

3 Dec 1992

Coordinator: Dr P.A. McGee
School of Biological Sciences, A12
The University of Sydney, 2006,
N.S.W.

This is going to be one of the hardest newsletters that I have ever written. I have decided that I have run the Study Group for long enough for it to determine its functions and operate as a group if it were going to. As the group has not developed in any way, except as a dependant on my newsletters and secretarial work, I have decided to finish it. As of this newsletter, I am resigning from the Study Group as Coordinator and will forward all the materials to the Study Group Coordinator, to be held in custody for another coordinator should one come forward. I have included cheques with this newsletter from those people who have forwarded them recently.

I have felt for some time that the group has not developed at all. We seem to lack a purpose and noone has indicated any reason for the continuation of the group. I seem to send out materials into a big blue void, with few responses from other members. It is extremely frustrating to get no feedback, to get no support and to have to continue to churn out the newsletters.

My work on *Thysanotus* will continue here at Sydney University. We have some research that we wish to continue. I hope that the few of you who have succeeded in growing the plants have continuing success. I will be keeping plants growing in my garden, in pots. I hope to be able to get them growing in the garden beds in due course. If I come up with any new ideas, I will communicate them through the regional newsletters or Australian Plants.

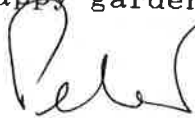
Christine Newman has had considerable success in growing *Thysanotus* in pots. She set up the soil in the way outlined in the last newsletter (and which appeared in the June edition of Australian Plants), with a course open sand, some peat, some long lasting fertiliser mixed together. She grew *T. patersonii*, *T. tuberosum*, and *T. tenellus* from seed and *T. dichotomus* and *T. tenellus* from tissue culture. The plants are now more than 12 months old. *T. tenellus*, *patersonii* and *tuberosum* are all flowering in the glass house. It would seem that the open sand and deep pots, with careful attention to watering are all important. The plants need good light and a reasonable amount of fertiliser. I am not sure that mycorrhizas are important for growth of seedlings. I have found them important for transplanting tuberous stock. If

you wish to grow pot plants, then Christines method seems most appropriate.

If you come across seed of unusual plants of *Thysanotus*, I would like to have some. We are trying to get together a collection of at least all the species from the eastern states. I have not been able to get much material from WA, except that which is commercially available. I think that I should be able to build on what we have over the years. Who knows, maybe we will eventually get some of all species!

Its all from me.

Happy gardening



Peter McGee

3rd December 1992

ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTS.
THYSANOTUS AND RELATED GENERA STUDY GROUP NEWSLETTER
No 11

Coordinator: Dr P.A. McGee
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The University of Sydney, 2006, N.S.W.

Christmas for 1991 is now past and we can look forward to 1992. By the time this newsletter arrives in your mailbox it will be the new year. May your plants grow as you would want them to.

Many things have become clear in the past few months and many have become confused. First the clear issues. I have been wrong about *Thysanotus multiflorus*. The plant is now available from at least two retail nurseries and you can grow it without a companion plant. I bought a potplant 15 months ago and kept it in my garden. It had just finished flowering for the first time and I wondered whether I could keep it growing for another season. I gave the pot about a cup of dilute aquasol per month and watered it daily when it was not raining. I have harvested seed from the plant this year (1991) and the seed is now in a pot to germinate. We will experiment on the seedlings as they emerge. We will see if we can grow plants to maturity with and without mycorrhizas, with and without fertiliser. We will also see if we can grow the plant in tissue culture.

The plant is available from Merricks Nursery in Victoria. I understand that they use a free draining mountain loam (10%) mixed with coarse sand (20%) and coarse composted pine chips. They then fumigate the soil. They add some slow release urea and long lasting Nutricote as well as some iron chelates and gypsum. We are using a coarse sand mixed with a sterile silty soil (10%) and approximately 10 pellets of Nutricote per 10cm pot. I will report on the results when they come in.

T. multiflorus is quite different from other members of the genus. It has a grass like root system and perennial leaves. The others have either rhizomes or tubers. The tuberous species (e.g. *T. patersonii*, *tenellus*, *tuberosus*, *baueri*, *thyrsoideus*, *manglesianus* etc) all have short leaves that die back as or before the flowering scape emerges. The flowering scape dies back after seed release.

