Pacific Pests, Pathogens & Weeds - Mini Fact Sheet Edition

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Banana wilt phytoplasma (372)

Photo 1. Internal symptoms (discontinuous streaks and pocket rots) in a cooking banana (ABB genome, Kalapua subgroup), Papua New Guinea.

Photo 2. Wilting cooking bananas growing near dead or dying coconut palms, Furan, Madang Province, Papua New Guinea. The coconuts are infected with phytoplasma, and the disease is known as Bogia coconut syndrome. The bananas are infected with the same phytoplasma, and the disease is called banana wilt associated phytoplasma, BWAP.

Summary

- Narrow distribution. Known only from several provinces of Papua New Guinea and Maleai island (Shortland Islands), Solomon Islands. Possibly a phytoplasma disease. Same phytoplasma likely cause of *Bogia coconut syndrome* in Madang Province, Papua New Guinea. Only bananas and coconuts are hosts.
- Damage: leaves yellow slowly, collapse and plants die, with dark streaks and rots internally. Concern that disease will spread among bananas, and also spread to coconuts.
- Spread unknown, but phytoplasmas found in several insects.
- Biosecurity: regulate movement of bananas from Maleai Island.
- Cultural control: cut up and bury or burn plants (dig out all suckers) as soon as symptoms seen. Best to spray with insecticide first.
- Chemical control: recommendations in Pacific island countries include: i) kerosene for bananas for home; ii) dimethoate, diazinon or acephate (but these are banned, restricted or under review) for bananas grown commercially; alternatively, use synthetic pyrethroids.

Common Name

Banana wilt associated phytoplasma. The abbreviation is BWAP.

Scientific Name

There is no scientific name for the disease, the common name, *Banana wilt associated phytoplasma*, BWAP, is used. The same phytoplasma is considered the likely cause of Bogia coconut syndrome (**see Fact Sheet no. 229**).

Phytoplasmas were first associated with banana wilt in 2008. These were in plants growing among coconuts showing signs of Bogia coconut syndrome in Madang Province, Papua New Guinea. Molecular tests of the16S ribosomal protein gene (16Sr RNA) have shown that the same phytoplasma appears to be present in both species, and that it is related to a coconut lethal yellowing phytoplasmas recorded from Nigeria. Note, Bogia coconut syndrome is referred to as *Cocos nucifera lethal yellowing* in some publications.

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Information from Anne Vezina (2013) A new disease of banana? ProMusa. (http://www.promusa.org/blogpost229-A-new-disease-of-banana); and Davis *et al.* (2012) A new wilt disease of banana plants associated with phytoplasmas in Papua New Guinea (PNG) (2012). Australasian Plant Disease Notes 7:91-97. (https://www.researchgate.net/publication/257801469); and Pilotti *et al.* Putative vectors of a phytoplasma associated with coconut *(Cocos nucifera)* in Madang Province, Papua New Guinea. International Journal of Agriculture and Forestry 4:365-372 (doi: 10.5923/j.ijaf.20140405.04); and from Davis *et al.* (2015) First record of a wilt disease of banana associated with phytoplasma in Solomon Islands. Australasian Plant Disease Notes 10:14. (https://link.springer.com/article/10.1007/s13314-015-0163-4). Photos 1&2 Richard Davis, Northern Australia Quarantine Strategy, Department of Agriculture, Cairns, Australia.

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