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RHODODENDRONS

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SUBTROPICALS

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

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FROM SMALL BEGINNINGS...

Welcome to the first issue of subtropicals. Despite care, there are undoubtedly errors and omissions (and clichés), which I hope will be rectified with the help of our members and readers. If you grow plants in differing conditions from those described in this magazine, please let us know as this is of immense help to others. Flowering times differ around the country and, of course, so do rainfall, temperature, humidity and the direction of prevailing winds.

Two foundation members, John Kenyon of Te Puna Cottage Gardens, Tauranga, and Robin Booth of Wharepuke Sub-tropical Gardens & Nursery, Kerikeri, placed colour advertisements in this issue. An act of faith in our future, this has enabled us to include two more colour pages – ten instead of the promised eight. The timing of each issue is aimed to coincide with the actual season starting. Autumn, which here in Auckland usually begins very consistently about the 20th or 21 February (4 months before the shortest day), this year arrived very early and by the 13th was definitely here. How to tell? The days may be warm and the nights mild but there is a crispness to the air in the mornings, warning you to make the most of the coming days.

Membership is growing steadily and includes a surprising number of people from very marginal areas. And the support! Everyone has been so helpful and full of information, both about plants and people – our horizons are expanding at a very rapid rate.

Of course, the magazine will only be as good as the articles and photographs received. To that end, the pre-publication competition will be continued as a regular feature - the autumn issue competition will be for written material (see details on page 37).

And the winner of the first competition is ... Pat Lawson of Pakuranga, who wins a copy of "The Tropical Garden" by William Warren (or a voucher to the same value). Her winning photograph and two others will appear in the winter issue.

So write, phone, fax or send an email – all are welcome.

Editor

ADVISORY MEMBERS

Grant Bayley, Steve Benham, Keith Boyer, Dick Endt, Jim Gilchrist, Terry Hatch, John & Pauline Isaachsen, John Kenyon, Barbara Parris, John Prince, Tim Saunderson, Rosemary Steele, Brian Timms, Mike Walker, Peter Waters.

Marjorie Lowe

CLIMATE ... a very personal viewpoint by a longtime gardener

Some time ago, when I was giving courses on 'Designing with Plants' to adult education classes, I rang the climatology section of the Geography Department at the University of Auckland. I wanted, I said, a simple definition of a subtropical climate that I could use for my classes. Could they recommend a suitable textbook?

Shock! Horror! The thought that I could consider that there were any subtropical areas in New Zealand was most upsetting. The lecturer concerned was basing his views on commercial horticultural use whereas, I pointed out, private gardeners were usually willing to take the risks of the occasional exceptionally cold winter. Private gardens usually provide not only house walls, fences and trees for wind protection but heat release at night from the structures, vehicle exhausts and street lights.

And the plants? The remark from me that I considered that "plants were rather like people, some were much more adaptable than others" didn't really go down all that well, either. We compromised in the end. He agreed that there were many subtropical (and tropical) plants that grew well (some too well) here in the frost free areas, especially coastal areas, and gave me the name of a then current textbook that contained an approved definition of the subtropical climate.

Time has passed and, as I was going to write this article, I thought that I had better update my information. A trip to the Auckland Public Library revealed that not only had the recommended text been deleted but, even with the help of two librarians, we could not find <u>any</u> book or encyclopaedia that gave a definition. Tropics – yes, tundra – yes, but no subtropics. Someone suggested that subtropics was the climate between the tropics and warm temperate. Well, we knew that but we wanted some <u>facts</u>! So from memory here goes:

Using mean average temperatures (maximum and minimum temperatures averaged out):

- 1. That at least one month of the year must have a mean average of less than 18 °C.
- 2. That at least ten months of the year must have a mean average of more than 10 ℃.

As I recall, there was no mention of minimum temperatures or frost. If this is a correct interpretation, then many of us live in areas which conform to these criteria.

Another definition of subtropical climate states that

- the average temperature of the coldest month is above $6.1 \,^{\circ}$ C (43 $^{\circ}$ F) and below $18.3 \,^{\circ}$ C (65 $^{\circ}$ F). Again, no mention of minimum temperature or frost.

Many gardens would be included under either of these definitions. But from personal experience I have found that, although I have recorded minimum temperatures in winter (20th May to mid August) for many years, the true arbiter is frost.

For instance, *Stromanthe sanguinea* is described by Graf as 'humid tropical', upright, 1.5m. The RHS Encyclopaedia gives 15°C as the minimum temperature, frost tender, 1.5m. high. In Auckland (in Freemans Bay, city heat!) mine quite quickly reached two metres, flowers for two months in mid November to mid January and has not turned a leaf at temperatures down to the occasional 3°C in June/July. Last winter, I even had a couple of nights at 2°C but **no frost or southerly winds.** I am beginning to wonder just how low a temperature it will stand and would it survive a light frost?

This is only one example of the differences between suggested minimum temperatures and the actuality when the plant is growing outdoors in the ground. In a glasshouse, in a pot, the results may well be very different. So experimenting is often the only way to find out, providing that the plant involved has been hardened off and has not come straight from a heated glasshouse.

There are other factors involved. It is excessive wet in winter coupled with insufficient drainage that kills plants, especially those coming from monsoon climates where the summers are wet and the winters are dry. Discovering the country of origin and the plant's natural habitat is of immense help in placing it in the most suitable growing conditions possible in our climate. Of course some plants are always going to be impossible to grow. Cosseting does not occur in my garden, only reasonable care and attention.

With all these things in mind, the most sensible approach seems to be to use frost as the growing guide line. It may not be very scientific, but it is easily identified and its effects are usually very obvious. Also, frost-free areas occur in warm temperate zones as well as in subtropical ones. There are ways of modifying or diverting frost in marginal areas, particularly if you are on sloping ground. Provision of canopy for shade-loving, frost tender plants is vitally important.

As well as humid subtropical, this magazine covers Mediterranean type gardening and there the usual winter temperatures are much lower than ours. I have read no better description of the Mediterranean climate than that in Hugo Latymer's book, "The Mediterranean Gardener" (the prize for the autumn competition). In it he writes "this book caters for gardeners living in warm temperate regions that experience four months of hot, almost totally dry summer weather and wet but sunny winters with lowest annual temperatures of between 2°C and -6°C". (-6°C!!!)

He goes on to say that one way of defining climatic boundaries is by the distribution of native 'indicator plants'. "the plant most often used to define Mediterranean conditions is the olive; but olives can resist temperatures as low as -10 °C, well below the minimum normally experienced along most of the Mediterranean coast". He suggests that the orange is a better indicator, hardy down to -6 °C.

