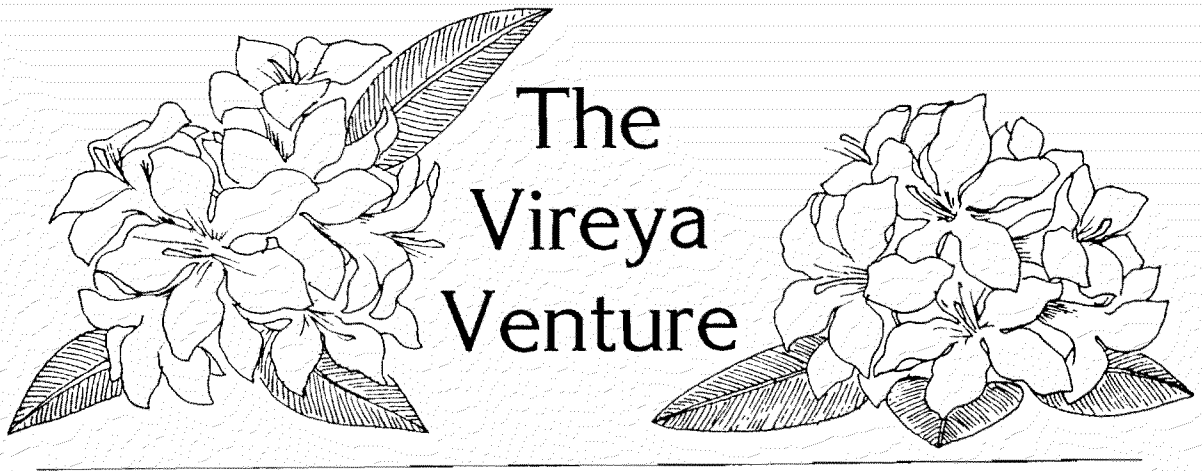


THE VIREYA VENTURE No. 23 April 1996

The drought in the Illawarra continued past summer to a very marked extent - the ground is cracking and normal watering seems to have little effect. Our warm weather is very pleasant but we need rain badly and our autumn colours have barely started.

The two main items in this issue are an article from the newsletter of the A.R.S. Victorian Branch written by Dr.R.Withers who has advised me that this is an abbreviation of a lecture which he gave last September at the 18th Biennial Congress of the Australian Societies for growing Australian Native Plants, in Ballarat. He has sent me the full text which relates the extensive research that he and Lyn Craven of the CSIRO Canberra applied to this work on R.lochiae. The formal approval of the new R.notiale is expected to be formally published (it has been approved) by Edinburgh shortly.

The other major topic is the early flowering of young Vireya plants and this has been commented on with thanks to Mrss.Wadham Wilson and Paget from three different climates.

Our new logo comes from Spain with the good wishes of Mr.Jose Almandoz who has written: "As I cannot write much about my experiences, please let me contribute to V.V. with something I really want for the newsletter, a new header. (3 copies enclosed). When you get sick of using it please don't hesitate to ask for another one... I very much enjoy drawing and hope you'll like it too.... the flowers are based on a photograph of the hybrid 'Moonwood'."

Our new subscription year commences on July 1st. and a subscription form is enclosed - no change in the price - $10.00.

The Editor, P.O.Box 8, Keiraville, N.S.W. 2500

J.Clyde Smith.

Australian Native Rhododendron Species and their Hybridisation

By Dr.Robert M.Withers MB,BS, Order of Aust Medal 1995.

In 1992 I was invited by the Society to deliver the 5th Baron von Mueller Memorial Lecture which was presented on 14th August,1992. The late Ben Menelaus, in an article in the Rhododendron and Camellia Year Book of the Royal Horticultural Society in 1966, page 132 wrote that R.lochiae, which was Australia's only known rhododendron species at that time, was not over well documented.

We now have two Australian Native Rhododendron Species. There had been many references to R.lochiae in the literature, but no complete article had been published. I therefore chose as my subject for the Baron von Mueller lecture "Rhododendron lochiae, Australia's only known native rhododendron species, its discovery, cultivation and hybridisation". This lecture was published in full in "The Rhododendron" Volume 32 in the spring of 1992.

