

Island sugarcane planthopper (*Eumetopina flavipes*)

EXOTIC PEST DETECTION & SAMPLING GUIDE



1 mm

5466502

This resource has been developed as part of the collaborative program 'Boosting diagnostic capacity for plant industries'. Funding for this project is from the Rural R&D for Profit Program, Federal Department of Agriculture and Water, and the Grains Research and Development Corporation, with funds from other RDC's – Sugar RDC, Wine Australia, Cotton RDC, Forestry RDC, and Hort Innovation.



Cesar Australia

Background

Island sugarcane planthopper is a serious pest of sugarcane, in large part because it can infect plants with Ramu stunt disease. This insect is found directly to the north of Australia, in Indonesia, Papua New Guinea, and in the Torres Strait. The insect is also present in Cape York Peninsula, however it is understood that the Torres Strait and Cape York populations do not carry the virus that causes Ramu stunt disease. Despite its presence in Australia, the restricted distribution in Cape York and absence of the Ramu stunt pathogen means that Island sugarcane leafhopper remains a high risk exotic pest.

How would I identify Island sugarcane planthopper?

Identification by morphology

Adult planthoppers are 4-5mm long, with dark colouration on the dorsal side of the body and a pale colouration on the ventral side of the body. Wings are arranged in a tent-like formation. Nymphs are paler than adults, wingless, have a waxy covering, and have red eyes.

Identification by damage

Virus-free planthoppers cause minimal damage to sugarcane crops unless heavy infestations occur. Planthopper evidence can be indicated by the presence of eggs oviposited on the underside of leaves, which causes discolouration around the leaf mid-vein. Island sugarcane planthoppers are sap feeders and produce honeydew, which in turn supports growth of sooty mould. In cases of Ramu stunt virus infection, symptoms manifest as stunted plant growth, leaf striping and mottling, and yellow-green irregular streaks.

How do I scout for Island sugarcane planthopper?

Figure 1. Island sugarcane planthopper wings



Island sugarcane planthopper is most abundant in the wet season, with adults and nymphs frequently found in the growing tip of sugarcane plants. During plant inspection, leaf whorls should be unfurled to locate planthoppers.

Carefully inspect plants and look for evidence of ants which are attracted to honeydew and sooty mould for evidence of insect activity. Distorted leaves may be an indicator of sap feeding and the undersides of leaves should be checked for juveniles and eggs. Evidence of egg punctures should be investigated by inspecting the leaf mid-vein.

Sampling efforts for adults can include sweep netting, light trapping or sticky trapping. Deploy traps in areas where ants, honeydew and/or sooty mould are detected.

Could it be confused with an endemic species?

There are many planthopper species in Australia and confident species identification can be difficult to determine without assessment by a trained entomologist.

Figure 2. Island sugarcane planthopper anterior



What should I do if I suspect Island sugarcane planthopper?

Island sugarcane planthopper is a priority plant pest that is exotic to Australia. If planthoppers are found in combination with unusual disease symptoms in a sugarcane crop call the **Exotic Plant Pest hotline on 1800 084 881**. The hotline will divert you to the appropriate state biosecurity agency, which will investigate the suspect detection further. To support an investigation you should take note of:

- The detection location (take a GPS coordinate using your phone);
- The host plant on which the suspect detection has been made;
- Damage symptoms (e.g. stunted plants); and
- A photo of all life stages observed (taking close-up photos of the same specimen from multiple angles is most useful for identification).

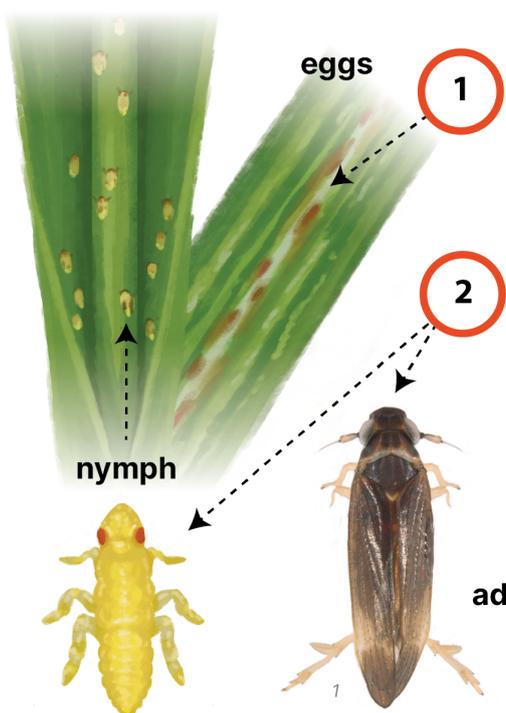
Taking a sample

Taking a sample will also assist in a biosecurity investigation. Collect damaged plant parts along with a nymph or adult sample and place in a ziplock bag – double bagging of specimens is ideal. Label the bag with the date and collection location and keep in the fridge in case the sample is needed by the biosecurity agency.

Figure 3. Reporting decision making for Island sugarcane planthopper (*Eumetopina flavipes*)

You have detected sooty mould, stunted plants and/or irregular streaks and stripes on leaves in you sugarcane. **Should you report it?**

If you answer yes to EITHER of the following questions, it could be the **exotic Island sugarcane planthopper (*Eumetopina flavipes*)**, a vector of **Ramu stunt disease**. Report it!



1 Do you see discolouration along the mid-veins? (*This is caused by egg lay.*)



2 When you unroll leaf whorls, do you find small brown bugs, 4 to 5 mm long, with tent like wings (the adults), or pale wingless bugs with red eyes (the nymphs)?



There are many native species of planthopper in Australia, but they cannot always be reliably distinguished in the field, so always take a sample and report!

^{1,2} bugwood.com, Pest and Diseases Image Library, CC BY NC 3.0

Figure design and all other illustrated components: Elia Pirtle, eliapirtle.com