Unlike many garden writers, he places considerable emphasis on humidity levels and the effect these have on the growth or not of many plants. For those seriously interested in this type of garden, particularly if they live on the coast or in volcanic or pumice areas, this book is worth buying, just for the two-page chapter on climate alone.

Finding out what will grow where or, alternatively, what won't grow where, and why it won't grow is the basis of successful gardening. Very roughly, the subtropical climate divides into:

Humid subtropical – where no month has rainfall of less than 5cm. This is home to the rainforests.

Arid subtropical – almost no rainfall at all. On the coast of Chile there are areas where the only moisture comes from fogs rolling in from the sea.

Monsoon subtropical – summers wet, winters dry. Mostly east coasts i.e. Florida, Argentina, Uruguay, southern Queensland, northern New South Wales, South Africa.

Mediterranean subtropical - summers dry, winters wet. Mostly west coasts i.e. California, Chile, Western Australia, South Africa.

Subtropical – this includes areas in the tropics and at the equator at approximately 1000-2000 metres above sea level. People often forget that climate is vertical as well as latitudinal.

The first book that I was able to buy about more tender plants (a northern hemisphere definition) was "Gardening in Warm Climates" by D. A. Herbert, Professor of Botany at the University of Queensland. It fell open at the following - "buffalo grass is very robust and is green all year where there are no heavy frosts". Heavy frosts! I was stunned, my vision was waving palms, etc. Now long out of date, this book triggered my in terest in finding out more about climate and what could be grown in my home city of Auckland. Even in my late teens I found English-style gardening very unappealing (I have never ever grown a rose). It is only in the last decade that publications have appeared in any quantity for mild climate gardens. Still too few.

Because we are an island nation with a small land mass, we do not fit into the east coast/west coast definitions. I believe that we grow an amazing range of plants from all over the world, from warm to cool areas, not because we are warm but because we are not cold. We also have reasonable to good rainfall, small temperature variations, both day/night and summer/winter, and often high to very high humidity levels. What more can you ask?

Marjorie Lowe

COVER STORY OPANUKU SUBTROPICALS

Nearly twenty years ago, this site of two and a half acres was grassed paddocks (old farmland), sloping up fairly steeply from a winding road in the Henderson Valley in west Auckland.

The cover photograph shows a very small corner of what is now a large subtropical garden, filled with palms, cycads, treeferns and unusual trees. Underplantings of an amazing range of plants, including many different aloes, aroids, bromeliads, cannas, gingers, heliconias, etc. etc. add lushness and bring some brilliant spots of colour to the prevailing greens.

At the beginning, there were very few palms available for purchase – mainly phoenix, washingtonia, trachycarpus and, of course, nikau. The owner wanted to grow some different palms so set about getting in touch with people around the world to source and exchange seeds. Cycads were even more difficult to find, but seeds were reasonably easily obtained from overseas.

Over the years there was much experimentation over what were suitable conditions for good growth – some plants were lost to the climate (too much rain, especially in winter) and others were moved to more suitable gardens. There are now sixty cycad species and one hundred and eighty palm species that have all been grown from seed. Many were the first of their species to be grown in New Zealand.

The soil has good drainage but is naturally low in nutrients, so that when mulch is added, the soil improves and growth accelerates. As the garden began to gain some canopy cover, conditions also improved for the lower and ground cover plants.

The climate has been described as temperate-subtropical, with warm, humid summers and mild winters with small variations in temperature between day/night temperatures and summer/winter temperatures. Summer maximums rarely exceed 30°C and frosts are few and light, doing some damage to alocasias and bananas, but rarely a problem for the palms and cycads. Humidity at most times of the year is above 70%. Rainfall is 1500-2000mm per year, much higher than the average of about 1140mm for Auckland city environs. Proximity to the Waitakere Ranges and prevailing westerlies probably account for this. Ten kilometres away, on the far side of the Waitakeres, the Tasman Sea (and beyond it the Southern Ocean) pounds in on the West Coast surf beaches.

The house is sited lengthways across the slope but below the highest point of the property, with a wide, covered verandah running its full length. From here, the not very distant view is of several hundred acres of native bush (rainforest), which includes treeferns, nikaus and ancient podocarp-hardwoods. The closer view looks down, sometimes into the tops of palms and trees, into the garden and the sweeping lawns that spread all the way to the road. Growing against the verandah railing, *Strelitzia nicolai* flowers may be viewed at eye level.

In the cover photograph, the feather palm to the right of the *Archontophoenix purpurea* trunk is *Ravenea rivularis*. It eventually grows to a height of 25m. so should be carefully sited to accommodate its size. Unlike other ravenea species, the leaves are pendent. Growth is fast in both sun and partial shade, particularly if it is grown in well drained soils with plenty of summer water.

Ravenea rivularis comes from a high rainfall area of eastern and southern Madagascar, growing on the edges of rivers, swamps and marshes. Despite this, it grows well in the mediterranean climate of Los Angeles.

Soil should be on the acid side and heavy feeding, including magnesium sulphate (Epsom salts) and iron sulphate, helps to maintain fast growth.

This palm is relatively new to cultivation but is already available from a few outlets (See page 21).

Just below the ravenea is an *Anthurium coriaceum*, a member of the Aroid family and native to southern Brazil and Argentina. The anthuriums are mostly humid-tropical plants and much hybridising is being done, particularly in Florida, to breed hardier cultivars that can be grown outdoors there.

However, A. coriaceum is a subtropical species grown for its handsome tall, leathery, paddle-shaped leaves that give a vertical scale (to about 1 metre). The inflorescences are cream/green in colour, not particularly interesting and are at ground level.

A lithophyte, it prefers to creep over rocks, making it a very useful foliage plant for those gardening in volcanic areas. Because of this habit and its leathery leaves, it would appear to be fairly tolerant of dry conditions.

To the casual observer, at a distance it is not unlike a New World fern that will be featured in the spring issue (the dead giveaway here is the presence of spores on the backs of the leaves).

The bright yellow flowers appearing alongside the anthurium belong to an unseen clump of *Farfugium (Ligularia) tussilaginea* 'Aureo-maculata' (Leopard Plant).

In the foreground are two plants of *Vriesea fosteriana* (rubra), one with an expended flowerspike.

Foliage vrieseas, the most well known of which is *Vriesea hieroglyphica* (King of the Bromeliads), are in great demand for their striking markings. Unlike neoregelias, in which brilliance of colour can be more important, foliage vrieseas do not have to wait to come in

to flower to reveal their attractions. They look good as quite young plants. A well grown plant may be up to a metre or more in diameter and the flowerspike can also be a metre or more high. Like most bromeliads, it needs good air movement and very fast drainage. It is a terrestrial but will grow quite well in ponga pots.