The rhizomatous members of the genus have annual leaves with the flowers borne directly on the branched perennial stem. (e.g. *T. juncifolius*, *fractiflexus*, *dichotomus*, *fastigiatus* etc).

We are going to explore this difference a little further. We have ordered seed from Nindethana and will attempt to grow plants in the manner of Merricks and compare the

growth with the method I have developed for some tuberous species. All of this will be in pots because I still lose plants as soon as I plant them out. They seem to be intolerant of nematodes, root pathogens and just about any disease. How they survive in the wild still puzzles me.

I have been joined by two people living in Sydney. Christine is a student at the University of Technology. She will attempt to grow the various species in tissue culture. She has also been working on the pot experiment. Francis is an electron microscopist who is interested in following the development of mycorrhizas in Thysanotus using a new technique. First he has to get the technique going. Our funding from The Australian Flora Foundation will soon finish and hopefully I can get more from elsewhere to finish some of these interesting ideas.

A small group of gardeners from the York Peninsula in South Australia have also expressed interest in setting up a group to look at attempting to plant out material from tissue culture. We need to know more about the diseases and pests, and techniques to plant out from tissue culture to the garden. I will keep you informed. If others can form a group of three or four friends who will work together, we might set up other groups. At present, we are a Study Group spread all over the place and have no contact or support from each other. Most members of the Hibbertia Study group come from a small region in Victoria. As a way to enjoy the study group, it seems a sensible way to go. Perhaps we might include some of our neighbours if we want to succeed as a study group. Your comments would be appreciated.

That's all for the moment. Happy gardening.

Peter McGee
30.12.91

Association of Societies For Growing Australian Plants
Thysanotus and Related Genera Study Group Newsletter No10

c/o Dr P. McGee
School of Biological Sciences A12
University of Sydney NSW 2006

I apologise for the delay in putting together this newsletter. I have been overwhelmed by the response from members indicating their interest in the group. All three of them have forwarded me material and some of their comments will be included in this newsletter.

I must admit to having little success recently in my attempts to get some Thysanotus growing in my garden. In fact all transplants have died. The plants in the glasshouse are still growing so presumably it is something that I have or have not included. I now know that my garden is riddled with nematodes. I have just drenched the soil with nemacur, somewhat reluctantly. From what I understand, I will have to repeat this on a regular basis if I am to keep the nematodes under control. The poison will then last till the nematodes develop resistance to the pesticide. All very depressing.

Difficulties with the tissue culture work continue. I still have only one species, I. tenellus, growing satisfactorily in tubes. I. patersoni does not persist and the others as reported earlier do not grow at all. I have inoculated the plantlets with mycorrhizal fungi, only to have the fungi take over the whole tube. Not what I wanted at all. Needless to say, I will have to attempt another method. I assume I have too much sugar in the growth medium and the fungus just loves it all. I can plant out from tissue culture. A friend at Griffith has just planted out into her native garden. I will await results with some interest. I. tenellus is from a drier part of South Australia and will probably not succeed in the wetter areas. Griffith is a good test site of the survival under usual garden conditions for this species. My friend also planted out some Bulbine bulbosa from tissue culture. They are growing away. It is easy to grow from seed, so tissue culture is a waste of effort.

I am having difficulties with Arthropodium. Few plants are lasting long in the garden. They grow vigorously for a few years then do not reappear. I assume it is due mostly to the nematodes. I have plenty of seed so it is relatively easy to replace them but what is going on?

Which brings me to the first letter. Similar problems are being experienced by P.A. of Essenden. He has failed to get seedlings of Thysanotus growing in his garden, even when he has kept them from being taken over by the

1991 YAM 1 7

damping off fungi. I wonder whether we are not dealing with a problem beyond the absence of adjacent mycorrhizal plants? His pot plant of I. multiflorum once transplanted, died too. I have a pot plant of I. multiflorum which I am keeping in the pot, no companion plant, no fertiliser, in the hope I can get one more flowering from it for fresh seed. Why do they survive in the pots but not the soil?

To T.O. of Murrurundi, might I suggest that you try germinating your seed in the natural soil under your Casuarina. Clear a space in the litter where you want the seedlings to grow. Near the drip line on the sunny side might be the best site for the plants. Gently tickle the soil surface. Put the seeds about 1cm below the soil surface. Dampen the soil and put a shallow layer of litter over the top of the seed. Place a lot of snail bait around the patch. Only water the soil if the weather remains dry. Let us know if you succeed. I am beginning to think that we are too trained in the traditional methods of growing from seed. Lets try something else - our traditional methods are definitely unsuccessful.

