

The *Aleurocanthus spiniferus* (OSW) in Europe: a becoming invasive threat to citrus also

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Summary

The orange spiny whitefly (OSW), *Aleurocanthus spiniferus*, is a worldwide known citrus pest native to tropical Asia. Since the beginning of the 20th century, OSW spread throughout Asia, the Pacific, central and southern Africa and from 2008 it was intercepted many times in EPPO area (Italy, Croatia and Montenegro). OSW polyphagy is well known, being able to infest more than 90 host plants belonging to unrelated botanical families, although *Citrus* spp. are considered the primary hosts. Accurate samplings highlighted OSW new host associations extending the range of plant families potentially exploitable and confirming the existence of host-shift phenomena. Analyses of the mitochondrial COI gene revealed that OSW Apulian population belongs solely to one of the two haplogroups present in China. Furthermore, the study of microbiota allowed us to identify the principal endosymbiotic bacteria in OSW. So far, field samplings confirmed the presence of predators belonging to Coccinellidae family able to prey on different developmental stages of *A. spiniferus*. These findings could be considered as an opportunity for biological control of OSW. Results laid solid foundations in the knowledge of European OSW populations now invading Italy and neighbouring countries to counteract a pan-Mediterranean invasion of this harmful whitefly. Further studies are essential for the assessment of an effective IPM strategy tailored either for organic or intensive agricultural context.

Key words: Alien invasive pest, endosymbiont, insect-bacteria symbiosis, COI, natural enemies