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A new species of *Aleurolobus* Quaintance et Baker
(Homoptera, Aleyrodidae) from Southern Europe

In the past twenty years, taxonomic and ecological studies on whiteflies (Homoptera, Aleyrodidae) have been conducted in several Mediterranean countries, often accompanied by the description of new species (BINK-MOENEN, 1992; BINK-MOENEN & GERLING, 1990; IACCARINO, 1981, 1982, 1985, 1989; MIFSUD, 1995; RAPI SARDA, 1982, 1986). During a field trip to the Island of Gozo (Malta), carried out by one of us (D. Mifsud) mainly for collecting Sternorrhyncha, and in the course of the studies which are carried out by the Institute for Plant Protection of the University of Reggio Calabria (Italy), in order to define the whitefly fauna of Southern Italy, pupal cases of a new species of a whitefly where collected on *Teucrium fruticans* L., the description of which is given here. The finding of any new species is significant since the whitefly fauna of the mediterranean basin has been so well described.

Aleurolobus teucris n. sp.

DESCRIPTION

Pupal case (Fig. I) generally oval in shape, widest at abdominal segments II-III and slightly concave posteriorly. Colour dark brown to black, with little wax on dorsum disposed in a typical pattern (Fig. II, 1). Sexually dimorphic: female pupal case 0.97-1.13 mm long and 0.64-0.73 mm wide (on average 1.55 times as long as wide); male pupal case 0.81-0.90 mm long and 0.44-0.57 mm wide (on average 1.62 times as long as wide).

Margin irregular but with a fairly regular pattern of papilla-like crenulations immediately mesad of marginal line, distributed 3-6.5 every 100 μ m of marginal length. Thoracic tracheal pores not differentiated. Posterior margin