It seems that many can grow Arthropodium (Dichopogon) successfully. As we seem to be floundering with Thysanotus, would it be a good thing to find out what members thought about the usefulness of this genus in the garden? If you have a good type growing, can you let us know and might we have a description? Who would like to try to grow different types of Arthropodium?

Which brings me to the next to final point. The SGAP of NSW have invited all members of Study Groups to an exchange of ideas and information day and tour of the facility at the Mount Annan Botanic Garden. While really only applicable to folks from NSW and probably only southern Sydney, anyone interested should contact Betty Rymer (02) 654 1831 to get more information and let her know you will be attending. Bring your lunch and morning tea. The meeting place is the Main Car park near the Education Centre; the time is 10am, Sunday 11th August, 1991. It sounds like an interesting day. The Garden is just beginning to look good.

Finally, my moan for the day. I am extremely busy, my work filling each day and more. I am not alone in this problem. Most of you are also extremely busy. I get little feedback from members and often wonder whether we would be better off without the status of study group. I dont think anyone is doing anything they would not otherwise do. Is this study group fulfilling a useful purpose? A time to ponder.
Regards,

Peter McGee, Newsletter Editor.

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Association of Societies For Growing Australian Plants
Thysanotus and Related Genera Study Group Newsletter No 9

c/o Dr Peter McGee
School of Biological Sciences A12
University of Sydney NSW 2006

This newsletter is an attempt by me to catch up with the necessary administration entailed in the position of group leader. As this is my first annual report, I hope I keep the mistakes to a minimum.

Financial Report:

| | | |
|-------------------------------------|-------|---------------|
| Cash in hand, report 30.6.89 | | 213.89 |
| Cash transferred to Sydney 18.10.89 | | 258.27 |
| Income - subscriptions | 90.00 | |
| - interest | 8.50 | |
| | | 98.50 |
| | TOTAL | <u>356.77</u> |
| Expenditure - secretarial expenses | 68.00 | |
| - State tax | .10 | |
| | | 68.10 |
| | TOTAL | <u>68.10</u> |
| Cash in hand, 30.6.90 | | <u>288.67</u> |
| Balance in account 30.6.90 | | 288.67 |

Membership:

| | |
|--------------------------|----|
| Financial individuals | 5 |
| Financial institutions | 4 |
| Retired or resigned | 4 |
| Unfinancial individuals | 7 |
| Unfinancial institutions | 4 |
| TOTAL Members 30.9.90 | 20 |

I do not have data on membership as at the 30.6.90 that I consider accurate, despite the report to the coordinator. I am reviewing my methods at present. Cards require a lot of back checking, which I have neglected to do.

Monies for expenses for this financial year are likely to be higher as I have carried some expenses from last year into August. Increased postage, paper, photocopying etc will also increase the outgoing this year. We are in a sound financial position due largely to the generosity of the NSW and Qld SGAP. I see no reason for increasing the annual subscription for the year 1991/1992. An increase for the following year may be appropriate.

I have taken a unilateral decision not to involve myself in an exchange of Newsletters with the Dodonea group. I see no benefit to me (no one else requests the information which comes in and I do not wish to be a clearing house for information transfer), and the cost is borne by the whole group. If more people become involved with the administration, then we can review the decision.

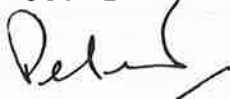
I am a little concerned with the number of unfinancial members who still receive the newsletter. This will be the last newsletter sent to people who have an RED ASTERIX on the top of this newsletter, unless I receive their membership for 1990/91. I do wish to waste my time and group money on sustaining unfinancial and uninvolved members without good reason.

I welcome the two new members who have joined this year. I do not feel it is appropriate to give names and addresses of members in a public document and unless requested to do otherwise will keep the information private. Maybe I have become accustomed to Sydney more than is desirable. Comments are welcome.

Activities of members are quite diverse. I am attempting to understand the importance of mycorrhizal associations of Thysanotus. I have not yet branched out into the Arthropodium mycorrhizas. Some members are trying to ensure the continued survival of local species of Thysanotus and other lilies in urban and natural plant communities. One person has become interested in trying to sort out an aspect of the taxonomy of the genus. The biogeography of the group is also of interest to many of us. Do members feel we need to increase focus on specific tasks and activities? For instance, should we aim to produce a small publication on the genera? Do you have any ideas that you might like the group to consider? Your comments would be most welcome.

