Tree Bow Ties

Tree bow ties are assembled by taking a 3' x 3' piece of netting, place a 2" rock (or anything that can weigh down the netting) in the center of the net, and tie 2-3 knots. Place the bow tie in between each pocket where the base of the frond attaches to the trunk of the palm tree, throughout the whole tree top. These traps will capture the beetles as they try and burrow their way into the tree to feed.

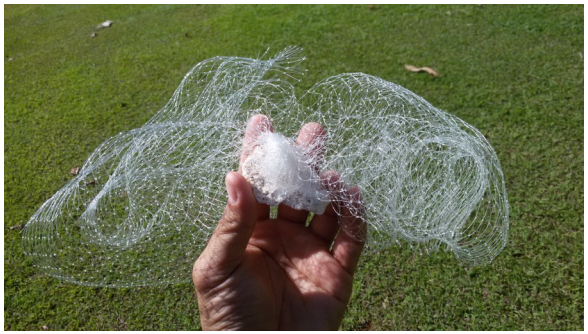

Figure 6: Tree bow tie with 2" rock in the middle

Figure 7(Left): Bow tie placed into pockets where fronds attach to trunk

Figure 8(Right): CRB caught in bow ties.

CRB Trapping Tips

- Traps should be placed in open areas away from coconut and other palm trees to draw rhino beetles away from trees.
- Keep tekken netting free of weeds to be able to observe and service the CRB traps.
- Provide small holes 6" from the bottom of the barrels no larger than one-quarter inch diameter to allow water to drain during rainy periods.
- Barrel traps should be inspected every month and more organic material added to each barrel as needed.
- Check solar lights weekly to ensure functionality as current solar powered uvLEDs have a high failure rate. To check, cover solar panel with your hand and observe if the light turns on.
- Lures should be inspected weekly. Hang a new lure when the liquid in the plastic window dries up.

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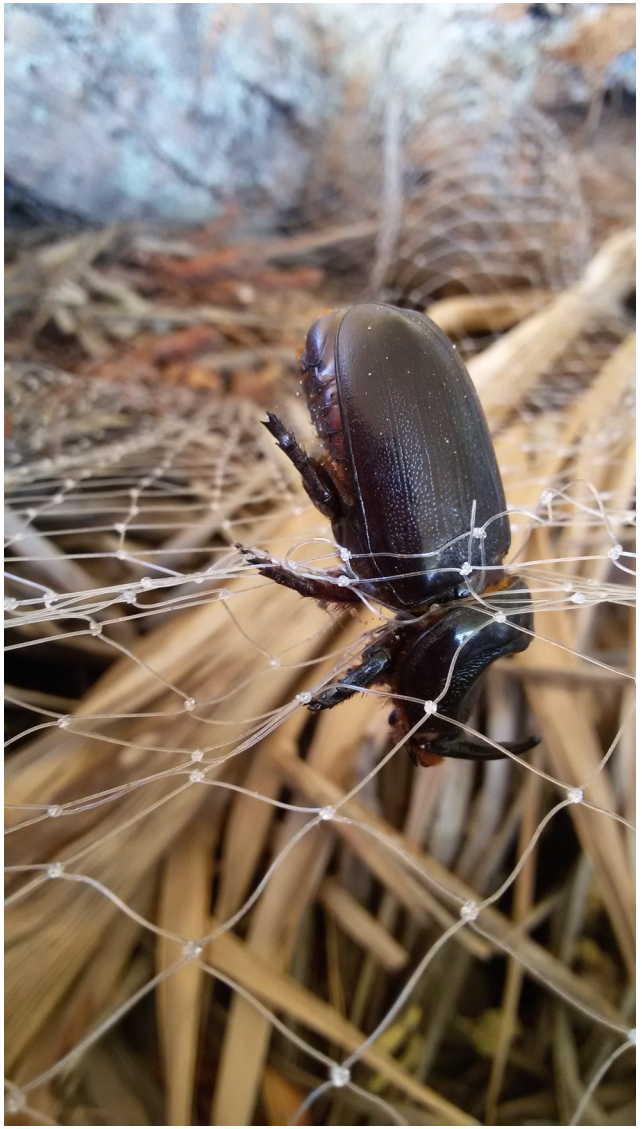
Coconut Rhinoceros Beetle
Trapping Methods



College of Natural & Applied Sciences
University of Guam I Unibetsedåt Guahan

Principles of Coconut Rhinoceros Beetle (CRB) Management

Education: *Learn the facts about CRB and the proper care of palm trees.*

Monitoring: *Observe CRB activities and damages in the area.*

Sanitation: *Maintain the areas' green waste and trees.*

Trapping: *Use traps to help prevent CRB from damaging your trees.*

In The Past,

The Standard Pheromone trap (Fig. 1), was the best form of trapping for the Coconut Rhinoceros Beetle back in 2007, during the early eradication efforts. However, research has shown that these traps do not effectively attract the beetle enough to reduce or control the population.