In this lecture I am pleased to have the opportunity to tell you of developments with Australian native Rhododendron species since that lecture.

We now have two Australian Native Rhododendron Species. During my researches for my Baron von Mueller lecture, I became more and more convinced that we were dealing with two species, and I asked my friend Lyn Craven, a taxonomist at the Australian National Herbarium, Centre for Plant Biodiversity Research, CSIRO Division of Plant Industry, Canberra, A.C.T., who has always been interested in Vireya Rhododendrons, to review herbarium specimens and live material of what was being called Rhododendron lochiae.

Taxonomic examinations have now been completed and Lyn agrees with me that there are definitely two distinct species of Rhododendron in North Queensland. A paper has ben prepared and should be published during this year, entitled "A second species of Rhododendron (Ericaceae) from Australia" by L.A.Craven and R.M.Withers.

The first appearance of a Rhododendron called Rhododendron lochiae in a nursery catalogue was in the catalogue of Basil Hodgins at his nursery in Essendon, Victoria, in 1953. This plant has been widely grown since that time. Plants of this species have since been re-collected many times on mountains northwest of Cairns and this species has been used extensively in hybridisation with other species of Vireya Rhododendron.

The Hodgins Nursery species has turned out to be a different species from the one named R.lochiae by Baron von Mueller in 1887 and collected on the Bellenden-Ker range inland from Cairns and this specimen appears to have first been introduced into cultivation following a collection on Mt. Bartle Frere in 1975 by David L.Jones and distributed from the wholesale nursery operated by W.Rodger Elliot then at Montrose, Victoria. To my knowledge this species has not been used in hybrisation.

Key to the Australian Species of Rhododendron

1. Corolla tube straight;anthers dark red, dispersed around the throat with most being in the lower half; pedicel subpendulous in flower, suberect to erect in fruit.....R.lochiae

2. Corolla tube curved; anthers yellow, clustered at the top of the throat; pedicil suberect to erect in flower and fruit.
.....R.notiale

The specific epithet - NOTIALE- is a reference to this species being the most southerly of the genus (Latin, notialis, southern)

A nomenclatural difficulty exists in that Mueller's type of R.lochiae comes from Mt.Bellenden-Ker and is conspecific with the species described here as R.notiale. Under the ICBN, as its general provisions provide, the Bellenden-Ker plant should be called R.lochiae. This would mean that the plant known as R.lochiae to horticulturists throughout the world requires another name. This course of action would result in significant disruption and confusion, contrary to the objective of the ICBN to promote stability in plant nomenclature. A proposal for the conversion of R.lochiae with a different type has been submitted to Taxon by Lyn Craven, so as to preserve current usage of the name R.lochiae.

The discovery of R.lochiae now named R.notiale on Mt.Bellenden-Ker

An acount of the first ascent of Mt.Bellenden-Ker by Messrs. Sayer and Davidson appears in the Victorian Naturalist 4 (1988) 37. It was read at a meeting of the Field Naturalists' Club of Victoria on April 4,1887. W.A.Sayer wrote that "The top of the Bellenden-Ker range is razor-backed, and on travelling along the range beyond the spur by which we ascended, I could not see the sides, they being if anything hanging over. It was here that I observed the Rhododendron lochae growing"

J.Hutchinson of the Royal Botanic Gardens, Kew, wrote in the Gardener's Chronical of June 3,1939, that Meston in his "Report of the Government Scientific Expedition to Bellenden-Ker Range (Brisbane 1889)" tried to prove that Sayer and Davidson did not reach the top of Mt.Bellenden-Ker, but the top of an eastward mountain, Mt.Toressa, situated between Mt.Bellenden-Ker and the Russell River, forming no part of the Bellenden-Ker Range. Who is correct is immaterial as the fact remains that Messrs.Sayer and Davidson were the first to find a Rhododendron species in Australia.

