

Vireyas - from Rainforest to Garden

Introducing Vireyas from the Wild, and Companion Plants

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(Slide illustrations are noted in bold type).

Good afternoon, ladies and gentlemen. I'm kicking off the sessions for this conference, and I'm going to be talking about the introduction of vireyas from the wild, and how we cope with them once we've got them into cultivation; how we can make them interesting plants to display to the public, because in the end that's exactly what it's all about. No good having a collection in pots that you think are wonderful botanic specimens if they don't grab other people and make them interested.

When you go collecting Vireyas, as with any other rhododendron, you learn very quickly that our notion of growing rhododendrons is not exactly as it is, perhaps, from the book: the woodland plant - oak trees overhead, nice lush soil - because this is the sort of environment that we're actually looking at (**ice worn summit of Mt.Kinabalu, Borneo - Dr.Sleumer photo**). It looks the most inhospitable site that you could think of for growing rhododendrons. Just rock plates, with fissures between the rocks, and amongst other ericaceae, rhododendrons are scratching a living here, 4000 plus metres above sea level. And *Rhododendron ericoides* grows there.

In Papua New Guinea, the same sort of thing occurs. (**Colonising Vireyas on a steep bank, Nigiurna, PNG**). Here rhododendrons are growing on very steep landslides, often on roadside banks, and here there's about 3 or 4 different species growing on a bank - *macgregoriae*, *dielsianum*, *herzogii* - and the young gentleman in college uniform was happily scrambling up and down the

bank collecting cuttings for us. Not an ounce of humus there, just a very thin layer of very basic soil.

(Rhododendron ridge, Mt.Gahavisuka, PNG) Again here, rhododendrons in amongst fern and scrub. A *konori*, and also lurking a *culminicolum* with a tiny red flower. When you go collecting them, half the time you can't see them, because if they haven't got flowers on they just blend in totally with whatever else is there around them.

(Lake Arunde, marginal vireyas, 3750m. Mt.Wilhelm, PNG) Up on Mt. Wilhelm, 3500 metres up and a very picturesque spot, rhododendrons occur on these little fans around the edge of the water, along with many other shrubs; and other areas around here are frost grasslands and rhododendrons do not occur here. So little pockets, isolated, where you get the plants that we were looking for.

When you're out collecting, the first thing you collect is a group of boys who are very willing to help you out, and it often becomes a game for them to carry whatever you're interested in. In New Guinea, we found it was almost embarrassing in the sense that as soon as they hitched on to what it was that you were interested in they'd gallop off and collect them for you, and come back with bunches of things. And often to our horror, whole plants which had been ripped off trees and they'd come back very eagerly saying, "This what you want?" Very difficult to explain that we were interested in the flower and if we were going to take anything we'd take either seed or very small cuttings. They couldn't understand that, why you would want a silly bit like that. So this is what our boys were doing - collecting things, and decorating themselves as they went. **(Native boys collecting vireyas on Mt. Miap, PNG, 2700m).**

The hard work starts really when you've got those things - usually cuttings; perhaps a few very small seedlings in their boxes - and on their way back to wherever you've come from. **(Unpacking collections from PNG tour in quarantine house).** This was from the first trip that I did to New Guinea and

there were something like 200 rhododendron cuttings in plastic bags, plus a few little orchids and things like that. I stress that basically we collect the smallest amount of plant material possible, so that you're not denuding what is left in the wild. In fact it is very much harder to do this now - in NZ I can not do this any longer. It's basically banned. But that's when the hard work starts. You've got to get those plants growing, and then try to establish them so that people can enjoy them.

In the early '70s, I was beginning to build up a collection at Pukeiti of the Vireya rhododendrons. They were all in pots; and our climate is a little too wet, more than anything else, to be able to grow these things properly outside. So I persuaded the board of Pukeiti to invest in a display glasshouse and we were able to obtain the funding from the Stanley Smith Horticultural Trust in the UK. We built this 40 feet by 20 feet glasshouse, and luckily enough at Pukeiti we're on volcanic soil and we have treeferns in abundance, so we were able to use the natural contours of the site; leaving a few treeferns in the patch of bush that we cleared, and literally built a roof over the top of them. And then planted in the existing soil - we're lucky that we can do that.

