

Pittosporum, *the misunderstood genus*

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Names are interesting things. They are essentially a means of identification, but they can also provide us information about a person or an object, by identifying characteristics or relationships with other entities. In this way, they are an important indicator to us of the likely nature/appearance of a thing. In horticulture, this is complicated by the fact that a plant has several names of differing taxonomic status. Binomial nomenclature is largely well understood by professional horticulturists, but to many of our clients the scientific names of plants can carry little meaning or create false impressions. As far as the client is concerned, a tulip is a tulip, a daffodil is a daffodil, and a pittosporum is a pittosporum. Herein lies a dilemma that often confronts landscapers or nursery owners. If a client sees a 'pittosporum' on a landscape plan, they assume that it is similar to the 'pittosporum' that their aunty has planted as a hedge, or the 'pittosporum' that the neighbour planted on the boundary 20 years ago. As with any product, a person's perception of a plant is based on any example of that plant that has been seen before.

Before I go any further, I would like to point out that this is an opinion piece, and I do not intend to promote my opinion as gospel. The quality of species/varieties of plants is a very subjective matter, and as such, I feel it is important to state that everybody's opinion on plants is valid within the context of our own gardens and landscape spaces. As a landscape designer I am always discussing plants with clients, nurserymen, and gardeners and, in

fact, with just about anybody who figures out what I do for a living. I can, therefore, feel quite confident about saying that the genus *Pittosporum* has had a bad press, due in major part to the use of lacklustre or unattractive species/forms. In many ways, the native species and varieties that have traditionally been cultivated in New Zealand (*P. tenuifolium*, *P. eugenioides*, *P. crassifolium*, and the varieties derived from these) meet many criteria of what can objectively be considered a good garden plant. Several make excellent hedge species, have scented flowers, and are extremely tough in almost all garden conditions. However, they are often a horticultural Hobson's choice, being the only plants that people know that will be suitable for many applications.

This is a great shame, because the genus *Pittosporum* actually contains some of the most beautiful, interesting and exciting plants of the New Zealand flora. It's time for a change in the way in which people perceive the name *Pittosporum*, particularly as the genus is one of the most interesting and representative genera in the New Zealand flora. The variation within *Pittosporum* is huge in terms of plant size, leaf form and size, leaf colour, branching structure, scent, and the variety of ways in which they can be used. There are species that are very exciting prospects for cultivation, recognised previously by notable figures in New Zealand horticulture and botany, but never making the transition into mainstream horticulture.

The challenge of changing perceptions of this genus are applicable to changing people's perceptions of other plant groups.

The *Pittosporum* species and forms that are described in this article can be grouped roughly into three groups: the small trees, the filiramulates (or as Terry Hatch refers to them, the twiggy) and the well-behaved small to medium-sized shrubs. Each group is exciting for New Zealand horticulture, as each can fulfil a different role within the landscape, for which it is often difficult to find plants.

The species of *Pittosporum* that are most commonly seen in cultivation are the small trees, but the three species/forms that I will write about are considerably different from the ones we are used to seeing. The first is the species *Pittosporum umbellatum*. This is a beautiful northern species that is predominantly found in coastal forest. It has several good reasons for its inclusion in amenity horticulture. Its flowers, which range from pink to red in colour, are amongst the largest in the genus, and are borne on umbels which are elegantly arranged in great profusion. The foliage is a fresh, light green (an uplifting shade that is quite hard to find in many trees), and is quite glossy, lending it to use in subtropical style gardens in the north of New Zealand. It forms a thick, fairly upright small tree, which can be trimmed readily to a size that is appropriate for whatever garden. Its small size and tight habit make it the perfect small tree for urban gardens that are becoming

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increasingly smaller, and, being able to withstand salt spray, it is suitable for coastal gardens.

The second tree within this group is actually a form of the commonly-known species, *P. crassifolium*, which was collected by Graeme Platt (Lindsay Hatch pers. comm.). It exhibits the characteristics of many mainland species that also occur on northern islands, of increased leaf size and glossier texture. This plant forms a fairly upright tree, with an attractive network of silver and light brown foliage, due to the varying shades on each surface of the leaf. The form appears to be stable, as the specimens I have seen were raised from seed and show virtually no variation. This northern form is very distinct from the species type and has great potential for gardens in northern areas.

