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S.G.A.P. Fern Study Group

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MORE FROM JOAN MOORE

Numbers of members expressed pleasure and interest at reading the articles which Joan Moore contributed to our June 1988 Newsletter. Members generally appreciate hearing of the experiences of fellow growers of native ferns. There is so much that we don't know about the propagation and growing needs of many of even our common ferns, while there are many other ferns, some with obvious horticultural potential, which, as Joan has so aptly expressed it, are still waiting to be "tamed". Once again thanks is due to Joan for providing the following three articles.

Starting Gleichenia dicarpa

I had never been able to grow any of the pieces of Gleichenia dicarpa G. microphylla or G. rupestris that came my way. Any fronds taken for spore never seemed to have any. Plants that I bought or was given were all very small, whether sporelings or pieces I could not tell and they died quickly any way. I was complaining about this one day to a fellow member of Harbourside Group who has a house near the Lane Cove River and the Lane Cove Recreation Area. We were in his garden, a steeply sloping rocky area of carefully preserved original bush, including ferns. He said he had often dug up and grown Gleichenia in pots and would get me some. We went on to a neighbouring block which was about to be built on (there is a palatial mansion there now). It had been raining recently, so the soil was not too hard. John dug up quite a large clump of Gleichenia from among rocks getting long pieces of rhizome and as much soil attached as possible. He put it all in a moistened plastic bag for me to carry home, and he cut off ALL the fronds. I privately thought I would have left one or two, but John was right. I potted the clump using mostly bought river sand to fill in, as the original soil is very light sandy stuff from the Hawkesbury Sandstone. I put it under the Sarlon and watered it carefully. Sure enough after about six weeks tiny croziers began to appear. Now twelve months later I have a fine pot of fern with as a bonus a Flannel Flower that came up in the middle. It is now outside standing among other plants that protect it a little, but getting some sun.

My Gleichenia dicarpa will soon have to be potted on or it will choke itself, I shall try to disturb it as little as possible in the process, and shall keep my fingers crossed.

Trying To Tame The Wild Ones

I have been growing in the ground for a long time several of the long-running ferns that are very easy to grow. Dennstaedtia davallioides has very pretty finely-cut fronds, but one can quickly get too many of them and in the end have nothing but. I had to work hard digging it out of its first shady and well-watered (by me) situation. I put it in a less frequently watered area where it gets more sun and competition than before, and it does not run half so fast and still produces good fronds. I still grow it in the shady area, in two old tyres one on the other. This was an experiment which has worked so far as the fern is still producing good fronds after three years. I stood the tyres on plastic and watch for rhizomes venturing out the crevices. Another one is Hypolepis punctata, also with lovely lacy fronds I obtained this one from Kentlyn Nursery about twelve years ago, where it was being chopped out because it was taking over the then fern house - and more. One could stand under its fronds. So I did the same with this as with the Dennstaedtia. It is still within its allowed space in the dry part; in the tyres for a couple of years it produced fronds up to five feet high, but then died. Histiopteris incisa, Batswing, has soft, pretty bright green fronds when the plant is young. Unhappily when it grows older the fronds get much larger, coarser and darker, and it begins running vigorously. I pull it out then, before it roots too strongly, and start again with a small piece. This is the only one of the running ferns that I have had self-sow. The baby plants make good pot plants for a few years.

The easiest to manage is Hypolepis muelleri. Its fronds in my dry part are about 45cm. long at most. It makes a very good ground cover under trees and the rhizomes do not bury themselves deeply: to thin it out is only a matter of grasping and pulling. It can stand drier sunnier conditions than the others, but the fronds get smaller.

I also grew for some years Pteridium esculentum, but eventually it beat me. It came up in soil the Council put in a narrow strip on the footpath. As there was a low brick wall between it and my garden I let it grow there, just keeping it tidy. After about ten years however it appeared in the garden, having gone very deep to get under the wall. So I had to dig it out - hard work! - of the garden. On the footpath, where incidentally it grew in full afternoon sun, I poisoned it and decided it was uncontrollable.

