HYMENOPTEROUS PARASITES OF COCKROACHES IN IRAQ
WITH DESCRIPTION OF NEW SPECIES

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ABSTRACT

An attempt was made to determine the insect parasites of cockroaches in Iraq. As a result of this survey three species of Hymenoptera representing two separate families, which have been reared from ootheca of cockroaches were recovered. These were: *Evania dimidiata* Fabricius, *Evania appendigaster* (Linnaeus) (Evaniidae) and *Anastatus longicornis* sp. n. (Eupelmidae) which described here as a new species from Iraq.

INTRODUCTION

Studies of cockroaches parasites from Iraq have been neglected. The only information available was that of Al-Ali (1977), who reported *Evania dimidiata* Fabricius as a parasite on eggs of cockroaches. This insufficiency of knowledge on parasites encouraged the authors to investigate this matter. Most of the species dealt with in this work were reared by the authors during field trips in different parts of Iraq. All specimens mentioned here were deposited in Iraq Natural History Museum. Further information is needed on the biology and ecology of these parasites before attempting to use them as a biological control agents against the cockroaches.

EVANIIDAE

*Evania dimidiata* Fabricius

This wasp is one of the most commonest and most frequently seen species in old houses in Iraq, where cockroaches are present. It has been previously recorded from Iraq by Hedicke (1939), Derwesh (1965), Khalaf and Al-Omar (1974) and Al-Ali (1977).

Distribution: Trans-Caucasia, Turkmenia, Egypt, Iraq, Iran.

Biology: This species has been reported as a parasite of oothecae of Blatta orientalis (L.) in Egypt (Alfieri, 1914) and P. americana in Iran (Tirgaris, 1975). In Iraq this species is a common parasite of ootheca of P. americana.

Evania appendigaster (Linnaeus)

This is rather less common than the previous species in this country. It has been reported for the first time in Iraq by Khalaf (1963).


Distribution: Reported from Europe (Hungary, Britain) except the northern part, Middle East (Palestine, Saudi Arabia, Iraq), Pacific (Hawaii, Fiji), West Indies (Jamaica), North America.

Biology: It is well-known as a parasite of the oothecae of cockroaches particularly P. americana, P. australiasiae (Fabricius) and Blatta orientalis in different parts of the world (Cameron, 1956 and 1958; Roth and Willis, 1960). We have reared this species from ootheca of P. americana.

EUPELMIDAE

Anastatus longicornis sp. n. (Figs. 1, 2)

Vertex, face and occiput metallic green with coppery reflection; frons with violet reflection; clypeus and scape brownish yellow, pedicel and flagellum dark brown; mandibles brownish yellow, with distal part metallic green. Thorax brownish yellow, with metallic bluish green and purplish reflection; propodeum dark brown. Legs brownish yellow with dark marking, claws dark brown. Fore wings iridescent, strongly infuscate in its apical, central and basal parts; in between hyaline bands present. Gaster with broad dull white band on tow basal segments, following segments dark brown with purplish reflection; tip of hypopygium brownish yellow; ovipositor sheath pale yellow.

