

Assessment of Coconut Rhinoceros Beetle Damage 2021

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ABSTRACT

The Coconut Rhinoceros Beetle (CRB), also known as *Oryctes Rhinoceros*, is an invasive insect that kills coconut trees and other palm species by feeding on the plant's crown. There is a confirmed presence of at least two biotypes of the CRB in Palau, Nudivirus (OrNV) resistant CRB- versus all other types. These invasive insects have caused devastating damage to many coconut/palm trees in the Pacific.

The study of these invasive species has been an ongoing process in which damage assessment surveys and beetle collections have been done. Damage assessments surveys were administered in representative sites throughout all states of Palau in the years of 2016-2021. To collect beetle and larvae samples, specialized traps were used along with manual searches through debris. To determine distribution of CRB-G and occurrence of Nudivirus infection in each sample, DNA analysis was conducted.

In 2018, damage assessment results have shown slow recovery and reduced damage in tree fronds. Results from the analysis of biotypes and viral infection show a very high rate of infection of all CRB with the Nudivirus, and damage assessment and sample assessment will help determine virus types/variants as well as heterozygosity in CRB population. Comparing results from past damage assessments to the results of this year will show reduction in impact of CRB.

KEY WORDS: CRB, Coconut Rhinoceros Beetle, Tree Damage Assessment

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