



Spring 2004

SUBTROPICALS



SUBTROPICALS

is a forum for the exchange of ideas and information on the identification, growth requirements and sourcing of native and exotic subtropical plants (and tropicals) suitable for gardens in the milder parts of New Zealand.

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**SUMMER ISSUE
COPY DEADLINE**

All copy must be received by the 31ST OCTOBER 2004

Better late than never

Yeah. Right. – The tardy delivery of the spring issue was due to a series of unfortunate events and, if the fates are kind, the summer issue will be on time!

Two and a half talks that were given at the 2004 Conference have been included in this issue so that members who were unable to attend and those who (like me) could not read my notes later will have a record of the information given so freely. The conference and show are reviewed on page 22.

Spring seems to have sprung backwards this year. I am presently sitting at the computer, huddled over a heater and looking out at a drear day. The sky is so overcast and dark that the automatic outdoor lights are on and, although the temperature is supposedly 15°C, it's cold (the minimum hasn't dropped below 10°C but it's cold).

Where is the sun? The only silver lining is that the clivias look amazing. Terry Hatch tells me that this is due to the low day temperatures we have been experiencing. Still, living in a frost free area I should not complain – others are not so lucky. Roll on summer!

Remember to let us know if your experience of growing a plant or plants differs from that described in our articles. We learn so much from other people's growing experiences and our members are spread over such a wide range of gardening conditions that no article can hope to be appropriate for all.

Marjorie Lowe
Editor

SUBTROPICALS

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FRONT COVER STORY

SARCOCHILUS ORCHIDS

Jonathan Voysey

Sarcochilus is predominantly an Australian genus of orchids, of which all but one species are endemic. The species more usually available here are *S. falcatus*, *fitzgeraldii* and *hartmannii*. Hybridisation between *S. fitzgeraldii* and *S. hartmannii* produced the hybrid *S. Fitzhart*, which has been much used in the making of many new cultivars.

To integrate orchids into the garden with minimum care and maximum effect, two aspects should be considered – rainfall patterns and leaf retention.

We have a winter rainfall pattern with the most rain falling between May and September, but our summers are not dry in the Mediterranean sense of no rain for three to four months. Many areas are classified humid as rainfall rarely falls below 5cm in a month. Orchids that need a dry resting period tend to rot out in winter and spring. It is much easier to water in summer the orchids that need all year moisture.

Although many orchids are spectacular in flower, those that are deciduous (and also often needing a dry dormant period) and those with unattractive evergreen leaves present a problem, particularly in smaller gardens where year-round good looks are essential.

Not only do *sarcochilus* have good foliage, they need a humid atmosphere with all year moisture and grow well in shade or semi-shade. Free air movement is essential and some will withstand cold periods to 3°C. The smaller species are usually epiphytic on trees but those that grow on rocks, boulders and cliff faces seem to be more robust and may grow into large clumps.

Front cover:

***Sarcochilus* Heidi ‘Magic’**

Inside front cover:

Top left photo –

(above) – *S. Fitzhart* ‘Annie’

(below) – *S. fitzgeraldii* ‘Red Eye’

Top right photo- (bottom centre) – *S. Fitzhart* ‘Snowflake’

Bottom photo: *S. Heidi* ‘Heartbeat’

The photographs were all taken at Sunrae Orchids, Drury.

Sarcochilus falcatus is a cool growing orchid that comes from Victoria, New South Wales and Queensland – the northern Queensland form grows at about 1000m altitude.

“It is a cool gully or ravine orchid, usually found growing on the banks of runnels or streams or ever-moist soakages, on smaller trees, tree ferns, occasionally on rocks but always well shaded. At times it proliferate on trees in dense masses” - J.N. Rentoul.

Its common name is the Orange Blossom Orchid - so called because of its scent and pure white flowers, sometimes marked with either yellow or orange in the centre. Flowering is in spring.

S. fitzgeraldii is spring flowering and “has more colour than *S. falcatus* or *S. hartmannii*, the normal type form carrying considerable red in the form of bands or dots on the central parts of the flower. The habitat is normally New South Wales and southern Queensland, plants growing principally as lithophytes, occasionally as epiphytes, usually in gullies and ravines at 500-1000 metres” – J.N. Rentoul.

S. hartmannii comes from a different habitat from the previous two species. It grows in light forest, on large boulders, cliffs and escarpments, frequently exposed to some sun for much of the year. It is the strongest growing species and multiplies faster than most, each growth sending up two or more flowering spikes in spring. Plants keep on growing most of the year and the strong leaves always look good. They must never be allowed to dry out and should be grown a little warmer in winter than the others – perhaps in light shade on the north side of shelter.

MEMBERSHIP 2005

Last year members were given a free ticket to the annual show if they paid their 2004 subscription renewal on time.

SUBTROPICALS, because of all those colour pages, costs more to produce than the subscriptions provide at this stage.

So for the coming year, the membership fee will increase to \$35.00 but will be only \$30.00 if it is paid by the 1ST January 2005.

New members will pay only \$30.00 if they join for the year 2005 before that date.

So let's persuade many more gardeners to join SUBTROPICALS to boost numbers and keep costs down.

***Cordyline* 'Nigra'**

Edith McMillan

Ever since this plant was brought into New Zealand from the New Guinea Highlands, there have been problems about its true identity. Various sold as *Cordyline angustifolia* and sometimes as *C. kingii*, most commonly it has been offered as *Cordyline nigra*, an invalid name. As a compromise until it has been correctly identified, it is preferable to use the term 'Nigra' as a cultivar name. It has been suggested that this plant may possibly be a dracaena from the same area.

Cordyline 'Nigra' has become popular in subtropical gardens for many reasons. A slim, evergreen plant with cane-like branching stems to about 3-4 metres tall, it lends a tropical air and can be used in quite small spaces. Like other cordylines, it can be forced to branch where required by cutting back the stems. The cuttings taken will strike very easily to make new plants and if inserted in the ground fairly close together will soon form an attractive stand.

The 30cm long, almost black upright leaves are crowded towards the tops of the stems and provide a great foliage contrast with the many varying greens of other plants. They are even more distinctive against grey and silver foliage. But be warned! Like the equally striking *Strobilanthes anisophyllus*, many of the plants being offered for sale have been propagated with no concern for the maintenance of the near black colouring of the leaves - usually the reason for buying these plants in the first place. So shop around and turn down *C. 'Nigra'* with just dark green leaves.

As you can see from the photograph taken in June (top - page 9), this cordyline has very attractive pendent racemes of flowers in purple and white that, like the more tropical species *C. fruticosa*, bloom in winter. Sun or part shade is recommended, as too much shade seems to prevent good flowering. Any reasonable soil is suitable, well-drained but moist. In too much shade and/or too damp the plant can become leggy.