Hutchinson, in the same article writes "that the nearest related species to R.lochae is the well known R.javanicum, Benn which is found in Java, Sumatra and New Guinea. Compared with that species the leaves are less pointed, although similarly punctate and the flowers appear similar (red and fleshy) with the same softly pubescent, long ovary. Another slightly more distant relative is R.vidalii, Rolfe,from the Phiippines. The flora of this portion of Queensland seems therefore to show the same affinities as the animals, for it is stated in the zoological account of Meston's expedition that the region in which Mt.Bellenden-Ker is situated, is found a concentration of forms of animal life elsewhere (in Australia) unknown. It has peculiar mammals, peculiar birds, peculiar reptiles, molluscs, insects, and in many cases these strangers to the rest of the area are derivatives, not from the surrounding Australian stock, but from the Indo-Malayan fauna on the one hand and the Papuan on the other.

It would appear from that evidence,that R.lochiae migrated south along the mountain ranges many long years ago, when Australia and Papua New Guinea were joined in one land mass.
Baron von Mueller's description of R.lochiae appeared in "The Victorian Naturalist" Vol.111, No.135 (March 1887) page 157. The Holotype specimen of R.lochiae now named R.notiale collected by W.Sayer under the No.135, and described by Baron von Mueller is in the National Herbarium at the Royal Botanic Gardens,Melbourne.

Further descriptions of R.lochiae.

R.lochiae is described by J.Hutchinson in the"Botanical Magazine" Tab.9651. The article has a photograph of a plant grown in the Temperate House Pits at Kew Botanic Gardens where it flowered in September 1939. This description describes the leaves as being obovate in shape, not ovate as in the description of Baron von Mueller.
One should remember that when R.lochiae was described and named by Baron von Mueller in 1887 the amount of material of other rhododendron species available for comparison was very limited, so that in descriptions of R.lochiae by modern taxonomists, one would expect changes resulting from a much wider range of material used for comparison at the present time. Also specimens of R.lochiae have now been collected from a number of mountain tops in North Queensland, also allowing for much more accurate taxonomic descriptions.

Modern Taxonomy

I am indebted to Lyn Craven for descriptions of R.lochiae F.Muell. and R.notiale which will appear in the paper " A second species of Rhododendron (Ericaceae) from Australia" to be submitted for publication.
Herbarium specimens of R.notiale collected by Messrs. Sayer and Davidson are in the Herbarium at the Royal Botanic Gardens,Kew recorded as being from Mt. Bellenden-Ker at 15.30m. An herbarium specimen of R.Notiale collected by Christie Palmerston on Mt. Bartle Frere in 1888, and one collected by Stephen Johnson on Mt.Bartle Frere in November 1891, are in the National herbarium, Melbourne. Kajewski collected R.notiale on Mt.Bartle Frere in 1929 under the No.1278 at 1450m. Dr.Leonard Brass collected R.lochiae F.Muell. on Thornton Peak in 1932 under the No.2284 at 1080-1380m. Specimens of these collections are in the Herbarium at the Royal Botanic Gardens, Kew. R.lochiae F.Muell. was later collected by Dr.Brass in 1948 on Mt. Finnigan, and was also collected on Mt.Spurgeon on both occasions as Herbarium specimens.

Editor's Note (from the Rhododendron newsletter):
R.lochiae, although now known as R.lochiae F.Muell. is not the plant first described by Baron von Mueller in March 1887. The Hodgins Nursery 1953 plant - with straight, not curved, corolla is R.lochiae F.Muell. and is the plant used for the many R.lochiae hybrids.
It appears that geographically also,there is a distinction between R.lochiae and R.notiale - R.lochiae being found on Devils Thumb, Thornton Peak (1932) Mt.Finnigan (1948) and Mt.Spurgeon; whereas R.notiale is found on Bellenden-Ker (1887) and Mt.Bartle Frere (1888 & 1891 and again 1975) only; both more southern.

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VIREYA REGISTRATIONS

From the R.H.S. 35th Supplement to the International Rhododendron Register 1995 :

The four Vireyas that were named but not fully described in Issue #20, July '95 are now detailed:

Citron Bells Carillon Bells x (laetum x macgregoriae)
Hybridized by S.Begg 1985, named and registered by B.Taylor. Flowers 2-3 open truss, trumpet shaped, 40x30mm, with 5 smooth edged lobes, light greenish yellow (8B) in bud, inside brilliant yellow (14C) at base shading to light yellowish pink (26D), outside light yellow (11B), unspotted. Leaves elliptic, 30x11mm, flat matt green above, attenuate at base, acute at apex. Shrub 30x30cm in 6years. Flowers continuously.

