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Anyone Seen the Asian Cycad Scale?

Outbreaks of the cycad aulacaspis scales (CASs) *Aulacaspis yasumatsui* Takagi (Hemiptera: Diaspididae) have been reported in the Lower Rio Grande Valley where sago palms are found in almost every landscape and are key crops for commercial nursery growers. The CASs is an invasive insect pest that is native to Thailand. It does pose a serious threat to all sago palms. CAS infestations are much worse than other armored scale insects that affect cycads because it can colonize every part of the plant, including roots. Also since this is a new invasive species, it is usually free from the natural enemies that keep population under control in its native habitat. Therefore, its populations can increase rapidly in just a few days. Root infestations are very difficult to detect and allow the insect to go unnoticed during shipment, so we are beginning to see this pest in many other areas in Texas, such as Cameron, Hidalgo, Nueces, Harris and Brazos counties. The CASs has a restricted host range, so it occurs only on sago palms of the genera *Cycas*, *Dioon*, *Encephalartos*, *Microcycas*, *Stangeria* and *Macrozamia*. There is a preference though for sagos of the *Cycas* genus.

Like other armored scale insects, CASs are protected under a waxy cover made up of exoskeletons of the immature insect. The adult females are different in shape and size than males. The female scale cover is about 1.2 to 1.6 mm in length, flat, circular to pear-shaped and often distorted due to crowding. The female cover is white in color, but often translucent. After the scale cover is removed, the female body is broad, wingless, legless, and orange in color. The orange-colored eggs usually are laid underneath the female scale cover. The adult male scale covers are elongate in shape, between 0.5 to 0.6 mm in length, light yellow or white in color, with three parallel ridges. The CAS is similar in appearance to the less important false oleander scale (*Pseudaulacaspis cockerelli*) whose adult females have a more slender body.

Development from egg to adult is about 28 days. The newly emerged crawlers disperse to new feeding sites by wind or other means. Once feeding has started, the scale will remain at the same site for the rest of its life cycle. CASs cause damage by sucking plant fluids. This causes small yellow spots to occur on the upper surface of fronds. As the infestation progresses, fronds become brown and desiccated. Heavy infestations contain scales on both upper and lower frond surfaces, rachis, cones, seeds, and main roots as deep as 24 inches (60 cm). Heavy infestations result in multiple layers of live

and dead scales with insect counts of several thousands per square inch. Uncontrolled infestations can result in plant death in a few weeks or months.

Prevent CASs by inspecting the plants prior to purchase to make sure they are free of the CAS. Look for early infestation symptoms and for adult scale and crawlers on the whole plant, especially leaf undersides. Since crawlers are very small, a 10x magnification lens must be used. Small populations are always easier to control than large ones. The CAS has overlapping generations and populations can increase rapidly. Once infestations are detected, act quickly.

Some Control Options:

Some Non-Chemical Controls: Avoid plant crowding to reduce movement of scale crawlers from infested to healthy plants; remove heavily infested fronds to reduce existing population. Place infested material inside a double-sealed plastic bag before discarding. Tools used for pruning must be cleaned before use on non-infested plants to minimize the risk of spreading the pest.

Two natural enemies, a predaceous beetle, *Cybocephalus binotatus* Grouvelle, and a parasitic wasp, *Coccobius fulvus* (Compere and Annecke) have been introduced into Florida with good preliminary results. In Texas, biological control efforts have begun with a survey of natural enemies for possible mass rearing and distribution in affected localities by USDA/APHIS/PPQ.

Some Chemical Control Options: Several insecticides are available and registered to control scale insects. Complete plant coverage is essential to control, since the scales can infest all plant parts. Contact foliar sprays such as horticultural oils and insecticidal soaps require 2 to 3 applications. Systemic insecticides usually are more effective when applied as soil drenches.

Additional Information on the World Wide Web:

University of Florida; Department of Entomology and Nematology. Featured Creatures Series: http://creatures.ifas.ufl.edu/orn/palms/cycad_scale.htm



Photo of a female and male CAS under magnification. Photo by Carlos Bográn, Texas Cooperative Extension, Texas A&M University.

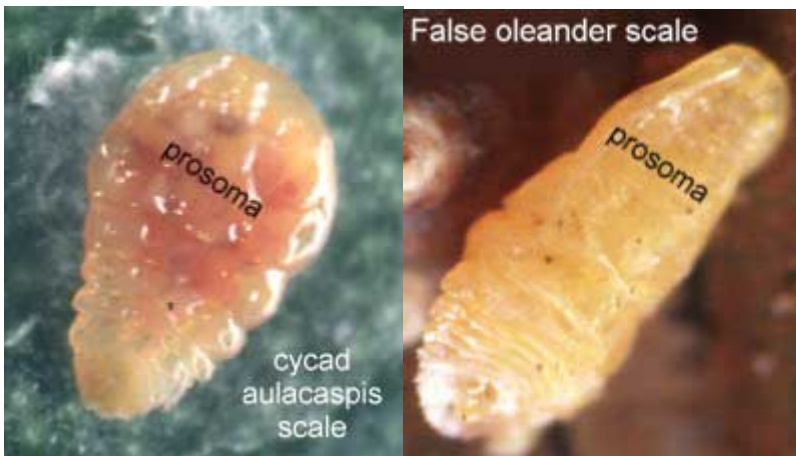


Photo of female bodies of the CAS and the false oleander scale. Photo by Greg Hodges, Florida DOACS-DPI.

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