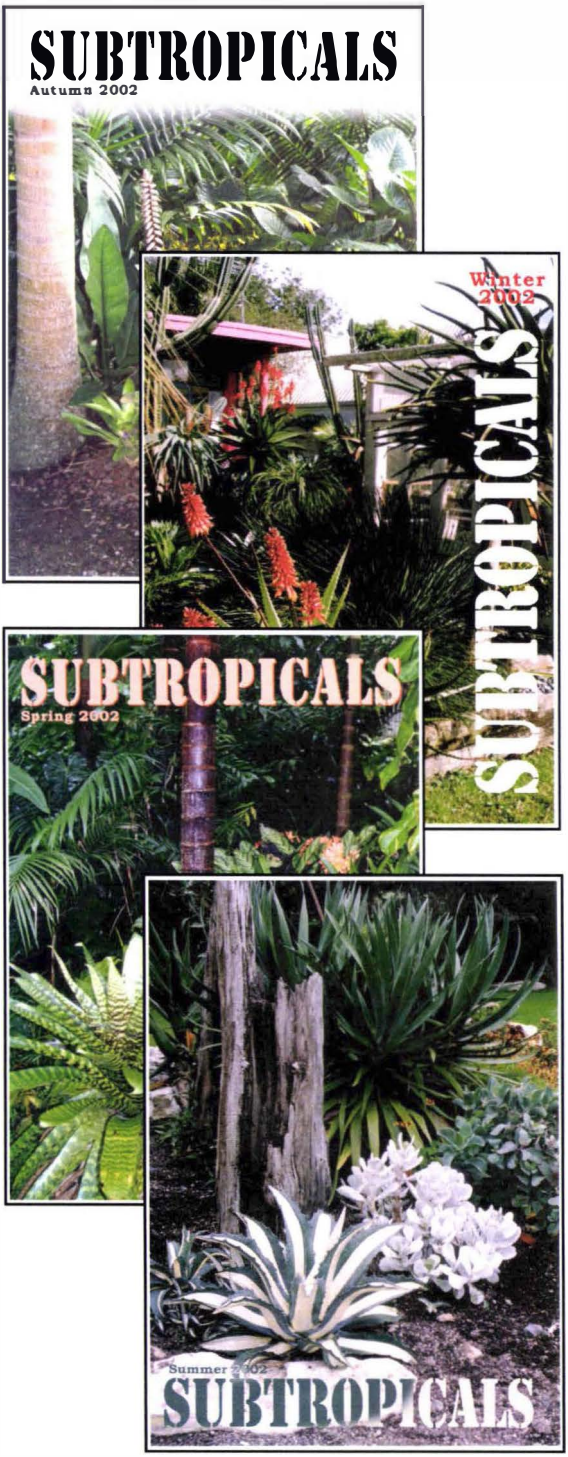
Summer 2002

SUBTROPICALS



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marlowe@ subtropicals.co.nz

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.

SUMMER 2002 **Volume 1 Number 4**

Contents

AUTUMN ISSUE
COPY DEADLINE
All copy must be received by the 31st January 2003

"farewell the old! welcome the new!"

With this, the summer issue, **subtropicals** completes the year 2002.

I hope that when you send back your renewal form, you will take the opportunity to let us know what you think about the magazine. Good, bad or indifferent? Has it lived up to your expectations? What would you like added? Or left out!

Every little bit of feedback from members is appreciated in our efforts to produce a worthwhile publication. Without the articles from our correspondents this would not be possible. Our sincere thanks go to those who have written in, especially our regular contributors.

2003 is nearly here, but regretfully, spring (or is that winter?) stubbornly refuses to warm up into the summer we all eagerly await. For all our sakes, I hope we don't have a repeat of last year's one-month long effort.

2003, while marking our second year, also brings the promise of celebrations to come. The Freemans Bay venue for the Conference and Show/Sale has been confirmed and in the new year much planning and effort will required to make it into a resounding success.

So have a really enjoyable Christmas and may the coming year bring content.

Marjorie Lowe
Editor

• and keep those photographs, letters and articles (of all sizes) rolling in.

Subtropicals magazine

EDITOR
Marjorie Lowe
Phone/fax – (09) 376-6874
marlowe@subtropicals.co.nz
PO Box 91-728
Auckland 1030

COVER DESIGN
SCANNING
Grant Bayley
Ph (09) 849-4505
grant.bayley@clear.net.nz

front cover story

Podgora Gardens

In 1958 a young, recently married couple, Sonia and Paul Mrsich, bought a 163 acre Waipu farm close to the main highway north. As well as grazing, there was a small orchard and some native bush that had been invaded by blackberry and gorse.

Once the weeds had been removed, some *Vitex lucens* (puriri) were planted amongst the existing *Dacrycarpus dacrydioides* (kahikatea), *Kunzea ericoides* (kanuka) and *Podocarpus totara* (totara). These brought the birds and soon *Corynocarpus laevigatus* (karaka) and *Beilschmiedia taraire* (taraire) began to spring up. The six *Rhopalostylus sapida* (nikau) planted at the same time as the puriri, self seeded into the bush.

Roses (still Sonia's joy) were planted around the house and camellias were introduced into the bush where they thrived. Since the early 1970s, Sonia has specialised in cannas as a commercial crop. Over the years, as well as importing new hybrids, she has been breeding distinctive varieties.

In 1990, however, about 158 acres of the farm were sold to enable the Waipu bypass to be built. This left the Mrsichs with five acres surrounding the house so a new gardening era started. In the early 1960s, Sonia had been introduced to bromeliads by an aunt and became a member of the Bromeliad Society. The Society at that time provided a mailing service for plants for country members and these bromeliads joined the camellias and natives in the bush setting.

Over the last twelve years, numerous tropical and subtropical plants have been added to the bush. The canopy provided by the native trees, palms and tree ferns protected these more tender plants when severe frosts hit the area in 1994. Nothing was lost and the only damage was to a few that were on the northern edge, which was the hardest hit.

In the sunnier and drier areas, north and northwest of the bush, a wide variety of succulents and drought resistant plants provide a different ambience. The cover photo shows only a small portion. This is a most interesting and inspiring garden that is constantly being added to, changed and enhanced. It is always worth a visit when you are in Northland (and oh, those gorgeously coloured cannas!)

Front Cover:
From top to bottom -
Dracaena draco, Kalanchoe grandiflora, Cotyledon orbiculata, Agave americana* var. *mediopicta alba

Dracaena draco Dragon tree

It's a fascinating phenomenon, how a rare and very desirable plant can become "common as muck" in a short time. Today in the paper, I saw dracaenas advertised for such low prices that they were obviously being remaindered, probably bought in bulk from some nursery. But only a few years ago ...

Still, it does seem a shame to devalue such a beautiful and easy plant. Spectacular, fast growing and spineless, dracaena is a superb garden plant, looking great in a bed of succulents and equally so among subtropicals or grasses, with its smooth grey trunk (which is initially beautifully patterned by the leaf bases) and its head of green sword-shaped leaves. It also has a spectacular head of white flowers, as many Auckland growers are now finding out, followed by red-brown berries which attract the birds. As this flower head is terminal, the tree then branches around this point. The branches grow a metre or two and then flower again, so before long, the plant is multiple headed. A large one has a rather mushroom-like profile and, with any luck, gives enough room to walk under, though you would need to be rather short to get under the one in the photograph on page 9.