The Palm & Cycad Society of New Zealand

meets on the first Tuesday of each month excepting January. The society arranges field trips and has a seed bank, library and a quarterly magazine.

**Enquiries: (09) 296-7699 or
PO Box 3871 Auckland.**

Dietes grandiflora

William Platt

African Iris

Fortnight Lily

Dietes was once included in the genus *Moraea*, which has corms and is deciduous. *Dietes* species have creeping rhizomes, fibrous roots and are evergreen. Of the four species grown here, *D. bicolor*, *grandiflora* and *iridioides* (syn. *vegeta*) are from South Africa and the fourth, *D. robinsoniana* is surprisingly from Lord Howe Island. Both genera belong to the Iris family. *D. grandiflora* was found in Natal, outside Durban and ranges as far as Kentani in the eastern Cape.

As a common name, 'African Iris' is far more accurate than the 'Fortnight Lily' (no lily!) bestowed on it in the United States. Each flower lasts usually only a day but is quickly replaced by another. Bursts of bloom seem to come at two-week intervals hence the name. Break off old blooms or seedpods individually to prevent self-sowing and to prolong flowering but do not remove the flower stems as these last from year to year.

The sword-like foliage of *D. grandiflora* is almost one metre high and, with removal of the dead leaves, looks good all year. The leaves are arranged in flat fans and soon form large clumps that may be used as accent plants.

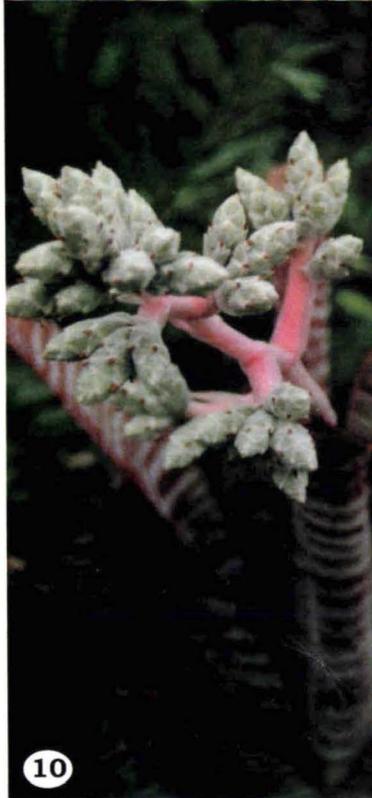
Flowering starts in spring, sporadically at first, but as the weather warms becomes more regular and continues through summer, autumn and sometimes even the odd flowers into winter. Flower petals are white (not blue as in the photograph opposite) with gold/orange markings at the base and purple petal-like pistils. The flowers are held well above the leaves. (*D. iridioides* is virtually identical but smaller in size)

A really tough plant, it will tolerate poor soil, dry conditions and some wind. Pest resistant, although snails like to hide in the clumps, it is half-hardy down to 0°C (zones 9 & 10). *D. grandiflora* is a really desirable and useful garden plant.

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TWO LESSER KNOWN BROMELIADS

Marjorie Lowe

With over 320 known species, the *Pitcairnia* genus is second only to *Tillandsia* in numbers. Unlike *Tillandsia*, there are only a few species in cultivation, despite their occurrence in almost every habitat from Cuba and Mexico south to Argentina (*Pitcairnia feliciana* is the odd-man-out being native to West Africa). Most are from Colombia, Peru and Brazil.

Typically, most pitcairnias grow in the ground or on rocks often in shaded and moist conditions. This brings us to one of the showier species:

Pitcairnia flammea

This plant is a native of eastern Brazil and the Organ Mountains of southeastern Brazil where it grows under trees and on wet rocks, enjoying damp conditions.

Fairly upright in growth, the spineless, soft green leaves are evergreen and have a grasslike look. The erect flower spikes in spring are 60cm tall and have striking bright red sepals and petals that are reasonably long lasting. Like many pitcairnias, *P. flammea* has a strong root system and is better grown in the ground in humid conditions.

Like nidulariums, this species will thrive in low light conditions. Described as reasonably hardy, it is reputed to stand conditions down to minus 2-3°C. A good garden plant for what are sometimes difficult conditions

Hohenbergia correia-araujoi

Rather like the larger, strong-growing aechmeas in appearance, some hohenbergias require similar growing conditions. They are found growing at low altitudes as epiphytes, on rocky outcrops and as terrestrials in dunes near the sea. As they come from Venezuela, the West Indies and Brazil they are frost tender and need some warmth to grow well. Plumeria (Frangipani) growing conditions would probably suit.

Top:

Pitcairnia flammea – growing by a shaded damp ditch at the base of a slope at Wharepuke Sub-tropical Gardens, Kerikeri. Photographed in late November.

Bottom:

Hohenbergia correia-araujoi

Photos: Marjorie Lowe

H. correia-araujoi was only discovered in 1979. Its handsome, almost maroon, heavily marked foliage and interesting but not colourful nearly metre high branched flower spikes have made it a very desirable plant for more protected gardens. The inflorescence in the inset was photographed from above, in spring, to show the markings so does not illustrate the typical tall, branched spike.

The summer photograph of the foliage was taken in Peter Brady's garden where *H. correia-araujoi* is grown in a large pot on the north-facing terrace.

THE UNRULY PITCAIRNIAS.

Chet Blackburn

The *Pitcairnia* genus does not always follow rules that 'everyone knows' apply to bromeliads. This is in spite of the fact that *Pitcairnia* was one of the first bromeliad genera to evolve. Prove it you say? Let's just cite some examples.

Maple leaves are deciduous, tulips are deciduous but 'everyone knows' that bromeliads are not deciduous. Someone needs to explain that to the small group of pitcairnias which annually shed their leaves to get through the dry season.

'Everyone knows' that a bromeliad leaf consists of a blade and sheath. No one looks at a bromeliad expecting to see a leaf with a petiole. Yet some of the pitcairnias can't even get this simple morphological adaptation right.

The family Bromeliaceae is restricted to the Western Hemisphere – every member of the family but one species is found there. Care to guess which one is the solitary outcast?

'Everyone knows' that one of the main characteristics for sorting out the three subfamilies of Bromeliaceae is the presence or absence of spines. Leave it to *Pitcairnia* to disrupt this comfortable scheme by some of its members having both types of leaves --spiny and spineless – on the same plant. Some even have spines at the bases of the leaf but none along the blades.

'Everyone knows' that bromeliads do not like to be over-watered or grow in soggy soil. Yet there are pitcairnias growing in the wild in what can only be described as sopping wet conditions.

● Reprinted in part from the *Bromeliad News*, Sacramento Bromeliad Society, June 1996.



