

ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTS

VERTICORDIA STUDY GROUP

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NEWSLETTER NO 43 -- FEBRUARY 2005.

MEMBERSHIP

I am very pleased to extend a welcome to new members of our Study Group :-

John Mahoney, 275 White's Road, Mount Duneed, Victoria 3216.

Alan Lewis, 20 Connelly Way, Booragoon, Western Australia 2154

Alan has recently joined the W.A. Wildflower Society, and with a big interest in Verticordias, he has acquired seed of 11 species and is seeking data on germination techniques

MEMBER SUBSCRIPTIONS

I must again draw attention to the direction by ASGAP that Study Group Memberships become renewable annually on July 1st in accordance with the traditional financial year basis.

Unfortunately I must remind a few members of their current financial status.

If this square has been marked in red it will indicate that your subscription for 04/05 has not yet been received by me. I have appreciated your interest in our Study Group; particularly in efforts to improve the growing of verticordias, and hope that this omission is merely an oversight.

DONATIONS

A donation of \$40.00 from **Ian Otto and his wife Charmaine** of Port Lincoln, South Australia, 'to support the work of the Study Group', is very gratefully acknowledged. I am also very pleased to note donations of \$5.00 from **Graham Eastwood**, Bateman's Bay, NSW. And \$20 from APS NSW

FOLLOW UP TO N/L 42

In our last Newsletter I included a letter from recently joined member Allen Dawson from Corindi Beach, New South Wales and also included my replies to a number of questions he raised. He described in detail a planting method he used with plants from summer dry / winter wet areas, designed to cope with possible problems from reversed climatic conditions here in the East.

Members might be interested in the following letter I received from **Charles Farrugia**, of the Blue Mountains Group of our Society, one of our long-standing Study Group supporters..

"After reading the Verticordia Study Group Newsletter No. 42, I would like to comment on Allen Dawson's planting method.

My interest is in Eremophilas. In my front garden, (a sloped, clay, suburban block), I have about 50 Eremophilas. These plants consist of grafted and non-grafted Eremophilas from Lang's Nursery in South Australia and from cuttings.

I plant my Eremophilas in a very similar way to Allen except that I use 130 mm pots and leave about 450 mm above ground level. I mulch the same way that Allen does except that I use gravel to mulch around the stem. After the initial watering these plants are left to do their own thing. Throughout the extreme conditions we have had over the last three years in Sydney, I have only lost one Eremophila."

VERTICORDIAS AND DROUGHT

This contribution is from **Alex. George**, the first editor of the Flora of Australia, who also was responsible for the Revision of the genus Verticordia. It includes observations which will be of great interest to all of our Study Group members :-

"I read with interest various comments on growers' experience with verticordias during dry spells. I suggest that caution be exercised before pulling out any plant that appears dead or sickly. From observations over recent years I am now convinced that certain species of wildflower cope with long dry

spells by reducing their metabolism to a low level and remain in a 'quiescent' phase until soil moisture is restored (in the wild from rainfall). This process can be evident in a plant by a change in foliage colour, typically to various shades of brown, yellow or red. Some colours are quite spectacular. After rain *the same foliage* turns green and the plants resume their usual function. This habit—termed diallagy—is described and illustrated in my book *The Long Dry: Bush Colours of Summer and Autumn in South-western Australia*, published in 2002.

In *Verticordia* this has been recorded for *V. chrysanthella*, *V. eriocephala*, *V. acerosa* and *V. polytricha*. The most striking is *V. chrysanthella* which can turn brown and appear dead. A group of these at the Western Australian Herbarium in South Perth, planted in deep sand about 1980, has shown this change most summers. Since establishment it has received no watering and is never fertilised. Its only mulch is natural leaf fall. With the first good autumn rain (10 mm or more) it regreens, and every spring it is covered in flowers.

I believe that most verticordias with linear leaves may be able to cope with drought in this way, so, **if your plant looks dead, leave it to see what happens when it receives a drink**—preferably when the next good rain falls rather than by watering. If it is OK it will regreen within a week or two.