Rubra is the red form of the species - the young plants are suffused with dark wine red and this colour remains for life. If this plant is not under stress, it can take up to five years to flower. The flowerspike has green bracts and yellow flowers that open at night to attract pollinators. The spike is more curious and exotic than colourful, but the stem and bracts can be heavily speckled and most interesting. As the plant is monocarpic, it dies after flowering but not before producing pup(s). The parent plant will continue to look attractive for a considerable time.

Vr. fosteriana and the well known hybrid *Vr. fosteriana* 'Red Chestnut' are reported to be hardy down to about $-2/3^{\circ}$ C, so should be able to take occasional light frosts.

Vriesea fosteriana is native to southern Brazil where it grows at about 1000 metres in bright sunlight on sandy hillsides.

Alocasia macrorrhiza var. rubra is another member of the Aroid family. This is a genus that suffers from a lack of accurate naming in many of its species. Most nurseries choose to give their own names to plants with distinctive characteristics – definitely a case of "what you see is what you get". The same plant may well appear under different names. A. macrorrhiza does not seem to have this problem quite so badly.

Generally, the growth seems to be more upright (up to 2m) than other alocasias although, with old age (3-4 years), the stems become very large and tend to lean. Then it is time now to remove them to allow the younger shoots to grow to maturity.

Alocasia macrorrhiza is of unknown origin but is found from Sri Lanka to Asia, Australia, the Pacific and South America. Also Africa. Several varieties, including *rubra*, are reported from New Guinea. Although usually listed as tropical, it grows here easily in frost free areas.

A compelling reason to plant this species and its varieties is not just for the showy leaves but for the perfume. One of the most beautiful scents in the plant world, it wafts in waves and can be smelled up to 20m away from a good sized clump. The flowers, while not colourful, have lovely form and are much used for floral work. Drawback? The Passion Vine Leafhopper loves living here.

Photos...Top left: Alocasia macrorrhiza var. rubra Top Right: Alocasia coriaceum Bottom left: Vriesea fosteriana (rubra) Bottom right: Ravenea rivularis.





Dendrobium speciosum (Rock orchid)

Discovered while driving up a Remuera street this spring, this wonderful clump of orchids in the crotch of an old oak tree was repeated only a few doors away with an even bigger clump, also in an oak tree crotch.

Dendrobium speciosum is an Australian orchid native to New South Wales and Victoria and rather variable in form and colour. The illustrated clump may be Dendrobium speciosum var. hillii, which only grows epiphytically. Most of the D. speciosum varieties are both epiphytic and lithophytic (growing on rocks).

Being fairly hardy, - minimum temperature usually about $2^{\circ}C$ - this orchid should (and does) thrive in our conditions. The age of these clumps has not yet been discovered, but estimates have suggested about twenty years' growth. The clump in the photograph is about 3 metres across and 1.5 metres in depth.

And the perfume! It is strongest in sun and a wonderful plus. The clumps remained looking good for 6-8 weeks.

Perfect drainage and full to three quarters sun are needed for good growth. Because of the pseudo-bulbs, they can withstand considerable dryness. This is one orchid that still looks attractive when out of flower.

Mandevilla 'Alice du Pont'

So many tropical and subtropical climbers are rather rampant growers, making constant pruning (with consequent loss of flowers) a must in smaller gardens.

Mandevilla (formerly *Dipladenia*) 'Alice du Pont' is an old favourite, easily available and very dependable. As long as you like pink, it has some excellent attributes.

A medium sized twining climber from Brazil (previously dipladenia) it has deep rose pink trumpet-shaped flowers set against rather attractive leathery dark green leaves. From late spring through almost to winter, this climber puts on a continuous display of contrasting colour. Like most climbers, the roots need to be in shade while the new growth climbs to the sun. "Alice du Pont', however, will grow in part shade – the photograph shows a plant that has become partly overshadowed by the growth of a nearby *Chorisia speciosa* and, although not as floriferous as before, is still most attractive.

Frost tender with an estimated minimum temperature of 7-10°C, because of our small variations in temperature, this mandevilla seems much more adaptable than this would indicate.

BUYER BEWARE Brian Timms

All gardeners are aware that that cute little thing in its 7.5cm pot can grow to fill, not only the space that you had intended, but also the space that was intended for the three or four plants next door, which in the meantime are also trying to expand into their neighbour's space ...So many wonderful and exciting plants and so little garden to plant them in! But there are several plants currently being commonly sold by garden centres and retailers that produce this problem in spades (to coin a phrase!)

The worst offender by far is the immensely popular and ubiquitous Yucca elephantipes. This must be being imported by the ton and is often to be seen gracing front gardens, gateways, offices, hairdressing salons, etc. In the two latter situations, of course, it will probably soon be a pale, collapsing parody of its potential upright and spiky beauty. However, in the ground in Auckland's benevolent climate, it will grow, and grow fast, and continue to grow. According to books I have read, Yucca elephantipes is capable of reaching 9m (30 feet) and can have up to thirty branches on its swollen trunk. I have seen plants half that size in Auckland less than ten years old. I frequently pass a house in Herne Bay that has a number planted across the front as a hedge. That will be some hedge in a few years! I predict a minor industry in about ten years removing them, but do you ever see with the potential size on the labels on these plants?

The second is another plant currently being sold in great numbers: *Aloe bainesii*. This is a stunningly beautiful plant and is a lot less lethal than the yucca above, but it is not without spines and sharpness, nonetheless. And, once again, it is sold without any indication of its potential size. It is quite capable (at least) of doubling its size every year and it will reach at least 6 metres (20ft) high and wide. Great, if you intend it as a feature tree, but just don't plant it in your rockery or next to your house in that dry and sunny spot and expect it to behave itself.

There are numbers of agaves also in this category, although most of them are not regularly sold in quantity. Everybody knows *Agave americana* in its various blue and variegated forms, but there are other very large agaves. I recently went to a house in Herne Bay where small plants of *Agave decipiens* were being sold. The seller had no idea that they were potentially up to a metre high and across with savage spines and, even more importantly, a very aggressive habit of prolifically pupping early in life and up to a couple of metres away. I have had other agaves with similar tendencies, some of which I have eventually had to remove entirely. This entailed digging out the whole garden bed to a spade depth or more. By the way, the yucca being passed around as *Yucca gloriosa* will do this as well.

There are also some palms and cycads that need a little proviso attached to their labels as well. Washingtonias, for example, are superbly beautiful – and very large and spiny! One still sees *Phoenix canariensis* being sold in garden centres, but surely everybody knows how large they get? Many of the plants being sold as *Encephalartos* species (virtually all of which are garden hybrids) are potentially rather large and spiny as well.

