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Urophora phalolepidis n. sp., a new fruit-fly attacking *Centaurea alba* in Southern Italy (Diptera: Tephritidae)

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Urophora phalolepidis n. sp. is described and illustrated. The new species was reared from flowerhead galls of *Centaurea (Phalolepis) alba* in Southern Italy, Puglia area, Mte. Gargano. The systematic position of the species is briefly discussed and it is compared with closely related species.

INTRODUCTION

The genus *Urophora* ROBINEAU-DESVOIDY contains 100 species worldwide and the 29 species and subspecies in the Western Palaearctic region were recently revised by WHITE & KORNEYEV (1989). All species with known biology induce galls in various genera within the subfamily Tubuliflorae of the family Asteraceae (= Compositae). Many species have been used in Biological Control Programs against noxious weeds in North America (HARRIS, 1984; WHITE & CLEMENT, 1987).

The species described below as new was swept and reared by the senior author from flowerhead galls of *Centaurea (Phalolepis) alba* in Southern Italy, Puglia area, Mte. Gargano. Except for *Urophora qu. quadrifasciata* (MEIGEN) this is the only *Urophora* species which is known to attack this plant.

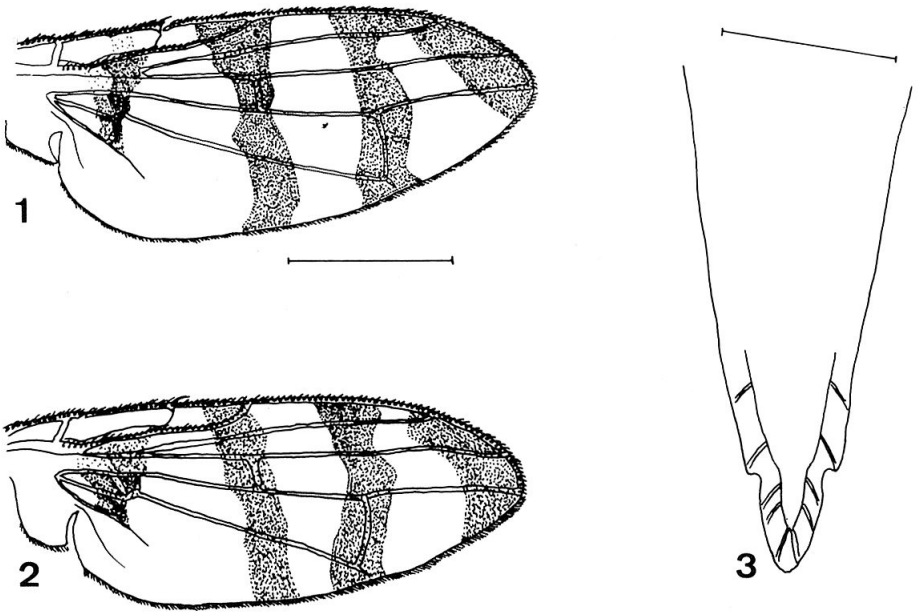
The terminology used in the following description follows MCALPINE (1981), with modifications to the terminalia terms proposed by WHITE & KORNEYEV (1989).

DESCRIPTION

Urophora phalolepidis n. sp.

Head: mainly yellow. Face, lunule and genae whitish yellow. Postcranium black along vertex and eyes. Antennae orange. Palpi strongly yellow at apex, remainder whitish yellow. Rostrum blackish posteriorly, otherwise yellow. Genae 0.3-0.4 times eye height. Labellum about 1.4-1.8 times length of 1st flagellomere. Chaetotaxy typical for the genus (2 fr s, 1 orb s, 1 oc s, 1 i vt s, 1 o vt s, 1 poc s, one row of pocl s), all setae black.

Thorax: Scutum covered with dense pollinosity which covers the underlying cuticle. Postpronotal lobe and upper part of the anepisternum largely yellow. Scutellum yellow on dorsal surface and between a sctl s, black laterally. b sctl s on margin of yellow and black area. Chaetotaxy as typical in the genus (1 dc s, 1 psctl acr s, 1 pprn s, 2 npl s, 1 presut spal s, 1 a spal s, 1 p spal s, 1 ial s, 1



Figs. 1–3. *Urophora phalolepidis* n. sp. 1–2, Wings, showing variation in patterning. 3, Tip of aculeus ♀. Scale lines: Figs. 1–2 = 1 mm, fig. 3 = 0.2 mm.

anepst s, 1 anepm s, 1 kepst s), all setae and hairs black. Legs yellow, f posteriorely often with dark streaks. Last tarsomere sometimes darkened.

