

STYLIDIUM STUDY GROUP NEWSLETTER No. 9 JUNE 1982

Reports from Members.

Leonie Morgan reports that she waters potted plants daily in summer and those in the garden 2-3 times weekly depending on conditions. The garden plants are in relatively heavy soil and are mulched with pine chips. Leonie has also forwarded some seed of *S. desertorum*, which was sent to her from Alice Springs, and has successfully germinated some of the seed herself. The seed was sown in late January and it germinated in a week. The small plants have been given plenty of sun. This species is described in "Flora of Central Australia" as an annual in captivity.

Alan Thomas reports that *S. crassifolium* responds to watering when it collapses in hot weather, in contrast to many natives. This species usually loses all its foliage and goes dormant, but it is useful to know that it will stand water in the hot weather. Alan has also had limited success with iron chelates in the correction of yellowing.

Hilda Crouch has successfully grown *S. rupestre*, *S. caespitosum* and *S. adnatum* in the garden in an area where the roots could get well down and with some rocks for shelter. These plants coped well with the heat. Other plants set out in December in a very open mixture in a "Hole in the ground" included *S. amoenum*, *S. bulbiferum* and *S. fasciculatum*. Hilda has also germinated seed on a sandy mix, watered by the bog method then covered with a plastic container until germination occurred.

Propagation.

I have sown seed again this year, but earlier than in 1981, early to mid-April. The seed has taken from 6 to 10 weeks to germinate. It was sown on the grey sandy loam I use as a potting mix and covered with a little coarse propagating sand. Seed of *S. carnosum*, *S. diversifolium* and *S. amoenum* was at least two seasons old, the remainder from Nindethana last year, but of unknown actual age.

In February I set cuttings of *S. fasciculatum*, *S. falcatum*, but they are not looking happy and have not yet struck. In April I set 6 cuttings of *S. dielsianum*; one struck in 2 weeks, 2 died and the rest were eaten by beasties. I have recently set cuttings of *S. fasciculatum*, *S. falcatum*, *S. rhyncocarpum* and an unnamed leafy stemmed species from WA. I hope to find time to put in some offsets of creeping species and some rosette "cabbage tops" soon. The scale leaved species are still on the "to be attempted" list.

Leaf cuttings of a fleshy leaved species from Israelite Bay and of *S. assimile* have been set, the former in March and the latter in June. This was done after reading of success with leaf cuttings by Hazel Dempster, of Manjimup, in the WA Newsletter. It was suggested at the SGAP Federal Conference/Seminar in Melbourne, December 1981, that *Stylidium* would be good subjects for propagation by root cuttings. In view of their strong seasonality of growth, I have my doubts about root propagation, but it is worth considering for the future.

I have been potting up various species in groups, in 25cm pots, so as to generate stock for vegetative propagation and in the hope that some seed will accrue.

On the topic of seed, it is worth noting that the seed leaves (dicotyledons) are very small usually, and one of them is normally very much larger than the other: so much so that the second leaf may be all but invisible to the naked eye. The only exception I have come across so far is *S. scandens*, in which the two seed leaves are almost the same size at germination.

Experiments.

The *S. pritzelianum* experiment has been terminated; no plants made significant progress and all but one have died. I think that the cause was probably that each was in my early sand/compost mix in a 3" pot and this was transferred to the 15cm pot in toto and topped up with the selected mix.

My sand bed has produced some interesting results and not a few losses.

- 1) all seedlings died
- 2) many species from higher rainfall areas died
- 3) survivors were mainly from lower rainfall areas (below 500mm)

I think the main reason for the losses was the low rainfall during the growing season, especially in the warmer spring months. Most WA species from the coastal areas are accustomed to 850mm to 1250mm of rain a year, most of it in winter and spring; and the temperatures are usually higher than in southern Victoria. Thus many plants did not grow enough to develop the reserves necessary to carry them over the summer. Our total rainfall for 1981 was 500mm, and not enough of that fell in the growing season. This year's total to 24/6/82 is 150mm with about 100mm since March 1. I will replant this year but I will be watering regularly.