Obviously I am not suggesting that people don't buy these plants, but please consider the space you have, the possible presence of children and/or pets and do a little research first. And the staff of your garden centres may well know about this stuff, but equally well, may not! I am aware that I am preaching to the converted – those that read this article are probably aware of the points I am making. Perhaps in the end, I am asking the owners and staff of garden centres to label some plants more truthfully as to their potential sizes and hazards in our growing conditions.

COMING EVENTS

FEBRUARY - 23rd, 24th

The Bromeliad Society of New Zealand - Annual Competitive Show at the Mt Albert War Memorial Hall (corner of Waiere Avenue and New North Road, Mt Albert, Auckland). Open 10am - 4pm, Saturday & Sunday, with plant sales & refreshments. Entry \$3.00. (09) 638-8671 **MARCH - 3rd**

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

MARCH - 9th, 10th

The Palm & Cycad Society of New Zealand is holding its Annual Sale and Competition in Hall 6, Greenlane Expo Centre, Auckland 9am-4pm. A large collection of palms & cycads for sale. Entry \$5.00. Further information – (09) 296-7699

APRIL – 7TH

Auckland Regional Botanic Gardens -Garden Discovery Programme. 11am-1pm – Subject – The edible garden. No bookings required (cost \$8.00). Plant sales. Further information – (09) 267-1457 MAY 5TH

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

***** To place listings for the winter issue please phone/fax (09) 376-6874 or email – grant.bayley@clear.net.nz

Adiantum peruvianum (Silver Dollar Fern or Silver Dollar Maidenhair)

This adiantum is native to Ecuador, Peru and Bolivia and is widely cultivated in the tropics and subtropics. It is sold as a house plant (usually wrongly labelled as *Adiantum trapeziforme*) in New Zealand.

The young fronds, often pinkish, have an attractive metallic sheen and the pinnules are fairly round, hence the common name of 'Silver Dollar'. Adiantum peruvianum is the largest species of maidenhair fern in cultivation in New Zealand. It is a striking fern that always commands attention, with well-displayed fronds on glossy black stalks. It is regarded as tropical and tender, requiring a minimum winter temperature of about 15°C at night and over 18°C during the day, but it has proved possible to over-winter it outside at rather lower temperatures if it is given minimum water during its long winter rest period. Like other maidenhair ferns, it requires moist soil during its growing period, good drainage, high humidity and bright indirect light – in winter the brighter the better. It's a challenging subject to grow well outside in New Zealand!

Barbara Parris

• Photographed in a Westmere harbourside garden on the east facing street side, under a canopy of palms, heliconias and dracaenas.

Hibiscus rosa-sinensis 'D J O'Brien'

The tropical hibiscus needs sun to flower, so although all the gardening books tell you that it is summer flowering, allowance must be made for our long, cool and wet springs. Except in very sunny and sheltered places, it is usually late summer before they reach peak flowering.

There is a plus side to this, as they continue right through autumn and, in the case of the hardier hybrids, into winter. There is now a wide range of named plants available in bright or pastel tones, singles or doubles, small or large blooms (to 20cm across) and small to large shrubs. Many of these plants are designated Hawaiian, Clark or Fijian hybrids. The tenderest are the Hawaiians, followed by the Clark hybrids with the Fijians being some of the hardiest. Agnes Gault, Cameo Queen, Crown of Bohemia, Island Empress, D J O'Brien, Pride of Lockley and Suva Queen are all strong growers, reliable and fairly hardy. D J O'Brien, opposite, is one of the first to flower and almost always the last to finish (photographed in early winter). For such prolific plants, pruning, feeding and summer water are essentials to maintain their robust growth and flowering.





Dombeya cacumimum

This beautiful flowering tree is one of the glories of our garden. It is fast growing, reaching some seven metres in five years, with evergreen three lobed leaves about 10cm across. The rosy red flowers hang in loose heads beneath the branches in early spring. Each flower is about 5cm across.

Coming from Madagascar, it is frost tender when young, but our tree withstood a frost in the -2°C to -3°C range without showing any signs of burning. The ultimate height, given good soil and warmth, is about ten metres.

Rosemary Steele.

Parajubaea cocoides (Cococumbe, Mountain Coconut)

During my visits to South America over the last twenty years, I became much involved in the collection of high altitude palms growing in the Andes mountains. One palm in particular attracted my attention. When I arrived in Ecuador for the first time, I could not fail to notice the many palm trees planted around the Quito airport buildings. They looked like coconuts,, but, hey, Quito airport is situated at an altitude of nearly three thousand metres! Although on the equator, because of the sheer altitude, the climate is quite cool, not unlike our climate in northern New Zealand. Subsequently, I imported a number of seeds of this palm to New Zealand.

Not easy to germinate, I managed to get a few seeds to grow which, in turn over the years, grew into some quite handsome palms, relishing our mild climate. The seeds of these Ecuadorian coconuts (known locally as Cococumbe) are widely appreciated by the locals in Ecuador. Although the size of walnuts, the seeds yield a pleasanttasting seed kernel. The seeds are avidly collected by children, who in turn sell them at stalls in the marketplace.

Botanically, this palm is known as *Parajubaea cocoides*. It belongs to the cocosoid palm family, a group of palms which mainly occurs in South America.

Over the years, we have imported many more seeds of this "coconut", which in time have proliferated into a veritable palm forest, not only on our property but also in many gardens around Auckland and elsewhere. Many of our own New Zealand grown "coconut" palms are producing their own seeds, which have become our future source for reproduction.

There is no doubt that these palms are well adapted to our milder North Island climate conditions, tolerating minimum temperatures not far below 4° C.

In its juvenile form, the trunk of the palm is covered with a dense matting of fibre, which contributes to its hardiness against cold. As the palm tree matures the trunk will shed this fibre. The canopy of leaves consists of 4 metre fronds arching gracefully. The leaflets are silvery on their lower surface and shiny green on the upper surface, lending a graceful appearance, especially when viewed against a bright blue sky. The older Cococumbes now growing on our farm are almost ten metres in height. It is a medium to large palm, fast growing and most elegant. Like most palms it does not litter and has no spines. Perhaps for this reason, this palm has proved to be popular for street planting.

Photo & text: Dick Endt

COCONUT PALMS – PAST & FUTURE IN NZ Dick Endt

Palms have had a long history in New Zealand. Fossil records have shown that our native nikau palms were common more than 24 million years ago. During this same period, New Zealand also had a coconut palm, a palm very similar to our modern coconut commonly found on the Pacific Islands. The seeds were small, not larger than walnuts. The New Zealand coconut became extinct perhaps about 10 million years ago, yet to this day fossilised 'coconuts' get washed up on Coopers Beach in Northland. Where do these coconuts come from?

