

Teeny Weeny Knocks Out Itty Bitty

A children's story of Fraser Island biological control by John Sinclair

When Itty Bitty got blown across the wide expanse of water separating Fraser Island (K'Gari) from the mainland she thought that she had landed in Paradise. Itty bitty, whose environmental name is *Jamella australiae*, was a very tiny plant-hopper that lived entirely by sucking the sap out of the leaves of Pandanus. When she got over her giddiness from being blown around so much, Itty Bitty could see Pandanus trees everywhere.

"This place looks so wonderful. There are enough Pandanus here to support me and my family forever and I must be the only Jamella here and these Pandanus are so healthy," Itty Bitty thought to herself. She had no idea that she and millions of other Jamella were responsible for making the Pandanus so sick.

The trouble was that like all other Jamella Itty Bitty had very bad toilet training. As they crawled in the base of the pandanus leaves, they left a trail of honeydew behind them. The honey dew fed lots of fungi and other things that would never have grown around the bases of the leaves without the honey dew to feed off. So, while lots of Jamella like Itty Bitty were happily just sucking sap from the Pandanus leaves, they didn't realize that they were encouraging lots of fungi to develop behind them. It was the fungi and friends that caused the Pandanus leaves to rot away and die.

When Itty Bitty landed on Fraser Island with so many healthy Pandanus. She immediately started laying lots of eggs in neat miniature white egg-rafts near the bases of the Pandanus leaves. This was just the place where the fungi liked to grow.



Jamella egg raft

As Itty-Bitty's eggs hatched an army of Jamella began hopping around K'Gari's Pandanus flitting to nearby healthy pandanus and leaving countless trails of honeydew behind them. The fungi, that had been starving on the healthy Pandanus before the trails of honeydew gave them lots to grow on, spread like wildfire. Soon the Pandanus on K'Gari looked as

unhealthy as the ones Itty Bitty had left behind before she was blown over Great Sandy Strait.

The volunteer Weedbuster's controlling K'Gari's weeds became alarmed as they saw the Pandanus around them get sicker and sicker. They just loved the Pandanus. The Weedbuster's planted Pandanus and other trees as they got rid of the weeds but when the Pandanus got began dying, they wondered how such a small plant-hopper such as Itty Bitty could cause the death of big healthy Pandanus trees.

"Something has to be done," said the Weedbuster chief.

That's when they learnt about Joel, a young environmental management student. Joel had studied the death of many of the Pandanus that Itty Bitty had left behind on the mainland. He realized that if he could reduce the Jamella numbers, then the fungi wouldn't be able to cause the death of the Pandanus. Itty Bitty had caused an army of Jamella because all of the millions of Jamella eggs hatched into replicas of Itty Bitty.

Pandanus weren't dying in such numbers elsewhere because a tiny wasp, the size of a single grain of sand, was stopping many egg from hatching. Joel searched and searched and finally found how he could catch and breed these Teeny Weenie wasps. *Aphanomerus pusillus* was a very big name for such a tiny creature so he called them all Teeny Weenie.

Joel bred these tiny wasps by gathering leaves from Jamella egg rafts where Teeny Weenie had drilled holes into the Jamella eggs. He put them in to a big glass jar. He found that instead of Jamella hatching from the egg rafts there were lots of Teeny Weenies. That was because Teeny Weenies live on Jamella eggs.

Once Joel had discovered how to reduce the numbers of Jamella, he contacted the Weedbuster's. They begged him to take his Teeny Weenies to Fraser Island to stop any more Pandanus from dying. The Weedbuster's knew that while a big storm managed to blow Itty Bitty on to their favourite island, Teeny Weenie was too small to be caught up in a storm. So Joel bred thousands of Teeny Weenies and took them to K'Gari in a big jar. When he released his midget wasps they quickly found Jamella egg rafts to lay their eggs in.

Almost the fungi found that there was not much honeydew to feed on. K'Gari's sick Pandanus on began getting healthy again. The ecological balance was restored.