Although I have only observations to support this idea, I believe that the summer dormancy in many verticordias and many other wildflowers may play a role in flowering. Perhaps the stress of drought somehow leads to a response to ensure survival of the plant by flowering as prolifically as possible the following season. Keeping plants green by watering and fertilising seems to promote foliage growth but not flower production. As noted by Allen Dawson, such plants grow quickly but become leggy, do not flower well and are usually short-lived.

One key to success in growing verticordias is to give them plenty of sunshine. Both in her book and in Newsletter 42, Elizabeth George gives this as an important requirement. It means *as much sunshine as possible* between sunrise and sunset, not just for half the day."

MORE ON *Verticordia grandis*

In recent Newsletters I have described particular procedures I have been trying out, in my efforts to improve verticordia performances generally. In NL 42 I mentioned that results to that date had continued to result in better early plant development of most species than I had been able to achieve previously.

Despite there being no relief from the drought in Sydney until late October, and this relief only temporary, the heath section of my garden recently was easily at its best for many years, and this, notwithstanding, as previously noted, that no additional hand watering was given to *Verticordias* after initial establishment.

Despite this encouragement however, I must still keep an open mind on my post hole planting procedure until proven over a longer term and under our more typical, wetter, late summer conditions.

A species which demands further comment however is *V. grandis*. The plant I have referred to on a number of occasions, (planted Nov. 1989) is still healthy, and started flowering again in early November, although it is rather sparse at the moment, showing adverse reaction, predominantly I feel, to the extended drought conditions of recent years.

I have found propagation of cuttings from it difficult, until the recent year, (see later). With what little successes I have had however and also with several purchased specimens, I have not yet succeeded in establishing another plant of this species in my garden, all having been lost fairly early. Ted Newman at Dural has also lost his specimen after first flowering and Graham Eastwood, at Bateman's Bay, although having maintained it well for about three years, lost his after a second hard pruning, in an attempt to develop a lower, more branched, growth form.

I said above I had found it difficult to propagate, until 2004. On 16/2/04 I set two cuttings which struck and were potted up on 4/4/04 with well developed root systems. I also struck a very small cutting later from a damaged branch end, but this did not survive very long after potting on. Of the former two, one has been potted into a large pot to be retained as a stock plant. After deloliation of the central stem in mid-October, one month later a new shoot emerged through the gravel mulch adjacent to the bare stem and this was followed in several days by two axillary shoots immediately above surface level. All three have progressed dramatically at slant angles and currently, (22/1/05), two exceed 180 mm in length and carry long budded spikes. The other specimen was planted in the garden, using my

post hole procedure, but appears to have been lost, although it has been left undisturbed for a while longer, just in case.

Having tried various ways to propagate this species previously, including bottom heat and by setting at a low angle to throw off misting water from leaf axils, I decided, on this occasion, to try something different. The cuttings, taken when flowering spikes were finishing, were set vertically and individually, into 85mm square pots. They were located in a warm north-west corner of the glass house under mist, but not subject to bottom heating. They stood on a bed of 3/8 inch blue metal which had grown a little moss from the frequent misting, but they were shielded from same by a 2 litre wine flagon, bottom removed, and without screw cap. The cuttings and propagating medium were thus kept relatively dry, available moisture coming from the blue metal bed by air convection through the flagons. The cutting tips maintained active growth throughout however and good root systems were developed in a reasonably short time.

I might add here that I have also, at last, been successful in striking *Pityrodia terminalis* using the same method, after many earlier propagation failures.

I had mentioned this propagation success earlier to Graham Eastwood and I received a note from him the other day referring to an article he had found while browsing old editions of the Australian Plants Journal. It was headed '*Verticordia grandis* from Cuttings' and was contributed by the Canberra Botanic Gardens, who also had been unsuccessful previously in propagating the species. They had finally made a breakthrough and coincidentally, the method they had evolved was similar in many regards to the solution I had come up with. For those interested, refer to Volume 9, No. 70 of the Journal, dated March 1977.

