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Autor: Viggiani, Gennaro

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Description of *Metaphycus delucchii* sp. nov. (Hymenoptera: Encyrtidae), parasitoid of *Gossyparia spuria* (MODEER) (Homoptera: Eriococcidae), with preliminary biological information

GENNARO VIGGIANI

Department of Agricultural Entomology and Zoology, University of Naples, Portici, Italy

Metaphycus delucchii sp. nov. (Hymenoptera: Encyrtidae), parasitoid of *Gossyparia spuria* (MODEER), (Hymenoptera: Eriococcidae) is described. Preliminary biological information is given.

INTRODUCTION

In the course of a study on the natural enemies of the elm scale *Gossyparia spuria* (MODEER), a new species of *Metaphycus* MERCET has been obtained and is here described.

To date no other species of this genus has been recorded on the same host (KOSZTARAB & KOZAR, 1988; TRJAPITZIN, 1989).

The new species is dedicated to Prof. VITTORIO DELUCCHI on the occasion of his retirement.

DESCRIPTION OF THE SPECIES

Metaphycus delucchii sp. nov.

Female (Figs. 1–2)

Body largely yellowish; head with occiput blackish above foramen; antennae with scape dark brown near the middle, pedicel blackish at basal half, first 3 funicular segments dusky, club dark brown on the basal segment, fading to whitish distally; pronotum grey-brown medially and with two small spots laterally; mesoscutum, at base, metanotum and propodeum more or less infuscated; wings hyaline, venation pale brown; middle and hind tibiae respectively with two and one subannular dark spots. Length about 0.9 mm.

Head about twice as long as wide; ocelli in a strongly acute-angled triangle (Fig. 2A); distance of posterior ocellus from the internal margin of eye about one third of the distance between posterior ocelli; frontovertex twice as long as wide, minimum width one fourth of the head width; toruli removed from each other by about twice the length of the antenna radicle and from the mouth by about one third the malar space; mandibles tridentate (Fig. 2B); maxillary and labial palpi two-segmented (Fig. 2C and D). Antenna (Fig. 2E) with radicle 2.5 times as long as wide; scape rather slender, 3.5 times as long as wide; pedicel about as long as funicle segments I–IV together; the latter subequal, small, not longer than

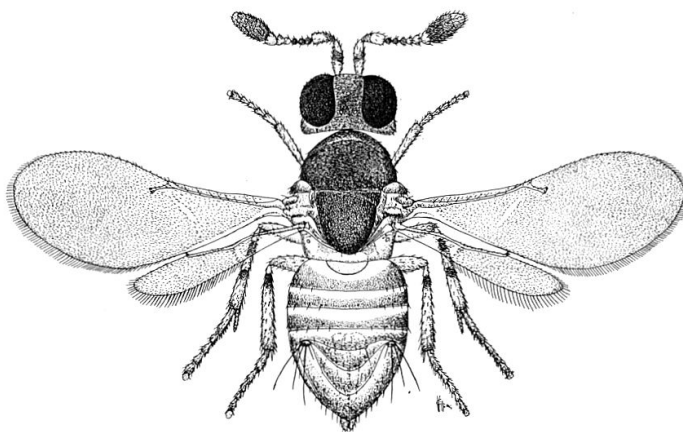


Fig. 1. *Metaphycus delucchii* sp. nov., female.

wider; funicle segments V–VI abruptly larger, subrectangular in profile view, slightly wider than long; club about as long as funicle, but wider. Linear sensilla only on funicle segments V–VI (1–2) and on each club segment (3–4).

Thorax shorter than gaster (40 : 50); mesoscutum (mid lobe) transverse, about one fourth shorter than scutellum, the sculpture cellulate-reticulate and setae rather sparse; metanotum and propodeum very narrow in the middle. Fore wing (Fig. 1) about 2.6 times as long as wide; fringe short; other characters as in Fig. 2F. Legs normal; mid-tibial spur as long as the adjacent tarsal segment.

Gaster longer than thorax; ovipositor inserted at level of cercoids, shorter than the mid-tibia (52 : 57), not or hardly exerted; third valvula about one fourth the length of the ovipositor.

Male

Similar in colouration to female except that scape and pedicel less extensively darkened; on the contrary, funicle segments I–V darkish and gaster dorsally suffused with brown.

Head with ocelli disposed in an equilateral triangle; internal margin of torulus with a row of 5–8 sensilla. Antenna as in Fig. 2G.

Genitalia (Fig. 2H) as in many other species, about 0.15 mm in length; volsellar digiti with two hooklets; body of the aedeagus slightly shorter than apodemes.

Material examined

Holotype, ♀, Italy, Polla (SA), V. 1989; ex *Gossyparia spuria* on *Ulmus campestris* L.; coll. G. VIGGIANI; 10 ♀ and 3 ♂ paratypes, same data.

Holotype and paratypes will be deposited at the Department of Agricultural Entomology and Zoology, University of Naples, Portici.

