Spring 2006

SUBTROPICALS


Subtropicals
VOLUME
2006
SILVER
AWARD

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.

SPRING **Volume 5 Number 3**

CONTENTS

SUMMER ISSUE

Unless a new editor (s) for the magazine can be found, this will be the final issue. To make it a really good farewell, articles (long or short) are entreated from our members.
DEADLINE - YESTERDAY

CHANGING TIMES

The erratic delivery of the **SUBTROPICALS** magazine over the past year has been due (mostly) to the ill health of the editor.

An insert with the magazine explains what has been happening and how we are trying to ensure, with the help of our members, that **SUBTROPICALS** will continue to inform and be a reference source.

Also included is the index for 2002, 2003, 2004 and 2005. As in the past, it has been compiled by Rosemary Steele, for which we are most grateful. It is a very convenient shortcut when hunting up past articles.

Just in case there is a delay with the 2007 magazines, the summer issue (out as soon as is possible) will include the index for all magazines printed over the last five years.

2006 certainly featured some offbeat weather. The cool winter and long, long cold and wet spring were certainly a challenge for those plants that are marginal at the best of times. Both Barbara Parris (Kerikeri) and Diana Holt (Massey, Auckland) have written about their experiences this last winter.

Nick Miller's book reviews are great for those of us who don't keep up-to-date with what is currently available. The book this month is about begonias about which very, very little has been written. I am keenly waiting for my copy to arrive.

Marjorie Lowe
Editor

FRONT COVER STORY

Anthurium crystallinum

Jonathan Voysey

Most of us associate anthuriums with the spectacular *A. andraeanum* cultivars that have heart-shaped leaves and showy, almost artificial-looking flowers. Now, as well, one can buy *A. lilacena* cultivars, and both are available most of the year. These aroids dominate the houseplant sections in plant nurseries, florists and supermarkets. Because of breeding programmes to increase the hardiness of these humid, tropical plants (particularly in Florida) we are now able, in suitable conditions, to grow the flowering anthuriums outdoors all year.

Of the three groups of anthuriums – bird's-nest, flowering and ornamental foliage – the latter is the least often encountered. However, this spring, Zealandia Nursery supplied the trade with *A. clarinervium* from southern Mexico - a very similar-looking plant to *A. crystallinum*, but smaller in size. Deni Bown describes *A. clarinervium* as being terrestrial but Kirsten Albrecht Llamas says it is a climbing herb – take your pick, those who bought these plants will soon find out!

The plant on the cover is, as far as we know, the crystallinum species and was originally purchased as a well-grown, potted plant that had been grown under glass, well fed and watered. It is now growing in a shady corner in a raised bed that surrounds a partially-covered spa pool, very protected outdoors. However, this winter was cooler than usual. Not so much minimum temperatures as a lowering of the general average. The result was a halt in growth that may have been due to insufficient hardenening-off before being planted out and/or reaction to the lower temperatures.

A. crystallinum is an epiphyte whose range is the humid tropical areas from Panama to Peru. It requires plenty of water, particularly in summer, very fast drainage and light to fairly deep shade - no frost or cool winds for this tender tropical. Remember that any plant bought as a houseplant has been subject to forcing and it may take a couple of years to condition its growth. It may even pay to keep it in a pot long term, well-hidden of course. But the foliage is so handsome – interesting heart shape for contrast with other species and striking markings. As well it produces red-purple berries yet to be seen.

Photo: Marjorie Lowe

ZAMIA FURFURACEA

Bernie Green

There are three cycads most frequently found in your common-or-garden nursery (so to speak!). These are:

(1) ***Cycas revoluta*** (See article in Vol. No. 3) This species comes from the islands immediately south of Japan. It is hard to believe that every gardener in New Zealand hasn't got one by now as it is so commonly available, though you wouldn't guess this by the price of even little ones! *C .revoluta* is a beautiful plant which, as usual, will get much larger than many purchasers probably realise. It is also a bit heavy in its dark greenness and stiffly circular form, and needs to be relieved with lighter plantings around it if possible, as it will eventually dominate any but the largest beds. One often sees them planted as a little feathery feature in a border, or something similar, and one thinks, oh well, I guess they'll find out soon enough. Plants will take the brightest light and any amount of heat and look fantastic under large palms.

(2)***Lepidozamia peroffskyana*** – an article on this species will appear in the summer issue.

(3) ***Zamia furfuracea***. There are many zamia species, with many forms, ranging from Florida down through Central America to Bolivia, Many of them are fabulous specialised plants from tropical rain forests, many being on the verge of extinction, and nobody will ever know how many are already gone. In most cases, New Zealand growers might as well cry for the moon as wish for any of these. But there are some less exotic Zamias sometimes available, if one keeps one's eye out.

No need to do that with *Z. furfuracea*, as it is virtually a standard offering these days. It grows very well in subtropical New Zealand, despite its origin on the coast of Vera Cruz in Northern Mexico. It is quite hardy and adaptable and will change its form somewhat, depending on the conditions. I have seen it under heavy shade cloth, with long attenuated leaves, and in a very bright hot garden with succulents, with quite small compact leaves. I think it looks best somewhere between, where its stiff curved petioles will bear its stiff, furry leaves that are up to a metre high. It can be planted in higher traffic areas than most cycads, as spines are limited to the base ends of the petioles and the leaves are quite rounded and friendly. The leaves are dark brownish green on top and tend to be lighter and furrier underneath.

