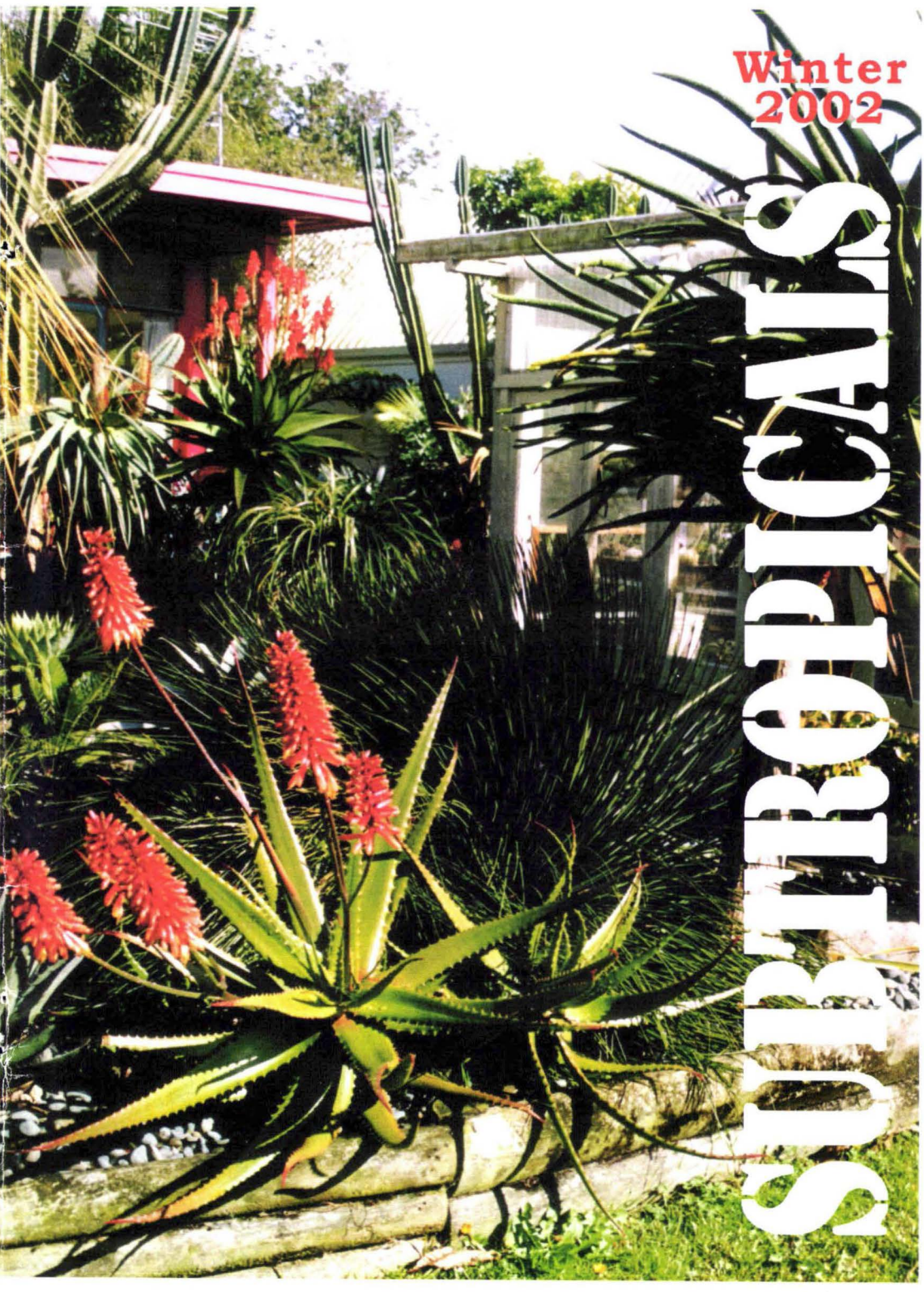


Winter 2002

SUBTROPICATS

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.

WINTER 2002 **Volume 1 Number 2**

CONTENTS

SPRING ISSUE
COPY DEADLINE
All copy must be received by the editor by the 31st July 2002

"if winter comes, can spring be far behind?"

As winter has only this moment (21st May) arrived, this comes under the heading of wishful thinking. In the north however, the least favoured time of the year is with us for only about twelve weeks or so, sometimes less. One of the great advantages of subtropical gardening is that, short of a cyclone, it can rain (and heavily), blow and glower but when the sun comes out – as it does – the plants and the garden are as attractive as ever.

This issue has a few suggestions for more colourful flowering or fruiting plants for winter – there is no excuse for dull and gloomy gardens at this time of year.

SUBTROPICALS will be indexed for the year 2002. The first issue for 2003, autumn, will include the index as an insert. It is hoped that the index can be a cumulative one, perhaps covering a five year period.

When **SUBTROPICALS** was launched as a Society, it was in a rather different way from the norm. There were to be no meetings, no committees, no competitions and no fundraising.

However, the thought has occurred that members might be interested in attending an annual conference, to be held in Auckland on a midwinter weekend next year. This seems to be a time when more people are free.

The suggestion is for the Saturday to include talks, a long convivial lunch to meet other enthusiasts and, to complete the day, a sale or auction of plants not found in the supermarket plant centres. Then Sunday, optional, could be used to visit gardens and gardeners.

A form has been included in this issue for members to indicate their interest and to make further suggestions on the subject

Marjorie Lowe

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

Brian Timms

We tend to think of most gardens featuring succulents and cacti as bare, spare or even Zen in spirit, but this particular garden shows that they can look lush as well. The owner writes:

The main ingredient for success with succulents is good drainage; in a wet climate such as Auckland's, drainage is essential for almost all gardening. The great enemy is not wet soil, it is stagnant wet soil. Even ferns or rainforest plants, growing in apparently very wet conditions in their natural habitat, will be found to be in flowing or draining water. Stagnant water produces swamps or bogs, which have a flora all their own that has adapted to the oxygen poor conditions.

With succulents, this requirement becomes even more important, as they tend to do their growing in the summer and to want to be dormant in winter, which for us is the wet season. To have them sitting on dormant roots in a puddle of water is a guaranteed recipe for failure.

Of course, if you are fortunate enough to be gardening on or near one of Auckland's volcanic cones or in other volcanic areas, you are already blessed with both fertile soil and excellent drainage. Alas! Many of us are not and I am among that number. The soil at my place is not lacking in fertility and I do not suffer from the heavy clay that bedevils so many, but my garden is as flat as a bowling green and has a storm-water drain in the middle for good reason. So the only solution was to build up the edges. I chose the geometrical, straight look of wooden edging as a contrast to the shapes of the plants (it also was cheaper and easier than using scoria and/or rocks).

At first, the garden was broadly L-shaped with a bit of lawn in the centre. I used a lot of recycled cactus potting soil from the greenhouse and also a mixture of pine bark and peat (called clay killer), combined with pumice gravel for drainage. This was quite successful for a number of years, although I did lose one or two large plants, including a 5m tall *Euphorbia ingens*, during very wet winters. The plants must have got most of their roots into the soil underneath. More recently, I covered almost all the remaining lawn with garden, using the same edging. The older garden I freshened up by removing a few inches of soil (along with a lot of weeds) and replacing it with fresh soil, the same that I used in the new area.

I gave quite a bit of thought to this new soil, as I wanted to get away from using only succulents and plant a few bromeliads, cycads etc. I also wanted something that would last for several years at a reasonable level of fertility. I found a product called "Supersoil" in a small soil and gravel supplier called Greenearths, on the North Shore. It was moderately expensive but had all the properties that I wanted. Mixed 50/50 with

pumice gravel, it produced a weed-free, fertile and free-draining soil that I like very much. It retains a surprising amount of moisture during dry spells and drains well, even during heavy rain. I often use this mixture in large pots for outside as well.

I then covered the entire garden with a layer of rounded pebbles, to help retain moisture and discourage weeds, both of which it does admirably. And it looks good too.

