short, submarginal vein with 3 setae (rarely more); malar sulcus present; scutellum with 2–3 pairs of setae; costal cell distinctly longer than the marginal vein; parastigma well developed; axilla relatively large, projecting, each axilla with 1–2 setae; hypopygium of female prominent, extending nearly to the apex of the gaster; tarsi 5-segmented and gaster with all 3 cerci not similar in length (2 are long and 1 is short).

Coccophagoides has a prominent and successful role of biological control of some armored scale insects^[7-10]. This genus recorded and listed in Egypt by^[1-5].

The present work dealt with the member species of Genus *Coccophagoides* and described a new species in Egypt as well as a constructed key of the Egyptian member of this genus.

2. Materials and Methods

Infested crops with armored scale insects will be examined in the field, using a pocket lens. The parts of the plant from different crops will be collected and placed separately in paper bags for further examination in the laboratory. Materials will be kept in a well-ventilated container until the emergence of any parasitoids. Identification of *Coccophagoides* parasitoids will be made by examining mounted adults in Hoyers medium. Figures of *Coccophagoides kuwanai* (Silvestri) and *Coccophagoides moeris* (Walker) after^[11].

3. Results and Discussion**3.1 List of *Coccophagoides* spp. in Egypt:****3.1.1. *Coccophagoides kuwanai* (Silvestri) (Fig. 7)**

3.1.1.1. Material Examined. 6 Females and 8 Males, Giza, 15. VII. 1997 ex. *Diaspidiotus* sp. on *Cactus* sp.G

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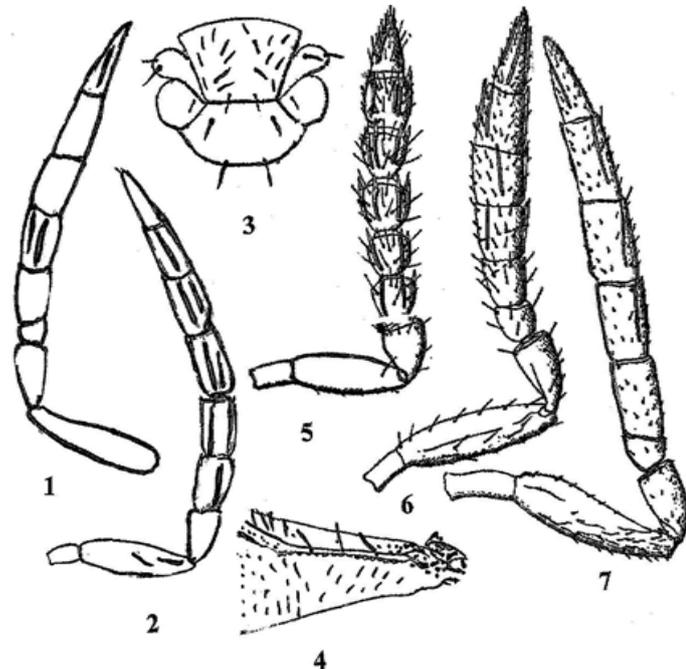
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3.1.1.2. Remarks: This species was recorded for the first time in Egypt by [3].

3.1.2. *Coccophagoides moeris* (Walker) (5-6)

3.1.2.1 . Material Examined: 1 Female, Northern coast 5. XII. 1995 ex. *Parlatoria oleae* on *Olea* sp.

3.1.2.2. Remarks: This species was recorded for the first time in Egypt by [3].



Figs (1-7): *Coccophagoides* spp. Figs (1-4): *Coccophagoides aegypticus* Abd-Rabou sp.nov. Fig. 1: Female Antennae, Fig. 2: Male Antennae Fig. 3: Mesoscutum and scutellum, Fig. 4: Submarginal vein; Figs (5-6): *Coccophagoides moeris* (Walker). Fig.5: Female Antennae, Fig. 6: Male Antennae; Fig.7: Female Antennae of *Coccophagoides kuwanai* (Silvestri).

3.2. *Coccophagoides aegypticus* Abd-Rabou sp.nov. (Figs.1-4):

3.2.1. Female

Length: about 0.55 mm. Mandible with two teeth, maxillary palpi 2 segmented and labial palpi unsegmented. Body dark brown; antenna dark yellow, antennal scape brown to dark yellow, forewing hyaline with infuscation below the venation; legs dark yellow except coxae dark brown; F1 distinctly wider than long, 0.5x of F2 . Thorax with axilla 2 setae, mid lobe of mesoscutum about 1.1 times as long as wide with numerous setae, scutellum about 2.4 times as long as with 6 setae, propodium with 2 setae on each side. Forewing 2.4 as long as wide, marginal fringe 0.4 of wing of width, midtibial spur longer than basitarsus and ovipositor 1.9 as long as mid tibia. Submarginal vein three setae. Ovipositor 1.9 as long as mid tibia.

3.2.2. Male

Similar to female, body dark brown. Antenna different in length as in Fig.2.

3.2.3. Comments

Coccophagoides aegypticus Abd-Rabou sp.nov. is similar to *Coccophagoides utilis* Doult but can be distinguished from this species by the relative measurements, marginal fringe 0.4 of

wing of width, midtibial spur longer than basitarsus and ovipositor 1.9 as long as mid tibia.

3.2.4. Material examined.

Holotype: Female, Northern coast, 15. IX. 2012 ex. *Parlatoria oleae* on *Olea* sp. (olive) collected by author. Paratypes: 13 females, with the same data as holotype on slides.

3.2.5. Specimens deposition. Holotype and paratype females deposited in the Plant Protection Research Institute, Dokki, Giza, Egypt.

3.3. Key to *Coccophagoides* Girault species of Egypt

- 1. Scuteullum with 6 setae2
- Scuteullum with 4 setae, first funicle segment 2/3 as long as second funicle segment.....*Coccophagoides moeris* (Walker)
- 2. Body dark brown, except center of metanotum and propodeum yellow, more sensorial in female antennae*phagoides kuwanai* (Silvestri)
- Body dark brown, except antennae and coxae dark yellow, sensorial in female antennae only of F2 and last segment of club..... *Coccophagoides aegypticus* Abd-Rabou

4. Conclusion

It is concluded that the genus *Coccophagoides* one of the promising parasitoid in controlling armored scale insects in Egypt.

5. Acknowledgements

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