WINTER 2006 AND VIREYAS ETC.
Barbara Parris

After allegedly the coldest winter in thirty-four years, the vireya rhododendrons here in the far-from-'Winterless North' (Bay of Islands) are in surprisingly good condition. In other bad winters, May and June have been quite pleasantly mild, with July and August the months with frosts down to -3°C. Normally the vireyas have put on new growth with the autumn and early winter rains, and this soft growth is very vulnerable to frost. With new leaf growth there also seems to be some flower bud growth and in bad winters many of the flower buds will abort.

April 2006 was mild and moist but, rather than the vireyas bursting into new growth, they seemed to put on condition and recover after the dry summer. May was much colder than normal (although I should point out that in this part of the North my property has had frosts as early as mid-April and as late as mid-October) and the cold continued through until near the end of August. The vireyas made no new growth during winter and, because the mature foliage is resistant to a glaze of ice, they have sustained no damage. Now that spring has arrived, they have burst into growth and look quite happy.

The winter was much drier than normal, so the subtropical plants were not sitting around with wet feet. The relative lack of rain might explain the lack of damage. *Xanthosoma x sagittifolium* (article on pages 15-17) has not gone dormant over winter as usual, but is busy making new growth. Even the purple-leaved taro has kept most of its foliage. *Costus cuspidatus* is a possible casualty of winter, as it hasn't reappeared yet. *Costus speciosus* was largely defoliated, but it is already producing new shoots along the bare stems and it will be interesting to see if each of these side shoots produces a flower spike later in the season.

Continued

Furfuracea begins to cone fairly young and often splits into two heads the next growing season, thus eventually forming a raft rather than a tall trunk. The raft effect is accentuated by frequent off-setting, which also begins quite young.

It looks terrific with agaves and other succulents, as it likes their conditions and also contrasts so beautifully in appearance. In fact it is difficult to think of any garden plant that looks similar to this fascinating cycad. Apparently it also makes a good bonsai- I must try this.

ELLERSLIE 2006

Once again, our members worked very hard to set up the display and to man (woman) the stand. But this year, we were rewarded with silver for our efforts. Apparently, the careful labelling and listing of all the plants on the stand, together with the flyers that we handed out, worked in our favour. The plants looked really good. Some were donated by Zealandia Nursery, many were from Russell Fransham and the balance were borrowed from Plantet Earth, with Julie Moore and her team (helped by Jenny Pullar) arranging the mass of plants. A lot of rearranging went on until everyone was satisfied with the results.

The basics were installed by Diana Holt, with her trusty van to carry the gear, and Marjorie Lowe. Lee Smith found us some discarded carpet to cover the grass and make it easier to clean up the pumice floor at break-down. It proved to be providential as the wet weather meant the ground was under water. It certainly took much less time to clear the site than it did to set it up.

The inside front cover has two of the many photographs that Jenny Pullar took of the display. She managed to get some clear shots before the show opened for the day.

There was considerable interest in particular plants. Russell had managed to bring his hibiscus into flower early and it was fascinating watching the buds open each day. The cannas kept flowering on new stems and the anthuriums, caladiums and bromeliads were in colour the whole week. Some of the plants were very unusual. *Clethra mexicana, Exbucklandia populnea*, *Schefflera septulosa* and *Trevesia palmata* were unknown to almost everyone. So there are still some interesting plants becoming available to gardeners despite MAF.

The members helping on the stand felt at times that they were proffering endless horticulturist advice. The handsome leaves of the evergreen *Farfugium japonicum* (*var. or forma*) *gigantea* (sold in the nurseries as *Ligularia reniformis*) aroused much interest. We explained that, originally called farfugium it had been changed to ligularia and then back to farfugium. Terry Hatch said that, in Japan, it is grown commercially as a vegetable using only the leaf stems for cooking.

Top left: *Hibiscus* 'Crown of Warringah'
Top right: *H.* 'Lemon Sorbet'
Bottom right: *H.* Lemon Chiffon'
Bottom left: *H.* 'Sun Showers'

Photos: Russell Fransham


Sun Showa

Dypsis baronii
Kevin Johnston

Endemic to Madagascar, *Dypsis baronii* was introduced to New Zealand about ten to fifteen years ago, along with many other species from this palm-rich country. Unfortunately only a few of the latter have proved adaptable to New Zealand conditions.

Related to the Golden Cane Palm, also from Madagascar, *Dypsis* baronii produces suckers so, in time, forms an attractive clump, the trunks being slender and very ornamental.

With quite good resilience to cold, these palms are best planted in a situation that is sunny and sheltered from wind. The rate of growth is medium. Any type of soil will suit, but watch for thrips in early summer as, if not checked, the damage will result in nasty brown blotches on the leaves later in the season.

As a young plant, *Dypsis baronii* displays red or white colouration on the leaf stems and people have been asking for red plants. Sadly this colour is not carried through to maturity. Because this particular palm is both attractive and adaptable, it has been widely grown and is available from most nurseries.

The photograph opposite was taken in my garden just over a year ago. The clump now stands much taller and, as of November, is in flower.

BOOK REVIEW

BEGONIAS: Cultivation, Identification and Natural History by Mark C. Tebbitt

Reviewer: Nick Miller

In a recent book review (Begonias of Peninsular Malaysia, Subtropicals Spring 2005), I commented: "There are so few books on begonias available that each one of them is deserving of attention." In particular, there has long been a need for a comprehensive book which would cover a wide range of the major begonia species (together with some of their hybrids). The last such attempt, *Begonias: The Complete Reference Guide* by Mildred and Edward Thompson, has been out of print for decades (I have only briefly clapped eyes on a copy once in my life). Here at last is a praiseworthy attempt to fill the gap.