(Original Pukeiti Display House) And this is the first year after planting - it happened to be our 25th anniversary year. **(Original Pukeiti Display House, 1983, six years after planting)** And in a few years we had moved on, and it started to look like the jungle that they'd just come from. Which was exactly what we wanted to do with them, so that they integrated with each other, so they'd be exactly like you see them in the wild - not spaced out like specimens but growing together, along with a huge amount of other plant material. Underneath will be ferns, begonias, impatiens, all sorts of things that provide an interesting environment. And when you're looking at displaying the plants, that's the sort of thing you've got to emulate. So we learned a lot from that glasshouse, and the first thing really was that we were actually mollycoddling the plants. In the Pukeiti climate, which is reasonably mild - very much like up at Olinda except we don't get it as hot in the summer - and didn't need the heat that you would build up in a glasshouse. So when the collection grew in

excess of what we could handle in the display house, we looked at what else we could do, and where we could plant some more.

(Covered Walk development at Pukeiti in 1990 - supports disguised as tree ferns) We decided to extend from the display house a roof through the rest of the bush. It was supported on steel oil drill pipes, and it became a community project with bits of material coming from all sorts of places, and our local Rotary Club got involved in actually building it. All it is really, as I said, is a roof over the bush, and there's a concrete block wall at the back which we've covered with treefern logs, and the pipes have been covered also with half treeferns to look like tree trunks. The other side is completely open to the weather. We've used treeferns as well to hold up the terraces. So this is what this looked like in the early 1990s, just after we'd planted it. It worked very well. Twelve months later, that was the sort of growth that we'd started to achieve.

(Covered Walk 8 years later with plants growing into each other) But the important thing is that it's not just the rhododendrons themselves, but it's all this other material - the ferns, the plants that were growing on the treefern logs, which happened to be *Metrosiderus* species, climbers that are going up some of these artificial tree trunks, as they became. That's the sort of thing that became as important as the collection itself, from a 'public' point of view. It sort of gave the perception that they were in a garden which was quite natural. It's got a fibreglass roof, which transmits translucent light, which is quite good - better than actually being in a clear glass house.

The old display house continued to grow, very vigorously, but we realised that the growth in the other house was actually better, and we had more pest and disease problems, and that sort of thing in the display house. So within 10 years we took that away and continued the covered walk back over the existing plantings. Bringing it right up to date, our collection has grown to the point where we've probably got about 600 different vireyas now in our stock. And we have just built a new conservatory, funding from outside sources to

the tune of about NZ\$120,000 and this gives us another 250 square metres of covered space for additions to the collection, and it's going to be quite exciting for us to bring this on stream this year, and have it open for our jubilee year in 2001.

Not only us are doing this sort of thing. **(New Vireya collection in restored Palm House, Glasnevin BG, Dublin)** This is the Glasnevin Botanic Garden in Dublin - the wonderful old Palm House that was totally restored at huge expense, and it was converted to a new vireya and sub-tropical ericaceae house with the assistance of the RBG Edinburgh. and this was very soon, literally weeks, after it was first planted. So it's been done elsewhere in the world. I haven't been back since - this was quite a few years ago and I imagine the house is well filled by now.

Again you see that it's a landscape project. Here they're using peat walls rather than treefern logs, and a lot of stone and some water. They have mist fogs in the roof of the house, which we don't need, certainly, in the Pukeiti climate, but I'm sure it will be just as successful as those plantings in Edinburgh.

