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**VERTICORDIA STUDY GROUP**

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**VERTICORDIA-HISTORY OF TAXONOMY**

The following extract, from NUYTSIA Volume 7, No.3, courtesy of the Western Australian Herbarium, is from the genus revision in 1991 by Alex. George and covers the taxonomic history of the genus. As with many genera in the Australian flora, *Verticordia*, except for several taxa, had not been revised since a major treatment by George Bentham in (1867).

“The first specimens of plants later to be known as *Verticordia* were collected in King George Sound in October 1791 by Archibald Menzies on the Vancouver expedition. These specimens, of *V.plumosa*, are now at the Natural History Museum, London. Most subsequent collectors gathered specimens of *Verticordia*, but it was not until 1826 that the first two species were named by Rene Louiche Desfontaines, and then in the genus *Chamelaucium* which he had described in 1819. Two years later, Augustin Pyramus de Candolle recognised these as a distinct genus to which he gave the name *Verticordia*. Although he did not explain the etymology, it has generally been taken as a reference to the ancient goddess Venus as the ‘turner of hearts’ (e.g. Shauer 1840).

Discovery of new species became rapid after the Swan River Colony was founded in 1829. Many species were described by European Botanists (especially John Lindley, Stephan Endlicher, Johann Schauer, Nicolas Turczaninow and Carl Meissner) from collections sent from the colony. Lindley published a new generic

name *Chrysorhoe*, for one species but it was not maintained by other workers. One species described during this period, *V. carinata* Turcz., was known only from the type until its rediscovery in March 1990.

In 1859 the first species to be described in Australia were published by Ferdinand Mueller. (*V. wilhelmi* F. Muell., published in 1855 is now placed in *Homoranthus*). By the time Bentham (1867), treated the genus in "Flora Australiensis", 37 species were known. Four new species were described in that work, one of which, *V. harveyi* has only recently been rediscovered. Between then and the above paper, however, research has been piecemeal. Later in the 19th century, Mueller described four more species. Spencer Moore described one in 1898, and Ludwig Diels and Ernst Pritzel several in 1904. Subsequently only six further species have been described, two by Charles Gardner in 1934 and 1943, one by Gardner and Alex George in 1963, one by George in 1966, and two tropical species by Norman Bymes in 1977.

Green (1985), listed 53 species for Western Australia, all except two of which are here maintained at that rank. To these may be added *V. decussata* Bymes from the Northern Territory. In the above paper, 97 species are recognised, together with 42 infraspecific rank. The large increase reflects factors common to a number of Western Australian genera: superficial resemblance of many species; the existence of localised taxa, many rediscovered within the past 30 years as accessibility improved; and lack of resources to review the genus earlier."

In 1994 four new taxa were described and discussed by Elizabeth A. George and Alex S. George, bringing the total to 100 species and 43 infraspecific taxa.

Despite the above publication and descriptive coverage in Australian Plants, Volume 18, No. 145, December 1995, I am still occasionally confronted with references to some species by people who are still hanging on to earlier identification keys. Among the most common are failure to distinguish between *V. chrysantha* and *V. chrysanthella* and between *V. drummondii* and *V. attenuata*.

## CULTIVATION NOTES

Verticordia plantings by **Ted Newman** and **Pat Newman**, Dural, N.S.W., continue, in the main, to make very good progress and are now at an appropriate stage where an assessment can be made of the adaptability of the various species tried, to the particular soil type, aspect etc.

I have noted previously that the soil was of a type reasonably common in the hilly surrounds of the Sydney area, but one, strangely enough, that had not been used to date by any members of our Study Group. It is basically a medium textured yellow loam containing an appreciable percentage of smallish concretionary ironstone, which shows predominantly on the surface with weathering. It has been deeply worked and formed into elevated beds and enjoys a fully open situation which, as well as providing good sun exposure, also allows for very good free air movement, but not with the same exposure to storm wind as some earlier 1993 plantings in a different area, to which I referred in Newsletter No.29.

Ted and Pats efforts provide an opportunity now to draw growth comparisons with similar species in my own garden under comparable seasonal conditions but with differing soil types and other cultural treatments. In most cases to date, superior growth performances are being achieved as noted below:-

Firstly the three survivors of the 1993 plantings:-

*V. longistylis* continues to flourish with attractive bluish compact form. My specimens have survived well but have grown more rangey and do not possess quite the same attractive quality of appearance.

*V. minutiflora* continues to maintain good compact shape. My specimens have tended to become a little taller and slightly more open.

*V. plumosa var. plumosa*. This specimen is the best example of the species I have seen, either in gardens or in natural distribution. It has maintained a dense, hemispherical form and is now approximately 1 metre high by 1.5 metres diameter.

