

SOCIETY FOR GROWING AUSTRALIAN PLANTS.

VERTICORDIA STUDY GROUP.

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NEWSLETTER NO. 3 - JANUARY 1985.

May I wish all of you a very prosperous 1985 with particular emphasis on your achievements in the Verticordia direction.

The Study Group is pleased to welcome the following new ACTIVE Members:-

Mr. M.H.Hunt, Caves Road, Wellington, N.S.W. 2820.  
Mr. David L. Jones, 22 Brinsmead Rd., Mt. Nelson, Tasmania 7007.  
Mr. Norm Stevens, Box 92 Ongerup, Western Australia 6336.  
Mr. Dylan P. Hannon, 1843 East 16th. St., National City,  
California 92050, U.S.A..

New PASSIVE Membership is also welcomed from:-

Keilor Plains Group, S.G.A.P. Kealba, Victoria.  
Maroondah Group, S.G.A.P. Ringwood, Victoria.  
Canberra Region S.G.A.P. Australian Capital Territory.

DONATIONS.

The following bodies have made contributions in excess of that required for Passive Membership of the Study Group:-

S.G.A.P. Victorian Region - 1984 - \$ 3.00 & 1985 - \$ 7.00.  
S.G.A.P. Canberra Region - 1984 - \$ 3.00.  
S.G.A.P. Maroondah Group - 1984 - \$ 3.00.

These are very much appreciated and demonstrate to us that our efforts are worthy of their special support.

We also acknowledge the support of S.G.A.P. N.S.W. Region who agreed to meet the Study Group's costs for such items as telephone, postage stationary and photocopying for the establishment years 1983 and 1984.

VERTICORDIA STUDY GROUP SUBSCRIPTION.

It now becomes necessary for the Group to become self supporting. Accordingly I have decided that from January 1985 until further notice an annual subscription of \$ 3.00 be charged for both ACTIVE and PASSIVE Membership.

As ever increasing communication costs render it impracticable to pursue matters such as renewal of membership I appeal to all members to forward to me promptly their subscription for 1985.

Cheques should be made payable to myself or the Verticordia Study Group.

The challenge to grow Verticordias not only in winter rainfall areas but in varying climatic zones is one which I believe we are winning. Nobody should pretend however that all of the problems will be solved without a degree of dedication, and the Study Group needs the full support of all it's members.

### FUNGUS CONTROL.

In Newsletter No. 1 I suggested chemical control measures for the mildew like fungal attack on the stems of some species when they are at a vigorous growing stage. Jeff Mountstephen in Perth, told me he had successfully controlled it with the simple and innocuous expedient of spraying with White Oil.

Since arriving home accordingly I have tested this treatment and to date results appear quite encouraging. I would appreciate comment from other members after giving this method a try. One would hardly look to White Oil for use as a fungicide but perhaps a coating of it on the lush quickly growing stems, by cutting off air supply for a time to the fungus, arrests it's development thereby allowing the stems to progress to the more fungus resistant semi mature stage.

If this simple treatment is proved reliable it could have very significant implications for the species *Vert. nitens* in particular, whose rapidly growing preflowering leader stems seem to be especially prone to attack. When the fungal attack is neglected complete collapse of the plant ensues quickly seeming to indicate that it is the real culprit.

Brian Crafter's comments on this species which I quoted in Newsletter No. 2 may now be seen to have added significance. He reported that until he had adopted the practise of removing these leader stems from his plants he had not been able to prevent their loss. With removal a differing growth form had ensued which was more compact. Flowering was spread generally over the plant. It would seem that removal of the very rapid and lush growth concentrated in the leader stems was replaced by wider spread general development which was not so vulnerable to fungal attack

If this White Oil treatment does prove satisfactory with *Vert. nitens* it could open up commercial possibilities with the Cut Flower trade. This much sought after yellow "Morrison" is one of the easier species to propagate and cultivated plants could be an alternative to the ever diminishing stands in it's natural distribution.

### VERTICORDIA GRANDIS FROM CUTTING.

Much has been written over the years on methods of propagating this magnificent species from cutting. In early days it had even been claimed virtually impossible.

Subsequently however various methods have been reported which have ostensibly yielded a degree of success.

