

SEVEN SPECIES OF SUPERFAMILY CHALCIDOIDEA (HYMENOPTERA) FIRST RECORDED IN EGYPT

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Abstract

This paper presents seven species of chalcidoids recorded as first record in Egypt. These are, *Ablerus atomon* (Walker), *A. Perspeciosus* (Girault), *Coccophagus bivittatus* Compere, *C. lycimnia* Walker, *Pteroptrix bicolor* (Howard), Family Aphelinidae, *Syrphophagus africanus* Gahan, Family Encyrtidae, *Chartocerus subaeneus* (Foerster), Family signiphoridae. Diagnostic characters, synonyms and illustration of each species are presented.

Key Words: Hymenoptera, Chalcidoidea, New records. Egypt.

INTRODUCTION

Superfamily Chalcidoidea one of the most important groups of natural enemies against injurious insects, pests, especially those belonging to the Lepidoptera and Homoptera. In many parts of Africa and its adjacent islands, these minute wasps play an important role in biological and integrated control of serious pests (Prinsloo, 1980). Many authors in the world had been studied this superfamily in details, i.e. Nikol'skaya (1952), Peck (1963), Peck *et al.* (1964), Ferriere (1965), Rozanov (1965), Graham (1969), Annecke and Insley (1971), Annecke and Insley (1974), Jasnosh (1976), De Santis (1979), Prinsloo and Annecke (1979), Prinsloo (1980), Temerak (1981), and Abd-Rabou (1998). The aim of this work is an attempt to study the Egyptian fauna of superfamily Chalcidoidea which has an important role in controlling the dangerous pests in Egypt.

Superfamily: Chalcidoidea

Family : Aphelinidae

Diagnosis: Usually small chalcidoids, often less than 1 mm in length; integument never with a metallic lustre; antenna usually with three to eight segments rarely with nine, the funicle atmost with 4 segmented, the club one to three segmented

with marginal and postmarginal vein; ovipositor never protruding strongly.

***Ablerus atomon* (Walker) (Figs. 1-2)**

Synonyms: *Encyrtus atomon* Walker, 1847, Ann. Mag. Hist. Nat., 19, 229. *Azotus marchali* Howard, 1898, Proc. Ent. Soc. Wash., 4, 139 (male). *Azotus pini-foliae* Mercet, 1912, Trab. Mus. Cienc. Nat. Madrid, 10, 141. *Azotus mokrzecki* Novicky, 1926, Polsk. Pismo Entom., 5: 108 (female). *Azotus chionaspidis* (Howard) Mercet, 1930, Rev. Biol., Forest. Y. Limn., 2, Ser. B, 66. *Azotus mokrzecki* Ghesquiere, 1948, Bull. Ann. Soc. Ent. Belgique, 48, 295 (male).

This species collected from *Chionaspis stantophri* (Diaspididae: Homoptera), in June 1996, on halfa grass, at Fayoum governorate.

Diagnosis: Antenna 7-segmented (1, 1, 4, 1), first funicle segment 3 times as long as wide, third funicle segment 1.5 times as long as wide, fourth funicle segment 1.4 times as long as wide, club 3 times as long as wide; submarginal vein with one setae, marginal fringe 1.6 times as long as the width of disc; mesoscutum 2-4 pairs of setae.

***Ablerus perspiciosus* (Girault) (Figs. 3-4).**

Synonyms: *Ablerus perspiciosus* Girault, 1916, Ann. Ent. Soc. America, 9, 292. *Azotus silvestrii* Compere, 1926, Calif. Univ. Publ. Ent., 4, 9. *Ablerus perspiciosus* Gahan, 1942, Proc. U.S. Nat. Mus., 92, 47. *Azotus capensis* Tachikawa, 1957 (nee Howard), Japan Journ. Appl. Ent. Zool., 1, 78. *Azotus perspiciosus* Tachikawa, 1958, Japan Journ. Appl. Ent. Zool., 2, 61.

This species collected from *Pseudoleucaspis pentagona* (Diaspididae: Homoptera), in August 1993, on oleander, at Qalyubiya governorate.

Diagnosis: Antenna 7-segmented (1, 1, 4, 1), first funicle segment 3-5 times as long as wide, third funicle segment 2 times as long as wide, fourth funicle segment 2 times as long as wide, club 3.2 times as long as wide; submarginal vein with one setae, marginal fringe 3.1 as long as the width of disc; mesoscutum 2-4 pairs of setae.

***Coccophagus bivittatus* Compere (Figs. 5-7).**

Synonyms: *Coccophagus bivittatus* Compere, 1931, Proc. U.S. Nat. Mus., 78, 73-74. *Coccophagus bivittatus* Compere, 1940, Hilgardia, 12, 397. *Coccophagus bivit-*

tatus, De Santis, 1948, Rev. Mus., La Plata (N.S.), 5, 168-171.