Growing Doodias

Doodia aspera must be one of the hardiest ferns there is, at least in temperate climates. I have it growing in damp, heavy shade, where its new fronds are beautifully red, and also in a rather drier, lighter area, where it is also quite colourful. I have not tried it in sun yet, but I once saw lots of it growing in fairly open ground where the undergrowth had been cleared away. The fronds here were rather shorter, but still as red when young as any in the shade. The shape of each clump is attractive too, but old dead fronds can hang on and spoil the appearance if they are not cut off. It is an easy fern to control, as the clump sends out short runners which produce new plants nearby. These can be dug up with little trouble and if wanted potted up or transplanted.

The smaller local Doodias, D. caudata and D. media I have to talk about together because I can't tell the difference. The texts tell me that D. caudata is not as harsh as D. media, that it is dimorphic while D. media has fertile and sterile fronds the same, that D. caudata is floppy but D. media stands up straight. This sounds clear enough, but the plants I acquire always seem to be somewhere in the middle on one or the other criterion, or even on all three. Anyway... they grow very easily in shaded watered protected positions, but they disappear in drier lighter places. I have had several from self sown spores and sometimes they appear in pots bought with other things in them. As these are small, neat plants they are good for small pots.

Above articles contributed by Joan Moore.

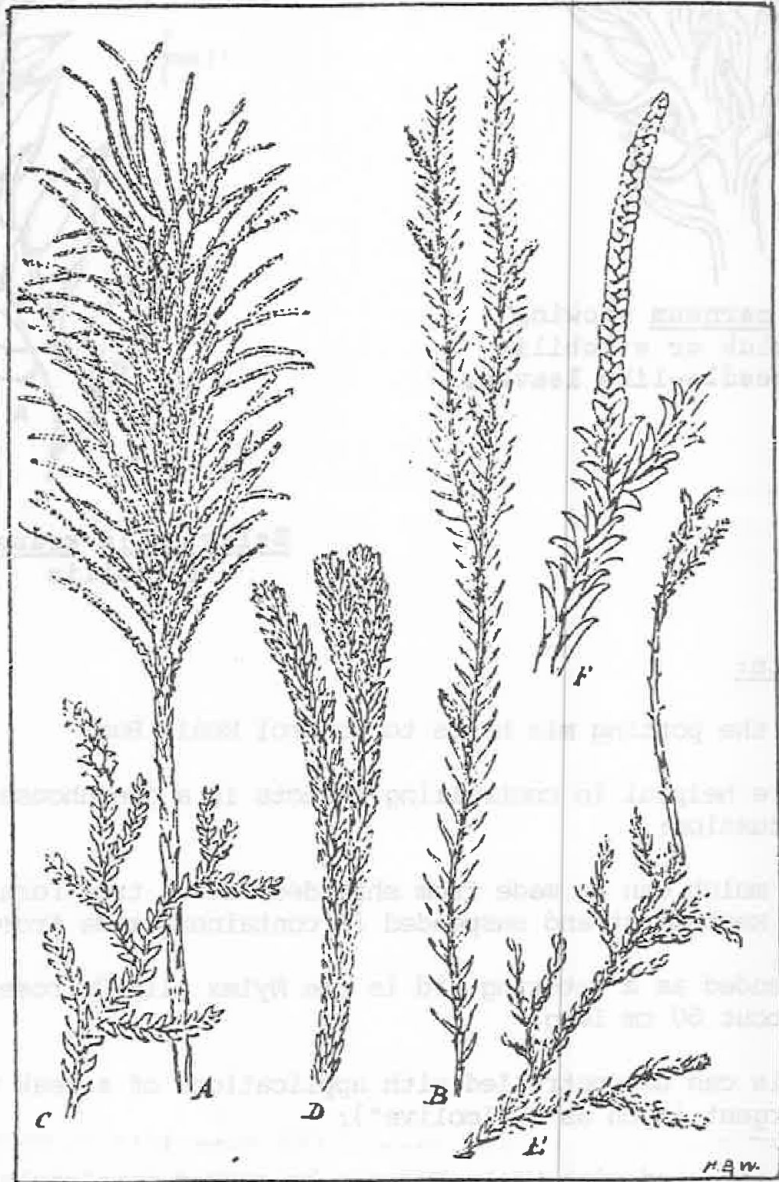
Primitive and Unusual Fern Genera and Allies

