

NOTES ON SOME GENERA OF EGYPTIAN APHELINIDAE (HYMENOPTERA: CHALCIDOIDEA)

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Abstract

This work included surveys achieved on some genera of Egyptian aphelinids as well as keys to separate the species of each genus and to document a list of aphelinid genera in Egypt.

INTRODUCTION

Aphelinids are small to very small insects, generally not exceeding 1.0 mm in length. They are all insect parasitoids and most species are associated with nymphal stages of Sternorrhynchus Homoptera particularly Aleyrodidae (Whiteflies), Coccoidea (Scale insects) and Aphidoidea (aphids); actually they act either as primary parasitoids or hyperparasitoids (Hayat, 1985). Hayat (1995) recognized 30 genera world - wide, while Abd-Rabou (1999) recorded specifically 11 of these genera in Egypt.

Successful program of biological control depends actually on the correct identification of the parasitoids of target pest species. There is a constant need for reliable taxonomic works to help biocontrol workers to identify the parasitoids.

The present work attempts to fulfil urging need for surveying and identification of Egyptian aphelinids.

List of Egyptian aphelinid genera

1. *Ablerus* Howard (*Azotus* Howard, *Myocnemella* Girault, *Dimacrocerus* Brethes).
2. *Aphelinus* Dalman (*Agonioneurus* Westwood, *Myina* Nees, *Eriophilus* Haldeman, *Mesidia* Foerster, *Anozus* Foerster, *Meroligon* Rondani, *Mesidiopsis* Novitzky).
3. *Aphytis* Howard (*Prospaphelinus* De Gregorio, *Paraphytis* Compere, *Syediella* Shafee).
4. *Cales* Howard (*Diaspidophilus* Brethes, *Paranthenus* Girault).

5. *Coccobius* Ratzeburg (*Physcus* Howard, *Physculus* Yasnosh).
6. *Coccophagoides* Girault (*Diaspiniphagus* Silvestri; *Primaprospaltella* De Bach & La Salle).
7. *Coccophagus* Westwood (*Aneristus* Howard, *Paracharitopus* Brethes, *Ataneostigma* Girault, *Onophilus* Bretes, *Heptacritus* De Santis, *Polycoccophagus* Sugonjaev).
8. *Encarsia* Foerster (*Aspidiotiphagus* Howard, *Prospalta* Howard, *Prospaltella* Ashmead)
9. *Eretmocerus* Haldeman (*Ricinusa* Risbec)
10. *Marietta* Motschulsky (*Perissopterus* Howard, *Pseudaphelinus* Brethes)
11. *Promuscidae* Girault (*Eriaporus* Waterston, *Eurymyiocnema* Compere).
12. *Pteroptrix* Westwood (*Archenomus* Howard, *Casca* Howard, *Artas* Howard, *Aphelosoma* Nikol'skaja)

Notes on some genera

I. Genus *Ablers* Howard

Ablers Howard, 1894, Insect life, 7: 7

Azotus Howard, 1898, Proc. Ent. Soc. Washington, 4: 138

Myocnemella Girault, 1913, Mem. Queensland Mus., 2: 195

Dimacrocerus Brethes, 1914, Nunquam Otiosus, 1: 4

This genus is represented in Egypt by three species. These are *Ablers atomon* (Walker), *A. clisiocampae* (Ashmead) and *A. perspicuosus* (Girault).

Key to females of three species of the genus *Ablers* Howard recorded in Egypt

1. Marginal vein with 3 setae; length of marginal fringe 1/5 width of wing (Fig.1) *A. clisiocampae*
 - Marginal vein with 4 setae; length of marginal fringe 1/3 to 2/3 width of wing 2
- 2.(1) First funicle segment 1.8 times as long as wide, third funicle segment 1.3 times

- as long as wide; club 3 times as long as wide (Fig.2) *A.atomon*
 - First funicle segment 2 times as long as wide, third funicle segment as long as wide; club 3.1 times as long as wide (Fig.3) *A.perspiciosus*

II. Genus *Coccophagoids* Girault

Coccophagoids Girault, 1915, Memoirs of the Queensland Museum, 3:58

Diaspiniphagus Silvestri, 1927, Boll. Lab. Zool. agr. Portici, 20:35

Primapropsaltella, De Bach & La Salle, 1981, Proc. Ent. Soc. Washington, 83:644.