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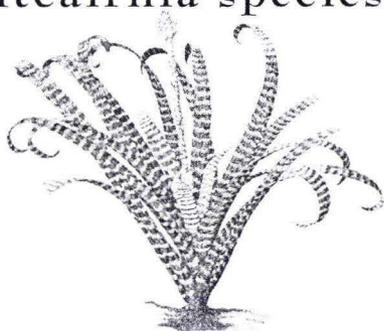
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Pitcairnia flammea
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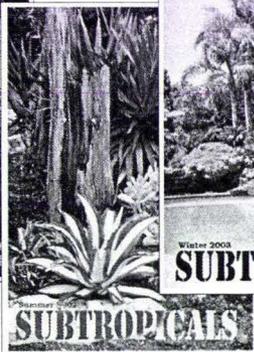
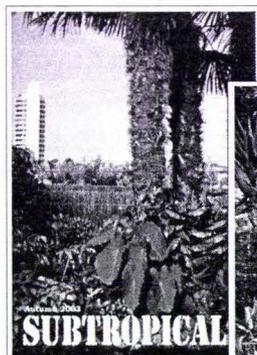
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CHERIMOYAS OR CUSTARD APPLES

Robin Booth

I have just been given a mature cherimoya and it is one of the biggest I have seen, weighing 1.7 kg, although they can grow bigger than this. The early set fruit are now coming ripe and more will keep coming over the next few months. This is a fruit that most people seem to find delicious.

Annona cherimola (Cherimoya) comes from the Andean areas of Peru. It grows into a small tree about six metres high that is deciduous for a short time in the late spring, the new shoots forcing off last season's leaves. When grown from seed, the plants are quite variable in the shape of the tree and the quality of fruit, so grafted trees of a known clone give the best results.

Flowers occur in spring on last season's wood but not many of them set, the later flowers on the new season's growth carrying the main crop. The flowers are fleshy, long and greenish-yellow petalled, with the most delicious, sweet scent reminiscent of fruit salad. Because we don't have the natural pollinating insect, it pays to hand pollinate if you want a big crop and good-sized fruit. Fruit size is determined by the amount of seeds pollinated, so poor pollination will give misshapen and small fruit. For pollinating by hand, pick, in the late afternoon, a number of flowers that have opened that day, wrap in damp paper and place in the fridge. Next morning, using a soft brush, take pollen from the picked flowers and put in the newly-opened flowers on the tree.

I have been told a young tree can be broken down by the weight of fruit when hand pollinated, so thin the fruit if necessary. Some people use only pollen from flowers on the tree without picking and holding overnight, but the above is supposed to be more effective.

QUESTIONS & ANSWERS

Members are invited to write in about any problems they have with identification, health, where to place specific plants etc. as well as queries and comments on articles appearing in the magazine.

Our advisory members will endeavour to supply solutions and answers.

**Write, fax or email to
Q & A – PO Box 91-728, Auckland
Phone/fax (09) 376-6874
Email marlowe@subtropicals.co.nz**

Good-flavoured fruit tend to be juicy and sweet with white flesh that is smooth and melting to slightly chewy. Not so good are the gritty-fleshed ones. Seeds are shaped a bit like a date pit and can be quite numerous. These seeds are reputed to have insecticidal properties. Grind them up and leave them to steep in water overnight, then use as a spray. I don't know the dilution rate. Fruit are ready to pick when they change colour from a deep green to a slightly lighter yellowish green, though on some cultivars the fruit can be shaken and when the seeds rattle inside they are mature enough to be picked. I prefer to leave them on as long as possible, as in my mind the flavour gets better.

Trees, particularly when young, are frost tender and need to be protected if there is danger of frost. Soil should be free-draining and the site should be warm and sheltered from the wind.

Clianthus puniceus

Kowhai ngutu-kaka

Kaka Beak, Parrot Beak, Lobster Claw

Despite being one of New Zealand's best loved and striking flowering plants, *C. puniceus* is now rare in the wild. However, gardeners are ensuring its survival in both white and pink forms as well as the bright red species. Rich in nectar, the flowers attract birds, especially tui.

A sprawling evergreen shrub to about two metres, it commences flowering when young, from early spring onwards and usually continuing for several months. Easy to grow and tolerant of all but heavy frosts, Kaka Beak grows in full sun in sheltered places with well-drained soil. Light pruning after flowering keeps it compact, but it can be trained as an espalier or a small vine in narrow spaces.

Short-lived but easily propagated from cuttings, *C. puniceus* is often the target of slugs and snails who love the ferny foliage; leaf miners and the occasional 'Witches brooms', which can be cut off when they first appear.

Top:

Four different skin types of cherimoya - rough to smooth and a cross-section of a ripe fruit.

Inset: A patterned, smooth-skinned cherimoya on the tree.

Photos: Robin Booth

Bottom:

***Clianthus puniceus* possibly 'Kaka King'.**

Photo: Grant Bayley





TWENTY OF THE TOP VIREYAS

Barbara Parris

(talk given at the Subtropicals Conference 2004)

Descriptions of vireya rhododendrons on labels and in catalogues usually concentrate on growth form, leaf features and flower colour. Fragrance is also indicated if present and flowering habits may be mentioned in terms such as 'free-flowering' or 'prolific'.

After growing vireyas for about nine years, and noting that there were some species and cultivars that were outstanding garden plants, being dependable producers of flowers over a considerable length of time, I decided to keep notes on what was in flower week by week throughout the year, including the number of trusses in flower each week.

Recording started at the beginning of 1998 and is still continuing. It is based on a collection of more than one hundred and fifty species and cultivars grown in the Bay of Islands. Michael Cullinane recorded 'Pink Delight' as being in flower throughout the year, in the late and much lamented 'Vireya News', while Mark Jury noted in his late and also much lamented mail order catalogue that 'Silver Thimbles' flowers all year. I can confirm that several other cultivars will also flower all year.

About sixty species and cultivars in my collection have flowered for twenty-six weeks of the year or more. The twenty vireyas discussed here (those featured in a talk at the Subtropicals Conference earlier in the year) represent a cross-section of shapes and sizes of bush and a variety of flower colours.

The one essential task for keeping vireyas flowering is regular deadheading. I deadhead mine every week and do a little minor pruning at the same time. This helps to keep the bushes shapely and healthy.

Brightly

40 weeks and can be in flower at any time of year. 2-3 flowering peaks at no particular time, maximum number of trusses in flower per week = 32. Vivid orange-scarlet flowers, glossy dark green foliage, compact habit.

Candy

52 weeks with fewer flowers in midsummer. The maximum number of trusses in flower per week = 139. Pale pink flowers, very lightly scented under some conditions, and a fairly compact habit.

