

VERTICORDIA STUDY GROUP.

ISSN - 0811 - 5346.

NEWSLETTER NO. 2 - MAY 1984.

Since issue of Newsletter No. 1 I have been pleased to welcome the following as active members of the Study Group :-

Ross Dart, 78 Robertson St. Casterton, Victoria 3311.
Roslyn Joseph, 259 Bennett Rd. St. Clair, N.S.W. 2760.
Richard McFayden, 2 Dickinson St. Charlestown, N.S.W. 2290.
Kevin Stokes, 27 Ingar Close, Toronto, N.S.W. 2283.
Jennie West, School Rd. Balliang East, Victoria 3340.

Jennie West is a member of Werribee Group S.G.A.P. and has been appointed to represent that body in the activities of the Verticordia Study Group.

Glyn Sago has advised that he will shortly be leaving the address noted previously at Pomonal to take up residence near Geelong. Those of us in particular who have seen Glyn's magnificent garden at Pomonal will wish him every success in his new area.

Passive membership of the group includes :-

The Victorian region of S.G.A.P.
The Canberra Botanic Gardens Plant Sciences Library.
The N.S.W. region of S.G.A.P. who kindly agreed to assist the Group financially for the initial years 1983 and 1984.

GENERAL COMMENT ON PROGRESS.

The Sydney summer of 1983/84 has been almost a non event with prolonged periods of wet and/or cool weather. Following the extraordinarily dry summer of the previous year a useful opportunity has been provided to increase our understanding of the Verticordia genus and re-assess proposals for cultural guidelines.

From a personal point of view I found the current season more difficult than the previous with a number of species, several of which I lost completely. On the other hand there were some that came through with flying colours.

As a basis for future member comment therefore I propose to make observations species by species progressively reviewing them in future Newsletters as appropriate from my own and other Group Members experiences. I look forward to the time when we will be in a position to nominate, with a greater degree of certainty, requirements for the establishment of many of them. Any comments you may contribute, either supportive or contradictory will greatly assist in the development of this understanding. I regard the whole of Australia as our laboratory in this research exercise.

Last November I was briefly in Victoria and was fortunately able to incorporate garden visits to all Study Group members in that State. These visits were very enlightening and as a result I have seen fit, earlier than I had originally intended, to review some of the cultural methods I had suggested in my introductory article. (Australian Plants Vol. 1 No. 92.)

In Newsletter No. 1, I noted the shallow root development of some Verticordia Species grown in elevated light soil conditions. In Glyn Sago's garden several species were doing extremely well in about 50mm

of light grey sand over a dense laterite base, the relic of an old road. He also used a 50mm mulch of light coloured coarse granular material containing a high percentage of Quartz particles. No fertiliser or summer watering had been given.

In Jennie Wests garden the soil type was very heavy dark brown clay loam. Again all Verticordias were grown by their own resources and were doing extremely well, a condition she assured me from her previous experience, could be expected to continue.. She quoted Balliang East as being a summer Rain shadow area.

In Newsletter No. I, I referred to control measures for a mildew like attack which constituted a problem with some species. Another very destructive fungus which I am led to believe is either Botrytis or one closely allied appears to have been responsible for losses in some species. It shows initially by attack on the lush new stem growth and if not controlled quickly causes rapid deterioration of the plant. A Native Plant Nurseryman has advised that it is often very prevalent with many species of Australian Plants during the warmer part of the year in humid locations in near coastal areas.

My observations to date point to this as being a major cause of losses with the species *V. mitchelliana* except in inland areas. The attack has generally occurred when plants were making extremely lush growth which, with the above species has been from November through February, when climatic conditions were appropriate.

I have effected some control with applications of Benlate but because until recently I have failed to fully appreciate the problem and the danger period for same and because the spread of the fungus, if not arrested early is very rapid, the plants have generally been lost. The Nurseryman mentioned above advises that Bravo is a more effective fungicide for the treatment of Botrytis but to date I have been unable to acquire same.

As Benlate is a systemic fungicide the answer may be to use it as a protective measure at times when this type of growth is evident, followed by a Bravo treatment should it become apparent that stronger measures are necessary. The trap for young growers to date has been the apparent health and vigour of the specimens leading to a false sense of security that all is well. It now appears that this very type of growth induces a humidity build up in the region of the succulent type stems which in themselves are more vulnerable through lack of maturity.

