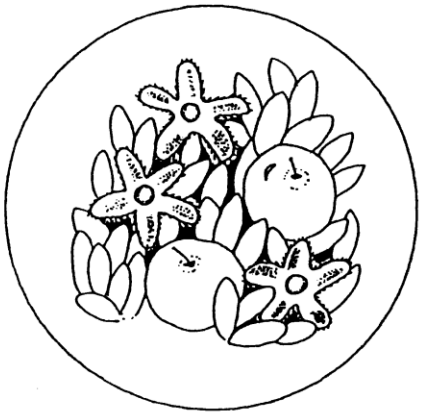
PENTACHONDRA

NEWSLETTER OF THE AUSTRALASIAN PLANT SOCIETY



ISSUE 27 DECEMBER 2001

AUSTRALASIAN PLANT SOCIETY

Newsletter No. 27
December 2001

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NEWS & INFORMATION CLIPBOARD

MEMBERSHIP ANNUAL SUBSCRIPTIONS

Single member	£6 00
Household	£9 00
Overseas	£9 00

All subscriptions are due on January 1st. Please make cheque payable to Australasian Plant Society and send to Tony Entwistle, 'Ophrys', 113 Station Road, Delamere, Northwich, Cheshire, CW8 2HZ

All members are reminded that unless they pay by Standing Order, subscriptions for 2002 are due on January 1st 2002. Please note that the subscription for overseas members has increased for 2002 - this is due to rising postal charges (see inside back cover for more information). Members who do not pay by direct debit are reminded that if payment is not received by the end of March, membership will be deemed to have terminated. No further reminders will be issued.

YOUR SOCIETY NEEDS YOU!

Because your secretary and treasurer are getting on (their words, not mine, Ed) it has been decided that the Society needs to appoint Deputy/Assistant officers so that they can learn the ropes alongside the existing committee members. If you are at all interested, please contact Jeff. Remember - without a secretary and treasurer, we may not continue to exist.

THANK YOU

Thank you to all those members, and especially Jeff, who have sent in articles and snippets of news. Apologies for not contacting you on receipt of your article - lack of time again! Deadline for the May 2002 issue is March 16th. Articles can be sent on disk. Acceptable formats are Microsoft Word, RFT and TXT. Please send to Sue Hyams (address on inside of back cover).

FOR SALE

A selection of books for sale, which will appeal to the grower of the unusual, tender or exotic. Many published in Australia, NZ, South Africa, India etc, plus some other books to try to find out more about that obscure plant. List from Keith Larkin, either by E-Mail Keith.Larkin@Virgin.Net, phone 0116 275 2386 or write 35 Attfield Drive, Whetstone, Leicester, LE8 6ND. Benefit from my misspent time in second hand bookshops!

AUSSIE INFO PACKS

There are still some copies of the 2001 edition (revised to August this year) available at £5 which includes p&p. Apply to the Treasurer. See back cover for address.

Minutes of the Annual General Meeting
Held at Meon Orchard, Hants on Saturday 18th June 2001
12 members attended

- Minutes of last meeting: Since a quorum had not been present there were no minutes.

- Secretary's report: The two items of note were the introduction of the society's website, and the publication of the secretary's article in 'The Garden'. The latter had resulted in several new members.

- Treasurer's report: The society is in a sound financial position. Present membership is just below 200. There has been considerable interest in the new Aussie info-pack.

- Seed secretary's report: Over 1000 packets of seed were sent out this year. There is increasingly reliance on purchased seed.

- Election of officers: The Secretary, Treasurer, and Newsletter Editor were re-elected unopposed.

- Matters arising:

  - 1. Agreed: to try to appoint Deputy/Assistant officers, so that they can gain experience before taking over. (see Page One of newsletter.)
  - 2. Agreed: because of increased postage charges, subscription for overseas members to be increased to £9 per annum.
  - 3. Agreed: provision of free seeds for overseas members to be maintained for the time being.
  - 4. Suggested: website to include illustrations of plants grown in Britain, with brief cultivation notes.
  - 5. Agreed: application form to be on website.
  - 6. Agreed: search to be made for cheaper seed envelopes.
  - 7. Agreed: President to replace Chairman. Peter Thompson to be approached as possible holder
  - 8. 2002 meeting to be at Sheffield B.G. If possible. No other suggestions made.

NORTHERN MEETING July 8th Report written by Tony Entwistle

Members enjoyed the hospitality of Greg Plenty at his fascinating hillside garden at South Barn, Batley. Both before and after an excellent buffet lunch provided by Mrs Plenty, members had a leisurely tour of the garden, and there was the usual exchange of plants. I - and most members - were surprised at the variety of Australasian plants e.g. Hakeas, Olearias, Callistemons and even a large Dicksonia which were thriving, and had survived the past winter relatively unharmed, in what one would surmise would be a very cold garden. In all, a most enjoyable day, for which we are very grateful to Greg.

CABBAGE TREES

By Jeff Irons

Not usually a viewer of television programmes, I watched one of the 'Flying Gardener' series. Because the blurb about it in the Radio Times had declared that it would deal with southern hemisphere plants I thought that it might be interesting. The programme was a mine of mis-information. We were told that phormiums come from South Africa! The real gem occurred when the presenter, having told us that cordylines are called Cabbage Palms tried to eat the base of a mature *Cordyline* leaf, and pronounced it to be "disgusting". That was not surprising, for Cabbage Palms are species of *Livistona*. They actually are palms (cordylines are in the lily family) and the one eaten by aboriginals was the Central Australian *L. mariae*. It grows near Palm Springs The aboriginals used to eat the young flower shoots and the bases of young leaves.

After the programme I looked to see what Laing and Blackwell had to say about Cabbage Trees (my underlining). Their anecdote is reprinted below

This is allied to the celebrated Ti (*Cordyline termmalis)* of the South Sea Islands, which formed an important part of the food of the Polynesians (Ed. This is now *C. fruticosa)*. The prepared roots were eaten, and from them an intoxicating drink was also obtained. The leaves are eaten by cattle. They are also used in thatching, and a rough kind of cloth is woven from the fibres. The genus is found over the greater part of the tropical old world, but chiefly in New Zealand, Australia and the islands of the Pacific. There are several interesting species found in New Zealand - some tall and palm like - others stemless, sending up their long narrow leaves straight from the crown of the plant just above the soil

The cabbage-tree forms one of the most striking objects of the New Zealand bush scenery. Its inappropriate name is said to have been given by the early settlers, who used the young and tender heads in place of cabbage. Palm Lily, however, is a better term. The long bare stems, with their bushy heads of grass like leaves, cannot be confounded with those of any other tree, and give to the landscape a strangely tropical appearance. It is one of the largest of the liliaceous plants. Colenso states that he once saw a specimen, the trunk of which was sufficiently large to be used as a storeroom. A Maori had fitted a door into the trunk, and kept his tools and baskets within it, though the tree was still living. These plants appear to be wonderfully tenacious of life, - indeed it seems almost impossible to kill them. A number of trees were once cut down and thrown over a fence on to the shingly beach of a creek. For eight months they lay there, one fortnight rolling up and down in the salt tide, the next baking high and dry in the sun. At last an exceptionally high tide lifted them back again over the fence into the paddock. As soon as they found themselves upon soil once more, they sent out rootlets, and shortly afterwards were seen to be budding vigorously

A gum-digger in the north, made his chimney of cabbage-tree stems, digging a trench, and setting the trunks side by side. There were then nailed together, and for some months a fire was kept alight continuously, - until the stems were burned through, and only parts of the outside

bark left. The man then left the place, and within a short time that which had been a blackened chimney, became a mass of living green. Even a dry chip, flying from the axe, will if it falls into a damp place, root and bud. The fibre of the leaves is perhaps stronger than that of the flax (*Phormium*), and is much used by the settlers in place of twine. The leaves are well adapted for the making of paper.

The flowers of the various kinds are all white or cream coloured, and give out a strong, sweet scent. They are much visited by bees. The fruit is not capsular, as is usual among the Liliaceae, but succulent, and contains a number of angular black seeds.

The cabbage-tree resembles most of its tribe in bearing a huge rhizome in place of a tap- or fibrous root. This rhizome, when the plant is dead, rots away in the ground and leaves a narrow round hole, sometimes eight feet in depth. Ferns and small plants grow over the hole, and an unwary rider may be easily thrown if his horse catches his foot in it. The decaying leaves of the cabbage-tree are often phosphorescent at night. Pigeons feed upon the milky-white berries. It is found in both islands, and flowers in November and December.

Ref: Plants of New Zealand, Laing and Blackwell, 1907.

The cordylines familiar in southern and western British gardens are usually *C. australis* or *C. indivisa*. In the case of the latter species indivisa means 'rarely branched', for mature plants do have a few branches at the top of their trunks. *Australis* is the more cold tolerant and has the more strongly scented flowers, but *indivisa* has wider leaves, whiter flowers and makes a better garden plant.

SAVING SEED FOR FUTURE GENERATIONS

Jeff Layman sent me a snippet from his local paper, the West Sussex County Times, entitled 'Rare seeds saved from extinction'. This is a reference to the hundreds of thousands of Western Australia's plant seeds that are being sent to Kew's Millennium Seed Bank as insurance against extinction in the wild. 75% of plant species found in the south-western area of WA are found nowhere else in the world, but unfortunately this part of the State has the highest concentration of threatened species. They include *Regelia megacephala* restricted to the Noondine Chert hills around Moora and Watheroo, *Darwinia* species from the peaks of the Stirling Range National Park, as well as the small paperbarks (*Melaleuca dempta, M. fisurata* and *M. viminea* subsp. *appressa*) which border naturally saline lake systems and as a result are threatened with waterlogging and rising salt levels.

This is a ten year collaborative partnership between the MSBP (Millennium Seed Bank Project) and CALM (Department of Conservation and Land Management). Duplicate storage of seed from conservation species in both Western Australia and the UK will help to prevent natural and human-induced catastrophes eliminating seed stocks.

THE SOUTHERN HEMISPHERE IN THE FAR NORTH

Hugh Barr's Garden at Beauhill, Beacon Edge, Penrith, Cumbria

By Tim Longville

Article Written Autumn/Winter 2000

Stand by for several disturbances of convention. Most *Pentachondra* contributors write about their own gardens and their own plants: this time I'm writing about someone else's. Most *Pentachondra* articles deal with plants from Australia: this time the majority will be from New Zealand. Most *Pentachondra* articles concentrate on fairly large shrubs which boldly announce their 'other-world-liness' by some dramatic oddity of flower or foliage: this piece will mostly be concerned with small plants, many of them herbaceous or sub-shrubby, and most of them plants whose virtues are quietly decorous rather than extravagant OTT.

Dr Hugh Barr and his wife Margaret have been at Beauhill since 1953, though in the beginning they lived in half of the larger house further down the hill, and for a good many years, with a family to raise and Hugh in practice as a local G.P., they had relatively little time for gardening. In many ways, it might have seemed an unpromising situation anyway, certainly for anyone wanting to grow plants from the Southern Hemisphere. Beauhill is part of the Victorian expansion of the North Cumbrian market town of Penrith, an expansion which saw an advance army of substantial sandstone villas edge upwards onto the flanks of Beacon Edge, the long arching hill in the shelter of which the original settlement had crouched. Seven hundred feet up, miles from the sea, only forty miles from the Scottish border, and completely exposed to winds from the south, east and west: hardly the 'dream specification' for a gardener with a keen interest in Australasians. Yet Beauhill also has two great natural advantages: it faces almost due south, so gets most of what little heat the Cumbrian climate can provide, and its steep slope means that both water and cold tend to drain away quickly down the hill. Over the years Hugh has built up a third (and very necessary) help to a gardener in this situation: what was originally open hillside is now thickly planted with a considerable array of substantial trees, attractive in themselves and providing vital shelter against cutting winds.

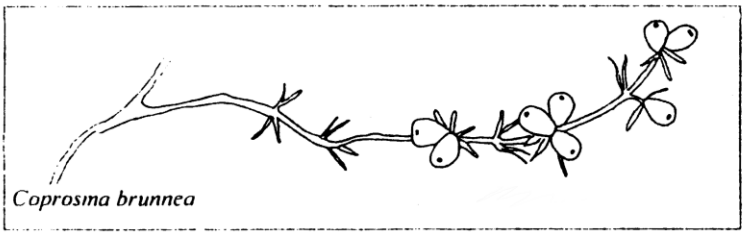
(Within the garden, many of the specimen trees now have New Zealand clematis scrambling through them: *C. indivisa* (previously *C. paniculata*), *C. petriei*, *C. marata*, and so on. Meanwhile, dwarf alpine clematis such as *C. marmoraria* disport themselves in troughs, though *C. afoliata* grew too vigorously and had to be removed and, sadly, *C.* x *cartmanii* 'Joe' didn't take to conditions outside and is now overwintered under glass.)