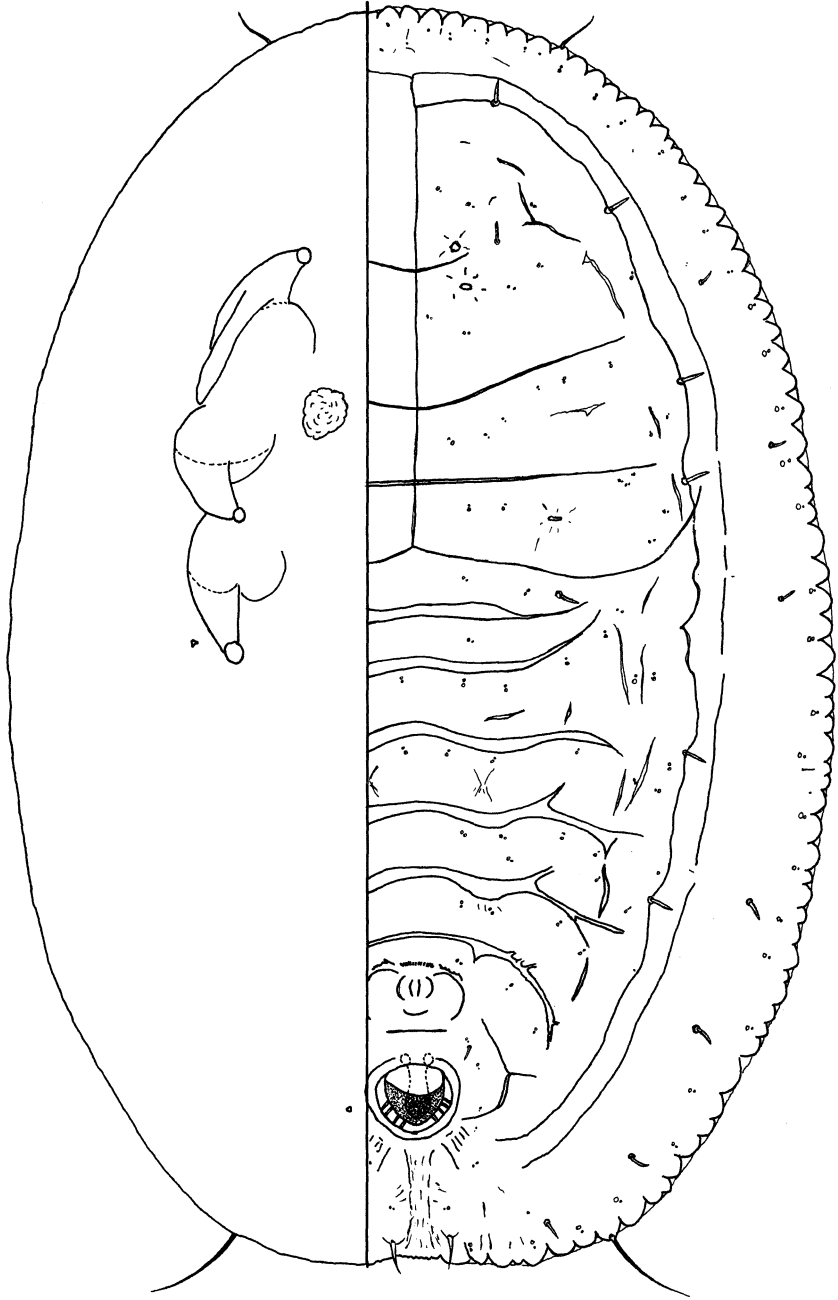


Fig. I - Pupal case of *Aleurolobus teucrui* n. sp.: dorsal (right) and ventral (left) surface.