Getting back to the growing of *V. grandis*; I have given the subject of my planting of some considerable thought of late and I happened to recall an earlier brief statement by a woman in W.A. many years ago, to the effect that this species is best grown in straight gravel. I could not remember her name or where the comment was reported. I researched all volumes of the Australian Plants Journal but without success and I can only conclude that it was written prior to the publication of the first issue in December 1959.

I did however note some very good advice on the subject of planting of Verticordias, by early authors, many of them practising nurserymen, including a suggestion that very good drainage was often necessary with *V. grandis*, to obviate root rotting.

In asking myself the question 'why did my earlier plant survive while later efforts have failed', I recalled details of my earlier planting, and I now suspect these might provide the answer to my enigma.

In April 1988, a heavy storm had demolished a brick fence and the rubble had washed down through my property over an old roadbase track, resulting in a considerable deposit of gravelly material. I felt this might be very useful for building up an elevated garden bed to trial Verticordias. The bed finished up approximately 15 inches deep and along with some other Verticordias, *V. grandis* was planted.

It progressed well at first but suffered trauma at times in following years including, 4/90, complete defoliation following heavy summer rain, 11/93, severe foliage deterioration lasting 2 months when gas from pool chlorine accidentally blew over it, and 11/95, when the foliage became very chlorotic and I thought it was on the way out. I then recalled the source of the material for the gravel bed and realised in particular, the inclusion of cement mortar from the demolished brick wall. I tested for pH and found it very alkaline, so I gave it a heavy dressing of flowers of sulphur. It recovered after two years and as noted above, it is still a healthy specimen, although currently showing some effect, such as limited foliage development, which I attribute to the recent drought years and also failure to respond to my heavy pruning as mentioned in an earlier Newsletter.

CULTIVATION NOTES

In researching volumes of Australian Plants for comment on *V. grandis* I noted with interest, advice from a number of well established nurserymen on the growing of Australian natives.

One such article, by R. Doney in Volume 1, No. 4, was headed "Verticordia Can be Tamed". Bob Doney ran a successful nursery in Sydney featuring Australian Plants, prior to the commencement of our Society in about 1957.

I believe the opening paragraph of Bob's article particularly appropriate and I have taken the liberty of reproducing it here :-

“Experience of numerous species of *Verticordia* on FOREIGN ground adds to a finding common to many genera and species, of our knowledge; i.e., that we all are often misled in attempts to reproduce what we consider to be the natural set of conditions suitable to a particular plant, when in fact, we don't know what those conditions are. Further we find that many plants grow in SPITE of their habitat than because of it. If this were not basic truth we should cease all effort to civilise the native. Therefore, when we have no scientific findings (or adequate training to pursue them), let us be indefatigable triers and honest observers, and it follows that *Verticordias* can be brought into the garden and retained”.

To me, Bob's statement is an encouragement for us to give special thought to what might be the reason some of our plants fail. I am heartily sick of hearing the comment:-“That one is for the too hard basket” or “That is a drop dead plant”. I am waiting in vain, for the speaker to qualify the remark with some explanation as to why that should be so.

I believe we must first ask ourselves that question. When we lose a specimen we should firstly do a post mortem, and I believe much can be learned by careful examination of the below ground plant section. Our assessment should be noted down for future reference. It may be an over simplification, but it seems generally to be conceded that many problems can be overcome with adequate attention to drainage. This of course brings in the matter of climatic variation, as rain occurring at a particular time in the annual cycle may vary the resultant plant hazard.

To put it simply, root examination can probably tell us with reasonable certainty if :-

a.-The drainage was adequate to obviate rotting of leader roots or sometimes loss of fine roots.

b- Both leader and fine roots indicated good development and maintenance.

c- If 'yes' a check for collar rotting can be made by breaking the stem and roots progressively from ground surface level, both above and below, to examine the colour of heartwood and state of the cambium layer. Heartwood colour progressing from brown or ashen to green, on moving away from ground level, would suggest collar rotting.

d- If collar or root rotting not evident, excess drying out might have contributed to the loss.