The steepness of the slope and the thickness of the tree-planting has produced a garden of continually changing levels and little sheltered nooks and corners, each with its own micro-climate, some sunny, some shady, some with rich moist soil, others with soil which is poor and stony - and some with virtually no soil at all, merely naked rock, in whose cracks and crevices suitable plants somehow find a toe-hold out of which to flourish. The different levels are linked by winding paths and, often, by narrow and precipitous flights of stone steps, unnervingly greasy after rain. 'I always tell Margaret she'll find me at the foot of one of these

one day,' Hugh threw encouragingly over his shoulder as I edged along gingerly in his wake!

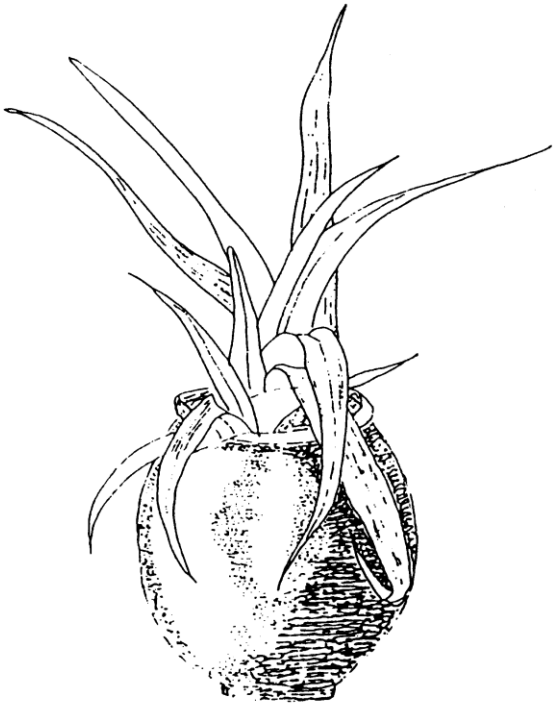
Although Hugh Barr does grow a surprising range of the larger and showier Australasian trees and shrubs, even if he's sensibly chosen the hardier species in each genus - so Beauhill has good examples of hoheria, eucryphia, callistemon, grevillea, clianthus, corokia, leptospermum, olearia (including a fine specimen of *O. ilicifolia)* and one of the best *Pittosporum* 'Tom Thumb' I've ever seen, a four-foot-high-and-wide perfectly shaped mound against a protective south-facing wall, while a *Dicksonia antarctica*, at present under glass for the winter, will make its debut in the ground next spring -, the garden's main focus is undoubtedly on plants which are either smaller or quieter or, most often both. (One notable exception - no real gardener is completely consistent! - is the garden's fine array of phormiums: both some huge and imposing seed-grown specimens of ordinary *P. tenax* and numerous colourful cultivars, carefully integrated, though, into the general garden-scene. The cultivars include a fine clump of the unusual *P. t.* 'Veitchii' (which *The Plant Finder* I see now wants us to call 'Veitchianum').)

Among the quieter and smaller shrubs in which Hugh Barr takes particular pleasure are the coprosmas and what used to be hymenanthera and are now melicytus, the attractions of both of which genera lie largely in their berries. He grows both *Melicytus alpinus* and *M. crassifolius* and remembers seeing them growing on the floors of New Zealand forests where the air was thick with clouds of pollen, presumably from the melicytus at floor-level.


Coprosma brunnea

Among the coprosmas, the tiniest is perhaps the low bun or mat of *C. petriei* but the one Hugh was most pleased with when I last visited the garden on a cold, raw day in November was the virtually prostrate *C. brunnea*, in berry for the first time. 'At last!' said the proud owner in wry mock-triumph. The berries are indeed charming and worth celebrating: they're carried profusely and are a shiny blue but *so* shiny that they look almost silver. *C. propinqua*, grown from seed from Joe Cartman, has bee planted in clumps down the drive but hasn't yet berried. The selection should include yellow-, red- and white-berried forms and Hugh's just hoping that he's struck lucky and included both males and females of each colour!

There are other interesting small Australasian shrubs in the garden, ones grown as much for their foliage as their flowers. I was particularly taken, for example, with the dense rounded three-foot bun of *Brachyglottis spedenii*, even without its summer sprinkling of yellow daisies. Hugh has found *Pachystegia insignis* (now, says *The Plant Finder*, once again *Olearia insignis*) reluctant to accept his cold winters (so his remaining small plant is being sent off to try its luck further south, with a friend who gardens at sea-level in Arnside on the shores of Morecambe Bay: where it should do well, if its flourishing condition in my garden by the Solway Firth is any guide). *P. insignis minor*, however, which I'd never seen before, is doing well at Beauhill and, though not



Astelia nivicola

Astelia nivicola - leaves can vary in colour from bronzy green to silvery. Tufts of leaves spread out from the base, giving the plant an open appearance. Leaves can be upto 30cm long and 2cm wide, and are strongly keeled. Upper surface has a thin covering of silvery to brownish scales; undersurface has a buff-white felted indumentum.

as immediately attention-grabbing as its bigger (presumably more lowland?) brother, is a handsome plant in its own right and well worth growing: smaller in leaf and overall bulk and without the striking white leaf-reverse but, despite its small scale, giving just the same effect of slightly sombre dignity and weight. Hugh also grows what he has as *Pachystegia rufa*, with, as the name would suggest, beautifully brown-felted reverses to its leaves.

It looked a most desirable plant but *The Plant Finder* lists no *Olearia rufus* and no longer accepts *Pachystegia* as a separate genus. Does anyone know the present taxonomical whereabouts of this creature? Can anyone add any details about its places of origin or, even more usefully, any details about sources of specimens or seed? (When he read a draft of this piece, Hugh added a note to say that the latest NZ Alpine Society seed list included both *P. insignis x rufa* and *P. insignis x* Brown Leaf but he can find no other reference to *P. rufa*.) Finally, at the lowest level, as far as shrubs with interesting foliage are concerned, are the alpine hebes, of whose tight little buns Beauhill offers many quirky examples: *H. buchananii*, for instance, and the not-often-seen *H. haastii*.

Beauhill also has many plants with fine year-round foliage which are not shrubs. Among the largest are the astelias and dianellas. *D. tasmanica* and *Aa. fragrans, nivicola* and *nervosa* all do well here in rich moist soil in semi-shade. Seedlings of the last were among the box of delights which was ushered into my car before I left. Some, at least, I've promised to try growing as semi-epiphytes in the crooks of suitable trees, in imitation of what I'm told is their habit in the wild. Has any member had experience of growing *A. nervosa* like this? Hugh also pointed out a bought-in plant of *A. nivicola* 'Red Gem' which wasn't in fact red at all but almost silvery.

Attractive, yes. Different from the type, yes. Living up to its label, no. Do any members grow this plant and, if so, have they also found it 'not true to name'? According to *The Plant Finder*, only Gary Dunlop at Ballrogan in Co. Down and Paul Barney at Edulis in Berkshire offer it. Is the variation in colour caused by nurserymen (not Gary, I'm sure!) Offering seed-grown plants under the cultivar name? And does anyone have any experience of the other red forms both Hugh and I remember having heard mentioned as being grown in New Zealand?

Libertias do a similar job on a slightly smaller scale and with a slightly stiffer effect: *Ll. peregrinans, ixioides* and, a recent and as yet unflowered acquisition from Michael Wickenden at Cally Gardens, *L. caerulescens.*

Substantially stiffer, in most cases, than that of the libertias, and sometimes almost as large - and certainly, though in a very different way, as imposing - as that of the dianellas and astelias, is the foliage of Beauhill's fascinating collection of aciphyllas. These have virtually all been grown from seed, and most of the seed (like that which has produced many other plants here) has come direct from New Zealand: from the NZ AGS, from botanic gardens, and from collectors such as Steve Newall. Among the first plants Hugh pointed out to me as we left the house (by the 'front' door which, idiosyncratically, happens to be at the back!) were *Aciphylla glaucescens* and *A. pinnatifida.* He pointed them out with some glee, since both defy the textbooks by self-seeding here with gay abandon. A fascinatingly un-aciphylla-like species was *A. diefenbachii* from Tasmania with particularly elegant and finely cut foliage - but foliage which is soft and pliable rather than stiff and spiky. At least, Hugh thinks it should now be *Aciphylla d.* Previously, it was *Coxella d.* and *The Plant Finder* still lists it under that name. At the moment, it seems to be available only from Michael Wickenden at Cally Gardens. And, to close the list of aciphylla heavyweights, an exceptionally architectural member of an altogether architectural genus is the eye-catching *A. subflabellata*, with narrow, spear-like leaves.



Aciphylla pinnatifida

The stars of the aciphylla show at Beauhill, though - at least to me, perhaps because I hadn't seen them before - were the dwarf alpine species. As far as I was concerned, it was very much a matter of 'Once seen, never forgotten.' I'd describe this group as the Lakeland Terriers of the plant world: tiny, yes, but with big personalities - and very sharp teeth. 'I'm very fond of these little ones,' said Hugh, 'and though I'm not much of a show-er of plants myself, they do make very good show-plants of course.' None of the quartet I particularly noted seems to be available commercially at the moment in the U.K.: *A. dobsonii* hasn't been listed in *The Plant Finder* since 1999 (Hugh remembers seeing its tight little hedgehog shapes dotting New Zealand mountain slopes at around 6000ft), *A. crosby-smithii* not since 1997, and *A. spedenii* and *A. congesta* (which is, indeed, just that) appear never to have been available through British nurseries. If you want to grow these dwarf aciphyllas, you'll presumably have to join the NZ AGS and grow them from seed. Quite right, too!

(Biographical questions, for anyone but particularly, perhaps, for Jeff. First, who was the Mr Speden - I presume? - commemorated in the names of so many New Zealand species? And, then, who was the similarly commemorated Mr Crosby-Smith? I remember being very interested in an attractive *Olearia crosby-smith* at Logan, though that, too, doesn't seem ever to have found its way into the British nursery trade.)

As we get closer to ground level, there are also plants here which combine fine foliage with fine flowers, though the foliage in the first two cases is lushly bold rather than spiky or bun-ny. It's one more indication of Hugh Barr's considerable skill both as propagator and cultivator that *Ranunculus lyallii* and *Myosotidium hortensia* are to be found seven hundred feet up on this wind-blasted inland hillside in the far north. The secret, he says, lies in rich soil combined with perfect drainage. (Both have rotted away in the past in my own much milder seaside garden. I now have a Beauhill *R. lyallii* seedling with which to try again - with Hugh's mantra of 'Drainage, drainage, drainage,' ringing in my ears....) He confesses that even he doesn't find them easy in his conditions. So far he's just about managed to keep the next generation coming on as the previous generation expires. Another genus for both foliage and flower which I hadn't encountered before but which is well represented at Beauhill is the genus *Anisotome*, a member of the family Apiaceae. Some species look quite opulently succulent, others frivolously feathery. *A. pilifera*, for instance, has quite fleshy 'bulky' foliage, whereas in other species the finely cut carrot-like foliage reinforces the relationship-clue which all the species provide in their carrot-like flowers.

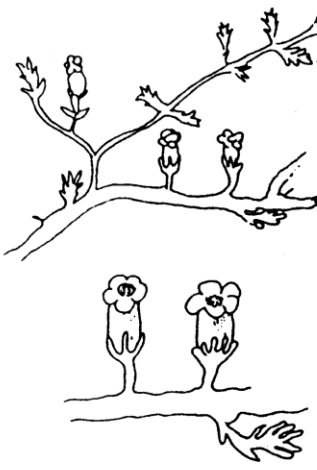
At the lowest level are the most miniature foliage plants and those plants whose fleeting small-scale attractions lie almost entirely in their flowers.