That is all from me folks. Its back to the garden, or in my case, the glasshouse.

Happy gardening.



Peter McGee

31 AUG 1990

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Association of Societies For Growing Australian Plants
Thysanotus and Related Genera Study Group Newsletter No 8

c/o Dr Peter McGee
School of Biological Sciences A12
University of Sydney NSW 2006

Newsletter time and I am disorganised. I am supposed to have an annual financial statement ready by the end of August and I doubt if I will. It will follow soon.

The last six months has been a busy time for several members. Joyce Linnel has been to WA for a holiday and returned with photos of T. patersonii and T. multiflorus in the wild. Most welcome. I have also had photos taken of T. tuberosum and T. "murrayanum" by a friendly professional photographer. The store of slides is starting to look reasonable. My original contributions can be eased out soon - they do not look as good as the current contributions.

We have a new member in Melbourne who is interested in growing members of the Liliaceae from his locale. As his employer is paying for him to do it, I hope we can all get to hear of his results when they come in.

The company interested in tissue culture of Thysanotus has stopped the project because outplanting has become too complicated for them. Never mind. I am still growing a few species in tissue culture and registrations of interest are on file. I have had some success with T. tenellus, taking four original plantlets to 40. I have just "repotted" the plantlets but now the roots seem to have stopped growing. Bit of worry as I had hoped to inoculate the plants in tissue culture with a mycorrhizal fungus and the fungi require actively growing roots. I have not had as much success with T. patersonii from Victoria, T. tuberosum from the Blue Mountains of NSW and completely failed with T. dichotomus, T. multiflorus and T. juncifolius. The latter three species all have rhizomatous roots and I may be using the wrong medium for growing plantlets. If only I had more time.

The Australian Flora Foundation has given me a small research grant. The project is to examine how mycorrhizal infection of Thysanotus occurs. The eventual aim is to work out means of getting the seedling infected in the nursery such that outplanting will result in survival of plants. We know that the mycorrhizal fungi are important, but often they will not survive outplanting and the local fungi may not infect the Thysanotus rapidly enough.

I am extremely grateful to the Australian Flora Foundation for their assistance. If you are in a position to assist them in their search for funds for research of the Australian Flora, please give generously. The Foundation is doing a superb job on very small resources. They are the only research foundation that I am aware of who concentrates on increasing our understanding of the biology and culture of Australian plants. Given that so many flowers are taken from the wild and that a huge market for Australian wildflowers exists in Europe and Asia, we should be doing more to ensure the survival of our native environment and developing the methods to grow some of these exquisite plants in nurseries and orchards.

To go back to outplanting, I came across two plants of *T. multiflorus* in a nursery at Cranebrook, near Penrith NSW. I swooped. They looked a little past their best and had finished flowering and no seed had set. Despite my supposed understanding of their culture, both plants died within three weeks of transplanting into my garden. I don't think pathogens were the problem. I do think I had no mycorrhizas in the plants and none in the soil where I planted them. I will have to try again.

A member from Queensland has had success with transplanting *T. tuberosum* from a graded roadside. He managed to transplant a companion plant with two plants and in March all were surviving. Many thanks Irving, and good luck with the batch of seedlings. Several members have reported starting with seed again. Good luck.

The taxonomy of members of the Liliaceae has been under review recently. Dr John Conran has been examining the genera *Arthropodium* and *Dichopogon*. He has suggested they may be one genus. Certainly, I have always had difficulty in determining the differences between the two genera. I have also heard that a student at the University of Queensland has examined several members of the Liliaceae and has come to some interesting conclusions about *Thysanotus*. I don't know what, but I will have to find out when I get back from Europe. If any of the Queensland members can get to the University of Queensland, they should make contact with Professor Clifford in the Department of Botany. I would not be surprised if the rhizomatous and tuberous plants were placed in separate genera or at least separate sections in the one genus.

I am soon leaving for three weeks work in Europe and will be back in mid September. Remember that this is the time to start looking for flowers - in fact *T. patersonii* has been flowering in the glasshouse for over a month now.

Happy gardening

Peter McGee

Newsletter Editor