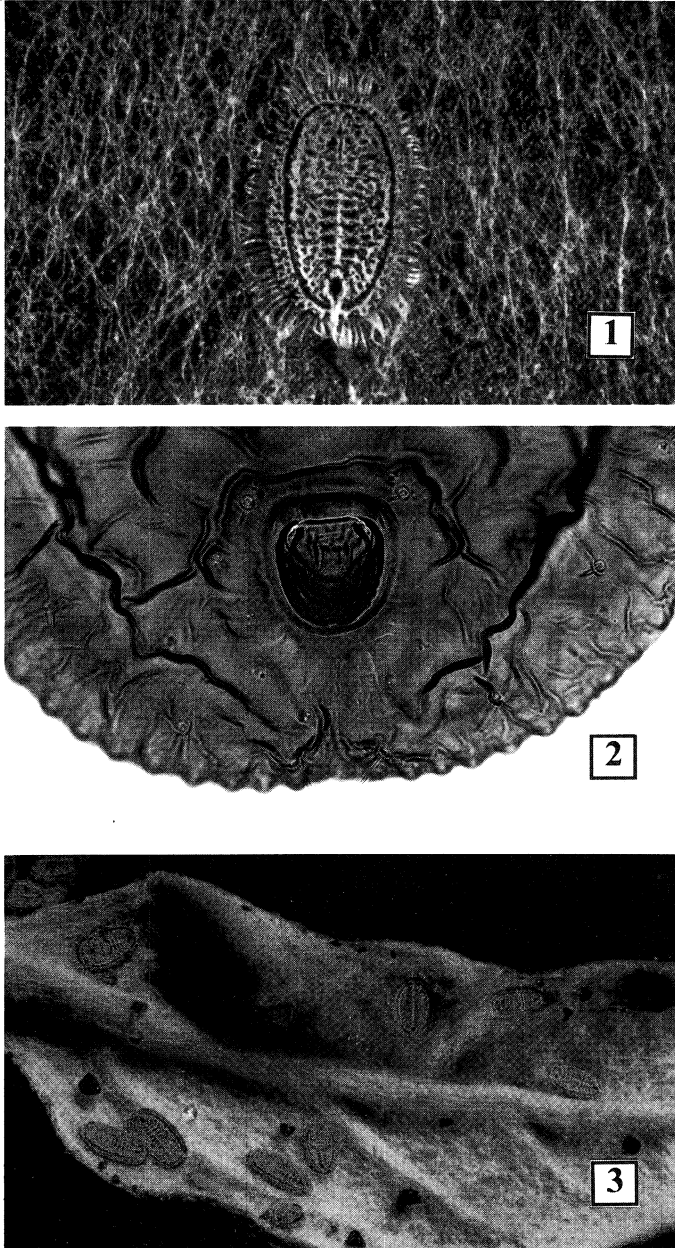


Fig. II - *Aleurolobus teucarii* n. sp. -. 1. Female pupal case on the leaf upperface of *Teucrium fruticans* L.. 2. Posterior part of abdomen with the vasiform orifice (from a slide mounted specimen). 3. Different larval stages and a pupal case on the leaf underface of *Teucrium fruticans* L.

indented at region of caudal tracheal opening, with irregular fine teeth. Anterior and posterior marginal setae present, 20-50 μm and 30-85 μm long respectively.

Submarginal region broad, narrowing anteriorly, separated from dorsal disc by a furrow interrupted at caudal area. Seven pairs of stout submarginal setae distributed as follows: three anterior pairs (4-16 μm long) and four posterior pairs (7-30 μm long), the latter ones roughly inserted on abdominal segments V-VII. Another set of six pairs of stout setae (7-25 μm long) are present on inner submarginal fold: one pair on cephalus, one pair on each thoracic segment, one pair between abdominal segment III-IV and sometimes another pair on abdominal segment V.

Dorsal disc with geminate pore+porettes scattered throughout. Eye spot absent. Three pairs of stout median setae (8-25 μm long) occurring on cephalus and on each of abdominal segments I and VIII. Abdominal segments roughly subequal in length, medially with abdominal sutures almost reaching submarginal furrow. Vasiform orifice rounded posteriorly (subcircular to subcordate) with transverse ridge on its floor (Fig. II, 2), 58-68 μm long and 58-66 μm wide in the females, 48-56 μm long and 47-60 μm wide in the males. Operculum almost filling vasiform orifice, 39-59 μm long and 47-57 μm wide in the females, 37-54 μm long and 40-52 μm wide in the males, Lingula 30-60 μm long. Caudal furrow weakly differentiated, 91-113 μm long in the females and 56-72 μm long in the males. Caudal furrow length/vasiform orifice length ratio = 1.4-1.7 in the females and 1.1-1.3 in the males. Caudal furrow length/pupal case length ratio = 0.09-0.11 in the females and 0.07-0.09 in the males.

Ventral region with weakly evident abdominal tracheal fold. Thoracic tracheal fold areas not differentiated. Antennae in female puparia reaching up to one-third of mesothoracic legs; those in male puparia usually reaching more than two-thirds of mesothoracic legs. Adhesive sacs and ventral abdominal setae present, the latter are 20-50 μm long.

TYPE MATERIAL – HOLOTYPE – Female pupal case, Maltese Islands: Gozo, Xlendi Valley, 16.III.1994, on *Teucrium fruticans*, S. Aquilina, D. Mifsud & G.W. Watson coll., deposited in the Natural History Museum (London).

PARATYPE – 17 female and 18 male pupal cases, same data as holotype; 2 female pupal cases, Maltese Islands: Malta, Mellicha, 5.II.1995, on *T. fruticans*, D. Mifsud coll.; 6 female and 2 male pupal cases, Maltese Islands: Malta, Mistra, 10.II.1995, on *T. fruticans*, D. Mifsud coll.; 20 female and 5 male pupal cases, Maltese Islands: Gozo, Ghajnsielem, 18.II.1995, on *T. fruticans*, D. Mifsud coll.; 11 female and 4 male pupal cases, Italy: Taormina, Santa Maria della Rocca, 28.VII.1995, on *T. fruticans*, V. Palmeri coll.; 8 female and 9 male pupal cases, Italy: Taormina, Santa Maria della Rocca, 8.II.1996, on *T. fruticans*, V. Palmeri coll.; 11 female and 17 male pupal cases, Italy: Taormina, Santa Maria della Rocca, 2.IV.1996, on *T. fruticans*, V. Palmeri coll. All material was deposited in the Natural History Museum (London), D. Mifsud private collection; Istituto di Difesa delle Piante, Università di Reggio Calabria, Italy; United

States Department of Agriculture, Maryland (USA); Istituto di Entomologia Agraria, Università di Catania, Italy.