Among the former are the uncinias, such as *U. rubra* and *U. egmontiana*, with dramatic, thin, spiky, red foliage (so happy here that it self-seeds, though since uncinia seeds each have a grappling hook with which to attach themselves to anything suitable, that isn't pehaps altogether miraculous), and the mat-forming raoulias such as *Rr. haastii, australis* and *hectorii*. Hugh doesn't find the mat-forming members of this genus too difficult outside, given gritty, well-drained conditions, but the real buns (such as *R. buchananii, R. x logani* and *R. eximia* - the last 'very sickly-looking', said Hugh critically) can only be persuaded to survive if grown in

troughs which are covered during winter.

And then there are the pretty little flowering toys. Among the myosotis, for instance, though they're often difficult in cultivation, brown-flowered *M. macrantha* does well here and white-flowered *M. rakiura* does even better - to the extent of self-seeding. Moist shady nooks are often lit up by flowers of *Diplarrhena moraea*, while the white ones of *Montia australasica* (now *Neopraxis a.*, says *The Plant Finder*) can be found on a sunny well-drained slope.

The grasses and their relatives are so prominent at Beauhill, they deserve a paragraph to themselves. Carex species such as *C. secta*, *C. dipsacea* and *C. buchananii*, as well as spontaneously occurring hybrids from them, pop up here and there to add an elegant flourish and provide a little extra wind-resistant shelter at fairly low level. Perhaps the most remarkable grasses here, though, are the New Zealand Grass Trees, the species *Dracophyllum*, such as *D. milliganii* and the dwarf *D. pronum*. Another species Hugh very much wants to try is *D. menziesii*, with leaves which, he says, 'colour up with red tinges.' Not even the genus occurs in *The Plant Finder*, but what remarkable plants and why aren't we all growing them? At Beauhill specimens of *D. milliganii* have made real trunks to around three feet, topped by a ferocious-looking rosette of broad, stiff, spiky leaves. The effect of a well-placed group is simultaneously bizarre and dramatic. I don't remember previously having seen actual plants of the genus but was taken with them I've done a little investigation since. New Zealand friends tell me that there are several other species which might be feasible in suitable U.K. gardens. The one they recommended most vigorously was *D. latifolium*, which is particularly big - and particularly red! I haven't yet found a seed source for that one but the seed firm Tasmanian Wildseeds hope to be offering several Dracophyllum species in their next catalogue.



Dracophyllum pronum

A prostrate or trailing shrub upto 50cm tall. Small scented flowers occur singly at the tips of stiff branches, which are covered in rough grey bark.

And, finally, the garden's Australasian bill-toppers, its remarkable collection of celmisia species - and, as Hugh Barr would be the first to add, of naturally occurring hybrids. 'They're very promiscuous,' he says with emphatic - is it approval or *dis*approval?! I'm not sure. But promiscuous they certainly are. As he walks past his celmisias, Hugh's conversation is peppered with phrases such as, 'That's supposed to be but really....,' or 'X says that's Y but in fact....' where each time the end of the sentence is 'Its a hybrid'. To which I should add, first, that he very often immediately adds the proviso, 'A very nice plant, all the same,' and, second, that being a good Scot, he isn't prone to exaggerated enthusiasm: 'A very nice

plant' is about his highest form of praise. One of his asides in this context is worth recording: 'People do so like to have names. I sometimes think they care more about the names than they do about the plants.'

His interest in celmisias began with a visit he and Margaret paid to Jack Drake many years ago. 'A very nice man,' says Hugh. 'Very welcoming, very interested in his plants, always willing to show you his garden as well as his nursery-stock.' Some of Hugh's own plants, indeed, originally came from Jack Drake, though many more have subsequently been grown from seed from New Zealand. If, like me, you've struggled with some celmisia species (and failed entirely with others), Hugh's recipe for successful cultivation is by and large very much the one he employs for *Ranunculus lyallii* and *Myosotidium hortensia*: rich soil and maximum drainage, with in this case the addition of plenty of light and sun - and shelter (often provided by clumps of carex) from damaging winds.

What follows doesn't pretend to be a complete roll-call of species present in the garden and it doesn't pretend to be anything more than an unstructured list - one which accurately reflects a dazzling array of different foliage-forms and growth-habits, a rat-ta-tat bombardment of names, and the effects of wind, rain and cold both on note-taker and on pen and notebook.

Let's start with some which came from Jack Drake (and with some of Hugh's doubts about them). His *Celmisia asteliifolia* is a handsome plant but Hugh wonders whether what he has is the real species or, yes, you've guessed, a hybrid. What Jack used to call *C. spectabilis argentea* was also, Hugh thinks, yet another hybrid. Indeed, Hugh himself has a whole range of *C. spectabilis* hybrids, including forms with thin leaves, broad leaves, short leaves, long leaves....As he says, 'You can sow seed from a single plant and come up with halfa dozen quite different looking seedlings.' *C. rutlandii*, grown from seed from the NZ AGS, is a fine species of some size which doesn't figure in *The Plant Finder*, while a supposed *C. longifolia* was one of the many to which Hugh applied his refrain, 'It's a nice plant but I doubt whether it's really the species.' Even when you get seed from the wild and from a reliable collector, you can't be sure that what the seed produces will be the 'true' species - an unfortunate fact which Hugh demonstrated by telling a story. He grew *C. macmahonii* var. *macmahonii* (neither species nor sub-species is in *The Plant Finder*) from seed collected by Steve Newall. Yet when Steve was in the U.K. a couple of years ago and visited Beauhill, he took one look at the resulting plant and said, '*That's* not *C. macmahonii* var. *macmahonii*!' *C. angustifolia* is an attractive sub-shubby species, which usually has green leaves; but there's an even finer form with silver leaves which is sometimes known as 'Edrom', after what was once Jim Jermyn's nursery in Berwickshire, though it isn't a name *The Plant Finder* recognises. If these sub-shrubby species become bare and 'leggy', by the way, Hugh has a ruthless way of treating them: they're simply buried more deeply, which has the bonus effect of encouraging them to root as they go! *C. hectorii* is another which is treated in the same way. *C. dallii*, too, is a clump- forming species but a very slow-growing one and at Beauhill it is still quite small. *C. traversii* is a species I found particularly attractive, though that too is a relatively young plant at Beauhill. Its broad dark-green leaves have a broad dark-red central midrib, red edges, and, when mature, a sumptuous brown-felted reverse. And finally among the larger species, one which is exceptionally impressive, one which is distinctly odd, and neither of which is in *The Plant*

Finder, *C. lyallii*, with almost astelia-like leaves, makes a noble and imposing fountain of foliage, while *C. armstrongii* makes a clump perhaps 18" high and wide of narrow, almost spear-like leaves, with a marked yellow mid-rib, and, like many celmisias, packs a lot of character and impact into a relatively small space

That's even more true of the tiny ground-hugging species. *C. brevifolia*, for instance, is as tiny as its name would lead you to expect, but has bags of charm. *C. argentea* makes a dense, silvery, little clump, *C. sessiliflora* an equally silvery spreading mat. (Jack Drake's form of this species, from Mt. Potts, is even tinier and more compact.) *C. glandulosa* is another spreading mat-former but this time a bog-plant which positively relishes really wet conditions, while two last representatives of these lowest of the low, the greyish *C. allanii* and *C. incana*, not only look very similar to each other but cross with each other to produce hybrids with intermediate characteristics, as if deliberately to confuse the gardening pedant addicted to names rather than, as Hugh Barr would advocate and as he himself certainly exemplifies, to plants.

Hugh's garden is far from being solely a garden of Australasians. Apart from the wide range of trees, the rhododendrons, the steadily spreading sheets of cyclamen, erythronium and trillium, you can find in this essentially cold and exposed garden in the far north such unlikely successes as a flourishing *Trachycarpus fortunei* (in a sheltered corner by the back-front door), a *Woodwardia unigemmata* from Bhutan, a *Blechnum magellanicum* from Southern Chile among Beauhill's considerable collection of ferns, the exotic pinnate foliage of *Amicia zygomeris* from Mexico, which always seems to be preening itself on its own good looks (though Hugh has yet to persuade it to produce its striking red and yellow pea flowers), and from a particularly well-drained slope even the white three-petalled flowers of the charming little Uruguayan member of the Commelinaceae, *Weldenia candida*, faithfully each summer wave their defiance of geography and climate.

For any northern gardener, particularly, Beauhill is an inspiring place to visit. It no longer opens under the National Garden Scheme (Hugh Barr claims to be too old and to be winding down his gardening activities, or at least shifting his emphasis more to larger shrubs and away from 'little treasures,' though I saw precious little sign of any winding down when I was there: indeed, the only thing that seemed likely to wind down was me, down one of Hugh's flights of stone steps) but it does still open from time to time for more local charities, and I'm sure visitors with a genuine interest in Australasian plants would always be able to arrange to see it - and would be welcomed as warmly and as generously as I was. Describing his and Margaret's only visit to New Zealand, to South Island in 1991, Hugh summed up the experience by saying, 'I'd love to be able to go again, but it would need to be for a lot longer. A lovely country with lovely people.' Substitute 'garden' for 'country' and you have a perfect summary of the feelings of any keen gardener after a visit to Beauhill.

Can you write an article for the next issue? Or provide a snippet of information? We'd love to hear from you. We are not looking for anything too technical: just some news of what survives in your part of the country to give others the enthusiasm to 'have a go'

Report from North Leeds 2000/2001

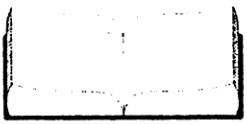
By Thomas Naylor

This may not be the place to express a personal opinion, but sometimes I do have qualms about being a member of this organisation: as an instance of why this should be so I would just like to mention that a nearby front garden has recently been transformed and now consists of nothing but gravel and five cordylines.

There were surprisingly few losses here last winter, considering that there were 62 air frosts between Christmas and the end of March. The temperature dropped to about -8°C on three nights during the first week in March and there were several snowfalls; a particularly heavy one coincided with the spring equinox.

The Australian Daisy Study Group will be publishing the definitive book about Australian Everlasting Flowers soon. Anyone interested in buying a copy should contact Jeff Irons.

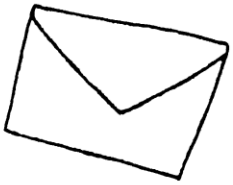
Though still unknown, the price will not be excessive.



It seems that slugs and snails killed my *Clianthus puniceus* during the mild wet autumn before the onset of the cold weather. *Acacia mucronata* went downhill very slowly from late winter onwards, from browing of the tips in March to be indisputably dead by midsummer. *Hakea saligna*, against a south facing wall, appeared to be only slightly harmed by the winter but was dead by August. There was almost no rain here in July and the root run of this shrub may have been too restricted.

The only significant damage to any eucalyptus was *E. globulus*, which has fully recovered. The list of practically unscathed eucalypts is as follows:- *cordata*, *coccifera*, *dalrympleana*, *glaucescens*, *gunnii*, *pauciflora* ssp. *niphophila*, *paliformis*, *perriniana* and *rodwayi*. *Eucalyptus cordata* has got into the habit of having a succession of flowers between November and April: *glaucescens* and *perriniana* flowered in summer.

Callistemon citrinus, *linearis*, *salignus*, *pityoides* and *subulatus* came through the winter in good shape, and *salignus* flowered in June. The two *Leptospermum scoparium*, on an east-facing wall, were fine and had a good display of red and pink blossom in mid-July. Also flowering in mid-July, about two weeks later than normal, was *Melaleuca squarrosa*, though this was not in such good condition and the flower spikes were about half their usual length. *Banksia oblongifolia* is in fine form but it has not made much new growth this year. *Cassinia fulvida* has never been harmed by the weather here; it sprawls around and the flowers are fairly insignificant. Five Australian celmisias, which are four years old, are thriving and produced their first flower in June.

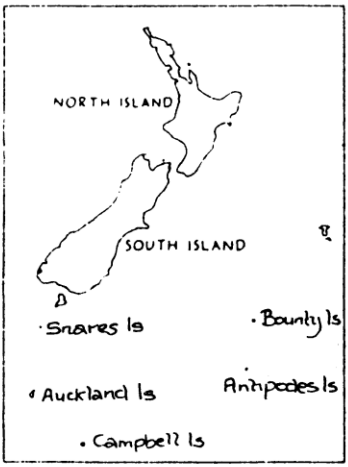


Kathleen Longbottom, an APS member from Canterbury, sent me the following letter in early September.

Dear Sue,
This is my second year of membership of the Society. I have yet to get myself organised to order seeds from your lengthy list. Perhaps next year! Being a novice I shall endeavour to try the easy things first.