Eleanor Kate zoelleri x leucogigas (Hunstein's Secret)
Hybridizer unknown, named and registered Mrs R.Funder. Flowers 4-7 open truss, tubular funnel shaped, 80x100mm, with 5-7 smooth-edged lobes, inside strong red (45D) on edges and with a light yellow (18B) central star, outside deep pink (47D) on edges, shading to pale yellow at base, not spotted; scented. Calyx 50mm long, moderate yellow green (146C). Leaves ovate,120x60mm, flat, matt green above, attenuate at base, acute at apex. Shrub 2.0x0.5 in 12 years. Flowers January - March.

Johannes 'Christopher John' x (lochiae x leucogigas Hunstein's Secret). Hybridized and registered by B.Clancy. Flowers 6-8 open truss, tubular funnel shaped, 55x114mm, with 7 smooth edged lobes, inside yellowish white (155B) with a pale yellow (158B) throat, suffused with deep yellowish pink (47C) spots at lobe sinuses, outside yellowish white (158B); no blotch; strongly scented. Leaves oblanceolate, 110x60mm, upcurved at margins, cuneate at base, obtuse at apex, glossy green, scales golden when young; upper surface aging to dark green and more or less glabrescent, paler below. Shrub 1.0x0.2m in 5 years. Flowering freely through the year.

Laura Kate superbum x'Doctor Hermann Sleumer"
Hybridized by Mrs N.Caddy, named and registered by B.Clancy Flowers 5/truss,funnel shaped, 7-lobed (lobes reaching almost to halfway) inside strong pink (49A) shading to pale yellow (11D) in the throat; outside pale yellow (11D),edged strong pink (49A); unspotted; spicily scented. Leaves oblong to elliptic, 115x60mm, glossy green above ,with fawn brown scales when young (most scales not persisting) dark green above, paler below. Shrub 53x50cm in 4 years. Peak flowering in spring.

Malcolm Canmore (macgregoriae x zoelleri) x laetum
Hybridized and named by M.D.Cullinane, New Zealand. Flowers 10-14 domed truss, tubular funnel shaped, 30-50mm, with 5 smooth-edged lobes, buds brilliant yellow (20A), opening brilliant orange yellow(23B) on lobes and vivid yellow (14A) in the throat, outside with with a vivid yellow (14A) tube and brilliant orange-yellow (23B) lobes; unspotted; stamens vivid orange (34A); style markedly upcurved, vivid yellow (14A); veining in flower obvious. Calyx 1.5mm long. Leaves elliptic, 100x50mm, flat, glossy green above, cuneate at base, apiculate at apex, with greyish scales when young. Shrub 2.0x 1.5m. in 5 years. Repeat flowering. Hardy to -6°C.

There is a correction from an earlier naming, 'Doll Tsarsheet' should have been 'Doll Tearsheet'.

Also our A.R.S. Registrar has reported three new registrations which have been forwarded to Dr. Leslie (R.H.S.) but have not yet been confirmed. They are:

Juanito 'Carillon Bells' x leptanthum
Hybridized and registered by B.Clancy. Hanging bells of two flowers. Colour 184C (moderate purplish red) in bud maturing to 43C (deep yellowish pink). Height 0.85m. in 10 years. First flowered 1985.
Serenity 'Carillon Bells x multinervium
Hybridized and registered by B.Clancy. Flat truss of 6 to 9 flowers. Colour 56C (pale purplish pink) in bud maturing to 56C (pale purplish pink) shading to 55D (pale purplish pink) inside corolla and 55C (light purplish pink) outside. Height 0.6m in 6 years. First flowered 1988.
Teddy's Choice laetum x 'Gardenia Odyssey'
Hybridized by G.Snell, grown and registered by B.Clancy. Formal truss of 14 to 16 flowers. Colour 17C (vivid yellow) in bud and when mature, Height 1.4m in 7 years. first flowered 1992.