Clockwise from top left:

Flamenco Dancer – 41 weeks

Candy – 52 weeks

Tango Time – 26 weeks

Red Mountain – 46 weeks

Brightly – 40 weeks

Maid Marion – 38 weeks

Carillon Bells

52 weeks with two flowering peaks, usually in late summer and late winter. The maximum number of trusses in flower per week = 140. Medium pink pendulous bells, small leaves and dwarf habit.

Coral Chance

29 weeks with two flowering peaks in winter and spring. The maximum number of trusses in flower per week = 20. Soft coral-orange flowers, fairly small leaves and upright habit.

Flamenco Dancer

41 weeks with one to two flowering peaks in autumn, winter and sometimes in spring (not flowering in mid to late summer). The maximum number of trusses per week = 54. Soft yellow flowers and a tall upright habit.

Happy Wanderer

31 weeks with one flowering peak - winter to spring (not flowering midsummer to mid autumn). The maximum number of trusses per week = 45. Soft orange flowers and a dwarf habit.

Kisses

32 weeks and can be in flower at any time of year. One to two flowering peaks in winter and sometimes summer. The maximum number of trusses per week = 81. Pink with cream throat and a fairly compact habit.

Lemon Minuet

48 weeks and can be in flower at any time of year. Two flowering peaks in summer and winter. The maximum number of trusses per week = 11. Pendulous, pink-flushed cream bells with small leaves and an extremely dwarf habit.

Little Bo Peep

52 weeks with two flowering peaks - summer and winter. The maximum number of trusses per week = 504. Flowers white with a pink throat, small leaves and dwarf in habit.

Lulu

49 weeks but can be in flower at any time of the year. The two flowering peaks are in summer and winter. The maximum number of trusses per week = 38. Peach pink flowers with a pale throat and a reasonably compact habit.

Rhododendron luraluense

33 weeks with one flowering peak from autumn to spring. The maximum number of trusses per week = 204. The white flowers are scented and the plant has a fairly compact habit.

Rhododendron macgregoriae

29 weeks and can be in flower at any time of the year. Two to three flowering peaks occur at no particular time. The maximum number of trusses per week = 147. The light orange flowers are held on a fairly compact plant.

Maid Marion

38 weeks and can be in flower at any time of year. One to two flowering peaks - in summer and autumn with a few flowers in spring. The maximum number of trusses per week = 16. Soft apricot flowers, attractive reddish new foliage and a fairly compact habit.

Pendance

52 weeks with one flowering peak in summer. The maximum number of trusses per week = 226. The flowers are pale pink and smaller and darker than Candy. The growth habit is fairly vigorous.

Princess Alexandra

44 weeks with one to two flowering peaks in winter and spring. The maximum number of trusses per week = 51. The white flowers are flushed very pale pink and the shrub is fairly compact in habit.

Queen of Diamonds

26 weeks, flowering in spring and summer. The maximum number of trusses per week = 52. The flowers are salmon-pink and it has a fairly compact habit.

Queen of Hearts

43 weeks and can be in flower at any time with the flowering peak in summer. The maximum number of trusses per week = 175. The flowers are salmon-red on a vigorous plant.

Red Mountain

46 weeks and can be in flower at any time. The peak flowering time is in summer or autumn. The maximum number of trusses per week = 28. Blood-red flowers, fairly compact habit.

Saxon Glow

44 weeks and can be in flower at any time. The peak flowering time is in late summer, autumn or winter. The maximum number of trusses per week = 51. Salmon-pink flowers, compact dwarf habit.

Tango Time

26 weeks and can be in flower at any time. There are two flowering peaks, but at no particular time. The maximum number of trusses per week = 20. The flowers are orange with yellow centres and the plant is fairly compact in habit.

CONFERENCE and SHOW 2004

Making the enormous leap from the Freemans Bay Community Hall to the ASB Stadium at Kohimaramara (over three times the size), was a tremendous undertaking. Those that had participated at the 2003 weekend were sure that we could succeed.

And we did succeed, although not without teething problems, mostly fairly minor. Along the way, the society was fortunate in gaining some very supportive helpers, which bodes well for 2005. We found that we needed more helpers on the set up night, fewer on Sunday morning and more to help clear away on Sunday afternoon.

Planning was experimental, but the general consensus was that having the conference on the Saturday afternoon and evening worked beautifully, especially for those coming from a distance and those who had stands at the show. Certainly the conference was great fun – interesting talks, delicious food and drink and the company of congenial and convivial fellow gardeners. If the conference grows much more, we will be bursting at the seams.

Despite a cold and miserable Sunday and the New Zealand Herald failing to include the show in Sunday's list of events, those that came spent up and enjoyed themselves. We were rewarded with a double page spread in Commercial Horticulture. The editor, Bob Edwards, feels that we are headed in the right direction and that specialist shows are on the increase around the horticultural world. Certainly many visitors said how much they enjoyed being able to talk to the specialists and to discuss plants with those who had previously only been names to them.

The door prize, which consisted of over two dozen interesting plants donated by the standholders, was won by Pat Turner of Pollok, Waiuku who was rather stunned by the bounty. The collection was worth over six hundred dollars.

The café (wonderful food by Rosemary Steele and Georgie Gardner, the team that provided dinner for the conference) was well patronised by both visitors and members. The plant crèche, an experiment that really worked, was run by our members and resulted everyone buying more plants with somewhere safe to leave them. Members ran both the Eftpos machine and enquiry counter and others joined up many new members at the Society's own stand. With some taking money at the entry and others checking the exit, much sterling work was done. And last, but not least, all this hard work resulted in the society benefiting by approximately \$3000.00 – final results in the next issue.

Marjorie Lowe

BOOK REVIEW

FERN GROWERS MANUAL (REVISED & EXPANDED EDITION)

Barbara Joe Hoshizaki and Robbin C Moran

Reviewer – Barbara Parris

Most professional fern botanists, like myself, enjoy growing ferns as well as studying their pressed and dried fronds. A living collection of ferns is often a vital adjunct to our work, as many useful characters can be seen easily in the growing plant. It is vital for us that the collection is correctly named. While there are no problems of identification with material that we source from the wild ourselves, trying to track down the identity of interesting plants bought in garden centres and markets, and giving them the growing conditions they require, can be difficult, without any clues as to where in the world they may have come from.

Of the dozen major books on fern growing in my study, the most well-thumbed is Barbara Joe Hoshizaki's 'Fern Growers Manual' (1st edition) for its extensive coverage of species. It has provided identification of numerous nameless or dubiously named ferns acquired from horticultural sources for my living collection of c. 300 species. The second edition has been long awaited, because of the promised increase in the number of species covered. It certainly lives up to its claim to be revised and expanded.