My knowledge of Antipodean flora increases slightly each year when we visit our family in New Zealand. In January 2000 we had 'the trip of a lifetime' and visited Antarctica from New Zealand visiting Bounty, Antipodes and Campbell Island on the way and McQuarrie, Auckland and Snares Islands on the return journey.

Campbell Island was a profusion of blooms not to mention the albatrosses nests dotted about among the plants. There were 48 passengers on the Russian Boat, and by the time we were on our way to Campbell Island we thought we knew them all - but when our Director was briefing us about our next stop he kept consulting a lady who was new to us, and it turned out to be Vonnie Cave, the co-author of the book which was reviewed in the last Pentachondra (The Gardener's Encyclopaedia of New Zealand Native Plants by Cave and Paddison).



We have since got to now her quite well and went to stay with her earlier this year. Campbell Island is one of her favourite places and one which will stay in my mind for ever. For instance, masses of bulbinella which are truly worthy of their name of 'mega herbs'. What was perhaps even more wonderful was the weather on that day. It was as perfect as one could get in those climes.

On the return journey we had another wonderful day in Enderby Island. More amazing flora ranging from *Anistome latifolia* to tiny alpines including *Gentiana cerina* and many other delights.

But, I have disgressed from my original reason for writing which was to say we are the proud owners of the New Zealand Native Plants Book. No book is perfect so perhaps the authors may not be too worried by Jeff Irons' criticism. However to be termed 'parochial' in outlook, sounds rather offensive to me. After all, the book is primarily aimed at New Zealanders.

May I just add that the authors won a prestigious award for their efforts. Vonnie Cave has a wonderful garden full of many interesting plants including a vast collection of succulents on which she is an authority - not to mention a great collection of camellias.

PSEUDOPANAX

Most of the nurseries listed in the Plant Finder as selling *Pseudopanax* are in the southern part of England. Those members who live in less favoured areas are taking a risk if they treat them as anything other than conservatory of summer patio plants. They are some of our most spectacular plants, with a shape and form quite unlike anything else. That alone makes them worth growing.

The two species grown most often are the New Zealanders *P. crassifolius* and *P. ferox*. Both have two kinds of leaf, juvenile ones and mature ones. We grow them for the juvenile leaves, which appear for a number of years, so can be seen on quite large plants - taller than a man. They are long - upto several feet - narrow, have serrated edges, are downward pointing, and a reddish brown colour. Because of this they make very effective feature plants whether in the ground or on a patio. Both are hardy to -5°C and in suitable sites will withstand even lower temperatures.

P. lessonii is very different, and can be grown outdoors only in very favoured places. Elsewhere it is a handsome plant for a conservatory or summer patio. Its shiny leaves are different too. About 5 to 10cm long by 2 to 5cm wide they are in a finger shaped pattern, either 3, 4 or 5 to a group. 'Gold Splash' is a popular variegated form, with leaves that are mainly yellow and covered with flecks of light and dark green. It appeared in New Plymouth, New Zealand on the stump of a plant that had been cut off at ground level.

'Sabre' is a hybrid similar to *P. crassifolius*, but is quicker growing and branches out quite low down. Its young leaves are a very dark green with an orange midrib. They are twisted too. *P.* 'Linearifolius' is another plant with 5 lobed leaves, and is hardier than *lessonii*, but not as tough as *crassifolius*. The 10-20cm long leaflets are very distinctive, being serrated in various ways. This makes a striking fastigiate tub plant, especially suitable for seaside areas, because in spite of their appearance the leaves stand up to wind. It is also suitable for shady corners. Unfortunately *P.* 'Adantifolius' is rather tender, as much so as *lessonii*, and that lessens its usefulness. As the name suggests the leaves resemble those of *Adiantum*. It is another pot or tub plant for the patio or conservatory.

Finally I come to *P. gunnii*. The Tasmanian Ivy-bush won't set the world on fire. A small shrub with variable leaves at the end of its branches, this species comes from wet forests. The seed offered in our 2001 seed list came from Adamson's Peak. Surprisingly its tiny flowers can be quite showy, because there are many of them in small umbels.

You will find other hybrids and species listed in the Plant Finder, but those I've described above are, with the exception of *P. gunnii*, the most readily available. Most members will find that either *P. crassifolius* or *P. ferox* will suit their need.

GERMINATING EPACRIS SEED

Epacris seed is notoriously difficult to germinate. Recent research carried out at the University of Tasmania has shown that several factors are involved. Good results have been obtained with only one species. It appears that exposure to smoke and heat, followed by germination in the dark all help germination. It is too late for members who obtained seed from our 2001 list to give heat treatment, but they can expose their pots to smoke and keep them in the dark. With luck there may be some germination next year. The recommended heat treatment is to put seed in aluminium foil and then keep the foil packets at 90°C for 10 minutes.

THE EDEN PROJECT

By Tony Entwistle

After the AGM this year my wife and I went off to see the Eden Project at St Austell, which had only recently opened.

It was a journey well worth while: it is an amazing achievement - even if one had no interest in plants it should be worth just gazing from the top of the old china-clay pit onto the amazing sight of the two giant 'biomes' and the surrounding lay-out.

The tropical biome is the most impressive, already looking mature and most imaginatively planned with waterfalls and steep climbs. The temperate biome, perhaps not surprisingly, will take a few years to achieve majurity, and the variety of species does not seem as great as that at the Welsh 'dome' we visited in 2000; indeed there is no Australian section and only a small S. African one - I wonder why?

The plantings around and at the base of the pit outside the 'biomes' are imaginative and will look good in a few years. I notices Melaleucas (and the South African *Aristea ecklonii*) massed at the bottom - I hope it's not a frost pocket!

TRIP TO IRAN 2003

Following the success of his 2001 visit, Jeff Irons intends to have another non-profit making trip to Iran. Taking the form of an hotel based botanical expedition, with an optional sightseeing "add-on", it will take place in spring 2003. An English speaking Iranian botanist will accompany the tour. If you are interested drop him a line.

NEW RED ACACIA

A scarlet-flowered variant of *Acacia leprosa* was discovered by chance in a forest near Melbourne in 1995. It is now being extensively propagated and has been named 'Scarlet Blaze'. With further hybridisation this might well result in pink and orange cultivars of Acacia.

Growing Australasian plants in Sheffield

By Sue Kohler

Earlier in the year, articles in the May 2001 "Pentachondra" coincided happily with an excellent talk by Greg Plenty to the Friends of the Botanical Gardens, Sheffield. His talk was about the joys and sorrows (mostly joys) of growing a large number of Australasian plants outside in Northern Britain. I thought to add observations of plant growth and survival in Sheffield over the 2000/2001 winter, when so many other plants died or were badly damaged.

Our garden is underlain by heavy yellow clay, mottled blue where periodic waterlogging occurs. Great efforts are made to improve the soil texture and structure at least in the rooting zone by adding grit, sand, gravel and organic matter, and this benefits all plants. Where possible in this heavily shaded garden, Australasians are sited where they have shelter (walls, fences, other plants) and as much light as possible. If it can be arranged that nearby plants provide some overhead protection from frosts without hogging all the light - so much the better.

In this respect, a vast Leyland's Cypress in the front garden (and yes, I am sure the law will soon say we can't have that here) is excellent; it shelters without overshadowing, and keeps the whole of that garden quite dry. Even here, however, old *Cistus* bushes growing nearby were heavily damaged or killed. But the following were entirely untouched:

- *Correa backhouseana*, which flowered all winter, with only the opened bells killed during the prolonged periods of frost.
- *Grevillea* 'Canberra Gem' - buds overwintered safely, and the plant has flowered freely for about 5 to 6 months this year.
- *Olearia x scilloniensis* - right underneath the Cypress, but flowers quite heavily in spite of the shade.
- *Hymenanthera angustifolia* - not flowering very much yet.
- *Callistemon sieberi*. A young plant so no flowers yet.
- *Callistemon salignus*. A young plant, so no flowers yet.

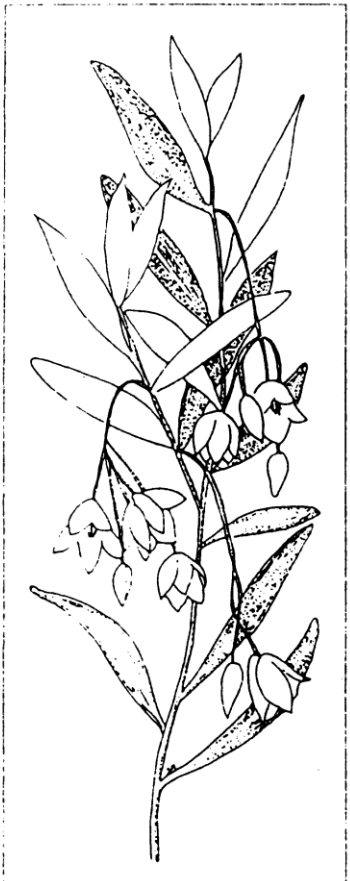
Other semi-hardy plants growing in this area, although not from Australasia include:

- *Teucrium fruticans*, with its delicate blue flowers and silver foliage.
- *Cercis siliquastrum*, which grows very close to the Cypress; it has flowered better this year than ever before.
- *Ribes speciosum*, with fringes of red, fuchsia-like flowers in late spring.

Nearby, against a post and rail fence, a young plant of *Eucryphia milliganii* was untouched, and flowered a little in late summer. *Correa* 'Dusky Bells' was, however, comprehensively killed, (and elsewhere in the garden too). Sadly, *Olearia phlogopappa* 'Comber's Blue' was also killed, although a specimen in the Botanical Gardens, grown in a much more sheltered spot on the top of a wall, was untouched and in glorious bloom in May/June.

In the back garden an area protected by a vast and much chopped *Juniperus pfitzeriana aurea* houses *Diplarrhena moraea* and *Libertia peregrinans* and other examples of entirely undamaged *Correa backhouseana* and *Grevillea* 'Canberra Gem'.

The *Libertia* is rapidly making a large colony, with its beautiful orange-striped leaves appearing among all the surrounding plants. The non-Antipodean *Myrtus communis* and *M. c.* 'Tarentina' grow nearby, and survived the winter, albeit with considerable leaf and tip damage. *Leptospermum lanigerum* was untouched, and regularly covers itself with a cloud of white bloom each summer, much to the delight of all the bumble bees and hover flies; nobody has told them that this is definitely NOT a native plant.



Sollya heterophylla

Hebes were generally slightly damaged, although I heard reports of big losses within this genus, from other gardens. I find that they suffer more during drought periods, which may weaken them for the following winter.

Slightly to my surprise Phormiums in the open garden have not suffered, and *Phormium tenax atropurpurea* and *Phormium cookianum variegata* are well established now. *P.* 'Maori Sunrise' is in a tub in a sheltered corner of the house, and was also not affected by the winter. After a slow start it is now doing quite well. *Derwentia perfoliata* has sprawled about for years in various parts of the garden, and *Cassinia fulvida, Corokia x virgata, Prostanthera cuneata, Olearia nummulariifolia, Bulbinella hookeri* and *Parahebe catarractae* are all thriving, without any particular siting or winter care. *Stipa arundinacea* is all over the garden, and is particularly (and surprisingly) well adapted to very dry, dense shade. It is rapidly approaching the status of a cherished weed.

The little fern *Blechnum penna-marina* still gives some ground cover, but I find this is more likely to be killed by very dry spells than by hard winters. Sadly, I think *Celmisia coriacea* is slowly dwindling, and I think will finally depart this garden after tolerating poor conditions for 20 years. (I find, by the way, that it is very difficult to transplant or propagate. Any suggestions for success?)