Very shallow root development might suggest consideration of other growing conditions, such as inappropriate soil type, or other cultural factors.

e- If the specimen had been badly potted originally, or had suffered from coiling or restriction of the roots from having been held in the pot too long before planting .

Answers to a,b,c,d and e could influence the next planting of the particular species.

For more complete discussion of aspects and intentions of my post hole planting procedure refer to recent Newsletters.

As with *V. grandis*, I would expect that additional considerations for particular species might ultimately seem desirable and thereby demand variations to the planting procedure, and/or subsequent, after planting treatments. To date however, the process, in seeking to cope with some of the soil-based hazards noted, has generally seemed overwhelmingly successful

I have to note however, adverse results with two planted specimens.

V. attenuata was planted 26/5/04. It was a surplus stock plant having been grown in a 200mm pot and seemed quite healthy and robust. It made very good early progress and budded up heavily in advance of six others of the same species. In late 11/04, after two exceptionally hot days, (40+), following quickly upon a very cool week, it started to deteriorate. The flower heads were sheared off but to no avail. Root examination in mid-december disclosed a heavily massed fine root development, apparently as a result of the welfare state conditions it had enjoyed as a stock plant. Leader roots however were in short supply and did not exceed 130mm in length. There was no evidence of collar rotting. I believe the loss could be attributed to drying out of the mass of fine roots without adequate main root development, from A:- Overdevelopment in the pot prior to planting out

B:-Being treated as other specimens in the garden,(which were planted early, thereby promoting leader root development in situ), with little or no watering after initial establishment. I believe this supports my opposition to planting out of mature specimens, unless very favourable weather conditions ensue for at least the early years, or constant hand watering is maintained.

The second specimen was *V. fragrans*, planted 1/1/03 in an open situation.

This plant grew particularly well; the best example of the species I have grown. It was staked adequately against wind damage, lightly pruned as it grew and flowering last spring was the best I have achieved. Root examination disclosed no sign of root or collar rotting. The apparent loss occurred at the same time as the *Vert. attenuata* above. Breaking of the stem and leader roots disclosed healthy green

wood throughout, so although it appeared dead with many leaves having dropped, perhaps it was merely reacting to the weather conditions at the time and might have recovered later? Refer earlier comment by Alex. George.

Another specimen was planted 30/11/02. in a less favourable position; so I thought, with adjacent companion shrubbery. It has been a much slower grower but the growth and flowering recently has been good and it is now approx. 80% as well developed as the lost? specimen.

I could not suggest a reason for the apparent loss unless it was the environmentally different garden situation. I have noted *V. fragrans* at Eneabba. where it occurs among mid-height, heath shrubbery. I was once advised by a resident there that the whole of the northern sandplain in the area is underlain by a permanent water table at about one metre. One could well imagine that in dense heath shrubbery deep rooted genera such as members of the Proteaceae would access this with resultant leaf development increasing the humidity level for lower foliage. Being one of the round, or 'lettuce-leaved' Verticordias, perhaps an open situation is not to the best of its liking, especially under the variable and extreme weather conditions such as of late in Eastern Australia.

Perhaps though, as Alex. George suggests, I was a little hasty in removing it.

Verticordia densiflora.

I have grown two varieties of this species for a considerable time and have experienced very little difficulty in maintaining them. Several considerations however might be of special interest. Following the article in Newsletter No 40 by Audrey Gerber on pruning, I am now giving this subject generally much more attention, but particularly to early pruning, and am particularly happy with results.

V. densiflora var. *cespitosa* I referred to this variety in NL 41 noting that a specimen planted in 1997 had never flowered, despite it having grown into a tall plant that had been pruned annually, mainly for wind stability reasons, to limit its height to approximately 800mm. This specimen has continued to be vigorous but another flowering season has passed without it ever having flowered.

On the other hand a specimen planted in Oct. 2002 using the post hole procedure was pruned regularly as it grew, to limit its height, and so produce a dense and spreading, lower growth form, 450mm tall x 550mm diameter. This flowered very heavily in 2003, virtually obscuring the leaf growth.