The author, Mark Tebbitt, is a botanist at the Brooklyn Botanic Garden in New York, where he manages a research programme on the systematics of cultivated ornamental plants, with a special emphasis on *Begonia* (what an interesting career some people have, sigh). He obtained a PhD in *Begonia* taxonomy at the University of Glasgow. He is an active member of the American Begonia Society, and has a large collection of *Begonia* species.

Every few years a really, seriously, good and useful gardening or plant book comes along. In my view this hardback volume is such a book. A short introductory chapter details the introduction of begonias to the western world, the history of begonia culture, and the future potential of the genus. Of particular interest to readers of this magazine is the observation that new introductions from relatively high altitudes in China and elsewhere have proven to be winter-hardy in the Pacific Northwest of the United States, which means they should be useful garden plants in much of New Zealand (if we could but get hold of them).

The second chapter is on general cultivation techniques for begonias, and is far more detailed than the information given in the majority of other books. Chapter 3, 'The genus Begonia and its relatives, describes the general and special features of begonias and their few relatives. It appears that Begonia is one of the very largest genera of flowering plants, with over 1500 species divided into 66 (and counting) sections.

Chapter 4 is titled 'Identification' and provides a key to the sections of begonia that are in cultivation, each of which is given a short description. It should be used in conjunction with the previous chapter.

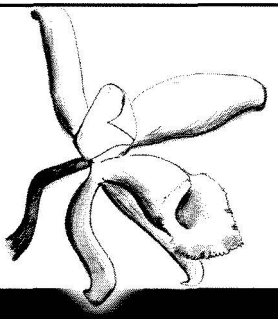
Then follows the largest chapter, 'Descriptions of 100 cultivated begonias', which covers 170 pages, plus an illustration section of 212 excellent colour plates (mostly photographs with a few lithographs from *Curtis's Botanical Magazine*). Used together, the text and illustrations should enable the identification of most of the begonia species in cultivation (at least in New Zealand) and permit reasonable guesses as to the parentage and possible identity of many of the hybrids. More than 100 species are actually discussed, as many rarer species are detailed within the discussion of their better known-relatives and, in a number of cases, the description of, for example, *B. bowerae* also includes a key to related species in its section.

Here in New Zealand, most non-tuberous begonias offered for sale, whether on plant stalls or in the garden centres, come without benefit of a name or, if named, the name is exceedingly doubtful. Finding a suitable source of information to enable them to be identified has been impossible. These various begonias are often such excellent plants, either for indoors or in the garden, that it is a great pity that their correct identification has been allowed to lapse, through the carelessness of nurseries. Any plant which will flower non-stop for years in mild-climate gardens (as some of them do) and/or has sumptuous and colourful foliage (as many of them also do) deserves a proper name. Who would buy an unnamed rose bush or apple tree, after all? Above all else, this newly-published book should assist begonia enthusiasts to sort out which plants they are growing. I have started going through my collection and, thus far, *B. cubensis* (purchased actually labelled as that species) has now been relabelled as *B. acutifolia* – the two are often confused - and *B. solananthera* has now become *B. integerrima* which, by the way, has fragrant flowers. This section of the book also has useful notes on the habitats in which the various species grow.

The remainder of the volume contains a number of appendices (Useful addresses, Begonias recommended for beginners, Begonias recommended for terrariums, Measurement conversion tables, new combinations and Synonymy), a most useful illustrated glossary of botanical terms, a bibliography and an index of plant names.

I cannot recommend this book too highly for begonia enthusiasts. I hope it will help to spark a renaissance, in this country, of a valuable and long-neglected group of plants.

Begonias: cultivation, identification and natural history. Mark C. Tebbit. 272 pp.
ISBN 0-88192-733-3
$89.95 plus $5 postage and packaging from Touchwood Books.



orchid & bromeliad specialist

Jim & Sharon Gilchrist

pottering about

Military Road R D 7
Whakatane

Phone/fax (07)322-8201
potteringabout@xtra.co.nz
www.potteringabout.com

RUSSELL FRANSHAM'S SUBTROPICAL NURSERY & GARDEN

Clements Road
Matapouri Bay
Northland
OPEN WEEKENDS
9am - 3pm
Or BY APPOINTMENT

Swamp Paperbark

For a catalogue
and
to order
Ph. 09-4343980
Fax: 09-4343179
russ@igrin.co.nz
or visit our web site
www.subtropical.co.nz

LANDSENDT

108 Parker Road
Oratia, Auckland

Phone (09) 818 6914
Fax (09) 818 6391

Email endt@ihug.co.nz

Open Monday - Saturday
9am - 5 pm
Sundays by appointment

Palm specialist

Check out our web site
www.landsendtexotics.co.nz

MORE ATTRACTIVE AROIDS – THE *XANTHOSOMA* GENUS

Russell Fransham

The genus *Xanthosoma* consists of about fifty species of tropical aroids, all originating in tropical America. Several species are important food crops through much of the tropical world, including Africa, the Pacific islands and East Asia. Some species are quite hardy and will survive hard frost below ground, re-growing quickly afterwards. Most xanthosoma species have sagittate leaves (arrow-head shaped) and are not peltate like the Colocasias, which means the top of the stem meets the leaf blade at its edge in the "V" notch between the horns of the leaf.

The most important edible species is ***Xanthosoma x sagittifolium,*** which is also one of the largest and hardiest in New Zealand conditions. It is variously known as 'Cocoyam', 'Yautia' or 'Ape', depending on the local language. Cooking of the corms for food is the same as for other taro species - long and slow.

