“... WHERE ART THOU SYZYGIUM...?”

By Senilolia Heilala Tuiwawa

ABOVE: Flower of *Syzygium nutans*.
LEFT: *Syzygium furfuraceum,* **Vanuatu.**

My name is Senilolia. I am of Fijian descent from the exotic isles of Lau, with a quarter of my lineage traversing east of the South Pacific Ocean to the humble Ha'apai group of Tonga. Amongst my peers, I am commonly referred to as Fiona but these days I prefer to be called Senilolia, the name imparted to me by late grandmother. Yes, we all want to be part of a lineage that transcends to the beginning of time just so we can redefine our placing and more importantly our seamless identities in the endeavour to conquer life's uncertainties.

I never realised the charismatic chants embodied within an identity until of late, when I was introduced to the discipline of systematics. Imagine an area of study that's as old as history and is the pivotal plane of traditional and modern sciences, dedicated solely to defining and understanding nature's finesse and creativity. Throughout the ages, men have wondered, contemplated and at times have been destroyed in their genuine attempts to logically explain the basic framework of nature's artistic work. Till today, some of mankind's finest minds have tediously strove but are often left bewildered in the quest to comprehend the identity of some of nature's finest yet complex architecture.

This is an introduction of my research into the terrain of the New Hebrides, the group of islands that we know today as Vanuatu, in search of a plant group older than human history that baffles the minds and challenges the classification framework of both traditional taxonomists and systematicists!

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In the duration of my research, I will be venturing into Vanuatu's six provinces to unveil a fraction of nature's creativity in search of Syzygium, one of taxonomy's most perplexing and problematic rainforest groups. With an estimated 1200 species, occurring as evergreen trees and shrubs, Syzygium poses as an ecologically interesting and important old world genus, distributed throughout the sub-tropic and tropical regions. It's the largest genus in the Gondwana family Myrtaceae, ranking 16th in the list of the 57 largest genera in the world of flowering plants! Its economic and commercial values include timber and clove as well as medicinal properties for diabetes, thrush, bronchitis, and venereal diseases and have antimicrobial activity. Most Syzygium species occur in the rainforest, however species can also be found in other vegetation

ABOVE: Flowers of *Syzygium lorentzianum*, Vanuatu.

types, i.e. from littoral communities to sub-alpine vegetation, ranging 2800 metres a. s. l. and over. Its common names vary across the region however; some of the more common edible species are often referred to as the 'Rose apple' or 'Malay apple'. Across Melanesia, it is known as na-kavika, kafik, na-kapika, xavixa, kavika in Vanuatu; laulau, afio, kabirai in Papua New Guinea; and as yasiyasi, yasi, kavika, leba and misimisi throughout Fiji.

The high diversification of Syzygium often bewilders the amateur taxonomist and poses a real challenge for systematicists. Over the past century, taxonomic treatments of the genus have included the combined use of morphological and anatomical characters. Such an attempt has enabled field recognition of the genus using several diagnostic features that includes its habit as a tree with large solitary seeds (sometimes 2-4) usually with inflorescences comprising of many flowers, borne on leafless branchlets or larger branchlets or trunks.

However, the subjectivity of taxonomy and the shortcomings of the classification system are problematic when identifying species. Inevitably, this results in a lot of Syzygium species being undescribed, incorrectly assigned, or simply unknown to taxonomy. Thus, morphological identification of such problematic groups becomes excruciatingly tedious, while phylogenetic studies are challenging and question the

ABOVE: *Syzygium furfuraceum*.
RIGHT: *Syzygium versteegii*, Vanuatu.

validity of classification systems.

Overall, contemporary researchers have now shifted towards experimental based studies as more research is directed towards additional morphological, developmental and molecular work. While these areas are important, it has led to a neglect of floristic studies in regions with relatively rich flora. The South-west Pacific undoubtedly falls into this category.

For continental regions where forest fragmentation is rife, the continuation of plant collections from areas with relatively intact forest systems is not only fundamental to these experimental studies, but also paramount towards a comprehensive understanding of the perplexities surrounding the morphological diversity and evolutionary history of typical problematic plant groups like Syzygium. The Melanesian forests, particularly in the 'Vanuatus', are arguably some of the most important sites for collection as relatively little is known of its flora let alone the phylogenetic relationships that exist amongst old world plant groups known only to the mountainous terrain. Therein, the opportunity to undertake collections throughout her archipelago is nothing less than that of a momentous opportunity to scrutinize the taxonomic perplexities presented by the genus Syzygium.

Thus my study will not only form the baseline knowledge of Syzygium for Vanuatu but in due coarse I hope it will also shed more light on Syzygium's evolutionary lineage and its confounded relationships with closely affiliated groups dispersed over the vast ocean of the Pacific.

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