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Mrs, Sylvia Saperstein, of Mullumbimby, N.S.W. has a comment on the weather's effects on Vireyas.
" 1n early December last year we experienced several days of temperatures around 40°C - the hottest spell on tthe Northern Rivers since I started growing Vireyas. I was interested to note how much variation there is between hybrids in their tolerance of high temperatures. 'Great Scentsation'and 'Fireplum' for instance were covered in brown blotches, whereas other hybrids growing alongside were quite unaffected. The damage was quite different in appearance to the damage caused by intense sunlight, which manifests as a burn along the centre of the leaf, all in one area. This can occur in quite cool conditions.

The thought of my own hybridization programme is to produce plants that have the appeal of the more delicate hybrids without their intolerance of heat and light."

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From Mrs.Carver of Woodbridge, a progress note:
"In my contribution to the Vireya Venture No.22, January 1996, except for misting, I failed to mention watering the striking cuttings. In addition to leaf misting, I keep the mat on the propagating tray damp, wetting it about twice a day, which provides a humid atmosphere, and water the pots a little every two or three days as necessary. The potting mix stays damp but not too wet.
On March 26th, I potted up the first batch of Vireya cuttings which were started in July 95. All had very good root systems and have grown well. I use that fairly new product called 'Plant Starter'(.0005g/l Indol Acetic Acid, .0005g/l Napthalene Acetic Acid) as a drench now, before moving the struck cuttings, to protect from shock, and a week later when watering, which seems a useful step in the process.

To be continued.

EARLY FLOWERING of VIREYAS

As mentioned in the October 1995 issue (#21) there were three new Vireya hybrids to be released at Olinda, Vic. in November. After attending an A.R.S.meeting there, I brought back one of each to Keiraville. To my pleasure both 'Kiandra' and 'Veronica Maureen' flowered in March and produced very fine blooms. 'Chayya did not flower and as yet still has no buds. 'Kiandra' has another bud about to open. Such early flowering of small plants is unusual for me so I asked a few friends if they could relate their experiences in this regard.

So: From Rodney Wadham of Lenswood in the Adelaide Hills, S.A.
"I have been struggling to keep pace this summer with several setbacks and never ending hot weather. Watering, mostly by hand, becomes a constant chore and I envy the wetter Eastern States.
But I must say that, given good quality water, most rhododendrons even if only in little shade do well with temperatures in the mid thirties and Vireyas as well as any.

The exceptions were those Victorian plants of which you speak that were potted in a pure coarse pinebark mix. After two died and the rest languished, I recently repotted the lot and they look better already, using my own mix of one third washed pea gravel, one third composted pine bark chips (10mm) and one third of a more moisture retentive material. The only plants to flower of these were 'Chayya' and 'Hendry' which looks promising with a lochiae type flower of much deeper red.

I have just re-read the 'Vireya Venture Nos. 1 -22. Interesting as it is, it is hard to get any consistent guidelines on culture, flower inducement etc. I need far more experience and careful observation to venture an opinion on the factors that cause flowering here in Adelaide. To decide what is early is difficult when one is unsure as to what is normal.

I tentatively suggest that flower bud development follows a period of vigorous and healthy growth due to climate, light fertilizer or whatever. This can change even in one garden, e.g. whether in or out of a greenhouse in winter. The larger the plant the better it is able to withstand setbacks, and the more consistent the flowering time.

Do our hot dry summers induce flowering or vice versa? None of my Vireyas are in heavy shade and many receive full sun much of the day. Some larger plants flowered in mid-summer e.g. 'Sweet Wendy' and 'Robert Bates', but the flowers cook in high temperatures.

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My own experience is that there is a noticeable difference in the way some Vireyas,particularly the species, react to different climates, certainly between states and between inland and coastal conditions. So, on the next page we have a different picture from Jack Wilson of Melbourne and an uncommon tabling of the times to flower of some Vireya seedlings.

TIME OF FIRST FLOWERING OF VIREYA SEEDLINGS

The Editor of the "Vireya Venture" has invited some Vireya growers to comment on factors influencing early flowering. I cannot give any advice from my own experience as my cultural techniques are designed to minimise both my labour and the mortality rates of the Vireyas which I grow, and this tends to be counter-productive to early flowering in the life of plants. Apart from several old plants growing in open raised garden beds my Vireyas are grown in plastic containers in an 800 square foot shade house standing on wire mesh supported about fifteen inches above ground level.