(Continued from June 1988 Newsletter, extract from literature supplied by the Meadowbank Technical College)

3. LYCOPODIACEAE

Example: Lycopodium spp. (Club Mosses and Tassel ferns)

- * The leaves are small (less than 2cm) and needle-like, looking like miniature pine trees.
- * The rhizomes are usually long creeping, and so the plants are usually scrambling or creeping.
- * Tassel ferns are an exception to this. They belong to the family and are epiphytes on forest trees in tropical Queensland, with pendant stems. They have long clubs, hanging like tassels from the ends.
- * The clubs are sporangia aggregated in a fertile zone, usually in cones, in the axils of the sporophylls (spore-bearing leaves), usually at the ends of the stems. The clubs are properly called strobili.



A. Bushy Clubmoss, *Lycopodium deuterodensum*.
B. Slender Clubmoss, *Lycopodium laterale*.
C. Spreading Clubmoss, *Lycopodium scariosum*.
D. Fir Clubmoss, *Lycopodium australianum*.
E. Mountain Clubmoss, *Lycopodium fastigiatum*.
F. Long Clubmoss, *Lycopodium varium*.

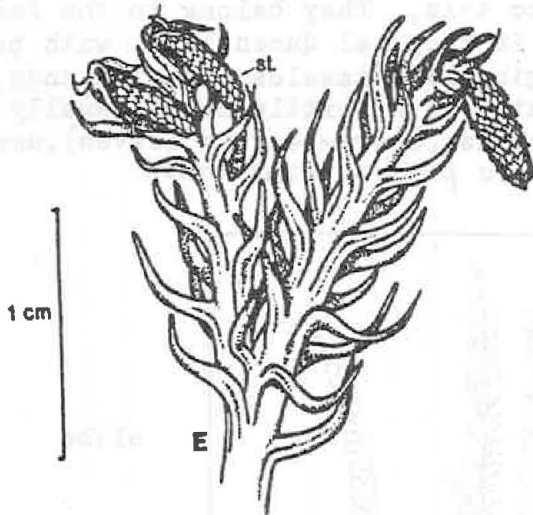
4. SELAGINELLACEAE

Example: Selaginella spp

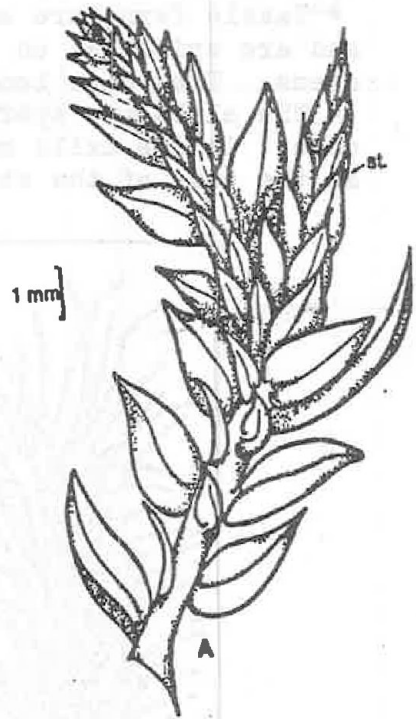
- * These fern allies are similar to the Lycopodiums, but usually the leaves and stems are in the one plane, giving a flattened look, and the leaves are not as small or crowded together as they are in Lycopodium.

Selaginella spp (Continued)

- * The sporangia are of two types: the megasporangia are larger than the upper micro sporangia
- * They possess elongated structures like roots which can grow in the air before rooting in the soil
- * A very common species is Selaginella kraussiana which is an introduced species. It grows in flower pots and may cover the floor of a bush or glass house.