I have mounted a couple of security lights facing this garden, which wake me at night when they go on. I feel that anybody trying to remove plants will make sufficient noise displacing the pebbles to make me realise that it's not just the damned cats again! Well I hope so, anyway.

As for the plants in the picture, well mostly they speak for themselves. The *Aloe bainesii* on the right (under the title) is just a baby and will be possibly up ten times that size (10-18 metres) at maturity should I live to see it. (Hey, I'm not that old!)

The flowering aloe in the foreground is *A. cameroni*, which turns a beautiful rusty red if water-starved, but stays green in the ground. You can just see the colour in the leaf tips. The main head facing you in the photograph (taken on the 22nd August last year) rotted out later in the cool, wet spring but has resprouted with about five new heads since then.

The plant between them that looks like an explosion is an agave, possibly *Agave geminiflora* but I acquired it with just a collection number and have never had a name for it. It continues to expand and throw new heads. I'm not sure how big it will end up!

The beautiful flowering aloe in the background is probably *A. vaombi*, from Madagascar. This plant had two heads when the photograph was taken but lost one of them during the spring and, unfortunately, it shows no sign of growing back or rebranching.

Next to it on the left is *A. speciosa*, with its curiously reptilian flower buds and dark red flowers. *Aloes cameronii, vaombi* and *speciosa* are usually late winter, early spring flowerers.

As you can see, there are several other plants in the picture. The largest are the columnar cacti, both now about twelve years old, both from cuttings. Each of the joints between the constrictions represents a year's growth. Some years they grow a lot, some none at all and I have never been able to predict what they are going to do, as it doesn't seem to have a lot to do with the weather, though surely it must.

The left one is *Cereus peruvianus*, which is just getting underway and will be colossal as a mature plant. It produces large white nocturnal flowers in late summer, which in the wild are pollinated by bats. The other I don't have a name for. It produces many smaller flowers, also white, also nocturnal.

The glasshouse will eventually be removed to make way for more garden (obviously), but this will not be for some time.

WINTER BLUES! WHAT WINTER BLUES?

Myths die hard and the myth of the gloomy winter garden dies harder than most - even autumn gardens are not exempt from this negative outlook. In mild climate areas there are at least 130 genera that are in colour (including foliage, berries and fruit) during winter. Species, hybrids and cultivars bring the total into the hundreds. Some plant genera have many species that are notably winter orientated – aloes, banksias, camellias, citrus, cyclamen, euphorbias, euryops, grevilleas, hebes, leptospermums, leucadendrons, luculias, proteas and tibouchinas come to mind. And then there are the useful everblooming plants that often have very attractive foliage as well.

Many of the winter flowering plants grown in northern and coastal areas are from cooler climes, but many others fall into the subtropical category. Almost all these are evergreen, or at least hold their leaves in winter. Briefly deciduous plants, mainly trees, drop their leaves before they flower (at any time of the year - winter for some bauhinias) in order to encourage pollination.

Colour can vary from the sheer magnificence of a well-grown *Pyrostegia venusta* in brilliant orange to the quiet charm of the heavily fragrant *Daphne odora* in pink and white. Fragrant plants are well represented at this time of year.

While bromeliads often have short-lived flowers, their berries and foliage more than make up for this. The bracts of the summer flowering *Aechmea fasciata,* and many of its hybrids, stay in colour through autumn, winter and almost to Christmas. Rain intensifies the colour of the inflorescence to an iridescent, deep pink. The term 'Blushing Bromeliads', as neoregelias have been described, comes from the changes in colour that occur when the plant is coming into flower. The inner leaves change colour, often to brilliant red, cerise or purple. In the case of *Neoregelia carolinae* and its varieties, this colour lasts until the parent plant dies, which may well take up to twelve months. Some neoregelias are colourful as young plants, not needing flowering to trigger a colour change.

The photographs on the next two pages show only a few of what is available to brighten up the winter garden. Some are well known - their worth not always fully appreciated. Others may be less familiar.

Clockwise from top left –

Pyrostegia venusta (Brazilian Flame Vine, Golden Shower, Orange Trumpet Creeper)

This twining creeper from Brazil, Paraguay and Bolivia is listed as evergreen but even in mild conditions it can lose up to half its leaves in spring and early summer, mostly from the older growth. Like many vines, it can become bare at the base. As it needs shade at the roots, complementary planting should solve both problems. *P. venusta* needs

full sun to flower well, usually starting in late autumn and continuing through winter. A vigorous vine, it makes a good groundcover and has been seen trained over the front of a two-story house – in flower it was a sight never to be forgotten. When established, it is fairly drought resistant, only requiring autumn/winter water. It seems to do well without additional fertiliser unless the soil is very poor. In cooler areas, grow it on a north-facing wall, protected from all but light frosts. *P. venusta* would also do well in a Mediterranean-style setting.

Vireya rhododendron – This is probably Buttermaid. It seems to flower consistently in late autumn into winter, as does another cultivar named Butterball. A visit to Eden Gardens in Auckland, between late May to early August, to see their collection of vireyas is very worthwhile. Some are at their best at this time of year.

Canistropsis (formerly Nidularium) billbergioides

This epiphytic bromeliad comes mainly from southern Brazil where it grows in rainforests, in woods alongside rivers and on calcareous rocks on hillsides. It is best suited to moist, shady to semi-shady, fast draining and frost-free conditions with good air movement. The rosette is upright, with mid green leaves and inconspicuous spines. The flower spike is on a long stem with orange bracts and white flowers. *C. billbergioides* consistently colours up in late autumn, the white flowers appearing after a month. The bracts remain in colour right through the winter and, if the plant is left to clump up, it makes a very attractive display. Pups are on stolons and usually flower within a year.

Zygopetalum mackayi

An evergreen, epiphytic orchid from Brazil, this was bought as a houseplant, its powerful fragrance being intensified indoors. At the end of winter the plant was put outside, eventually ending up sitting on top of the ground on the south-east side of some feijoas. It has been there for five years now, flowering without fail each winter. *Z. mackayi* is reputedly hardy down to 5°C, needs year-round water with high light but no direct sun.

Ruellia macrantha

From Brazil, this is a fast growing but short-lived, soft stemmed shrub up to 2 metres but more usually 1-1.5 metres tall. It needs high humidity, partial shade and moist, well-drained soil. It appears at its best used as an understorey plant where it is protected from frost. Under these conditions, although a minimum of 15°C has been recommended in some books, it will probably (?) stand much lower temperatures.

R. mackoyana is a trailing perennial with attractive, silver veined leaves that are purple underneath. The small puce flowers appear intermittently but mainly in winter.

Euphorbia pulcherrima (Poinsettia)
This showy plant from Mexico was once often grown in suburban gardens, mostly in bright red singles and doubles. With the emphasis on growing it for the Christmas pot plant market, it became very difficult to pupurchase plants propagated for garden use. The only solution was to acquire cuttings from someone's desirable plant or to let a forced, overfed and dwarfed pot plant try to return to normality. The strategy did not always work. Fortunately it is now possible to buy poinsettias for outdoor use, but the range available is still very poor, considering the wonderful hybrids that have been made.

E. pulcherrima grows to 3m high and wide but needs an annual pruning to keep it from becoming leggy. Thinning the branches in summer produces larger bracts. The yellow flowers are inconspicuous. It is the petal-like bracts that provide a brilliant show from late autumn to late winter. These bracts can be red, white, yellowish, pink or marbled. Grow in full sun and provide good drainage.

Mediterranean favourites

Clockwise from top left

Acacia baileyana (Cootamundra Wattle)
An Australian native from New South Wales, this fairly short-lived tree grows to 6-9 metres. Tolerant of poor, sandy or stony soil, it needs full sun and good drainage. Stems need to be staked and the foliage reduced, as *A. baileyana* is vulnerable to wind when young. Spectacular when in flower in mid to late winter, heavy rain unfortunately turns the fluffy flower racemes into a sodden mass. Hardy down to 0°C, it will stand some frost. *A. baileyana* var. *purpurea* is a form with purple-blue leaves.