Half the shade house has about 30% shading and the other half about 60%. Watering is done by automatically controlled overhead sprays actuated four times daily, adjusted from one minute to four minutes according to the season. In periods of constant rain it is sometimes turned off. Two sides are completely open and the others have a mixture of vertical shadecloth or teatree branches threaded through wire netting, thus permitting free air circulation, a necessity for control of powdery mildew and rhododendron rust.

For the last five years the only potting medium used has been coarse composted pine bark (5-10 mm for pots to 5 in. and 10-15 mm for larger pots). Fertilising is minimal and spasmodic, consisting of light applications of Osmocote and occasional spraying of liquid fertiliser and trace elements if signs of deficiencies appear. Under this regimen I lose very few plants but wait years for them to flower.

In contrast Lawrie and Nancy Caddy of Mount Waverley who converted me to the pine bark potting technique have a remarkable capacity to induce copious flowering on their Vireyas, of which they have a magnificent collection built up over many years. Most of their plants are growing in sections of fern logs or pots containing a mixture of coarse and finer pine chips. Their formula for success is simple but labour-intensive; provide the plants with a maximum of light. It certainly works exceptionally well but does entail very frequent watering in the summer and much movement of plants to adjust light to the optimum level.

The table below contains information from my records indicating the number of years from seed-raising to flowering of the first seedling in the batch. In many instances there will be significant numbers of each batch which are still showing no sign of flower bud development.

VIREYA AGES AT FIRST FLOWERING

Plant Name	Year Sown	First flowering	Flowering Age
R. christianae var. *sunset*	1967	1980	13 years
konorii × *gardenia*	1977	1989	12 years
zoelleri × *(laetum* × *aurigeranum)*	1981	1986	5 years
laetum × *zoelleri* cl. 'Golden Gate'	1982	1990	8 years
(christianae × *laetum)* × *zoelleri* cl. 'Golden Gate'	1982	1993	11 years
('Kurt Herbert Adler' × *leucogigas)* × *(konorii* × *konorii)*	1982	1992	10 years
(aurigeranum × *zoelleri)* × *(laetum* × *zoelleri)*	1982	1992	10 years
'Gardenia Odyssey' selfed	1982	1993	11 years
(laetum × *phaeopeplum)* F2	1979	1993	14 years
zoelleri form 'Island Sunset' selfed (See Note 1)	1982	1996	14 years
(zoelleri form 'Island Sunset' selfed × *lochiae)* × *macgregoriae*	1982	1990	8 years
{(phaeopeplum × *lochiae)* × *leucogigas)}* × *lochiae*	1983	1992	9 years
disterigmoides	1989	1996	6 years
javanicum subsp. *brookeanum* var. *kinabaluense* (See Note 2)	1990	1996	6 years

Note 1:One only of these seedlings has this year set flower buds which should open in the Spring.
Note 2:I sent some of this then unknown seed from Borneo to Dick Cavender in Oregon USA in 1989. He flowered it in 1994 and identified it. I have two plants with well developed flowered buds which should open within a month.

Jack Wilson
Blackburn Victoria April 1996

Early flowering of Vireyas - continued:

From Barry Paget, Capalaba West, Queensland.

Your comments about precocious small plants blooming are very interesting. I am not a plant scientist but I find here at my nursery I have considerable success with many plants in 140mm pots blooming very satisfactorily. Many of these are a foot high or less.

I believe the secret boils down to fertilisers. As you will see from my culture notes (enclosed), I feed my plants in Spring with 12 month Osmocote Plus (around one teaspoon per pot). In Autumn each pot received a tablespoon of blood and bone and a teaspoon of coated sulphate of Potash. The Osmocote Plus is a balanced fertiliser. The nitrogen in blood and bone provides for plant growth, the phosphorus (a) promotes roots and (b) promotes flower production.

