

## Ficus Whitefly Management Update: Good bugs to the Rescue!

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I continue to see *Ficus benjamina* hedges defoliating and dying from ficus whitefly (*Singhiella simplex*) attacks in the Naples area. Conversely, this has not been happening on the other side of the state, in the Homestead and Miami areas. Dr. Catharine Mannion, UF|IFAS researcher, has attributed this to the arrival and increase of the good bug populations (see page 2), and especially, a small parasitic wasp (a newly discovered species, yet to be named) in combination with green lacewings (*Chrysopa nigricornis*) and blue lady beetles (*Curinus coeruleus*). This multi-pronged attack by beneficial insect populations has significantly reduced the previously damaging ficus whitefly populations on that side of the state.

A recent (Nov. 18, 2015) Naples visit by Dr. Z. Ahmed from the UF|IFAS Homestead research group brought some new revelations. We found the new parasite at about 4 of the 5 properties we looked at. I'll call it a microwasp, as the adult wasp almost fits inside the period at the end of this sentence (size 12 font). We also found tall stages of the blue lady beetles were fairly common. The green lacewings were not as easily detected, but some eggs and larvae were found.

**Take Home Message:** Because the ficus whitefly populations are being reduced naturally by these 3 beneficial insects- take advantage of this free offer and **do not spray** foliage in order to help these three good bug species thrive and suppress the whitefly. However, you may need a soil root application of a systemic pesticide.

**Timing:** The ficus whitefly populations get really busy reproducing in late June through July. You may see leaf drop at other times, but it is due to earlier feeding damage. If you decide to take this approach, to get the most "bang for your buck", soil root drenches of systemic insecticides should be applied in early to mid-June as it takes several weeks to translocate into the foliage. It is not known if the good bugs are affected by the insecticide when a systemic is applied to the soil (use products containing imidacloprid or dinotefuran, etc.; search web for Catharine Mannion ficus whitefly treatment information). Obviously, a situation where no treatment is applied is best. But, if you feel the good bugs are behind the game and you need to apply a pesticide to save your hedge, that is a personal decision. If you feel your hedge needs a pesticide application NOW due to a large numbers of whiteflies, use a soft pesticide such as a horticultural mineral oil spray. It will only control what it contacts and there is no significant residue that will harm the good bugs later. There is no guarantee that the good bugs will win and save your hedge all the time, but I say give them a chance.

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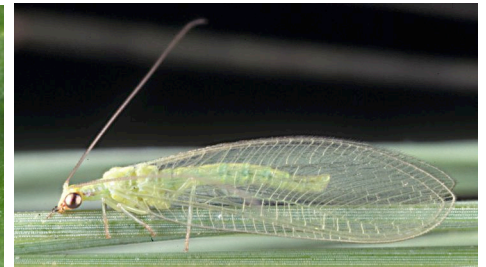
Because the ficus whitefly (*Singhiella simplex*) populations are being reduced by these 3 beneficial insects- **do not spray foliage** in order to help these three good bug species thrive and suppress the whitefly.



1. **Predator - Metallic Blue Lady Beetle** (*Curinus coeruleus*): Adult left (also note gold colored parasitized whitefly nymph red arrow) and lady beetle larva, right photo.

It also attacks the leaf-folding ficus thrips. Lady beetle photos by author.

2. **Predator - Green lacewing** (*Chrysopa nigricornis*) stages : **Eggs** (“on a stick” ) below left; below middle, **larva** (like a saber-toothed cat); **Adult**, far right. All green lacewing photos by Lyle J. Buss, UF|IFAS.



3. **Parasite - New this year, a parasitic “microwasp”:**

These wasps, *Baeoentedon balios*, are so small that 1 adult parasitic wasp (photo right, top) almost fits in the period at the end of this sentence. **Evidence** that they are at work is the tan-gold color of the attacked whitefly nymph (see photo, right bottom; the outline of the wasp-head at about 5 o’clock can be detected inside the whitefly nymph ) and also see the first photo with blue lady beetle above. Normal whitefly nymphs are almost transparent and difficult to see. The wasp inserts an egg inside the immature whitefly and the wasp larva grows and emerges as an adult ready to repeat the cycle.

Microwasp photos by M. Z. Ahmed, UF|IFAS.