Citrus – Oranges and lemons and grapefruit and kumquats
A fully laden orange tree is a heart-warming sight on a dull wintry day. But, concentrating on the fruit to come, so many gardeners miss the highly decorative aspect that a citrus tree presents and fail to see its merit as a feature plant. Evergreen aromatic foliage, fragrant white flowers (often at the same time as the fruit) and delicious fruit – what more can you ask? As it comes from summer wet/winter dry regions, fast drainage in winter is essential.

Kniphofia (Red-hot Poker, Torch Lily)
Native to South Africa, this is a much-hybridised plant with species and cultivars that flower over much of the year. *K. ensifolia* is lemon yellow, frost hardy and flowers in autumn and winter. *K.* Winter Cheer (illustrated) is also frost hardy, flowering in late autumn through winter. I have seen clumps of Winter Cheer in Takapuna, growing at the base of a bank in bone-dry clay during summer and flowering in winter while standing in water. It is a striking cut flower. Beware of slugs and snails.

***Cyclamen – coum, persicum* (and its hybrids)**

Most cyclamen are native to the coastal areas of the Mediterranean, from France to Turkey and Syria, and including North Africa.

C. coum is a winter/spring flowering tuberous-rooted perennial that is hardy down to -5°C and usually dormant in summer. White and pink flowers on 10-15cm stems are complemented by round, dark green leaves, plain or patterned with silver.

C. persicum, the florist's cyclamen, is much less hardy. Frost tender, it needs a minimum of about 5°C. The range of colours available runs from white, pale pink to 'cyclamen' pink, red shades to red-purple, some hybrids having frilly edges. All have beautifully marked leaves. The species is fragrant and, like freesias, hybridists are trying to breed fragrance back in - a major selling point in the houseplant market. *C. persicum* is sold in pots, in flower, so gardeners are able to buy exactly those colours and shades they require.

In more humid areas where the ground does not dry out, cyclamen will lose only some of their leaves. Good drainage, summer shade, lots of humus, with water in the growing season, can help make them a spectacular ground cover under deciduous trees.

Lantana montevidensis

This trailing shrub from Central America makes an excellent ground cover especially on dry banks where it suppresses most weeds.

The flowers are rosy lilac and are everblooming, making a very colourful winter show. There is also a pure white form available. Tip pinching, especially when the plant is young, will keep it more compact and increase the flower density.

Centre:-

***Nandina domestica* 'Richmond'** (Heavenly Bamboo, Chinese Sacred Bamboo)

This is a single species genus from China. Because of the elegance of its form, it has been grown in Japan for centuries. A multiple stemmed evergreen shrub with cane-like stems and a slow, suckering growth habit, *N. domestica* is fully hardy, tough, wind resistant and will withstand some drought, although it is better with water.

Richmond, named after the New Zealand town where it was found, is a particularly worthwhile form as it is self-fertile. From late autumn it consistently produces large panicles of bright red berries that last through winter and into spring untouched by birds. The foliage is airy, with mid-green leaves interspersed with bright red young leaves. Height is about 1.8m and width can be controlled by removing excess suckers, making this a valuable plant for narrow spaces.

Photos: Gil Hanly, Grant Bayley, Marjorie Lowe

CANOPY – PAPAKURA STYLE

Sheree Foster

Sick of spraying, dead heading, lack of water and that cottage look it was time for a change. So after ten years, and not wanting to move, it was out with the cottage garden and in with the new.

I had developed an interest in palms, bromeliads and plants from South Africa and the Pacific. So in came the rocks and plants - the new garden was begun. I started to find places that specialised in these plants and soon the bank balance changed, as you simply *must* have that plant or two. I took a trip over to Roger Hunter's in Tidal Road, Mangere, to get a few of the more common plants to achieve that "tropical" look – vireyas, bananas, puka, agave, etc. When Roger saw the plants I had gathered, he was stunned to learn that I was trying to achieve this in Papakura, on the flat. Papakura gets many frosts because the area is low-lying, almost in a basin and surrounded by hills. Roger wished me good luck and said he liked pioneers.

As winter approached, I became worried about my precious new plants. My husband offered to build me a canopy out of steel pipes and plastic to protect them. I just couldn't get over the idea of how bad it was going to look; I had to think of something else and quickly! A canopy ... a canopy ... Ah! ... Brain storm.

Down to Briscoes I went. Home I went with seven cheap sun umbrellas. Perfect! I simply put them over the plants to act as a canopy to keep the frost from the plants as, at this early stage, none of the plants I had put in was big enough to give shelter. It worked better than frostcloth, as the umbrellas didn't touch the leaves so they didn't get frostburnt. They didn't blow off during the night and have to be gathered-up in the morning. When the sun did come out, I simply walked around taking off the umbrellas, leaving the posts still in place. As the afternoon cooled, before night settled, I replaced the umbrellas.

My garden has gone through two winters now, with minimal or no frost damage – last year we had a number of frosts. The palms have grown to nearly 2.5m and will give good cover for this coming winter, with just a little help from me. This system also worked well when I found that in spring some plants that didn't like too much continual rain could also be covered up.

And now to get even more value from my umbrellas. I have just planted a "tropical" garden right on the beach. This garden faces north and is on a steep slope, with ironsand soil that heats up incredibly. I tested it one hot, sunny day in February - 58°C! During our brief summer, some of my poor plants were suffering from the heat (we are on tankwater which limits watering). So again, up went the sun umbrellas - much to everyone's mirth – but it worked. It helped to keep moisture in the ground longer. It takes just a little bit of lateral thinking!

Helmholtzia glaberrima
(Stream Lily)

This plant is endemic to subtropical rainforest, from north-eastern NSW to south-eastern Queensland. It grows in cool, damp shade in colonies along watercourses and amongst the rocks in creeks. A lithophyte as well as a terrestrial, seed often germinates on wet rocks, the young plants gaining such a grip that they can withstand flooding.

A new plant on the subtropical scene, I collected a few seeds in 1990. The tiny seed looks a bit like metrosideros seed - almost dust-like - and ripens in April/May.

When well suited, it will grow to at least two metres. With dark green clumps of sword-like leaves, the plant will throw up tall flower stems of soft pink to white, curly (almost like candyfloss) flowers in October. These are very long-lasting, often still giving a show in January. They are also long-lasting as cut flowers. A quick grower, this is a very good landscaping plant for shade, particularly with summer water.

Terry Hatch **Photos: Terry Hatch, Marjorie Lowe**

Musa uranoscopos (formerly *M. coccinea*)

This wonderfully ornamental plant deserves a place in any New Zealand subtropical garden. The brilliantly scarlet "flowers" that evoke "Wow!" noises from visitors are actually bracts. The flowers themselves are not showy, being small and golden-yellow. The bracts can have little green tips, looking almost like leaves. But most of each bract is red, and that incandescent, intense colour dominates the upthrust inflorescences. The bracts are quite long-lasting, so that a 30cm long cluster of them holds on for many weeks, well into the male phase of flowering, gradually fading to brown after four months or more.

A native of Malaya, Laos and Vietnam, the vernacular Malayan name means something like "watching the sky", referring to the upright nature of its flowering and also reflecting the dominating effect of the inflorescences. The botanical name takes over this idea, and is Greek for 'star gazer'. You'll see it spelt as "uranoscop**us**", but the Greek-derived version with the final "os" does seem to be the preferable form. It takes precedence over the name that you'll often see it given- *Musa coccinea.*

Outdoors, it succeeds in the warmest parts of New Zealand if it is given plenty of sun, water, fertiliser and good protection from wind. Ultimate height is about 2.5 metres - 1.5 metre pseudostem, topped by a metre or so of leaves. The latter are narrow, about 25cm wide, green throughout including the midrib and without any waxy sheen. Think then of a dwarf banana, performing the ornamental job that we'd like more heliconias to do for us, and at least as showy as any of them.