DISCUSSION - *Aleurolobus teucriti* n. sp. is easily discernible from other species described up to now and belonging to the same genus because of the peculiar chaetotaxi, the atypical marginal indentations, the absence of eye spots, the subcordate edge of the vasiform orifice, as well as its general aspect. It is very similar to *A. pauliani* Cohic (COHIC, 1969; BINK-MOENEN, 1983), from which it differs for the presence of eye spots and for the different number of median setae.

ETYMOLOGY - The name of this new species is derived from the plant from which the material was collected.

BIOLOGY - Adults, larvae and eggs of *Aleurolobus teucriti* were collected on *Teucrium fruticans* L. (Tubiflorae, Labiatae), a plant diffused in the Western Mediterranean, and very common (from 0 to 600 m above sea level) on seaward-facing limestone outcrops (PIGNATTI, 1982).

The close trophic linkage between *Aleurolobus teucriti* and *Teucrium fruticans* suggests a wider diffusion of the insect, probably coinciding with that one of the host plant.

The first biological observations show this whitefly colonizes both surfaces of the small leaves (Fig. II, 3), which can be completely covered by larvae.

No evident signs of damages of the plants have been noted up to now.

**KEY TO THE EUROPEAN SPECIES OF *ALEUROLOBUS* QUAINANCE ET BAKER
BASED ON PUPAL CASES***

1. Vasiform orifice rounded posteriorly; with a regular row of papilla-like crenulations immediately mesad of true margin of pupal case (Fig. I). On *Teucrium fruticans*
..... *Aleurolobus teucriti* n. sp.
- Vasiform orifice more acute posteriorly (subtriangular); characteristics of pupal case margin not as above 2
2. Caudal setae not evident; pupal case almost circular in outline. On Oleaceae
..... *Aleurolobus olivinus* (Silvestri)
- Caudal setae present, normally extending beyond posterior margin of pupal case, this being oval in outline 3
3. Crescent-shaped «ocular» markings present in cephalic region. Marginal teeth usually squared, parallel-sides. 10 pairs of submarginal setae present. Polyphagous but in Europe recorded only on *Capparis* *Aleurolobus niloticus* Priesner et Hosny
- «Ocular» markings absent. Marginal teeth more rounded. Usually 14 pairs of small setae present on submargin. On *Asarum europeae* & *Clematis* sp.
..... *Aleurolobus wunni* (Ryberg)

* RAPISARDA (1985) provided a key for the identification of the Italian *Aleurolobus* spp. upon which this key is based.

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SUMMARY

Aleurolobus teucarii n. sp. is described from southern Italy and the Maltese Islands (Central Mediterranean). The species seems to be monophagous on *Teucrium fruticans* L. A key to the European species of this genus (*A. niloticus* Priesner et Hosny, *A. olivinus* (Silvestri), *A. wunni* (Ryberg) and *A. teucarii* n. sp.) is provided.

RIASSUNTO

Una nuova specie del genere *Aleurolobus* Quaintance et Baker (Homoptera Aleyrodidae) dell'Europa meridionale

Nel presente lavoro si fornisce la descrizione di *Aleurolobus teucarii* sp. n., trovato in Italia meridionale e nelle isole Maltesi (Mediterraneo centrale). La specie ha una posizione alquanto isolata nell'ambito del genere cui viene ascritta, essendo morfologicamente vicina solo ad *A. pauliani* Cohic; essa sembra essere monofaga su *Teucrium fruticans* L., cui non arreca comunque danni evidenti. Il lavoro è corredato da una chiave delle specie europee del genere *Aleurolobus*, cioè: *A. niloticus* Priesner et Hosny, *A. olivinus* (Silvestri), *A. wunni* (Ryberg) e *A. teucarii* sp. n.

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