Its greyish-green, quilted-looking leaves will stand two metres or more tall and each leaf blade can be 1.5m long and a metre wide. The large starchy corm which forms the stem also sends off buds which form smaller corms as well as underground runners that form new plants nearby. This habit makes them almost impossible to eradicate once established.

QUESTIONS & ANSWERS

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

Our advisory members will endeavour to supply solutions and answers.

Write, fax or email to
Q & A
PO Box 91-728, Auckland, 1030
Phone/fax (09) 376-6874
Email – marlowe@subtropicals.co.nz

This huge and handsome plant needs good wind-shelter and dappled light to look its best in the garden. It thrives in moist or averagely well-drained soil. The leaves will become tatty or die off during the winter, but re-grow vigorously the following summer. In our climate, it will often rot and die if grown in water-logged soil in winter.

Xanthosoma maffafa (often confused with *Xanthosoma x sagittifolium)* is a very beautiful, huge species over 2.5m high with very dark petioles. I have found it more fragile in our climate than either of the other species mentioned. It needs perfect shelter, reasonable drainage, rich feeding and dappled light. If you can provide these conditions, it is well worth a try.

Xanthosoma violacea (Violet Taro) is smaller than the previous two and is equally handsome with powdery, blue-violet petioles and greyish or glaucous quilted leaves. It is also widely grown for food in the West Indies and tropical America. It stands about 1m high and is usually deciduous in New Zealand conditions. Being stockier in habit, it stands up to wind much better than *X. x sagittifolium.*

A lime-green or yellow form of *X. violacea* is also grown here but it is more prone to sun-scorch during summer and is somewhat more tender than the species. The soft yellow of the foliage looks wonderful planted in the shade of big trees. For years I had assumed it to be a form of *X. sagittifolium* until one day last year I found a yellow one that had partly reverted to *X. violacea.* Duh!

The flowers of xanthosomas are typical of the aroids - a boat-like spathe encloses the phallic spadix which nestles within its protection. When the spathe opens the spadix produces heat (!) and a sweet perfume to attract pollinating insects to the fertile female flowers at the base of the spike. On the second day the male flowers at the top of the spike ripen and release their pollen onto the insects which take it to the next newly opened flower spike. In New Zealand I have not seen seed develop on any of these species, which leads me to suspect they have a species-specific pollinator in their native habitat. Just as well, I suspect.

Top -
The enormous leaves of *Xanthosoma x sagittifolium*
Bottom left -
A close-up of the violet-blue stems and leaves of *X. violacea*.
Bottom right -
The lime-yellow form of *X. violacea*.

Photos: Russell Fransham

THREE RATHER USEFUL TILLANDSIAS
Marjorie Lowe

Which comes first - the chicken or the egg? Gardeners are always being presented with the problem of whether to buy the plants they really desire and then having to find suitable places and making conditions right for them or to locate plants that will do well in the existing environment. The latter usually involves much less work but is perhaps less fun. And there is always that impetuous, unjustifiable purchase or acquisition where, for success, some poor unfortunate plant has to be moved to make way for the newcomer. Planting the new one in a pot and moving it about experimentally until the right spot is discovered would seem to be less arduous. The following three bromeliads have attributes that make them useful problem solvers.

Since the Garden of Eden, gardeners have been complaining that they are unable to grow anything under their trees because of the competition from the rooting systems, which frequently also results in dry conditions. Heavy shade from some evergreen trees can also be a problem. The answer is to mass plant evergreen epiphytes as a ground cover – an all year solution that provides the bonus of seasonal colour.

Tillandsia kirchhoffiana is a small, clumping bromeliad with fresh, green leaves that curve gently outward from the base – rather grass-like in appearance. Fine-leafed offsets appear at the dark blue base of the plant and can be removed and potted on to build up the stock for ground cover planting. Dappled shade to high light to part morning sun, with some misting if the summer becomes too dry, are its only requirements. Planted under a deciduous tree it will take full winter sunlight. I do not feed my bromeliads as they grow in conditions that, as much as possible, simulate their natural habitat.

Because of lack of space, my *T. kirchhoffiana* is grown in a June Black pot under the fairly open shade of a plum tree. The first flower spike arrived in late autumn. It grew quickly to 60cm in height and was bright red - quite showy in a modest way. It then stayed in colour until early spring when the flowers began to arrive.

Top: *Tillandsia somnians* being trained across from a lemon tree to a bamboo support.
Bottom left: *Tillandsia multicaulis* grown epiphytically at waist height for best viewing with a few of the purple flowers showing.
Bottom right: A *Tillandsia kirchhoffiana* grown under a plum tree receives full winter sun.
Photos: Marjorie Lowe

On close inspection, purple tubes with yellow flowers dot the branched flower spike. These die off leaving a rather tatty appearance so I cut them off, leaving the bright red coloured stem which is still in colour in late summer. Many bromeliads do not have a consistent flowering time, but some like *Canistropsis billbergioides* and *Aechmea fasciata* can be relied on to come into colour at the same time each year. With a colourful period from late autumn to spring, if it becomes a regular habit, this would make this plant a very valuable addition to the garden.

Tillandsia multicaulis is one of the rare bromeliads that have multiple stems (*Tillandsia complanata.* is another). A plant may have anywhere from three or four to eight or nine flowering spikes, all emerging at the same time. The *T. multicaulis* in the photograph (growing on the top of a 70cm high ponga stump), has eight bright-red inflorescences that, similar to some vrieseas, resemble flattened goldfish. There is also an orange form, and both have purple petals that emerge from the bracts from the base upwards. The flower spikes remain in colour for up to two months and then change to a honey-gold colour that is equally attractive and lasts even longer. Colouring up in late February-early March (early autumn), it will provide a splash of colour throughout autumn and winter. This seems to be its regular flowering time.

