22 JAN 1983

ISSN 0726-7843

STYLIDIUM STUDY GROUP NEWSLETTER No. 10 Dec. 1982

Propagation.

The most important news is that some success has been achieved with leaf cuttings. John Philp, of Mt. Waverley set leaf cuttings of S. caespitosum in June, in a heated cutting box (bottom heat, 27 deg. C.) with misting (every half hour or so). Roots appeared in 10 days. The leaf specimens were mature but not old, and were pulled from the plant so as to include some of the basal tissue from the leaf/cortex joint. Leaves that were cut off with a blade, without the basal tissue, did not form roots but rotted and died. The leaves were dipped in "Hortico" "Strike" and watered into a 3:1 sand/peatmoss mix with a standard "Ridomil" solution. One specimen given to me by John has now produced two rosettes above ground, adjacent to the original leaf, which is still alive. The new rosettes have sprouted from the base of the cutting, near the roots.

One leaf cutting of the fleshy leaved species that I set earlier this year (N/L 9) has finally produced roots. the other three shrivelled and died over the intervening period. The use of a cold frame as opposed to a heated system is worth pursuing as not everyone has a heated unit. On the other hand, if Stylidiums are to become commercially popular, they must respond to commercial propagating practices.

Cuttings of relatively soft new growth of S. bulbiferum taken in August have formed roots in 6-8 weeks. Early and late (Feb. & Sept.) cuttings of leafy stemmed species were much less successful than cuttings taken in May-June. Stem cuttings were much better than tips.

A parcel from Eileen Croxford in May contained both old and young material; the best success rate was achieved with young material, with very little of the more woody material surviving. Professor Carlquist commented in one of his papers(ALISO, Vol. 7, No. 1, p13-64) that Stylidiums do not appear to form secondary wood, which is generally necessary to be able to strike cuttings. This is a feature of Monocots. and is why they are almost impossible to strike from cuttings(eg Calectasia cyanea). Thus, once the stems have hardened, and are more than one year old, the best chance for propagation is from material with roots. Unfortunately, the roots are not always in active growth, and a period of isolation, as in transit from collection to propagator, may cause the roots to fail to regenerate. This would also explain why rosetted species strike from "cabbage tops" as the top of the plant is fresh and growing. Carlquist remarked that the only exception seemed to be S. glandulosum, and we have in fact struck that species from older material. Carlquist also drew attention to the tendency of creeping species to form aerial roots from the new growth at the ends of the stolons, which is where the activity is. Old stems become woody and probably cannot function efficiently in the transfer of nutrients between roots and leaves, hence new roots are needed each year.

The point of all this discussion is that most collections are made in Spring, when plants are flowering, as that is the time of year when most people visit W.A. By that time, most vegetative growth has ceased, and rather specialised conditions are necessary to keep the plants going. High humidity, good drainage, warmth and good hygiene seem to be required if plants have been in transit for more than a day or two. Thus, if material must be collected at that time, there should be a very good reason, and young, actively growing material should be selected. My own feeling is that we would be better off with seed, but it is very difficult to find anyone willing to collect seed. The study group collection is now quite extensive, and some seed may accrue from our own plants.

HORTICULTURE.

In order to try out different soil mixtures, and to study the effect of fertilisers, so as to try to find a mixture that will suit the majority of Stylidiums, if not all of them, I am trying to get seed from known soil types and habitats. I have requested assistance from three WA. groups and have so far received co-operation from two of them.

The general aim of this exercise is to grow 3-5 plants of each species in at least two soil mixes, with and without fertiliser.

S. bulbiferum is being grown very successfully at the Karwarra Gardens, on Mt. Dandenong, and this is the only example of long term success in large scale garden planting that I know of. I have no details of the horticultural practices as yet. Keith Alcock has some S. scandens still going after two seasons and they are thriving; I also have a plant of this species in the garden and it is growing well in spite of the frosts and dryness. S. ciliatum, S. dichotomum and S. crassifolium are surviving, though not as healthy as I would like. Leonie Morgan reports that S. rhynchocarpum in the garden was killed by frost, but S. assimile was only slightly affected. Max MacDowell had heavy losses of the latter species from frost; this may have been due to differences in genetic origin or perhaps conditions: a soft, lush plant which has been fertilised may be more susceptible to frost than a plant grown under harder conditions. I have little success with S. bulbiferum, plants in the garden slowly dying back with the appearance of being eaten, though I can find nothing on them and pesticides have no effect.

The sand bed I described in N/L No. 8 has been invaded by roots of surrounding trees and shrubs, in spite of all my efforts to keep them out, and together with the drought has caused severe problems.

Leonie Morgan has a small experiment in soil types going, in which she potted S. ciliatum into four types of soil. These were i) K-Mart potting mix, as is. ii) 6:1:1 propagating sand:sandy loam:mountain soil. iii) 6:1 propagating sand:sandy loam. iv) propagating sand only. The pots were crocked, and given the same treatment thereafter. The results, as at November, in terms of vigour, show No. 4 as the best, decreasing to No. 1, in order.

BOTANY.

Continuing on from some of my observations in N/L No. 9, I note that S. guttatum produces new plants from underground runners, and very prolifically (both forms). One plant of this species suffered damage to its earial root before the root became established in the soil; after some time, the remaining section of root grew branches down into the soil, and a tuft of leaves has now appeared from one of these root branches. These observations suggest that this species, and perhaps others, may be amenable to propagation from root cuttings, in spite of my earlier reservations. S. guttatum is the only species that I have observed to produce underground runners; there may be others.

As indicated in N/L No. 9 S. glanduliferum plants have all died, as have Keith Alcock's specimens. This species seems to be difficult to keep going and is clearly a case for experimentation with soils and treatment, for which we require seed. S. limbatum is still going, and is flowering well, but almost all of the leaves have died off. I have not seen this species in the wild, so I don't know whether this behaviour is normal; I am hoping for some seed from my two plants. The rosetted group is proving to be interesting; in the piliferum group, pink, apricot and yellow flowered plants have been collected. Some of these have flowers which key out as S. piliferum, but some do not and may represent new species. Some have a tendency to die off at odd times during the year, then to shoot again from either below ground or from apparently dead stems.

S. graminifolium.

I have now added a form from Anglesea to the collection, and now have six distinct forms. Both montane forms have deep pink flowers with 8 throat appendages, turquoise pollen and glabrous scapes. Mt Doroan and Stawell forms have hairy scapes, yellow pollen and bluish-pink or white to pale pink flowers respectively. The Anglesea form has white flowers, 6 throat appendages, turquoise pollen and hairy scapes. The commercial seedling is similar to the montane forms but tends to form new offsets from above ground level, rather than at or below ground as do the other forms. There are also differences in root systems which needs further study.

The amount of material available for the N/L is such that the next N/L will be issued in March or April 1983.

R.G.DAVIDSON, STYLIDIUM STUDY GROUP.