Lycopodium cernuum showing club or strobilis
Note more needle-like leaves.



Selaginella kraussiana showing strobilis

Some Helpful Hints:

1. Moth balls in the potting mix helps to control Mealy Bug;
2. Pest strips are helpful in controlling insects in a greenhouse / glasshouse / shadehouse situation;
3. An ideal fern mulch can be made from shredded, dead, tree fern fronds and other plant trimmings, kept moist and suspended in containers made from fly wire;
4. Highly recommended as a watering aid is the Nylex clip-On rose head-"Trigger Wand"; it is about 60 cm long;
5. Thrip and aphid can be controlled with applications of a weak solution of domestic detergent (such as "Palmolive");
6. Pots of ferns infested with Mealy Bug can be soaked completely in a tub of water to which methylated spirits has been added;
7. Two of the replies from South Australia, both within 20 km of Adelaide, suggested that the salt concentration in the mains water was so high that it was likely to kill young ferns;
8. Washing machine bowls make ideal containers for tree ferns and palms;
9. Basket liners can be fashioned from art bark, melaleuca bark, coconut fibre, paper bark, foam mats, underfely, Scotch-Guard, pressed-Plasticised fibre, fibre from the Cabbage Tree Palm and felt hats.

(Repeat of information gained from 1983 survey of members by Lindee Fitzpatrick)

CYATHEA MUELLERI BAKER.

Recently having received a request for spores of Cyathea muelleri Baker. from a friend involved in propagation; a request was made for details of the authenticity of this title; as a futile attempt had been made to obtain such material.

With a desire to provide as much information as possible concerning my spores; taken from one of my several mature specimens of Cyathea muelleri on my property at Kenthurst New South Wales, I decided to prepare the following script.

All these species of Cyathea muelleri were grown from spores provided to me at my request from The Botany Section of The Department of Forrests in Lae New Guinea. Having read an article in " The Fern Gazette " Volume eleven Part One 1974, the journal of " The British Pteridological Society " (of which I am a member). Written by Barbara S Parris (now Mrs John Croxall) titled " The Fern Habitats of Mt Wilhelm, New Guinea " .

In 1971 Barbara S.Parris and J.P.Croxall covered this New Guinea Area and placed their collections with " The Australian National University Research Station On Mt Wilhelm, Lae, New Guinea and at Kew England.

This search provided about a dozen new species of tree ferns. So I wrote to the Department in Lae requesting spores of these new species for my own propagation. From the collection of spores forwarded to me one of the species was Cyathea Muelleri Baker. from my recorded details the spores came from Mt Sarawacket 3,500 Metres up in sub-alpine grassland. Thanks to the assistance of Mr James Croft of " The Forestry Department who made the collection and provided the location etc.

Having spent a considerable time in this area in wartime with a Survey Mapping Unit, I was quite suprised when I had an excellent strike from these spores ; followed by a rapid growth programme in my local (Created rain forest gully) where the mature specimens now are. For those interested on Page 18 of the above mentioned publication there is a black and white photograph of Cyathea muelleri Baker. in its natural situation and on page 21 No 3 Section "Grasslands" are full details of the species from this area. Raymond Best.

(Our thanks to Ray Best for contributing the above article)

RED CARPET.

A warm welcome is extended to the following new members:-

NOTES ON MEETING AT WARRIMOO ON 22nd MAY 1988

Seventeen members attended at Sam and Betty Jack's home and all admired their magnificent garden beautifully landscaped and set in glorious bushland.

Following the business session Peter spoke about Adiantums illustrating features with the aid of different species. Adiantums have small fan-shaped pinnules without a mid-rib. The elongated sori along the veins are covered by false kidney-shaped indusium formed by the reflexed lobules of the pinnule. Botanical keys often make a primary division of Adiantums according to the way the pinnules are attached to the stipe. Of the Australian species only A. aethiopicum, A. philippense and A. capillus-veneris have pinnules attached symmetrically.