'This small, soft-leaved tillandsia is usually apple-green and at first sight may be mistaken for a vriesea (and)...is found growing epiphytically in dark, humid forests from southern Mexico to Panama at elevations of 1500-2000 metres' (Victoria Padilla - *Bromeliads*).

Tillandsia somnians is a true air plant. Although described as a climber, it is truer to say that it is a leaner with strong vertical aspirations. It usually does not root, but sends a cane-like stem up from the base of the rosette. At intervals (varying from 50cms or more in good conditions to much less when the going is tough) the stem flowers (rather insignificantly) at the top and then another rosette appears. Theoretically, growth could be endless (the young growth can be trained to bend) as long as there is something to support the plant.

The tillandsia in the photograph is a highly coloured, deep winy-red as it is growing in full sun, but it would be mostly green if grown in the shade. The plant lives on rainwater and nutrients from the air and is misted in dry periods. Grown in a position where these are not available, some light feeding and regular watering would be essential. This could be a wonderful foliage solution for places like apartment balconies, soil-less townhouse situations and tiny spaces where little will grow. No pots, no soil!

Dryopteris erythrosora Autumn Fern

Barbara Parris

Dryopteris erythrosora is a native of eastern Asia that has been in cultivation for a long time. Although it is most frequently found in the baby houseplant section of garden centres, it is actually a hardy (zone 5) outdoor fern. Unlike many very hardy ferns, it doesn't die down over winter to a dormant crown, or flatten its fronds to the ground, but holds them upright. The young fronds are dramatically copper-coloured, ageing to a dark glossy green, and the sori when young are red. New fronds are produced throughout the growing season, not just in spring.

This is a medium-sized fern, up to one metre tall and much the same distance wide, with oblong-ovate two-pinnate fronds. It is easy to grow, requiring light shade for the best colouration in the young fronds, and reasonably moist soil. It is also easy-care as, when the new fronds are produced, the old ones drop to the ground and are hidden, so there is no need to tidy them away. Well-grown plants will develop branching rhizomes that can be divided up easily or left to form a dramatic clump.

My plants are in the part of the garden where the top soil was stripped off to level the house site, leaving the underlying white rhyolite clay. Well mixed with compost, this has proved to be a good moisture-retentive growing medium for ferns, including *D. erythrosora*.

A twice-yearly feed with general garden fertiliser and water in dry spells suits it. If kept too dry, thrips will attack and, if kept too dark, it will not produce the attractive coloured fronds and will die. If you have a cold frosty spot, with good light, and want a handsome evergreen fern, *D. erythrosora* is certainly worth trying.

A GREAT MONARCH BUTTERFLY ATTRACTANT

Robin Booth

Imagine a hillock of small sunflowers in the middle of winter and you have a good idea of what ***Tithonia diversifolia*** looks like. This sunflower relative comes from Mexico and Central America and its name is derived from Tithonus, consort of Aurora the Dawn Goddess.

Growing up to four metres high, the multi-branched evergreen, perennial-shrub tends to sprawl gradually and to grow outwards from the centre. It pays to give it a hard cut back after flowering to keep it in bounds and stop it growing too high.

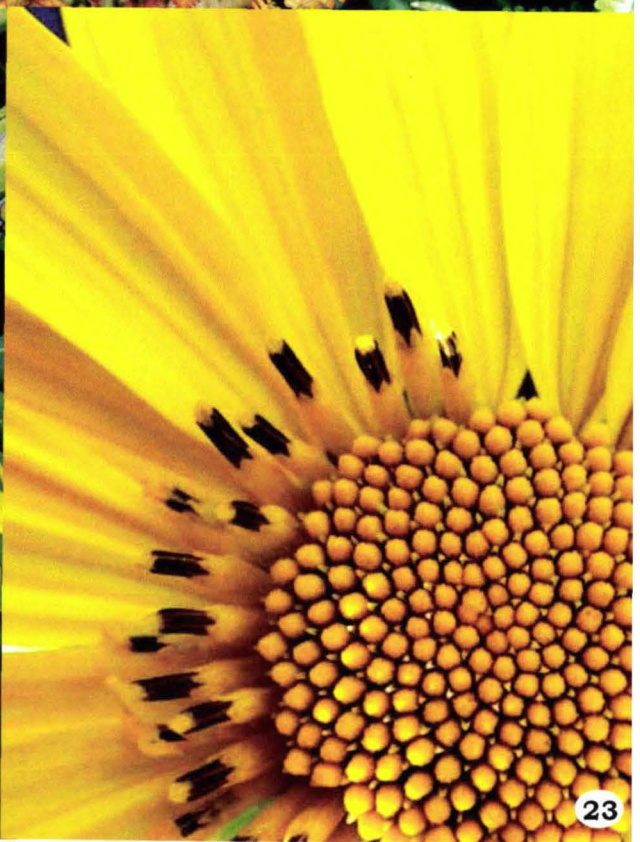
In May the bush is starting to be covered in 16cm heads of golden flowers that attract many Monarch butterflies. It is also a nectar source for bees. Flowers last for a long time in water and give a cheery display on those cold grey days we have had.

T. diversifolia will stand light frosts but a heavy one will cut it back.

Montanoa bipinnatifida has very similar leaves, making it very hard to tell them apart. Both these plants would be natural nectar sources for the American Monarch butterflies as they arrive in Mexico to over winter and it is good to see them enjoying the flowers here.