John Prince

Neoregelia johannis hybrid

Neoregelias are probably the most popular bromeliads for the garden. They range from the tiny, tubular *N. ampullacea*, 2.5cm wide and less than 15cm high, to larger species like *N. cruenta* and *N. johannis,* which can be up to a metre across. Both these have been heavily hybridised over the years, to the extent that the species are rare in private collections. Many of the hybrids have not been named and it is usually impossible to identify the parents, hence the large numbers of plants called simply *N. cruenta* hybrid or *N. johannis* hybrid.

Placing neoregelias as large as these to best advantage in the garden (they are much too big for most glasshouses) requires some thought. The owner of this wonderful *N. johannis* hybrid keeps his bigger bromeliads in pots, which are then placed inside much larger and taller pots to give the long leaves room to spread and preventing them from being damaged. With part day sun, the colour will remain for months. This single plant is about one metre across. In an even bigger container, a large urn on a pedestal, a group of three or four of the same plant are at eye level.

Good light (some will stand full sun) and no fertiliser when coming into flower usually give the best results. If in too much shade, leaves will become lanky and often turn a dark green. More neoregelias on page 43.

Plumeria rubra var. *acutifolia* (Frangipani)

Growing frangipani here can be difficult because of our rainfall pattern, with the heaviest rain coming between May and September in the cooler months. In Sydney where it grows well, mainly in the fast-draining sandstone areas, the heaviest rain is usually February to May. And, of course, Sydney is three degrees further north than Auckland.

The variety *acutifolia* comes from Mexico, with wet summers and dry winters. The four golden rules for successful growth are -

1. Fully hardened off plants. Failures were often due to plants being forced in heated glasshouses and then being put straight outside.
2. Keep as dry as possible during the winter, in the warmest and sunniest place available.
3. Provide plenty of water from December on.
4. Feed from November on.

The plumeria in the photograph (taken in mid-March) is growing in Westmere in Auckland, planted against the north-facing house wall and under the eaves. It is nearly 3 metres across and over 2 metres tall. The owner starts feeding it in November - previously with blood and bone but this last summer with slow-release fertiliser. Flowering starts early in January and can continue to late April. When the flowers fall, they are still in good condition and can be used in a floating bowl where they will release their powerful fragrance for a further four to five days.

LETTER

I have lived on Parker Road, Oratia, for fifty years now. During our initial years in that area, we soon learned that where we lived was warmer than other areas less than a kilometre away. Why should that be so?

It is a weather phenomenon called an 'inversion layer'. What happens is that, when you see smoke rising from a fire, at a certain height the smoke will settle out in a horizontal band, known as an inversion layer. Hot air rises from the fire in the form of rising smoke. At a certain height, this hot air rises no further. Instead, it is trapped in this inversion layer. This layer of air, perhaps no more than 20 metres in thickness, settles in valleys (well above the ground). This same layer can be at ground level in more elevated sites such as hillsides. This is what is happening at our place. We are in an inversion layer, in the foothills of the Waitakere Ranges, at an average altitude of 100 metres. Severe frosts occur further down the road.

The tamarillo is a good indicator plant. It will grow from Northland down as far as Banks Peninsular, even as far south as the Chatham Islands, but only in some very protected places. These favourable microclimates are few and far between further south. On the Chathams, for instance, the frequent high winds prevent the settling of cold air.

As for the tamarillo, the main growing areas for these fruit are Kerikeri, Auckland and parts of the Bay of Plenty. Smaller isolated plantings may be found on Great Barrier Island, Gisborne and around Mt. Taranaki. The interesting thing to observe is that fruit maturity depends on the heat index of each growing district. Early ripening occurs in Kerikeri and Great Barrier Island, followed by Auckland. Late fruit harvests occur in Bay of Plenty, Gisborne and Taranaki. All these districts have a climate considered to be largely frost-free yet variations of temperature occur in each of them.

Dick Endt

The suggestion of using the tamarillo (Cyphomandra betacea) as an indicator plant to define the boundaries of the areas where one could expect to grow subtropical plants is a good one. The tamarillo is damaged but not killed, by very light frost.

A couple, who last year bought a property in another district, immediately planted it entirely in tamarillos (fast growing and inexpensive) to see what would happen in the winter. They chose a good year to find out the worst about the place.

Do you agree, or disagree, or perhaps have another suggestion? Write, phone, fax or email your comments to the editor by the 31st July.

THE FRUIT-DRILLER CATERPILLAR

A new insect invader from across the Tasman threatens to produce widespread damage to fruit tree crops in NZ. The Guava moth (*Cosinoptycha improbana*) first began to attack tree crops in Northland about five years ago. Although called the Guava moth, in NZ it is infesting a wide variety of fruit and nuts, including plums, feijoas, nashi, loquats, macadamias and guavas. It therefore deserves a new name - thus the suggestion of "fruit-driller caterpillar". For soft fruit such as plums, there is little external evidence of infestation until somebody bites into a grub-infested fruit.

In contrast to Australia where the pest is of minor concern, complete destruction of infested orchard crops has been observed in NZ. As with the possum invasion, the fruit-drilling caterpillar is behaving quite differently in this country and has the potential to produce a population explosion and spread across NZ (in Australia it occurs as far south as Tasmania, so is likely to adapt to colder areas here). The population explosion is likely to result from the caterpillar targeting different fruit that ripen throughout the year, allowing many breeding cycles. As well, the sale of infected fruit in population centres such as Auckland creates an ideal situation for the rapid spread of the Guava moth. Infestation of crops in Auckland is patchy at present, indicating that there may still be time before the insect becomes a serious pest here, providing action is taken **NOW**. The procrastination that has happened in the cases of the varroa bee mite and the painted apple moth in Auckland vividly demonstrates the dangers of failing to act in time.

However, no apparent attempt at eradication, or even control, has been made. Organic orchards are at particular risk, due to lack of chemical spraying programmes. Even chemicals are unlikely to control the pest for long, as resistance to them will probably develop rapidly in this moth, due to the need for continuous spraying programmes. The moth threatens the newly developing macadamia industry in NZ, as one of the biggest advantages it has over its larger Australian and Hawaiian counterparts is the ability to grow macadamias here organically.

A valuable control method, acceptable to organic growers, would use lures containing pheromones. These natural chemicals are produced by the female guava moth to attract males for mating. Traps containing these pheromone lures can disrupt the mating ability of the moth. A similar method, using different pheromones, is currently employed to control codling moth. In spite of Hort Research identifying the guava moth pheromones, there is apparently no plan at present to use these for control. To our knowledge, all the pheromone traps produced by Hort Research are only being used to monitor how far the guava moth is spreading. For more information telephone Dr. Gordon Lees,

Chairman, Northern Region Branch, NZ Tree Crops Association
Ph (09) 411-8542 Email – lees@actrix.co.nz]

THE COOL SUBTROPICS
Nick Miller

For the last twenty years, my wife Elizabeth and I have lived at Lake Rotoiti, near Rotorua. Before that we lived at Coatesville, just north of Auckland, where winter frosts ensured that there were many mornings when the cattle troughs sported a coating of ice over the surface of the water. Needless to say, this rather restricted the variety of plants that we were able to grow there.

This garden is in the inland Bay of Plenty, at an altitude of 300 metres (our house lies on the thousand foot contour), where the climate is distinctly cool but not excessively cold. Similar areas are Nelson, parts of Wellington, the Port Hills and, of course, the Rotorua Lakes.

When I first viewed the property in which we now live, the first thing that caught my eye was an old tamarillo tree. As a result, before I had even seen inside the house, I had decided that this was the place for me. Fortunately Elizabeth concurred with this decision! Our section is located on a peninsula with water on three sides and our 3500 square metres slope steeply down to a sheltered and enclosed bay. This topography ensures a favourable microclimate, in which frosts are rare and very light. It took us quite a while before we really started to take advantage of this fact – cottage gardening was all the rage, as were old roses, magnolias, rhododendrons and camellias. Eventually we realised that the possums were deriving more benefit from most of the roses than we were and about five years ago we commenced a slow garden makeover, based on experiences with a few subtropicals that had been scattered here and there in our early years at the place.