Another problem associated with this mild and often wet summer has been the effect of insect attack on the foliage. The spider mite in particular has shown a liking for some of the finer foliated species. I have found Ekatin effective to control same but when the problem was neglected the consequent defoliation proved a significant hazard threatening survival of the plants.

Chlorosis has been a minor problem with a few species, particularly some of my potted stock plants. It probably relates to my soil mix but has responded quickly to applications of Iron Chelates in liquid form as per directions.

In Newsletter No. I, I referred to a virtual freedom from collar rot among my Verticordias. This summer again has produced some hazards in this regard differing from the drier conditions of recent years. I have noted some vulnerability to attack particularly among young

specimens of the "herbaceous appendage" group including *Verticordias pholidophylla* and some forms of *drummondii* and *pennigera*.

Some of the above comments including the necessity to use fungicides may well appear a little daunting to some members of our group but this is very common practice in the commercial side of the horticultural industries. It should also be remembered that while the obvious horticultural value of the genus *Verticordia* has been recognised since the early discovery of our flora most species seemed to have finished up in the too hard basket. I believe we are on the way to correcting this situation. It may well be that more fungus resistant strains of some species will ultimately be found and generally used. In this regard I have noted considerable variation between different forms of *Verts. chrysantha* and *plumosa* in the incidence of attack by the mildew like fungus.

SPECIES COMMENTS.

The following observations are based on my own Sydney area experience unless specifically noted otherwise. I have not included a number of species awaiting flowering to determine identification, undescribed species, or all forms of some variable species.

V. acerosa. (Narrogin area - badly drained).

Growth rate fair in winter. Summer dormancy. No fungal problems. prone to attack by spider mite but tough enough to recover. Slow to flower. Growth rate in medium textured brown loam better than in light grey sand.

V. brachypoda.

Summer dormancy. Growth restarts early Autumn. Slow to flower. Slightly prone to insect attack.

V. brownii.

Tends to make rapid and lush growth in late spring and early summer. Several specimens lost at this stage in elevated light soil beds. Seems much more tenacious in medium textured brown loam. Very subject to attack by spider mite in summer when vigorous as noted. Since more aware of hazard of *Botrytal* fungus I could not rule this out as a cause of summer losses as species seems to respond favorably to wet conditions at this time. Seems to be easiest to propagate mid to late summer using small tip cuttings of lush growth.

Peter Olde reports similar early summer lush growth followed by sudden loss with plants grown in light soil.

V. chrysantha.

Summer dormancy. Growth restarts April. New growth should be watched for mildew like attack. Cuttings strike easily in late winter from preflowering growth. Vigorous species with very prolific flowering.

V. chrysostachys.

No fungal problems noted. Growth commences mid spring carrying through to mid autumn responding favorably to wet periods. Lush tip growth very subject to attack by snails and slugs. In efforts to effect garden establishment growth rate has been unsatisfactory in light grey sand. In med textd. brown loam plants were lost quickly.

V. densiflora. (Common form).

In Newsletter No. I, I referred to the shallow root development with apparent vulnerability to sudden collapse in late spring when *V. densiflora* is grown in elevated light sand beds. Betty Rymer and Peter Olde have reported similar experience. I have found the species reliable in gravelly soil, in medium textured soil and in unelevated situation where protection from drying out of the root zone was afforded by rock pieces. No fungal problems. Summer dormancy.

V. densiflora. (Bindoon form). Foliage fine and light green, multistemmed and dense growing.

This form developed deeper root system than above and grew satisfactorily in elevated light sand. Specimen lost after three years indicated that root knuckling from bad nursery potting on or from being left too long in container contributed significantly to final loss. No fungal or significant insect problems. Seems a little vulnerable to collar rot attack in juvenile stage.

*V. drummondii.**

Stock plant lost. Juvenile plants collar rot sensitive in Summer. No apparent foliage fungal problems. Jennie West is growing the species satisfactorily in heavy clayey brown loam.

V. sp. affin. drummondii. (Manmanning area).

No fungal or collar rot problems. Seems to be tenacious but slow in elevated light sand. Very prone to caterpillar attack, but has recovered from complete defoliation.

V. etheliana.

Stock plant only. Difficult to propagate. No fungal problems. Limited growth period from mid autumn to early winter.

V. forrestii

Stock plant only. growth rate slow but reasonably continuous. No apparent fungal problems.

V. grandis.

Stock plant only. Plant in elevated sand bed did not establish. Propagation difficult. No fungal problems. Responds well to wet weather periods throughout year. New growth very attractive to snails and slugs.