Sollya heterophylla was in a pot outside for the winter; while some was killed, the rest has grown away very strongly, and it is full of flower in the late summer. If space can be generated, this may well be put out permanently. *Astelia chathamica* spent the winter in a pot outside in another garden, entirely neglected and not even placed

upright or watered It survived without damage, and is now a most handsome feature, still in a pot The slender creeper *Billardiera longiflora* has survived for years on a North wall, hauling itself up an old *Jasminum officinale* which gives it quite a bit of protection In fact, this seems to be a common feature for success with Australasian plants - some protection from above without complete overshadowing seems to help them through anything our winters can provide

Craspedias

By Jeff Irons

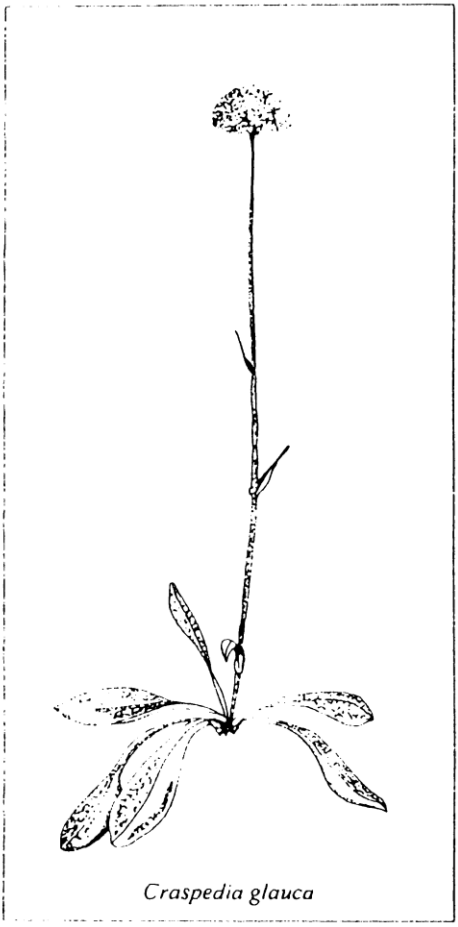
'Southern Alpines 96' included some coach trips to show various typical plant habitats During one of them we stopped to look at an insignificant little thing called the Penwiper Plant While most of the party clustered round, trying to photograph it (in fog) I looked around Just a few feet away, and totally ignored, there was an absolutely gorgeous plant Its silvery hairy leaves glistened from the water drops on their surfaces, while the golden yellow drumstick like flower head stood up proudly above the leaf rosette The plant was *Craspedia lanata*. I can never understand why APS members do not request seed of this genus. It cannot be because it is unknown, because the Cottage Garden Society lists one in its seed list - though actually that one is not a Craspedia! People rush to try to grow the drumstick headed *Primula capitata*, yet the very similar, and less demanding, craspedias are just not wanted by APS members or, since they rarely appear in nurserymen's lists, it seems, anyone.

These unwanted plants are herbaceous members of the daisy family, with yellow or cream drumstick shaped heads Some of them have attractive silvery leaves, and unfortunately many of them are very attractive to snails Some are short lived in cultivation When dried their flower colour fades. However the related *Pycnosorus globosus* keeps its flower colour when dried. It is the species listed by the Cottage Garden Society as *Craspedia globosa*. I suspect that for seedling vigour to be maintained several of the species need quite a large population. When grown from a small population, say half a dozen plants, their vigour declines over the years, so that eventually they die out.

A plant I call *Craspedia* coll. Lankey's Plain has been in my garden for about 15 years, and survived being under a foot or so of water during the 2000-1 winter. It has silvery leaves about 20cm long and for 3-4 weeks in June and July carries yellow drumstick shaped flower heads on 20-25cm long stems. Each head is 2-3 cm across. Unfortunately even though I rub flower heads together my 6 plants set little seed, and at best I harvest 5 or 6 seeds a year. I think it is probably a *C. coolaminica* hybrid, but have been unable to get it identified. Whatever its name, this is a good reliable garden plant *C. coolaminica* itself is found in the sub-alpine areas of Tasmania, Victoria and New South Wales.

C. variabilis appeared in the 2001 seedlist As the name implies it is variable, so much so that further botanical study may see it split into several different species. It has a basal rosette of leaves, pale to olive green in colour, and golden yellow flower heads, up to 1cm across on scapes up to 50cm high Since my seedlings are in their first year I do not know whether it will prove to

be perennial in cultivation The species is found in temperate parts of all the Australian mainland states The well known *C. glauca* is another temperate zone species, from both Tasmania and the mainland Australian states. Quite variable, it can have flower stalks up to 1m long, and the flower heads range from a pale creamy yellow to a bright yellow. The seed in our list was collected from low level plants in Tasmania, so is probably not very cold tolerant.



Craspedia glauca

C. crocata x jamesii was collected near N. Dargo in Victoria, and at the time was thought to be *C. aurantia*. In cultivation it is a vigorous plant with large yellow flower heads. A single plant in a pot will produce up to 13 flower heads, on stalks up to 80cm high. In the ground plants are not as high, say about 30cm. Full of hybrid vigour, it is often monocarpic in cultivation.

The finest New Zealand species is undoubtedly the deciduous *C. incana*. A plant of shingle screes, it has thickly woolly basal leaves, up to 10cm x 3cm. The yellow flower heads, 2-3 cm in diameter are on stalks up to 30cm long. Our wet winters do not suit this species and it is best grown in a cold greenhouse. *C. lanata* too is deciduous, and is best grown under cover. The natural habitat is on well drained rocky areas of 'dry' mountains that have 200-220 days of fog a year, along with 80 inches of rain. Less woolly than *C. incana* its flower heads can be creamy white or yellow.

Pycnosorus globosus is superficially a *Craspedia*. However if you look closely it is obvious that there is no basal rosette of leaves. There are a few leaves at the base, but in general the leaves are cauline. This means that they are on the stems, and decrease in size the higher up they are. The flowers are also different. If you pull a *Craspedia* flower head apart, all the individual florets in each partial head can be seen to have stalks Those of *Pycnosorus* do not have stalks. The species is a short lived perennial. It is not very cold tolerant, but against a wall will often survive for two or three years It can be flowered as an annual, and is excellent for dried flower arrangements.

Several other craspedias occur in both Australia and New Zealand. If seed becomes available they will be offered in our seedlist.

AUTUMN REPORT 2001

KNAYTON, N. YORKSHIRE

By Sue Hyams

Writing this report in early October, I look back on summer 2001 as warm and wet. Growth has been phenomenal - its been extremely easy to create the 'jungle effect' this year!



Indigofera australis

Sown 91. Planted in greenhouse border in 95. Sprays of pink/mauve pea flowers are freely produced from October through to May. Upright shrub with feathery blue-green foliage. Leaves are divided into 5-21 leaflets.

This follows a very wet autumn, in fact the wettest on record since 1766. Many parts of the country suffered flooding during the latter half of 2000 (and floods look to be forecast again this autumn and winter). In Knayton, there was a lot of rain, not much snow, and a fair amount of frost. In February several nights with temperatures as low as -7°C were experienced. Being in the Vale of York, there can be many days of freezing fog or low cloud cover.

Like many people, I don't get to see much of my garden during the short days of winter; by the time I get home on an evening it is dark, so observations are only made on my day off. February revealed that *Templetonia retusa* was producing the first of its many red pea-like flowers in the greenhouse while *Grevillea* 'Canberra Gem' growing in a half barrel by the southfacing garage wall showed several spidery red blooms. Early March: *Indigofera australis* (gh) had a coat of pink/mauve sprays of pea flowers. By the middle of the month *Templetonia retusa* was in full bloom. For most of the winter it is covered by a tent of

horticultural fleece to protect its flowering buds. It is growing inside the framework of an obelisk, mainly to prevent the lax stems from leaning out too far and hindering my walking past it.

In the greenhouse, winter damage affected *Sollya heterophylla* which assumed a wilted and greyish-brown appearance as winter progressed. I pruned it hard back, but all the wood seemed dead and the plant never reshooted. *Indigofera australis* suffered a bit of frost/cold damage and consequently several branches were removed. There was also a bit of cold damage on *Acmena smithii* (gh) and *Melaleuca hypericifolia* (gh). Another casualty of the winter was *Clianthus puniceus* which was only planted in the front garden in summer 2000. It bloomed and put on new growth, and even up until the middle of February it looked green. But by the middle of March it was straw-coloured, and as spring and summer came and went, no regrowth appeared.

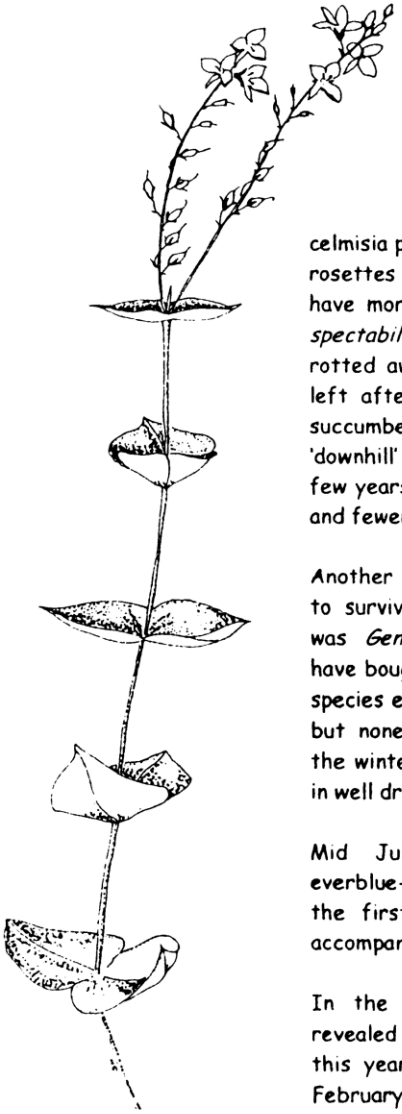
During May *Pittosporum tenuifolium* and *Pittosporum* 'Silver Queen' were in full bloom. On evenings the sweet scent released by their ruby-brown flowers was very evident. At the same time *Olearia* x *scilloniensis* was just opening its first dazzling white daisies. By the time this New Zealand daisy bush is in full bloom, sunglasses are needed to look at it - the daisies are so numerous and so dazzling. Twining its way through these shrubs, despite constant clipping, is *Muehlenbeckia complexa*. The majority of this creeper/climber which grows up a piece of trellis 2m in height, is kept in check using electric hedge trimmers, cutting to about 15cm from the trellis, whenever I'm clipping the hedges. The wild birds love it. Wrens roost in throughout the year.

By early June the first of the eucalypts to bloom this summer, *Eucalyptus pauciflora* and *E. Pauciflora niphophila*, started opening their creamy flowers. At the same time two plants of Prostanthera cuneata (one in the back garden, one in the front) started to bloom. Two weeks later, *Eucalyptus debeuzevillei*, was also beginning to blossom.

In early July *Olearia nummarifolia* opened its first starry white flowers. Two alpine leptospermums on the scree bed covered themselves with their pink and white flowers, while *Libertia grandiflora* opened the first of its many white flowers.

I bought my first plant of *Libertia grandiflora* in 1999. Being a clump-forming member of the iris family I was able to divide the plant into several sections. Some parts I planted in the scree; the rest in the rockery. In July this year it produced its first white flowers on much branched flower stems. Each flower is upto 3cm in diameter. The globose seed capsules are green/reddish green, becoming black when mature. The yellowish-green leaves are upto 50cm in length. In midsummer this year I bought another couple of plants under the same name, but the foliage is more green. During 2000 I obtained a plant of *Libertia ixiodes* which is very similar to *Libertia grandiflora*, differing mainly in its stiffer

Derwentia perfoliata
Commonly known as Diggers Speedwell because of its occurrence on the Victorian goldfields



inflorescence. The seed capsules are also supposed to be yellow when ripe but as my plant has yet to flower, I have this to look forward to. I planted this in a container along with *Celmisia argentea, Myosotis explanata, Cyathodes colensoi* and *Ourisia* 'Snowflake', the latter producing many white flowers in springtime. All plants in this container were bought in spring 2000 except *Myosotis explanata* which was grown from AGS seed sown in 99. *Celmisia argentea* is one of those celmisia producing silvery cushions of individual tightly packed rosettes only several centimetres in height. I hope that I have more luck with this celmisia than I have had with *C. spectabilis* and *C. ramulosa*. *C. spectabilis* (bt 95) slowly rotted away during 1998 and 1999 until there was nothing left after the winter 99/00. *C. ramulosa* (bt 93) finally succumbed after this winter. It had been slowly going 'downhill' for the previous few years, producing fewer and fewer daisy flowers.



Celmisia argentea

Another plant which failed to survive the wet winter was *Gentiana saxosa*. I have bought a plant of this species each year since 97, but none make it through the winter despite planting in well drained screes.

Mid July, and the evergreen (or should this be everblue-green?) perennial *Derwentia perfoliata* was opening the first of its racemes of sky blue flowers. It was accompanied by white flowers on *Linum monogynum*.