(R.commonae on tussock in Kain Swamp, PNG) Now, as I said right at the beginning, our viewpoint of where rhododendrons grow normally can be quite distorted. Who would think of growing rhododendrons right in the middle of a bog. But this swamp is literally quite a few acres of very shallow moving water, and on humps and hummocks throughout this was quite a large collection of rhododendrons, gentians, all sorts of interesting things; things that like the water. *R.commonae* is growing there. **(Bob Cherry with *R.commonae* colour forms, Kain Swamp, PNG)** And in this slide you might recognise a rather young Bob Cherry, with a bunch of *R.commonae* that we found in the swamp behind. You can see he's been "bog-trotting" up to his knees. It was interesting to collect in that area. We were followed around by pigs and all sorts of things, and lots of little children - they thought this was great fun; these strange people had come to look at their flowers. But that

would be the last sort of place that you would expect rhododendrons to grow well.

(*R.commonae* ex Kain Swamp, PNG) This is one of those rhododendrons in cultivation at Pukeiti. Growing very much happier than it was in the wild. Producing about ten times the amount of flowers than it did in those difficult conditions; and this is really what it's all about. It doesn't grow in a swampy condition; it just grows in a very free-draining acid loam, and we give them cool conditions and they're very, very happy.

(*R.christi* on log, Mt. Miap, 2800m, PNG) *R.christi* - almost always an epiphyte in the wild, growing on wet logs, or hanging off trees, or sometimes hanging off other rhododendrons. This one sits in a big mat of wet moss - quite happy and flowering well. Not easy to try to emulate, something like that, but you can do something similar. This is the large form of *christi*, the form that comes from the Wau area, and this is a perfectly happy terrestrial, but also does extremely well in a hanging basket.

(*R.superbum* as epiphyte on Laiagam/Kandep Rd. 2700m, PNG) One of the frustrating aspects of growing some of these rhododendrons is that there's a group of them with very large leaves and very large flowers that are epiphytic normally but possibly terrestrial - *konori* and *superbum* have huge flowers in the wild, but not many of them - they probably only flower once every four or five years, and then they have to regain some strength. The plants themselves might only be half a metre to a metre high and across. And possibly 40 to 50 years old. In cultivation they tend not to flower as large.

(*R.superbum* at Pukeiti Rhododendron Trust, Mt.Miap coll.) These flowers of *R.superbum* (not the same plant as shown just now) would only be half the size. They take a while to settle in and flower in cultivation, but grow quite happily as a terrestrial plant, whereas the ones in the wild were growing on *Nothofagus* trees. But for some reason or another, these ones do not produce quite such large flowers.

One of the other interesting things is having a quick look at the root systems of some of these plants in the wild. (***R.rarum* as an epiphyte showing root system, Mt.Tomba, PNG**) For instance, here is *R.rarum*, that was a pure epiphyte, growing up in a crotch in a tree. It has very little root system, which is surprising for a plant such as this but look at the thickness of the roots - almost like ligno-tubers - storage organs for moisture and for food. These plants would go without water, probably, for a month or two at a time sometimes. (***R.rarum* as a basket plant, Pukeiti**) But applying the logic of how it grew in the wild - here it is in the hanging basket - an orchid basket - growing in a fairly loose, open potting mix (not an orchid mix) and as a five-year old plant growing extremely happily. It will grow as a terrestrial we've also found, but when we first experimented with these we tried to emulate what we were seeing in the wild.

And from Borneo, from Kinabalu itself, this is *R.stenophyllum*. Again an absolutely perfect basket plant because it tends to have arching branches which will turn up at the ends, and will then display these exquisite flowers. And because of the pine needle-like leaves it's always a good talking point, so when people have it right in front of their faces in a basket, they think this is "something special". It is a plant that's a little bit susceptible to root-rot, so a good place to be is up in the air.

(***R.anagalliflorum* used as a basket display plant at Pukeiti**) And something very small. This is *anagalliflorum*, which is usually a little perching plant in a patch of moss. But a little wee orchid basket is just an ideal place to grow it, rather than perhaps on the ground, or in the ground, or even in a pot. Very easy to look after them in this way.