Wing (figs. 1–2): with 4 crossbands. Base yellow. Subbasal crossband usually well developped from R_1 to A_1 + CuA_2, in c weaker (fig. 1), rarely absent (fig. 2). Subbasal and discal crossband separated by yellow area. Discal and preapical crossband separated. Their distance broader than breadth of preapical crossband on vein R_{4+5}. Preapical and apical crossband usually separated, rarely fused between C and middle of cell r_{2+3} (fig. 1).

Abdomen shining black, with light pollinosity. ♀ Terminalia: Oviscape shiny black, 1.3–1.6 times as long as preabdomen. Length of oviscape 1.75–2.4 mm. Aculeus (fig. 3) with prominent primary step at tip, 2.0–2.6 mm long. ♂ Terminalia typical for the genus.

Wing length ♂: 2.6–3.05 mm, ♀: 3.0–3.9 mm.

Material examined: HOLOTYPE ♀ (not dissected, but aculeus tip exposed), 8 ♀♀ PARATYPES, Italy, Puglia, Mte. Gargano, S. Giovanni, 700 m, swept on *Centaurea alba,* 14.V.1990 (B. MERZ & A. MÜLLER) (collection B. MERZ). Additional PARATYPES (all collected by B. MERZ & A. MÜLLER in Italy, Puglia, Mte. Gargano): 1 ♂, same locality as holotype, 7.V.1990; 3 ♀♀, same locality as holotype, 13.V.1990; 3 ♀♀, same locality as holotype, 15.V.1990; 11 ♂♂, 2 ♀♀, Mattinata, 300 m reared from flowerhead galls of *Centaurea alba,* 10.V.1990 (emerged 22.V.–25.V.1990); 2 ♀♀, Manfredonia, 350 m, 15.V.1990 (swept); 1 ♀, Carpino, 250 m, 16.V.1990 (swept); 1 ♀, Cagnano Varano, 250 m, 16.V.1990 (swept); 1 ♀, Apricena, 150 m, 17.V.1990 (swept); 1 ♂, 3 ♀♀, Pescici, 50 m, 11.V.1990 (swept); 1 ♂, S. Marco, 300 m, 8.V.1990 (swept) (Natural History Museum, London; Tel Aviv University; Swiss Federal Institute of Technology, Entomology, Zürich; collection B. MERZ.

Etymology: The specific ephithet comes from the subgenus *Phalolepis* of the genus *Centaurea,* from which the new species was reared.

BIOLOGY

Urophora phalolepidis attacks the flowerheads of *Centaurea (Phalolepis) alba,* where it induces a lignified multilocular gall. Pupariation takes place in spring, and the flies emerge in May.

DISCUSSION

Urophora phalolepidis can be distinguished from all other *Urophora* species by the unique tip of the aculeus (fig. 3), which is somewhat similar only to *Urophora mauritanica* MACQUART, but that species is much larger (wing and aculeus length over 3 mm). Furthermore the only other *Urophora* known to attack *Centaurea alba* is *Urophora qu. quadrifasciata* (MEIGEN), which has an entirely different morphology (see WHITE & KORNEYEV, 1989, for details).

The new species belongs to a group which includes *Urophora affinis* (FRAUENFELD) and *Urophora jaceana* (HERING). These species have a superficially similar wing pattern, the same colour of the scutellum, and the legs are mostly yellow. Both species, however, have a different tip of the aculeus (indistinct secondary steps and an apical indentation). Furthermore *U. a. affinis,* which attacks *Centaurea* of the subgenus *Acrolophus,* usually has a much shorter oviscape (shorter than the preabdomen, in *U. phalolepidis* the oviscape is much longer than the preabdomen) and the subbasal crossband is reduced in cell c. *U. a. calcitrapae* WHITE & KORNEYEV, which attacks *Centaurea* of the subgenus *Calcitrapa* in the eastern Mediterranean countries, has a slightly shorter oviscape than the new species (about as long as the preabdomen) and the subbasal crossband is reduced in cell c. *U. jaceana,* which attacks *Centaurea* of the subgenus *Jacea* has about the same size of the oviscape as the new species, but the subbasal crossband usually extends strongly from C to A_1.

Another species, which may be confused with *U. phalolepidis* is *Urophora hispanica* STROBL because of its similar wing pattern. That species, however, has a much shorter oviscape (shorter than preabdomen, aculeus less than 2 mm) and only an indistinct primary step at the tip of the aculeus.

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ZUSAMMENFASSUNG

Urophora phalolepidis n. sp. wird beschrieben und illustriert. Die Art wurde aus Blütenkopfgallen von *Centaurea alba* in Süditalien, Apulien, Region des Monte Gargano, gezogen. Die Stellung der Art in der Gattung wird kurz diskutiert und sie wird mit verwandten Arten verglichen.

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