During the Miocene period (24-5 million years ago) New Zealand was a much warmer place. Subtropical plants established themselves on the warmer New Zealand shores. During subsequent climate changes some of these plants became extinct yet others, like the modern nikau palm, have survived to this day.

The only reference we have of the extinct plants is their fossil record, either in the form of ancient pollen or carbonised or lignified remains of the plants themselves. Such is the case with our native, ancient coconut. The carbonised coconuts are imbedded in ancient lignite and sandstone reefs just offshore at Coopers Beach. Usually after a storm, wave action will dislodge debris from this lignite formation including the hard coconuts, which will separate intact from the fossil beds below the tide mark.

Over recent times, many thousands of these seeds (*Cocos zeylandica*) have been washed up on the beach. Unfortunately the exposure to strong sunlight together with the wetting and drying of these fossils causes them to disintegrate. I have a few of these ancient

'coconuts' in my collection. They are oval round in shape, on average 2cm in diameter and about 3cm in length. In their fossilised form they are black in colour, very hard and brittle and likely to disintegrate if allowed to dry out. Some of the seeds are rather flattened in shape, due to compression during the formative stage of carbonification. Nevertheless, these fossilised seeds are typical of the cocosoid palms, which grew in many areas around the Pacific region and South America. Typical of all coconuts are the three 'eyes', which are prominently displayed on these fossilised seeds.

Why did it disappear from our shores? Over time, New Zealand grew colder – so cold in fact that our coconut could no longer survive under these conditions. They just vanished.

Comparing those ancient seeds with the seeds of the modern cococumbe, it is surprising how similar these they are. It is likely that the cococumbe evolved over millions of years just like our New Zealand coconut. Contrary to its New Zealand cousin, the South American palm survived the ice ages by moving north towards the equator where it survives to this day. It is not unlikely that the South American coconut coexisted with ours.

New Zealand was once connected to the South American continent. During this period, a number of our native plants also occurred in South America, notably the southern beeches (*Nothofagus*). Kowhai (*Sophora*) and Ake Ake (*Dodonea*), to mention a few.

PLANT SOURCES...for this issue

This is to be a regular feature that will expand as we build up our collection of current catalogues and information from members as to what is available around the country. It will include, if possible, those people who sell only plants that are surplus to their requirements.

11 Alocasia macrorrhiza var. rubra - Opanuku Subtropicals,

Auckland; Landsendt, Auckland

Anthurium coriaceum - Opanuku Subtropicals

Vriesea fosteriana (rubra) - Opanuku Subtropicals; Landsendt;

Greens Bromeliads, Maungakaramea; Exotica, Point Wells, Matakana Ravenea rivularis – Wharepuke Nursery, Kerikeri

12 Dendrobium speciosum – Pottering About, Whakatane; Macara Orchids & Palms, Masterton

Mandevilla 'Alice du Pont' – generally available

17 Adiantum peruvianum – This fern is currently sold out but will be available in small quantities at the end of the year

Hibiscus 'D J O'Brien' – generally available in season
18 Dombeya cacuminum – Ian Shoosmith, Mangonui; Wharepuke
Nursery, Kerikeri
Continued on page 36

PLANT HUNTING IN NORTHLAND Rosemary Steele

Not long ago, my partner and I snatched a few days away from our family and had a quick plant-hunting holiday in Northland. We began by visiting Podgora Gardens, home of Sonja and Paul Mrsich near Waipu. They have a beautiful garden set on the edge of a grove of mature totara trees, which have been dramatically underplanted with bromeliads and other subtropical plants. However, we had not come to admire them, nor the roses which are their great passion. We bypassed them and moved on to look at the canna collection. Lined out in rows, there are cannas of every shade and size, from diminutive varieties not much more than 45cm tall to ones which towered over us.

We had been to Podgora some years ago and purchased a few, and intended to choose a few more, but ended up with almost 30 different ones, some of which had been bred by Sonja! We fell for her 'Lemon Chiffon' with soft primrose flowers and handsome large leaves, which grows to 130cm, but also chose 'Assault', which has dazzling flamered flowers and bronze foliage (105cm) and 'Michelle M' with large bronze-green leaves and Empire/rose flowers (90cm) amongst others. As well as breeding her own plants, Sonja also imports from breeders overseas, so her range is increasing all the time.

Next stop was the bromeliad garden owned by Maureen and Keith Green at Maungakaramea. We'd visited them some years ago when we were just beginning to get interested in this amazing family, and we came away bewildered by the range they grow. Even with more experience, we were still dazzled this time! Maureen took us around their garden first, so that we could see the plants growing in their preferred habitat, either under trees or on exposed rocky outcrops. Quite apart from the bromeliads, there were wonderful trees to look at: *Ficus dammaropsis* with its huge leaves, a *Citharoxylon* (Fiddlewood) with sprays of white scented flowers and hibiscus and magnolias – such a host of interesting plants it was hard to know what to look at next.

A quick shower sent us scurrying into one of the shadehouses where we picked out some of the bromeliads which had particularly taken our fancy. *Aechmea ramosa* var. *rubra, Ae.weilbachii* forma *leodiensis, Neoregelia* 'Sheer Joy' with its steely blue centre and *Portea petropolitana* var. *extensa* (partly because it was a genus we didn't have, but also because it has a spectacular flowerspike). Then we went over to a glasshouse and selected *Vriesea* 'Saffron Flame' amongst others. Maureen has a wonderful policy of giving you an extra plant once you've made your selection, so we came away well satisfied with our purchases and our 'freebie'. We drove on happily up to our base for the next couple of days, Tauranga Bay.

Next day we'd promised ourselves breakfast at the "Best Texas diner south of the Border", so drove out with great expectations of hash browns, freshly squeezed orange juice ... you name it, only to find that it was closed on Tuesdays! Undaunted, we took our packed lunch to Totara North and sat on the waterfront and admired the view as we ate. Totara North once had a bustling boat-building yard and now seems a quiet backwater, but we found out later that the general store also does a wonderful coffee and that here is also a museum being developed by a longtime resident.

For my partner John, Totara North's great attraction was a mature palm, *Hedyscepe canterburyana*, likely the oldest in New Zealand, but either old age has caught up to it or some other disaster must have befallen it. We stared and stared, but it seems that I'm not going to get to see it after all.

We drove on, firstly to Mangonui where Ian Shoosmith has a small nursery in the garden of his home in Mill Bay. He was formerly in charge of the parks and reserves department of the local council. The plants for sale (and the plantings around the house) have undergone a rapid evolution in the last couple of years towards palms and a generally moist subtropical look. Here we got seedlings of *Dombeya cacumimum* (see photo/article pages 18 & 19), a couple of tibouchina plants and *Anigozanthus manglesii*, which is the most stunning Kangaroo Paw I've seen. Imagine grey-green leaves about 30cm long and red, metre high, woolly stems bearing green and red flowers. Each flower is pale green inside, but the outside is an amazing deep, almost iridescent green, rising from the bright red base. My book also says that it is frost tender, but it came unscathed through the frosts we had last winter.