(***R.gracilentum*, 2800m on Mt. Kaindi, PNG**) In the wild, this is *gracilentum*, growing in long grass amongst the ferns. Not particularly significant - we would never have seen it unless it had a few flowers on. It also grows on hard clay banks, and sprawls around as a rather tight little plant. Always quite pretty when the flowers are out, but were really hard conditions for it. But the

next slide taken at Edinburgh shows just exactly what can be done if you look after the plant very well. (*R.gracilentum*, Edinburgh BG, under glass) Here growing on one of the little peat banks inside the Ericaceae House it looks just about the perfect house plant when you see it like that. And *gracilentum* - certainly with us - will produce flowers over about a six-month period, so that's a pretty good rhododendron to have in your collection.

(*R.rubineiflorum* on tree fern, Kaiap Lodge, PNG) Now to *rubineiflorum* - growing on a treefern in PNG, and I thought this was one of the most exquisite little plants that I'd ever seen. The flowers were about 50 times bigger than an individual leaf and I thought well if that grows in treeferns there, surely we could grow it on treeferns in our own collection. So a very small piece of this plant was brought back, and it has proved to be very successful in cultivation. (*R.rubineiflorum* in cultivation on tree ferns at Pukeiti) It's quite slow, forming little cushions, but at the back it's starting to do exactly what I hoped it would - growing up the treefern wall behind it. It actually disappears into the treefern fibre, and then pops out again further up the wall. So gradually now the whole wall is covered with these little *rubineiflorum* plants, and flowers probably three months of the year. In amongst it we have a few little orchids as well, so we double up on the same piece of space. So by using the plants to go with it means you can extend your season. This is a little pocket of ground in between a terrace of treefern logs.

(*R.saxifragoides* in shallow bog, 3900m Mt.Giluwe, PNG) That funny little blob in the middle of this picture is *R.saxifragoides* with seed pods on it. This is nearly 4000 metres up, on Mt.Giluwe in PNG. And this is growing in a very small glaciated bog - a little depression holding water and moss and rushes, and in that very strange and demanding environment you find *R.saxifragoides* - which is just like a saxifrage; it sits like a cushion on top of this foliage or whatever. And it's unusual in that it has a taproot, and it sends this long taproot down into the ground, where it will root into the gravel or whatever it is at the base of the little bog. We pulled off a couple of very small pieces from

the side of the plant, because it was quite obvious that many patches of these on the mountain had died out. (*R.saxifragoides* in peat bed, flowering at Pukeiti) Twelve months later, they flowered in quarantine, just growing literally in the propagation bed, which was rather cute to have those flowers, as we never saw them on the day. Unusual little flowers, in that they stand up above the foliage and they have two little horns on the top of them, up on the back of the tube. We were able to collect pollen off these, and distribute to a couple of nurserymen, one of whom was Os Blumhardt. Os has an eye for crossing good things to make even better things, and he always felt that this could be used for a range of interesting pot plant type rhododendrons. (R.'Saxon Glow' - 'Hot Tropic' x *saxifragoides*) And this is what he produced, using *saxifragoides* with another little dwarf plant of his own - this is 'Saxon Glow', and he has another one called 'Saxon Blush'. They are mounded little plants - our largest one now is only half a metre high, and they're nearly 20 years old. They absolutely cover themselves with flowers once a year, but they last for a long time. At other times of the year they can produce odd flowers. These certainly have the propensity to be used as pot plants, as we would with many other small plants, for instance primulas. They are delightful. So that was a nice thing to be able to do from an immediate introduction.

(*R.culminicolum* above Goroka valley, Mt.Gahavisuka, PNG) Up in the Botanical Park in the Goroka Valley, PNG, looming in this slide is *R.culminicolum* and the taller tree with a witch's broom in it was *R.macgregoriae*, and that was actually a tree well over four metres high - certainly the biggest one I've ever seen. But the *R.culminicolum*, even though it was a very small-flowered form going by others that we had seen, actually produced a first-class collection plant, because it absolutely smothers itself with flowers; even though they're small they present themselves nicely and the whole plant will be covered every year, it never misses. (*R.culminicolum* flowering heavily at Pukeiti) We have other *culminicolums* which don't do that. So big is not always beautiful, or the best, with some of these.

