First damage caused by *Chaetanaphothrips orchidii* (Moulton) (Thysanoptera: Thripidae), orchid thrips, in citrus in Spain.

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INTRODUCTION

Chaetanaphothrips orchidii (Moulton) (Thysanoptera: Thripidae), known as orchid thrips, citrus rust thrips or *Anthurium* thrips, is a species typical of tropical and subtropical areas that currently has a cosmopolitan distribution having colonized ornamental crops in greenhouses in temperate or cold areas (zur Strassen, 2003). It is a very polyphagous species that is considered important pest of banana, citrus and ornamental crops. Orchid thrips attacks all citrus species, especially Navel oranges, Valencia and red grapefruit varieties (Childers and Stansly, 2005). It is considered an important citrus pest in Florida. In the last decade, severe damage has been caused to citrus orchards in northwestern Argentina (Goane et al, 2013). It is present in Europe through multiple introductions in greenhouse crops (zur Strassen 2003). This species has been reported in Spain as being associated with the ornamental cultivation of *Anthurium*, indicating the possibility of becoming a pest species of floral crops. However, there was no evidence of damage to citrus crops.

MORPHOLOGY AND BIOLOGY

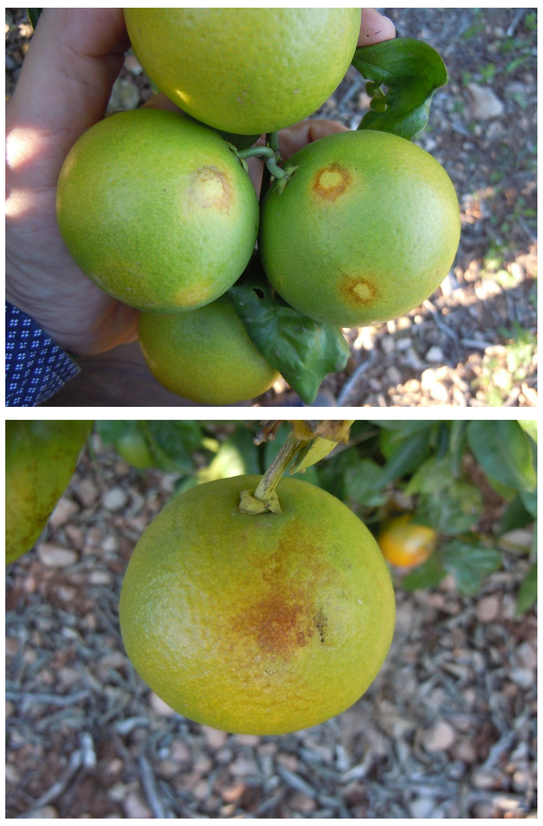
The adult female is 0.8 to 1.5 mm long, pale yellow with dark last antennal segments and the dark bands on the forewings. No males have been observed, since is a parthenogenetic species (Goane et al., 2013; Mound 2016). The life cycle lasts three to five weeks during the summer, although it may extend up to three months and develops several generations per year. The female lays its eggs inside the epidermis of leaves and fruits through the ovipositor. The larvae, initially white and then yellowish, go through two stages before becoming prepupa and finally pupa. The prepupa and pupa stages develop in the soil, from where the adults emerge (Hata and Hara, 1992).

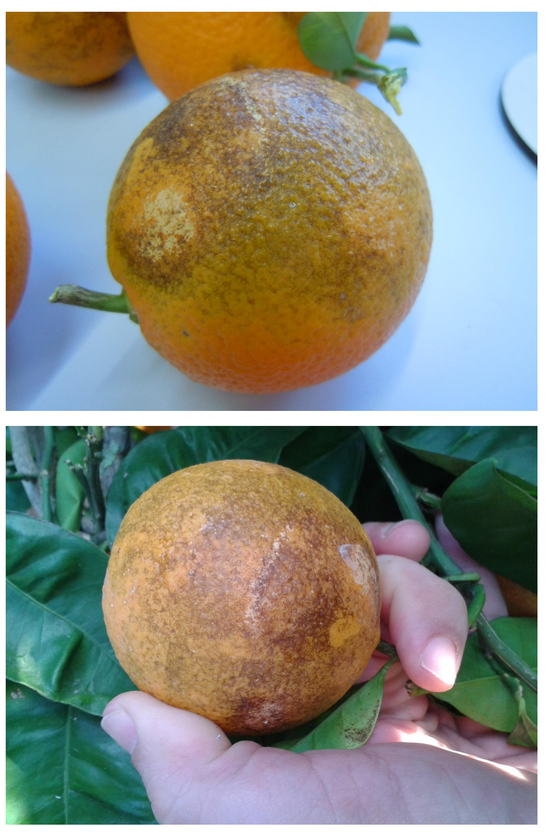
Figure 1. *Chaetanaphothrips orchidii* adult female