The following notes refer to species in a newer garden section, planted from November 97. :-

*V. acerosa var acerosa*. After about 18 months this species has registered very good growth and has been free of fungal attack to stem leaders, a problem which has dogged specimens in my garden, where, I might add, I have yet to flower it.

*V. attenuata* Several specimens are making good early progress and are now about 800mm tall. In my garden plants have produced mixed results both under light and heavy soil conditions. I have formed an impression though, that in sand, providing adequate staking is provided, plants are a little more reliable.

*V. amphigia* is making good early growth but is yet to flower. Specimens in my garden are comparable, although I have had a little powdery mildew problems at times.

*V. brownii* is making very good early progress considerably better than similar aged specimens in my garden. Neither of these plants have flowered as yet.

*V. cooloomia*. This species has grown very well and quickly, to be currently over 1.2 metres high. It is considerably more vigorous than similar aged specimens in my garden growing in lighter sandy conditions. I did have very good success earlier with this species grown in post holes dug into heavy clay loam to about 600mm deep. The holes were filled with a mix of the loam and granite gravel. I found it very difficult however to keep the small black ants away from this species when it is in flower or preparing for same and I found out too late that as well as collecting honey they were harvesting brown scale on to the new growth. I tried treating with white oil but unfortunately the plants were weakened and died. A new product on the market, "Pest Oil", shows promise of better control and I will be waiting for the ants next time around.

*V. chrysanthella* A recently transplanted seedling from the earlier 1993 planted area is continuing to progress well. Of the three of my specimens to which I referred in N/L 31, specimen B, in a north facing garden edge continues to do best and is budding up well. Specimen A is still more compact, but is not as tall, while specimen C suffered further mildew attack and died.

*V. chrysostachys var chrysostachys* A rather mature specimen at planting appeared to establish at first but failed to carry through. I also have failed with this species on several occasions in recent years.

*V. densiflora var densiflora*. Juvenile stage- recently planted.

*V. densiflora var cespitosa*. Vigorous and reliable. Specimens in my garden have performed similarly.

*V. drummondii* is making very good early progress similar to *V. attenuata*. Flowered lightly last autumn. Specimens in my garden are growing comparably.

*V. etheliana var etheliana*. appears to have established well and is currently looking far more robust and holding better leaf colour than my specimens of comparable age. It has withstood some frost this winter and is heavily budded.

*V. fastigiata* is bunching up well into a small, compact shrub. My specimen is much older and therefore comparison at this stage is not appropriate, except to note that the species has also grown very well in my heavy clay loam.

*V. fragrans*. Died after flowering (See N/L 31) At planting, this specimen was also rather mature and in poor shape. I have also found this species rather fickle (as noted previously), having lost several plants after the last flowering, although I suspect they had been adversely affected by wind rocking. My longest lived specimen grew in a very gravelly situation.

*V. galeata* (Grafted). The first planting failed to establish but was in very poor condition when planted in any case and would have been a very doubtful starter. A more juvenile specimen is currently making good early progress. A grafted specimen in my garden is still in reasonable condition after five years and currently budding up, but it does appear to be showing its age a bit. Perhaps the unusually cold spring last year may have had some effect.

*V. grandis*. A thoroughly root-bound specimen made good growth for the first year but defoliated last autumn and currently appears to be on the way out. As I have had a specimen recover however in spring from autumn defoliation it has been left in situ and fingers have been kept crossed?

A more juvenile specimen was planted in April 98 and has made good progress but currently is showing some winter leaf-drop, although is still budding. A similar specimen in my garden in deep sandy conditions is performing similarly.

I have noted previously that this species seems to respond favourably to hot conditions in spring and summer, and in N/L 31 I referred to the unusually cold spring and early summer conditions in Sydney in 1998. Perhaps this may have contributed to the defoliation of the first specimen.

*V. huegelii var decumbens* is making very good early progress. A mature specimen in my garden continues to be very healthy. It grows in a heavy soil section. Several specimens in lighter sandy conditions tended to be chlorotic.

*V. hughanii* This species has been a little disappointing to date in Ted and Pats garden. Admittedly their first specimen was rather mature at planting and badly root-bound. Although it hung on for a while it was never vigorous. A younger specimen has hung on for a while after some initial progress, but is currently partially defoliated. Perhaps this is a seasonal effect? or could it be another candidate for the fingers crossed treatment? I have found the species a little fickle and lost two specimens last autumn after good earlier growth and flowering. These were grown in a deeply drained sandy section of the garden.