V. grandiflora.

I have had continual difficulty in efforts to maintain this species. From recent experience I now suspect Botrytal fungus attack after shortlived growth bursts. Propagation from new growth very easy.

V. habrantha,

No fungal problems. Slight tendency toward chlorosis of new growth but responds to iron chelates. In elevated light sand growth rate slow but tenacious.

V. sp. affin. helichrysantha.

Growth rate slow , predominantlly autumn and winter. Very subject to attack by mildew like fungus. New growth tends to be chlorotic but responds to iron chelates. Very prone to attack by spider mite.

V. huegelii. (Erect form)

No fungal problems. Winter grower. Summer dormancy. Growth has been satisfactory in light sand.

V. huegelii. (Prostrate form)

No fungal problems. Winter grower. Summer dormancy. Tenacious in both light soil and medium texd, brown loam. Glyn sago's plant in sand over laterite good.

V. humilis.

Has been difficult to maintain vigorous growth beyond juvenile stage. No fungal problems. I feel that a hot micro climatic situation would offer better chances with this species. Some tendency towards chlorosis of new growth but corrected with iron chelates. Stock plant lost.

V. insignis. (common form).

Subject to attack by mildew like fungus. Has been difficult to establish beyond juvenile stage in Sydney. Victorian results seem a little better. Growth predominantly winter with summer dormancy.

V. insignis. (Cream flowered form).

Stock plant lost.

V. "interioris" (name not officially registered yet).

Stock plant lost.

V. lepidophylla.

No fungal problems. No insect problems. Seemed to be tenacious in elevated light sand but made little growth before finally being lost. Stock plant also rather slow.

V. sp. affin. lindleyi. (Eneabba).

Seems satisfactory in light or medium texd. soils. No fungal or insect problems.

V. minutiflora.

Growth in light soil unsatisfactory, in medium texd. brown loam good. Slight attack only by mildew like fungus.

V. mitchelliana.

I have lost this species on several occasions from what I now believe was the Botrytal type fungus. (Refer earlier comment in this Newsletter). I have reports of similar losses in near coastal areas of Victoria. In inland Victoria the species seems generally to grow without this problem. I have also needed to control attacks by the mildew like fungus. In elevated light soil my plants have achieved little root penetration making horizontal growth 50 to 75 mm below surface. In medium texd. brown loam however deeper root development occurred. Glyn Sago's plants in 50mm light sand over laterite bed have grown exceptionally well as have also Jennie West's in heavy brown clayey loam. Richard McFayden's plant at Charlestown however by way of contrast has progressed very well to date in introduced light sand approx. 1 metre deep. This plant is mulched vegetatively and has some sandstone pieces near which may have prevented excess drying of the surface soil. If and when this plant is lost it will be very interesting to note the type of root system.

V. monadelpha.

Has made reasonable growth in both light and medium soils. Botrytal fungus attack appears to have been responsible for some losses when lush early summer growth has occurred. Control was effective recently on two specimens using Benlate. Fortunately attack was only partial on the plants, being detected early. Species grown well by Glyn Sago and Jennie west. (Reference to conditions above). Peter Altopher also growing satisfactorily in elevated beds of heavy brown clayey loam. The species tends to produce more compact growth in heavier soils

V. muellerana.

Stock plant only. Has been attacked by Botrytal fungus but recovered after Benlate treatment. Growth rate to date has been slow and mainly during warmer part of the year.

V. nitens.

Growth generally from mid September till April. Species very vulnerable to attack by mildew like fungus during growing period. Stock and garden plants lost but new cuttings have struck fairly readily.

Dennis Margan's stock plant doing well after treatment for above fungus.

Brian Crafter reports successful establishments since adopting the practice of removing the tall leader canes which this species tends to develop. He has found that cuttings taken from this growth produce plants which are compact and multistemmed whereas reproduction from lower foliage tends to produce the characteristic leader type growth.

Betty Rymer has noted that the species when grown in light sand has not developed a deep root system. Perhaps heavier soil types may be more appropriate.

V. oculata.

Stock plant only. No fungal problems. Has responded well to rain periods throughout the year, but new growth has proved very attractive to snails and slugs. Fortunately it has shown ability to recover despite virtual defoliation.

V. ovalifolia.

Stock plant only which unfortunately has lost its healthy appearance since autumn weather has commenced. I have made several attempts to establish this species in light soils but all have failed after making promising growth starts in late spring and early summer. Species has responded well to wet weather particularly in summer.

