

Identification and Biology of the Ficus Whitefly

Shaku Nair, Rebecca Senior, Kai Umeda, Peter Ellsworth,
Ursula Schuch, Dawn Gouge, Shujuan Li

The ficus whitefly *Singhiella simplex* (Singh) (Hemiptera: Aleyrodidae), an exotic pest native to Asia, was first reported in Arizona from the Phoenix area in March 2015. In the U.S. it was first reported in Florida during 2007. It attacks *Ficus* spp., but some *Ficus* spp. are resistant (Mannion 2010).

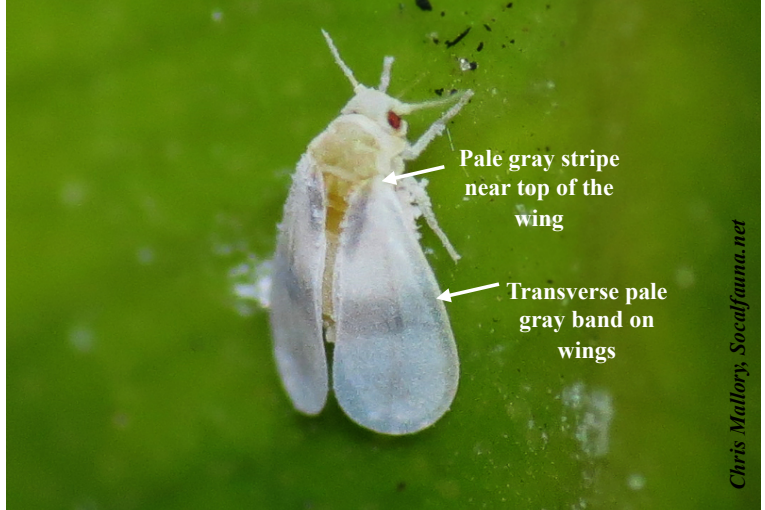
Identification and biology: (Note: A minimum of 10X magnification may be required to clearly view characters of different stages). **Adults:** Small, delicate insects, $< 1/8$ inch in length, with pale yellow bodies and white wings (Fig. 1). Mostly found on the undersides of leaves, and fly out if the plants are disturbed. Wings have a transverse pale gray band along the middle, slightly slanting downwards towards the inner wing margins; and a smaller pale gray stripe towards the top edge of the wing, almost parallel to the wing margin. **Eggs:** Almost transparent and elongated in shape (with a reddish tinge at the ends) (Fig. 2). Laid on the undersides of leaves. **Nymphs (immature stages):** $1/16$ to $1/8$ inch in length, flat and oval in shape with red eyes, wingless, and resemble scale insects (Fig. 3). Initially translucent and difficult to locate, but turn more opaque and pale yellow as they grow. Newly hatched 1st instar nymphs (crawlers) move about on the leaf, but do not feed. Within a few hours, they attach to the leaf surface, insert needle-like mouthparts into leaf tissue, and stay in that position throughout the remaining nymphal stages. 2nd and 3rd instar nymphs actively feed (Fig. 3). 4th (final) instar nymphs (often incorrectly called 'pupae') also feed actively at first, but stop feeding as they prepare to emerge as adults (and are therefore not susceptible to systemic insecticides). The red eyes of the adult are clearly visible at this stage (Fig. 3). The adults break open the final nymphal skin (Fig. 3) and fly out. A round hole in the back, instead of a slit or trap door, indicates that a parasitoid wasp parasitized the nymph and emerged instead of the adult. Duration of the total life cycle from egg to adult is highly dependent on temperature, and fastest in summer averaging around 1 month.

Damage: Whiteflies insert their mouthparts into leaf tissue and suck out plant sap leading to the **symptoms on the plant**. Yellowing (chlorosis) of leaves, wilting, stunting and leaf-drop are common under heavy infestations. Die-back of branches can occur, and in rare cases death of smaller plants, although dying trees are often in poor health due to other factors. Large established ficus plants almost always recover if infestation is controlled and plants receive proper care. Early detection is key.

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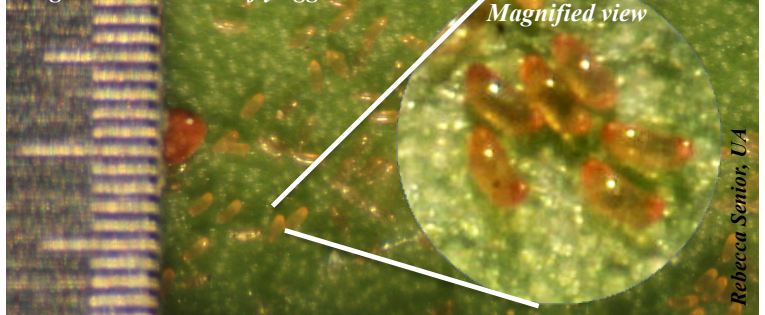
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Figure 1. Ficus whitefly adult



Chris Mallory, Socalfauna.net

Figure 2. Ficus whitefly eggs



Rebecca Senior, UA

Figure 3. Various instars of ficus whitefly nymphs



Rebecca Senior, UA

Also see:

Mannion, C. 2010. Ficus whitefly management in the landscape.
http://cifr.ucr.edu/pdf/ficus_whitefly_feb2010_fact_sheet.pdf
University of Florida Cooperative Extension.

A PDF of this publication is available on-line at:
http://cals.arizona.edu/apmc/docs/Ficus_Whitefly_Short1.pdf