Originally from the Canary Islands, *Dracaena draco* is one of about sixty species from Africa, many of which seem to be equally beautiful and desirable. Incidentally, it is not really a tree as it has no growth rings and does not really form wood. It resembles the yuccas, nolinas and beaucarneas in this (all belong to Agavaceae though not closely related).

Plan ahead when planting one - it will eventually get colossal – take a look at the one outside St. Stephens Church in Parnell if you don't believe me. But even this is a baby. I have seen a photo of one in Icod on the island of Tenerife, which must be 20-25 metres (60-70ft) tall, 12 metres (35ft) in girth at chest height and has many hundreds of heads. But don't panic, it is probably six hundred years old!

There are one or two in St. Vincents Avenue in Remuera that have never branched, presumably because they have never flowered. They are like telephone poles with a remarkably small number of leaves on the top. Extremely desirable, but if they don't flower there are no seeds and with no branches you can't take cuttings. These, incidentally, are easily rooted, especially if they already have a few of the adventitious roots that the plant often produces.

Earlier I mentioned berries. The birds like them and they germinate quickly and easily, hence the devaluation mentioned before. I predict that in twenty years time, we will be as dubious about the introduction of

Dracaena draco as we are now about many other species. I have a relatively small plant, which has been flowering for several years now, and there are seedlings coming up all over the place. Luckily they are easily weeded if one can bring oneself to do it.

Brian Timms **Photo: page 9**

Kalanchoe grandiflora

This succulent shrub from East Africa and Ethiopia can grow to 75cm in height and, when shaped, to 1-2m wide. The stems are fleshy when young but become woody with age. The leaves (10cm long by 7cm wide when mature) are blue/grey with frilly edges (denticulate) and covered in a waxy bloom. The flowers (approximately 2cm across) are bright lemon yellow with four petals that curl back as the flower ages. They are carried in umbels that can be 20cm across and consist of many flowers that are lemon scented. Flowering is from October through the summer.

I have grown this plant outside in the garden for four years, in which time it has survived several frosts with no real damage. I have also used it in landscapes for other people. The position in which I grow this at home is against the north/west wall, under the eaves. Our soil is clay pan (you could make pots out of it), so we use scoria for drainage - 7.5cm-10cm deep - plus a good succulent mix on top. I use scoria as a groundcover around the plants as well. This is to keep the stems clear of soil and reduce the risk of fungal and pest damage. Spread over the whole planting area it gives a good landscaping effect.

When grown in the open, this plant tends to sprawl more. It loses a little in height but forms quite a well rounded shrub if pruned more selectively for shape and form. The new growth appears as temperatures rise in spring and shortly after pruning. Shoots may be frost tender if summer pruning is carried out too late.

Feeding is carried out two to three times a year, as growth starts in spring, and twice during flowering. Do not give a feed just prior to winter as this softens succulents and may lead to frost damage if they do not have time to harden before the cold weather.

Graham Walker **Photo: page 9**

Cotyledon orbiculata **Pigs Ears**

A large (to 75cm), robust succulent shrub from Namibia (arid tropical), this plant has thick, flattened spoon-shaped leaves covered with a waxy, silver-white bloom, sometimes with a red margin. The bloom can be washed off the leaves where there is sufficient rainfall.

Between Easter 2001 (when the cover photograph was taken) and September this year, the leaves had become mid-green with no trace of the white covering. In that time the plant had spread quite considerably.

The autumn-flowering stems, up to 70cm long, have pendent tubular flowers, which vary from yellowish red to orange to salmon-pink.

C. orbiculata is frost tender. It grows in sun or part shade in very well drained soil.

Agave americana var. *mediopicta alba'*

The so-called Century Plant from Mexico, *Agave americana*, takes from ten to thirty or forty years to flower. Monocarpic (the plant dies after flowering, like bananas and bromeliads), it becomes a very large plant of more than 2.5m high and wide. The flowering spike with yellowish flowers can reach 12m.

Fortunately, there are several forms – m*arginata, mediopicta,* and *mediopicta alba* – that can be accommodated in smaller spaces. These are all succulent perennials with basal rosettes that have terminal spines. All have sharply pointed toothed leaves.

A. americana mediopicta alba' has blue-green margins with almost white central stripes. These colours can vary according to the light. The cover photograph was taken in the afternoon when the leaves looked very blue and white. In the morning, when the light was coming from a different direction, the leaves were an ordinary green with almost yellow stripes. Size at maturity varies from 1-2m.

The flowering stem is branched, with dense tapering spikes of bell shaped, white to cream flowers in spring/summer. The plant can take 20-40 years to flower.

Full sun, fast drainage and occasional watering during summer are its only requirements. Although described as 'arid tropical', *A. americana* var. *mediopicta alba* will usually survive temperatures down to -5°C. Poor soils are not a problem. Propagation is by offsets and seed.

ERROR: spring issue, page 34.
Dendrobium lowianum* should be *Cymbidium lowianum

Photos opposite:
Top:
A many headed *Dracaena draco*, showing the plant in both flower and berry on different branches (
Bottom:
Kalanchoe grandiflora

Stromanthe sanguinea Red Rain

Very little has been written about *S. sanguinea*. Most of the few books on tropical and subtropical plants ignore it completely. Only Graf (Tropica), Macoboy (Exotic Perennials) and the RHS (Gardeners' Encyclopedia of Plants and Flowers) have anything to say and much of it does not apply to our growing conditions.

Described as humid tropical, *S. sanguinea* is a creeping, shade tolerant perennial from Brazil. It sends up 1.5m stiff, vertical stems that are topped by groups of fans, making up a larger fan. The overall height is about 2m. As the fans mature, their weight can cause the stems to lean at an angle. The growing habit is not unlike clumps of papyrus.

The leaves are glossy, olive-green on top and dull wine underneath, with panicles of bright red bracts that enclose the white flowers. Well grown, it turns on a festive display from mid-November to mid-January.

Frost tender, the minimum temperatures suggested vary from 10-15°C. Experience has shown that, protected from cold winds and frost free, *S. sanguinea* will show no ill effects from the occasional 3°C.

Brown tipped leaves, spoiling the plant's appearance, are the response to insufficient water. The plant in the photograph opposite is close to the house walls, under the eaves, and is watered most of the year. Even as a large clump, *S. sanguinea* is easily moved – a very useful feature.

Alpinia zerumbet Shell ginger

An evergreen, perennial ginger from India, *Alpinia zerumbet* 'Variegata' is one of the hardiest and most spectacular gingers for northern New Zealand conditions, handling light frosts once established. Smaller than the wild green form (3/4m), it is usually a dense clump about 1.4m tall. Like most gingers, it looks best when growing in dappled light, with average moisture, drainage and well-loosened soil. In full sun there is a tendency for the leaves to scorch in hot, dry or windy conditions.

The variegated shell ginger is more notable for its handsome foliage than the relatively unremarkable flower, and with minimal care looks consistently good all year round. The foliage is glossy and flecked or striped irregularly in creamy yellow. The terminal, pendent racemes of pink tipped, white flowers with yellow and red interiors are similar to those of the green form, but are smaller and are at best only faintly fragrant.

