

Acknowledgements

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References

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A Mexican migrant: the naturalisation of *Monstera deliciosa* (fruit salad plant) in New Zealand

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Introduction

Monstera deliciosa Liebm. (Araceae), commonly known as "fruit salad plant" or in its native lands as "ceriman", is native to the humid, tropical forests of Central America, from southern Mexico to Panama (Mason & Mason 1987). The literal translation of the botanical name is "delicious monster", in reference to the "banana pineapple" flavoured fruits (Fig.2,4), and the large perforated leaves somewhat reminiscent of a strange creature (Mason & Mason 1987). The holes in the leaves are caused by localised slowing of the growth of the leaf during formation (Mabberley 1997).

Fruit salad plant is a large stout-stemmed vine, climbing or sprawling to c. 20 m (Huxley et al. 1992). The flowers are typical of the Araceae family, being clustered on a central fleshy axis called a "spadix", surrounded by a spathe (Mason & Mason 1987). *Monstera* flowers are bisexual (Smith 1979), and in the family Araceae obligate outcrossing is usual, as male

and female flowers do not mature simultaneously on the same plant (Mayo et al. 1997). The spadix can reach a temperature c. 15°C above surrounding air temperature when it is ready for pollination (Mabberley 1997), which is carried out by trigonid bees (Mayo et al. 1997). Monkeys are possibly the dispersal vectors for the seeds of fruit salad plant (Mayo et al. 1997).

Fruit salad plant has a long history as a popular houseplant throughout the world. The plant will also grow well in gardens when provided with warm and moist conditions, and is easily propagated from stem sections with a leaf attached (Whistler 2000).

This article discusses the likely sources of known fruit salad plant naturalisations in New Zealand, outlines the factors that presently appear to be limiting its rate of spread, and assesses its potential 'weediness'.



Fig. 1. A colony of fruit salad plant, Mt Eden rock forest

Naturalised fruit salad plant sites in New Zealand

Site information has been derived from Auckland Museum herbarium (AK) records and from personal observation. Ten sites are discussed in this article. Nine of these sites were in the Auckland region, in Mount Eden (Cameron 9573, AK), Mount Albert (Martin 334, AK), Massey East, Onehunga (Martin 192, AK), Orakei (Cameron 11057, AK) and on Great Barrier Island at Port Fitzroy (Martin 291, AK), the old Port Fitzroy dump (Martin 284, AK) and Whangaparapara (Martin 300, AK). The remaining site was at Pukenui, on the Aupouri Peninsula (Cameron, 9718, AK). All collections were made between 1999 and 2002.

Five of the sites were coastal, fruit salad plant growing in association with species such as pohutukawa (*Metrosideros excelsa*), and *Coprosma* aff. *macrocarpa*. All sites were where temperatures could be expected to be mild throughout the year, and ranged from being in full sun to deep shade, as at Mt Eden rock forest (Fig. 1).

Sites ranged in size from single juvenile plants to colonies covering c. 25 m². Larger sites, such as a colony at the old Port Fitzroy dump on Great Barrier Island, formed a dense patch to the exclusion of other plant species (pers. obs). At one site, in the Mount Eden rock forest, it was well established on the ground (Fig. 1) and growing 5 m up into a titoki (*Alectryon excelsus*).

The majority of these populations appear to have originated from the dumping of garden waste. At some of the sites, cut stems were still evident and some of the surrounding species had also originated as garden

discards. At the Kaitoke swamp, Great Barrier Island, stems had been dumped into a tributary of the main swamp and then further dispersed downstream in floodwaters. This resulted in several plants becoming established along the course of the stream (pers. obs.).

The most unusual site with regards to establishing a probable source is at a volcanic sinkhole in Onehunga. At this site one plant c. 30 cm tall with juvenile leaves was found under a canopy of chinese privet (*Ligustrum sinense*). No other garden waste or potential parent was seen in the area. Possible explanations for this find include that this individual was planted by a local resident, albeit in a rather strange location, or that this plant arose from seed dispersed from elsewhere. Similar small plants with juvenile leaves (Martin 335, AK) can also be found in close proximity to established colonies in the Mt Eden rock forest site (Fig. 3). Careful excavation of these plants failed to find any larger stem from which they might have originated.