While phosphorus promotes flower production, plants will not bloom unless they are hardy enough to do so. This is where potassium comes in. It hardens off weak lanky growth and gives the intestinal fortitude to cause bud formation. I have bloomed some quite small plants using this system. I realise that I am more heavy handed fertiliser wise than many of my southern counterparts but am achieving wonderful growth and flower results. I am enclosing details of a basic talk on fertilisers which I have given to a number of horticultural organisations here around Queensland.

I feel also that a suitable amount of sunlight is also a bonus. I grow my plants under 50% shade cloth. I am hoping in the next year at least to start a large planting exercise on my other property about 50 km north of Brisbane to develop a vireya garden. There all plants will receive morning sunlight and shade after midday. It will be a big job.

Further to my previous comments about potting plants firmly I have received two reports this summer from growers here who have lost plants purchased not from Queensland but from northern New South Wales. I cannot stress enough to my clients the need for firm potting of plants

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VIREYA CULTURE NOTES

Vireya or tropical rhododendrons are found at high elevations in habitats 2 000 to 3 000 metres above sea level in tropical regions of the world. They occur in a band from northern Australia, through Papua New Guinea, Indonesia, the Celebes, Philippines, Borneo and through the Malaysian Peninsular.

All vireya species are lepidotes having small scales on their leaves and have seeds with long tails or wings. In their natural environment these plants are subject to bright sunlight and warm midday temperatures in the cloud forests of mountain tops. The evening temperature often drops close to zero. These plants are semi-epiphytic, rarely growing on the ground, shaded by a light overhead canopy of leaves. They grow epiphytically in the top-most branches of trees and in leaf litter in rock crevices, along with orchids, lichens, mosses and ferns where good sunlight and air movement are evident.

Spacing of vireyas is important to ensure good air movement around plants and adequate penetration of sunlight into the bases of plants. Poorly ventilated, crowded conditions will cause fungal problems and the growth of leggy, untidy plants of these most beautiful tropical exotics.

Vireyas are subject to a similar range of insect pests and diseases as azaleas. These problems may be controlled using the recommended products. Where plants are grown well spaced in areas of good air movement, diseases are uncommon.

A magnificent range of colours awaits those who venture into the exotic world of vireyas - red, orange, yellow, pink, white and a multitude of combinations of these colours on a really diverse range of plants ranging from a few centimetres tall to around three metres. Flower size and form is also diverse, adding to the charm, curiosity and pleasure associated with the culture of these exquisite plants, formerly considered to be the privelege of gardeners in the cold southern portions of Australia.

ORCHIDWORLD/VIREYAWORLD, 1422 NEW CLEVELAND ROAD, CAPALABA WEST, 4157. (Nursery is situated four allotments from the junction with Old Cleveland Road)

Nursery hours: 9am -1pm Tuesday to Friday. 8am to 5pm Saturday. At other times by appointment. Telephone: (07) 3390-1803.

FERTILIZERS for ORCHIDS or VIREYAS

"Man cannot live by love alone". Nor will plants survive on water and sunlight alone. In nature orchids are nourished by the bark of the trees on which they grow or humus which accumulates around their root system. Bird and animal droppings also feed plants along with minerals in dust washed off plant leaves and onto roots when it rains.

Say, for example, we have a plant which weighs 100 grams. Of that 100 grams, 90 grams will be water, the remaining 10 grams will contain other chemicals such as carbon, hydrogen, nitrogen and oxygen including around 0.76 grams of minerals. This is indeed very little. All organic materials must break down into a chemical form before plants roots can absorb them.
Plants are capable of manufacturing their own food , in the form of carbohydrates, as a result of photosynthesis. In this process light energy from the sun is converted to food energy within the plant. Carbohydrates are food for cells within the plant. Without them the plant cells will die.

Plants also require minerals for their survival. When we buy a packet of fertiliser we find an analysis on the label which shows NPK. N stands for Nitrogen, P stands for Phosphorus and K stands for Potassium (Kalium). Nitrogen produces growth in a plant, producing protein and chlorophyll. Phosphorus, known as "dynamite for living cells", is a catalyst producing root growth and flower production. Potassium, also a catalyst, produces plant hardiness, not only firming up plant growth, but also protecting the plant from extremes such as temperature and wet/dry.