



A Coalition of Invasive Species Attacks Guam's Endemic Cycad, *Cycas micronesica*

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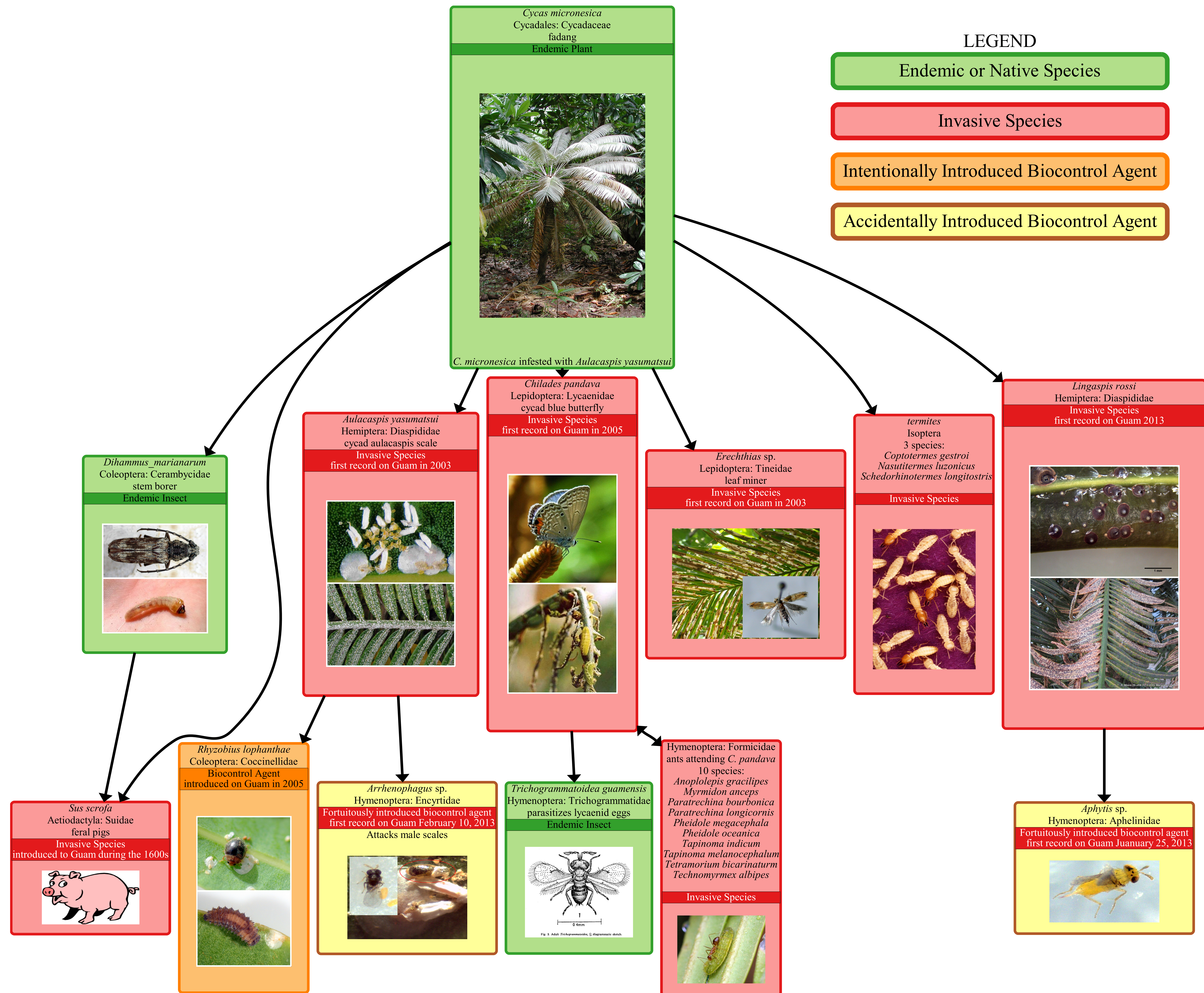


Figure 1: Summary of ecological relationships between *C. micronesica* and invasive species which threaten its existence. Arrows indicate which species benefit from relationships.

A 2002 forest survey listed *Cycas micronesica*, locally known as "fadang", as the most numerous tree-sized plant in Guam's forests. In 2006 *C. micronesica* was placed on the IUCN Red List of Threatened Species in response to high mortality from simultaneous attack by recently introduced invasive species including the cycad aulacaspis scale (CAS), *Aulacaspis yasumatsui*, the cycad blue butterfly, *Chilades pandava*, and a lepidopteran leafminer, *Erechthias* sp. The coccinellid, *Rhyzobius lophanthae* was established as an effective biological control agent for CAS. However, the cycads continue to decline due to damage from CAS and other herbivores. In some areas of Guam, 90% of *C. micronesica* have been killed and the plant could be extirpated from the wild by 2019 if current trends persist.

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