A new plant usually takes about three years to start flowering but, thereafter, flowers are produced for many months each year. The small orange seed capsules split in hot weather releasing the dry seeds. In twenty years I have never seen volunteer seedlings come up, so I think it can safely be said that they are unlikely to ever become a problem in the way some Hedychium species have done. Its growth rate is notably slower and less aggressive than the hedychiums.

A relatively fuss-free plant, this alpinia only requires annual removal of spent stems during winter or early spring to look beautiful through the rest of the year.

An annual feed around the base with compost and replenishment of mulch keeps the roots cool and moist. Propagation is by division or seed. Interestingly, the variegation is transmitted to following generations by seed. There are no noticeable pest or disease problems.

Russell Fransham

Letter

You asked me to let you know our temperatures down here.

Our heaviest frost this winter was minus 8.5°C, which is probably about right. We've had a dozen frosts so far this winter, but the average would be minus 4°C. These are usually followed by lovely sunny days with very little, if any, wind.

I grow my tropicals under glass with no extra heating. Here I have *Pachypodium lameri, Dioscorea* (syn. *Testudinaria*) *elephantipes* and several bromeliads. All my cacti and succulents, several clivias and some taros seem to survive.

Indoors, with heating, I have several other pachypodiums and more than thirty different sansevierias. They are my great interest along with aloes and agaves.

I have had a *Brachychiton discolor* growing outdoors for the past two winters now. It is still alive, but whether it lasts another winter remains to be seen.

October is our worst month – with gales and uncomfortable conditions. The winds are very depressing. February is the best month.

Lyn Evans – Otatara, Invercargill **4th September**

● It is amazing that summer deciduous *Brachychiton discolor* has survived two winters as it is supposedly hardy only down to minus 6.6°C. The hardiest brachychiton available, is *Brachychiton populneus* - the Kurrajong. Also summer deciduous, is thought to be hardy down to 12.2°C and is also very drought hardy when established.

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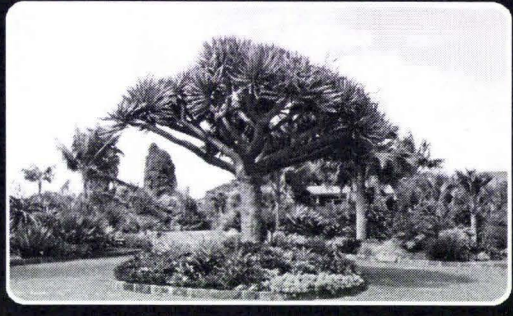

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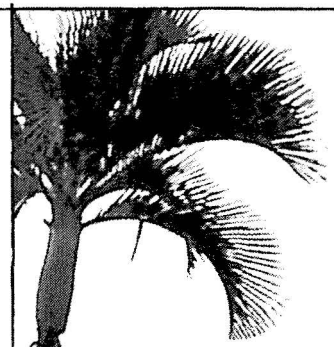

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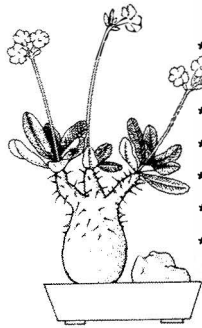

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THE SPRING FROM HELL

Jim Gilchrist — Whakatane

I have just heard on the radio that this last winter was the worst ever for Hawkes Bay. In the Bay of Plenty, local kiwifruit growers are not too happy either. Some of them have lost their entire crops, others 60-90%.

Just around the corner from where I live in Onepo Otakiri, there are areas of squash that had been started under plastic. Just as they were starting to run, our spring weather arrived, with devastating results.

How did it affect us? We had a very easy winter and then, mid-September, we had night after night of cold and frost – down to minus 2/3°C. We lost a lot of puyas and dracaenas as a result. Epidendrums that were growing at ground level were damaged, but look as if they may recover.

The dendrobiums, cattleyas and laelias (started off a couple of years ago and growing outside) are well established and seem to be faring all right. The orchids that we put outside early to late summer are all looking very sick and I think we will lose most of them. The real surprise is that some *Hoya carnosa* that were left outside seem to have come through unscathed.

We have a lot of cymbidiums growing in our garden under the protection of a huge Blue Gum. These flowered right through the winter and gave us a great show. They seem to have survived the spring. However, the foliage has gone a bit yellow so they may need a feed, but first I will dig up one of the plants and check the roots.

Last year we had a very cold winter with a lot of frosts. These burnt all the flower spikes off the cymbidiums before they had a chance to bloom. As a result, I think the plants came out of winter with a lot more in reserve. They certainly looked a lot greener and healthier. It will be interesting to see how they perform next year.

The lawns are growing as if they are on steroids and the weeds seem to think they are on them as well.

The plants that I thought that I would have trouble with were the aloes. Surprisingly however, the only damage has been the burning off of some of the leaf tips.

QUESTION & ANSWERS

Members are invited to send in any problems they have with identification, health, where to place specific plants etc. etc.

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

Erythrina speciosa — Brazilian Coral Tree

This deciduous tree from the West Indies and Brazil is fast growing, reaching about four metres.

If pruned back hard in early summer (after flowering), it will produce two metre branches with multiple flower spikes at the tips, attracting tuis and waxeyes the following spring (September to November). Unfortunately, it not only has thorns on the branches, but also a few on the undersides of the leaves.

Tolerating most soil types, it requires a frost free, well-drained position in full sun and is not affected by salt winds.

We have been growing *Erythrina speciosa* for many years and it never fails to attract comment from our garden visitors.

The best results for propagation are from dormant hardwood cuttings. Our trees have never produced seed.

Georgie Gardner

● This tree can be pollarded, allowing the gardener to control the height of the trunk.

Adiantum aethiopicum — Maidenhair Fern

A. aethiopicum is a New Zealand native fern whose delicate good looks belie its tough nature. It is a slowly spreading groundcover (1m in circumference in five years) with soft, pale green highly divided fronds.

It is suitable for both light shade and the more open parts of the garden. In shade, the fronds are flat and show their lacy form to perfection but, if the shade is too dense, the plant will go into a slow decline, producing fewer and smaller fronds.

The plant illustrated receives sun all morning through until mid-afternoon and has developed a three dimensional frond shape in response to strong light. It shows slight damage from late frost, the only climatic condition to faze it. Plants should ideally be sited away from frost-prone areas.

The new growth of *A. aethiopicum* covers the older fronds so, unlike many ferns, it does not need an occasional grooming to tidy it up. It has no particular soil requirements and, unlike many ferns, does not require frequent watering. In the wild it can grow in the dry coastal climate of Northland and is able to withstand considerable summer drought. However, watering in dry spells, together with a feed of general garden fertiliser once or twice a year, is greatly appreciated.

Barbara Parris

● The fern in the background is *Asplenium aethiopicum* – note its yellowed fronds due to sun stress.

SALVIAS FOR WARMER AREAS

Rosemary Steele

The genus *Salvia* is one of the largest in the plant kingdom, along with *Euphorbia, Solanum* and *Acacia.* With 900 plus species, salvias are found in most areas of the world: Africa has 59 species, Europe 36, Turkey 86, (with 50% endemic) and over half are found in the Americas (25% in Mexico alone), but none occur naturally in Australia or New Zealand. As you might expect from such a large group, there is a species suitable for just about any habitat and the subtropical garden is no exception.