A check through the index for *Aglaomorpha* Santa Rosa turned up trumps; I have a plant of this, but could not identify it as a species of *Aglaomorpha* and could not track down the cultivar name in any fern book. It is the bigeneric hybrid *x Aglaonaria robertsii*. Browsing through the treatment of *Davallia*, with which *Humata* and *Scyphularia* are now synonymised, I find that the four pages devoted to these three genera in the first edition have been expanded to fourteen. The beautiful frond silhouettes with scale and soral details of the twenty-one species treated in the second edition are far superior to the three photographs of the twelve species treated in the first edition. These examples are typical of the updating and expansion throughout the section on ferns and fern allies in cultivation.

The treatment of *Dryopteris* is a digest of the important recent account of the species cultivated in the United States, by the senior author and Kenneth A Wilson in the American Fern Journal 89(1) (1999). I am surprised at the absence of Hawaiian *Dryopteris* species, although other cold-sensitive Hawaiian species, e. g. *Odontosoria chinensis*, *Sadleria cyatheoides* and the three species of *Cibotium*, are included.

One small quibble: *Blechnum capense* is now considered to be restricted to southern Africa, although the name has been applied fairly indiscriminately over the years to various species. The New Zealand 'kio kio' species formerly known as *B. capense* has been described recently as *B. novae-zelandiae*, endemic to New Zealand.

I can heartily recommend this fine book to anyone interested in growing ferns or, for that matter, trying to identify what is in the horticultural trade. The wide variety of species included, many mouth-wateringly tempting, encourages me to try more of them, e.g. those beautiful *Cheilanthes* and *Elaphoglossa*. As a reference book it will be a staple of the fern library in the manner of its much-loved predecessor.

Timber Press, Portland, Oregon.
Available from Touchwood Books.

WHAT'S ON

OCTOBER - 16th, 17th

BROMELIAD SOCIETY SPRING SHOW

Saturday & Sunday at the Regional Botanic Gardens, Manurewa, Auckland.

NOVEMBER - 5th, 6th, 7th

CACTI & SUCCULENT SOCIETY COMPETITIVE SHOW

Saturday & Sunday 5th, 6th, 7th from 10am to 4pm at the Mt. Albert War Memorial Hall, Auckland.

NOVEMBER - 13th, 14th

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NOVEMBER - 24th to the 28th

ELLERSLIE FLOWER SHOW - Wednesday to Sunday

Auckland Regional Botanic Gardens, Manurewa, Auckland.

Terry Hatch

(from a talk given at the Subtropicals Conference 2004)

Restiads or restios are reed-like plants, mainly from South Africa where there are three hundred and thirty species. Australia has about seventy species, New Zealand has three or four and a single species comes from South America.

A small number of species, possibly about thirty, is now in cultivation in New Zealand. Most of the species enjoy good drainage, but a few will grow in wet or swampy conditions. They are grown for their graceful stems that can be used for cut floral decorations, special effects by ponds, screening off areas or even hedging. Some of the smaller varieties can be used in containers.

Restio types that are available in New Zealand.

The **Elegia** group includes the genera *Elegia*, *Chondropetalum*, *Dovea* and *Askidiospema*. All these types have brown sheaths up the stems. These sheaths drop off as the plants start to flower, leaving a series of brown rings.

Ischyrolepis species have very upright stems with branchlets that have the flowers on the tips.

The **Restio** group includes *Calopsis* and *Restio*. The stems have masses of branchlets and quite distinctive flower heads. These grow in dampish conditions.

The **Thamnochortus** group includes *Rhodocoma*, *Staberoha* and *Thamnochortus*. The stems have clusters of branchlets on the nodes, making a tufted effect, while the upper portion of the stem is bare to the flower spikes, which are pendulous and very graceful.

Some of the plants in cultivation in New Zealand:

Calopsis paniculata – The three metre tall, tufted stems that grow in strong clumps have large branched flower heads. In habitat, it grows on streamsides or marshy ground in sandstone soils.

Cannomois virgata – This is a vast plant with three to four metre stems that have spectacular male flowerheads. Its natural habitat is streamsides. Unfortunately it is hard to propagate – the seed takes forever to germinate.

Elegia capensis – This is perhaps the best known of the Cape Reeds. It has been grown for quite a number of years in New Zealand. When it is

growing well, it will form large clumps, reaching a height of three metres. Its habitat is damp streamsides. The foliage is often used in flower arrangements as it is long-lasting and dries well.

Elegia cuspidata – This species will grow to 80cm tall in small clumps, with wiry stems and dark flower heads. It is a good garden plant that like *E. capensis* grows on damp streamsides.

Ischyrolepis subverticellata – This plant grows to a metre tall with very upright, fluffy stems which weep outwards – great cut foliage. Its habitat is semi-shade or streamsides.

Rhodocoma gigantea – The stems are three metres tall with fluffy clumps halfway up to the whip-like heads that have dangly flowers. In habitat, it grows in sandy soils.

Thamnochortus spicigerus – The very ornamental, medium-sized clumps grow to one metre high and carry silvery, fluffy sprays. The native habitat is dry and windy with limestone soils.

Other restiads are available in lesser quantities. These are mostly shorter species and not as well known. They also need more exacting conditions to grow well but are well worth trying to track down.

Propagation

Most of the species need smoke treatment for the seed to germinate. The seed can be soaked overnight in water, then drained into a fine sieve and smoked for ten to twenty minutes in a small smoky fire made from a mixture of leaves. The chemical action will help the seed to germinate, which takes from three months to many years for some species – some have never germinated in cultivation yet!

Restiads can be propagated by careful division. This is best done in August when the plants start to get active. Smaller clumps may be divided into two using a sharp knife to cut the stems. More mature open ground plants can be divided with a fork and sharp spade. Replant as soon as possible.

Top left:

Ischyrolepis subverticillata

Top right:

Rhodocoma gigantea

Bottom:

***Cannomois virgata* – foreground plant is *Kniphofia typhioides*.**

Photos: Terry Hatch





THE COLOUR RED – *Anthurium* and *Aeschynanthus* Edith McMillan

Colour is not the only feature that these two plants have in common. In nature both are epiphytes and both can also grow as terrestrials. Often a plant can be dislodged from its perch in heavy wind or by becoming too large and heavy for its host branch, which then breaks and falls to the ground.

Anthurium scherzerianum **Flamingo flower, Pigtail anthurium**

Anthurium is by far the largest member of the Arum family (Araceae) with more than seven hundred species extending from the north of Mexico to northern Argentina and including the Caribbean. There are probably many more yet to be discovered.

