

African Tulip Mite

Colomerus spathodeae



NATURAL ENEMIES -
NATURAL SOLUTIONS

Biological control of widespread weeds

History in the Pacific

A gall mite from Ghana was introduced into Rarotonga, in the Cook Islands, in 2016 to control African tulip tree (*Spathodea campanulata*). This was the first time this mite has been used for this purpose anywhere in the world. The gall mite is now well established in the Cook Islands. In 2022 the gall mite was successfully released and established in Vanuatu, and in 2023 it was released in Tonga. Work is underway to introduce it to other places in the Pacific where African tulip tree is a problem.

How would I recognise it and what is its lifecycle?

The mite is too small to be seen with the naked eye. Look instead for the galls (erinea) they make and live in – they look like hairy deformations on the new leaves and shoots of the tree. The affected leaves will appear discolored and distorted. Damage is visible all year.



■ Typical hairy galls.

Eriophyid mites have four life-stages they develop through: eggs, protonymphs, deutonymphs, and then adults which takes about a fortnight. There can therefore be up to 26 generations a year and numbers can build up very rapidly.

How does it damage African tulip tree?

The galls formed by the mites divert nutrients that the African tulip tree would otherwise use for growth and reproduction. The trees are then less vigorous, and seedlings are stunted.

Will it attack other plants?

No, the mites only feed on African tulip trees.

How effective is it?

The impact of the mite is being monitored but it is too early to assess its effectiveness yet as populations are still building.

How can I get the most out of it?

The mites disperse by 'ballooning' on silk threads carried by the wind. In the Cook Islands the mites became widespread within a few years without any human assistance. However, if redistribution to new sites or islands is required this can be achieved by placing galled leaves next to the growing tips of uninfested African tulip trees.

Are there other natural enemies for this weed?

A second natural enemy of African tulip tree was released in Rarotonga in 2021, a leaf-mining flea-beetle (*Paradibolia coerulea*). The combined impact of both natural enemies is likely to be needed to reduce the invasiveness of African tulip tree. Natural enemies that could reduce seeding are currently being sought.

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