(*R.herzogii* on bank above road to Mt.Giluwe, cascading with ferns) *R.herzogii* is one of those plants that you would miss most of the time, unless it had a flower on it. It usually grows on vertical banks, in amongst pet-pet grass, treeferns, and lots of other things. Exquisite when you find them, quite wonderful scent - but not the most elegant plant. **(*R.herzogii* - pink tubed form - flowering at Pukeiti)** But in cultivation it still produces exquisite flowers - this one happens to have a pink flushed tube (most of them are pure white), very fragrant, and will produce 50 or 60 flower trusses a year. A very rewarding plant, easy to grow, and with aromatic foliage. One of the few where the foliage is very aromatic, and its hybrids all seem to have the same characteristic.

(*R.blackii* on roadside, few flowers, Laiagam/Kandep Road, 2800m PNG) One of the most ungainly plants that we ever found was *R.blackii*. We saw lots and lots in the wild, and this was the only one we ever found a flower on. It goes all over the place; a quite scruffy plant, and not one that you'd ever think was going to be much good in cultivation. **(Free flowering *R.blackii* at Pukeiti from the same introduction)** But having settled down, they are in fact extremely good and easy to grow. They're tall, and upright, but they're not too open, and we now find that they'll flower prolifically every year and we've got four different clones of *blackii*, and they all do it - even though each of them is slightly different. They've all settled down to produce interesting plants. And because they're tall and upright you can place them at the back of your collection, and grow other plants up through them. So they can be used in a different way as part of the landscape.

(*R.konori* at Laiagam, PNG) I mentioned about *superbum*, and the big flowers that you get. This is *konori* - huge scented white flowers; massive trusses. This would be about 25cm across, and quite showy in the wild. Often you'd see them 30 metres, 40 metres even, up in the tops of very tall trees. And yet the flowers are so large, they were clearly visible even up that high. And it produces nice flowers in cultivation, but not of the size or quantity that we were seeing in the wild. **(West Irian form of *R.konori* at Pukeiti, smaller**

flowers) They tend to be open-growing. You can cut them back or pinch them back, but still they are inclined to be open-growing. So look to using other plants in and amongst them. Something you can even grow through them, which will add to the scene, without these sort of standing there looking rather gaunt.

(*R.solitarium* on Mt.Kaindi, 2800m, small truss and ungainly habit) And another plant, which in the wild was extremely difficult to find any flower on, mainly because they were so tall, is *R.solitarium* which has exquisite foliage, really bullate and covered with a rusty scaling. Very attractive foliage. But the flowers were always about 5 or 6 metres up in the air, if they had any at all. There was only one time we managed to find one that you could see, that you could have any appreciation of what it might look like. **(Same *R.solitarium* at Pukeiti with excellent showy flower trusses)** But in cultivation it has actually been a delight. It takes quite a while to settle down, but who could really resist the flowers - they're scented, and you get this lovely foliage setting off the flowers. Only flowers once a year, and it is an ungainly grower, but what the heck - they're not all going to be "puddings" and we don't want them that way. Occasionally I have indulged in producing the odd hybrid. Or tried. Hard to resist. **(*R.solitarium* hybrid at Pukeiti)** This, unbelievably, is a *solitarium* hybrid, which I think is absolutely hopeless. I crossed it with 'Simbu Sunset' which is an orange and yellow, but I thought the shape, or something, might work. It had a little bit of a scent, and it has a bit of the rugose foliage which *solitarium* has. We had others which were more *solitarium* in shape, but it got pushed into the background as not being sufficiently different. But it's fun to try occasionally. And another fun thing to do is to bring back plants that no-one knows anything about, or has even seen before. **(*R.caliginis* x *vitis-idaea*, a natural hybrid)** And this is almost certainly a natural hybrid between *caliginis* and *vitis-idaea*, from Mt. Miap, PNG, because they grew close to each other in this area. All I did was think, "that's a slightly unusual looking shrub - I'll bring it back". So there growing amongst the *Metrosideros* foliage on the treefern logs is this interesting little natural hybrid.