This species collected from *Kilifia acuminata* (Coccidae: Homoptera), in Sept. 1992, on mango, at Giza governorate.

Diagnosis: The body yellow in colour 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.

Coccophagus lycimnia Walker (Figs. 8-10).

Synonyms: *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. *Platygaster lecanii* Fitch, 1859, Trans. N.Y. State Agr. Ser., 18, 805. *Coccophagus lecanii* Smith, 1878, Amer. Nat., 12, 661. *Coccophagus flavoscutellum* Ashmead, 1881, Floridae Agric., 4, 65. *Coccophagus ater* Howard, 1881, U.S. Dep. Agr. Ann. Rep., 1880, 359. *Coccophagus cognatus* Howard, 1881, loc. cit., 359. *Coccophagus cognatus* Howard, 1881, loc. cit., 359. *Coccophagus vividus* Howard, 1885, U.S. Dep. Agr. Bur. Ent. Bull., 5, 24. *Coccophagus californicus* Howard, 1889, U.S. Dep. Agr. Insect Life, 1, 269.

This species collected from *Coccus hesperidum* (Coccidae: Homoptera), in May 1992, on guava, at Giza governorate.

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 of setae usually more than 5 setae; mesoscutum with numerous setae.

Pteroptrix bicolor (Howard) (Figs. 11-13).

Synonyms: *Archenomus bicolor* Howard, 1898, Proc. Ent. Soc. Wash., 4, 138. *Archenomus bicolor* Masi, 1908, Bol. Labor. Zool. gen. e agr. Portici, 3115. *Pteroptrix dimidiatus* Mercet, 1930, Rep. Biol. Forest. Y Limn., 2, Ser. B, 91. *Pteroptrix maura* Masi, 1931, Boll. Soc. Ent. Hal., 66, 100. *Pteroptrix caucasica* Jasnosh, 1955, Rev. Russe, Ent., 34, 275. *Pteroptrix callunae* Alam, 1956, Trans. R. Ent. Soc. London, 108, 374. *Pteroptrix zonatus* Alam, 1956, loc. cit., 108, 376.

This species collected from *Parlatoria crotonis* (Diaspididae-Homoptera), in Nov. 1995, on Jasmine, at El-Arish (North Sinai governorate).

Diagnosis: Female antenna 8-segmented, club one-segmented; submarginal vein 2 setae, marginal fringe 3.1 times as long as the width of disc; mesoscutum 4 setae and axilla two setae.

Family: Encyrtidae.

Diagnosis: Length 0.5-6 mm; integument often without a metallic lustre; antenna with five to twelve segments, varying greatly in shape; fore wing with marginal and postmarginal veins relatively short compared with those of other families sometimes very short or reduced; ovipositor rarely protruding strongly caudally.

***Syrphophagus africanus* (Gahan) (Figs. 14-16).**

Synonym: *Aphidencyrus africanus* Gahan, 1914, Proc. U.S. Nat. Mus., 48.

This species collected from *Aphis gossypii* (Aphididae: Homoptera), in Dec. 1995, on cotton, at Demyaat.

Diagnosis: Pedicel clearly much longer than broad and longer than first funicle segment; postmarginal vein longer than stigmal vein, fore wing about 2.5 times as long as wide, with short marginal fringe; hind wings about 4.6 times as long as wide; mid tibial spur slightly longer than the corresponding basitarsus; Ovipositor not exerted.

Family : Signiphoridae

Diagnosis: Small chalcidoids, 0.5-2 mm in length; integument smooth, shiny, without a metallic lustre; antenna four to seven segmented, funicle indistinct, the club long unsegmented; fore wing usually with a long marginal fringe, the marginal vein well developed, the stigmal vein short and postmarginal vein absent; ovipositor never protruding strongly.

***Chartocerus subaeneus* (Foerster) (Figs. 17-19).**

Synonyms: *Plastocharis subaenea* Foerster 1878, Verh. Nat. Ver. Preuss. Rheinl., 35., 69. *Thysanus subaenea* Dalla Torre, 1898, catalogus Hymenopterorum, Lipsiae, 5, 223. *Signiphorina mala* Nikol'skaya 1950, Dokl. Akad. Nauk. SSSR, 75, 19-21. *Signiphorina subaenea* Novitzky 1954, Ann. Fac. Fac. Agr. (N.S.), 2, 245-255. *Sig-*

niphora (*Signiphorina*) *subaenea* Peck et al. 1964, Mem. Entomol. Soc. Can., 34, 90-91. *Chartocerus* (*Signiphorina*) *subaeneus* Rosanov 1965, Entomol. Obozr., 44, 878.