Early immigrants were a few vireyas, which were all planted under trees, with the exception of *Rhododendron tuba*, which was placed in an open, sheltered and sunny spot. This thrived and gave us much pleasure every autumn. The others, mostly *macgregoriae* or *zoelleri* hybrids, grew and flowered but were obviously unhappy.

As we are orchid enthusiasts, Australian dendrobiums were also tried outside early on. Lack of suitable care (repotting, watering and fertilising) meant that they did not perform well, but there was no obvious cold damage. A bromeliad, *Neoregelia carolinae* var. *tricolor,* has also grown outside, in the ground, in a semi-shaded area for at least twelve years. *Brugmansia (Datura) candida* grew well, presenting a surprising spectacle when covered with its huge white trumpets in midwinter. These, and a few other things, kept suggesting that there was more to life than roses and perennials ...

Eventually the penny dropped and we started to demolish our largest, least satisfactory and most weed-infested area of the garden. (If you have a light soil, be VERY careful which types of alstroemeria that you plant – enough said!) On the fine old basis of "design as you go" and with some

trial and error, a subtropical garden resulted, based around a small pond nestled among locally sourced rockwork. This garden is now about five years old and we have a better idea of what will grow for us, especially after the winter that we have just experienced – probably the worst in our twenty years here. Our plant interests include (not exclusively) orchids, aroids, ferns, bromeliads, gesneriads, vireyas plus a multitude of "other groups", so there is plenty of room for experiment – but alas, not sufficient garden room.

The soil here is volcanic ash, which can be easily worked at all times of the year. It has good drainage, holding moisture surprisingly well, but is fairly low in fertility. Plants grow very fast but may not be as productive as they might. The volcanic subsoil is particularly infertile and this is what we have in some parts of the garden where the topsoil had been removed to clear the building site back in the 1960s. Compost, organic mulches and fertiliser help a lot. When we started our new subtropical area, the soil there was particularly poor so we spread a couple of trailer loads of commercial potting mix over the surface and planted into that.

In the new garden area, which is located in a sunny, reasonably sheltered area in front of our lean-to greenhouse, there was an obvious need for high shade, as the site had been entirely cleared except for a specimen of *Magnolia* Lotus – one of the Jury hybrids with nearly pure white flowers and a reasonably restrained growth habit. This provides shade at the western end of the garden, although it sheds large leaves in late autumn, which are a nuisance, but the flowers make it worthwhile. For 'instant' shade we put in a couple of long shoots (3-4 metres) of *Brugmansia candida*, stripped of all leaves and most of their branch structure. Planted in October, these rooted rapidly and within weeks were putting out new leaves and shoots well above the ground. Remember these brugmansias if you want some instant cover. Ours have since been removed, having done their job.

Another piece of instant canopy came from a long shoot removed from a mountain pawpaw (*Carica pubescens*). This also rooted rapidly and soon produced a nice parasol of leaves. Unfortunately it is a male so no fruit has ever been produced. I gather that pawpaws may have very complicated sex lives and some may change sex during their lifetime. Unfortunately the original plant – a self-sown seedling that appeared shortly after our arrival has so far refused to carry out this interesting procedure! We added another pawpaw – the babino (carica hybrid). This is apparently a seedling from the better known babaco and has slightly smaller fruit and, supposedly, more flavour. It fruits quite well for us and the fruit, peeled, cubed, sprinkled with sugar and lemon juice, makes a delicious breakfast or dessert dish. I would like to try some other pawpaws if I could find them.

In a local garden centre, a throw-out from the houseplant section

caught my eye. This was a large 2.4 metre pot-bound plant of *Radermachera sinensis* (Canton Lace), a plant from southern China. Planted out in the garden, it grew reasonably well but seems subject to dieback, from time to time, in late summer. Another one, obtained at about the same time as a 'baby houseplant' for $1.99, grew from its original 10cm amazingly fast and had reached two metres by the end of summer. Four years later, it is now nearly five metres tall, has never branched and looks rather like a giant test-tube brush. It is shortly to lose its growing tip in order to force some branching. Radermacheras provide a light, dappled shade and have very elegant foliage. They seem surprisingly hardy. When mature, they may produce large scented white flowers (they belong to the Bignonia family, Bignoniaceae) but ours have yet to do so. I admired the flowers on one growing at Kings Plant Barn, Takapuna, last summer.

Additional shade came from the wheki (*Dicksonia squarrosa*), a native tree fern, dug up from elsewhere in the garden. Finally, some extra fast cover came from *Montanoa bipinnatifida* (Mexican Tree Daisy), which grew very rapidly in one season to some four metres in height. It has handsome leaves and spectacular heads of white daisy flowers in late autumn/early winter. According to Stirling Macoboy – "What Shrub is That?" - this collapses at the slightest touch of frost but ours has never shown any signs of cold damage at all, not even in the winter just gone past.

This canopy helped to establish other plants, including a *Tabebuia chrysotricha*, which have now grown in their turn to form a secondary canopy.

COMING EVENTS

JUNE 2nd

Auckland Regional Botanic Gardens – Garden Discovery Programme. 11am-1pm – Subject – The courtyard garden. No bookings required (cost $8.00) Plant sales. For further information ring (09) 267-1457

JUNE 4th

Palm & Cycad Society of New Zealand

Monthly meeting at Auckland College of Education, Epsom Avenue at 7:30pm in lecture theatre F1. For further information ring (09) 296-7699

JULY 7th

Auckland Regional Botanic Gardens – Garden Discovery Programme. 11am-1pm – Subject – The succulent garden. No bookings required (cost $8.00) Plant sales. For further information – (09) 296-7699

AUGUST 4TH

Auckland Regional Botanic Gardens – Garden Discovery Programme. 11am-1pm – Subject – The oriental garden. No bookings required (cost $8.00) Plant sales. For further information – (09) 296-7699

LETTER

Dick Endt's article "Coconut Palms – Past & Future in New Zealand" strongly implies that New Zealand had a coconut palm millions of years ago and this palm was similar to, if not the same, as, *Parajubaea cocoides*, the cococumbe palm from Ecuador.

The word coconut refers to the fruit of *Cocos nucifera* and only to that fruit. There are many modern palm species, which have three 'eyes' on the seed and a number of them belong to the Cocoeae tribe of palms. There are 22 genera in the Cocoeae tribe but we do not refer to their seeds as coconuts. A few examples are *Butia* (Jelly palm), *Elaeis* (Oil palm), *Jubaea* (Chilean wine palm), *Parajubaea* (Cococumbe) and *Syagrus* (Queen palm). If we did use the word coconut for seeds of a palm other than *Cocos nucifera*, we would be misleading the reader.

A geologist, E.W. Berry, assigned the name *Cocos zeylandica* in 1926 to the fossil seeds found in New Zealand. It is unfortunate that he did not use a name already assigned to these fossils but instead chose *Cocos.* However, in those days almost every palm was called *Cocos.*

All we know about *Cocos zeylandica* is that it was of the Cocoeae tribe of palms and probably preceded *Cocos nucifera* by a very long time. We have no idea what it looked like, having onlya number of fossil seeds, nothing else.

A few years ago, a well-preserved fossil seed of *Cocos zeylandica* was forwarded to Fairchild Tropical Garden in Miami, Florida. Palm biologists examined the fossil and concluded it was more similar to modern day *Syagrus* than to any other member of the Cocoeae tribe.

Therefore the Queen palm, *Syagrus romanzoffiana,* would be the closest relative to ... "our native ancient coconut".

Maybe we should review our thoughts and consider "Queen Palms – Past & Future in New Zealand".

Keith Boyer

THE GREAT PRETENDERS

(plants that look subtropical but are hardier than you expect)

Helleborus

While not particularly showy plants, hellebores are very useful in the garden, particularly as medium height (40-50cm) groundcovers under high-branched trees. Not only is the foliage attractive but the flowers, from late autumn to early spring, make excellent, long-lasting cut flowers with leaflike bracts on branched 60cm stems. Colour can be introduced by interplanting with taller, more striking plants such as shrub begonias, clivia, crinums, cymbidiums and hippeastrums.