Almost all salvias require free-draining soil. Most do best in full sun and many are adapted to grow in hot, dry climates with small leaves or tomentum to protect them from drying out. However, some of those that I am going to describe are quite happy in shade. Some of the larger leafed forms that do well in the relatively humid conditions of North Auckland include *S. confertiflora, S. madrensis, S. forskaohlei*. and *S. gesneriiflora.*

I do not know of a common name for *S. confertiflora*, but it is a tall almost woody plant from Brazil. It has leaves up to 18cm long, dark green, with a rugose surface. New stems and leaves and midribs are covered in almost magenta velvety purple hairs (reminiscent of the once popular houseplant Gynura), though the colour fades to brown as they age. The flower spikes appear in autumn and can be up to 60cm long, covered in rusty red-brown hairs and, although the individual flowers are small and orange-red, the overall effect is most pleasing. The spikes make an interesting addition to autumnal flower arrangements. Unfortunately the foliage has a somewhat unpleasant smell, so the plants should not be placed where you brush past them (unlike *S. elegans* which releases a lovely pineapple smell as the leaves are bruised). *C. confertiflora* is happy growing in either full sun or shade and reaches 2m in height.

An interesting companion would be *S. madrensis* from the Sierra Madre Oriental in Mexico. It is a herbaceous perennial, which sends up tall stems from underground rhizomes. The four-angled stems (up to 2.3m) bear large heart-shaped leaves and 30cm inflorescences of butter-yellow flowers with sticky, aromatic calyces from autumn through into winter, unless cut by frosts. The plants like free-draining rich soil and can be chopped back once flowering is over to promote strong new growth in

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Top left: *Salvia leucantha*
Top right: *Salvia confertiflora*
Bottom left: *Salvia gesneriiflora*
Bottom right: *Salvia mexicana* 'Limelight'

the spring. It is probably too vigorous for a small town garden – a friend described it as a 'thug', but it is well worth growing if you have the space.

Clumps of large leaves help "anchor" a garden and the rosettes of *S. forskaohlei* (sometimes spelled "forsskaolii") are perfect for the job. It is a hardy perennial which looks subtropical, with huge softly hairy leaves up to 30cm long and almost as broad, on stout 20cm petioles. The flowers are violet-blue with a broad white stripe marked with yellow on the lower lobe to guide pollinating insects into the pollen and nectar. Stems reach 90cm, so a clump in flower is an imposing sight. Unlike the species mentioned above, this seeds freely. It also has the great merit of being virtually slug and snail-proof, unlike some of the other clump-forming species with large leaves.

Another blue flowered species, *S. guaranitica,* is native to Brazil, Paraguay, Uruguay and Argentina and has long been a popular garden plant. It has rhizomes and a running rootstock and slowly spreads to form a good-sized clump up to 1.5m tall (or more, with plenty of water). It dies back to ground level in winter (even without frost) but the roots allow it to overwinter well. Leaves are ovate to broadly lanceolate and are bright dark green. Flowers are borne on 25cm spikes in from summer into autumn and come in a range of shades of blue, depending on the cultivar. 'Argentine Skies' is pale blue, 'Blue Enigma' has large deep blue flowers with green calyces, while 'Black and Blue' has deep blue flowers and deepest black-purple calyces.

Salvia mexicana grows over a wide area of Mexico. It is highly variable in the wild and there are several forms available in New Zealand. It is a shrubby perennial which grows to nearly 3m tall by 1.3m wide but is more suitable for small gardens as it doesn't sucker like *S. madrensis.* Leaves are variable in size (up to 15cm long) and colour, usually dark grey-green, ovate in shape with a long pointed tip. There are hairs on both surfaces, but on one of the best cultivars, 'Limelight', those on the upper surface are scarcely noticeable and the leaves are bright and shiny.

Calyces: (plural of 'calyx') the sepals of a flower (typically forming a whorl that encloses the petals and forms a protective layer around a flower in bud)
Lanceolate: of a narrow oval shape, tapering to a point at each end 'Lance-like'
Ovate: oval, egg shaped
Petioles: the stalk (that joins a leaf to a stem)
Rugose: wrinkled, corrugated
Sessile: attached directly by its base, without a stalk
Tomentum: a layer of matted, woolly down on the surface of a plant

Both the colour and size of the flowers and calyces vary too. 'Limelight' is particularly dramatic with chartreuse calyces surrounding bright violet-blue flowers 4cm long. Flowers are borne on upright racemes up to 50cm long, from late summer onwards into winter. Picked they last well in water. Cutting back the stems hard in late spring encourages new growth and keeps the plants well clothed in leaves, as well as preventing the somewhat brittle stems from splitting in the wind.

Pineapple sage (*S. elegans*) can be used to scent cooking and should definitely be planted so it can be brushed against. It also brings a touch of red into the garden. It is a vigorous plant reaching 1.5m with ovate leaves up to 8cm long. Spikes of bright red flowers are borne virtually all the year here. There are several different forms around in New Zealand. I have one derived from seed of 'Honey Melon' which has longer, narrower flowers than the species. In the United Kingdom there is a form called 'Scarlet Pineapple', but I'm not sure if it is in New Zealand. I grew up calling a totally different species pineapple sage. This is a woody shrub with bright red flowers, which are much broader than those of *S. elegans* and should properly be called *S. microphylla* 'Kew Red'. It is sometimes called *S. grahamii,* but this is now invalid.

A plant with even larger red flowers is *S. gesneriiflora*, which comes from the Sierra Madre Occidental in Mexico. In my garden it reaches 2m in height by at least that wide, with heart-shaped leaves and multiple stems. Somewhat aromatic, it has 30cm spikes of closely spaced whorls of bright red flowers 5cm long. There are two forms in New Zealand, one with dark, almost black calyces (called 'Tequila' in the States) and the other with green. It flowers virtually nonstop for me, though it is only meant to flower from late autumn to early spring. I have plants in both full sun and almost full shade and both perform equally well. They are also free of pests and diseases. Heavy pruning would keep them more compact, but I am not very good at that!

However, there is one species which I do remember to prune and that is *S. leucantha.* This used to be called the Chenille plant, but I guess that name went out of fashion with the fabric. There are several forms around in New Zealand: Terry Hatch has distributed a more compact growing form (Purple Glow) and also one with lime-green new growth (Spring Gold Joy). The colour of the woolly calyx ranges from purple to almost white and the corolla also varies. Also from Mexico, *S. leucantha* is a low-growing shrub reaching 1.2m in good conditions. It suckers freely and each stem bears numerous narrow, pointed mid-green rugose leaves with pale undersides. The top 30cm or so are densely packed with sessile flowers surrounded by the woolly calyces already mentioned. Cutting back the stems after flowering ensures a further flush of growth, so you can have it flowering almost all year, especially in warmer areas.

New Zealand was the first country to organise a Salvia Society. Currently there are some 40 members scattered around the country. Those in the Auckland area meet on the first Saturday of the month, usually at a member's home, but garden rambles to visit members further afield and trips to the Regional Botanic Gardens are also held.

If you are interested in joining, you are most welcome to ring the president, Janet Matthews, (09) 413-8335 for details of the next meeting. Australian gardeners are now in the process of setting up a society too, so interest in this fascinating genus is growing.

