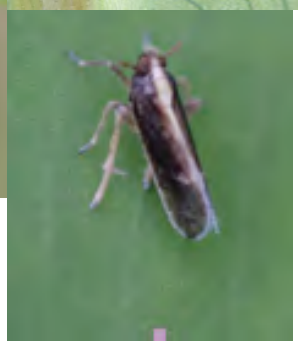
Extension Fact Sheet 41: Taro Planthopper



Common name: Taro planthopper

Scientific name: *Tarophagus* spp. There are three species present in the Pacific: *T colocasiae*; *T persephone*; and *T proserpina*. All are present in Papua New Guinea, but whether they are all present in Solomon Islands is not known.

Hosts: On taro, but it has been recorded occasionally on *Alocasia* (edu) and *Cyrtosperma* (kakake).

Damage

Damage is done in two ways:

Direct damage: The planthoppers have needle-like mouthparts, which are used to suck sap from taro leaves. When numbers are high and, especially in dry weather, the leaves wilt and new leaves are stunted. Typically, the leaf stalks bend down so that plants are wider than normal, and corms are smaller.
Indirect damage: Planthoppers spread the viruses associated with Alomae and Bobone*: Colcoasia bobone disease rhabdovirus* and *Taro vein chlorosis rhabdovirus*.

Biology and Life Cycle

Eggs are laid in the midrib of the leaves and in the petioles, often at the base. A slot is cut and 10-20 eggs are placed inside. The eggs hatch after about 15 days. At first, the young or nymphs are white; later, as they moult - four times over about 20 days - they become brown and then black with white markings. For most of the time, the adults that develop do not have wings (photo, above right). Winged forms appear when the

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crop matures and/or when the population is high (photo, lower right). They are about 4 mm long; the wingless ones are shorter.

Heavy rains reduce populations of planthoppers. The youngest nymphs are particularly susceptible to drowning in the water that collects between the petiole bases.

Detection and Inspection

Planthoppers group together where humidity is greatest: on the underside of leaves (photo, right); inside leaves that are beginning to unfurl; and especially between the petioles at the base of the plant. The planthoppers have a characteristic way of moving sideways across the leaf or petiole. Also, nymphs and adults jump if disturbed.

Look for dirty marks on the petioles, especially on the lower parts; the plant sap oozes out as the planthoppers feed and lay eggs, and it hardens to form a red-brown crust.

Management

Natural enemies:
An egg predator, *Cyrtorhinus fulvus*, reduces the numbers of the planthopper, except in dry times when populations of both insects can be high. Often, ants tend the planthoppers, presumably attracted to the honey dew produced as they suck the sap from the leaves. Three species of parasites have been reported parasitising eggs and nymphs; and spiders and ladybeetle larvae also feed on them.

Cultural control:
- Avoid planting new crops next to those already infested with planthoppers, otherwise the winged forms will easily find the new crop;
- Prepare "tops" for replanting by cutting off all leaves with dirty marks on them to avoid taking planting material with eggs to new gardens. Use of "clean" planting material in this way is an important method of control.

Chemical control:
- Chemical control is rarely needed, except during extended dry periods, when populations can build up to damaging levels;
- If egg-eating bugs are not present, or are not effective, use: a) synthetic pyrethroids, such as lambda cyhalothrin (Karatee) or cypermethrin (Mustang); or b) imidacloprid (Confidor). READ INSTRUCTIONS BEFORE USE.
- Try the Papua New Guinea Derris variety; get plants from MAL or Kastom Gaden Association, as well as the method for making the spray.

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