

Tamarixia triozae

Parasitic wasp

Tamarixia triozae is a parasitoid and predator of tomato potato psyllid (TPP) *Bactericera cockerelli*.

This beneficial insect kills TPP nymphs through its larvae developing within the nymphs and by adult wasps feeding on the nymphs (host feeding activity).



The Pest – Tomato potato psyllid: *Bactericera cockerelli*

The tomato potato psyllid (TPP) was first found in New Zealand in 2006 and has spread throughout the country. It may transmit a bacterium, *Candidatus Liberibacter solanacearum* that causes a disease in its host plants. TPP breeds all year, especially in the warmer parts of the country and in greenhouses. It develops between 15°C and 32°C with optimum development at 27°C.



Adult tomato potato psyllids are small insects, similar in size to aphids. They have wings and look like small cicadas with a distinctive white band on the abdomen. The two pairs of transparent wings are held over their abdomen.

A female can lay up to 500 eggs over a 21-day period, but in the field it is more likely to be around 200 eggs.



Nymphs
of *B. cockerelli*

TPP eggs are yellow and attached to leaves by a thin short stalk. The eggs may be laid on all parts of the leaf and plant stem, but are often found on the leaf edge where they are most easily seen.

Nymphs hatch from the eggs. They are flat and scale like, and have three pairs of legs and sucking mouthparts.

There are five nymphal stages, each is called an instar. Nymphs settle on young leaves, mainly on the underside. Although they can walk, they spend much of their time motionless with their stylets inserted into the plant feeding on the plant sap and they excrete the excess water and sugar, which is called honeydew.

The Solution – *Tamarixia triozae*

Tamarixia triozae is a black parasitic wasp. Female prefer to lay eggs on 4th and 5th instar psyllid nymphs and adults are also **predators** and **feed** on 1st and 2nd instar nymphs.

A female *Tamarixia* lays a single egg on the underside of the psyllid nymph, between the nymph and the leaf, gluing the egg to the underside of the nymph. A single female can lay up to 165 eggs during her lifetime.

The parasitoid larva will feed on the TPP nymph and kill it. It becomes an adult within the remains of the TPP nymph then it chews a hole through the TPP nymph shell to emerge as an adult.

You can tell if a TPP nymph has been parasitized by the distinctive round exit hole.

Under environmental conditions of 26°C:

- Development time (egg to adult): 12 days
- Adult female life span (honey-fed only): 47 days
- Number TPP eaten per day: 3
- Number TPP parasitized per day: 3 to 7

Parasitised TPP nymphs died 4 days after the *Tamarixia* egg was laid but it could take up to 12 days to see the exit holes.



Tamarixia triozae
parasitizing a TPP nymph



Exit holes on parasitized
TPP nymphs

Release and Storage Instructions

- Wasps are packed in batch of 100 in a vented plastic tube
- Release *Tamarixia* wasps between leaves, in the morning or in the evening
- Store in a cool place if need be, in the dark, for up to 2 days after reception.
- Storage temperature: preferably between 8 and 15 degrees
- DO NOT REFRIGERATE

Price

PRICE: \$30.00 per 100 Adults (minimum order) plus GST and Freight