There are two National Collections of salvia species in New Zealand, one at the Regional Botanic Gardens at Manurewa and the other at 'Marshwood', the home of Geoff and Adair Genge, near Invercargill. These give excellent opportunities to see a wide range of these species growing and assess their performance.

Further reading:

Clebsch, Betty. A book of salvias: sages for every garden. Timber Press, 1997
Sutton, John. The gardener's guide to growing salvias. David and Charles, 1999.

COFFEE, THE ARABICA SPECIES

I have just found the first new seedlings growing under my coffee tree. So what, you might say! The thing is that it now shows me that the tree is producing fertile seed. This means I can now start collecting beans which will make coffee (if I wanted to). My trees are about eight years old and have been setting fruit for a few years now, but the seeds have always been empty. Over the years I have been told that this is normal.

Coffea arabica originally comes from tropical East Africa. It is supposed to give a coffee lower in caffeine than *Coffea robusta* and a gentler flavour. A bushy small tree, this is a good garden plant for frost free situations. The leaves are shiny deep green with wavy edges and in the axils of the leaves are clusters of up to six white, sweetly scented flowers, mainly in autumn. These develop into shiny green berries which gradually ripen to shiny red.

Coffee must have good drainage to grow successfully. It can be grown in light shade or sun. Mine grow in the sun and in the warmer times of the year grow well, but by the end of the winter, the tips of the branches are looking fairly unhappy (or can even die back). As soon as it warms up they grow out of it. Coffee seems to grow well as a container plant, so if you have a frosty or cold winter spot, you can shift the plant to a warmer place.

Robin Booth

WHAT IS HAPPENING IN THE GUAVA MOTH INVESTIGATION

Robin Booth — Kerikeri

For those who have been following the story of the Guava Moth spread in the north, here is an update.

The moth is now being re-named, for New Zealand, the Fruit Boring Moth as it attacks such a wide range of fruit. It has been found in citrus, guavas of different species, apples, peaches, pears, plums, feijoas, loquats and macadamias and possibly cherimoyas, bananas and several lesser-known fruit.

For those who don't yet know, the egg is laid on the skin of the fruit and the caterpillar hatches from the egg directly through the base into the fruit, leaving a hardly visible hole. Inside, it grows quickly, generally eating into the seed or around it causing premature fruit drop. When fully mature, the caterpillar drops to the ground where it turns into a chrysalis, then finally a moth, which mates and the female flies off to find another fruit to repeat the cycle.

As little funding has come forward for research through government agencies, the New Zealand Tree Crop Association has put in some seed funding to get a private company to do some investigations into a control for the moth. This group, with the assistance of a Canadian firm, has found a very effective pheromone to attract the male moth and is now working on the setting up of an 'attract and kill' bait that can be safely put in fruit crop areas.

It will take until next year before something is commercially available. Meanwhile, pheromone traps will be available in about a month, then the population of moths can be studied and results from many places evaluated. I will let you know when the traps are available.

A byproduct of the research is that a pheromone of the native Berry Bud Moth has also been found. This moth is of the same genus as the Fruit Boring Moth and causes a lot of damage to berry crops, especially further south.

Keep tuned to this site.

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.

CHAMAEDOREA PALMS
John Prince

If this article were intended for a traditional temperate gardening magazine then it would probably come with a title such as 'The Charm of Chamaedoreas'. Maybe that sounds a bit twee for modern subtropical tastes, but they really are charming plants. Many of us are drawn to palms for the sheer drama, the almost geometric precision of the new growth and the sculptural impact that maturing specimens can bring to warm climate plantings. Well grown, they have a 'wow!' factor and beauty with which few other plants can compete. They dominate our images of beautiful tropical gardens and climates and are indissolubly linked to pictures of holiday resorts in seemingly ideal spots. Always these palms are large in size, and that means that they are certainly not chamaedoreas.

Chamaedoreas are quintessential understory palms, ranging in height from about one to three metres, occasionally more. They are a perfect link - from the ground covers, bromeliads and, other shade-loving small foliage and flowering plants that we often place under our palms - to the palm canopy that we create overhead. In relatively miniature forms, from dainty to surprisingly robust, they help fill in the subtropical shade, on a human-sized scale, with yet more palm shapes.

Mostly they are pinnate, but some do have entire leaves. The stems are often ringed, some reminiscent of bamboo and, being unarmed, they are gardener-friendly. Some clump, many are single stemmed and a few, such as *C. radicalis*, hardly form a stem at all. The flowers and fruit can be quite colourful, albeit fairly briefly, in shades of white, yellow, orange and red. The sexes are on separate plants and related species can hybridise.

They occur naturally in moist, shady locations, often in rain or cloud forests at some altitude, from Mexico through Central to South America. Their origins imply that many ought to flourish here, in subtropical gardens, protected by canopy overhead and not directly exposed to killing frosts. Most will resent any direct frost, but some will tolerate perhaps a degree below zero and a few will take more than that. We should be growing more of them. Of those species that I have tried, so far only *C. deckeriana* has proven difficult. A pity, as Hodel writes of its distinctive spicy-anise fragrance when in flower, which 'conjures up images of a deep, dark, primeval rain forest.'

The palm books will tell you that there are 'about 100 species'. The standard reference book is Donald Hodel's 'Chamaedorea Palms: the Species and Their Cultivation'. He lists 96 valid names. When I asked

someone in Florida why *Chamaedorea plumosa* wasn't amongst them, the answer was that Hodel had to meet a publisher's deadline back in 1992, although he knew that other recently identified species existed. I had just purchased a plant and wanted to be sure that such a thing really was a valid species. Interestingly, the long term palm seed specialist, Inge Hoffman, spoke in Auckland a few months later and it was one of the species she strongly recommended that more people ought to try in our climate. Thus, that recurring but vague, 'about 100 species' holds up quite well.

How many species are in New Zealand? That's unanswerable, unless one of the longstanding palm specialists can give us a good estimate. I've bought them when I've seen them at Palm & Cycad Society meetings in Auckland since the early 1990s. Gary Coleman has sometimes put species through the excellent seed bank of the Society. I've imported seeds of several species and I've topped that up with plants from commercial suppliers such as the New Zealand Palm Co. At the moment, I can count about twenty-eight species in our gardens at Nestlebrae Exotics. However, keener collectors must have had access to many of the rarer ones that have found their way to centres of collecting activity in places like Florida, California, and Queensland.

I have a friend in central Florida who has begun making regular visits to plant up his recently purchased property in the mountains of Puerto Rico. Central Florida is too populated, too flat and too restricted by the fearful reality of the very occasional freeze that can kill an archontophoenix, adjusted to otherwise semi-tropical conditions, 'in a heartbeat'.

A few months back, as he set off for another couple of weeks in the Caribbean planting the likes of his cherished Pigafetta palms, he tried to wind me up. He wrote something along the lines of: 'Great minds demand great palms, John. I'll leave the chamaedoreas to places like New Zealand'. Well, it didn't upset me much and, just to prove it, I went out and happily planted yet another couple of chamaedorea species I hadn't yet had the pleasure of admiring in the gardens here.

As David Jones wrote, they 'have tremendous horticultural appeal and they are probably the most significant group of palms available for general ornamental use, both indoors and out. Don't even despise *C. elegans,* the so-called 'Parlour Palm', the seed of which was being sent by multiple tonnes (hundreds of millions of seeds) from Mexico to plant producers in the United States a few years back. It's cheap and it has a place infilling the understorey.

