



Tamarixia triozae: a parasitic wasp of tomato potato psyllid

SURVEY GUIDE

WHAT TO LOOK FOR:

- Tomato potato psyllid nymphs on host plants
- Crusty beige/brown TPP nymphs
- Holes or dark areas near the head of the nymph (use a magnifying glass)
- Black pupa inside a TPP nymph after turning the nymph over onto its back.

THE PEST: TOMATO POTATO PSYLLID (TPP)

TPP mostly feed and lay eggs on solanaceous crops and are major pests of tomato, potato, capsicum, and tamarillo. Psyllids are small insects resembling tiny cicadas, with a fairly simple life cycle: an egg, five nymphal stages, and a winged adult stage. Nymphs can be found in a range of different colours (Figure 1).



Figure 1. Tomato potato psyllid nymphs showing the diversity of different colours ranging from green, to yellow, to reddish-brown.

Photograph: R. Lamberts, Plant & Food Research.

THE PARASITIC WASP: *TAMARIXIA TRIOZAE*

Tamarixia triozae are wasps that parasitise and feed on TPP nymphs. For convenience we refer to the wasp as *Tamarixia* throughout this guide. *Tamarixia* are very small (~3 mm long) with a black body, transparent wings, two red eyes, and yellow/black bands on the legs (Figure 2). A female wasp lays a single egg on the underside of a psyllid nymph, between the nymph and the leaf.

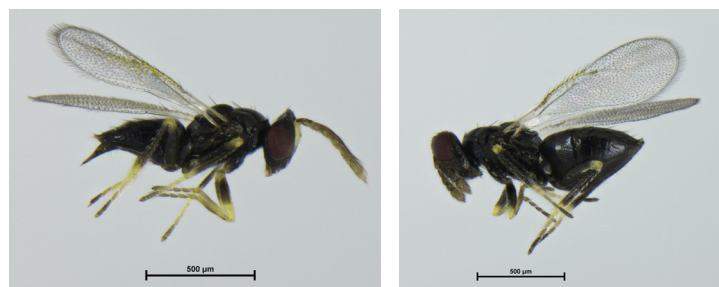


Figure 2. *Tamarixia triozae* male (left) and female (right) adult.

Photograph: J. Poulton, Plant & Food Research.

FURTHER INFORMATION //

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TIPS FOR SURVEYING

Optimal timing for surveying for *Tamarixia triozae* depends on how easy it is to find TPP nymphs (Figure 3). TPP numbers peak during summer and early autumn.

Look for crispy brown/beige nymphs with holes or dark areas near the head (Figure 4) where the parasitoid has emerged/crawled out. A magnifying glass is recommended for this.

If no exit hole is visible, other ways to see if the brown/beige nymphs are parasitised are by turning the nymph over using the tip of a pair of fine tweezers and looking for the parasitic wasp black pupa (Figure 5); or placing the leaves with the nymphs on it inside a breathable container for 2 weeks to see if a wasp emerges.



Figure 3. Tomato potato psyllid nymphs on African boxthorn.

Photograph: R. Lamberts, Plant & Food Research.



Figure 4. Parasitised tomato potato psyllid nymphs showing the crispy brown/beige colouring and the hole near the head of the nymph where the adult new wasp has crawled out

Photographs: R. Lamberts, Plant & Food Research.

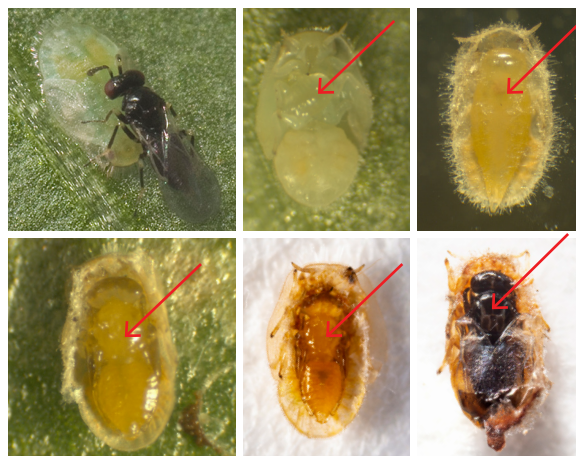


Figure 5. *Tamarixia triozae* adult parasitising a tomato potato psyllid nymph, and subsequent development of the parasitic wasp inside the nymph. Red arrows point to the wasp.

Photographs: R. Lamberts, Plant & Food Research.

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