

Extension Fact Sheet 59: *Brontispa* Hispine Beetle



Common name: Coconut hispine beetle; Coconut leaf hispa

Scientific name: *Brontispa longissima*

Hosts: Coconuts are the most important crop attacked, but the beetle also infests betel nut, sago palm, oil palm, and a number of ornamental and wild palms.

Damage

Palms of all ages are attacked, but the damage done to seedlings and young palms after planting out is often severe. The adults and larvae graze the leaflets of the unopened spear leaf, forming narrow red-brown streaks parallel to the midrib (photo, right). As the leaf unfolds, these streaks enlarge, forming irregular greyish blotches; when severe, this gives the palm a scorched appearance (photo, above right).



Severe attacks may kill the palm, and those that survive are more susceptible to drought and disease. Yield of bearing palms is reduced considerably.

Biology and Life Cycle

The entire life cycle of the beetles takes place in the unopened spear leaf. Eggs are laid in grooves chewed into the leaflets and covered by excreta. The eggs hatch after 4-5 days, and the larvae pass through several moults during the next 4 weeks before they pupate. Six days' later the adults emerge. They are 8-10 mm long and 2 mm wide (photo, above left), and live for about 7 months. The females lay 100 eggs or more.

Detection and Inspection

Look for the narrow brown streaks on the leaflets, and red and black beetles between them. Look for fronds with ragged leaflets, with those still green bearing large dry dead blotches parallel to the length of the leaflets.

Management

Natural enemies:

Brontispa is mostly under control by its natural enemies. *Tetrastichuss brontispa* was introduced successfully into the Russell Islands in the 1960s, making the spraying of young palms unnecessary. The wasp lays its eggs in the late larval and pupal stages. Another parasitoid, *Asecodes hispinarum*, attacks the 4th stage larvae, and following its introduction into Asia in 2003, has been responsible for controlling serious outbreaks of *Brontispa*.

Earwigs (*Chelisoches morio*) are reported to feed on the larvae of *Brontispa* in other countries, and the fungus, *Metarhizium anisopliae*, also causes high mortality. Whether the organisms are present and provide control in Solomon Islands is not known.

Resistant varieties:

- In Solomon Islands, there is evidence that the Local Tall and Rennell varieties are more resistant than Federated Malay States and Malayan Dwarf. The hybrid between Rennell Tall and Malayan Dwarf is susceptible.

Chemical control:

Occasionally, insecticides are needed in the nursery and on young palms after planting out, especially where susceptible varieties of coconuts are planted in areas that have dry seasons, e.g., the Guadalcanal Plains.

- Use contact insecticides, such as malathion, or synthetic pyrethroids, such as lambda cyhalothrin or permethrin. The choice of chemical is important: use those that are least persistent in the environment, and have low toxicity against bees. READ THE INSTRUCTIONS BEFORE USING ANY PESTICIDE.
- Derris (rotenone) may be effective against the beetle. A local variety of Derris, originally from Papua New Guinea, with a high concentration of rotenone, is being multiplied by MAL and the Kastom Gaden Association. [See these organisations for cuttings.]