

***AULACASPIS YASUMATSUI* ON GUAM: THE RACE TO SAVE CYCADS**

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ABSTRACT

Aulacaspis cycad scale (ACS) (*Aulacaspis yasumatsui* Takagi) was first detected in Tumon, Guam in late 2003 at a hotel where *Cycas revoluta* Thunberg, a non-native ornamental cycad, and *C. micronesica* K.D. Hill, an indigenous cycad, were planted. ACS is believed to have been imported from Hawaii on ornamental cycads. ACS now infests non-native and indigenous cycads throughout Guam; severe infestations result in cycad mortality within a few months. To date, over 25% of the native cycads have died.

Cycads were the perfect low maintenance, typhoon resistant, and drought tolerant plants for Guam before the introduction of ACS. Since the scale's introduction, homeowners and landscape managers have removed many valuable plants to avoid the high level of maintenance required to prevent mortality. It appears that unabated increases of ACS populations on Guam will lead to the loss of cycads on the island. In addition to ACS, the cycad blue butterfly *Chilades pandava*

(Horsfield) also non-native, was detected on Guam in July 2005. Caterpillars of this butterfly feed exclusively on young cycad foliage.

U.S. Forest Service, Forest Health Protection (FHP) funded suppression work against the scale in Guam's urban-wildland interface in 2005 and 2006. Activities were initiated too late to have an appreciable impact on the migration of scale populations throughout the island; however, some of the prominent King Sago plantings have been saved. Direct suppression efforts during 2006 concentrated on treating cycads in native forests. Both dinotefuran (soil drench) and pyriproxyfen (translaminar insect growth regulator) are being evaluated for efficacy toward ACS. Ongoing studies are focusing on evaluating additional chemicals (imidacloprid and abamectin) and methods of delivery (i.e., trunk injections), monitoring ACS populations, evaluating biological control agents (primarily predators), and conserving the genetic diversity of *C. micronesica*.