In the greenhouse, *Wahlenbergia congesta* (AGS seed) revealed its very first white flowers. Sown in mid February this year, the small alpine fills a 9cm pot Also sown in February, and successfully germinated is *Viola betonicifolia*

(AGS seed). Some Australasian alpines in the plunge bed against the garage wall, facing south east, are *Leptinella atrata* (sown 97), *L. pyrethrifolia* (sown 96), *L. squalida* (bt 93), *Wahlenbergia gloriosa* (bt 93), *Acaena* 'Blue Haze' (bt 94), *Ranunculus lappaceus* (sown 96) and 4 young celmisia plants (sown 97, species unknown; no flowers so far). Other antipodean alpines, growing in troughs, include *Oxalis magellanica* (bt 2001), *Raoulia australis* (bt 2001; I have tried to grow this plant many times but always lose it in the winter despite covering it to prevent excess wetness) and *Epilobium pycnostachyum*. *Oxalis magellanica* can be found in both Australia and New Zealand. It is a creeping plant which, although it can become invasive, is easily controlled. It has trifoliate (clover-like) leaves, each leaflet 5-8mm in diameter. The white flowers are solitary, 1-2cm in diameter. *Viola hederacea* continues to trail from the pot in which *Dicksonia antarctica (gh)* grows, while *Pelargonium australe* reveals itself in cracks in the greenhouse paving. *Fuchsia procumbens* (gh), a real magnet for whitefly, coats itself every summer with its tiny upturned yellow/green/red flowers, which in turn take the form of red ovoid berries. My one remaining specimen of *Calocephalus citreus* (gh) produced its lemon globular flowerheads.

In late July *Templetonia retusa* and *Grevillea robusta* (gh) were pruned for the first time this year as was *Melaleuca hypericifolia* (gh), the latter very carefully as flowering spikes were forming. *Eucalyptus globulus* was pruned again! I lose count of how many times I hack back this eucalypt. It grows so fast that within weeks of lopping, it is trying to push off the greenhouse roof, but I am loathe to remove it. *Grevillea robusta* is also one of those plants to which I have to keep showing the secateurs. Sown in 1989 and planted into the greenhouse border in 1993, it is now 2m tall, pruned into a lollipop-type shape (similar to those standard bay trees seen outside restaurants). I love the large, pinnately-divided leaves and especially the young foliage which is an attractive bronze colour with silky hairs.

Seed was collected from *Myosotis explanata* (AGS seed sown 1999) and *M. rakiura* (AGS seed sown 2000) towards the end of July. *M. rakiura* has rather fleshy grey-green leaves and a much branched flower stem with small white flowers which are tightly clustered giving the appearance of forming a round head. Rakiura is the Maori name for Stewart Island along whose coast this forget-me-not is found. The odd yellow flowered seedling of *M. australis* (AGS seed 2000) popped up in various parts of the garden, but nothing like the number of a white flowered form (also AGS seed) which has seeded itself in abundance since the first sowing in 1996.

Another plant which has self-seeded everywhere is *Haloragis erecta* 'Wellington Bronze'. The first plants of this cultivar were obtained from seed sown in 1998, and as I couldn't discover any information on their hardiness in my small collection of books, I decided to overwinter these early plants in the greenhouse. The following spring I discovered seedlings popping up all over the garden, and the same has happened every year since. I like the bronzed, thick, pointed, saw-edged foliage of this multi-branched perennial, and its easy to remove the unwanted seedlings

A specimen on *Alyogyne huegelii* 'Santa Cruz' sown in 2000 from AGS seed and grown on in the greenhouse opened its first flowers. This plant is a free flowering mauve-purple cultivar from Western Australia needing winter protection. White fly seems to have homed in on it since it was only centimetres tall. Another member of the Malvaceae family that I have grown this year is *Hibiscus trionum*. Treated as an annual, it has provided summer colour. It is assumed that this species is an introduced species to New Zealand. It is one of those plants that I have always liked; in fact, it was one of those annuals which I used to grow when I was a child. I love the creamy flowers with the maroon blotch at the base.

Throughout the year, the presence of grasses/sedges dominate the front garden. Clumps of *Carex trifida* (sown 95), *C. testacea* (bt 2001), *C.* 'Frosted Curls' (bt 97), *C. comans* 'Bronze Form' (sown 98), plus many non-antipodean grasses, share the island bed with *Olearia nummularifolia, Phormium tenax* (blue-green leaves as long as 2m; sown 94), *P.* 'Yellow Wave' (yellow-green leaves; bt 97), *P. cookianum* (yellowish-green leaves; bt 94), *P.* 'Bronze Baby' (dwarf hybrid of *P. tenax,* bronze leaves; bt 99), *P.* 'Maori Queen' (olive-green leaves with pink margins; bt 99). Other New Zealand flaxes growing in the front garden are 'Flamingo' (flamingo-pink leaves with green margins; bt 99) and 'Sundowner' (bronze-green leaves with dark rose-pink margins; obtained 2001). One sedge that I seem to have lost this year is the dwarf *Carex bergrennii* which had been growing in the shade of *C. trifida* for the past six years. *Luzula ulophylla*, a dwarf woodrush forming hummock about 6cm in height has self-seeded in various pots, mainly in terracotta pots of young box plants which, in time, I'm hoping to use for topiary. The original woodrush plants germinated in 98 from AGS seed. The leaves appear slightly rolled with smooth green on the inner side and woolly hairs on the outer side, giving the whole plant a greyish appearance. *Luzula pumila* which I grew from seed sown 97, has been nibbled to death by woodlice.

Clematis x cartmanii 'Joe' is making slow progress on the rockery. Bought in February 1998, it spent its first year as a container plant with the bonus of undercover wintering. Then in spring 2000 I decided to plant it on the rockery. It survives and produced the occasional flower during the summer, but it certainly hasn't romped away. In the greenhouse, pots of *Clematis gentianoides* open many white flowers throughout spring and summer, although I find snails are attracted to the foliage. These young plants are as a result of AGS seed sown in February 1999.

On the first day of September I once again pruned *Eucalyptus globulus* and removed the longer growths from *Grevillea robusta*. The circumference of the trunk of the silky oak is 210mm.

White fly, honeydew and sooty mould have been a big problem again this year. Each spring I think that I have won the battle against this aphid, then all of a sudden an explosion occurs and clouds of the annoying insects swarm whenever the foliage is touched. Bio

Provado provides a month's control against white fly, but removing the sticky honeydew and sooty mould is more difficult. I have been known to spend hours with soapy water and a high pressure jet on the hosepipe to wash it away. I have tried, several years ago, using smoke cones but they damaged the foliage of the plants, and I'm loathe to use them again.

By mid September, *Corokia x virgata*, growing in a southfacing border in the front garden, was decorated with orange berries following the tiny yellow flowers it produced in the spring. *Linum monogynum* still provided the occasional white flower. *Solanum laciniatum*, germinated from AGS seed in 2000 and growing in the greenhouse is now 1.5m tall and covered in purple flowers and orange ovoid fruits. Three seedlings which germinated in 2001 from dropped fruit are also flowering although they are only 30-45cm tall.



Solanum laciniatum

Some new plants bought this year include *Chionochloa rubra*, bought in September. This is a large tussock grass with rigid reddish-tinted leaves, upto 1.8m long. It is grown more for its form rather than its flowers which are arranged in loose panicles. It fits in well with my other grasses/sedges. It is apparently very adaptable, growing in dry soil as well as wet ones; the red colour is more pronounced in wet soils.

At the Autumn Harrogate Flower Show this year I treated myself to several plants of *Arthropodium candidum* and *Arthropodium candidum maculatum*. At present they are still in the pots in which I bought them - I haven't decided where to transplant them. Both plants are dainty and very grass-like, *A. candidum maculatum* having dark spotted medium green leaves and *A. candidum* medium green leaves. The leaves on my plants are about 10cm long but they can apparently grow upto 30cm. The flowering stems on my plants are

only about 15cm long (although they can be as long as 40cm), branched with many white flowers 10mm in diameter.

Autumn is now upon us, leaves are falling, birds are eating the pyracantha berries, and first flowers of the autumn - spring flowering *Indigofera australis* are opening. I have a lot of pre-winter work to do. I tend to 'run out of time' during spring and summer, so plants have to fend for themselves. Several plants need repotting - *Myosotidium hortensia* in particular. There weren't many flowers this year; I suspect the pots are so full of roots that there is not much compost left! And somehow, I need to get all those tender plants back in the greenhouse.....now that should be fun!

Abbreviations
(bt = bought as young/small plant) (gh = greenhouse)

A BIT OF BACKGROUND INFO

I have been gardening at my present site for eight years. When I moved here in 1993, there were no mature shrubs or trees except for three hollies and a berberis. The whole garden faces either southeast or southwest; there is very little shade. The back garden is particularly open to the east winds which come rushing off the hills and fields beyond, but because of the view, I don't wish to plant hedging or trees to create shelter. Consequently, alpines dominate this area, along with three wildlife ponds, one inhabited by newts for the first time this year. The front garden is more sheltered and this is where the eucalypts and phormiums thrive. The soil is a sandy loam, incredibly easy to cultivate at any time of year. I grow a lot of plants in containers so that I can move them into the greenhouse during the winter. Occasionally, if a plant gets too big to be moved back under cover, it has to take its chances without winter protection. Sometimes, they survive, like *Grevillea* 'Canberra Gem' which remained outside a couple of years ago, for this reason. It is still alive and continues to flower throughout the summer.

NAME CHANGES for Autumn/Winter 2001 Pentachondra

The 6 members who ordered and received seed of *Melaleuca citrina* this year may like to know that it is a doubtful species, and may end up as a *Callistemon*. Other changes are: *M. acerosa* is now *M. systena*, *M. smartiorum* is now *M. sapientes* In the past this has been known as *M. holosericea*, this very rare species may now be extinct. *M. thymoides* is another doubtful species. Its taxonomic position is being reviewed.

As implied in the review of Cave and Paddison, and mentioned in Doug Smith's article (both in the May Pentachondra) *Chordospartium*, *Corallospartium* and *Notospartium* have been absorbed into *Carmichaelia*.

NOTES FROM AMERICA #1
By Helen Beaufort-Murphy

In view of the above title perhaps I should explain that I only started to grow plants in North Carolina after I moved here from St. Buryan (Cornwall) last year. So I am starting a series of articles with the renovation of my garden, and growing Australasian and other Southern Hemisphere plants, in St. Buryan. Then I will continue the series with future articles on my experience in North Carolina.

I very much regret that I did not have the pleasure of meeting any of the APS members before I left England. Therefore, briefly, (because I will probably not have the opportunity to meet many members of the APS in person) I am a plant physiologist and taxonomist and, in addition to gardening, my interests include plant and animal evolution and distribution (past and present), paleontology, archeology, photography, textile art, and designer knitting. Before moving to North Carolina I spent nearly 3 years in St. Buryan writing a book; renovating an historic granite cottage (the former Area Constabulary); and clearing and landscaping the garden (former Constabulary horse and wagon yard!) with a large percentage of Australasian plants. I had intended to live there and enjoy growing plants from the Southern Hemisphere, but due to circumstances beyond my control I moved to North Carolina. Prior to my time in Cornwall I had worked in South America (Peru, Chile, Argentina, Bolivia and Uruguay) for nearly 10 years developing and teaching methods for the improvement of agricultural crops, pasture management and animal nutrition. I have always been interested in Southern Hemisphere plants and when I was living in South America I became particularly interested in the alpine Flora of the Andes.

After I moved to St. Buryan I saw many beautiful Australasian plants growing in the public and private gardens of Cornwall, Devon and the Scilly Isles and I wondered how many more of these plants could be grown in the area. And whether there were native plants currently being grown in Australia or New Zealand that had not yet become popular in Europe. My research (M.Sc, Ph.D. and Post Doctoral) on over 900 species of the Gesneriad family (taxonomy, seed morphology and germination, tissue-culture propagation, plant growth and flowering requirements) included Southern Hemisphere species: *Fieldia australis* and *Boeae hygrosopica* (Australia); *Rhabdothamnus solandri* (New Zealand); and *Asterantha ovata*, *Mitraria coccinea* and *Sarmienta repens* (Chile). These are easy to grow but I was aware that certain Australian species, such as the Protiads, could be difficult to cultivate. Therefore, because I wanted to grow a wide range of Australasian plants, without making any more mistakes than necessary, I needed as much information as possible on the identification, propagation and cultivation requirements of the plants.

