

***Aleurocanthus spiniferus* (QUAINTANCE, 1903) (ORANGE SPINY  
WHITEFLY, OSW) (*Hemiptera, Aleyrodidae*) INVADED SOUTH OF ITALY**

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**Abstract**

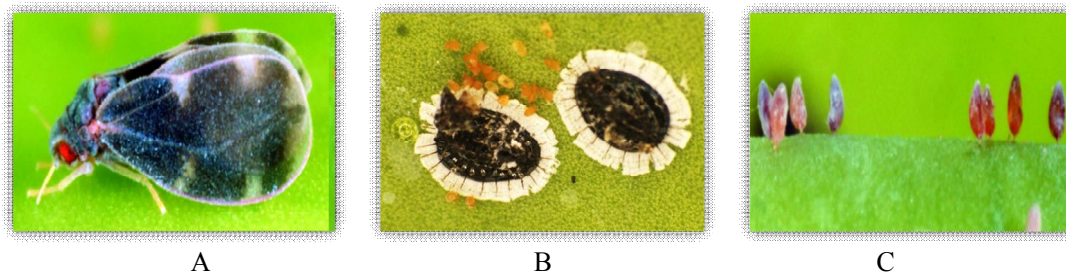
Inspection started from the Lecce city center, namely from the main public park or garden, then extended to orchards and boundaries searching for infested plants. The specimens collected mainly came from young fully mature leaves from the basal part of the infested trees. On infested trees puparia and eggs can be easily collected and black adults can be spotted at the top twigs. Otherwise *A. spiniferus* is usually on the underside of the leaves. Puparia were slide-mounted by quick-mounts method (Martin *et al.*, 2000) or in Canada balsam following the suggestions of Pizza and Porcelli (1993) and Martin (1999). The black puparia were bleached with a cold mixture of 30-volume ammonia and 20-volume hydrogen peroxide (Martin, 1999; Anonymous, 2004). Mounted specimens were identified following Silvestri (1928), Bink-Moenen (1983), Kanmiya *et al.* (2011), Martin (1987 and 1999). The laboratory notes and the observations were taken by stereomicroscope, light compound microscope and Hitachi TM3000 low pressure SEM. By the end of 2009 OSW infested 68 of the 97 municipalities of Lecce district but the intensity of its infestation varied. In 2010 the pest infested 88 municipalities, except Diso, Guagnano, Melendugno, Novoli, Salice Salentino, Squinzano, Trepuzzi, Uggiano la Chiesa and Veglie. In 2011 OSW started to spread into the villages of the Adriatic coast. Apparently Melendugno and Diso were not infested by it. In 2011 *A. spiniferus* was found on a *Citrus limon* in a private garden from San Pancrazio Salentino, a village in the Brindisi district.

**Key words:** *Aleurocanthus spiniferus*, citrus, Lecce District

Orange spiny whitefly, *Aleurocanthus spiniferus* (Quaintance), *figure 1*, is reported to be one of the most destructive aleyrodids attacking citrus in tropical Asia. *A. spiniferus* originated in south-east Asia and has spread widely in tropical and subtropical Asia then to Australia, Africa and the Pacific Islands, following the main trade routes. The pest was also reported in Kenya and Indonesia, Malaysia, India, Cambodia, Thailand, Japan, Marianas Islands, Mauritius Philippines, Micronesia, Sri Lanka, Bangladesh, Pakistan, Hawaii, Sumatra and South Africa.

*A. spiniferus* was recorded for the first time

in South Italy, Apulia near Supersano - Lecce District by Porcelli (2008) where it had become acclimatized and was locally spreading. Thus, OSW is now recorded in the EPPA area. *A. spiniferus* is a polyphagous insect, reported to infest 90 plant species of 38 plant families. Orange Spiny Whitefly *A. spiniferus* directly affects the export of Citrus plants and fruits to other countries (*figure 2*), thus posing a major threat for national and international trade from the Mediterranean area and the European producers. Because of the particular OSW adults black color, it is easy to detect its presence in the field.



A B C  
Figure 1 *Aleurocanthus spiniferus* stages: a) adult; b) puparia; c) eggs.

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Figure 2 a) Branch of citrus blackened by soot that develops on the honeydew; b) orange covered with sooty mold; c) oranges contaminated and unmarketable.

## MATERIAL AND METHOD

Inspection started from the Lecce city center, namely from the main public park or garden, then extended to orchards and boundaries searching for infested plants.