It was tip pruned again during the 2004 growing period to 500mm tall x 850mm diameter and has again been completely covered by millions of flowers.

When Ted Newman and I made a trip to W.A. several years ago and discovered many verticordia specimens low, spreading and very floriferous, Ted conjectured that perhaps this growth form might well be attributed significantly to grazing by feral animals? In support of this surmise I have noted a claim recently that when plants are pruned regularly, more abundant and larger flower size ensue and it was suggested that this was a natural plant reaction in producing a greater seed yield to ensure survival of the species.

V. densiflora var. *densiflora*. This variety has previously developed for me into a rather leggy, multi-stemmed, medium height shrub which has always proved a little vulnerable in high wind.

On the strength of my experience with var. *cespitosa* I have experimented with a specimen in my stock collection. It has been kept to about 200mm tall to date with early and frequent tip pruning. It is multi-branched and spreading and produced flower heads on all stems. New specimens have been recently planted in my garden, and if the above treatment proves satisfactory here, I propose to remove the older leggy plants

MEMBER REPORTS

Recently joined members **Adrian and Mae Lamande**, Donvale Victoria say:-

"We currently have *Verts. plumosa*, *mitchelliana*, *drummondii*, *chrysantha*? (I suspect this might more than likely be *V. chrysanthella* as it has frequently been misnamed by nurserymen), all growing in our garden; some for 1-2 years, others quite new. As well as this we have also had success in growing *V. chrysantha* from cutting and *V. plumosa* from seed.

In a second letter they sent after receiving our Newsletter, they said:-"-----it is good to see so many other people having success with verticordias in such a range of climate. All of our previously

mentioned verticordias are doing well. *V. chrysantha* is starting to bud up and we wait for it to soon burst into full flower.---It is the oldest vert. in our garden; quite compact, and regular pruning is done to keep it that way. In early winter I put some of the prunings into our cold frame, without bottom heat and within three weeks two had struck and were put into thumb pots and seem to be doing well. Having success with these in winter, I decided to try *V. drummondii* as well. From 10 small tip cuttings I had 6 strike within 3 weeks, but unfortunately some defoliated in the cold frame. At the same time many Dryandra seedlings developed some sort of fungal attack. I increased the ventilation and sprayed for glass house thrip and the fungus occurrence has decreased if not disappeared.

We have also had some success with *V. plumosa* from seed. A \$1.00 packet from Nindethana was treated with Wildflower Seed Starter, (a poor replication of smoke), and sown in autumn. By the end of autumn we had approximately 20 seedlings. A few of the weaker ones died after pricking out, but about 15 still remain. This week I took five out of the cold frame to harden off.

In summer a \$1.00 packet of *V. roei subsp. roei* was sown, however seedlings are yet to appear and I think I have lost hope. I will give them till the end of summer, but I don't think this will help.-----

We are currently seeking more verticordias but have not had much success with the nurseries we have tried. It would be much appreciated if anyone could post us either propagating material, seedlings or small struck cuttings they have grown. We would be more than happy to pay postage or any other expenses required or supply some of our seedling/cutting grown plants when available-----

The ones we are most interested in are *Vertis. galeata nitens, cooloomia, plumosa* var. *grandiflora* (white), *nobilis, grandiflora, grandis, eriocephala, ovalifolia, oculata, muelleriana* and *chrysostachys* for now, but we would be prepared to try anything we don't currently have. If required we could arrange transport.

Bob O'Neill, Katandra Gardens, Wandin, Victoria, in a brief note, (8/04), commented favourably on my apparent approach of maintaining individual logs of plant treatments and performance. Yes Bob, I confirm that this is done from go to woe. I don't know of a better way of studying cultural requirements of plant species from an 'alien' climatic environment.

He reported two "new" verticordias put in some months ago, both faring well in a raised bed of potting mix; "*V. galeata* is a grafted plant and *V. monadelphica* is on its own roots. Both are small plants but the propagation finger is waiting patiently."