Next stop was Exotic Nurseries, Larmers Road, Kaitaia, owned by Davis and George Austin. This is primarily a display garden (\$5 for a guided tour) with mature palms, thickly planted and seeding themselves, huge clumps of various bamboo species, young, fruiting lychees, mangoes, cherimoyas, bananas and a host of other plants, many imported and introduced by the brothers – all planted on a sunny sloping site bounded on one side by a small stream. There are ponds filled with waterlilies, newly developed gardens with a wonderful array of cacti, tall cannas, bold aroids, handsome foliaged ctenanthe species; again almost too much to take in! Various breeds of rabbits grazed unconcerned on the grassy walkways as we admired the ripening clusters of fruit on 'Bosworth No. 3' lychees. The only drawback is that only relatively few plants are for sale but, as always, we came away with visions of how we might use more palms and other foliage plants in our own plantings.

Pressing on, and further north, we called in at Lake Ngatu Plant-

you're planning to buy on a large scale! Peter Enticott grows the most beautiful frangipani (plumeria) in a range of colours, many different hibiscus cultivars and various different philodendrons. I bought an unusual clerodendron species with purple calyces instead of the more usual red, as well as a couple of acalypha plants. These latter unfortunately died during the worst of the cold weather last winter.

We passed several other nurseries en route to Kaitaia, but didn't have time to stop at any, so we will have that pleasure on the next trip.

Homeward bound a couple of days later, we visited Rainbow Falls Nursery just outside Kerikeri. They had *Schizolobium parahybum*, which is a fast growing Brazilian tree with huge pinnate leaves (deciduous) that give the young plants a superficial resemblance to a treefern. However, they eventually branch and form a broad canopy. The flowers are bright yellow and are borne in large heads, making a mature tree a spectacular sight. This relatively new nursery has a fine collection of aloe species, including the hard to find *Aloe polyphylla* with its leaves intricately arranged in a spiral.

Lastly, as the station wagon was fast becoming overcrowded with plants (John's motto: "there's always room for one more"), there was Wharepuke Nurseries on the hillside above the Stone Store in Kerikeri itself. Here was an assistant assiduously hoeing the weeds on the drive, a nice sight, instead of the ubiquitous backpack spray of herbicide. Robin Booth, the owner, was away but we spent a pleasant half hour or so admiring the hillside above the nursery where development continues. I particularly remember *Tibouchina lepidota* 'Alstonville' in full bloom, covered in masses of bright pink flowers, rightly described as one of the outstanding flowering trees of the world. Back in the nursery, we found *Cinnamomum iners*, a wild cinnamon with attractively veined oval leaves. Robin's *Chorisia speciosa* were in flower, the large purple blossoms offset by handsome, digitally divided leaves. Chorisia trees are remarkable for their very thorny trunks.

With plants crammed into every available space, including the space around my feet, we drove home well satisfied with our trip and promising ourselves another, to check out all those other Northland nurseries we'd been forced to by-pass.

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Justicia - species and hybrids

The Brazilian Plume Flower (also known as the Flamingo Plant), is Justicia carnea (formerly Jacobinia). It used to be a rather oldfashioned plant found in the gardens of old houses in Devonport, Epsom and Herne Bay/Ponsonby. A magnificent example, pruned to a single stem, was in the front of a house behind 'The Gluepot' in Three Lamps. New plants were started easily from cuttings from neighbours and friends. Very few will have known that it was a frost tender tropical/subtropical plant from Brazil.

Now restored to popularity in subtropical gardens, it can be a striking sight when in flower. The coloured bracts have an unusual form, rather reminiscent of a pineapple, and are cerise to cyclamen in colour, the flowers being white and rather small. Flowering is usually in summer and, if the spent blooms are carefully snapped off, in autumn about 6-8 weeks later, two smaller flowers will emerge. The leaves are a handsome glossy dark green with maroon on the underside, sometimes spoiled by the nibbling of small snails which hide there. The stems are rather bamboo like and brittle. Generous pruning in spring will keep it from getting too leggy. Height is about 1.5 to 2 metres from a small base – the upper spread depends on age and pruning. It will take light shade to almost full sun (where the flowers tend to bleach out) and prefers some summer water.

Justicia. Pink Perfection is a new cultivar recently available. Paler than J. carnea and much smaller (60-70cm) it is shrubby in form, very floriferous and flowers in spring/early summer. The photograph was taken in very late November and shows the flower heads starting to decline. It is very showy in flower.

Justicia White Lightning, found in an old garden in Tauranga, was propagated commercially. The bracts are so white that they glow, crisply fresh, amongst the dark green leaves. It flowers in autumn into early winter. Larger than Pink Perfection, it may well grow to a similar size to *J. carnea*. It too is a recent addition to the garden.

species, Justicia aurea. has slightly Another different inflorescences and very different leaves and growth habit. These are similar to J. brandegeana but on a larger scale. Stems are tangled and often brittle and the 1.5 metre clumps can spread to 3m plus. The leaves are soft, light green and the bright yellow flowers look like so many bright candles on the plants. The flowering period is usually autumn into early winter, a very useful time to have a great splashy show of yellow. Justicia aurea is listed (Graf) as subtropical rather than tropical as the other species are, and so is probably a little hardier. It is probably still frost tender. It would be interesting to find out if it will take light frost, just how much and how often.

Justicia brandegeana is the new name for the plant formerly known as Beleperone guttata (Drejerella guttata in Australia), and better known to most people as the Shrimp Plant. It comes in two colour forms – warm copper-toned bracts fading down to pale yellow at the end of the spike, with narrow white flowers emerging from the bracts. and a pale plain yellow form, Chartreuse, that is fairly uncommon.

This is a clumping shrub from Mexico that grows in light shade or part-day sun with modest water. With too much sun it can, like humans, get sunburnt. Again, the stems are brittle and much branched and need regular pinching to keep the plants compact. They make a good medium height ground cover. . .

Although their vase life is fairly short, the flowering stems make very useful cut flowers. And the plus? *J. brandegeana* is everblooming and only pruning stops the flowering season.