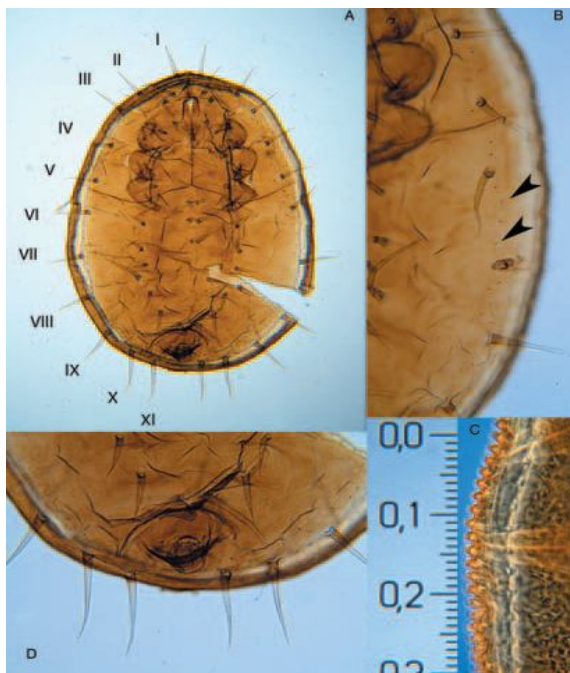


Figure 3 *A. spiniferus* (Quaintance 1903): (A) general aspect of the mounted puparium; (B) submarginal dorsal glands; (C) marginal teeth using light microscope with phase contrast; (D) posterior end of the puparium.

The specimens collected mainly came from young fully mature leaves from the basal part of the infested trees. On infested trees puparia and eggs can be easily collected and black adults can be spotted at the top twigs. Otherwise *A. spiniferus* is usually on the underside of the leaves. Puparia were slide-mounted by quick-mounts method (Martin *et al.*,

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## RESULTS AND DISCUSSIONS

By the end of 2009 OSW infested 68 of the 97 municipalities of Lecce district but the intensity of its infestation varied. In 2010 the pest infested 88 municipalities, except Diso, Guagnano, Melendugno, Novoli, Salice Salentino, Squinzano, Trepuzzi, Uggiano la Chiesa and Veglie. In 2011 OSW started to spread into the villages of the Adriatic coast. Apparently Melendugno and Diso were not infested by it. In 2011 *A. spiniferus* was found on a *Citrus limon* in a private garden from San Pancrazio Salentino, a village in the Brindisi district.

OSW adults are able to fly downwind for a short distance (Meyerdink *et al.*, 1979) and can enter cars or stick on people for long-distance movement. They can also travel on infested plants and twig-decorated fruits. *Aleoocanthus* spp. was found on the leaves of infested plants that came from international trade. (Anonymous, 1997).

The spread of this pest had serious consequences; OSW represents a major threat to the environment because of the increasing pesticides distribution in response to massive infestations. Another negative aspect is the pest ability to infest wild plants, which are the main pest reservoir in the area.