This genus is represented in Egypt by two species. These are *Coccophagoids kuwanai* (Silvestri) and *C. similis* (Masi).

Key to females of two species of the genus *Coccophagoides* Girault recorded in Egypt.

1. First funicle segment 1/2 as long as second funicle segment (Fig.4)
 *C.kuwanai*
 - First funicle segment 2/3 as long as second funicle segment (Fig.5)
 *C.similis*

III. Genus *Coccophagus* Westwood

Coccophagus Westwood, 1833, philosophical Magazine, London, 3(3): 344.

Aneristus Howard, 1895, Canadian Entomology, 27:351

Paracharitopus Brethes, 1913, Anales dell Musco National de Historia Natural de Buenos Aires, 24, 105

Alaneostigma Girault 1914, Societas Entomologica Stuttgart, 29:23.

Onophilus Brethes, 1918, Anales de la Socielad Rural Argentina, 52:155

Heptacritus De Santis, 1960, Revista de la Facultad de Agronomia, Eug. Person, 36:198

Polycoccophagus Sugonigaev, 1976, Trudy Zoologicheskogo Instituta, Akade-miya Nauk SSSR, Leningrad, 64:106.

This genus is represented in Egypt by 4 species. These are *Coccophagus bivittatus* Compere, *C. ishii* Compere, *C. lycimnia* (Walker) and *C. sucutellaris* (Dalman).

Key to females of four species of the genus *Coccophagus* Westwood recorded in Egypt.

1. Scutellum with 3 pairs of setae 2
 Scutellum with numerous setae 3

2. First funicle segment 3 times as long as pedicel, stigmal vein swollen (Figs 6-7)
 *C. bivittatus*.
 First funicle segment 1.3 times as long as pedicel, stigmal vein not swollen (Figs 8-9)
 *C. lycimnia*.
3. Fore coxa black, first funicle segment less than twice as long as wide, first club segment wider than long (Fig. 10) *C. ishii*.
 Fore coxa yellow, first funicle segment more than twice as long as wide, first club segment longer than wide (Fig. 11) *C. sucutellaris*.

IV. Genus *Marietta* Motschulsky

Marietta Motschulsky, 1863, Bulletin Societe Imperiale des Naturalistes, 36:51.

Perissopterus Howard. 1895, Tech. Ser. Div. Ent. United States Dept. Agric. 1:20.

Pseudaphelinus Brethes, 1918, Anales de la Sociedad Rural Argentina, 52:157.

This genus is represented in Egypt by three species. These are *Marietta carnesi* (Howard), *M. leopardina* Motschulsky and *M. picta* (Andre).

Key to females of three species of the genus *Marietta* Motschulsky recorded in Egypt.

1. Antennal scape nearly twice as long as wide, with 2 oblique fuscous bands; fore wing broad, less than twice as long as wide with a slightly different pattern (Fig. 12) *M. picta*
- Antennal scape twice as long as wide, with a single band; fore wing narrow, not less than twice as long as wide, with pattern 2
- 2(1) Apex of fore wing without infuscate band in middle, mesoscutum 4 setae (Figs 13, 15) *M. leopardina*
- Apex of fore wing hyaline, mesoscutum without setae (Figs 14 - 16) *M. carnesi*

V. Genus *Pteroptrix* Westwood

Pteroptrix Westwood, 1833, Philos. Mag. 3:344.

Archenomus Howard, 1898, Proc. Entomol. U.S. Dep. Agr. 12:83.