The last tree of this group is *Pittosporum dallii*, which has to be one of the most beautiful of all native trees. It is endemic to northwest Nelson, only occurring in a small area around the Cobb Valley. It is rare in cultivation, but does grow in a range of climates. I have known it to be grown successfully in Auckland. I do not know much about the cultivation of the species, but its graceful form, beautiful leaves and large, fragrant flowers warrant further investigation of its cultivation requirements. It is only available from specialist nurseries, but hopefully this situation will change.

The second group that I will deal with are the so-called twiggy, the filiramulates. Many of the filiramulate trees and shrubs in New Zealand make excellent garden subjects, due to their very defined forms and shadowy texture. They can often form topiary-like forms naturally, such as hummocks or columnar shapes. It is primarily for this reason, and the resilience of so many filiramulates to adverse conditions, that I believe that these species of *Pittosporum* have great potential. In a landscape/garden scene where people are increasingly turning to

'sculptural/architectural' plants, our native filiramulates are the ideal plant. They also imbue a sense of New Zealand identity, as this appears to be a very typical New Zealand growth form, more common here than almost anywhere else in the world.

It is necessary for me to describe the difference between divaricate and filiramulate plants here, as they are often referred to by either term. Divaricate refers to a branching habit, whereby the branch comes off the stem almost at a right angle, and consequently refers to the interlacing form of many of New Zealand's small-leaved shrubs [1]. Filiramulate is a broader term, which refers to a long internode length in relation to leaf size [2]. This is normally associated with small to very small leaf size in New Zealand, as opposed to large/medium leaves with very long internodes. I have included *Pittosporum patulum* here. Although it is not a true twiggy, its form fits most easily with the filiramulates, due to its elongated, unusual appearance. It also has a heteroblastic growth habit, meaning that it has distinct juvenile and adult leaf/growth forms [5].

The first of these is the beautiful small tree, *Pittosporum obcordatum*, which forms a striking, very upright tree. It has been said that its remarkable form could be put to good use in modern gardens, particularly adjacent to modernist architecture [3]. It develops from somewhat unpromising beginnings to form a very tight column of foliage, eventually growing to about 4-5 m (although sometimes larger). This tree is the perfect solution for urban gardens with little space, in which a sense of scale needs to be introduced without blocking out light. However, it will look great in any garden. Its history is also interesting owing to its unusual disjunct distribution and rarity, its discovery, and subsequent rediscovery [4].

A tree with a similar form, and equally interesting distribution, is *Pittosporum turneri*. This is a

wonderful, small heteroblastic tree from the central North Island, where it predominantly occurs on frost flats. It forms a tight column of silvery-bronze, interestingly-toothed foliage in its juvenile stage, and eventually forms a small round-headed tree with entire leaves that are similar to a smaller version of the leaves of *P. kirkii* [6]. As for *P. obcordatum*, it is a fantastic plant for urban gardens, due to its narrow growth form and interesting, varied foliage.

A small filiramulate species of *Pittosporum* that is worthy of cultivation is *Pittosporum anomalum*. This has a very upright branching structure, but forms a comparatively broad shrub in relation to its size than the previous two trees. Its general structure is best compared with the exotic, *Cornus alba*, although it is smaller and bushier. Its major claim for inclusion in the garden is the scent of its flowers, which is very strong and pleasant to most noses. It has a unique appearance, and could look quite striking in groups in modernist gardens. It appears to be very tolerant of competition, more specifically, of being covered by other plants. In this way, it could well be used as an organic support for climbing plants. I use them with winter-deciduous *Clematis texensis* hybrids that have flowers similar to tulips.

Amongst the smaller-leaved *Pittosporum* species, the most interesting and, in my opinion, desirable species is *P. patulum*. This is an amazing plant, whose juvenile phase can best be described as similar to a miniature purple-bronze *Pseudopanax ferox* (toothed lancewood). The adult tree is a small round-headed tree, with large, fragrant, pinkish-red flowers [7]. This species is almost impossible to find in nurseries, and is very endangered in the wild. It is notoriously hard to propagate, but I have heard of successful propagation from cuttings, and hopefully this singular species should become more available in the future. If this does occur, this species of *Pittosporum*



should gain a high profile, as one of the most striking native tree species. However, in the near future, the survival of the species is the most pressing priority.