Species that coped satisfactorily with a summer without water included *S. repens*, *S. bulbiferum*, *S. dichotomum*, *S. adpressum*, *S. caricifolium*, *S. affine*, *S. pilosum*, *S. leptophyllum*, *S. macrocarpum*, *S. tenuicarpum*, *S. adnatum* and *S. graminifolium* from Stawell. Worst affected were various rosetted species in the piliferum group, *S. brunonianum*, *S. adpressum* var. *patens*, *S. amoenum*, *S. lieatum* and *S. scandens*. One plant of *S. spinulosum* died but var. *montanum* survived.

General comment.

Most species that I have put into 25cm pots, in grey loam/sand, appear to be OK, but some are not looking happy, notably *S. limoetum*, *S. glanduliferum* and an unidentified rosetted species with pink flowers. These came from red soil areas and may need a heavier mix than the sandy one, or less water. I have moved them into full sun and they are looking better but not as good as I would like. They are tending to die off from the tips and sometimes get black spots on the dead parts. Spraying with Hortico complete garden spray has marginal effect.

We have previously had some fairly heavy frosts here but there does not seem to have been any effect on the species exposed to frost, except for the destruction of incipient buds on one plant [out of season anyway].

Botany.

a) Hybrids: the published literature suggests that hybridisation is rare among *Stylidium*s, but I have a number of seedlings of what appears to be *S. piliferum*, ie. smooth leaves with transparent margins, in which the flowering stem has glandular golden hairs along its entire length, as in *S. ciliatum*. The leaves are in a basin shaped rosette, more like *S. ciliatum* than *S. piliferum*, but they are the lighter green more typical of *S. piliferum*. Leaves of *S. piliferum* are usually arranged in an open, relatively flat rosette. It will be interesting to compare the flowers with those of *S. ciliatum* and *S. piliferum*, and to see whether any viable seed is set.

b) Varieties/forms: among Keith's collections was a very attractive orange form of *S. dichotomum*, another form to add to the yellows, pinks and whites already in captivity. There is also variety in the leaves of these forms, from short and bright green to longer and silvery green [1-2cm to 3-4cm].

A collection of *S. amoenum* appeared to have white flowers, but this may have been due to stress of collection and confirmation is awaited this season.

A specimen that appeared to be *S. piliferum* seems to contain two forms, one with normal green leaves and one with leaves having a marked purplish tinge. This colouration was intensified by a recent frost and the leaves are now almost completely purple, but still appear to be healthy.

Two forms of *S. divaricatum* have been observed, one with longer, coarser foliage than the other; the flowers are much the same on both forms. There are also two forms of *S. guttatum*, one a sturdy form which has a tendency to grow upright stems, and the other a smaller, lower growing form. Again, there does not seem to be any difference in the flowers.

c) Inverted flowers: three species in which the flowers are arranged in heads have been observed to have inverted flowers, that is the column operates from below. The species are *S. lepidum*, *S. guttatum* and *S. corymbosum*.

All these have their flowers vertically paired and arranged in heads. If the flowers are viewed horizontally from the level of the flower head, the columns are clearly below the plane of the flower. This point does not seem to have been reported before, which is surprising, but may be explained if most recent descriptions were made from dried specimens.

d) New Species: several new species have been discovered in WA, but I have no details yet. We also have two species which do not appear to have been described; one is a fleshy leaved species from east of Esperance and one leafy stemmed species from WA. The former resembles *S. assimile*, but has glandless, white hairs on the scapes, bright pink horizontally paired petals and spherical capsules; the latter is similar to *S. fasciculatum* but has a more compact habit and flower spike, and only one fertile cell in the capsule.

e) *S. graminifolium*: I now have five forms of this species and they are puzzling me. Two forms from the montane areas, one from Mt. Skene and one from Sawpit Creek were given to me by Alan Thomas. Both have short (5cm) dull green leaves which tend to spread outwards like a long leaved rosette. The Sawpit Creek form has wider leaves than the other (3-4mm of 1-2mm). I have not yet seen the flowers.