Mr. Bill Cane, an experienced nurseryman from Maffra in Victoria reported good results using new side shoots from a potted specimen which had been limed annually in early spring. From another plant which had not been given this treatment his results were nil.

The National Botanic Gardens at Canberra suggested that the medium in the bottom of the propagation tubes should be kept on the dry side.

Our own Study Group Member Pat Moyle has been achieving reasonably good results from side shoots using a "Potogator" for bottom heat. She commented that after striking the plants made very

TAXONOMY.

In Newsletter No. 1 I mentioned the work being done in Perth by Mrs. Elizabeth Berndt in co-operation with Mr. Alec George and the Western Australian Herbarium.

I was in Perth in September last and was very pleased to have the opportunity to pursue this matter a little further with her. It will be some time yet before the Genus revision has progressed to the stage where a comprehensive updated key can be prepared but I have her promise that immediately one is available it will be sent to us.

It does appear at this stage that the current list shown in Blackall and Grieve will be considerably expanded as many new forms, or in some cases species are coming to light.

I did succeed in getting from her however some advance information which will at least assist us to place some of our plants into correct groups thereby eliminating a little of the confusion.

In the very variable yellow group:-


The specific name "oreissei" is no longer valid.


The acerosa group. These have a distinct 10 ribbed calyx with deciduous bracteoles.


The chrysantha group. These have persistent bracteoles which are in 2 distinct pieces.

The grandiflora group. These have persistent bracteoles which are connate (Fused to form one piece). Flowers furthermore cannot necessarily be identified on basis of size as sometimes they can be quite small.

Of those with herbaceous appendages to the calyx:-

The pennigera group. These always have a denticulate apex to the petals thus:- 

The drummondii group. These always have a long fringe to the apex of the petals thus:- 

V. lindleyi. Petals are elongated and are either entire or are minutely denticulate at the apex with only a few teeth thus:- 

V. pholidophylla. This has very tiny distinctive foliage closely appressed on stems. Flowers are also tiny and the calyx has a distinctive honeycomb like appearance. Petals are ovate and distinctly fringed with cilia.

Still on the subject of taxonomy, Peter Bailley has sent me copy of correspondence from the Western Australian Herbarium indicating that the International Botanical Congress of 1981 has decreed that the "i" should be reinstated into certain plant names such as *Verticordia muelleriana*.



little growth in the first year but grew away satisfactorily in the second.

The late Mr. Les. Norton at Maida Vale W.A., used cuttings of mature wood which he set around the perimeter of a 5 gallon drum. They were inserted in a reclining position, the drum being filled with a mixture of sand and gravel. It was located in the garden in such a position that it was shaded from mid-day sun. The only attention given was watering in mornings with the rest of the garden using a rotary type general sprinkler. No overhead covering to maintain humidity was used. He claimed reasonable success and used the same method with various other *Verticordia* species.

Mr Brian Jack, wholesale plant nurseryman from Coorow, W.A., seems to have solved the problem. I have been informed he uses mature wood cuttings taken progressively along stems.

On this question of mature, as opposed to new wood Jeff. Mountstephen commented to me that the grey/green mature foliage of *Vert. grandis* had an abundant starch content whereas the new growth was completely devoid of it. He hesitated to draw inferences from the fact but felt that it could have implications.

For my own record, having tried to propagate *Vert. grandis* from "likely" looking material over a period of many years, I can claim a success rate until this year of exactly nil. I believe this corresponds closely with results achieved by the overwhelming majority who have enthusiastically put down cuttings only to see them hold on for many months but ultimately lose leaf colour and defoliate.

This year however I resolved to give the species one more try providing I could locate cutting material of a particular type. (My first precaution accordingly was to arm myself with a Collectors License from the Department of Fisheries and Wildlife W.A..)

I had read a paper presented 2 or 3 years ago in Perth at a Seminar of the nursery trade by I.R. Dixon of The Kings Park and Botanic Garden. The subject was the propagation of *Vert. grandis*. Results of controlled experiments were quoted which yielded a wide range of cutting performance. By far the best results were obtained from cutting material of etiolated form, (pale in colour due to the lack of exposure to light). This was obtained in winter from regrowth off rootstock of old plants previously burnt back by fire. It was found that very low success rate was achieved from cuttings taken once the characteristic pinkish stem coloration had started to develop.