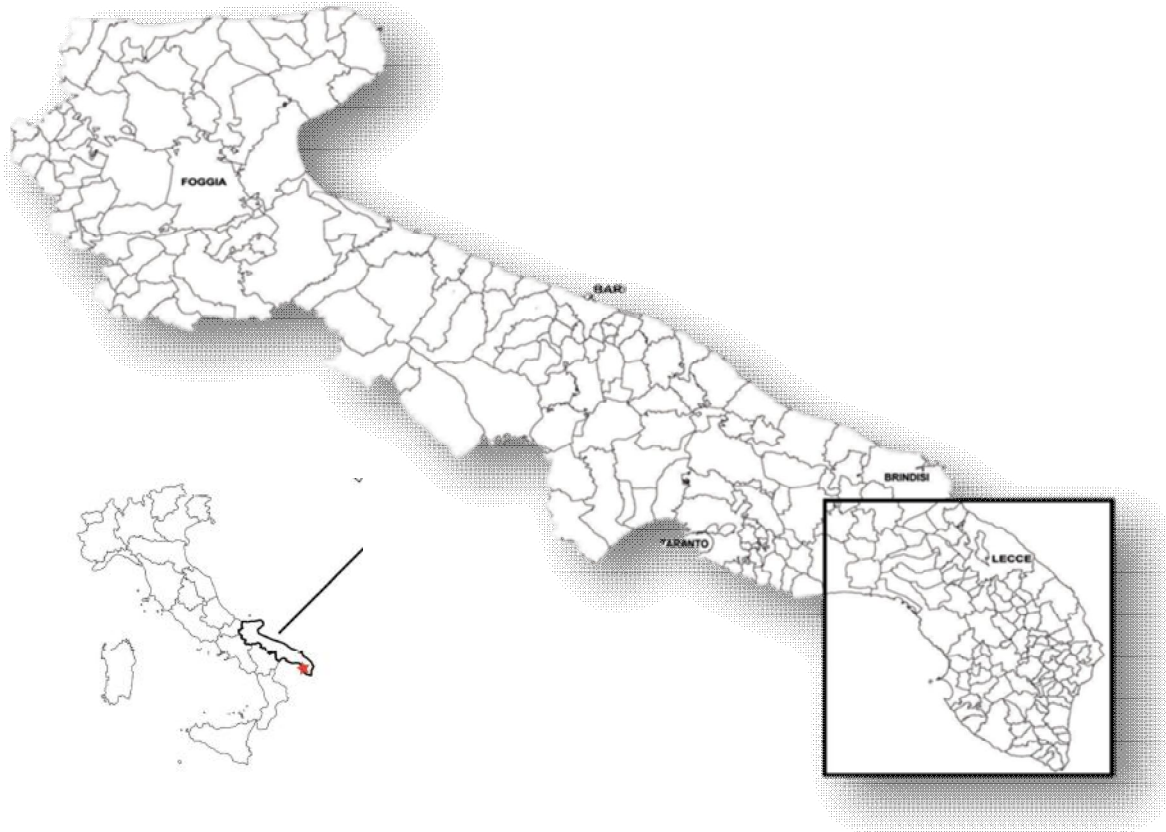


Figure 4 The first detection of *A. spiniferus* in Lecce District

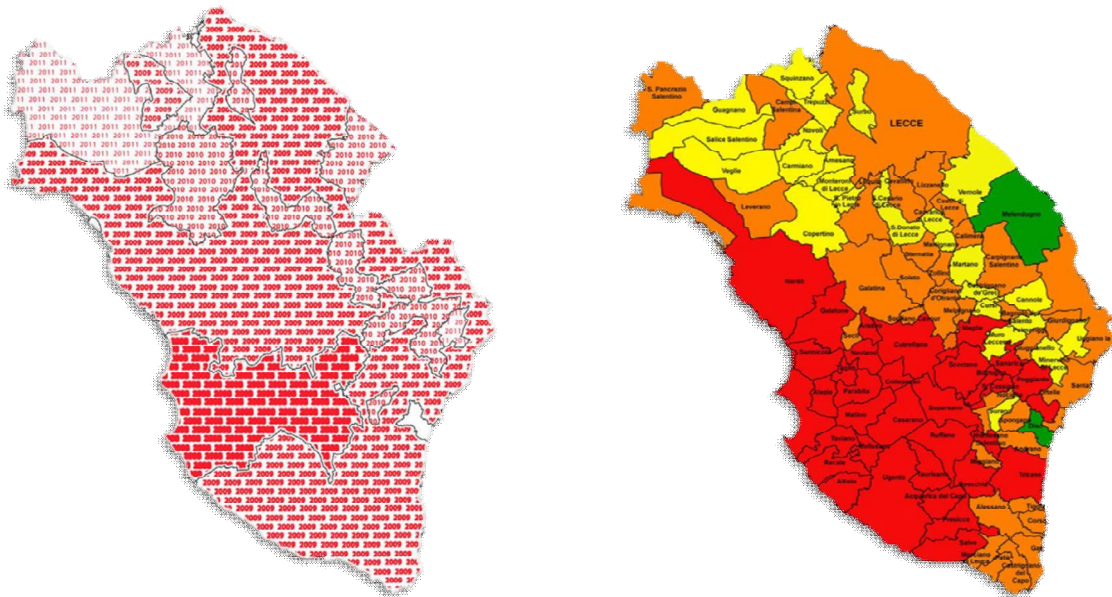


Figure 5 Diffusion of *Aleurocanthus spiniferus* in Apulia from 2008 to 2011

## CONCLUSIONS

The plants are directly damaged through sap sucking and the consequent excretion of considerable amounts of honeydew that is promptly infected by sooty mold. The latter indirectly damages the plant affecting plant respiration and photosynthesis, thus reducing the quality and the quantity of the fruits, which are black-stained and untradeable.

The infestation of OSW results into the weakening of the trees, their defoliation and dieback of the branches. It is possible that the plants so weakened can die.

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