Female. - Length 2.30 - 3.10 mm. Head in frontal view transverse, wider than mesoscutum, almost 1.1 times as broad as long; vertex with faint reticulation; frons roughened and finely granular; genae with fine longitudinal striae; median ocellus situated above antennal scrobes. Antennae inserted slightly down to level of lower margins of eyes; antennal scrobes deep and widening downwards, strongly surrounded by carina laterally and dorsally; lateral margins of antennal scrobes subparallel to eye margin; interantennal area
wide, flat but basally elevated. Malar space usually as long as eyes, with narrow longitudinal furrow between eye and mandible. Antenna with scape elongated and slender, extending to median ocellus, longer than annulus and the first funicular segments combined; pedicel as broad as scape, more than twice as long as wide; annulus small nearly quadrate. First funicular segment slightly longer than pedicel, and about three times as long as wide; second segment more than three times as long as wide and usually as long as first segment; third segment nearly two times as long as wide and distinctly longer than second; fourth segment more than twice as long as wide, and distinctly shorter than third; fifth segment about 2.2 times as long as wide and nearly as long as fourth; sixth segment more than 1.5 times as long as wide and distinctly shorter than fifth; seventh segment subquadrate. Club wider than funicle and as long as three preceding segments combined. Thorax long, about twice as long as broad, almost entirely smooth and shining except median lobe of mesonotum, axillae and scutellum deeply and finely reticulate punctate. Pronotum triangular in shape, broader than long, its anterior angle greatly invaginated. Mesothorax depressed, side lobe in posterior half with sharp ridge, anteriorly with fine reticulation; axillae separated; mesopleuron large, finely lineolate, sparsely pubescent at anterior part. Propodeum transverse, extremely short in the middle, twice as broad as long with almost smooth surface sculpture. Legs long and slender sparsely clothed with setae; femora and tibiae little thickened near tip; fore leg with femur curved, slightly longer than tibia; mid and hind femora and tibiae distinctly longer than fore femora and tibiae; inner side of mid tarsi with small black dents on metatarsus, and at proximal end of second and third segments; mid tibial spur distinctly shorter than metatarsus. Fore wings with marginal vein almost more than twice as long as postmarginal vein; stigmal vein shorter than half length of postmarginal vein. Gaster smooth, finely reticulate, slightly longer than thorax, narrow at base, widening to fifth tergite, then strongly narrowed to the tip; ovipositor sheath protruding and as long as the transverse tip of hypopygium.

Male: Length 1.50 - 1.90 mm. Predominantly metallic bluish green with purplish reflection. Antennae dark brown except scape brownish yellow; legs with coxae and femora dark brown with bluish green reflection; fore and mid tibia and all tarsi yellowish white, hind tibiae and claws brownish yellow. Gaster dark brown with bluish green luster in its basal segments. Wings subhyaline, indescent with surface hairs and vein brownish yellow. Head in frontal view slightly transverse, wider than mesoscutum, rouphened and finely granular; antennae inserted slightly above level of lower margins of eyes; antennal scrobes shallow and widening downwards as female, surrounded by indistinct carina; scape short and broad, not extending to median ocellus, and as long as first two funicular segments combined; pedicel very small, nearly quadrate; first funicular segment about twice as long as pedicel and twice as long as wide; second funicular segment nearly as long as first segment; third segment slightly shorter than second; fourth segment nearly as long as third; fifth slightly shorter than fourth; sixth subquadrate shorter than fifth; seventh subequal with sixth; club distinctly wider than funicle, and slightly longer than three preceding segments combined. Thorax long, about 1.7 times as long as wide, convex, finely reticulate punctate; parapsidal furrows distinct and complete. Propodeum short and small, transverse, with distinct longitudinal carina. Wings nearly twice as long as wide; marginal vein about 1.5 times as long as postmarginal vein, and about three times as long as stigmal vein; post marginal vein nearly 1.6 times as long as stigmal vein.

Legs coarsely furnished with setae; femora of fore and hind legs slightly swollen. Gaster slightly longer and much narrower than thorax.

Host: All the specimens have been reared by us from oothecae of Supella supellectilium.
The female holotype, the male allotype and 57 ♂♀, 16 ♂♂ paratypes are deposited in Iraq National History Museum, Baghdad, Iraq. Ten paratypes (5 ♂♂, 5 ♂♂) are deposited in Hungarian National History Museum, Budapest, and ten paratypes (5 ♂♂, 5 ♂♂) are in the British Museum (Natural History), London.

Anstasis longicorins sp. n. resembling A. tenipes Bolivar, 1925, (=A. blattidarum) Ferriere, 1930). Therefore, we have compared our new species with the original description of A. tenipes and found it differs as follows: Head metallic green with coppery reflection; female antenna with scape elongate, longer than annulus and the first three funicular segments combined; second funicular segment usually as long as first segment; third segment is the longest; club as long as three preceding segments combined. Fore wing with marginal vein almost more than twice as long as postmarginal vein, and with infuscate band near its extreme base.

LITERATURE CITED


**Fig. 1.** Antenna in lateral view of *Anastatus longicornis* sp. n.

**Fig. 2.** Fore wing of *Anastatus longicornis* sp. n.