Top Left: *H. argutifolius* (syn. *H. lividus*) Corsican hellebore.

Hardy to -5°C, this hellebore has lime-green flowers and the leaves have sharply toothed edges. Takes more sun and less water than *H. orientalis.*

Top Right: *H. orientalis* (purple form) also comes in greenish white and pink. The colour range has been increased by hybridisation to rose, wine red and claret. Some are marbled, spotted and splashed with other colours. It is hardy down to -15°C.

Hellebores mostly hate disturbance and reestablish slowly.

Aloe polyphylla (Spiral aloe)

This remarkable species is native to several mountains in Lesotho, a small country within South Africa. *A. polyphylla* is highly endangered in its habitat and is strictly protected, being one of the world's rarest aloes. Although it is rather exotic looking it is not a difficult plant to grow here in New Zealand.

In its natural habitat, *A. polyphylla* grows at over 2000 metres altitude, where it receives high rainfall and is often under snow in winter. This gives us some clues as to its cultural requirements.

Firstly it likes water...lots of water. One of the most common mistakes made with growing this plant is that people tend to under-water it (or under-pot it) and this leads to blackish dried off tips on the leaves.

Secondly, it is fairly cold tolerant and will grow extremely well in many parts of New Zealand, light frosts having no effect on it. Very heavy frosts may kill it though.

The five spirals of leaves can be either clockwise or anti-clockwise in direction and are its most notable feature. The flowers are salmon pink in colour from a short, multi-branched inflorescence, but plants are often reluctant to flower. In time, the plant will reach 1m in diameter. It does not offset but occasionally it will divide, forming two or three heads. It is best grown in full sun and is tolerant of most soil types.

Tim Saunderson **Photo: Grant Bayley**

FOUR PASSIONFLOWERS
John Prince

The passionflowers (often two words, as in "passion flowers", but Microsoft and my Webster's Dictionary prefer the singular form) are not named for human passion or the emotions they arouse in most people when they see the flowers. Instead, the name comes from a tortured interpretation given the parts of the flowers by early Spanish missionaries. Seeing what they wanted to, they erected a supposed relationship of floral bits to individual items cited in the crucifixion of Jesus, that is, in the passion of Christ. The determinedly fanciful nature of what they did can be seen, for example, in them making the five sepals and five petals represent the apostles. To make the mathematics add up they had to say it was the apostles minus Peter and Judas!

There are about five hundred species, nearly all of them vines, and just about all of them occurring naturally in the tropical Americas. The ones that do best here often come from somewhat higher regions in the Andes, or from cooler parts of their range, including Australia, and there is our own native passionfruit - *Passiflora tetrandra*, of course!

Some have done so well here, particularly the banana passionfruit (*P. mollissima* (also *P. mixta*), that they have been declared noxious weeds. There are severe limitations on the bringing in of fresh seeds. Something over twenty species may be imported legally. There are more species than that already in New Zealand (e.g., I brought in 17 different ones in one hit in the early 1990s under a different biosecurity regime). However, we are clearly going to be largely limited to what we already have in the country - whatever that total actually is.

Passionflowers are grown both as ornamentals, for their gorgeous flowers and often-handsome leaves, and for their edible fruits. The plants have medicinal uses, too, including traditional ones such as the sedatives derived from some species. In fact, any big supermarket in New Zealand will have at least one organic tea with calming or sleep-promoting properties that contains material from passionfruit plants. Most of the nearly sixty species that are generally eaten for their fruit, even if only within particular tribal areas, come from the subgenera *Passiflora* and *Tacsonia*. The ones that we are most familiar with are the purple form of *P. edulis* (although, internationally, the biggest commercial production is of the yellow fruited *P. edulis* var. *flavicarpa*), and the banana passionfruit. The latter comes from the *Tacsonia* group and shows the typical form. The flowers often have red as a dominant colour and are long-tubed, an adaptation to being pollinated by hummingbirds.

Top left: *P. antioquiensis* **Top right: *P. apetala***
Bottom left: *P. gibbertii* **Bottom right: *P alata***

Most of the tropical species will flower under the conditions of their natural habitats in about half a year. The more cool-tolerant ones that we are most likely to see are somewhat slower growers, and will typically take one to one and a half years. Many of the species show dormancy in their seeds, and it may take up to four or five months before germination. Very many of them in the subgenus *Passiflora* are self-incompatible, but the main fruiting ones that the mass New Zealand public know, need only one plant to set fruit.

Four species from our collection are pictured opposite. *P. antioquiensis* seems a splendid example of a *Tacsonia* species that grows well here (although Vanderplank, in his book *Passion Flowers*, notes that it has now been placed in yet another subgenus). It has been around as a garden plant for many years and is sometimes sold in New Zealand as the 'vanilla [or red] passionfruit'. The rose-red/magenta flowers are wonderfully ornamental, providing broad spreads of autumn colour while this article is being written. As a high altitude plant, even though it comes from Colombia in the tropics, it has relatively good tolerance of cool conditions (by passionflower standards of coolness that is). It yields a widely acceptable fruit, of commercial quality in many people's opinion.

P. alata is rated as slightly more tender, but it will certainly grow outdoors in a protected situation. We have fruited it both under light shadecloth and in the open, after several mild winters. The fruits are oval, orange when ripe, about twice as long and as wide as *P. edulis* and pleasant to eat. Still, mostly it is the spectacular flowers, with their heady, very spicy scent, that grips the attention of visitors. That's after their eyes have been seized by the complex carmine, purple, and white colours of the flowers. Although mild in flavour, the fruit has commercial potential. Long locally marketed in Northeast Brazil, the 'sweet maracuja' is now being rapidly planted in southern Brazil on a large scale.

To people in New Zealand, reared on the common purple-fruited commercial species, *P. gibbertii* is immediately recognisable as a passionflower. It is like a smaller, slightly washed out version in terms of its flowers, but the leaf form is clearly different, being more regular, simple and three-lobed. It is more typical of most species that resemble *P. edulis*, however, in that it doesn't set fruit for us, and is thus one of the self-incompatible ones.

The final choice though, is thoroughly typical in another way. *P. apetala* is far less showy than the varieties that ordinarily capture the attention of photographers, but shows the same basic flower structure, albeit dominantly in subdued greens and whites. What is typical about it is that it is not going to be commercially available in New Zealand. Although it is on our seed list, we won't sell seeds of it to customers in this country. We think it has too much potential to go wild.

[illegible]

Open to all members of [illegible]

To enter, send your photograph(s) of subtropical plants (winter if possible) either vertical or horizontal or both, of subtropical or tropical plants to

The Editor, PO Box 91-728, AUCKLAND 1030

Email to marlowe@subtropicals.co.nz or grant.bayley@clear.net.nz

Please make sure that your name and address is on the back of the photo using a marking pen and accompany it if possible with information about the plant(s). Mark return if appropriate. ENTRIES CLOSE ON THE 31st JULY 2002.

The PRIZE

Cultivated Plants of World by Don Ellison

or a voucher to the same value.

This competition is sponsored by

PLANT SOURCES for this issue

Front page –
Aloe bainesii, A. cameroni, A. vaombi and *A. speciosa.*
Coromandel Cacti, Landsendt – some only available as small plants.

9 *Canistropsis billbergioides* – Greens Bromeliads, and usually at bromeliad specialists.
Zygopetalum mackayi – most easily bought in winter as a pot plant from florists or from an orchid specialist.
Ruellia macrantha, mackoyana – becoming more easily available, especially as a pot plant.
All easily available although *Nandina* Richmond is not always available.

16 *Helmholtzia glaberrima* – Joy Nurseries, Pukekohe.
Musa uranoscopos (*coccinea*) subtropical specialists.

19 *Neoregelia johannis* hybrid – some available, but have to be propagated vegetatively (not grown from seed) to ensure same plant.
Plumeria rubra var. *acutifolia* – make sure plant is not grown in glasshouse. Those grown from logs tend to be hardier.