*V. minutiflora* As with the earlier planting this is shaping into a compact attractive specimen

*V. mitchelliana* In light of difficulties experienced in maintaining it in near coastal areas of Eastern Australia, this species is one which interests me particularly, as I have previously noted, Dennis Margan did have reasonable success however on a sunny hillside in skeletal sandstone soil and rubble. Ted and Pat's specimen, planted in 1997, was rather mature at planting and very root-bound and I am monitoring it with interest. It established well and continues to grow spectacularly although to date it has not flowered. A more juvenile specimen planted at the same time made good early progress but since last autumn has suffered the familiar leaf drop I have noted on numerous occasions, and I suspect its days are numbered.

*V. monadelpha var. monadelpha* is progressing well and is growing more compactly than similar aged specimens in my garden which tend to be taller and more open.

*V. monadelpha var. callitricha* Grew very compact and flowered well but last autumn after flowering it seemed to deteriorate and looked very "iffy". With the advent of winter however, it took a turn for the better and with the help of a few crossed fingers is still showing improvement. Two specimens in my garden grew and flowered comparably before failing to root rot.

*V. nobilis* Recently planted, but seems to be progressing well.

*V. penicillaris* This species has been difficult and currently appears to be on the way out. In my own garden it is holding a little better but still shows performance inferior to that of a specimen grown in earlier years at Thornleigh by Dennis Margan on a warm hillside in skeletal sandstone soil and rubble. I might also add that I have found the species difficult to propagate.

*V. pennigera* Has continued to do well and is currently budding up. I recall an earlier comment from Pat Moyle that she found this species one of the least troublesome *Verticordias* to maintain, and this has been borne out in my garden.

*V. plumosa var. plumosa* Several plants of the same clone as the above are progressing well.

*V. plumosa var. brachyphylla* (See also N/L 21). Made very good initial growth but died early last summer. Several plants in my own garden also made good early growth, but only one still survives and it is not over happy at the moment.

*V. plumosa var. vassensis*. Performance of this species has been very similar to that of variety *brachyphylla* both here and in my own garden, although I have one specimen still hanging on. Previous specimens have also been lost from collar rot in both gardens after making good early growth, seemingly suggesting appreciable susceptibility to this pathogen in our climatic conditions.

*V. staminosa subsp. cylindracea var. erecta* has made good progress. My own plants are comparable.

**Graham Eastwood**, Batemans Bay, NSW, makes the following brief comments, (July 99) on the progress of his *Verticordias*:-

- V. chrysanthella* Doing very well. Four specimens plus several seedlings now in garden
- V. chrysostachys* Did not establish
- V. cooloomia* Doing fairly well.
- V. densiflora* var. *densiflora*. Several years old. Doing very well.
- V. densiflora* var. *cespitosa* Two specimens doing very well
- V. drummondii*. Planted early 1998 after being held in pot several months. currently healthy.
- V. etheliana* var *etheliana* Died last autumn after leaf yellowing.
- V. fastigiata* Doing very well
- V. fragrans*. Two specimens not yet planted. Fair only
- V. grandis* A few flowers and buds but some leaf drop. (This plant seems to be currently performing similarly to specimens grown by Ted Newman and Pat and by me. Refer comments earlier)
- V. huegelii* var *decumbens* Two specimens, growth reasonable
- V. huegelii* var *huegelii* Ex seedling -Planted small. Growth currently starting.
- V. longistylis* Died two or three years ago.
- V. minutiflora* Doing very well.
- V. mitchelliana* One specimen lost. Another hanging on but with some leaf drop
- V. monadelpha* var. *monadelpha*. Cutting held one year before planting. Now one year in ground and showing flower buds.
- V. plumosa* var *plumosa* Doing very well
- V. staminosa* subsp *cylindracea* var *erecta*. Two specimens doing fairly well. Several self sown seedlings also doing well.

Graham also comments that he has been getting very poor results from attempts at cutting propagation during the current year. He has had no success at all with *Verticordias* and very poor results with other plant species. Coincidentally the same problem has been causing me considerable concern of late and the phenomenon has also been supported by similar comments of several Native Plant growers from the Sydney area.

In searching for an explanation I had at first wondered about the quality of Sydney water, since the treatment for the bacteria scare last year. Grahams experience however would seem to rule this out as he says that the water supply in his area is reputedly particularly clean.

My next thought relates to the seasonal conditions of the last 12 months in Eastern Australia. After a good early spring start in 1998 the weather not only turned very dry but also remained unusually cool, until after the end of the year. At the time, despite occasional watering, some of my established *Verticordias* appeared less than happy.

Graham is inclined to a similar view that this propagation difficulty relates to the noted cooler and drier than usual conditions of last spring. Can any other member suggest a reason for this problem? The local flora, incidentally has recovered well and responded to the better seasonal conditions so far this year.

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