Now, does anybody have a spare *Chamaedorea tuerckheimii*?

A few of the good performers that caught your editor's eye on a recent visit were *C. costaricana, C. ernesti-augustii, C. schiedeana* and *C. woodsoniana.*

I'd have added a personal favourite, ***Chamaedorea cataractarum***, which I like, not because of any colourful flowering spectacle or startlingly ringed stems, but because it provides such a wonderfully strong medium-dark green as it slowly develops into a low clump. From Mexico, it grows on stream edges, as the name indicates, and will tolerate seasonal flooding. Keep it cool, shaded and moist and don't call it *C. atrovirens* (a misnomer perpetuated by people in nurseries all over the world who don't have time to read books). Perhaps, also, ***Chamaedorea linearis*** which I bought from Dick Endt and which is now, at about 3m high, producing its first clusters of attractive white flowers.

Chamaedorea costaricana comes from ??? (Send answers on a postcard to the editor!) Once out of the very young stage, it will tolerate bright conditions, usefully withstanding a lot of sun and forming a clump of stems. Mine are now about 4m tall, but the books indicate that they can double or even quadruple that height in some habitats.

Chamaedorea ernesti-augustii is a solitary palm, up to 2m tall, noted for its striking undivided (bifid) leaves, strongly notched at the tip with a fishtail look. It makes an excellent specimen plant, is slow growing and ought to eventually attain a leaf blade size of up 60cm by 30cm. A 'collector's gem' (Jones).

Chamaedorea schiedeana comes from heights of 1000m or more in Mexico. Its thin, ringed stems, ultimately as much as 4m tall, are complemented by inflorescences which turn red-orange as they age.

Chamaedorea woodsoniana is another personal favourite, even if I didn't appreciate how vigorous it would become when I planted my oldest plant. I like it so much that I've just put another seven into the ground. We're talking real vigour for a chamaedorea here, with robust stems, strikingly ringed with white, sometimes reaching up to 12m in its original habitat in Mexico and a number of central American countries.

Top left:
Chamaedorea ernesti-augustii
Top right:
Chamaedorea costaricana
Bottom left:
Chamaedorea schiedeana
Bottom right:
Chamaedorea woodsoniana

STREPTOCARPUS IN THE GARDEN
Nick Miller

Streptocarpus is a genus of beautiful and colourful African plants, members of the gesneriad family (Gesneriaceae). They are often seen labelled as Cape Primroses. Their colour range includes whites, blues, lilacs and various shades of red, pink, and purple through to near black. The yellow throat found in some hybrids is being extended to cover more of the flower, so who knows what will be available later? Many of them have attractive contrasting stripes in the throat, which adds to their charm. Flowers range from 2cm to about 10cm across, so they can make quite an impact when in flower. Many municipal glasshouses feature streptocarpus during spring and summer, with the displays in the wonderful fern houses at Pukekura Park (New Plymouth) particularly noteworthy.

There are two sub-genera, *Streptocarpus* and *Streptocarpella.* The sub-genus *Streptocarpus* has no visible stem. Most species and hybrids in this group are known as rosulates, where a rosette of leaves develops, with each leaf base producing a succession of flowering stems. The other group is the unifoliates, where a single large leaf continues to develop until it may be quite large and untidy, finally producing many flowers, seeding and (usually) dying. This group is much less popular. The rosulates are frequently seen in garden centres, in the houseplant section, and are sometimes seen growing outdoors in shady gardens.

The sub-genus, *Streptocarpella,* produces stems and often grows as small shrubs, which may be self-supporting or ramble through other plants. One species, *S. saxorum* is often seen in the houseplant section of garden centres, almost always mislabelled. There are other streptocarpellas in the country. I have not tried them outside but see no reason why they should not do well – they grow rampantly in our unheated greenhouse. This summer I shall plant some out, as I think they should make very attractive garden plants.

Photos: Top – clockwise from top left
***Streptocarpus* Kim**
***Streptocarpus* Falling Star**
***Streptocarpus* hybrid. -Typical of the hybrids on offer as houseplants**
***Streptocarpus* - probably Maasen's White**
Bottom:
Photographed amongst palms, bromeliads, cycads, anthuriums, ferns and cordylines in a Westmere garden. This well-marked streptocarpus is probably a seedling. Needs summer water because of root competition from other plants.

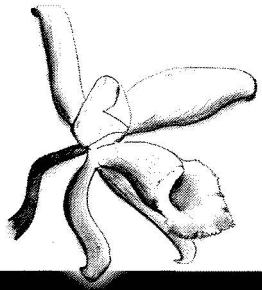
We have been growing streptocarpus as garden plants here at Lake Rotoiti (Rotorua) for well over fifteen years. Many of our plants are growing on a shady retaining wall, built of tree fern trunks. They have been there for at least ten years. Flowering starts at Christmas time and continues through until May. Plants grown in an unheated greenhouse flower for much of the year. In warm coastal areas they would probably also flower outdoors for a longer period. The plants get a bit chewed, but are otherwise healthy. Flowering has tailed off in the last three or four years, maybe some fertiliser would help. They may also be getting too much shade as the canopy thickens overhead. They get absolutely no maintenance except for the occasional weeding.

They like semi-shade with a reasonable amount of light. A well-drained soil is needed – potting mix or orchid mix will serve as a suitable topping if you have a heavy soil. They dislike drought, so judicious watering in
in summer will help. Having said that, they can recover amazingly well from a badly wilted state.

There are many named hybrids that have been developed overseas, but most plants sold here are unnamed. To get named forms you will need to join the Wanganui African Violet and Gesneriad Club. Their secretary is:
J. Burkett, 24 Nile Street, Wanganui. Email e&jburkett@xtra.co.nz

I have included descriptions of a few hybrids that are worthy of mention. A few years ago, a Waikato nursery imported some fine hybrids from Dibleys Nurseries of Wales, who are world leaders in breeding these plants. They were sold with names! Alas, I only bought one or two, before they seemed to vanish from the market. However, 'Kim' (opposite), with beautiful smallish inky-blue flowers on a compact plant, is a personal favourite. Even darker is 'Black Magic' which, despite its name, is an American hybrid. It is as near black as almost any flower could get.

Also from Dibleys in Wales is a selected form of the species *S. johannis*. It is known as *S.* 'Falling Stars' (opposite). This has apparently been imported and is being sold as an unnamed streptocarpus hybrid, for reasons that are hard to comprehend. Really, the houseplant nurserymen need a bomb under them. Who would buy an unnamed rose or rhododendron, yet buyers of houseplants are very shabbily served. So if you see this plant in your garden centre, it is really 'Falling Stars' (see photo opposite). A well-grown plant may bear literally hundreds of 3cm flowers. Often available with it (from the same source) is its sport, 'Gloria' which is identical except that the flowers are pale pink rather than light blue. My plants came from Mitre 10. If you see them, grab them! Who knows how long they'll be around?
(Continued on page 38)



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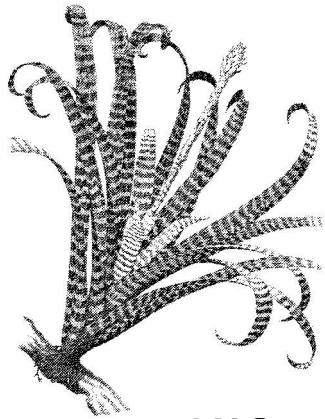

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Photo competition

Open to all members of **subtropicals.**
To enter, send a photograph(s) – either vertical or horizontal or both – of a subtropical or tropical plant(s) to The Editor, PO Box 91-728, Auckland 1030.

