



Field Cage Experiment Escape Test

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None of 56 beetles were able to escape from vaned bucket traps.

1 Introduction

The Guam Coconut Rhinoceros Beetle Eradication project uses standard vaned bucket traps. Observations of beetles taking off vertically, 'helicoptering', led us to perform this experiment to confirm that captured beetles are not escaping.

2 Methods

2.1 Beetles

For each experiment, we field collected adult coconut rhinoceros beetles, *Oryctes rhinoceros*. These were housed in two plastic tubs half filled with peat moss, 30 beetles in each tub. The beetles were fed bananas two days prior to the start of each experiment. Beetles were kept in an air conditioned room when not being used in flight tests.

2.2 Field Cages

Experiments were performed in two custom-designed large field cages (20' x 20' x 10') erected at the University of Guam's Agricultural Experiment Station in Yigo (Fig. 1).

2.3 Flight Tests

On October 5, 2012 at about 30 minutes prior to sunset, about 26 beetles were placed in new vaned bucket trap which were hung on a stand in cages N and 30 beetes were placed in a bucket trap hung in cage S.

Beetles became active and strtred buzzing their wings at about 15 minutes after sunset. At about three hours after sunset, beetles were collected, counted and returned to their tubs.

3 Results

All of 26 beetles placed in the bucket in cage N remained in the bucket. Similarly, all of 30 beetles placed in the bucket in cage S remained in the bucket.



Figure 1: Large, custom-designed field cages (20' x 20' x 10') used for semifield experiments with the coconut rhinoceros beetle.