Insets: Top left: Justicia White Lightning Top right: Justicia aurea Middle: Justicia carnea Bottom left: Justicia brandegeana 'Chartreuse' Bottom right: Justicia brandegeana Background photo: Justicia Pink Perfection

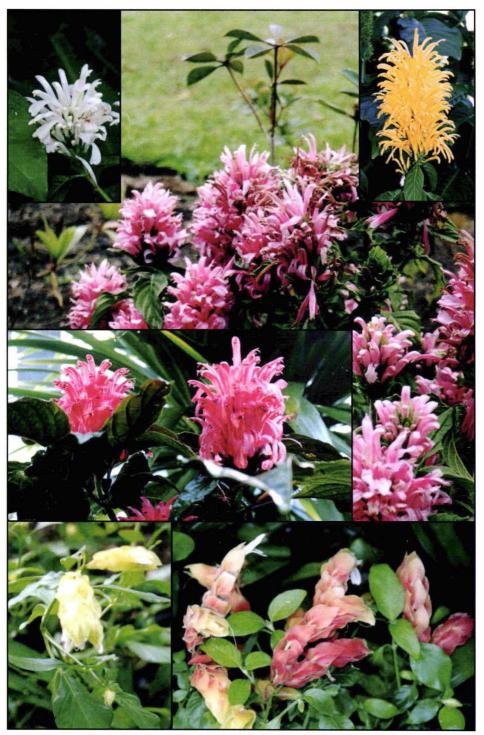
Anonymity – a defence against theft

When reading through **SUBTROPICALS** you may wonder about the lack of information about the owners and the whereabouts of some of the gardens either illustrated or written about.

The enormous amount of theft of expensive and unusual plants, particularly palms, cycads, succulents and bromeliads, has led to wariness on the part of owners in disclosing their locations. And with good reason!

In January, 2000, Laurie Dephoff wrote a short article in the Bromeliad Journal about an unusual flowering season of vrieseas (some young, some old – all flowering at the same time). About four weeks later, thieves stripped his back garden of most of the vrieseas and a quantity of tillandsias. Not one was recovered.

A coincidence? I don't think so. Some of these plants may end up at the markets but it is more likely, judging by the quality and scarcity of many of the stolen plants, that they were stolen to order for unscrupulous landscapers who could charge high prices to their innocent clients. So our policy will be to quote only the suburb and/or town and refer to 'the owner' or 'the gardener'. **Editor**





THE GREAT PRETENDERS

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

This is a fully hardy (minimum -15°C), clumping, rhizomatous perennial from North America. It forms mounds about 20cm high and about 30cm plus across. The very attractive lime green leaves have veins stained dark red. They are triangular with heart shaped bases and the white flowers in spring are unusually shaped.

A chameleon, this plant takes on the character of the surrounding planting. It looks cottagey in its usual garden uses but, when combined with the stronger architectural forms of subtropical plants, its foliage is emphasised and contrasts beautifully with bromeliads and sword-leafed plants. A great filler of gaps it also conceals the bases of other untidier growers.

It stands partial to fairly deep shade and prefers moist, well drained soil.

Nidularium fulgens

While looking exotically tropical, this bromeliad from southern Brazil (found at altitudes of 400-1000 metres) is surprisingly hardy. It has been known to withstand up to -7° C and, in the very heavy frosts we had in 1994, survived without damage when an aechmea and a neoregelia alongside were reduced to a pulp.

In the wild, *Nidularium fulgens* grows on the lower branches of tall trees and, in Brazil, is often used as a garden plant. It seems to do better in the ground as long as the drainage is perfect. Growing under shrubs and trees that have fibrous roots is ideal.

Most nidulariums need moist shade, but this is one of the few that will take bright light – if in too much sun the leaves will yellow up but may not burn.

N. fulgens makes very attractive, low growing clumps of shiny, light green leaves mottled with darker green and with soft, spiny margins.

The flowers are dark blue and fleeting, but the bracts can be either red or orange and usually last in colour for about a year (the red form changes slowly to cerise).

Starting with a healthy pup, it takes about three years to flowering time. If a clump is left undivided, the pups will flower earlier.

Because of its long-lasting coloured bracts and its distinctive leaf form, N. *fulgens* has been much used in hybridising. It usually passes these characteristics on to its progeny.

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BOOK REVIEWS

"water in the garden" by Gilly Love Subtitled – "inspiring ideas and designs for beautiful water features"

For a change, this publication does not have the copper willow fountain at Chatsworth or those endless Italian water cascades that seem to appear in every book on water ever written. Instead, it is mostly a contemporary view of the use of water as a design element in the garden, the terrace or even the balcony.

Beautifully presented – yes, it is a picture book, but the old saying about a picture being worth a thousand words is certainly true here – it covers pools and ponds, wet gardens, canals and rills, water containers, swimming pools, streams, waterfalls and cascades, fountains, jets and spouts and elements in the garden including sculpture.

As well, there are various projects, well illustrated, for the amateur to attempt. Many of these would make a good starting point for further development in a more individual style. The only drawback is the planting guide, which, although much more extensive than most English guides, contains some noxious weeds and invasive plants when grown in our climate. We should be used to this by now.

I found it the best book on water that I had seen in years. I may never find that elusive, definitive, modern water garden book I have been hunting for. Inexpensive, it is great value for the money and may inspire you on to great things.

(Publisher - Aquamarine, Distributor - David Bateman, \$49.95)

"Hibiscus" by Jacqueline Walker

This is a New Zealand publication for New Zealand conditions, that is very useful if you wish to know more about hibiscus than is provided in the average large gardening book.

The photographs, by Gil Hanly, of both hibiscus in garden settings and close-ups that enable one to identify many cultivars by name, are both clear and colourful – a reason to rush out and buy some new varieties.

The text covers history, cultivation, climate, design, pruning and maintenance, pests, diseases and problems. There is a list of hibiscus hybrids, which includes the advice to use it in consultation with nursery catalogues and better still with nursery staff. However, it is because most nursery staff who are available to the public know so little that we buy books.

(Publisher: David Bateman.- \$29.95)

Rhododendron rarilepidotum

A beautiful, easy to grow species vireya rhododendron from Sumatra. In the wild, it lives in sub-alpine scrub or bush and, interestingly, appears to be always terrestrial, unlike so many vireyas, which are epiphytic.

This is probably why it is so easy and adaptable. In the wild, it can grow up to four metres high but we find, in our garden, that it is an excellent small shrub to around one metre.

It has attractive, dark, healthy foliage and unusual flower buds, which appear to be enclosed in a clear plastic sac. The buds are yellowish before they open into an amazing coppery-orange colour, not observed in any other flowers we've ever seen.

Basic growing requirements are; excellent drainage and, (absolutely essential) planting the root ball so that the stem and roots are at surface level.

Prune hard when young to get a good bushy shrub. This plant is often turned into a topiary specimen, when it turns many a head!