Please make sure that your name and address are on the back of the photo(s) using a marking pen. Mark return if appropriate. Some information about the plant(s) on a separate sheet of paper would be most welcome.

ENTRIES CLOSE ON THE 31ST January 2003.

THE PRIZE

"Orchids in your Garden" by Robert Friend
or "Succulents for the Contemporary Garden" by Yvonne Cave
or a voucher to the same value.

This competition is sponsored by

SPRING WRITING COMPETITION

And the winner is: Brian Chudleigh of Katikati. Brian accompanied his short article with a great photograph (opposite) of

Hippeastrum papilio

My plant is a clump of half a dozen large bulbs and several smaller ones, almost filling a 375cm terracotta pot which we keep on the porch. The plant spent the winter of 2001 out in the open and survived the coldest winter in years with the ground quite icy on at least three mornings and numerous lesser frosts.

Last summer, I removed four of the largest side bulbs and, this spring, the remaining clump produced three flower heads. I find the plant requires lots of root room and, like the better known hippeastrum hybrids, likes a rich but well drained potting mix. Unlike the hybrid hippeastrums, *H. papilio* never completely loses its foliage. It would probably grow quite well in the garden as I have kept potted seedlings out in the open for several years, with no problems except a few losses from bulb fly whose maggots eat the inside out of bulbs.

'Bulbs for New Zealand Gardeners and Collectors' by Jack Hobbs and Terry Hatch gives the flowering season for *H. papilio* as early summer, but mine always flowers in September. A plant that I saw in Tauranga last week (18/9) had flowers on their last legs. Bulbs take quite a few years from seed to flowering and, in my experience, proliferate while quite small, which slows down growth of the main bulb. So I now remove side bulbs as soon as they are large enough and with their own roots well developed. Winter seems a good time for repotting and breaking up clumps.

Alocasia cucullata — Chinese Taro

Although the common name for this plant is 'Chinese Taro', it has a widespread distribution from China and Japan to Burma, India and Sri Lanka. In these areas it is occasionally cultivated as a food crop. A very distinctive alocasia in appearance, it varies little between habitats.

This evergreen perennial, not only has relatively small, heart- shaped, long-lived leaves (about 15-30cm in length), but is much smaller growing than the commoner species of alocasia, e.g. *macrorrhiza* and *odora,* that are grown here. Maximum height is about 1-1.5m with usually a similar spread. For gardeners with small sections or courtyards, this is a great advantage as the plant is not likely to outgrow its position. It also provides lush tropical-looking leaves that provide a contrast in form with other subtropical plants. *A. cucullata* is one of the hardiest members of the genus. With no frost, it is undamaged at low temperatures. Slight frost will damage it only a little.

The plant being sold locally as *Alocasia* Jade Millie is considered to be not a cultivar but the true species, *Alocasia cucullata.* Customers are paying extra for a fancy name.

Ochagavia carnea

We have a couple of plants of this species in our garden where they have handled a few degrees of frost. The plant clusters freely, well before it flowers. *Ochagavia carnea* is best grown in a sunny spot in the garden rather than as a potted specimen.

The 30cm long leaves are viciously spined and a beast to weed. However, we have few problems with our plants as the soil they are in is covered in a decent layer of rocks and gravel, which keeps down weed growth.

The flower head appears as a beautiful pink cone in summer/autumn. The plant in the photo belongs to Audrey Hewson.

Text & photo: Brian Chudleigh

● Of the five species in this genus, four are native to Chile and the other comes from the island of San Fernandez, off the Chilean coast. *O. carnea* is the only one commonly grown. These succulent perennials usually grow in full sun, both in the ground and on rocks at 50-1000m on the central coastal ranges. However, they have been found growing in higher places in deep crevices on vertical crags and in the shade of trees. They are reputed to stand temperatures several degrees below 0° and are suitable for coastal conditions.

HEROIC GARDENS FESTIVAL 2003

Justifiably, this collection of unusual, innovative, varied and sometimes challenging gardens has probably become the most popular choice for adventurous gardeners to visit. People now come from all over the country each year especially for this event. Don't miss it.

The Festival will be held on Saturday and Sunday, the 8th and 9th February from, 10am to 6pm.

There will be twenty-three gardens open - eight of them have never been seen before and a further three were not in last year's festival.

Styles range from 'Hollywood Glam' through 'Cottage Succulent' to 'Historic'. Sizes are from courtyard to country acres, via suburban paradise.

● Tickets are $25.00, valid for both days. Refer www.heroicgardens.org.nz

Garden: Peter Brady **Photo: Grant Bayley**

(Continued from page 30)

Many years ago, various plants of the 'Nymph' series were imported, with names such as 'Constant Nymph' (blue), 'Cobalt Nymph' (sky blue), 'Maasen's White' (photo on page 28) and others. They tend to be very easily grown and floriferous, with slightly smaller flowers averaging 4-6 cm across. They are still sometimes seen for sale, unnamed of course.

Streptocarpus are very easily propagated from leaf cuttings, like African Violets. They also seed profusely, and seed will germinate when conditions are right. I have seen the occasional self-sown seedling outside, and in our greenhouse mossy concrete, capillary matting and other pots are favourite seedbeds. The seedlings will often come in some attractive colours and patterns (photo page 28). Many of the less well known species are being used in hybridising, in efforts to breed for a wider colour range, compact habit and fragrance.

The genus includes well over one hundred species, which have been detailed in the fine volume "Streptocarpus: an African Plant Study", by O.M. Hilliard and B.L. Burtt (University of Natal Press, 1971). This book is now out of print – if you are very lucky you may find a second-hand copy as I did. A small paperback volume - "Streptocarpus" by Rex and Gareth Dibley. (Royal Horticultural Society: a Wisley Handbook) 1995, ISBN 0-304-32070-6) is well written, beautifully illustrated and still in print.

To summarise, if you are looking for a group of attractive, compact plants, with jewel-like colours and patterns, that are easily grown in subtropical gardens, try some streptocarpus. They will certainly add much charm to semi-shady areas. If you live in frosty climes, they may readily be propagated and over-wintered as attractive houseplants then set out again in the spring. In much of northern New Zealand, this precaution should be unnecessary.

Email: millern@wave.co.nz

Book review

'Orchids in Your Garden' by Robert Friend

I try to keep an eye out for new books on orchids, but this one slipped past me So when I saw it recently in Border's I couldn't resist the temptation to purchase a copy. The author is Australian, and has been involved with orchids for many years. This book is aimed almost exclusively at those who wish to use orchids as landscape subjects, which makes it quite different from the usual run of orchid books.

The book is aimed at three overall climate types: tropical, subtropical and cool. The latter two categories are the most likely to interest New Zealand readers. Separate chapters deal with the growing of orchids on trees, rocks and walls and in the ground, with suitable orchid species being listed and described for each 'habitat'.

Various garden types (large, suburban, courtyard and 'marginal areas') are then considered, followed by a section on growing in containers, both indoors and outdoors. A useful table of recommended orchids follows, with a bibliography and a list of (Australian) suppliers, many of whom New Zealand growers are familiar with.