26 Helleborus – Joy Nurseries, perennial specialists.
Aloe polyphylla – Coromandel Cacti, Tippetts, specialist succulent nurseries generally..

28 *Passiflora* species – Nestlebrae Exotics, Helensville.

34 Schlumbergera hybrids – available now in a variety of colours from the houseplant section at nurseries and florists usually labelled zygocactus, which they are not.
Medinilla myriantha – Wharepuke Sub-tropical Gardens, Kerikeri.

FROST(s)!
To come?

A simple way to protect from frost is to cover the plants with something that will keep in the warmth. Newspaper is quite efficient but can blow off if not fastened down. Frostcloth is very good. This very fine synthetic material can be bought in whatever size is required and draped over the plants. Frost forms on its surface but doesn't get to the plant though a little frost will affect the spots where the frostcloth touches the plant. Frostcloth is good where a few specific plants need to be protected and you don't want things to get wet.

Let's hope we don't need to use these ideas this winter!

Robin Booth

Schlumbergera

(Christmas cactus) in the Northern Hemisphere

These are rainforest epiphytic cacti, from the coastal mountains of Brazil. Unlike most cacti, but like most epiphytic cacti, they are apparently spineless. They do not have leaves but phylloclades (flattened branches or stems). Although mainly tree dwellers, they can be grown terrestrially. They dislike direct sun and tolerate fairly heavy shade, becoming very succulent and green. If kept moist through most of the year, growth is relatively rapid. They enjoy high nutrition levels and acid conditions. Red coloured stems are caused by dryness, high light levels or root damage. The main pests are slugs and snails and, occasionally caterpillars and wetas.

In my experience, schlumbergera cope with the very occasional 0°C. Regular, nightly cold below about 10°C, causes the flowers to change colour. White, yellow, gold, orange and mixed colours all turn pink. The flowers open late autumn to early spring. Prune immediately after flowering by carefully breaking at the joints as this helps to shape it into a bush. It also keeps the next season's flowers facing upwards and outwards and closer together, to be enjoyed en masse.

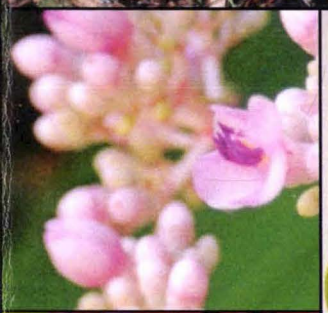
Often sold as zygos, zygocactus (invalid name) and Chain cactus. Schlumbergera and hatiora (formerly rhipsaladopsis) are distinct genera.

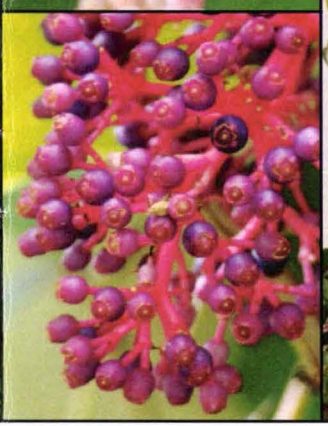
Text, photos: Grant Bayley

Medinilla myriantha

It is now believed that this plant, sold here for many years as *Medinilla magnifica*, is the species *M. myriantha*. A much more cold tolerant plant than *M. magnifica* (min. 18°C), *M. myriantha* has coped with temperatures as low as the occasional 3°C in winter, but with no frost present. In a semi-shaded north-west position, flowerheads were formed during November, with the berries lasting until late autumn. When previously grown in a protected south-east position, the flowerheads formed later - January/February, - and the bunches of berries continued right through the winter, still with the odd flower. Due to a shortage of garden space, the plant was in a fairly large pot. Apart from soaking up summer water like blotting paper and being vulnerable to thrips (under the eaves), it did well - many medinillas are epiphytic in nature. In the ground or with fertilising, this can be a fairly large shrub.

Each flowering stem starts with pale pink buds opening to small flowers (see inset), which then turn to pale pink berries which, in their turn, deepen in colour to deeper pink then magenta until, when ripe, they are a wine-black. Looking rather like large bunches of minute grapes, they are enhanced by the beautiful, veined deep green leaves. Regular pruning is needed to prevent legginess. Protect from wind and frost. It propagates easily from either seeds or cuttings. Most desirable.





PHOTOGRAPHS FROM THE PRE-PUBLICATION COMPETITION

Top left

Louise Colgate from Waikanae writes:
Out of my collection of Arum lilies, *Arum palaestinum* would be the most unusual, nearly black with wonderful dark green foliage. It is very rare and grows in semi-shade.

The flower only lasts a few days, so out comes the camera to catch it and other rare species in my garden at their best. It lives with my collection of over one hundred bromeliads, echevarias, euphorbias and other rare succulents.

Isn't it gorgeous!!

Top right

Sue Schatzdorfer's photograph shows a corner of an attractive courtyard garden with raised beds (the better to see the plants with) containing a wide variety of species. The terracotta lamps and the decorated pot give this corner an Asian feel. The diagonal steps add interest to the change in levels.

Bottom

And the winner is ... Pat Lawson with her closeup of plantings alongside a bark and railway-sleeper path. Spilling out onto the path is the vigorous groundcover, *Soleirolia soleirollii* (Baby's Tears). Under the palm canopy, bromeliads are on show. To the left of the palm trunk is *Billbergia* Santa Barbara. Below, in full colour are two *Nidularium rutilans* in colour. Behind these to the right is *Neoregelia* Skotak #8. To the right of the nidulariums is a clump of *Neoregelia concentrica*. Pat receives a copy of William Warren's 'The Tropical Garden'.

AUTUMN COMPETITION

This was won by Sheree Foster, with her ingenious tale of the uses to which sun umbrellas can be put. Read it on page 15 of this issue.

Members are thanked for their interesting entries which, as space permits, will be included in future issues.

In an email confirming the identification of *Medinilla myriantha*, Don Evans, Director of Horticulture at the Fairchild Tropical Garden, Miami, Florida, extended congratulations on the founding of **SUBTROPICALS**.
and
"If you or any of your group are coming to Florida in the future, include a trip to Fairchild. I would be glad to show you around".

BOOK REVIEW

"Subtropical Plants for New Zealand Gardens"

Jacqueline Sparrow and Gil Hanly:

We had an email today from someone wanting to buy a breadfruit tree and some cassava plants. Regretfully, we had to tell him that breadfruit is too tropical to grow here. We do have a friend with cassava growing, but in a large plastic-enclosed structure. This sort of request is likely to become more common if people read a book like this.

Godwit has ruined a great opportunity to produce a really good book on subtropical plants that will grow reasonably happily here. Part of the problem comes from trying to cram a gallon-sized volume into a pint-sized container. It could have been wonderful. Subtropical gardening is deservedly becoming more popular as people realise that it is much easier to grow the plants that like our climate in the northern parts of the country, than to struggle with cool temperate plants that don't do well. People need accurate, detailed knowledge to guide them into this style of gardening. Too many plant types are included for the size of the book not allowing sufficient details to emerge.

Despite the often-beautiful photos by Gil Hanly and potentially interesting text, the aspiring subtropical gardener is doomed to disappointment when trying to actually buy many of the plants mentioned. The worst example is the inclusion of *Hedychium gardnerianum* (Kahili Ginger) and *H. flavescens,* which were declared noxious weeds some years ago. It is illegal to propagate, increase, distribute or sell them! In certain areas, Waitakere, Hunua and Great Barrier Island, these plants have to be eradicated by the landowners. Not many gardeners in the north would be unaware of the problem.

Many others are just unobtainable, they are either too tropical or no nurseries stock them. With the increasingly restrictive nature of the list of species permitted to be imported, it is unlikely that many of the more desirable ones will ever become available. For example, a quick look at the chapter on trees: none of *Artocarpus altilis*, *Cordia* spp., *Colvillea racemosa*, *Saraca* sp., *Spathodea campanulata* or *Terminalia* spp. is available. Almost twenty per cent of genera mentioned in this chapter are not available or even represented in the specialist subtropical gardens of Northland.