Comments

M. delucchii sp. n. belongs to the *M. alberti* (HOWARD) species-group (= *asterolecanii*-group) (VIGGIANI & GUERRIERI, 1989). Among the Palaearctic species it appears allied to *M. asterolecanii* (MERCET), from which it can be distinguished as follows:

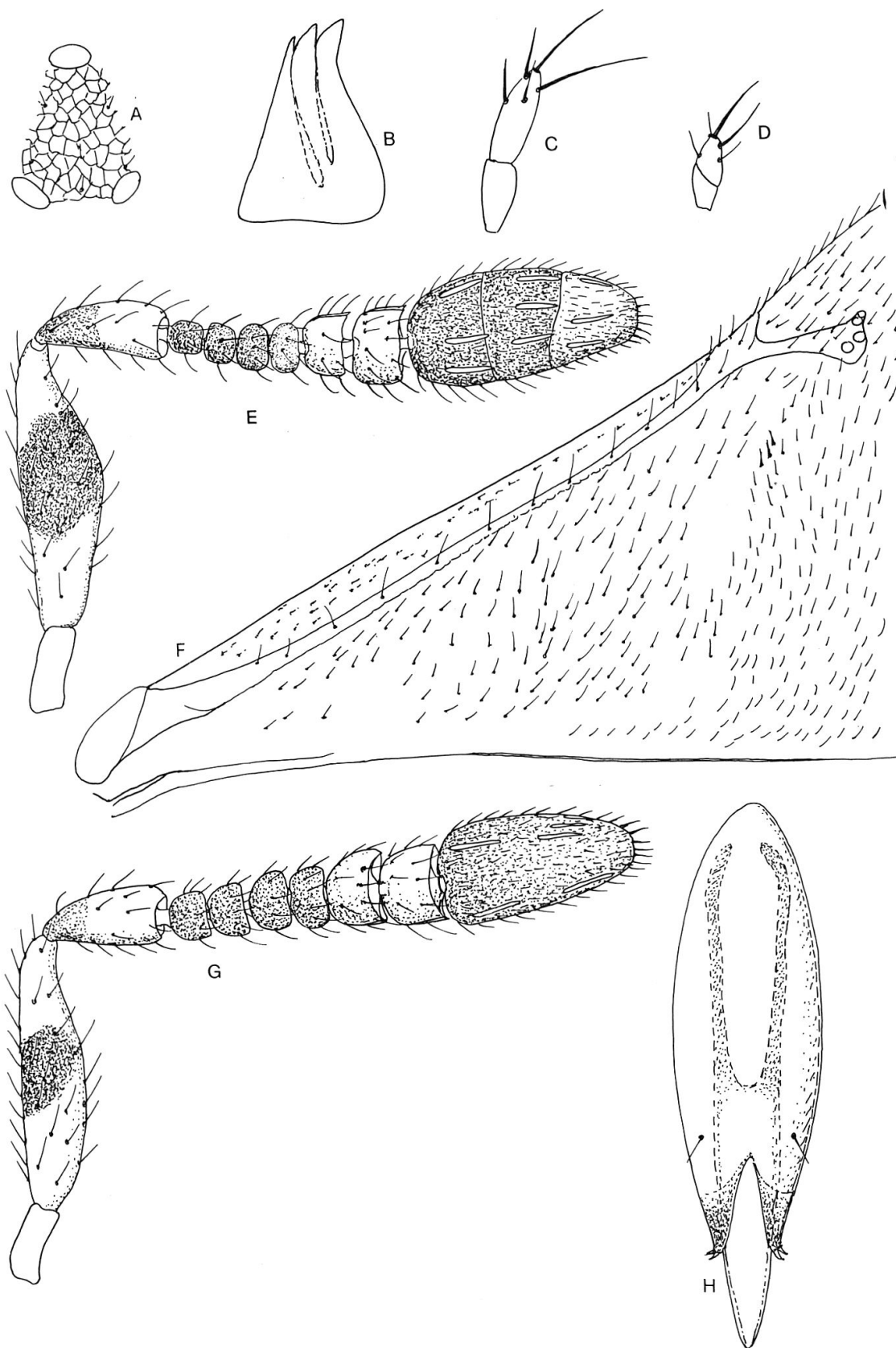


Fig. 2. *Metaphycus delucchii* sp. n. Female: A = Ocellar area; B = Mandible; C = Maxillary palpus; D = Labial palpus; E = Antenna; F = Basal part of the fore wing. Male: G = Antenna; H = Genitalia.

M. delucchii

Female:

Infuscation of scape transverse, subcircular, not reaching the distal part of the segment;

fore tibiae immaculate; hind tibiae with one subcircular black spot at base;

funicle segments, except the first, at least 1.5 times wider than long, without linear sensilla; funicle segments V–VI larger, with 1–2 linear sensilla;

club as long as funicle.

Male:

Linear sensilla only on funicle segments V–VI.

M. asterolecanii

Female:

Infuscation of scape elongate, reaching the distal part of the segment;

fore tibiae with one subcircular black spot near the base; hind tibiae with two subcircular dark spots;

funicle segments as long as wide or slightly wider; funicle segments II–VI with 1–4 linear sensilla;

club shorter than funicle (0.6).

Male:

Linear sensilla on funicle segments II–VI.

In the key by COMPERE (1957), concerning some species of *Metaphycus* with maxillary and labial palpi 2-segmented, *M. delucchii* runs near *M. praevidens* (SILV.). Following the key by ANNECKE & MYNHARDT (1981) for the South African species of the same group, *M. delucchii* runs near *M. amblydentis* (ANN. & MYNH.) and *M. brochus* (ANN. & MYNH.).

Biological notes

The new species is a rather common parasitoid of the elm scale. It develops almost all year round on several stages of the host (first and second nymphal instars, young females), and attacks as a solitary, endophagous parasitoid. The host skin is yellowish (first nymph) or dark red (second nymph and female).

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RESUME

La nouvelle espèce *Metaphycus delucchii* sp. nov. (Hymenoptera: Encyrtidae), parasitoïde de *Gossyparia spuria* (MODEER) (Hymenoptera: Eriococcidae), est décrite. Des notes biologiques préliminaires sont données.

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