



Pacific Pests, Pathogens & Weeds - Fact Sheets

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Coconut spathe bug (062)



Photo 1. *Axiagastus rosmarus*. This is given as an example of a stink bug similar to *Axiagastus cambelli*.



Photo 3 'Dry' nuts like those said to be produced on palms infested with *Axiagastus cambelli*. (This image was taken in Guam and sent to www.pestnet.org for identification.)

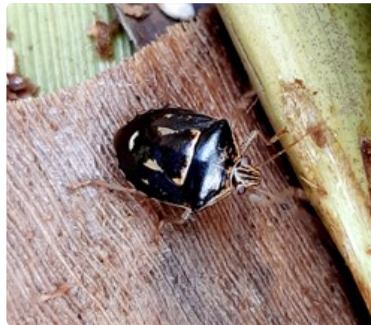


Photo 2. *Axiagastus* species from cocoons in Fiji. Many were removed from palms by Cyclone Harold in April 2020. Possibly, *Axiagastus cambelli*.

Common Name

Coconut spathe bug

Scientific Name

Axiagastus cambelli. (Note that Photo 1 is provided for reference only; it was **not** taken in the Pacific islands, and may not be a pest of coconuts. It is from the National Taiwan University Insect Museum Digital Archive Project).

Distribution

Narrow. Only recorded from Papua New Guinea, Singapore, and Solomon Islands.

Hosts

Coconut and betel nut.

Symptoms & Life Cycle

The barrel-shaped, white eggs are laid in clusters on the flowers, on the fibrous sheath at the base of the fronds and, more rarely, on the leaflets. Eggs hatch in 6-8 days, and the nymphs, which are white at first then orange with black markings, moult four times before they become adults. The adults are dark brown with yellow marks, about 15 mm long (Photos 1&2). They give out a strong unpleasant smell when held or disturbed. The time from egg to adult is about 45 days.

Impact

The damage done by the bug is uncertain. There is some loss of young nuts when populations are high, and outbreaks in Santa Cruz, Solomon Islands, have occurred on coconuts that have produced dry, banana-shaped nuts. However, it has not been proven that *Axiagastus* is the cause of the condition: it is still only an association. Nutritional deficiencies have also been suggested as well as poor fertilisation of the flowers.

Both adults and nymphs have long piercing mouthparts and they can insert these into young coconuts to suck sap. It is this feeding that is presumed to cause the young nuts to fall, and those that remain become long and thin, without 'meat' and 'milk' (Photo 3). Whether or not the bug injects a poison as it feeds is also unknown, but it is thought unlikely.

Detection & inspection

The bugs occur in large numbers on the newly opened spadices, feeding on male and female flowers. The smell that the bugs give out when they are disturbed is also characteristic.

Management

NATURAL ENEMIES

In Papua New Guinea, surveys have found egg, nymph and adult parasitoids (e.g., the wasps, *Trissolcus painei* and *Anastatus* sp., as well as the fly, *Pentatomophaga bicincta*), and it is likely that there are related species in Solomon Islands. *Oecophylla smaragdina* (weaver or green ant) is said to reduce populations of this pest as it does for those of *Amblypelta* (see **Fact Sheet no. 19**). Thus, planting soursop and other fruit trees that host colonies of *Oecophylla* within coconut plantations, and then helping the ant to establish on these trees, by placing "nests" in the canopy, may help to reduce *Axiagastus* numbers.

It is likely that the fire ant, *Wasmannia auropunctata*, introduced to Solomon Islands in the 1980s, will also provide control, although this is not proven.

CHEMICAL CONTROL

The use of insecticides is not recommended. The bug is usually under control naturally, and outbreaks only occur occasionally. Insecticides would only increase the time before the balance between the pest and its predators and parasitoids was re-established. Additionally, there is the difficulty of spraying mature palms, making the application of insecticides difficult as well as uneconomic.

AUTHORS Helen Tsatsia & Grahame Jackson

Photo 1 National Taiwan University Insect Museum Digital Archives Project. (http://www.indap.entomol.ntu.edu.tw/CommonInsectImage.php?CIindex=image&L=C&CI_ID=14491). Photo 3 Mani Mua SPC, Sigatoka Research Station, Fiji.

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