

Manukainiu (Coconut rhinoceros beetle) (108)

Fakama'opo'opo

- 'Oku mafola lahi ki he faka-tonga moe fakatonga-hahake 'Esia, 'Osenia. Ko e 'inisekite mahu'inga 'o e niu, pea moe fa'ahinga 'o e paame 'oku kau moia 'i hono 'ohofi 'e he manukainiu. Kau ai 'a e betel nati, longolongo moe lolo palm. Siaine, lou'akau, to, kau kiai moe 'akau hulufe.
- Ko e manu kai niu 'oku nau puna holo he po'uli 'o nau vili ki he muka niu, 'o fakatupunga 'ene maumau 'o hoko ai mo e ngaahi faka'ilonga makehe.
- **Founga malu'i anga maheni:** Faka'auha ngaahi fu'u niu kuo holo, to e 'akau fakalelei kelekele ke 'ufi'ufi kinautolu, ke faka'ai'ai e fakapala, fakapopo 'a e ngaahi lau 'oku mate pea mo e musie, fakaveve e fanga manu mo e efuefu'i papa pea to'o mo e unufe manukainiu, ngaue'aki e uaea ke tamate'i 'a e manu kai niu lalahi 'i he kofu tu'a 'o e fanga ki'i la'i niu.
- **Ngaahi me'a mo'ui 'oku ngaahi mei ai e faito'o:** Vailasi (puke mo tukuange 'a e manu kai niu lalahi) *Metarhizium anisopliae* (Fungus) 'oku tuku 'i he feitu'u 'oku fakafanau ai. Fakatokanga'i ange 'oku iai e kalasi fo'ou 'o e OrNV o a'u ki Guam, Palau, Papua New Guinea mo Solomone.
- **Founga ngaue'aki kemikale:** 'Ikai ke ngaue pe 'oku 'ikai mahu'inga faka'ekonomika, pheromone tauhele fefine 'oku faingamalie ki hono vakai'i/ ta'ota'ofi hono tokolahi.

Common Name: Coconut rhinoceros beetle, rhinoceros beetle (Manukainiu).

Scientific Name: *Oryctes rhinoceros*. Several strains are recognized in Pacific islands.

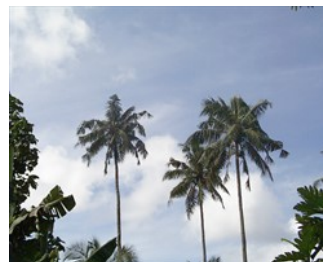


Photo 1. Characteristic damage done by the coconut rhinoceros beetle, *Oryctes rhinoceros*, showing V or wedge-shaped sections missing from the fronds eaten by the adults as they tunnel into the crowns of mature palms. (Solomon Islands)

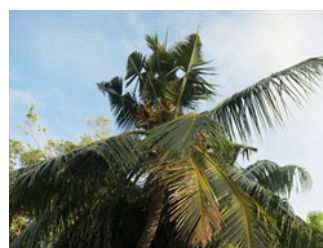


Photo 2. Severe damage to young fronds by adult coconut rhinoceros beetle, *Oryctes rhinoceros*. (Palau)



Photo 3. The damage from *Oryctes rhinoceros* in Solomon Islands is so severe that palms are dying from the attack.



Photo 4. Close up of characteristic shape

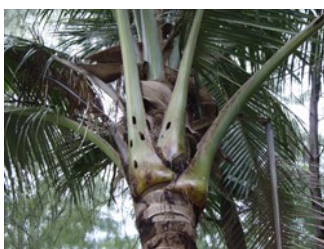


Photo 5. Holes made by adult coconut rhinoceros beetle, *Oryctes rhinoceros*, in the base of fronds. Presumably, the holes were made when the leaves were much younger as the beetle tunnelled into the crown of the palm. (Palau)



Photo 6. Larvae of coconut rhinoceros beetle, *Oryctes rhinoceros*, in a rotten coconut trunk. A favourite breeding site, especially in still standing but decaying palms (Fiji).



Photo 7. Larvae of coconut rhinoceros beetle, *Oryctes rhinoceros*, under a log of unknown tree species.



Photo 8. Close-up of the larva of a coconut rhinoceros beetle, *Oryctes rhinoceros*. Note that the C-shape grubs or larvae grow up to 100 mm.



Photo 9. The adult is jet-black, up to 40 mm long with a prominent horn. Both male and female beetles vary in size, and size cannot be used to distinguish the sexes.



Photo 10. Close-up of the head end of the coconut rhinoceros beetle, *Oryctes rhinoceros*. Male (right), female (left).



Photo 11. Underside of adult coconut rhinoceros beetle, *Oryctes rhinoceros*, to show the fuzzy group of hairs at the rear end of the female (left) compared to the male (right).



Photo 12. Close-up of the hind end of the coconut rhinoceros beetle, *Oryctes rhinoceros*. Female, with abundant hairs at the tip (left); male (right).



Photo 13. The grub or larva of a coconut rhinoceros beetle, *Oryctes rhinoceros*, infected by the fungus *Metarhizium* (Guam). The green areas are where the fungus is sporulating.



Photo 14. Trapping coconut rhinoceros beetle, *Oryctes rhinoceros*. Breeding sites are heaps of old fronds or other organic matter; they are covered by a gill net, and the beetles get caught in the mesh when entering or leaving the heaps.



Photo 15. Bucket traps for coconut rhinoceros beetles, *Oyctes rhinoceros*, with chicken-wire covers and pheromone (Fiji).



Photo 16. Bucket traps for coconut rhinoceros beetles, *Oyctes rhinoceros*, placed above ground. About 2 m above ground is ideal.



Photo 17. Bucket trap with catch of coconut rhinoceros beetles, *Oryctes rhinoceros*.



Photo 18. An artificial breeding site inoculated with spores of *Metarhizium anisopliae*, in order to infect larvae of the rhinoceros beetle, *Oryctes rhinoceros* (Fiji).

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