Top:
***Dryopteris erythrosora* fronds**
Photo: Barbara Parris

Bottom:
***Tithonia diversifolia* flower and detail**
Photo: Robin Booth



THE ICE-CREAM BEAN – *Inga edulis*
Rosemary Steele

Inga is a genus of some 350-400 species which are found in the tropical and subtropical parts of Central and South America and the Caribbean. They are extremely versatile trees, providing leaves for forage, timber, shade for crops (especially coffee and cacao), soil improvement, urban beautification, as well as large pods which contain a sweet edible pulp.

In English these are called ice-cream beans. Although the trees are in the bean family (Leguminosae), I personally don't think ice-cream is apt: candy floss is more similar to the texture of the sweet white pulp which surrounds the black, irregularly shaped-seeds. In some species the pods reach 70cm in length but all our trees produce pods about 10-30cm long and 3-4cm wide.

Inga species are poorly understood taxonomically but range from shrubs to trees up to forty metres tall. They are fast growing, evergreen or semi-deciduous with large pinnate leaves and fragrant, usually white flowers which are borne in clusters not unlike *Calliandra*. The pods are golden-brown to brown and are highly attractive to rats, so we don't get as many as we should. The seeds of some species have been boiled and roasted and sold as snack food, but I have not tried them. They usually start germinating in the pulp which makes it difficult to obtain other species to try (let alone the problems of biosecurity).

We have at least two species at Nestlebrae, *Inga edulis* and *I. mortoniana*, and all our trees bear similar-sized pods. It would be nice to get *I. spectabilis*, whose 70cm pods are sold in the markets of Costa Rica, but it may be too tropical. Our trees were somewhat affected by frost when small but are now unharmed and are six to eight metres tall.

Top – Brian Timms has brightened up a fairly large *Platycerium bifurcatum* (Common Staghorn Fern) attached to a kauri about 2.4 metres above the ground by placing a cymbidium within the sterile fronds. It has rooted into the Staghorn and is now flowering well.

Bottom -
Detail of the large seedpods of the Ice-cream Bean (*Inga edulis*) against the foliage.
Photo: Rosemary Steele

The nitrogen-fixing nodules on their roots make the trees extremely adaptable, withstanding soils with pH4.0 to 8.0. The presence of mycorrhizae in the nodules enables the trees to take up phosphorus, even though this is usually in short supply in acid soils. Apparently some species are reported to tolerate being waterlogged. They can even grow in swamps or below the high water mark, but they do best in clay or loamy soils.

A WASP-LIKE BEE
Robin Booth

The insect is actually a bee which was accidentally introduced into New Zealand from Australia around 1980. It apparently arrived on timber in the ports of Napier and Gisborne and has spread from there.

The female bee is not aggressive but can deliver a good sting if it has to – the male is stingless. Because of the way this bee holds its wings it is usually mistaken for a wasp. This mimicry helps the bee to survive in the wild as predators are not keen to be attacked. This gives it its common name 'Wasp-like Bee' (*Hyleoides concinna*).

The bee is solitary, there being no colony or queen as in honey bees. The bee uses holes in logs as its nest, first of all putting an opening seal over the entrance to the hole and then lining the tunnel with a waterproof, cellophane-like product which it exudes from its mouth. The end cell is then constructed and filled with a pollen and nectar mix, an egg is laid and then the cell is sealed off. This continues for about eight cells, then a strong wall is constructed to keep out predators.

Once she has finished her nest the female bee leaves and dies. The eggs hatch out and over the winter months grow into adults. The first cells constructed produce females and the latter ones produce males. In the spring they break out of their tunnel and mating takes place in the open air and the cycle starts again.

Flowers of the Myrtle family are particularly attractive to these bees.

CECROPIA or SNAKEWOOD
Robin Booth

A tree which always pleases those who like huge umbrella-like leaves, ***Cecropia palmata*** (from tropical Central and South America and the West Indies) has leaves up to one metre across on the younger plants. As the tree starts branching the leaves become a little smaller. In its native habitat it is one of the first trees to establish itself when a forest giant falls. In its own right it is a relatively short lived tree, growing to fifteen metres or more in height, but in New Zealand it is much slower and smaller.

Cecropias are named after Cecrops, the builder and first king of Athens – originally named Cecropia. In their native lands, many of the species are in a symbiotic relationship with fierce, biting ants, which cut a hole into the hollow stems where they make a comfortable home. The tree also supplies them with a nourishing exudation from a special area at the base of the leaves. In exchange, the ants keep away all other insects from eating or cutting the leaves, particularly Leaf Cutting ants. The only animal that ignores these ants is a sloth who feeds almost exclusively on this tree's leaves, buds and fruit. No ants live in the plants in New Zealand.

The stems are very curious in their construction when they are young and growing vigorously. They consist of a series of 'tin cans' set end-to-end, then wrapped in a layer of bark. A stem that was killed by frost finally fell to pieces to show us all its 'tin cans'. This gives great strength and lightness, but as the stem gets older the wood then starts to thicken.

For the garden, this is a fast growing tree with huge leaves. The backs of the leaves are silver and, as they move in the wind, they catch the light and almost glitter.

As the tree tends to have a tall trunk, it can be gardened under quite happily. Very frost tender, cecropias need free draining soils.

Echiums

William Platt

The biennial and shrubby echiums are well known but underused in our gardens. Admittedly they require a fair amount of garden space, which is hard to find in many of today's tiny sections.

Xeric flowering plants that do well in dry, poor soil and will stand coastal conditions are very desirable. Fertiliser encourages rangy growth and inhibits flowering. No summer water is needed but drainage needs to be good. Their original habitats are the Canary Islands, Madeira, the Mediterranean region and the Near East. The colour range is through the blue/purple tones to red-mauve and the plants are attractive to nectar-feeding birds and insects.

