Radio tracking was used to determine the traveling of *Oryctes rhinoceros* from release sites to potential breeding sites. Releases occurred at two locations on Guam: University of Guam Triton Farm in Dededo (13°31'56.8"N 144°52'24.0"E) and Asan Beach National Park in Hagåtña (13°27'57.5"N 144°42'39.4"E). These areas were chosen for their terrain and accessibility, featuring a combination of open fields and forest with coconut palms and organic detritus suited to potential mating sites. [Beetles studied were wild caught in barrel traps  XXXX and were allowed to feed. After tested for ability to fly after time had passed to allow for beetles to reach optimal flight weight. ]When not under observation, beetles were stored in plastic bins containing 4 to 6 inches of damp peat moss.

After beetles demonstrated flight capacity, the carapace was marked with a unique identification number using a high-powered laser (laser company, company location, model number). Data for sex, mass, and carapace dimensions of each beetle were then recorded.  Both male and female specimens were used.

 Before attaching a transmitter, the cuticle surface on each beetle was abraded to provide optimal adhesive grip. Transmitters were affixed to the pronotum with hot melt glue (product xxxx company location xxx model number xxx)(Figure XX) and steady pressure was applied as adhesive hardened. Each glue-on transmitter (model A2414; Advanced Telemetry Systems; Isanti, Minnesota) had a mass of approximately 0.3 g and was secured with minimal amounts of adhesive: between XXX and XXX g were used.

Transmitters were activated by the removal of a magnet and had a maximum battery life of 45 days with a warranty guarantee of 22 days. Two frequency bands were chosen ranging from 148.641 to 148.992 and 164.032 to 164.409. These frequencies were recorded in conjunction with beetle identification numbers, and prepared specimens were returned to storage containers until release. The period between tagging and release ranged from 0 to 6 days.

*O. rhinoceros* were tracked using a three-element folding Yagi antenna (model 13863; Advanced Telemetry Systems; Isanti, Minnesota) attached to a radio receiver (model R410, Advanced Telemetry Systems; Isanti, Minnesota). A total of four units were used so that multiple beetles could be tracked simultaneously: two receivers were programmed with frequency bands from 148.641 to 148.992 and two with bandwidths 164.032 to 164.409.

In field-testing, flight did not appear to be impeded by transmitters. A total of X beetles were flown: X male and X female. Beetles in plastic storage bins were transported to release sites to a grassy open area at study site. The lid of the enclosure was removed at dusk (about 19.30) and the container was closed after the optimal flight period had passed (about 21:30). Once the containers were opened, *beetle* activity was carefully monitored using an infrared camera (Name Company, name camera model). When beetles appeared red through the infrared camera, it indicated the warming of flight muscles in preparation for takeoff. Beetles demonstrating thermal change were then briefly viewed under a red light (Light company, model number) to record identification number and determine the bandwidth and frequency of the radio transmitter. The unique radio frequency of each beetle was then entered into a receiver on the appropriate bandwidth as beetles took flight.

Handheld GPS units (model XXX, Garmin, XXX) were used to map flight patterns. A waypoint including geographic coordinates was taken at the starting location and landing point(s) of each beetle, and each waypoint was labeled with the date on which it was taken and the frequency of the beetle it tracked. A brief qualitative description of each landing site was also included.

In tracking the beetles, gain and signal strength were most used to determine proximity to landing sites. Gain could be adjusted manually on receivers to alter signal sensitivity, and signal strength was based upon  amplitude of the auditory indicator. Amplitude increased when receivers were in close proximity of transmitters. Transmissions could be detected within a radius of XXXXX.

Once final landing sites were ascertained, another waypoint was marked and labeled. This waypoint was used to locate the site on the following morning, and photographs and more detailed observations were taken at each landing location. The position of each beetle was then more exactly determined using receivers on high-sensitivity settings , and efforts were made to recover both beetle and transmitter.

Various weather conditions occurred over experimentation, which took place during the first two weeks of August. Temperature and humidity were consistently high, XX to XX degrees Celsius and XX% to XX%, respectively. Beetles were generally tracked under clear skies with the exception of one evening during which light showers occurred. (Figure XX)