Two forms from central western Victoria are from Mt. Doran, between Geelong and Ballarat (courtesy Alan Thomas), and the Stawell area. Both have dull grey-green leaves, up to 10-12cm long, which grow upright. The Mt. Doran form has significantly wider leaves than the Stawell form, and the seedlings have scattered glandular hairs on their edges, something I have not seen on any other form of *S. graminifolium*, but which occurs in *S. productum*. In the Mt. Doran form the flowers are a bright bluish pink, while those of the Stawell form are predominantly white with some pink ones. In both forms the leaves tend to go reddish in summer.

The fifth form is one bought from a specialist (native) nursery in Melbourne. It has bright green, shiny leaves which are rather thick and fleshy, up to 15cm long and 1 cm wide. The flowers are bright pink. The aspect that bothers me about this one is that I can't detect the pores on the top surface of the leaves – with my simple magnifier – but I have no difficulty with the other four. The pores on the underside of the leaves are clearly visible. I do not know the origin of this material, but I understand that in a study carried out in NSW, which led to the separation and speciation of *S. productum*, the existence of both diploid and tetraploid *S. graminifolium* was discovered. It is possible that my fifth form is a tetraploid.

I would be interested to receive specimens or descriptions of *S. graminifolium* (flowers, leaves, capsules) from the field for further study. Any such material should be accompanied by details of locality and, if possible, soil type.

Bibliography.

I have compiled a list of references to *Stylidium* from the literature and I hope to be able to publish a summary, as a report, when I get copies of the original papers. The report will be issued as an annex to a newsletter. I hope then to summarise the progress in *Stylidium* horticulture made by the group since its inception and publish that in the same way. Further reports may be issued that deal with individual species or closely related groups; these reports may duplicate some of the earlier data.

Rica Erickson's book "Triggerplants" has been reprinted but unfortunately not revised and updated. This is disappointing, especially in view of the increase in price, but even in its present form it is a valuable book and should be regarded as essential to the serious student of *Stylidiums*.

The Future.

The level of commitment on the part of members has been disappointing, to the extent that I propose to change the organization of the Study Group. The main effect of the change will be that no membership fees will be payable. Full details are given on the next page.

Richard Davidson
Leader, *Stylidium* Study Group, SGAP

1. Membership.

There will be no formal membership, and consequently, no membership fees.

2. Newsletters.

Will continue to be issued at six monthly intervals, unless sufficient material is available to warrant extra issues. There will be no charge, and the N/Ls will be available as follows:

- a) free on receipt of an SSAE and one normal letter rate postage stamp.
- b) in return for a progress/activity/field report of value to the study of Stylidiums.
- c) sets of back numbers can be obtained for \$2plus SSAE subject to supply.

3. Plant Material.

Plants that I have propagated will be available for sale or exchange (not necessarily Stylidiums), either directly from me or at Region meetings from time to time.

Propagation material will be available (both seed and vegetative) on the same sort of basis.

These changes have come about because the payment of a membership fee to me, as Leader of a Study Group, puts me under an obligation to the members rather than to the study of Stylidiums. That would not be so bad if the return on my investment in time was satisfactory, but it is not. One member provides regular, systematic reports, and two members contribute by collection of plant material. Two or three others are at least active, but I never hear from the rest from one year to the next.

Of 35 applications for membership 18 are current. No less than 22 have only written to me once, and not even bothered to reply to my letter asking for their level of commitment (active, passive, etc), and that includes some members who are presently financial. I have distributed plants by post and not always been reimbursed for the postage. I have yet to receive a field report, other than those inherent in a collection of material.

It is quite clear that I expect too much of members and that my attitude has probably changed their minds about being involved in the Study Group. Well, that is all finished; I will get on with the job of studying Stylidiums and I will be grateful for any data from anyone concerning the genus. I will make the results of my studies available to all, both plants and information, without obligation.

NOTE: the copies of all newsletters and reports will be sent to all State branches of the SGAP without charge, and to the Study Group Coordinator.

If any past or present member of the Study Group has any objections to the above, or any constructive suggestions, I would like to hear from you. Any other interested parties are also welcome to say their piece.

Richard Davidson
"Stylidium Studies Coordinator"