Predominantly tropical and humid tropical plants, many of them grow in the very low light levels of the rain forest floor. There are, however, some subtropical species such as *A. coriaceum*, a Bird's-nest type, grown for its foliage and available in New Zealand (see Subtropicals volume 1 page 9). A humid subtropical species, *A. scherzerianum*, comes from Costa Rica. It is an evergreen, tufted, clump-forming perennial found growing, epiphytically and sometimes terrestrially, in montane cloud forest at 1300-2100 metres. Unlike *A. andraeanum* (the only other red flowering species in the genus), it tolerates both lower temperatures and lower humidity.

The attractive and striking inflorescence consists of a 30cm stem topped with a long lasting spathe, 10-15cm long, from which emerges an orange to red, spirally twisted spadix – hence the common name 'Pigtail anthurium'. *A. scherzerianum* is slow growing and if left undivided, will eventually make a sizeable clump. The long, leathery, deep green leaves are very long lasting so that grooming is minimal.

● **Spathe** - a bract at the base of a spadix which it encloses as a sheath)

Photos:

Top:

Anthurium scherzerianum photographed in early December, growing terrestrially in porous, mulched soil under palms and heliconias at Westmere.

Bottom:

Aeschynanthus speciosus growing as a groundcover at Nestlebrae Exotics, Helensville, photographed in January.

A. scherzerianum rewards the gardener by producing the beginnings of the first flowers from late winter and continuing through spring, summer and into autumn. As an epiphyte its needs are modest; good fast drainage; friable, composted soil that is not too damp but not allowed to dry out; bright light in winter and shade in summer; protection from frost and cold winds. Provide these and receive a great return for little work.

When grown in the garden, the recommended minimum winter temperature of 15°C is far too high. Mine gets by with far less (usually between 5-12°C), and even the odd 3°C about three times a year but with no frost and a north facing, lightly shaded position.

● Unfortunately, when checking up on the availability of this species after I had written the article, I found that the Pigtail anthurium has become singularly difficult to source. The big houseplant growers (usual source) have dropped it in favour of *A. andraeanum* cultivars, which they can produce faster, bigger and get more money for. These will rarely overwinter in the garden so the subtropical gardener misses out unless a very protected corner can be provided.

Aeschynanthus speciosus

Lipstick Plant

The *Aeschynanthus* genus with 100 species of epiphytes, climbing perennial herbs and sub-shrubs from Indomalaysia, belongs to the gesneriad family whose members have mainly been sold as houseplants in the past, but some of which are turning out to be good garden plants in our climate.

A. speciosus from Java and Malaysia, is an evergreen, perching perennial usually found in the forks and crevices of sturdy trees where a mature plant has upright stems that droop with the weight of leaves and flowers and then become pendent. These stems can be up to 60cm or more in length with waxy, dark green leaves and clusters of flowers at the end of the branches - in flame to orange with yellow at the base. Flowering seems to be from early summer to autumn with a few flowers as late as May.

Also available from time to time are the species *A. parvifolius* (syn. *lobbianus*), *A. longicaulis* (syn. *marmoratus*) and several named cultivars. Again, epiphytic growing conditions - sharp drainage, humid with summer water, dryish in winter and fairly shady. Frost tender, the recommended minimum winter temperature is said to be 18°C, which would make them 'super tropicals'. This is way out. Rosemary Steele grows it terrestrially at Helensville (photo) and I have a hanging pot outdoors that looks healthy despite the past cool winter and spring (occasional 3°C). My plant is starting now to make new growth.

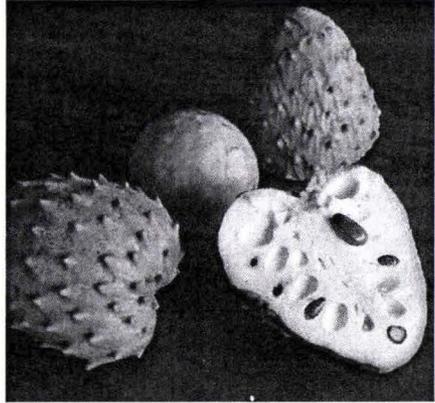
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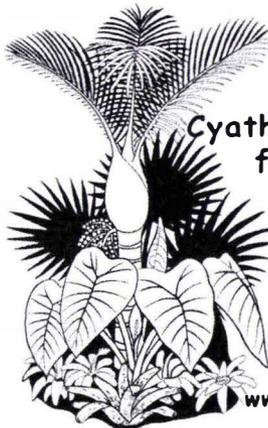
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The layout of the hall is being redesigned to meet the requirements of standholders in the light of the knowledge gained from this year's event.

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DIVARICATING SHRUBS FOR AUCKLAND GARDENS

Auckland Regional Botanic Gardens: (Advisory leaflet No. N3)

The famous New Zealand botanist, Dr. Leonard Cockayne, described this peculiar growth form of some of our native plants as being 'much branched, with often stiff and wiry stems which are pressed closely together or even interlaced, the branching being frequent and almost at right angles'. Indeed the dictionary definition of 'divaricate' is 'wide angled'. Divaricating shrubs make up about 10% of New Zealand's woody flora – a phenomenon not seen to such an extent in any other country in the world – and comprise about 60 species belonging to 20 different plant families. Occurring naturally in a wide range of habitats, from coastal and lowland forests, through scrubland to mountain and sub-alpine areas, the tangled, twiggy appearance of these special plants is a major contributor to the unique, wild appearance of some New Zealand landscapes.

Features which distinguish divaricating shrubs from other plants are – small leaves, interlacing stems, the production of large numbers of side branches and flowers which are produced along the stem (lateral) as opposed to the end of branches (terminal). The branches of some species are often so intertwined that it is impossible to disentangle a severed branch from a shrub.

At first appearance some people may find our divaricating shrubs unattractive and even dead looking. Some species such as *Pittosporum anomalum* produce new spring growth which is dark grey in colour, and can thus appear dead. Detailed observation however will show that this growth is very much alive.

Scientists are yet to agree on why New Zealand is unique in having so many of these weird and wonderful plants, but two main theories have been put forward.

The most commonly accepted is the Climate Related Theory which suggests the growth habit of divaricating shrubs is a direct response to colder and windier conditions which once prevailed in New Zealand.

Another theory is that the divaricating habit had evolved as an adaptation to the grazing effect of the now extinct flightless bird, the moa. Although preserved gizzard remains have revealed that divaricating shrubs were indeed a considerable part of moa diet, Greenwood and Atkinson suggested that because of the ease of production of side shoots, plants were able to recover quickly from browsing.

Several of our native species appear as divaricating juveniles but change to a normal non-divaricating phase in adult life. This phenomenon is known as 'heteroblasty' – examples include kowhai, *Sophora microphylla*, matai, *Prumnopitys taxifolia*, and kaikomako, *Pennantia*

corymbosa. Does this growth habit enable plants to be less vulnerable to climatic extremes when young, or is it a strategy to avoid browsing until plants grow to a height out of reach of moa?