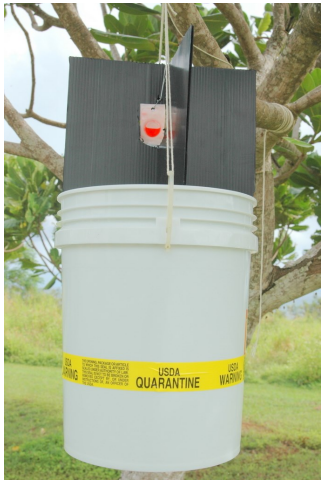


Figure 1: Standard Pheromone Trap

The Present,

Recent trap developments now provide the community with improved trapping options that are simple to build, manageable, more economical and effectively attract the beetles.

- ***Tekken Netting***
- ***Tree Bow Ties***
- ***Barrel Traps***
- ***DeFence Traps***

Tekken Netting

A gill net, called "*tekken"* in Chamorro, with a one-inch mesh measured knot to knot made from 0.25 mm nylon monofilament should be laid over piles of green waste such as palm/tree cuttings or decaying organic matter (Fig. 2). Green waste piles are very attractive to rhino beetles looking for a mate and/or egg-laying sites. A beetle trying to get in or out of the pile will become trapped when the monofilament drops into the gap behind its prothorax (Fig. 3), the same way fish are caught in gill nets.

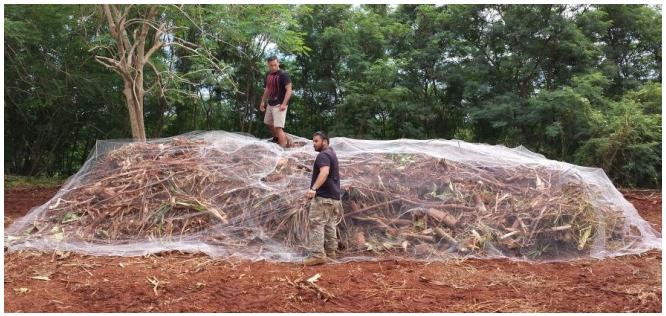


Figure 2: Tekken net covering a large pile in fresh organic material.

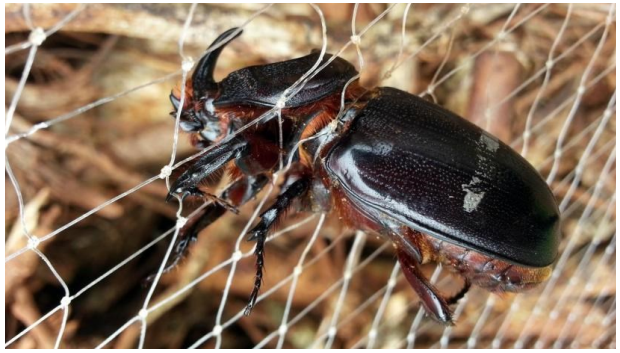


Figure 3: CRB caught in Tekken netting

Barrel Traps

Barrel traps can be built using recycled 55 gallon metal oil barrels, plastic barrels or large heavy duty trash cans. Barrel traps are filled with decaying coconut or other organic material up to six inches from the top. The barrel is then covered with a small piece of tekken netting wrapped securely around a piece of garden hose cut to size to fit inside the barrel for more stability. A solar-powered ultraviolet light emitting diode (uvLED) and a CRB pheromone lure should be added to increase its effectiveness. If desired, traps can be painted decoratively to be more presentable.

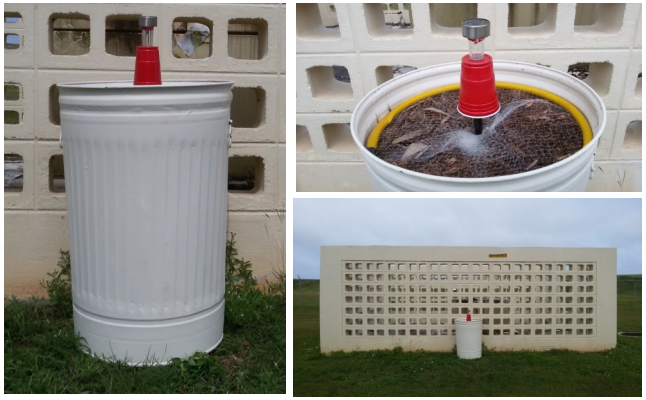


Figure 4: CRB Barrel Trap

DeFence Traps

The DeFence traps are simply constructed with a 12 foot piece of tekken netting, folded in half, and secured onto a fence line using zip ties. In the middle of the net attach a solar powered uvLED light, and a CRB pheromone lure protected in a red solo cup. This trap is currently the most effective because it doesn't require extra materials and requires the least amount of space on the property.

Figure 5: CRB DeFence trap