This book contains much valuable information, with a number of useful tips. For example, I had not previously considered tibouchina (lasiandra) as a suitable host for epiphytes – apparently it is. This is not a book on how to grow orchids, but on how to use orchids as part of the landscape.

Inevitably there are one or two errors – the pendulous flowers of *Stanhopea oculata* are illustrated upside down, but printers have always been confused by orchids. This soft-cover book contains 144 pages and has a number of line drawings plus numerous colour photographs of various orchid species and their natural and garden habitats.

At approximately $40, the cost of two or three orchid plants, this book is highly recommended to those who would like to try an exotic touch in their garden. It does not seem to have been widely distributed and you may have to order a copy through your local bookshop.

Nick Miller

'Orchids in Your Garden' - Robert Friend. 2000. Halstead Press, Sydney. ISBN 1 875684 48 4 (to order from Touchwood Books - $39.95 + $5 p/p)

● On the strength of Nick Miller's review, I immediately ordered 'Orchids in Your Garden' from Touchwood Books. As soon as it arrived, I fell upon it like any gardener deprived for years of basic growing information about a desirable plant. I also highly recommend this book and feel that it is an essential reference for gardeners who are only beginning orchid growing.

Editor

Back cover story

GARDENING WITH EPIPHYTES

A quiet revolution in mild climate gardening has been going on almost unnoticed by gardeners. From the earliest times, when humans changed from being hunters and gatherers to sowers and reapers, food crops have been grown in the earth. Over the centuries, water (over earth) also became the medium for plants like rice. Both soil and water grew decorative plants, including herbs,

Plant explorers brought back from the ends of the earth new discoveries, whose habitats were neither earth nor water but air. In the case of bromeliads, the common name given to them was 'air plants'. This term has led to misconceptions about their care. Although their growth requirements are modest by comparison with many other plants, indoors they cannot 'live by air alone'. Another misunderstanding, which applies to all epiphytes, is that they live off their hosts. This is true of parasites but, in the case of epiphytes (and lithophytes which grow on rocks), their roots are used to attach themselves to their hosts. Some epiphytes will grow on rocks and some lithophytes will grow on trees, e.g. *Dendrobium tarberi* (syn. *speciosum* var. *hillii*) grows on both rocks and trees.

The greatest beneficiaries of this new (well to us) growing territory are the gardeners who have miniscule plots. For lushness, layering makes a jungle effect possible in a space only two metres in depth. Unlike climbers, most epiphytes are relatively well behaved and require much less effort. Those who have no earth at all can grow a tree in a large pot – a lemon makes a good host – and attach to it a suitable orchid or bromeliad.

Writing about orchids (although this applies to many other epiphytic plants), Robert Friend – 'Orchids in your Garden' – writes
'The flowers of orchids grown in the natural way display themselves as nature intended. Many growers of orchids in containers stake flower stems erect, giving the plant a stiff unnatural look. The canes of spring-flowering softcane dendrobiums, for example, are usually staked upright, resembling soldiers at attention. Grown naturally on a tree at head height, the same plants produce graceful, slightly pendent growths with a curving line like an ancient eastern scimitar. In bloom, the flowers seem to smile and nod at the gardener – a far cry from the regimented ranks of container-grown orchids'.

Although bromeliads (about 3000 species) and orchids (20-30,000 species) are the most widely known plants that include epiphytes within their families, epicacti, ferns and vireya rhododendrons (approximately

276 species) also have quite a number. A modest search reveals that plants, such as *Fuchsia fulgens, Medinilla myriantha, Schefflera arboricola* and many anthuriums, will grow on trees.

For those plants that come from summer rainfall areas, keeping them from drying out can be a problem. Thinning the canopy to allow more rain to penetrate to the plants helps, but this is one area where a special misting system is of great benefit, getting the water to where it is needed in an economical way.

But first find your tree (or log or tree trunk as the case maybe). Not any old tree will do. Bark must be permanent and preferably roughish, which not only helps the roots to get a good grip, but also slows down the movement of water down the trunk, helping to keep the plant moist but not wet. If the bark is shed the epiphyte falls off with it.

The one thing that is absolutely essential when placing a plant in position is to make sure that it cannot move, even in wind. If secure, the plant will attach itself much more quickly. Take care that roots, if present, are not damaged in the process. Black pantyhose are still one of the best materials to use – they last, are easily removed, unobtrusive and often acquire a mossy look in time. Wire tends to cut both host and epiphyte and copper wire is death to bromeliads. Sphagnum moss is often suggested as a starting medium to place between the plant and its host. However, it dries out quickly and roots can grow into it instead of growing onto the bark.

Tree ferns are particularly good hosts for almost any epiphyte, as they provide open shade with air movement, a fairly humid environment and a good rough surface. Small plants can be tucked in behind the remains of the old fronds and do not need to be tied on. Palms with rough trunks are also good, but usually provide less shade if solitary and so more sun tolerant types of epiphytes are needed.

Choosing suitable plants is not just a matter of personal preference, it requires as much care as planning an old-style border:

Flowering time – make sure it does not clash with the host.
Do the flowers/foliage hang down or are they upright?
If the leaves are patterned/colourful, are they best seen from below or above?
How does the plant grow?

STOP PRESS! At the Ellerslie Flower Show this year one of our members, Alec Schanzer, won a bronze medal for his landscaping display in the Mercedes-Benz Marquee. Congratulations.

Does it encircle the trunk or branch?
Or does it grow along the branch?
Or up the trunk towards the light?
Or downwards to the ground?
Or even stay in one place, getting bigger and bigger?
Does it need to be in sun or shade or part-shade?

So many variables need to be considered before deciding just where will be the most desirable spot. Colour, fragrance and seasonal changes must also be taken into account.

Gardeners are so conditioned to feeding, pruning and watering, that it is often difficult to realise that there are plants whose requirements are so modest. The *Bifrenaria harrisoniae* opposite is growing in a large garden and is neither watered nor fed. It survives in the same way as it does in its natural habitat – the surrounding trees and shrubs keep humidity up and temperatures even, and provide protection from frost and decaying vegetable matter for sustenance.

In the wild, various types of epiphytes grow in conjunction with one another. Bromeliads, ferns and orchids are frequently present in the same habitats, seemingly to their mutual benefit. Vase type bromeliads, many of which hold considerable quantities of water in their cisterns, undoubtedly add to the moisture in the air. A new dimension (literally) is being added to our gardening lives.

Back cover:

The orchid, *Pleione formosana* 'Shantung', growing epiphytically on a native tree in company with the climbing/epiphytic fern *Phymatosorus diversifolius* (Kowaowao). Photographed in Pukekura Park, New Plymouth alongside the fern house.

Opposite:

Top left:
A perching plant (an unnamed, seed grown astelia), growing on a large tree trunk lying on the ground. (Ruakaka)
Top right:
An orchid, *Bifrenaria harrisoniae,* growing in the cleft of a dead tree trunk. (Kerikeri)
Bottom:
A very large schlumbergera – about two metres high and wide – growing epiphytically on a large fifty year old rimu. Just visible in the top left corner is an *Asplenium flaccidum* hanging from a treefern. Photographed in mid-winter. (New Plymouth)