Another curious pattern is that of some genera possessing large leafed species, intermediate leafed species and divaricating species. The large leafed species are often confined to offshore islands. Examples of such genera are *Sophora*, *Streblus*, *Myrsine* and *Pseudopanax*. Some species such as *Myrsine divaricata* are far less divaricating where they occur on offshore islands where moa never reached.

Pittosporum anomalum

Jeff McCauley

This is a wonderful little divaricating shrub 1m high by 60cm. It has small, narrow, dark bronze, toothed leaves attached to silver-grey branches. In spring it has many small white flowers that can only be seen close up. These are very strongly and sweetly scented – great for the entrance to the house.

P. anomalum is very fast growing and maintenance free. It becomes very dense and matures within 4-5 years. This shrub comes from sub-alpine areas but handles warm and humid conditions with no problems. Best planted in full sun (it will cope with partial shade), it requires a moist, well-drained soil but grows in clay just fine as long as it is on a slope. It is not fussy whether it has rich or poor soil and loves full wind exposure – so good for coastal areas.

This is one of New Zealand's underrated plants that has fantastic potential for landscaping. This surely is a plant to help make your garden interesting and different.

Muehlenbeckia astonii

Tororaro

A very dense upright shrub that can grow to about 2-2.5m high and 1.5m wide if left untrimmed. Growth is fairly slow so that maintenance is minimal if an informal-looking, impenetrable hedge is desired.

The bright green, heart shaped-leaves on tangled, intricate and wiry stems make a distinct contrast in foliage. The prunings are very useful and unusual in floral arrangements and help to control plant size.

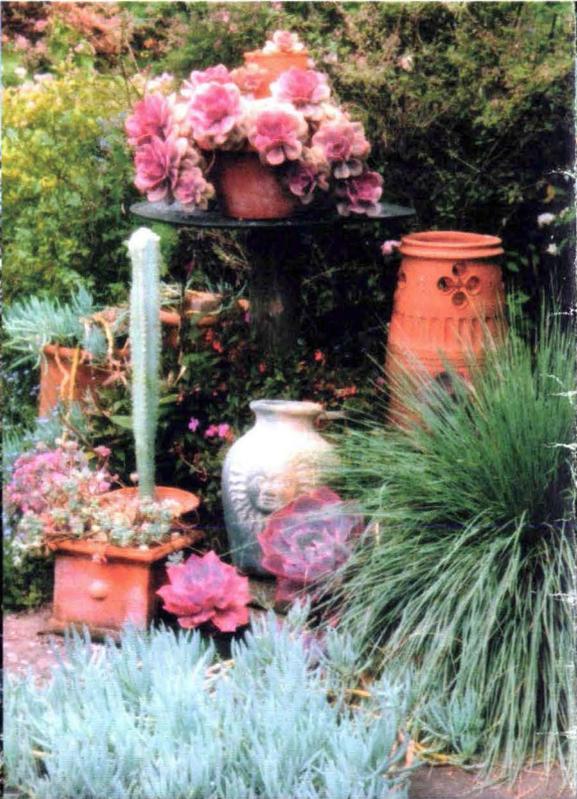
Tough, very hardy, wind and drought tolerant – *M. astonii* comes from rocky and coastal areas around Wellington and the eastern South Island to Banks Peninsula. An endangered species in the wild, it is fairly common in cultivation.

Top: *Pittosporum anomalum*

Photo: Geoff Davidson

Bottom: *Muehlenbeckia astonii* (Auckland Regional Botanic Gardens)





SPRING COMPETITION

And the winner of the \$50.00 Touchwood Books voucher for the spring issue is Barbara Rogers of Opotiki.

Barbara also sent us some photographs of individual plants, which will be featured in a later issue.

Top left:

Barbara Rogers standing beneath a group of *Beaucarnea recurvata* (Ponytails) with a magnolia in flower behind.

Top right:

An arrangement of succulents grown outside as a focal point in the garden during the hot summer months.

Bottom:

A mixture of neoregelias, including the purple form of *Neo*. 'Sheer Joy' and in the background, *Strobilanthes dyerianus* (Persian Shield), which is usually grown as a potplant in all but the warmer areas.

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HOW ABOUT A CUPPA?

Robin Booth

Ever thought of growing your own? It's not that difficult, especially with tea, as it is a species of camellia and can be grown in many parts of New Zealand.

Tea (*Camellia sinensis*) is a native of China and, if not kept pruned, will grow into a large tree. The main commercial variety, *Camellia sinensis assamica*, comes from Indo-China, Thailand, Assam and southern China. As an ornamental, the tea has lovely, shiny leaves and 25mm fragrant white flowers occurring in clusters of up to three, with many anthers and stamens. The tea we drink is made from the young growing tips, harvested during the growing season. Tips can be used fresh or dried as green tea or is fermented and forms black tea.

Coffee is much more restricted in its growing range. The tree, *Coffea arabica* from Ethiopia, is frost tender and appreciates shelter and regular water over the growing season. Young trees also seem to like some shade from overhead trees although my plants, which fruited at six years old, at ten are now growing in the direct sun and seem to be happy. They can grow up to ten metres high.

The beans are flavourless until they are roasted, which is the skilled part of producing a good brew. Commercially, mild coffee comes from lowland plantations and strong from highland ones. Whether this due to temperature or not I do not know. New Zealand has a close relative in the form of *Coprosma* and early settlers used its berries as a form of coffee.

IF IT'S RARE WE WANT IT.

IF IT'S TINY AND IMPOSSIBLE TO GROW, WE'VE GOT TO HAVE IT.

**IF IT'S BROWN, LOOKS DEAD AND HAS BLACK FLOWERS,
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THAT SINGLES US OUT FROM OTHER GARDENERS.**

**A declaration of intent from Ken Druse
in the introduction to his book**

'The Collector's Garden - Designing with Extraordinary Plants'

PLANT SOURCES for this issue

Aeschynanthus – species and cultivars of this plant can be found (usually in hanging baskets) in the houseplant section of many nurseries from late spring to early autumn or you can order it in.

Aloe bainesii – Coromandel Cacti, Mt. Wellington, Landsendt, Oratia, Tippetts, Grey Lynn

Annona cherimola (Cherimoya) – Wharepuke, Kerikeri, Russell Fransham, Matapouri Bay, Landsendt, Nestlebrae Exotics, Helensville.

Anthurium scherzerianum – not currently available to our knowledge but Russell Fransham is propagating some and they will be available next year so order in advance.

Cereus jamacaru (syn. *peruvianus*) - Coromandel Cacti

Clianthus puniceus – Oratia Native Plants, Tippetts, Pottering About, Whakatane.

Cordyline ‘Nigra’ – Landsendt, Tippetts (good black), Wharepuke

Dietes grandiflora – Joy Plants, Nestlebrae, Russell Fransham, Pottering About, Wharepuke.