This species collected from *Maconellicoccus hirsutus* (Pseudococcidae: Homoptera), in Oct. 1996, on hibiscus, at Cairo governorate.

Diagnosis: Antenna 7-segmented, first funicle segment 6-7 times as wide as long, second and third segments subequal in length, twice as long as the first, 2-4 times as wide as long, club 5.0-9.3 times as long as wide; mesoscutum 6-19 setae; scutellum 7-12 short setae; fore wing about 3 times as long as wide, longest marginal cilia 1/2-2/3 width of disk, submarginal vein with 2 setae.

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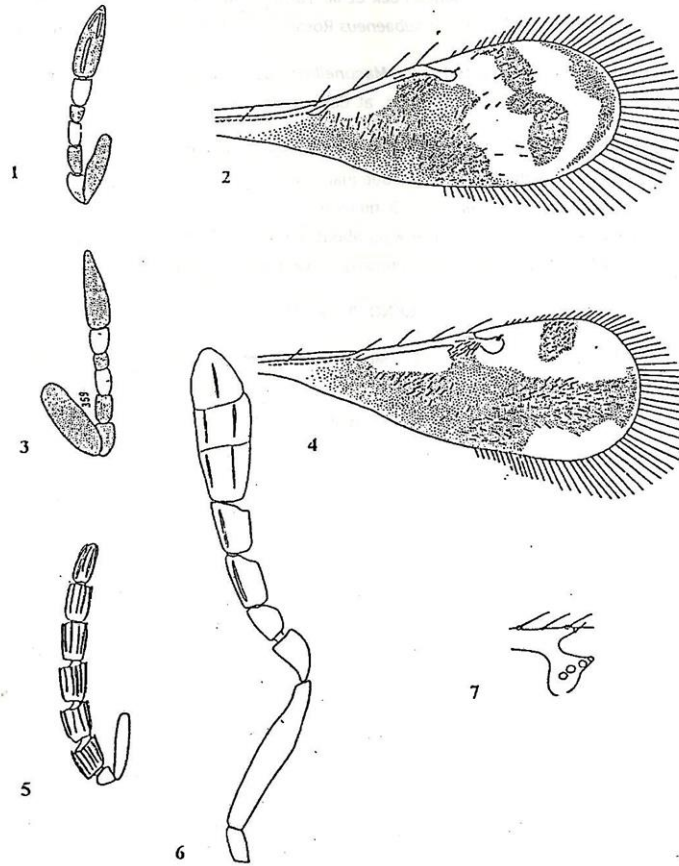


Fig. 1-7: (1-2) *Ablerus atomon* (1) Female antenna, (2) Fore-wing; (3-4) *Ablerus perspiciosus*: (3): Female antenna, (4) Fore-wing; (5-7) *Coccophagus bivittatus* (5) Male antenna, (6) Female antenna, (7) Part of venation of fore-wing.

