

The Species of *Coccophagus* (Hymenoptera: Aphelinidae), with Description of One New Species from Egypt

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The Egyptian species of the aphelinid genus *Coccophagus* are reviewed. *Coccophagus qenai* Abd-Rabou is described as a new species from Egypt. Each species is briefly diagnosed and the known information on host and distribution is given. A key to the five Egyptian species of *Coccophagus* Westwood is provided.

Keywords: Aphelinidae, *Coccophagus*, *Coccophagus qenia* sp. n. Egypt.

The species of the aphelinid genus *Coccophagus* Westwood are primary parasitoids of soft scale insects belonging to the family Coccidae. These soft scale insects infest several economically important fruits or ornamental trees and several species of *Coccophagus* have been used in the biocontrol of different scale insects.

Until 1998 only one species of this genus was known from Egypt (Priesner and Hosny, 1940). Later Abd-Rabou (1999) and Abd-Rabou et al. (1999) recorded two further species in Egypt.

This paper deals with the species of *Coccophagus* which occur in Egypt and new hosts and host plants are also recorded in connection with these species.

Materials and Methods

This work is based on material collected from different host plants, host insects and locations of Egypt. Specimens were examined in the present work have been preserved as slide mounts, following the method by Noyes (1982).

GENUS COCCOPHAGUS

Coccophagus Westwood, 1833, Philosophical Magazine, London, 3,344.

Aneristus Howard, 1895, Canadian Entomologist, 27, 351.

Onophilus Brethes, 1918, Anales de la Sociedad Rural Argentina, 52,155.

Heptacritus De Santis, 1960, Revista de la Facultad de Agronomia, Eva Peron, 36, 97.

Polycoccophagus Sugonjaev, 1976, Trudy Zoologicheskogo Instituta, Akademiya Nauk SSSR, Leningrad, 64, 106.

Diagnosis: Antennae 8-segmented, mesoscutum with numerous setae; axillae larger, separated mesally by about the maximum length of an axilla, pronotum composed of a single plate, scape not or only slightly flattened and not or hardly expanded beneath.

This genus is represented in Egypt by 5 species.

Key to species

1. Scutellum with 3 pairs of setae 2
 - Scutellum with numerous setae 4
2. First funicle segment much shorter than pedicel, stigmal vein swollen 2
 - Coccophagus bivittatus* Compere
 - First funicle segment longer than pedicel, stigmal vein not swollen 3
3. Hind tibia yellow, club 0.7 as long as funicle 3 *Coccophagus qenai* Abd-Rabou.
 - Hind tibia fuscous at base, apical yellow, club 0.9 as long as funicle 4 *Coccophagus lycimnia* Walker
4. Fore coxa black, first funicle segment less than twice as long as wide, first club segment wider than long 4 *Coccophagus ishii* Compere
 - Fore coxa yellow, first funicle segment more than twice as long as wide, first club segment longer than wide 5 *Coccophagus scutellaris* (Dalman)

1. *Coccophagus bivittatus* Compere

Coccophagus bivittatus Compere, 1931, Proc. U.S. nat Mus., 78, 73–74.

Coccophagus bivittatus De Santis, 1948, Rev. Mus., La Plata (N. S.), 5, 168–171.

Diagnosis: The body is yellow with longitudinal dark brown stripe down sides of thorax and abdomen; antenna 7 segmented (1, 1, 3, 2), first funicle segment much shorter than pedicel; stigmal vein swollen, submarginal vein with a row of setae usually more than 5 setae; mesoscutum with numerous setae.

Material Examined: 3 ♀♀, Giza, 21.11. 1992, ex. *Kilifia acuminata* (Signoret) on *Mangifera indica* (PPRI).

DISTRIBUTION

Giza.

Hosts: *K. acuminata* and *Coccus hesperidum* (L.) (Hemiptera: Coccidae).

2. *Coccophagus ishii* Compere

Coccophagus ishii Compere, 1931, Proceedings of the United States National Museum, 78, 103–104.

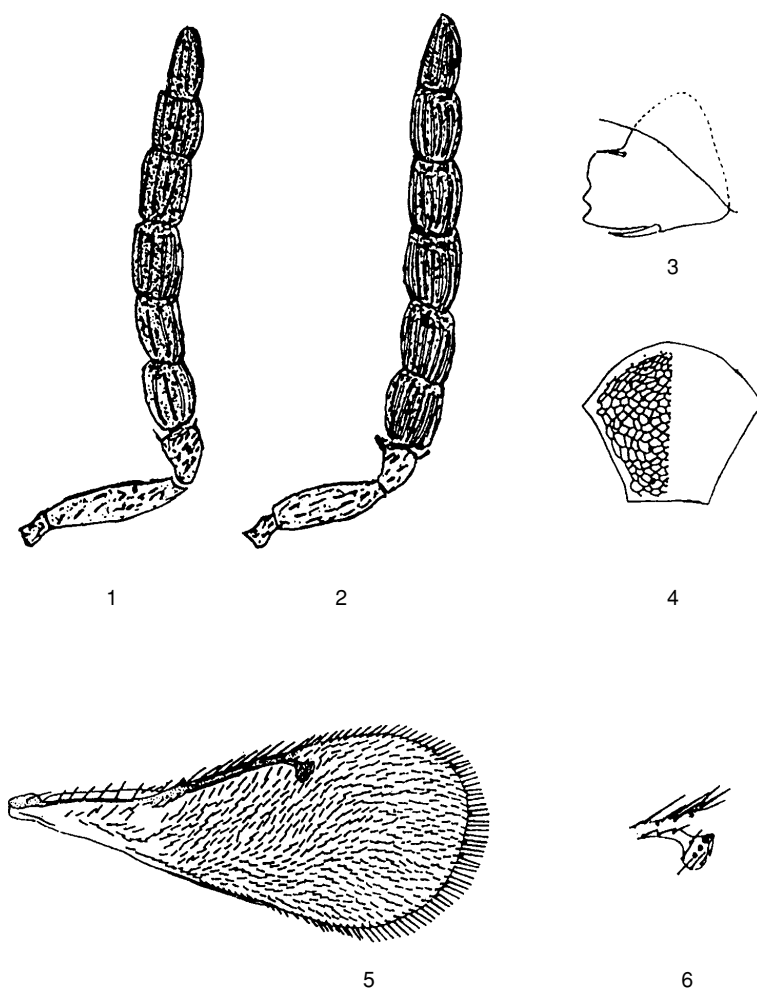
Diagnosis: General color is black, including head and antennae. First funicle segment less than twice as long as wide, first club segment wider than long, mesoscutum with numerous short, black setae, each parapsis with four or five short setae. Mid tibial spur more than one-half as long as basitarsus.