I was fortunate to locate some of the above likely looking regrowth material at Eneabba in September following a bushfire during the previous February. Seven cuttings about 75 mm long were taken. They were selected from ones which had emerged from the rootstock from slightly below ground level so that the portion of the cutting to be embedded was the section which had been previously submerged in the sandy surface soil. Stem ends were dipped for 5 seconds in a solution of IBA and NAA diluted 5 to 1 with water. (I am not able to quote the exact concentrations of the original solution).

Of necessity my propagation procedures were quite primitive compared to the controls of light, humidity, hormonal treatment, soil mix etc. quoted by Mr. Dixon. The cuttings were placed around the perimeter of a 50mm propagating tube filled with crushed quartzite,

and carried with other species in a 2 litre plastic ice-cream container to which I had fitted a raised clear plastic cover. Tubes were stood on 1 cm of peatmoss and were watered by hand mister as required (approx. weekly).

After 7 weeks all cuttings had struck. They were potted up 1 week later and are all still progressing satisfactorily with good root and leaf growth, the tallest being now 170 mm high.

Another 5 cuttings of similar appearance green stemmed material but taken from above ground new growth were taken from a bulldozer attacked plant at Arrino. These were taken within a few days of the above and were given identical treatment but in this case the success rate was back to my usual zero.

The obvious question is :- Was I just lucky with the first group or was the selection of material significant? The answer will be provided when more of us have repeated the exercise.

#### VERTICORDIAS AMENABLE TO SHADED SITUATIONS.

Verticordia plumosa was noted in Newsletter No. 2 as a species which has sometimes been grown well in rather shaded locations. I instanced Keith Alcock's plant in Melbourne.

The best plant of this species I have seen in Sydney region is in Colin Thorley's garden at Baulkham Hills. It would get virtually no sun in winter and in summer only a little in late afternoon. According to Col. it flowers very well. I was interested to note also that when I examined it at Christmas time it was still fully foliated having shown none of the dormancy effects I have come to expect with this species when mature.

Another rather shaded garden in which growing of this species does not seem to present any problems is that of Bernie Clarke at Oyster Bay.

By way of contrast Dennis Margan has found this species one of the most difficult to maintain. It is perhaps not a coincidence that his plants; in large containers are located in a warm sunny situation, and given very little hand watering.

Plants in my own garden of recent times have also failed given sunny situations with minimal or no hand watering, whereas previous ones in rather more shaded parts of the garden had lived many years.

I referred in the earlier Newsletter to the rather shallow root system which this species seems to develop. It may well be that its apparent tolerance or perhaps even liking of a degree of shade is more atune to this root system unless other compensating factors prevail. I noted Glyn Sago's plants at Pomonal, Victoria were in very shallow sand over laterite bed and Richard Mc. Fayden's at Charlestown N.S.W. in deep sand but with vegetative mulch.

Verticordia chrysostachys is another species which Bernie Clarke reports doing very well at the moment. It is in a location which receives a summer maximum of only 3 hours sun per day in a rather dry elevated bed of predominantly broken sandstone. This plant has been tried in several different garden positions but on each previous occasion had regressed with complete defoliation.

Verticordia minutiflora is another which Bernie Clarke grows satisfactorily and which appears rather shade tolerant.

#### ESTABLISHMENT OF JUVENILE PLANTS.

In Australian Plants, Volume II, No. 92, I suggested using a bell jar or improvised wine flagon as an aid to garden establishment of juvenile plants. I still adhere to this practise throughout the year which enables the plant to develop the bulk of it's root system in situ. I have recently noted plants of V. mitchelliana and V. nitens which were planted thus in March 1984 directly from the propagation tube made no new growth until October 1984 when new growth commenced. The bell jars were then removed and despite complete lack of hand watering they have continued to make rapid progress and are well branched. They are both currently 150 mm high.

Jeff Mountstephen in Perth however gave the method a trial and found that the summers there are so hot and dry that the juvenile plants did not survive.

He does agree however with the concept of planting out directly from the propagating stage but does this through late autumn and winter. With the weather in Perth at these times very humid and relatively cool he finds it unnecessary to use the bell jar.

