

# PREDATORY COLEOPTERA ON KING SAGO (CYCADACEAE)

## IN SOUTH FLORIDA

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### INTRODUCTION

The king sago, *Cycas revoluta*, is a popular landscape plant in Florida mainly because it requires minimal maintenance. Since 1998, large numbers of these plants in south Florida have been ravaged by the cycad aulacaspis scale (CAS), *Aulacaspis yasumatsui* Takagi, a native of Asia. Research on the biological control of this pest is examining parasitic wasps, entomopathogenic nematodes and predators. Here we present our findings of predatory Coleoptera observed on scale-infested king sago in south Florida.



king sago infested by the cycad aulacaspis scale

### DISCUSSION

Fourteen coccinellid species have been observed on CAS-infested king sago in south Florida. The only species found in large numbers is *Rhyzobius lophanthae*, but only in the Tampa area. *Chilocorus cacti*, *Curinus coeruleus* and *Cryptolaemus montrouzieri* are frequently encountered but not in large numbers. Only the larvae of *R. lophanthae* and *C. coeruleus* were observed on infested plants. None of the coccinellids are specific predators of CAS. Five species are adventive (indicated by red star on photograph). *Hyperaspis ornata* and *Diomus austrinus* are endemic to south Florida.

The cybocephalid *Cybocephalus nipponicus* Endrödy-Younga is another adventive species that is widely distributed in south Florida. Both adults and larvae prey on CAS and other armored scales. Large numbers of this insect may occur on a single infested plant. The biology of this predator with CAS as prey is currently under study.



*Chilocorus cacti*  
(Linnaeus)



*Chilocorus stigma*  
(Say)



*Chilocorus circumdata*  
Gyllenhal



*Zilus* sp.



*Curinus coeruleus*  
Mulsant



*Curinus coeruleus*  
larva



*Cybocephalus nipponicus* ♀



*Cybocephalus nipponicus* ♂



*C. nipponicus* larva



*Diomus austrinus*  
Gordon



*Hyperaspis ornata*  
Gordon



*Rhyzobius lophanthae*  
(Blaisdell)



*Rhyzobius lophanthae*  
larva



*Olla v-nigrum*  
(Mulsant)



*Exochomus childreni*  
Mulsant



*Cryptolaemus montrouzieri*  
Mulsant



*Microwisea ovalis*  
(LeConte)



*Harmonia axyridis*  
(Pallas)



*Hippodamia convergens*  
Guerin-Meneville

### FUTURE RESEARCH

- Feeding studies of select coccinellid species and *Cybocephalus nipponicus*
- Sequestration of cycasin and/or alkaloids by the CAS as a deterrent to predation by coccinellids
- Experimental releases in cages of *Rhyzobius lophanthae*