('Starburst' a scented pink natural hybrid from PNG raised and named at Pukeiti) And perhaps this was the most exciting of all the natural hybrids that we did collect. This is a *herzogii* hybrid, possibly with *culminicolum*, and it produces these sort of shuttlecock-like flowers, which are very, very fragrant. The foliage has the same fragrance as *herzogii* does, but it's a neat, compact plant, and can produce 30 to 40 trusses each time it flowers. We call this 'Starburst', but it is a natural hybrid, from New Guinea.

The late John Womersley, who was Director of Forests in PNG many years ago, was responsible for introducing me, and many of us, to New Guinea and to the delights of the Vireya rhododendrons. (*R.womersleyi*, Mt Giluwe 3700m - rather stunted but flowering) This is the rhododendron named after him, *R.womersleyi*, growing on a treefern, in a forest grassland. It was the only plant that we saw, and having admired it, and taken lots of photographs of it, one of the local boys then whanged it off the side of the treefern. So that was the end of that. But actually he chopped a little bit of root out. So having done that I took one small piece off it as a cutting, and I think the other piece of the plant might have come back to Australia. But I'm pleased that that one piece grew, and is now about a metre high. And it's constantly in flower. It's a rather lovely reminder of John Womersley, and what he did to introduce a lot of us to Vireyas.

There's some interesting new ones around - relatively new species, which I certainly have never seen in the wild. (*R.rarilepidotum* - excellent newer species in cultivation, hybrid potential) *R.rarilepidotum* is as good as any hybrid I think - a dazzling colour, very prolific, a neat, tidy plant. It's got everything going for it. There are a number of clones around, mostly grown from seeds. Some are very much better than others, and I know that there's a particularly good one here in Australia. But that's a good one for the collection.

(*R.taxifolium* from Philippines at Edinburgh BG, rare in wild) Or we go to something like *taxifolium*, from the Philippines - a delightful little white-flowered plant, foliage just like a Yew tree. We have those flowering at Pukeiti

just at the moment. A real cutie. And it doesn't appear to be too difficult to grow.

(*R.himantodes* from Mt Kinabalu, Borneo at Pukeiti) And *himantodes* - an extraordinary little plant with gold-speckled scales on the back of every flower. So it just has a quality about it which so few other plants have. Linear leaves, almost like pine needles, a neat little plant. It's a bit tricky with its roots - possibly a bit susceptible to root-rot.

One of my favourite species is *tuba*, and it performs well with us every year. It's just finished flowering - this year it would have had 150 trusses out at once. It has now reached the roof of our house and we can't let it go any higher. As good as any hybrid in the house at any time. Wonderful fragrance, and an easy plant to grow; it's got height, fills out nicely, grows well in association with lots of other things around it.

(*R.borneense* with *Blechnum* ferns at Pukeiti) But not all are spectacular, this is *borneense*, which you'd have to just about look at with a magnifying glass to see. Flowers only about 2cm long, and they're almost translucent. But that's part of collecting rhododendrons like this, you've got to have some of the different things. And it's always nice to be able to point to out to people, "look at that" - even if they can't see it for a while. And it's got a nice history. That was collected by one of our friends in New Zealand, and I know what it's like when you've got to clamber through the mountains and collect these things, and get them back, and hope that somebody's going to be able to grow them for you. There's a huge amount of work and effort goes into it. And Keith Adams, who collected this, was just as excited to have this as some of the bigger things that he has done in the past.