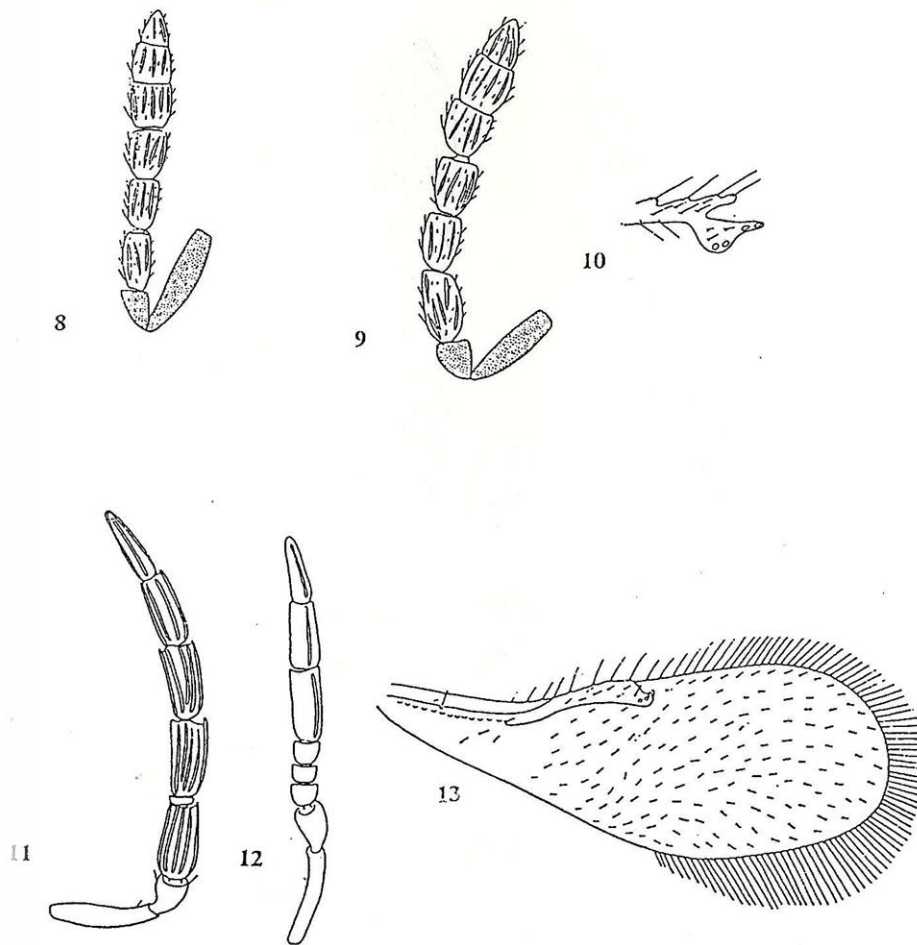


Fig. 8-13: (8-10) *Coccophagus lycinnia* (8) Female antenna, (9) Male antenna, (10) Part of venation of fore-wing; (11-13) *Pteroptrix bicolor* (11) Male antenna, (12) Female antenna, (13) Fore-wing.

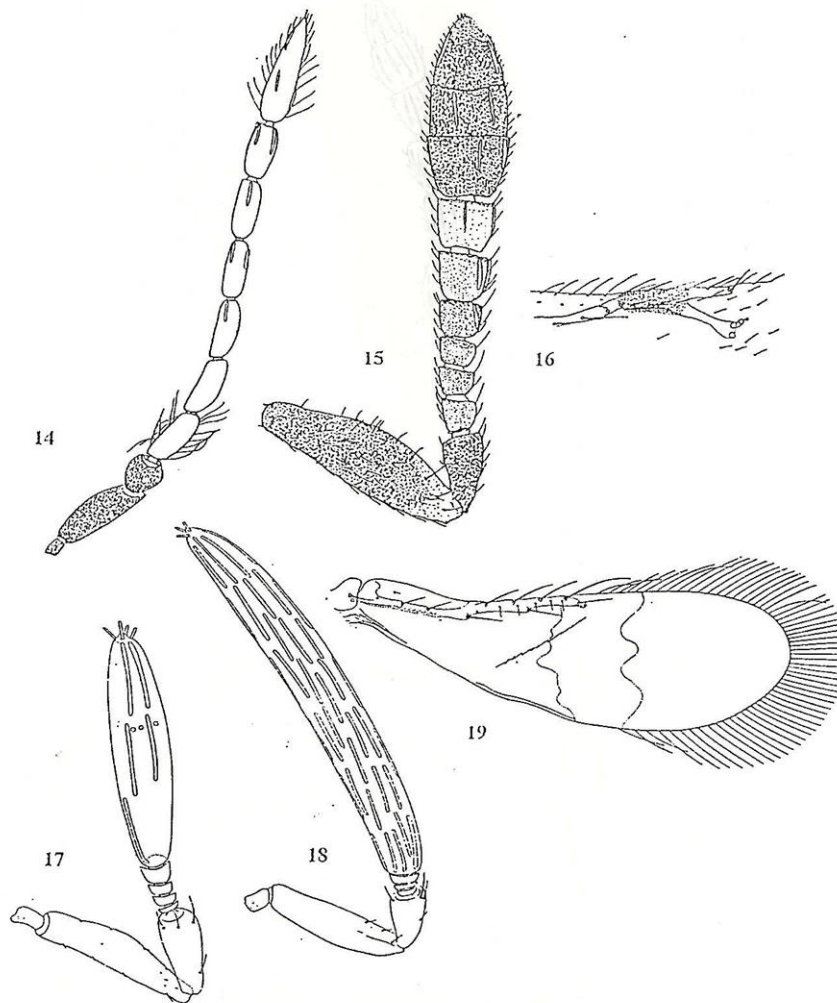


Fig. 14-19: (14-16) *Syrphophagus africanus* : (14) Male antenna, (15) Female antenna, (16) Part of venation of fore-wing; (17-18) *Chartocerus subaeneus* (17) Female antenna, (18) Male antenna, (19) Fore-wing.

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سبعة أنواع جديدة على الفونة المصرية من فوق فصيلة
(Hymenoptera) Chalcidoidea

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تم فى هذا العمل تسجيل سبعة أنواع جديدة على الفونة المصرية من فوق فصيلة
Chalcidoidea وهى *Ablerus atomon*, *A.perspeciosus*, *Coccophagus bivittatus*, *C.lycimnia*, *Pte-*
roptrix bicolor, *Syrphophagus africanus*, *Chortocerus subaeneus*
العامّة والرسم التوضيحي لكل نوع من هذه الأنواع على حدة.