V. oxylepis.

Plant in light soil has been tenacious but has made little growth. No fungal problems. Stock plant currently making new growth. (May).

V. pennicillaris.

Juvenile stock plant only.

V. pennigera.

Plants in juvenile stage have shown some vulnerability to collar rot attack. Growth rate poor in light soils. Growth in medium tevd. brown loam good but plant lost late summer. I suspect Botrytal fungus attack as it was near other species which were affected at this time.

V. pennigera. (Form from East Mt. Barren area.)

Species has done well in medium text. brown loam with continuous flowering throughout summer. No fungal problems. Growth response to summer rain good. Appears to be more tenacious than above form.

V. picta.

No fungal problems. Growth rate satisfactory in elevated light soil. In medium text. brown loam plant showed chlorosis and was quickly lost. Replacement suffered similar fate. Light soil plant has responded well to summer rain. Struck cuttings of this species have shown a tendency to develop rapidly a very deep root system. This would seem to explain its probable preference for light and deep soils and should, I think be well suited to adapt to drier summer conditions.

V. plumosa. *

This species has often been quoted as one of the few *Verticordias* easy to grow. While it is certainly one of the easiest to propagate observations indicate that further understanding will be required before we can be fully confident. I have found it to be very subject to attack by the mildew type fungus although some forms have been more prone than others. It is also very prone to defoliation by the spider mite.

Examination of three specimens lost this summer in elevated light soil in all cases indicated a shallow root development not exceeding 75mm. This would suggest that the species may well be more suited by heavier soil types. I have previously had the species long lived in a bed comprised of about 60% gravel. Although the best garden plants I have seen have been in full sun this *Verticordia* seems to tolerate conditions of even reasonably heavy shade quite well.

Glyn Sago's plants in full sun in shallow sand over laterite bed were truly spectacular exceeding in growth and attractiveness any I saw growing naturally south of Pemberton W.A..

Keith Alcock's plant in a fairly shaded part of his garden was also very good. I believe this was growing in a rich dark medium loam and was so situated that good soil moisture would have been maintained.

Peter Altopher is growing the species well in heavy brown clayey loam.

By way of contrast Richard McFayden's plant has done very well in introduced light sand approximately 1 metre deep. He has used a vegetative surface mulch which may have been sufficient to prevent complete drying of the soil. I cannot as yet quote vulnerability of the species to collar rot attack but if it is reasonably resistant the mulching could be of assistance with light soils. As with Richard's *V. mitchelliana* I will be very anxious to follow up the below ground characteristics of this plant when and if it is lost.

Perhaps I could summarise the species at this stage by suggesting that heavier soil types offer the better chances for satisfactory establishment unless factors prevail whereby drying out of the soil in the region of the feeder roots at shallow depth is obviated.

V. plumosa var. *brevifolia.*

Stock and juvenile plants only. No apparent troubles as yet.

V. pholidophylla.

Juvenile stock plant lost from collar rot. Growth rate slow.

N

Ng
581.99441

8.

NEW

V. polytricha.

Stock plant only. Plants in elevated light soil showed tenacity but failed to make satisfactory growth. No fungal or insect problems. Good response to summer rain.

V. pritzelii.

Plant in elevated light soil suffered chlorosis and died without making satisfactory growth. Main stock plant lost after flowering. Dennis Margan reports similar experience. Juvenile stock plant currently making vigorous growth (Autumn). Species has seemed to respond with reasonable growth from summer rain.

V. roei.

No fungal or insect problems. Plant in elevated light soil tenacious but growth rate slow.

V. spicata.

Stock plant lost from collar rot attack. No foliage fungal problems apparent but growth rate had been very poor.

V. serrata.

Juvenile stock plant lost.

V. stenopetala.

Stock plant only. New growth commenced late summer. Control of mildew like fungal attack on new growth has been necessary.

V. wilhelmii.

Growth satisfactory in medium textured loam, but vigour has increased from early Autumn.

TAXONOMY.

The species I have referred to have been identified according to the Blackall and Grieve key.

As I am informed that revision of the genus is currently proceeding later clarification of these notes will be required.

This may be particularly applicable to the last named species as consideration is being given to reclassifying it as Homoranthus.

H. Maxwell Hewett.
Verticordia Study Group Leader.
47 Railway Street,
Mount Kuring-gai.
N.S.W. 2080.

