



Bug of the week

The Coconut Stick Insect (*Graeffea crouanii*) or `Ē is a common introduced pest of coconuts in the Cook Islands and other Pacific islands. It is likely to have been spread via palm seedlings, or as most eggs float on water, they may well have been distributed by sea currents. Females are 10.5 to 12cm long and 6mm wide when fully grown and can be either green or brown. Males are usually brown and much smaller reaching 7cm long and 3mm wide when fully grown. Adults have long slender legs and small, pink, fan-like hind wings that are hidden under forewings, but only males can fly. Eggs are hard, brown, seed-like structures that measure 7.5mm long and 3mm wide. Females lay eggs while in trees, and these rain down to ground or leaf base where they remain until hatching.



Male (brown) and female (green) coconut stick insects (left), and eight stick insect eggs (right) (Photos: Mike Bowie)

Freshly hatched nymphs are green but may turn brown soon after. Nymphs hatch at night and find a coconut tree to climb to begin munching on the leaves. Egg to adult takes about 3.5 to 4 months for male and female respectively. This stick insect also feeds on Pandanus, sago palm and some other wild palms. It feeds on leaf margins and in extreme cases can completely defoliate leaves apart from midribs, and in some cases it can kill the tree. The Common Myna was introduced into the Cook Islands in the early 1900s to control insects including the coconut stick insect, but were not effective predators and became a pest in their own right. Parasitic wasps (*Paranastatus verticalis* and *Paranastatus nigriscutellatus*) of coconut stick insect eggs have been recorded in Fiji, Samoa, Tokelau and Tonga, but don't appear to be in the Cook Islands. A parasitic fly (*Myceteromyiella laetifica*) of the adult stick insects is known in Fiji and Solomon Islands. These could be a biocontrol option in the future, if not currently in the Cook Islands.

Cultural control of stick insects in dwarf varieties of coconut is possible at night by simply removing them by hand. In taller trees, sticky substances like grease, or horticultural products such as "Tanglefoot" or "TAD" can be used as a barrier around the tree trunks to stop newly hatched stick insects from climbing to the leaves. Clearing weeds beneath the coconuts will expose stick insect eggs to sun, and to predation by chickens and ants, particularly the big-headed ant (*Pheidole megacephala*) that is known to eat them.