Casca Howard, 1907, Tech. Ser. Bur. Entomol. U.S. Dep. Agr. 12:83

Artas Howard, 1907, Tech. Ser. Bur. Entomol. U.S. Dep. Agr. 12:85

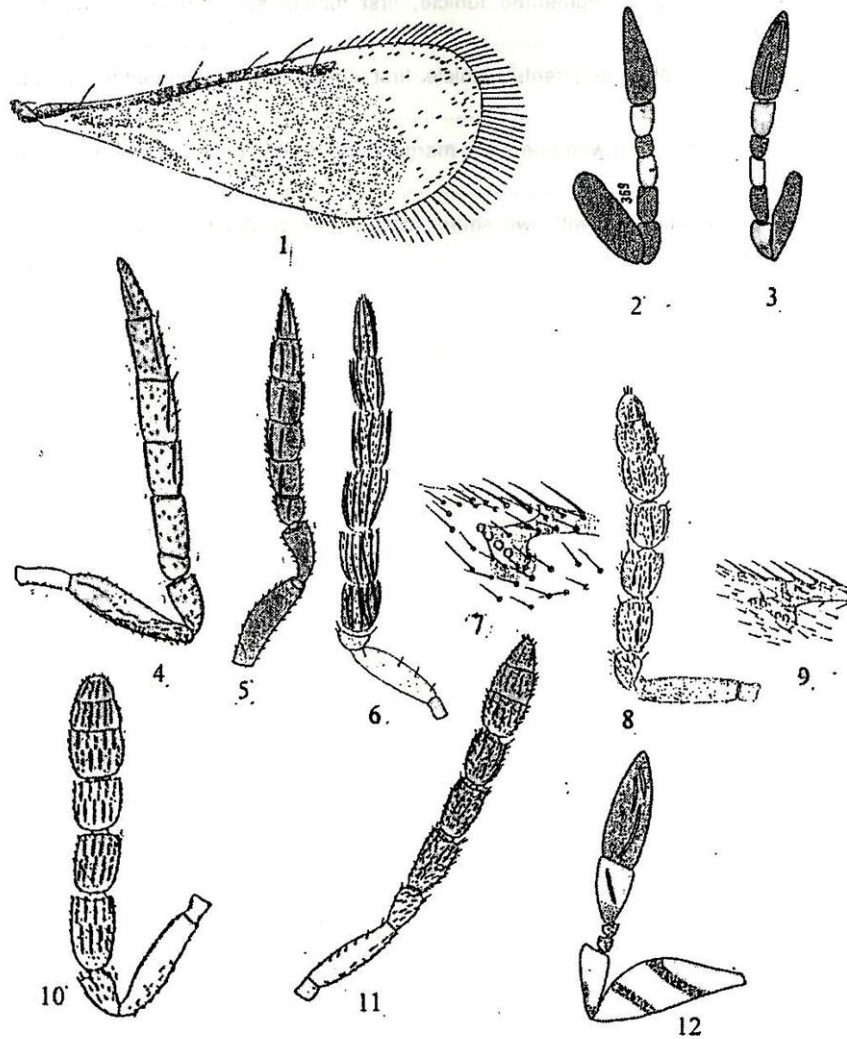
Aphelosoma Nikolskaja. 1963, Entomol. Obozr. 42:186.