Books on Australasian Plants: When I moved to St. Buryan I already had a fairly extensive collection of Botanical and Gardening books but, for the most part, the books contained very little information about Australasian plants and even less about their cultivation requirements. But renovating my house and garden limited the time I had to look for books and I did not know about the APS. Unfortunately, the local bookshops did not have any books on Australasian plants

and they were unable to suggest where I could get any. Then I heard of the Canberra Botanical Garden Book Shop and purchased a number of excellent books from them. They have an extensive list of books on Australian plants and animals, are very helpful, and will send both book list and books by post. I have also purchased books from other sources; and now that I am a member of APS I particularly enjoy the wide range of subjects covered in *Pentachondra*. Books are expensive and a few were disappointing, so the following annotated list contains only those that I found particularly useful. Recent acquisitions are simply numbered; those that were already in my collection are marked with an *. Some of the latter are not exclusively on plants of the Southern Hemisphere.

1. Australian Plants. A Guide to Their Cultivation in Europe. 1997. Thomas Ross, Jeffrey Irons. Private publication. 307p. Coloured photos, b/w drawings. An extremely informative book, with the description, distribution, cultivation methods, and diseases, of a wide range of Australian plants, including those that can be grown in containers, plus European climate conditions. A must have for European gardeners.

2 Australian Plants for Canberra Gardens and Other Cool Climate Areas. 1973. (3rd ed.) Society for Growing Australian Plants. Canberra Region. 60p. Coloured photos, b/w drawings. Packed with practical information: geology; soils; frost days per month; precipitation; and propagation; over 300 plants (trees, shrubs, perennials, annuals, rock garden, ground covers, etc.) described with cultural requirements and flowering periods. A must have.

3. The Australian Native Plant Gardeners Almanac. 1995 (2nd ed.). John Blay. Wildlife Presentations. 144p. B/w drawings. Environmentally oriented. Packed with year round growing responses and cultivation methods for a very wide range of native plants concisely described with text, symbols and drawings. Extensive resource information, plus Plant Societies, Nurseries and other plant related places to visit. The compact size and ring-back spine make this book handy to take on trips. One of my most useful gardening books. A must have.

4. Australian Plant Society Information Pack. 2000. Compiled by Tony Entwistle. 81p. A bargain priced, gold mine of information about Australian plants: Seed sources; The use of smoke for germination; Name changes; Nurseries (UK and Australia); Book sources; Threatened and endangered species, and much more. Indispensable.

5. Bottlebrushes, Paperbarks, and Tea Trees. 1993. John Wrigley, Murray Fagg. Angus & Robertson. 352p. Meticulously produced and beautifully illustrated. A coloured photo and distribution map of each species, origins of horticultural cultivars, and many black and white drawings. Detailed description of plant form, habitat, distribution and cultivation requirements of each species. Historical information about the people for whom the plants were named. Covers all known species and cultivars of the group's 17 genera. A treasure and a definite must have.

6. A Field Guild to Australian Trees. 1989 (revised ed.). Ivan Holliday. Lansdown Press. 320p. Coloured photos, b/w drawings. Plant description, habitat and cultivation information of more than 400 species of 80 genera. This and book #7, in conjunction with #'s 14 and 15, provide an

excellent identification guide to a wide range of species of the genera most commonly seen in cultivation, and are especially useful when the APS seed list arrives.

7. A Field Guide to Native Australian Shrubs. 1989 (revised ed.). Ivan Holliday, Geoffrey Wilson. Lansdown Press. 240p. Coloured photos, b/w drawings. Covers nearly 200 species of some 60 genera. See notes on #6 above.

8*. Flowering Plants of the World. 1978. V. H. Heywood. Mayflower Books. 336p. Coloured and b/w illustrations of selected species of each family, plus a distribution map of each family. A classic and long-time favourite of mine, that is beautiful, informative and fascinating.

9*. Flowering Plants and Ferns. 1966 (7th ed.). J.C.Willis. Revised by H. K. Shaw. Cambridge University Press. 1214p. No illustrations, but an indispensable reference for identifying and confirming genera or family names.

10. A Gardeners Guide to the Climatic Zones of Australia. 1996. The Australian Garden Journal. 20p. B/w maps. Produced specifically for the average gardener in a non-technical format. Absolutely packed with climate information of the entire country (rainfall, frost and heat temperatures, of each zone in each state) with maps and easy to read tables. An excellent guide to the type of climate a particular plant species comes from.

11. A Guide to Flowers and Plants of Tasmania. 1994 (reprint). Coloured photos. Launceston Field Naturalist Club. An armchair tour of Tasmania and its fascinating Flora. Over 300 representative species from montane, rainforest, and wet sclerophyll zones described and illustrated. Indispensable for APS seed list or visit. A must have.

12. Germination of Local Native Plant Seed. 1994. Murray Ralph. Self published. B/w drawings. Clear, concise, illustrated descriptions of methods in non-technical terms. Plus a chapter detailing germination methods as related to each of a long list of species and genera commonly grown in Australian gardens. A must have, preferably in conjunction with #17. These 2 books saved me from making a lot of mistakes.

13*. The Greenhouse. 1964 (5th impression). F.G. Preston (Ed). Ward Lock 640p. An indispensable classic.

14. Key Guide to Australian Trees. 240 Species Simply Identified. 1995 (reprint). Leonard Cronin. Reed Books. 91p. Coloured photos, b/w drawings. This and the following book (#15) illustrate and describe a total of over 800 species, with habitat and flowering periods. No horticultural information, but fascinating to read and indispensable when the APS seed list arrives. In combination with #6 and #7 these books provide an excellent glimpse of a small portion of Australia's Flora of an estimated 25,000 species. All 4 of these books are on my must have list.

15. Key Guide to Australian Wildflowers. 600 Species Simply Identified. 1995 (reprint). Leonard Cronin. Reed Books. 224p. Coloured illustrations. See notes on #14 above.

16. New Zealand Alpine Plants. 1995.Revised ed. K.F. Mark and Nancy M. Adams. Godwit. 269p. Coloured illustrations. An illustrated encyclopedia of the Alpine Flora and excellent reference when the APS seed list arrives.

17. Propagating Australian Plants. 1994. Alec Blomberry, Betty Maloney. Kangaroo Press. 120p. Coloured photos, b/w drawings. Beautifully illustrated seed and fruit types. Various germination and propagation methods for a wide range of Australian plant types, including Ferns and Orchids, illustrated and described in non-technical terms. This book, in conjunction with # 12, provides an excellent base of information for growing Australian plants.

18*. Rock Garden of the Southern Alps. 1962. W.R. Phillips, and D. Hearn. Caxton Press. 167p. Coloured and b/w photos. Interesting to read and very informative, a favourite of mine.

19*. Tresco England's Island of Flowers. 1985. Ronald King. Salem House. 160p. Coloured and b/w photos and illustrations, including many done by the members of the family. The history of Augustus Smith and the Dorrien-Smith family and their creation of Tresco Gardens, in which they included many Australasian plants.

20. Visions of a Rainforest. A year in Australia's Tropical Rainforest. 1997. Stanley Breedon. Simon and Schuster. 197p. Coloured illustrations. A heart warming, environmentally oriented, glimpse of the scenery, plants, mammals, birds and insects of the North Queensland Rainforest by an author who lives there. Not a horticultural book, but a treasured possession of mine and highly recommended as a gift to oneself or nature loving friend.

21*. Wildflowers of the World. 1970. Illustrations by Barbara Everard, text by Brian Morley. Crescent Books. 432p. 192 full-page plates of coloured illustrations. A large section on Australasian plants. I believe a similar book, by Morley, is now available on Australian plants alone. A must have favourite, mine is almost worn out from use.

22. Wildflowers of Western Australia. An Australian Souvenir in Colour. 1990 (3rd ed.) O'Neil. Viking Press (Penguin Books of Australia). 26p. Gorgeous coloured photos taken in the wild. Illustrations and brief comments on 54 representative species of the area's estimated 3,00 species. Plus 2 coloured maps with the locations of the area's many National Parks and Flora Preservations.

Gardening in St. Buryan, Cornwall.

The majority of the APS members are experienced gardeners so I started this article with the intention of simply describing my success and failures with growing Australasian plants in St. Buryan. However, even though I have gardened in a number of countries, I had not tackled the complete renovation of an historic house and garden (at the same time) and thought my experience might be useful to new members or those contemplating a similar situation.

Renovating the future garden area: St. Buryan is near Land's End, and my house is on a high ridge exposed to the fierce winds and salt laden rains of the Atlantic gales. And when I bought the house the future garden was an unfenced area, open to the weather, with a derelict garage, massive overgrown shrubs, and at least 200 years of accumulated and buried rubbish. I wanted to

develop a garden that would (tastefully) emphasize the history of the property, be easy and economical to maintain, provide year round enjoyment and utilize on site historical artifacts. The most efficient way to develop a garden is with a plan and Jean Goldberry's Landscape Designs reflect all of the qualities I wanted, so I asked her to prepare a basic design for the hardscaping and proceeded with the renovations.

The garage and shrubs were consigned to a skip. Accumulated rubbish, of over 3ft in depth (34 lorry loads), was removed from the area behind the house with a back-hoe, including burnt slag, from an area about 4ft deep by 6ft wide that was the remains of an old roadbed that ran the entire length of the garden. This resulted in an open, very uneven, area of approximately 40 x 80ft, of stoney, concrete hard, sub-soil, plus the remains of an ancient granite tomb (3'W x 5'L x 4'D) that had been revealed during the removal of the rubbish, on the south side of the site. As well as a wide trench where the roadbed had been there were also a number of massive granite slabs that had been the stile and gateposts for the horse yard and several hundred large pieces of weathered granite from around the tomb. The general pH of the soil ranged from 4.5 to 7, with a pH of over 9 along the site of the old roadbed.

I would have preferred to prepare the soil and have the lawn turfed after the hard-scaping was complete. But the installation of a new garage and attached greenhouse would have blocked the driveway and prevented access to the garden area with the machinery needed to renovate the soil. So I had the soil in the entire area broken up and loosened to a depth of 3-4ft with a back-hoe, then levelled and cultivated with a heavy duty rototiller. An old stone 'Cornish Hedge' on the East end was rebuilt, a 6ft wood fence was installed around the entire perimeter for a windbreak and privacy. A 12ft patio with a pergola over it was constructed across the back of the house, with some of the old gateposts used as a low wall along the front edge of the patio.

Soil preparation: First, over 100 bags of horse manure (without any straw in it) were delivered by a local farmer and emptied in 'bag shaped' lumps over the area, which prompted the next door neighbour to ask how many elephants had visited my garden? Then the manure, plus 100 large bales of 'fine' grade composted pine bark, and a couple of lorry loads of gravel were spread over the area and thoroughly worked in with the rototiller. The shapes of the planting beds were staked out around three sides of the area. This included a low 'damp' bed along the south boundary with a bog bed around the Tomb (which was made into a pond); raised beds along the East and North sides, and space was left for an alpine bed next to site of the future garage and greenhouse. The two uprights and foot stone of the Old Stile were replaced in their original location, with a large quern stone resting on the foot stone. To retain the soil in the beds, low walls of about 12" high (plus 12" below ground) were constructed around the raised beds, and slightly lower around the damp bed, from concrete blocks and topped with the pieces of weathered granite from around the Tomb. The blocks provided a nice flat edge to mow against and the granite completely hid the blocks from view. This left a small curved space for a narrow lawn down the centre of the area. The raised beds were then filled to the top with a mix of topsoil, horse manure, composted bark, and gravel, levelled, and rototilled again. This resulted in about 4-5ft of newly prepared 'soil' with a pH range between 4.5 and 5. I was aware that certain Australian plants do not grow well in rich soil, but few, if any, plants would have grown in the concrete hard sub-soil. A cedar garage and attached (10 x 10ft) greenhouse were installed on a

concrete base at the end of the drive. The variable levels of the alpine bed were completed along the side of the garage and greenhouse and the turf was laid for the lawn. Finally, an irrigation system of pipes made from recycled car tyres was installed on the surface of all of the beds except the alpine bed.

Materials and Methods.