The final group of species are the ones that should achieve mass appeal more rapidly than the others. These are the well-behaved small to medium sized shrubs. The first of these is a species that Thomas Kirk referred to as the "most striking and beautiful of the New Zealand species [of *Pittosporum*]" [8]. This was published in 1890, and yet we have still not utilised this species for horticulture. Why? Perception. *Pittosporum kirkii*, like *P. cornifolium*, is a predominantly epiphytic species. One might reasonably assume that epiphytic plants will not grow well in the ground. This is often true, but in many cases is not (*Griselinia lucida* is a notable exception, growing perfectly in many gardens to massive dimensions). The greatest clue to the natural station of *P. kirkii* is its lop-sided ratio of roots to foliage. Controlling this, (i.e. pruning to control the extent of foliage) is the major requirement of maintaining it in cultivation. *Pittosporum kirkii* has the potential to be a star of native horticulture in one particular application, for which it is nigh on impossible to find suitable species: *P. kirkii* is the perfect pot plant. Lack of nutrients is not a worry. The confined root environment suits it perfectly, and it does not appear to be bothered by drought. I have even grown it in a bed with minimal soil (20 cm of soil over asphalt) and searing heat, and it has never been happier. How many other plants will take years of confinement in a pot and thrive with almost no care? The leaves are waxy and attractively borne in whorls, and the plant forms a small, symmetrical, graceful shrub. The flowers are large for the genus, and if there is a male and female plant present, *P. kirkii* bears amazing oversized, flat, balloon-shaped seedpods.

A fellow tree-dweller of *Pittosporum kirkii* is *Pittosporum cornifolium*. This is one of the most exciting native plants to be brought into cultivation in years. There are currently two forms in cultivation. The type form, which has small, bright, light-green leaves and the more fragrant flowers (between the two forms), forms a compact, tidy shrub to 2.5 m high. One of the most outstanding features of the plant is the scent, which is powerful at close range, and smells like a combination of caramel and chocolate. The type form bears small, dusky red flowers during late winter and spring, whilst the northern form bears yellow flowers slightly later in the year. Choosing between the two forms is difficult, as each has distinctive virtues. However, both are superb garden plants, and fulfil a role for which it is very hard to find plants: tidy, nicely-coloured, fast-growing evergreen shrubs that grow to 2-3 m and do not become sparse.

In terms of potential popularity, the northern form of *P. cornifolium* has greater potential, due to its subtropical appearance and the fact that it looks better when it is young. Its dark, glossy foliage is best compared with a vireya rhododendron, but the plant forms a balanced, thick shrub (as opposed to the sparser form of vireyas). It is less scented than its close relative, but this is of secondary importance to most clients. It achieves rapid growth rates in Auckland, but this is its downfall in areas south of the Waikato that are distant from the coast, as hard frosts will kill plants. They do not stop growing in winter, which makes them particularly susceptible to frost. The best place to examine mature specimens of the two forms of *P. cornifolium* is the Auckland Regional Botanic Gardens, where both forms grow in close proximity. Although the mainland form takes longer to become a thick shrub and probably has less commercial potential, I find it the more graceful shrub when mature. The improved scent is a major

advantage and the shade of green that it provides is rare in gardens.

The final species, *P. michiei* [9] (syn. *Pittosporum pimeleoides* ssp. *major*), is a real novelty to amenity horticulture. It is a lovely little shrub that forms tidy little mounds of mid-green foliage. It is somewhat like a slightly looser form of *Ilex crenata* 'Helleri' (a very compact form of *Ilex crenata*). It could be used in a similar way to this variety for clipped/topiary forms with minimal clipping involved, planted as hummocks within modernist plantings, or at the front of the flower border for year-round interest. It could also be used as an organic climbing frame in the same way as I have described for *P. anomalum*. A hybrid between *P. michiei* and *Pittosporum pimeleoides* var. *pimeleoides*, called *Pittosporum* 'Chantilly', has been marketed by Naturally Native nursery. It was especially recommended for cultivation in pots and for the scent of its flowers when in full flower [10]. This plant, like *P. kirkii* and *P. cornifolium*, fulfils a role in gardens for which is very hard to find suitable varieties, and, as such, should find its way into New Zealand gardens in the near future.