Material examined: 3 ♀♀, Qena, 10. XI. 1996, ex. *Coccus hesperidum* on *Olea* sp. (PPRI).

DISTRIBUTION

El-Arish.

Hosts: *C. hesperidum* (Hemiptera: Coccidae).



Figs 1–6. *Coccophagus qenai* Spec. nov. 1. female antenna; 2. male antenna; 3. mandible; 4. mesoscutum; 5. fore wing; 6. basal part of fore wing

3. *Coccophagus lycimnia* Walker

Aphelinus lycimnia Walker, 1839, Monogr. Chalc., 1, 11.

Coccobius notatus Ratzeburg, 1852, Ichn. d. Forstins, 3, 196.

Coccophagus nigrifrons Wollaston, 1858, Ann. Mag. Nat. Hist. 3, 27.

Coccophagus californicus, 1889, U.S. Dep. Agr. Insect life, 1, 269.

Diagnosis: Face and cheeks black to blackish brown, thorax black except scutellum entirely or almost entirely

yellowish or whitish; antenna 7 segmented (1, 1, 3, 2), first funicle segment longer than pedicel; stigmal vein not swollen, submarginal vein with a row at setae usually more than 5 setae; mesoscutum with numerous setae.

Material examined: 3 ♀♀, Giza, 31. V. 1992, ex. *C. hesperidum* on *Psidium guajava* (PPRI).

DISTRIBUTION

Giza, Gharbiya, Northern Coast, Assiut and Aswan

Hosts: *Ceroplastes floridensis* Comstock, *C. rusci* (L.), *C. hesperidum*, *Parasaissetia nigra* (Nietner), *Parthenolecanium persicae* (Fabricius), *Pulvinaria floccifera* (Westwood), *P. mesembryanthemi* (Vallot), *Saissetia coffeae* (Walker) and *S. oleae* (Oliver) (Hemiptera: Diaspididae).

4. *Coccophagus qenai* Abd-Rabou sp. n.

(Figs 1–6)

DESCRIPTION

Female: Coloration. Head, thorax and gaster black, only the scutellum largely yellowish white. All tibia yellow; all coxae black, femora dark except apices and bases yellow.

Head: Dorsum twice as wide as long, frontovertex wider than long; maxillary palpi 2-segmented, labial palpi 1 segmented; mandibles tridentate.

Antennae: Antennae with first funicle segment distinctly longer than pedicel, the following, three funicle segments equal in length. Club shorter than funicle 0.7 as long as funicle.

Thorax: The scutellum sex setae; mesoscutum with about 70–75 setae; propodeum with four setae scattered on each side lateral to spiracle.

Fore wing: Postmarginal vein absent, stigmal short and broad, marginal cilia at shortest only a little shorter than the setae of submarginal vein.

Legs: Legs with middle tibial spur the same length of adjacent tarsal segment.

Gaster: Gaster as long as the thorax, ovipositor occupying the distal one half of gaster, 1.4 times as long as middle tibia and about 5.4 times as long as the short, broad gonostyli, the latter about 0.7 times as long as middle tibial spur, not extruded at apex.

Male: Resembles the female, differs mainly in antennal length. First funicle segment relatively longer than female.

Material examined: Holotype 2 ♀, 1 ♂, Egypt, Qena, 15. XI. 2000 (S. Abd-Rabou) ex. *Coccus hesperidum* on *Bambusia* sp. (PPRI).

Comments: This species closest to *C. lycimnia* but differ in hind tibia yellow and club 0.7 as long as funicle.

5. *Coccophagus scutellaris* (Dalman)

Entedon scutellaris Dalman, 1825 (365, 371).

Coccophagus scutellaris Compere, 1931 (20), Ferriere, 1965 (123–125).

Diagnosis: Scutellum with numerus setae, fore coxa yellow. First funicle segment more than twice as long as wide and first club segment longer than wide.

Material examined: 1 ♀, Beni-Suef, 11. XI. 1998, ex. *Pulvinaria psidii* Maskell on *P. guajava* 10 ♀♀, Qena, 15. XI. 2000, ex. *P. tenuivalvata* (Newstead) on *Saccharum officinarum*, 7 ♀♀ Qena, 5. X. 2000, ex. *Coccus hesperidum* on *Bambusia* sp. (PPRI).

Distribution: Beni-Suef, Cairo, Giza, Gharbiya and Northern Coast

Hosts: *C. floridensis*, *C. hesperidum*, *P. floccifera*, *P. psidii*, *S. coffeae* and *S. oleae* (Hemiptera: Coccidae).

Literature

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