Photos & text: John Kenyon

Meryta sinclairii (Puka)

This is so obvious a choice for a medium sized New Zealand subtropical garden that its inclusion in the first issue is surprising.

But last year, in an article on subtropical gardens, a writer made some suggestions of suitable plants for those gardeners living in cooler parts of the country and wanting 'the look'. This list included *Meryta sinclairii* (Puka) !

Like some other plants native to our northern off shore islands (Three Kings, Poor Knights and Hen and Chickens Islands), the puka is frost tender, especially when young, usually requiring a minimum temperature of 5° C.

When grown in well drained, enriched and moisture-retentive soils, puka leaves are glossy, deep green, heavily veined and may reach 50cm in length and 20cm in width. These leaves can look very unsightly when hit by frost, often being half green and half brown. Eventually they drop and are replaced by new growth.

A drawback of puka is the constant dropping of the large, yellow, leathery leaves (good for floral work) that require tidying up. They should be planted so that this does not become a problem.

Photo: Grant Bayley





Aeonium arboreum 'Schwarzkopf'

This wonderful stand of *Aeonium arboreum* 'Schwarzkopf' was photographed last spring on a sheep farm in rural Wanganui. It is part of the plantings of mainly succulents, cacti and cycads in a four acre gully, bulldozed to make a new garden (complete with ponds) eleven years ago.

Against a background of bamboo and cordylines. the almost black leaves and sulphur yellow flowers make a dramatic contrast with a blue leafed *Aloe franzosini* in the foreground.

Aeonium arboreum, a green, sparsely branched shrubby species, is native to Morocco and the Canary Islands. Both Aeonium atropurpurea and the 'Schwarzkopf' form require full sun to maintain the depth of colour in the leaves. After flowering, the stems die and should be removed. Although these plants stand very dry conditions, an occasional thorough soaking in summer results in faster, healthy growth. In winter they need to be as dry as possible, so fast drainage is vital.

Although frost tender (min. 5° C), they survived last winter's frosts. Usually this garden has two to four light frosts a year but last year received five heavy frosts in a row. Although the frosts filled the gully and did not disperse, this planting is right at the top and managed to escape damage. Unfortunately, other plants lower down were not so lucky.

Plantings in the rest of the gardens include natives, palms of many kinds, bromeliads, irises – all manner of interesting and varied species.

Paloma Gardens are situated at Fordell, Wanganui, and are open to the public. (Telephone (06) 342-7857) **Photo: Mark Scragg**

Begonia angularis

Begonias (other than tuberous and 'bedding' begonias) would have to be the most underused and under-appreciated plants in the subtropical garden.

This genus has some 900 species with innumerable hybrids. Of course, many are not suitable for outdoor use in our climate as they come from the tropical regions of South America, Africa and southeast Asia. But there are many subtropical begonias that do extremely well here. These include rhizomatous, shrublike and cane-type begonias, which often make very good garden subjects.

Begonia angularis belongs to the cane-type group. "They get their name from their stems, which grow tall and woody and have prominent bamboo-like joints. The group includes so-called angelwing begonias. These erect plants have multiple stems, some reaching five feet or more under the right conditions". (Sunset Western Garden Book). Ah! 1.5 metres, good height.

Ours must obviously be the right conditions because after a settling-in period, each strong new stem grew taller and the latest must be close to 3m! (Cane-type begonias tend to have rather spindly stems that at first need staking - following stems are much stronger, thicker and usually self-supporting). Flowering was supposed to be autumn for *B. angularis* but it lengthened to winter and, in the past year, has not stopped so that it is now everblooming.

The stems are fluted between the joints and have elongated, limegreen dots. The leaves are very handsome - rich green with heavy veining, angel-wing shaped, pointed, elongated – worth growing for the leaves alone. The flowers, which tend to look pinkish at a distance, are white with acid yellow stamens and hang in clusters. They are followed by seeds that are as attractive as the flowers and last for a considerable period.

These are not the only pluses. Because of its verticality, *B. angularis* gives scale while at the same time occupying very little ground space and, like most cane-type begonias, its fibrous roots are surprisingly small. Moist soil is usually recommended, but experience shows that many begonias will grow fairly dry for a reasonable period.

When a stem grows old it can be cut down to one or two nodes above ground level to re-grow but, as this plant is a doer, it is probably better to cut it out entirely. Protect from strong wind and give shade to the roots and, part of the day, to the plant. Frost tender.

PLANT SOURCES continued from page 21.

18	Parajubaea cocoides – Landsendt, Auckland.
27	Justicia aurea – generally available.
	Justicia carnea – generally available.
	Justicia Pink Perfection – generally available.
	Justicia White Lightning – Te Puna Cottage Gardens, Tauranga.
	Justicia brandegeana - copper form- generally available.
	" - yellow form – cuttings from friends?
28	Tiarella wherryi – perennial specialists.
	Nidularium fulgens – most bromeliad specialists.
33	Rhododendron rarilepidotum – Te Puna Cottage Gardens.
	Meryta sinclairii – generally available all year.
34	Aeonium arboreum 'Schwartkopf' – generally available.
	Begonia angularis – Wharepuke Nursery, Kerikeri. Easily
	propagated from over the fence cuttings.
• 4	Any information on the availability of unusual subtropical and

tropical plants is keenly sought by the Editor.

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COVER STORY

African succulents

This large raised plant bed on a sloping Pakuranga section is only two years' old. A few of the plants were a reasonable size when planted out from their pots, but the majority were young and were put straight into the garden.

Because the soil is clay, the bed was raised to provide sharp drainage for these drought resistant plants. The photograph on the back cover was taken in very late autumn last year.

Unfortunately, the neighbours further up the slope raised the level of their driveway and were not compelled by the council to install any drainage. As a result, with last winter's rain, quantities of ground water poured down the slope. Some of the plants, particularly aloes and euphorbias, rotted out at the base but were salvageable. The *Aloe thraskii*, which has a single trunk, fell over but responded by producing pups.

The owner has now installed a series of drains across the slope to prevent a recurrence this coming winter. This is vitally important because he has created another raised bed, as large and with even better drainage, featuring succulents from the Americas. Now that the African garden is recovering and the American garden is showing very fast growth, by winter this should be a very colourful place.

With a flowering period that is predominately winter (late autumn to early spring), aloes are very showy subjects.

In the photograph, from left:

Pinus cembroides (Pinyon Pine); Aloe globuligemma; Aloe thraskii (horizontal leaves and orange candle flower heads); Greyia sutherlandii (very drought resistant); Aloe glauca; Aloe intermedia (from Madagascar, planted from a large pot); Portulacaria afra. These are only a few of the larger plants. The smaller plants include many species and cultivars of Echeveria and Euphorbia.

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