



Erythrina gall wasp (*Quadrastichus erythrinae*), in American Samoa

Unusual growths (galls) on leaves and young shoots of coral trees (*Erythrina variegata* and *E. subumbrans*) were observed on Tutuila Island, American Samoa, on 26 December 2005. The wasps that emerged from the galls were identified as *Erythrina* gall wasps (*Quadrastichus erythrinae* Kim) (Family Eulophidae) by John La Salle of the Commonwealth Scientific and Industrial Research Organisation of Australia. The wasps have since been found to be widespread on Tutuila Island but have not been detected on the other islands of the territory.

The *Erythrina* gall wasp was first described in 2004. At that time it was known to occur in Singapore, Mauritius and Réunion. Around the same time it was found in Taiwan, and in the following year it was reported from China, Hawaii, Philippines and India. In all these locations it has caused severe damage to *Erythrina* species. Adult females lay eggs inside young leaf and stem tissue. As the larvae feed and develop they cause abnormal growth of the plant tissue, inducing small nodules on leaf surfaces and uneven swelling and curling of leaf petioles and terminal stems. Defoliation, stunting, and even tree death may follow. *Erythrina* are important as ornamentals, 'living fences', and nitrogen-fixing components of agroforestry systems, although they are also host plants for the larvae of the important pest, the fruit-piercing moth (*Othreis* spp.). Their flowers are an important food source for some birds and fruit bats.

Short-term control options are limited. Experiments with pruning have not been successful, but a systemic insecticide appears to be partly effective in protecting highly valued individual trees in Hawaii. It is hoped that eventually the wasp may be brought under control by one or more biological control agents from its native range. The Hawaii Department of Agriculture and the University of Hawaii are carrying out searches in Africa where the wasp is believed to have originated. If effective biological control agents are identified, then host-range testing to ensure their safety will have to be completed before they can be released to control the gall wasp. In the meantime it is important to avoid moving *Erythrina* leaves or stems from infested to uninfested places. The adult wasps are tiny (1–1.6 mm) and extremely abundant around heavily infested trees. They could be transported on many items, including clothing or flowers, and may spread via wind as well. If caught very early, it might be possible to eradicate an occurrence on a previously uninfested island, but such efforts have so far been unsuccessful. Eliminating or treating infested *Erythrina* trees growing near ports could help reduce the likelihood of the wasps spreading. Boats carrying fallen infested leaves to uninfested islands pose the danger of spreading the wasp.



Damage to *Erythrina variegata* (top) and *Erythrina* gall wasp larva and adult female (bottom).

For further information, contact Mark Schmaedick, American Samoa Community College - Land Grant Program, P O Box 5319, Pago Pago, American Samoa; Manu Tuionoula, Department of Agriculture, P O Box 930, Pago Pago, American Samoa; or Sada N Lal - Plant Health Group, Land Resources Division, SPC.

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