(Good form of *R.retivenium* at Pukeiti with large scented flowers, an open grower) *R.retivenium*, I think, is the best yellow that we have in cultivation. (I haven't flowered *lowii* yet, but this seems to be much more amenable). We have two forms - this one is the large-flowered and large-foliaged form. Got a

great scent for a yellow - I think it's a superb rhododendron generally. Comes from Borneo, and I always felt that this is one plant that should be hybridised, to try to increase the size of the yellow in them, and perhaps to get a really full truss. Well my friend Os Blumhardt has always ahead of me, and he crossed it with *macgregoriae* and produced '**Yellow Ball**', and it's getting very close to that, if you like, a perfect round truss. There's a lot of flowers in that. They are scented, and an exquisite colour. The only thing it doesn't have going for it is a good habit, but never mind, you can't have everything.

(R.'Fairy Dancer' (*macgregoriae* x *rubineiflorum*) dainty free-flowering NZ hybrid) a small *rubineiflorum* hybrid. This shows it growing amongst a lot of small plants, including Pleione orchids to set it off.

I put this in for nostalgia, because this is '**Simbu Sunset**' - the first rhododendron I ever named. I didn't raise it, it was raised by Tom Lelliott. We had a lot of his seed arrive in New Zealand. This, to me, was the best of the seedlings we had, and it was planted at the entrance to our first Vireya House, and I think it sold more Vireyas than any other plant that we've ever grown - because it was there to hit you in the eye as you came in the door. This great plant is still there, 28 years after we originally planted it.

We've got a few hybrids of our own that are coming along. Some are deliberate crosses, some not. This is '**Fireflash**' which is a *konori* x 'Simbu Sunset' cross - red/cream, scented. This is an unnamed one, which is '**Gilded Sunrise**' x *konori* - apricot peach, very nicely scented, and this truss was 28cm across - flowered last year for the first time. We'll evaluate it a bit more, but everybody who saw it went "wow", and thought "we've got to have that". And '**Bold Janus**' x *baenitzianum* - one that we didn't do. Bright, upright, sort of angular-growing plant; one that we'll stick in the back somewhere, but an exciting deep reddish orange colour.

This is '**Popcorn**', another one of Os Blumhardt's. Cross between *macgregoriae* and *loranthiflorum*. A really good white, but notice the plants

that are growing with it - a blue hosta and soft lime-green hostas. I think hostas associate very well with vireyas, and if you can use them as part of a collection, why not?

One of Os Blumhardt's *anagalliflorum* hybrids, crossed with *macgregoriae*: **'Silver Thimbles'**. This plant is never without flower; it's a twelve months of the year job; forms a slightly sprawly cushion and is great value for putting in front of other rhododendrons and letting it go in under other plants.

When we were first getting into Vireyas, we knew all about growing them in logs, and good drainage. Quite a few started their lives off in the tops of treeferns, which had just been cut off. **(R.'Dr Herman Sleumer' at Pukeiti, planted in a treefern pot for extra drainage)** This is 'Dr Sleumer' and we planted this into the covered walk some years later. **(Same plant 10 years later, pot half plunged into the ground)** The same plant, still in the same pot, half in the ground and half out. And it's now about two metres in diameter, and loving it.

This is taken outside the window of the hospital room that I happened to be in recently in New Plymouth. Right out in the open, near the sea, this is **'Tropic Glow'**. And I couldn't think of a better plant to brighten up the scene outside the hospital. So there's a good amenity plant if you've got the right conditions - Vireya rhododendrons in the gardens of the hospital.

Just to extend the plant association thing, with other plants. Here's a yellow, **'Gilded Sunrise'**, with Pleione orchids and primulas. All spring-flowering; all like the spring conditions. **(Pleione formosana with vireyas and ferns at Pukeiti)** One of the original plantings I did of Pleiones, amongst treefern logs and various ferns, and the rhododendrons. *Primula malacoides* is just so easy to grow amongst them. If you're not allergic to the primulas then a great little plant to have wandering around amongst your rhododendrons. Hydrangeas are probably not something that you'd think of, but here they are in the background of part of our Vireya House, and the blue is rather a nice foil to

the hot orange of **'Brightly'** and again hostas used as foreground ground-cover plants. Also helps keep the roots cool.