The obvious inference to be drawn from these comments would be that cuttings should be set, where possible, for striking at a time to suit weather situation where they are to be grown on, thereby obviating the necessity to stage them in containers.

#### STUDY GROUP MEMBERS IN W.A. AND S.A..

Neil Arthur is pursuing the propagation of some of the more desirable species such as Verts. grandis, ovalifolia and oculata by tissue culture process. To date he has worked out a satisfactory multiplication media but has yet to find a media which will produce a high degree of root initiation. Nevertheless he is confident of same in the not too distant future.

Alex. Hooper is a very busy man running Xanthorrea Nursery. Nevertheless he is selling what I believe is the greatest range of Verticordia species in Perth. He has planted a large garden display bed and many species are doing very well.

Pat and Norm Moyle as noted earlier have just moved to Mandurah where, Pat told me they would have more room and better conditions to pursue the in-ground growing of Verticordias. She told me they had made some plantings already and that two plants of Verticordia grandis were thriving in the sandy soil and were making far superior growth to that achieved at Floreat Park. This makes me very envious as at the latter address I was greeted by a 3 feet high plant of same in flower growing on the footpath in front of the property.

At Floreat Park they had grown specimens mainly in large containers, where I found the collection, many of which were in flower, really spectacular. There would be very few Verticordia species not in this collection.

I believe a prominent member of the Kings Park and Botanic



Garden has also expressed his admiration and envy saying that it puts their efforts to shame.

The battery of plants stands on brick paving and is watered regularly in dry weather. Slash watering between the pots is used which avoids wetting of the soil surface. It is also less damaging to the flowers. Pat has found that some species do better in the traditional type earthenware pots than in the plastic type currently in common use. She feels that the earthenware type tend to keep the root system cooler although more frequent watering is often required.

Jeff Mountstephen would have to have the largest collection of *Verticordia* species in Australia grown in the ground. Since I saw his garden in 1982 he has introduced a quantity of yellowish sandy loam containing a trace of laterite, as is frequently found in the W.A. sandplain country. (I would love to have a few loads of it over here.) Many species including *Vert. etheliana* are doing very well. From my memory I believe I am correct in saying that little, if any vegetative mulch is used.

Norm Stevens and wife Jane are the stalwarts of the wildflower community at Ongerup. Their virtual backyard is the Fitzgerald River National Park where several undescribed species of *Verticordia* have been unearthed. A stand of the rare and endangered species *Verticordia helichrysantha* was, I believe, discovered by Norm at Cape Riche. A new form of the same species has also been recently found in the park.

I was pleased to note Norm's efforts in propagation of, in particular, his local species. He is particularly welcome to the Study Group as it gives us representation and a chance to study growing performance in a new and slightly differing climatic zone which is noted for its rather low rainfall.

Brian Crafter's garden at his new address at Sellicks Beach south of Adelaide is really something. It is developed over four suburban sized blocks of virgin land where one sees such other plant species as *Banksia coccinea* and *Kunzea pulchella* in flower.

His *Vert. mitchelliana* was the largest of the species I have seen. *Vert. grandiflora* was thriving with mass plantation. *Verts. ovalifolia nitens* and *pennicillaris* were growing extremely well and according to Brian posed no problems except as noted above for *nitens* in regard to the stem fungal attack. *Verticordia monadelpha* was perhaps one of the species he found easiest to grow. It is so vigorous and tenacious that he has allocated a large area specifically for this purpose which he cuts heavily for the cut flower trade.

His soil is of deep light coastal type sand and his plants are grown in elevated beds or strip mounds. He uses a light vegetative mulch which he claims is of great assistance in his dry summer conditions. I noted his garden had been extensively fitted out for trickle irrigation. He told me however he only uses same until his plants have reached reasonable maturity. According to Brian the light mulch has not caused him any problems due I would think to his light soil type where humus break-down would be expected to be carried down from the surface a little more quickly and where summers in any case are naturally dry.

Phyllis Dadsell in Gawler S.A. is also engaged in the nursery trade and is a very enthusiastic *Verticordia* grower. Her soil type is brown sand which I would expect to be suitable for many species.