As modern horticulturists, we are able to access a far more extensive range of plant material than that at the disposal of our forebears. In native horticulture, it is important that we take advantage of this to build on the fine beginnings of our early botanists, and horticultural pioneers like Muriel Fisher (whose books are approaching 40 years old and are still ahead of their time). Several native plant nurseries and gardens are breaking ground by exposing people to a greater range of *Pittosporum* species. Most notable of these are Oratia Native Plant Nursery, Joy Plants (Terry Hatch, AHRH, and Pam and Lindsay Hatch), Taupo Native Plant Nursery, Kari Street Nursery in Auckland, and Tawapou Natives at Tutukaka. Terry and Lindsay Hatch are undertaking

particularly interesting work with forms of *Pittosporum*, as they are with many New Zealand plants.

Certain of the species in this article are currently rare in cultivation, and without further interest, they will continue to remain this way. It is important that endangered species (like *P. obcordatum*, *P. turneri*, *P. patulum*, and *P. kirkii*) get into cultivation, so that people are made aware not just of existence, but also their plight. They are good examples of an argument for conservation that avoids missed opportunities for horticulture (presented by the

extinction of horticulturally worthwhile species), rather than the traditional cultivation for preservation imperative. These species can contribute greatly to horticulture. It is to be hoped that we can look beyond the current frontiers of native horticulture, to achieve dual ideals of maintaining biodiversity and moving amenity horticulture forward. For this to happen, we need to set aside misconceptions about plant taxa, and experiment with the widest range of material possible. By doing this, we not only aid in preserving New Zealand's biodiversity, but also enrich our garden heritage.

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Notes

- [1] Dawson, J. (In: *Forest Vines to Snow Tussocks: The Story of New Zealand Plants*, 1988, Victoria University Press, Wellington, N.Z.) describes Cockayne's adaptation of the term 'divaricating' to this group of New Zealand plants.
- [2] Wardle & McGlone (1988). *Towards a more appropriate term for our divaricating shrubs and juvenile trees*. In: *New Zealand Botanical Society Newsletter* 11: 16-18.
- [3] Metcalf, L. makes this observation in *New Zealand Trees & Shrubs: A Comprehensive Guide to Cultivation and Identification* (Revised 2nd Ed., 2000, Reed, Auckland, N.Z.; p. 342). I have not mentioned in the main text that there is a distinct variety of *P. obcordatum*, called *P. obcordatum* var. *kaitaiensis*, which has apparently become extinct in the wild. There are marked differences to botanists, but its general appearance is similar to the type form.
- [4] There is a further account of this in Metcalf, L. (2000, see note [3]).
- [5] *P. obcordatum* is also heteroblastic, but the distinction is less marked; hence, I have identified this characteristic in the previous paragraph.
- [6] This observation is based on an examination of the image of adult foliage within *Eagle's Trees and Shrubs of New Zealand* (vol.1, Revised Ed., 1986, Collins, Auckland, N.Z., plate 55). I have never seen the adult foliage of this tree; few people have, due to a predominance of juvenile specimens within the already restricted populations.
- [7] This account of the adult foliage and flowers is also based on *Eagle's Trees and Shrubs of New Zealand* (vol. 2, Revised Ed., 1986, Collins, Auckland, N.Z.)
- [8] Kirk describes it as such in *The Students' Flora of New Zealand* (1890, Government Printer, Wellington, N.Z.). Admittedly, Kirk did discover it and it bore his name. However, his description is not unjustly biased. It is a particularly graceful plant.
- [9] There appears to be some confusion within botanical circles about the taxonomic status of *P. michiei*. I have been informed by an eminent botanist that R.C. Cooper (1956; In: *Ann. Missouri Bot. Gard.* 43: 152) is the valid naming authority (described as *P. pimeleoides* ssp. *major*), and that the botanical literature has been slow to pick up on that (pers. comm., Ewen Cameron). *P. michiei* is the name under which it is better known, and the most recent published account on New Zealand plant nomenclature (Parsons, Douglass & McMillan; 1998; *Current Names for Wild Plants in New Zealand*, Manaaki Whenua Press, Lincoln, N.Z.) provides *P. michiei* as the current name. This is based on the description in H.H. Allan's *Flora of New Zealand*, vol.1 (1961), which postdates Cooper's reclassification of the taxon. I suspect that its true taxonomic status is *P. pimeleoides* ssp. *major*, but until the matter is settled in literature, the most sensible conclusion is to follow Allan's naming.
- [10] Description of plant taken from the website, www.naturallynative.co.nz on the 7 October, 2004.