Coconut Rhinoceros Beetle, Oryctes rhinoceros Coleoptera: Scarabaeidae A Major Threat to Hawaii's Coconut and Palm Trees

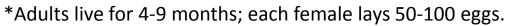


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Coconut rhinoceros beetle (CRB)

Native range: Southeastern Asia (M. Schmaedick 2005 Am. Samoa)

- *CRB was introduced throughout the Pacific primarily due to increased sea traffic during World War II.
- *Most recently, CRB was discovered in Guam in September 2007.
- *Primary damage is caused by adults boring from the petioles of fronds into the crown, cutting through developing leaves, and feeding on the exuded sap.
- *The beetle breeds in dead, standing coconut palms killed by pest/ disease/ lightning, and in decaying organic materials, such as compost and sawdust heaps. (Bedford, 1980).
- *Eggs hatch in 8-12 days; larvae feed on decaying coconut/palm debris for 82-207 days.
- *Prepupal and pupal stage is 25-35 days; adult remains in the pupal cell for 17-22 days.











Coconut rhinoceros beetle (CRB) - Damage Symptoms

*Primary damage is caused by adults boring from the petioles of fronds into the crown, cutting through developing, unopened fronds, and feeding on the exuded sap.

V-shaped cut on open fronds.

Similar to mechanical pruning damage to unopened fronds



Active adult boring hole thru petiole



Coconut fibers resulting from adults' boring

Active adult boring hole in petiole causing "wet look"





DAMAGE TO EMERGING FROND ON FOXTAIL PALM





EXPOSED COCONUT FIBER CAUSED BY BORING





Area attacked by adult beetle



Adult boring hole thru frond petiole



Site of old adult boring hole



Site of old boring holes in trunk



Symptoms of CRB attack: V-cuts with associated lateral boring thru fronds









Semi-circular damage caused by boring through folded new terminal growth



Major breeding site among coconut trimming debris - Asan, Guam









Major Breeding Site with all CRB stages - Asan, Guam









Asan Beach, Guam











Dead coconut tree with CRB

Adults and grubs found in rotting coconut trunk terminal



Most Efficient CRB Trap in Guam

- 50 gal steel barrel filled with rotting coconut debris, live CRB, grubs and aggregation pheromone.
- Ultraviolet LED light over trap.
- Chicken wire allows CRB to enter but not fly out (with spread wings).



(Moore & Quitugua, pers. com. 09/13)







hooded vane trap





UV LED light plus pheromone increase trap efficiency (Moore & Quitugua, pers. com. 09/13)



Traps with CRB pheromone

Rotting coconut stumps placed beneath trap with CRB pheromone increases trap efficiency

Guam 09/13

Trap with chicken wire instead of vane