This genus is represented in Egypt by three species. These are *Pteroptrix arabica* (Ferriere), *P. bioclor* (Howard) and *P. smithi* (Compere)

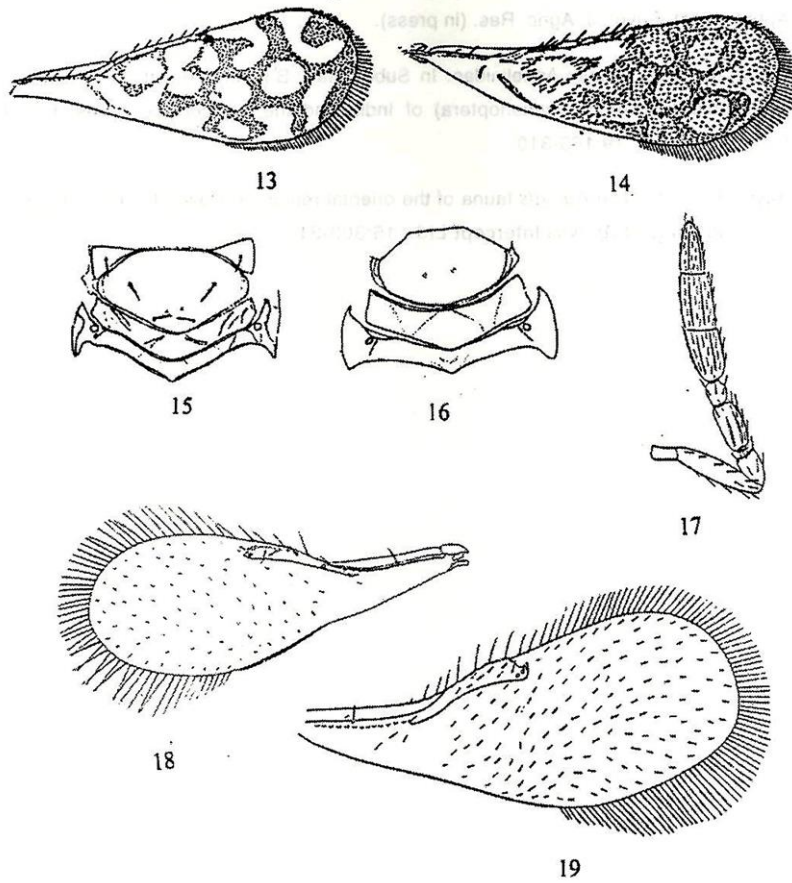
Key to females of three species of the genus *Pteroptrix* Westwood recorded in Egypt.

- 1. Antenna with 2-segmented funicle, first funicle segment with sensila (Fig. 17) *P.smithi*
- Antenna with 3- segmented funicle, first funicle segment without linear sensila 2
- 2(1) Submarginal vein with one seta, marginal fringe 0.7 times as long as wide (Fig. 18) *P.arabica*
- Submarginal vein with two setae, marginal fringe 0.4 times as long as wide (Fig. 19) *P.bicolor*





Figs. (1-12). Fig. (1), fore wing of *Aberus clisiocampae*; Fig. (2), antenna of *A. atomon*; Fig. (3) antenna of *A. perspicuosus*; Fig. (4), antenna of *Coccophagodes kuwana*; Fig. (5) antenna of *C. similis*; Figs (6-7), *Coccophagus bivittatus*: (6) antenna (7) stigmatal vein; Figs (8-9), *C. lycimnia*: (8) antenna (9) stigmatal vein; Fig (10), antenna of *C. ishii*; Fig. (11), antenna of *C. scutellaris*; Fig. (12), antenna of *Marietta picta*.



Figs. (13-19). Fig. (13), fore wing of *Marietta leopardina*; Fig. (14), fore wing of *M. carnesi*; Fig. (15), mesoscutum of *M. leopardina*; Fig. (16), mesoscutum of *M. carnesi*; Fig. (17), antenna of *Petroptrix simithi*; Fig. (18), fore wing of *P. arabica*; Fig. (19), fore wing of *P. bicolor*.

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نبذة عن بعض الأجناس المصرية لفصيلة الافيليند

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تم في هذا العمل حصر لبعض الأجناس التابعة لفصيلة الافيليند في مصر وقد تم ايضاً عمل مفاتيح تصنيفية للأنواع الخاصة بكل جنس على حدة بالإضافة إلى قائمة بالأجناس التابعة لفصيلة الافيليند في مصر.