R.stenophyllum again - this one's terrestrial. Growing with small flowered pink begonias and ferns. As I said before, in New Guinea you see begonias as a ground cover naturally amongst them. So here we've applied that, using a cultivated begonia, but it works extremely successfully. And *R.pauciflorum* from Malaysia, with the foliage of *Blechnum fluviatile* ferns, and the straplike leaves of Billbergia which flower in the summer.

Dwarf hostas, for dwarf vireyas - *Hosta venusta* is only about 20cm high, easy to be slotted in amongst some of the real dwarfs.

Terrestrial orchids are lovely plants to associate with Vireyas. *Calanthe sieboldii*, the yellow Japanese ground orchid in early summer. (*Cyrtopodium flavum*) Cyrtopodiums, if you can get hold of them - this is *flavum* from China. (*Cyrtopodium pubescens* with blue *Corydalis*) And *pubescens* - great plants, if you can get them to spread and mass especially. And an Australian one - *Dendrobium falciforme* which grows very happily on treeferns.

(*Libertia* - white summer flowers) The New Zealand irises: *Libertia* - there's also South American ones. They give you a grassy foliage, which can be allowed to grow up amongst the Vireyas, and a mist of white through late spring and early summer.

(*Arisaema sikkokianum*, spectacular early spring aroid) I happen to love Arisaemas; I think they're wonderful plants to associate underneath. This is *sikkokianum*, flowering right now, nice and early, then *Arisaema stewardsoniana* - this flowers in mid-summer.

Lilium auratum gives a late summer bold display and heady fragrance, and *Lilium michiganense* is a tall and slender red.

Nomocharis aperta, soft pink saucers in summer. There's a clone called 'Flossy' but it's autumn-flowering. Something to give the collection a bit of a lift then, even though there are still Vireyas flowering then, and you have the fragrance.

Lilium mackliniae, a delicate pink early summer lily - we find these particularly difficult outside in our wet climate, but given cover they will grow to 2 metres high and come up through the Vireyas.

Nomocharis aperta, soft pink saucers in summer, another plant that can associate extremely well of conditions are just right. This slide I took in China last year was of one called *forrestii*, beautiful thing - we saw thousands growing through the brush.

(Yellow Clivia) Clivias are good, in the shade. A lot of different forms around now. Yellows, some good reds. But push them back into the darker areas, and get winter colour coming through.

This is *Luzuriaga radicans* - a strange little plant from S.America. It produces tiny little white flowers; they're also like tiny urns, like a Pieris flower, and then orange fruit. It loves to climb - treeferns or rough-barked logs. And you get the flowers and the fruit almost the entire year round. A quiet little creeper.

(*Agapetes odontocera*) And some of the Agapetes are very exciting. This is taken in Edinburgh but there are many different species of them. All are suitable because they like the same conditions - semi-epiphytes, or terrestrial, and can produce quite bizarre flowers at different times of the year. And you have some of your own species in Australia.

(*Aechmea racinae* - bromeliad) And the bromeliads. There's no reason why you can't use bromeliads on treeferns, again giving colour at different times of the year, and to give different form and shape.

(*Dimorphanthera collinsii*) *Dimorphantheras* are climbing types of ericaceous plants - very waxy flowers, produced usually in the wintertime in cultivation I find. Ranga sort of things, they grow up to 5, 6 or 8 metres, and you can hang them down from the roof of a structure. Same conditions. There are a lot of different species. Not common in cultivation, but we have found they grow just as easily as the Vireyas in that sort of climate. So if you can get hold of them, they're well worth a try.

And to finish, *Tecomanthe montana*, which came into NZ from one seedpod that I brought back from New Guinea. It's quite a slow, small climber, producing exquisite pink bell flowers, and we happen to have it growing through a pink *R.culminicolum* and they flower together, and they really are an outstanding sight.

So there we are - don't just think Vireyas; think the broad spectrum; think what you can do with them, so that the public will then be grabbed by them, and you've got some more converts, and enjoy them.

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