He says "drought has not affected us. In the driest year recently, we had 799mm of rain, the most difficult part being an extended dry period in the summer; the old saying 'not how much, but when it falls' being relevant. This year we have had 501mm so far. Additionally there have only been three frosts to date. We would expect 10-12 in a chilly year. With the plants we grow in our location, a slightly drier year is a plus. Generally the garden is the best we have had it."

Graham Eastwood, Batemans Bay, NSW, reported (1/10/04). "As I write, the rain is soaking us well and truly. Up till now everybody in the shire has been on level 3 water usage, with the only watering permitted, by bucket, every second day, for 1 hour. The garden however has been quite colourful. Many verticordias did their job but some others were affected, many because of the dry late autumn, winter and early spring

Vert. Stamiosa subsp. *cylindracea* var. *erecta* flowered very plentifully till the 3rd, week of September.

V. chrysanthella has been glorious and is still in full bloom.

V. pennigera is very healthy. It did have a few flowers during the cold months but now spring buds are gradually showing.

V. plumosa only started to produce flower bud in late October.

V. fragrans has finished flowering, 11/04, and has started new growth.

V. attenuata is fresh and ready to go.

A young *V. mitchelliana* has had a few nice flowers and is stiffening its stems for growth

V. monadelphica is battling but not very good and I estimate it has only a 30% chance of keeping alive..

Recent plantings are *V.s attenuata, drummondii, acerosa, lindleyi, blepharophylla, brownii, argentea, argentea* (white) and *chrysostachys* var. *pallida*

Two seedlings of *V. cooloomia* have been static in the garden for some time, but now the rain and the spring heat should get them going.

Graham commented (1/05), that because of the difficult weather of recent years many of his plants were dropping leaves and hence were pruned heavily. Many of these are now putting on new growth and no verticordias have been lost.

He added:-“ *Verticordias minutiflora* and *fastigiata* are now flowering , the latter putting on its best display to date”

Martin Rigg and Diana Leggat have sent me an update on their ambitious project at Yackandandah in north-east Victoria which is now becoming a little more advanced.

With weather during late autumn and early winter very dull and cool for a good three months they have had only mixed results in their propagation efforts, viz.:-

V. densiflora var. *densiflora*- 4 out of 4 but slow and with very small roots

V. mitchelliana- 4 out of 4, also slow but with very small roots

V. attenuata – 6 out of 6 with very good roots

V.s galeata, *blepharophylla*, *monadelpha* var *monadelpha*, *drummondii*, *fragrans* and *densiflora* var. *cespitosa*- no callous or root formation at all.

V. chrysanthella- 90% strike with good roots

V. plumosa - 90 % strike with good roots

They commented:-“ No wonder these latter two species are grown so widely when they root so well over winter”.

They have no bottom heat as yet but have mist activated by evaporative leaf mercury switch, (home made for \$5.00). They use Pro-Gel Hormone 3 IBA for cuttings.

[I believe Martin and Diana are experiencing what many of us, particularly in Eastern Australia, have discovered, viz. that there is an optimum time with many verticordia species for striking of cuttings. For many species this would seem to be from middle summer to early autumn, but some early flowering species, such as the two noted, seem to be basically winter strikers.

Graham Eastwood has also reported some poor propagation results during the recent very dry winter, and my own results have been less than I had hoped]

Martin and Diana are gradually accumulating new species as they have more time now to visit other gardens. After 4 inches of good soaking rain in mid November they have planted *V. lindleyi*. They currently have two *V. densiflora* var *densiflora* and two *V. attenuata* excess to their needs, so other group members are welcome to contact them if they desire a plant

They commented:- “In our display beds we use rotted hessian and a layer of rocks around each new plant to retain moisture and lower soil temperature. Next stage is a cover of gravel stone as a permanent mulch”.

They recently purchased the book by George Lullfitz ‘A New Image for West Australian Plants’, and comment:- “The displays of Verticordias as shown are magnificent and obviously of the most desirable species for the “Wow Factor”. Vivid balls of colour in a garden, to dot here and there in a season, is like splashing colour from an artists palette in a background of green-grey hues. There are nine species shown in the book. *V. nitens* is amazing with its intense vivid orange

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