Euphorbia ingens - This is a very difficult plant to propagate so will not be easy to find. Landsendt thinks that they may have located some.

Hohenbergia correia-arauja – Greens Bromeliads have this but it is so much in demand that you will have to join the waiting list.

Muehlenbeckia astonii – Oratia Native Plants and most native plant specialists.

Pitcairnia flammea - Greens Bromeliads, Exotica, Warkworth

Pittosporum anomalum – Oratia Native Plants

Restiads – Joy Plants for biggest selection, Wharepuke

Sarcochilus – Sunrae Orchids, Drury Ph. (09) 294-7713 (species, hybrids & cultivars), Pottering About, Whakatane, (species & hybrids).

Vireya rhododendrons – Trees for Tomorrow, Kaitaia, Ph. (09) 408-4087, Wharepuke, Kerikeri, Plantet Earth, Kumeu (09) 412-2689, Landsendt, Oratia, Joy Plants, Pukekohe, Cottage Gardens, Te Puna, Tauranga.

SUCCULENT TREES FOR SUBTROPICAL GARDENS

Brian Timms

(from a talk given at the Subtropicals Conference 2004)

We must look at a couple of definitions before we begin. Firstly, “succulent” in this context indicates a plant that is adapted to seasonal fluctuations of rainfall, which can imply some months of complete dryness in some ecosystems. This inevitably means that these plants cease growth in the dry season, frequently becoming leafless. This is usually the hottest part of the year as well. The strongest limiting factor in growing these plants in northern New Zealand is that our cold season is also wet (often very!). Some succulent plants adapt to this admirably, aloes for instance, others find it inevitably lethal.

The term “tree” also needs some definition; I have selected plants that will grow up to a couple of metres or more, and will provide a strong vertical element in the garden. Many of these plants will form a canopy in time.

I will not need to emphasise to gardeners what growing conditions these plants need: maximum drainage with plenty of water in the growing season and as little as possible in winter (fat chance). And maximum light - sun all day is ideal; many of these plants will etiolate in shade.

I have tried not to indulge too much in lists, though they are less irksome on the page than in a talk and I have tried to limit these lists to plants probably available in New Zealand at this time and possible to grow here. But much more experimenting is needed.

(1) CACTI

Most people think of cacti as small globular singletons or little piles of globes, and many of them are, especially the ones kept in greenhouses. But the cactus countries, particularly Mexico, Brazil, Peru, Chile and Argentina, provide dozens of species of tree-forming cacti, ranging in size from shrubby tangled thickets to absolute giants.

Quite a selection is available in New Zealand if you are prepared to look. A few possibilities:

Cleistocactus

These form shrubby clusters of thin, furry and spiny upright stems with narrow red flowers that become fertilised without ever opening, hence the name (look it up!).

Trichocereus

Shrubby to tree-sized, heavy-limbed plants with large, usually night-opening flowers: many cacti are moth or bat pollinated.

Cereoids

There is huge range of tree-sized plants from many genera, from the woolly *Oreocereus* to the huge *Cereus peruvianus* (syn. *C. jamacaru*) - see back cover. There are a number of blue-skinned plants as well, but these do seem to struggle in our climate, as the blue seems to be an adaptation to very intense sunlight.

Generally the woolly plants tend to look rather sad in our wet climate. Many of the cereoids flower very well once they get to a reasonable size and they can grow up to a metre a year for many years, eventually making a huge head of heavy branches.

There are also some fascinating monstrous varieties of one or two species, looking rather melted, from knobbly but otherwise normal to very peculiar indeed. These are well worth seeking out.

Opuntias

Pad cacti, quite commonly grown and rather inclined to get unsympathetically hacked by their owners because of their lethal spines, hence often very ugly. But there are a number worth growing if you can find them. They can often be grown from a single pad and the basal pads will gradually thicken and lignify into a stout trunk. Many opuntias will flower beautifully and the fruit can be eaten. They vary from shrubs to large trees in size.

(2) EUPHORBIAS

Very few of this enormous genus (three thousand and still counting) fit our criteria. Succulent euphorbias (one thousand and still counting!) seem to have evolved into every form that any other succulent plant has ever taken, as well as a few of their own; they are a collector's dream.

Plants from the Madagascan *Euphorbia millii* complex don't really make the cut as trees. Many of those that do (for example the popular and common Indian *E. trigona*) tend to go brown or grey and woody in all but the new growth, possibly as a reaction to cold, and soon become very ugly. The two that seem to grow best outside are both African. The potentially colossal *E. ingens* (see back cover), a jointed almost leafless giant very like a cereoid cactus and *E. tirucalli*, which forms a vast thicket of pencil-thin green stems, each with a pair of tiny leaves on the end. Don't expect large flowers; do expect very toxic and dangerous milky sap.

(3) ALOES

Another genus with a huge range of sizes, though they are virtually all rosulate (collected into a rosette). The tiny ones are beloved by collectors, but we are interested here in the large ones.

Tree aloes are all African, mostly from the continent, but there are also some good ones from Madagascar. They usually start out as single stems, many staying that way, others branching from sparsely to heavily. Their strong geometric shapes and bright, usually red flowers in our winter have assured them of popularity for many years now. A few good ones;

A. bainesii - now very commonly available. It will grow rapidly into a heavily-branched and thick-trunked giant, up to 8 or 10 metres tall and 5 or 6 metres across. Mind you, it will take quite a few years to reach that size, but you have been warned!

A. dichotoma - can be blue or grey leaved and branches dichotomously. Very desirable but seems too tropical or too xerophytic for Auckland conditions.

A. ferox - variable from somewhat to very spiny, red flowers. Slow grower.

A. pluridens - irregular branches, red flowers, first of the season.

A. rupestris - a beauty that branches reluctantly and produces a head too heavy for its trunk, often leaning and/or falling over. Bright orange flowers in profusion.

A. speciosa - single stemmed, dull dark red flowers with remarkable snake-like buds.

A. thraskii - very large leaves, yellow flowers. Many of the plants sold are hybrids, possibly with *A. ferox*.

There are a number of others available, including the popular and easy *A. plicatilis* which doesn't really qualify as a tree. They are all worth trying.

● **This article will be continued in the summer issue.**

Back cover:

Left: *Cereus peruvianus* (syn. *C. jamacaru*) has white flowers that open at night in summer. Grows to five metres or more.

Right: *Euphorbia ingens* is rare and difficult to propagate.

Inset: Close-up of fruit and plant form.

Inside back cover: Martin Walker of Coromandel Cacti standing beside a large *Aloe bainesii* growing in the Regional Botanic Gardens at Manurewa, Auckland.

Photo: Jack Hobbs



