

Pest Alert

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Florida Department of Agriculture and Consumer Services, Division of Plant Industry
Charles H. Bronson, Commissioner of Agriculture

Erythrina Gall Wasp, *Quadrastichus erythrinae* Kim, in Florida

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INTRODUCTION: Galls of the eulophid erythrina gall wasp, *Quadrastichus erythrinae* Kim 2004, were first collected in Florida by Edward Putland and Olga Garcia (Florida Department of Agriculture, Division of Plant Industry) on *Erythrina variegata* L. in Miami-Dade County at the Miami Metro Zoo on October 15, 2006.

Erythrina variegata, also known as coral tree, tiger's claw, Japanese coral tree, Indian coral tree, and wiliwili-haole, is noted for its seasonal showy red flowers and variegated leaves. It is an ornamental landscape tree widely planted in the southern part of the state. *Erythrina* is a large genus with approximately 110 different species worldwide. In addition to *Erythrina variegata*, the erythrina gall wasp has been collected on *E. crista-galli* L., *E. sandwicensis* Deg., and *E. stricta* Roxb. It is uncertain at this time how many species of *Erythrina* the erythrina gall wasp may attack in Florida.

DISTRIBUTION: The erythrina gall wasp is believed to have originated in Africa, but this remains uncertain. It was described (Kim *et al* 2004) from specimens from Singapore, Mauritius, and Reunion. In the past two years, it has spread to China, India, Taiwan, Philippines, and Hawaii (Heu *et al* 2006; Schmaedick *et al* 2006; ISSG 2006). The October collection in Miami is the first record of this pest in the continental U.S.

DAMAGE: The erythrina gall wasp inserts eggs into young leaf and stem tissue of the tree. The larvae then develop within the plant tissue forming galls in leaflets and petioles (Figs. 1-2). This infestation causes curling of leaves, and petioles and shoots become swollen forming many thick-walled globular galls. After feeding within the galls, the larvae pupate, and the adult wasps cut exit holes through the plant gall material to emerge. Trees with large populations of wasps within the leaves and stems have reduced leaf growth, and the plant declines in health. Severe gall wasp infestations may cause defoliation and tree death (Yang *et al* 2004). The tree in the Miami Metro Zoo exhibited a severe level of gall wasp damage.

IDENTIFICATION: Erythrina gall wasp adults are sexually dimorphic. Females are 1.4-1.6 mm. long; dark brown to blackish with pale yellow markings; head yellow except posteriorly brown; pronotum dark brown; mesoscutum with a characteristic triangular dark brown area anteriorly, the rest of the mesoscutum yellow; gaster brown to black; legs yellow with some dark markings (Figs. 3-4). Males are smaller than females and are 1-1.2 mm. long, pale white to pale yellow; gaster in anterior half pale, rest dark brown; legs entirely pale (Figs. 5-6).

BIOLOGY: One female wasp can carry approximately 320 eggs (Yang *et al* 2004). The life cycle of egg to adult is about 20 days. Adults live from 3 to 10 days, and the sex ratio is about 7 males to 1 female (Heu *et al* 2006).

SURVEY AND DETECTION: Initial limited survey has detected many suspect erythrina gall wasp-infested coral trees throughout Miami-Dade County.



Florida Department of Agriculture and Consumer Services
Adam H. Putnam, Commissioner

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Fig. 1. *Erythrina* leaf with galls.
Photo credit: P. Skelley, FDACS/DPI



Fig. 2. *Erythrina* swollen stem and petiole galls.
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Fig. 3. *Quadrastichus erythrinae* female.
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Fig. 4. *Quadrastichus erythrinae* female.
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Fig. 5. *Quadrastichus erythrinae* male.
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Fig. 6. *Quadrastichus erythrinae* male.
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