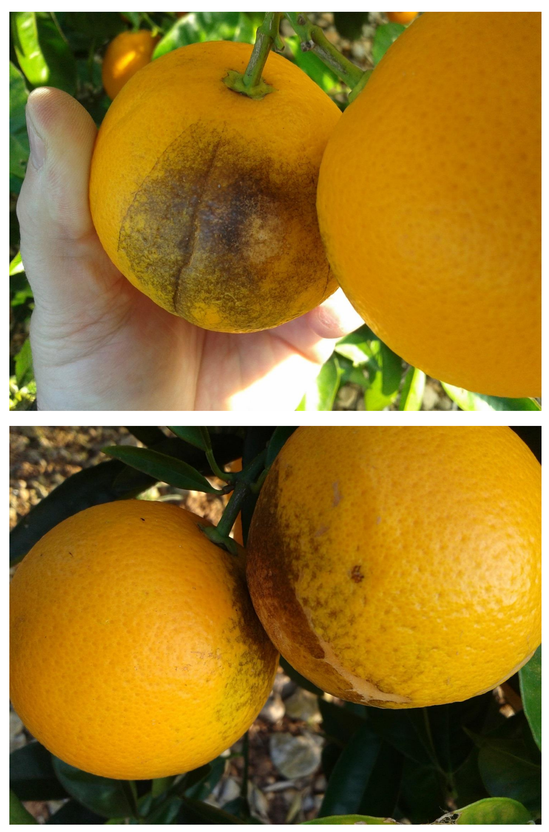
Figure 2. Larva and adult female of *C. orchidii*.

SYMPTOMATHOLOGY

The feeding *C. orchidii* in citrus fruits causes the development of irregular or circular rind of mature fruits (Goane et al, 2013). More severe damages are limited to areas of contact between clustered fruits, or with leaves or branches. Damage occurs mostly in the lower half of the canopy, even when the observed damage is scarce (Goane et al, 2013) and prefers moist and shaded microhabitats, Until 2005 no damages by this species were detected in Argentina citrus orchards, despite being already present in citrus previously. In Florida their populations reach their peak during the October and November (Childers and Nakahara, 2006). Ripe fruit re-infestations may occasionally occur due to migrations from other host plants, such as ground cover plants (Childers and Nakahara, 2006).







FRUIT DAMAGE DETECTION IN SPAIN

Between January and March 2016, rind blemish fruits where observed in two orange orchards Lanelate cv. located in the south of Tarragona province (Spain). Fruits from the lower part of the tree more frequently affected. Since, the causal agent was unknown, damaged fruits from approximately 20 trees were sampled and the insects collected were preserved in ethanol for their identification. All thrips individuals were identified as *Chaetanaphothrips orchidii* (Moulton), the orchid thrips. We believe that this is the first report of damage by this species in Spanish citrus orchards. The losses were very severe, affecting a high percentage of the overall production. Consequently *Chaetanaphothrips orchidii* should be added to the list of thrips species that can cause damage to the citrus crop in Spain: *Heliothrips haemorrhoidalis* (Bouche) and *Scirtothrips inermis* Priesner, which produce localized and sporadic damage, and *Pezothrips Kellyanus* (Bagnall), which has recently become a serious plague of citrus plots (Navarro-Campos, 2013).

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