

SPECIES FEATURE

NZ STICK INSECTS - MASTERS OF DISGUISE!

Compiled by Katherine Chamberlain

Stick insects belong to the order Phasmatodea and family Phasmatidae. "Phasm" is Greek for phantom, an appropriate name given their highly cryptic appearance and behaviour render them virtually undetectable as an animal. There are roughly 3,500 described species of stick insects around the world and more than 20 within New Zealand. There are likely many more yet to be discovered and described. All of New Zealand's stick insects belong to two subfamilies, Phasmatinae and Pachymorphinae. Some species, are widespread across the country. For example,

Argosarchus horridus, New Zealand's largest species which can grow up to 15cm, can be found throughout the North Island and much of the South. Others are far more limited in their distribution. The genus ***Micrarchus*** includes undescribed species only found in the north of the South Island. Look out for them among kanuka and other shrubs within the Sanctuary.

Stick insects' main predators are birds. As birds hunt predominantly by sight, this has driven the evolution of extraordinary camouflage and behaviours that help stick insects avoid detection. Their elongated bodies range from green to grey to brown, patterned and prickly. They cannot change colour like a chameleon, but may seek vegetation which best suits their camouflage. For example, green nymphs may remain hidden among green foliage while adults may choose to settle among twiggy branches with few leaves. They eat vegetation and are most active at night. During the day they may remain motionless or sway for hours as if being blown by the wind. When disturbed, they often fall to the ground and remain motionless for hours 'playing stick'.



Argosarchus horridus

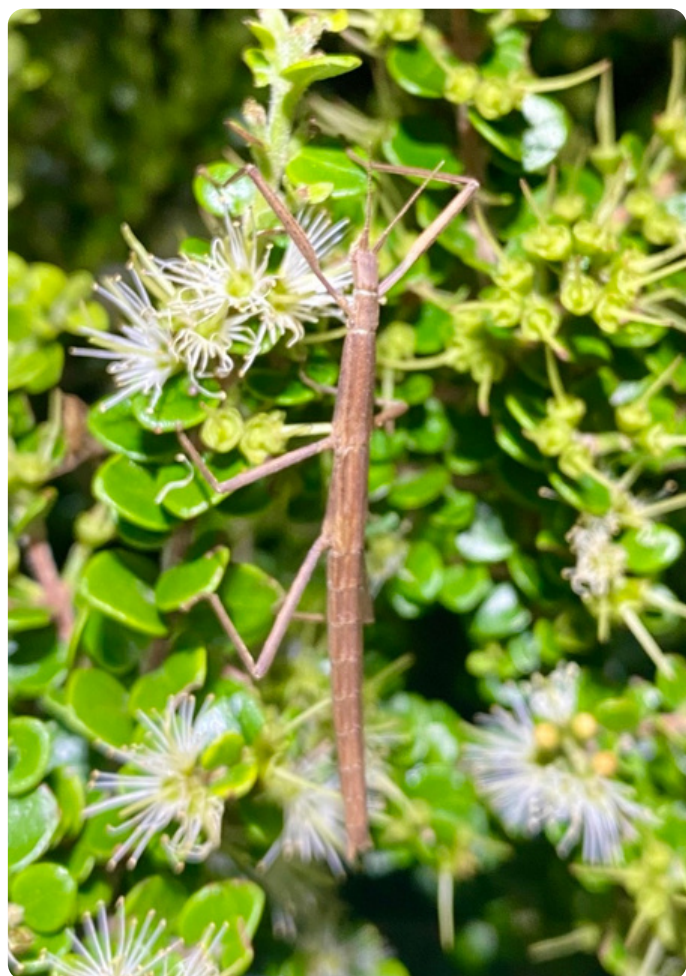
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(SUBFAMILIES PHASMATINAE AND PACHYMORPHINAE)



Acanthoxyla prasina

© Keegan Tinsel from iNaturalistNZ



Tectarchus huttoni

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As you might imagine, finding a mate can be a challenge when everyone looks like a stick among a bunch of sticks. Stick insects rely on pheromones to detect members of the opposite sex, but many engage a novel solution, parthenogenesis. Put simply, an embryo can develop from an unfertilized egg, meaning females can reproduce without a male. Species belonging to the genus *Acanthoxyla* contain only females. Several species among other genera also appear to lack males. Males, where they do exist, are much smaller than females. During copulation, pairs remain attached for days, the smaller male riding on the female's back. There is no parental care of young. Females simply drop their eggs onto the ground, often from high in the canopy, where they remain hidden among leaf litter. A female may lay thousands of eggs during her lifetime. Nymphs hatch from the eggs 3-12 months later. Nymphs moult several times before becoming an adult. Depending on the species, stick insects live from a few months to 2 years.

There are a number of species known and likely to be found within the Brook Waimārama Sanctuary, where they are protected from additional predators such as rats and possums.

For more information on species identifications, go to Landcare Research, [click here](#). Explore iNaturalist, [click here](#) to view observations of stick insects found within the Sanctuary. It would be great to have many more observations added to the list.



*Niveaphasma annulatum**

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*Only found in southern half of the South Island

(SUBFAMILIES PHASMATINAE AND PACHYMORPHINAE)



Micrarchus hystriculeus

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Acanthoxyla prasina

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