The most commonly available here are:

Echium candicans – syn. E. fastuosum (Pride of Madeira), is a soft-wooded evergreen shrub to 2m. The flowers are blue with protruding pink stamens (see close-up), the spikes standing well above the foliage. Prune off faded flower spikes. Will stand light frost.

E. wildpretii (Tower of Jewels) is a striking biennial from 1.2m to 3m high. The red-mauve flowers in mid to late spring generate large quantities of seed.

Top:
Cecropia palmata **photographed at Wharepuke Subtropical Garden.**
Photo: Robin Booth
Bottom:
The echium species photographed in September in the New Plymouth Zoo Gardens is probably *E. candicans*.

LETTER/PHOTO COMPETITION

And the winner of the $50.00 Touchwoods Books voucher is Jeanette McDonald of Titirangi, Auckland.

She writes:

This plant was in the garden and not doing very well, so I put it in a pot in full sun and water it occasionally with Thrive 'Fruit & Flower'. Can you give me its name please?

Answer:

The plant is *Medinilla myriantha*, an epiphytic, evergreen shrub from the cloud forests of the Philippines. It needs plenty of water and misting as it is vulnerable to thrips. It seems to stand sun or shade and, with no frost and all year water, can be in bloom much of the year (see article in Vol. 1, no. 2).

Top: A stunning pot of *Medinilla myriantha*.

Bottom: After the frost – see article on page 34.
Photo: Diana Holt

WINTER OBSERVATIONS
Diana Holt

Following on from the excellent article by Judy Graham on her experiences of winter frosts, I thought I would add my experiences from another part of Auckland. In 2006 I moved to Massey, down by the water, just as winter started. That winter was mild and only a couple of times was there frost showing on the windscreen of the van. With the number of trees around, I felt the property was fairly frost free.

I cleared out one area, leaving behind a very large Pawpaw Tree (*Carica pubescens*). This tree is very tall, so I guessed that there must not have been frosts as it would have died long ago. After all this clearing and laying out my new garden full of my favourite subtropical plants, I went away at the beginning of June for a few weeks. Unfortunately winter started early and there was no one to watch the weather and throw out the frost cloths.

The entryway to the property is a succulent garden. This is the one area where I would have expected some frost damage. The planting includes aloes, beaucarneas, bromeliads, dracaenas, pelargoniums and succulents. The large beaucarnea had frost damage, as did a couple of bromeliads but *Aloe thraskii*, *A. plicatilis* and *A. polyphylla* showed no damage at all. Even the Jade Plants (*Crassula argentea*) tucked in by the fence, had only slight damage.

In the main courtyard, alongside a fence where the Pawpaw tree grows, is a mixed planting and this was the area of main frost damage, but only to selected plants.

A *Begonia haageana* (syn. *B. scharffii*) was growing alongside a Hawaiian hibiscus, a Wedding Palm (*Lytocaryum weddellianum*), a vriesea and an *Alcantarea imperialis* (see photo page 32). Of these only the hibiscus did not survive whereas, close by, a New Zealand developed hibiscus by Jack Clarke, called Mrs George Davis (a double-pink), had no problems. A young *Schefflera actinophylla* (Queensland Umbrella Tree) also went very quickly, yet I had seen larger ones in the area and had hoped that it would be OK.

Some of my special neoregelias were frostbitten, but all are sending up pups to save the day. There were a few other little plants that I lost, but now I know the problem areas for next winter.

Continued on page 37

PLANT SOURCES for this issue

***Aciphylla dieffenbachii*:**
Oratia Native Plant Nursery
***Anthurium crystallinum*:**
Try King's at St. Lukes or ask your nursery – from Zealandia
***Cecropia palmata*:**
Nestlebrae Exotics plus (*Cecropia albida* – Landsendt
***Dryopteris erythrosora*:**
Fern specialists and nursery houseplant sections
***Dypsis baronii*:**
Available from most palm nurseries
Echium species:
Generally available but some may be only seasonally so.
***Inga edulis*:**
Nestlebrae Exotics, Pottering About, Russell Fransham
***Melaleuca quinquenervia*:**
Russell Fransham
***Tithonia diversifolia*:**
Although a perennial/shrub, perennial specialists are the most likely source
***Tillandsia kirchhoffiana*:**
Try Exotica, (09) 425-7474, Warkworth
***Tillandsia multicaulis*:**
Greens Bromeliads, Exotica, Pottering About
***Tillandsia somnians*:**
Exotica, Pottering About, Whakatane
***Xanthosoma* species:**
Russell Fransham, Landsendt, but keep an eye out when visiting subtropical specialists who have occasional plants
***Zamia furfuracea*:**
Most cycad and palm specialists

STOP PRESS

Some time ago we informed our members that the subtropical *Anthurium scherzerianum* (see article Vol. 3, no. 3) had disappeared from sale in favour of the more profitable tropical *A. andraeanum* cultivars. A few days ago in Tippett's, Grey Lynn, I found one from Tropi-folia, a medium sized houseplant that would need to be hardened off. Also at Tippett's was a range of philodendrons, including *P. bipinnatifidum* (syn. *selloum*), *P. cannifolium, P. cordatum* and a red form plus the cultivars 'Silver Queen' and 'Xanadu'.

BACK COVER STORY

THE SWAMP PAPERBARK — Cajeput

Russell Fransham

In Australia you can't miss ***Melaleuca quinquenervia***, one of the hardiest 'Swamp Paperbarks'. It is also called the Cajeput tree and can be found throughout much of the country along river banks and tidal margins and in swampland.