Factors limiting spread and an assessment of the 'weediness' of fruit salad plant

Fruit salad plant is not known to set seed in New Zealand, and is unlikely to because of obligate outcrossing and the need for a pollinator. Further searches for 'seedlings' in the vicinity of established sites, in conjunction with the dissection of fruit in search of viable seeds, may answer this question. There is presently no firm evidence that fruit salad plant can spread by any means other than vegetatively. This limits its spread to populations establishing through discarded garden waste, the expansion of present populations, and possibly the



Fig. 2. Immature fruit of fruit salad plant at a Mt Albert reserve

movement of stem sections by water.

Fruit salad plant does not appear to have naturalised in other regions of the world where it is commonly grown. It was not recorded as part of the Hawaiian flora by Wagner et al. (1990) where five other Araceae genera have naturalised, and it is regarded as only occurring in Fiji in cultivation (Smith 1979).

Growth is slow relative to other weeds of similar habitats, for example wandering jew (*Tradescantia fluminensis*) (pers. obs), and in comparison with this species, is less prone to breaking into pieces and being spread accidentally. In addition to this, its tropical origin and associated cold intolerance is likely to permanently restrict its range to mild, moist sites in the northern North Island. Unless evidence arises that fruit salad plant is producing viable seed in New Zealand, this species is unlikely to ever pose a major weed threat, and will only spread to new sites through the actions of gardeners who dispose of their garden waste in an irresponsible manner.

The Mt Eden rock forest area, with its unique combination of rocky substrate and unusual assemblage of coastal species, is particularly vulnerable to the



impact of this plant. Established patches in the forest interior are locally preventing seedling recruitment, and in some places the plant is invading the epiphytic niche. Although fruit salad plant is not regarded as a serious weed, control at this site would be warranted.

Fig. 3, above: Juvenile plant from Mt Eden rock forest: is this a seedling?

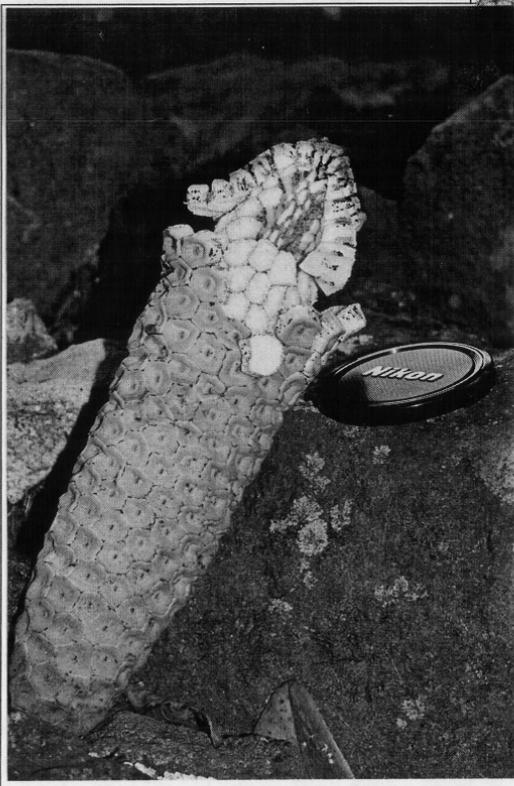


Fig. 4, left: Mature fruit, showing the shedding of the outer layer to reveal the whitish flesh and central axis, Mt Eden rock forest

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Corrigenda for ABS Journal 57(1)

p.30: title - Fungal Foray, Workman [replacing 'Walkman'] Track, Hunua Ranges.

p.32: Figure belongs with Te haahi-Goodwin article at bottom of same page [not Hunua article].

Also caption change – *Isaria sinclairii* parasitising cicada larva [replacing '*Isaria* sp. parasitising fly on grass inflorescence'].

p.44: *Didymium squamulosum* and p.45: *Physarum lateritium* – both species are Myxomycetes (slime moulds), not Eumycota (true fungi) as listed.



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