

Taxonomy, phylogeography and Evolutionary history of Fiji's Endemic *Peperomia*

Fund

Year 1 : FJ \$25,00 Year 2: FJ\$15,000

Leading Organisation

The Institute of Applied Sciences

Partners

Massey University , Trinity College Dublin Ireland

Project Overview

Peperomia is a genus of approximately 1600 species distributed worldwide throughout the tropics. Fiji currently has records of 25 species of *peperomia*, 22 of which are endemic. The majority of the endemic species are recorded as occurring on only one or two islands within the group, and for some species the records are limited to a single location.

Peperomia, like other species – rich genera, is of interest globally for what it can inform us about drivers of species diversification, the resilience and adaptive potential of foras on island archipelagos. Pacific Island *Peperomia* have not been widely studied, with recent phylogeographic studies thus far. However, they are of particular interest as *Peperomia* comprises many species in the South Western Pacific, and there are as yet few clues to explain this diversity.

This project will expand and consolidate the collections of Fijian *Peperomia*, investigate the genetic diversity, distribution and habitats of species. These data will allow us to reevaluate taxonomic classification and the conservation status of species. Our study will also provide a foundation for future work involving ecological niche modeling, computational and experimental ecophysiology. These approaches are currently being used to rapidly advance understanding of the nature of species, their biotic and abiotic interactions. Applied here in the Pacific, these approaches have the potential to help us better understand the adaptive potential of Pacific Island flora to anticipated environmental change.

The study of *Peperomia* in Fiji, and potentially the wider Pacific region provides an important step towards addressing the question of the resilience of Pacific highlights in its Strategic Plan 2013 – 2018 that it aims to crystallize its role within the Pacific tertiary education landscape by “being the main repository of research about the



Pacific to the whole world”, This project will contribute to that aim and provide a model for study that can also be applied to other plant and animal groups.

Project Objectives

- To review and revise the taxonomic classification and range descriptions of Fijian Peperomia and establish the conservation status of each species.
- To elucidate the phylogeny and evolutionary history of the Fijian Peperomia using molecular markers.
- To use historical and new collections of the Fijian Peperomia to compile and identification key and field guide to aid future research.

Project Outputs

Project not complete