The garden is situated in an area where sand had previously been mined and now provides a warm wind free situation which should suit some species admirably. She is now getting it back to "scratch" after having been forced to neglect it for several months in the weed growing season.

#### SOME CULTURAL OBSERVATIONS.

Understanding of seasonal growth patterns in relation to rainfall is one subject which has attracted my attention since embarking on this concentrated "attack" on the genus. Sydney's winters, unlike those in the south of the Continent are traditionally dry. Our summers tend also to oppose those of southern areas.

In Perth Pat Moyle commented to me that in the rare dry winter conditions that can at times occur there, many species go dormant and cannot be encouraged by hand watering to make reasonable growth. It is not surprising then that in Sydney optimum growth of many species is seeming to occur during summer, where during January, our hottest month, despite an occasional short hot spell of 37 to 40 degrees C, our average daily maximum is of the order of 26 degrees. To many *Verticordias* this must seem rather a push over. I note also that flowering time for some species appears to be later here than in W.A..

Some species of course, e.g. *acerosa*, *chrysantha* and *huegelii* do seem to be exceptions to the rule and seem to be predominantly winter growers. In this regard they follow more closely a pattern I have noted with a few other species of Australian Plants which seem to be more influenced by the calendar than by the weather, come what may.

The winter growing species noted above do perform well in Sydney but of the others one is at times tempted to envy the results achieved by growers in the winter rainfall belt. I am beginning to wonder if, with augmented summer water supply during drier spells we could produce growth and consequently flowering performances nearer to their standard.

While recently in Wongan Hills W.A., I observed many plants of *Vert. monadelphica* which is one of the indigenous species in that area. By far the best grown specimen however I have ever seen either in the natural state or under culture was one that had been planted in the Apex park in the main street of Wongan Hills. It was grown in an open area free from shade or root competition. Soil was gravelly sandy loam yellowish in colour and bed was slightly elevated above nearby path. The soil surface was so hard that it was quite difficult to make even a scratch mark. The plant was about 2 feet high and 5 to 6 feet across. It was hemispherical in shape with very compact foliage completely to ground. It was very heavily in bud with some flowers beginning to open. Nearby several plants of *Vert. chrysantha*, though much smaller, had assumed a similar dense growth form.

What interested me particularly however was the existence of a trickle irrigation hose which emerged from the ground near each of the plants. As this area is one with wet winter conditions and the hose had obviously not been used recently I could only assume that it had been installed to maintain plant growth through the hot and dry summers. The evidence was certainly there that despite a natural tendency favouring summer dormancy the plant had relished the added attention. It is not so surprising then that in Sydney, many *Verts.*



seem to favour the summer period for growth.

The matter of summer watering must of course be assessed in relation to the likelihood of fungal attack to the stems or root systems. I suggested in previous Newsletters, and I see no reason as yet to revise same, that apart from a few species I am growing, (mainly from the herbacious appendage group), attack by collar rot does not seem to constitute the major hazard in our summers that might have been expected, providing reasonably healthy soil surface conditions are maintained. With the above group my experiences to date seem to indicate that sterile surface conditions should be provided. I believe the sun and weather provide the best means of achieving this condition. (refer to my article in Australian Plants Vol. II, No. 92). Other factors of understanding and cultural management will undoubtedly emerge in due course.

Another factor which may influence our use of augmented summer water supply is the matter of dormancy which many species, I believe, do appreciate in summer after flowering. From my experience to date, I feel it would be unwise to attempt to deprive plants of at least a short dormancy period. This may well be controlled by the time it takes for the bulk of the old flower heads to fall. If new growth is then observed this may well be an appropriate time to start watering.

As your Study Group Leader it has been most instructive for me to have had the opportunity to date to visit the gardens of nearly all of our Active members.

The advantage of personal discussion at the garden level is ideal and it assists in contrast and comparison of results achieved under differing climatic and other conditions, thereby I believe greatly contributing to understanding of the problems we are all striving to overcome.

Unfortunately it is not practicable to pursue this type of contact on a regular basis and I must rely on all of you to keep me informed of your successes and failures so that we may further our documentation.

Your comments either for or against any of the observations I have made would be welcomed.

Finally may I again draw your attention to the urgent matter of subscription.

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