Apart from that major problem, consider a couple of the species covered. Breadfruit (*Artocarpus altilis*) is permanently heat-demanding. From hot, humid tropical lowlands, it defoliates below about 8°C, and stops producing fruit part way down the Queensland coast. In other words, it needs to be 15 degrees off the equator, not in far northern New Zealand at 35 degrees! The date palm (*Phoenix dactylifera*) is also recommended. It will grow here but will never fruit successfully,

demanding low humidity, a dry climate and a nine month growing season with average maximum temperatures of 35°C ... it doesn't sound like New Zealand, does it? (It is non-fruiting even in coastal southern Queensland) This means the author's assertion that "their nutritious fruit could also be available to gardeners in the subtropics" is nonsense. Similar misinformation is found throughout the section.

After discussing various species of *Passiflora,* the author writes "dozens of other superior passion flowers can be found..." Yes - but not here. Some are illegal to sell in New Zealand and, in any case, the current seed importation regulations mean that all but a handful of species are forbidden entry. The author seems to be unfamiliar with what is in the country. For example, why even mention *P. quadriglandulosa* unless you know someone who can sell it to you?

Subtropical Plants for New Zealand Gardens has chapters devoted to trees, shrubs, palms and cycads, fruit, climbers, perennials and bulbs, cacti and other succulents, bromeliads and orchids. Within each, there is an alphabetically arranged series of entries, usually 2-3 paragraphs long, often accompanied by a photograph. One of the most irritating aspects though, is the tendency to cram several genera under one heading. Thus, under *Calathea,* there are several paragraphs describing species considered suitable for the subtropical garden, but then the final paragraph suddenly mentions *Maranta, Ctenanthe* and *Stromanthe* species. *Stromanthe sanguinea* is used as the illustration for the entry, none of the calatheas mentioned is illustrated, and *Maranta* is dismissed as "similar to calatheas, having fascinating foliage, liberally patterned."

Of course, some of this may follow from editorial decisions, rather than the author's wishes, but the result is inadequate coverage.

Other examples of the same thing could be cited – for example, the huge list of bulbs all crammed in under "Cyrtanthus". The basic information is fine in this case, but unhelpful in its compression.

Fundamentally, a book with this title is a very good idea. This one would have been more acceptable, even exciting, a decade or two ago. However, a generation of gardeners keenly experimenting with warm climate plants now exists in northern New Zealand. A text that demonstrates throughout its length the knowledge that has been gained, and the right paths to continue to go down, would be wonderful.

Then the lady, seen at the last New Zealand Palm and Cycad Society sale, clutching a brand new copy of this book and pointing excitedly to a photo of a species not available in this country, would not be so likely to be disappointed. And the would-be breadfruit gatherer would not have been getting his hopes up and wasting his time.

Rosemary Steele

(A Godwit Book published by Random House. - $34.95)

SOME COMMENTS FROM MEMBERS

"*Adenium obesum* will not grow outside anywhere in New Zealand".

"Not one of the heliconias in the book will grow outdoors in New Zealand. Those that do are not even mentioned. The photographs must have been taken in the tropics!"

"*Begonia haageana* (syn. *scharffii*) is not a small plant. It grows to 1.5m x 2m, is everblooming and the flowers are not pink but white with red hairs and markings, fairly large, but outstanding because they are held in upright panicles, rather like small bouquets".

"The photo of *Archontophoenix alexandrae* is actually *A. cunninghamiana,* chrisalidocarpis has been dypsis for quite a long time now and beaucarnea has been changed back to nolina".

"*Alpinia purpurata* is far too tropical for New Zealand!"

"Grow phalaenopsis outside! They have to be joking!"

These are typical of the phone calls and notes (some sent lists) received.

BUDDAH'S HAND

No, it is not a real hand but a citrus species from China (*Citrus medica* var. *sarcodactylis*) which looks very much like a 30cm long, orange hand with many fingers. When fully developed, the fruit is a real crowd stopper as it looks like nothing else.

The fruit has been grown for many hundreds of years in the East but it has only recently reached New Zealand. The plant makes a good tub plant as it is not a big grower and this means that it can be moved around if the weather gets too cold for it, as it is a more tropical species.

In the ground it must have a free draining soil in full sun, with preferably no frost although mine has had light frost on it and suffered no damage.

The flowers, which are white, have a delicious scent as do the ripe fruit and they make a good air freshener when in a room or clothes cupboard. The ripe fruit can be made into marmalade or candied. It seems that in the early 1900s, many tonnes of fruit were exported from China to the United States to be candied for the candied peel market.

From what I have read, fruit can be carried on the tree all the year round. The fruit has no seeds or juice so it is not used as a fresh fruit.

The leaves are also very aromatic and can be used in the same way as Kaffir Lime leaves are used in Asian cooking.

Robin Booth

BACK COVER STORY

WATER IN THE GARDEN

Faced with an almost bare garden (the landscaping consisted of lawn and three 1m high newly planted trees) in a new subdivision at Howick, the new owners decided on immediate action.

The lawn proved to be growing in only 5cm of soil, which had been spread over bright yellow clay. No joy there! The only reasonably rapid solution seemed to be to build the garden up, well above the existing level. This was done using weathered and lichened volcanic rocks from their former home in Mt. Eden.

The pool was only excavated to the clay level and a flexible liner was used, giving freedom to shape the pool as desired. Because of the lack of rigidity in the form, it was much easier to achieve a natural look, with the pool edges concealed by the already weathered rocks.

One of the advantages of using a flexible pool liner is insurance against movement of the clay, which dries out and cracks as summer progresses. As soon as the island plant beds were filled with soil (ten cubic metres of topsoil), planting of both the pool and garden could start.

The pool itself is very shallow but does not appear so because of the black liner and the plantings. Care was taken to leave areas of water clear of vegetation so that reflections of the sky and the surrounding palms could be seen. No waterlilies or lotus have been used but an aponogeton species floats on the water surface. There is no marginal planting using bog plants in the usual way. With all the garden area surrounding the pool being raised, drainage is very fast. Only plants that require these conditions have been used, giving the pool and its surrounds a rather different look.

Only three years have elapsed since bare grass has been transformed into a garden. Admittedly the space is small, but already the palms and trees are 4-6 metres tall, screening out the neighbours and providing some summer shade. Some deciduous trees have been used to allow for winter sun to warm the living and bedroom terraces.

BACK COVER:

Looking across the pool to the western boundary (already concealed by planting), with the afternoon well advanced on a late spring day. Succulents and bromeliads are to the fore. Leaning over the water, are the distinctive flowers of *Xeronema callistemon* (Poor Knights Lily), a New Zealand native from the coastal cliffs of northern offshore islands. This requires very sharp drainage and is often grown in pots to achieve this end. Moved from the owners' previous property as a rather large clump, it is flourishing here with a dozen bright, rust coloured flowerheads looking like so many bottlebrushes, hence the name *callistemon*.

Opposite top:

The last rays of the sun lighten the pool, showing the reflections of the palms and plants in the water. The planting is still very young but is starting to fill in. Begonias, bromeliads, succulents, grasses and and even dry- growing ferns cluster around the pool edges. The small stone turtle will soon have to be moved or be lost in the undergrowth.

Opposite bottom:

On the other side of the pool, closer to the terraces and the house, a plantbed barely two rocks wide contains mainly bromeliads with short-lived perennials like sweet alyssum (*Lobularia maritima*) and lobelia seeded into the crevices. The bromeliad to the left is *Neoregelia* Thunderbird, glistening after a light shower of rain. The rosette is about 50cm across, with the green leaves finely striped with bright red and the centre flushed a cerise/red. This plant will stay in colour for months.

Above, to the right, is a young *Neoregelia carolinae* with the leaves just starting to colour. The centre will turn a brilliant red or even cerise when mature. The dying parent, still in colour, can just be seen below the leaves. The bright pink inflorescence in seed just behind, is *Aechmea* Lucky Stripes, which has mid-green leaves edged with cream stripes.