In the tropics it can reach fifteen metres or more in height, but in New Zealand it seldom reaches more than four to five metres. Its gnarled, chunky appearance is reminiscent of its New Zealand relative the pohutukawa. The creamy-white, bottle-brush flowers appear for most of the year and are nectar-rich, attracting tuis, silvereyes and bellbirds as well as many exotic species.

It is characterised by very thick, soft, creamy bark in spongy layers like filo pastry. It can be peeled off several inches thick and would make a great mattress, as it is waterproof as well. In fact this bark extends downwards, throughout the root system, allowing oxygen to penetrate to the furthest reaches of the roots under water or mud, acting like a snorkel and enabling the tree to thrive in anaerobic or partly submerged conditions.

It is widely planted in Sydney as a street tree with tar-seal right to the trunk. Magnificent old specimens are a major feature of Centennial Park in Paddington.

The foliage is highly aromatic like eucalyptus, with the leathery, grey-green leaves turning red when the weather gets cold. The billowing, heavy foliage is extremely wind-tolerant, making these trees very useful in coastal or open swampy areas. The root system forms a spongy, fibrous mat in the mud, along stream banks and estuary headwaters, preventing erosion.

I use them to protect waterways and springs on farms as well as to create beautifully statuesque specimens in urban gardens where water runoff can be a threat. The trunks of young trees will often grow down to the ground, forming gnarled arches down to ground level before growing up again to form their typically-rounded, graceful crown. This is, I suspect, an adaptation that increases stability in unstable soils and strong winds. It means that a creative gardener can prune judiciously to enhance this highly-sculptured appearance to create something special, especially if the tree is planted above a wall or bank

where it will naturally cascade downwards.

I have planted Cajeput trees around my lake and to my delight the local brown teal shelter among the half-submerged branches with their ducklings, even climbing into them to roost.

Interestingly, while this is a swamp-tolerant tree, it will also grow just as happily in average, well-drained soil, even in dry northern New Zealand clays. It is tolerant of light frosts once established.

In Florida, *Melaleuca quinquenervia* is a serious pest where it self-seeds and is engulfing the Everglades at an alarming rate. But in New Zealand conditions I have never known it to self-seed in twenty-five years of growing and propagation.

The Cajeput is extraordinary for its versatility in almost any landscape. It feeds and shelters birds, provides shelter and shade for other plants, protects against erosion and can grow where almost no other tree will survive. It fits in seamlessly with New Zealand native trees, providing fast initial shelter during establishment. The sculptural beauty of the muscular, creamy trunks is a landscaper's dream. And then there is the mattress business. Every garden should have one!

Continued from page 34

There were a couple of surprises of survival. The ends of the branches of an Ice-cream Bean Tree, *Inga edulis*, (article on page 25) and those of two jaboticaba trees (*Myrciaria cauliflora*) were nipped but are now coming away strongly. The latter were plants that I first saw in Cairns, which had the most delicious little plum-like fruit growing up the trunk. My plant came from Russell Fransham a couple of years ago at eight years old and is now only just over a metre high. It has not yet fruited, but is a very attractive landscape plant.

An *Anthurium andraeanum* hybrid that had lasted outdoors for a couple of years, looked as though it had not survived but, when about to throw it away, I found lots of new growth – a real survivor. The other plant that seemed to handle the frost with no problems was a *Dypsis baronii* palm (see page 10 & 11, this issue).

The rest of my section, having more mature trees, survived the winter with no problems. According to Ken Ring, the weather man, we are due to have similar weather in the coming winter (i.e. frosts in early June). So if I decide to go away to the sunshine in June, I now know which plants to protect and hide from Jack Frost.

Aciphylla dieffenbachii
Soft Speargrass, Coxella
Edith McMillan

Aciphyllas, which are native to New Zealand and Australia, have many common names (Spanish Bayonet, Speargrass, Horrid Spaniard, Bayonet Plant), from which you may deduce that these are gardener unfriendly plants. Like the spiny agave that includes the soft leafed *Agave attenuata* amongst its species, the *Aciphylla* genus has a few that have softer leaves. The two species that are endemic to the Chatham Islands are both soft-leafed - *Aciphylla dieffenbachii* and *A. traversii*. ...'The latter is a taller plant that is found in peat bogs, lake margins and peaty ground in open forest clearings' (New Zealand Plant Conservation Network).

A. dieffenbachii is an evergreen perennial with an inflorescence from 60cm to 1m in height. In summer (November to February), stout stems support umbels of corn-yellow-flowers that turn to berries if both male and female plants are grown. The foliage is interesting and very different, making a contrast with most other plants. In the Chathams, it grows on steep, usually south-facing cliffs, ledges and slopes and is strictly coastal.

The photograph opposite shows, not a marginal beach planting, but a specially constructed, free draining garden bed in full sun to provide suitable conditions for healthy growth. The Soft Speargrass has a strong taproot to reach moisture and the plant must not be allowed to dry out. It does well in damp sand, manured regularly with seaweed. It can die after heavy flowering. Propagation is by fresh seed but plants can be obtained (see page 35).

Although this species dislikes humidity, it should be possible to grow it in the north. This is a nationally endangered plant, due to grazing stock, and ferals such as possums and rodents. Any gardener who grows succulents that withstand winter moisture should have no problems, as long as there is reasonable air movement and no frost. Both sandy and volcanic soils would probably be suitable.

It would be a pity if yet another of our native plants disappeared so, if you can, plant one (or more) for posterity.

Opposite:
***Aciphylla dieffenbachii* with an astelia clump in the background.**
Photo: Grant Bayley