The Greenhouse, with a heated propagation frame: The greenhouse did not have any benches so I bought kits for 2 tiered benches from Two Wests and Elliott for benches that were 2'.6" wide across the back wall, and 2ft wide along each side wall and down the middle of the greenhouse. All of which I put together with a lot of 'on-phone' help from Two Wests. As a rule, frosts are light and infrequent around the Land's End area of South West, Cornwall, although an occasional very hard frost can occur. Consequently full-greenhouse heating is not usually required, but I wanted a heated propagating frame on one of the benches. I considered using a heat-blanket on the bench with a raised cover over it, but I decided it might not hold up to continual use, or the weight of pots. So I made an enclosed propagating frame, from scrap lumber and glazed it with heavy weight vinyl, to go across the full length of the back bench. The frame was 2'. 6" wide, 10ft long, and 18" high at the back sloping to 12" high in the front. I insulated the surface of the bench with sheet of 1" Styrofoam and replaced the bench tray on top of the Styrofoam. Then I installed a 1"H x 24"W x 39"L thermostatically controlled, flat, aluminum covered, bench-top heater (from Two Wests) on the tray, inside the propagator, at one end of the bench. When the vinyl cover was unrolled down over the top of the frame the heater kept the entire 10' length of the propagating area warm enough for seeds, cuttings and tender plants and the rest of the greenhouse above freezing on the coldest nights. However, if a really heavy frost occurred an additional small supplemental heater would probably be needed.

Pots: I try to use every inch of my greenhouse space as efficiently as possible. White or light coloured plastic pots can have a detrimental effect on root growth, and round pots hold less soil and use more bench space than square ones of the same diameter. So I use square 3" or 4" black plastic pots for most of my seed sowing, cuttings and transplanting large seedlings; with 'deeper' pots for seedlings of trees and shrub species. For species that are particularly difficult to transplant I often germinate the seeds between moist blotting paper and plant each germinating seedling into individual 'deep' pots. I also use Styrofoam plug-trays, in black plastic trays, for transplanting when I have seedlings of small or slow growing species, and standard ¼ or ½ size trays for annuals or other species that I want more than a few plants of and/or are not easily damaged by root disturbance.

Potting mixtures: Before returning to England, from South America, I had used a 1-1-1 mixture of Sphagnum peat moss, vermiculite, and coarse sharp grit as a potting mix (for both professional and personal use). With the addition of more grit for certain types of plants such as cacti, bulbs, etc., plus a further addition of sterilized soil for plants that do not do well in a soilless mixtures (such as *Rhodochiton*). However, from an environmental point of view, I prefer not to use peat moss in a potting mix. So when I returned to Cornwall I was delighted to find Coir (coconut fibre) available as a peat replacement. Since then I have experimented with Coir and have had excellent results with it on a very wide range of plant types (including those from Australasia) in both St. Buryan and North Carolina. I use a mixture of 25% Coir, 25%

horticultural grade vermiculite, and 50% sharp, very coarse grit (I use turkey grade grit because its cheaper than grit from a garden centre) for sowing seeds, striking cuttings, and potting bulbs (including a variety of bulb species that I brought from Peru). For a general purpose potting mixture, for a wide range of plants, I use a 1-1-1 mix of Coir, vermiculite, and very coarse sharp (turkey) grit. Or a 1-1-1-1 mix of Coir, vermiculite, grit, and sterilized soil for species that do not do well in a soilless mix. I use the dried compressed blocks of Coir because they are clean, light weight, and take up very little space to store, as compared to composted Coir in a bag. I do not use fertilizer for sowing seeds or striking cuttings; but for established plants I use time release capsules with an NKP suited to the plants in question.

Watering in the greenhouse and problems with algae, moulds and black gnats: To maintain moisture and cut down on watering I sealed the corners of the bench trays with waterproof silicone caulk and covered the bottom of each tray with capillary matting. The matting worked well from a watering point of view, but the surfaces of the matting and potting mix soon became covered with a thick mat of green algae, a large variety of moulds, and swarms of black gnats. And hordes of hungry black gnat grubs soon invaded the potting mix in the pots and killed most of the plants. I tried a number of algaecides, fungicides, and systemic insecticides without success. The first batches of seedlings died almost as soon as they germinated and most of the cuttings rotted off. This was particularly unfortunate because I had only a few seeds of some species

Then Bob Senior (an APS member) suggested that I try a drench of Potassium Permanganate (its also recommended by Preston in 'The Greenhouse') on the benches and pots, and it worked like magic. The algae, moulds and gnats were gone in less than a week and with regular applications about every 5-6 weeks they never returned. Subsequent seed germination and rooting of cuttings improved immensely. Consequently, a drench of PP on greenhouse benches and potting mixes has become a routine part of my propagation method. Potassium Permanganate crystals can be purchased from a chemist, and a very small bottle will last for many years. To make the drench I fill a clean, glass bottle with distilled water (tap water might contain chemicals that are not compatible with the PP) and carefully add a few crystals of the PP to colour the liquid a pale rose and shake well. The easiest way to get the small amount of crystals needed is to use a very large sewing (or darning) needle and extract a few crystals from the jar on the tip of the needle. If, however, you need more PP do not put the needle back into the bottle if it is wet or damp. For spraying I use a quart sprayer with a fine spray nozzle, I keep the bottle and sprayer clearly marked for PP use only and do not use them for anything else to prevent contamination. To thoroughly drench the potting mix in a large pot, or on a greenhouse bench that is covered with algae or moulds, I use a small watering can. For the best results do not water the pots or bench surfaces again for several days after drenching. It is difficult to describe the exact depth of colour for the drench in words. But if the algae and moulds have not died off in a week to 10 days then the PP drench was not strong enough, however, the colour should not be more than a pale rose.

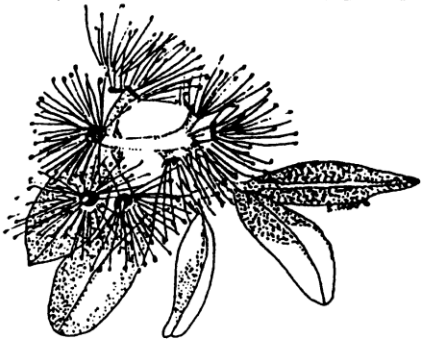
To be continued.

CHRISTMAS TREES

In November and December, in Western Australia, a tree, *Nuytsia floribunda*, is covered in brilliant orange flowers giving it the common name Western Australian Christmas Tree, Golden Bough or Fire Tree. It is named after the Dutch Navigator Pieter Nuyts, who first discovered the part of Australia in which it grows. A root parasite, it is usually seen in small groups due to its suckering habit, battening on and feeding from every plant with which it comes into contact.

Although seeds are fairly easy to germinate, seedlings are difficult to grow on, increasing extremely slowly in size. It really needs host plants from which to feed. It may be worth trying it with couch grass which is what some authorities advise.

In New Zealand the term 'Christmas Tree' goes to *Metrosideros excelsa*, again because this is the time it flowers. Small white clusters start to split revealing curled red stamens which later unfold into a rich covering of scarlet nectar-rich flowers favoured by native birds and bees.



Metrosideros excelsa

The Maoris call the plant 'Pohutukawa' which means 'sprinkled with salt spray' because of its habit of clinging to sea-washed cliffs or growing with its roots actually in salt water. It has dark green leathery leaves 10cm long with silvery undersides which control the loss of moisture from wind and heat in exposed places.

To grow *Metrosideros* use a well drained soil-based potting compost. Provide an airy condition and shade lightly from the strongest sun in summer. The plants can be placed out of doors in early summer and returned to the conservatory in autumn before the onset of frosts.

Some observations made by Charles Darwin when visiting Australia in 1836

.....The trees nearly all belong to one peculiar family; the foliage is scanty & of a rather peculiar light green tint; it is not periodically shed; the surface of the leaves are placed in a vertical, instead of as in Europe a nearly horizontally position.

.....It is singular that the bark of some of them annually falls or hangs in long shreds, which swing about with the wind; & hence the trees look desolate & untidy.

Propagating Grevilleas from Seed

By Neil R. Marriott

Reprinted from the Grevillea Study Group Newsletter

For many years it has been known that *Grevillea* seeds are highly reliable and erratic in their germination. Sometimes seed germinates well, but often it is very poor or comes up over several (often many) months.

I have been growing grevilleas by seed for many years now, and have finally developed a process that gives almost 100% success. I do not use any fungicides as they are too dangerous. However you can use them if you wish, but by sticking to the following steps you should not need to:

1. Peel a few of the seeds to check their condition - healthy seed should be pure white or creamy in colour. If seed is yellow or brownish it normally means that the seed is old and/or not viable.
2. Soak seed in a jar of warm water for approx. 24 hours. Tap down any seed that initially floats. Seed that refuses to sink down are not viable and should be discarded.
3. After 24 hrs add the required amount of REGEN 2000 Smoked Water concentrate, per the instructions on the bottle. NB There are numerous other brands of smoked water concentrate around that should be as good.
4. Soak for a further 12 hours.
5. Prepare sterilised seed trays - pour with boiling water
6. Make sterile seed mix; 3 parts Perlite to 1 part sieved peat moss. Moisten with clean tap water and firm level into trays until they are just over HALF to two thirds full.
7. Sow soaked and smoked seed thinly over seed mix. Then cover seed with at least 1cm (about half an inch) of the same mix. Water in well. I have discovered that *Grevillea* seed germinates far better when sown deeply in the mix.
8. Place seed trays OUTSIDE in a sunny site and WELL OFF the ground. E.g. on an old table etc.
9. Check moisture level of mix and water - normally this means daily watering. NEVER allow to dry out or all you seed will be lost
10. I find mid to late spring to be the best time to sow seed in Victoria. This allows seedlings to be potted up and well established by next autumn. However autumn sowing gives as good results, but many seedlings can be lost through the first winter if they are not well developed by the time the cold weather arrives.

Most species of *Grevillea* have an inbuilt dormancy factor that prevents them from germinating when night minimum temperatures rise above c.15°C.

Ed: Please let me know how you got on when trying this method. Remember not to let your seeds freeze overnight. Most seeds lose imbibed water more slowly than they absorb it, but *Grevillea* seeds dry out just as quickly as they wetten, so the advice in para. 9 is extremely important. *Grevillea* germination is very complex. Several factors are involved and the process is not understood fully. Factors include: seed coat inhibition, heat, cold, smoke, dark.

FROM THE TREASURER

Notice to members outside the UK, including the Irish Republic.
You are reminded that your subscription for 2002 has increased to £9 because of postage costs, but you will still receive seed free of charge.
Until such time as the UK 'joins the Euro' - if it ever does - you are reminded that the banks here will continue to regard cheques written in euros as foreign currency, and will charge a commission (about 8 euros) for cashing it for the Society.
So please, unless you have a UK bank account, send cash in sterling or if not possible in euro notes (currently your subscription is about 15 euros). Do not attempt to send an ordinary cheque yourself made out in sterling - such a cheque has to be made out specially by your bank and will cost you a considerable amount!

Hinweis für unsere EU-Mitglieder ausserhalb des Vereinigten Königreichs Zahlung in Euro - Mitgleidschaftsbeiträg 2002.
Bis (bzw wenn überhaupt) das Vereinigte Königreich sich entscheidet, sich der enheitlichen Euro-Wahrung anzuschliessen, werden unsere Banken in UK Schecks, die in Euro ausgestellt sind, weiterhin als Fremdwährung betrachten und dementsprechend leider eine Bearbeitungsgebühr (in Hohe von ca. 8 Euro) berechnen.
Wir bitten Sie daher, bis auf wieteres nur GBP-Schecks oder Bargeld zu schicken.
Bitte keine Verrechnungsschecks in GBP aussellen z.b. 'Neun Pfund' schreiben, sondern GBP-Schecks bei Ihrer Bank bestellen, wo für Sie eine Gebühr zahlen müssen.

Avis à nos membres étrangers - paiement moyennant euros; cotisation 2002.
Jusqu'à - ou si jamais - le Royaume Uni se decide à 'embrasser le Euro', les banques ici, malheureusement, continuerent regarder tous les cheques fait en euros comme les devises étrangères, et leverent une commission, comme avant, de 8 euros à peu pres.
Ainsi, si vous ne tenez pas un compte de banque ici in UK, et vous ne pouvez acquerir des billets de sterling, c'est acceptable à recevoir les billets de euro - votre cotisation (£9 stg) est environ 15 euros.
N'écrivez pas un cheque ordinaire votre-même en sterling p.e. 'Neuf livres' : ceci aboutit la même commission. Il faut qu'un tel cheque est fait par votre banque, et alors c'est payant à vous un supplement (ici £10)

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