Some points about the five species in the Sydney region follow:

A. hispidulum is extremely variable and so apparently is its chromosome count. The frond is divided into finger-like branches with the lower-most shortest. It can be recognised by minute white hairs on the pinnules, these can be seen with a hand lens or felt if you have sensitive hands like Peter's. It is a widespread fern and hardy in cultivation.

A. aethiopicum called the Common Maidenhair Fern can be confused with A. raddianum which has no less than 70 different cultivars and is commonly sold by Nurseries and is an exotic. There is A. raddianum growing on the walls at North Sydney Railway Station. It usually has larger pinnules than A. aethiopicum although some northern forms of the latter are as large. A. raddianum has fewer scales and runs on stilt roots its rhizome elevated above the level of the soil. The roots of these ferns quickly fill pots and they should be potted up regularly or grown in the ground. They tolerate sun and thrive in quite sandy conditions.

A. formosum is fairly easy to identify being pinnately branched and the biggest of our Adiantums. It has a long creeping rhizome and spreads quickly once established in the ground.

A. diaphanum is superficially somewhat similar to A. hispidulum but its pinnules are much thinner and are softer and covered by thin black hairs especially near margins. The specimen brought to the meeting showed us another of its characteristics, fronds not only covered the top of the pot they were also growing out of the bottom. It is usually found on wet rock faces in deep shade.

A. silvaticum has been found easy to propagate from a short branched part of the rhizome. It does better grown in the ground rather than pots. The rhizome is covered by golden brown denticulate scales.

The period after lunch was occupied by a walk around part of the Jack's very extensive garden. It is a place that every S.G.A.P.er should try to visit. Not that it contains only native plants, there are also many varied and unusual plants from overseas to excite one's interest.

Approximately 50 different species of native ferns growing in the open, in the ground, on rocks and in trees were sighted. To mention just a few, there were many Platycerium attached to trees, on boards and on rock ledges and included each of P. superbum (one of these was a giant in prime condition), P. bifercatum, P. hillii and P. veitchii. Colysis ampla was spreading over a rock, quite a feat to grow this fern so well in the open in the Blue Mountains away from the humid tropics. To most of us quite an unusual fern with fronds extending almost all the way down the stipe. Pteris umbrosa the Jungle Brake a particularly attractive clump in lush condition.

All the above ferns had been cultivated but further down the property on the edge of a steep hillside, Sam showed us a couple of gems that grew there naturally - the dainty Lindsaea microphylla and several clumps of the Comb Fern Shizaea bifida, vigorous and healthy in quite dry looking situations.

NOTES ON OUTING TO GOSPERS CREEK 19th JUNE 1988

Just on 40 members, friends and S.G.A.P.ers from Hawkesbury eventually gathered together behind Peter to visit this seldom seen fern haven in the Blue Mountains, north east of Bilpin. The day was fine with just a hint of misty precipitation (Sam Jack's words) in the air.

A delayed start caused what should have been a leisurely 2 km walk along a fire trail through open forest, to be somewhat brisker than usual. Even so this didn't prepare most of us for the difficulties ahead when we left the trail. The descent was very steep, more than 1,000 feet to the bottom of the gorge, path unmade and one part having to be negotiated with aid of a rope. As a consequence many turned back before reaching the gorge, bitterly understanding why it is seldom visited and with a new respect for our Leader's prowess as a negotiator of rough terrain, realizing that the walk was moderately easy only to Peter.

Before reaching the rope descent, ferns noted were Blechnum cartilagineum, Culcita dubia, Pteridium esculentum, Lindsaea linearis, L. microphylla, Grammitis billardieri and Hymenophyllum cupressiforme (with thin wiry stipe and toothed margins). Later when we stopped for lunch we saw H. australe (with winged stipe and entire margins).

Lunch was eaten by 25 remaining in the party near the creek bed surrounded by ferns, beneath a near to closed canopy. Letropteris frazeri with soft arching fronds was a feature here together with numerous filmy ferns which our Leader helped us to distinguish. Macroglena caudata densely covered the trunks of many tree ferns with its finely dissected but not translucent fronds.

Other ferns included Cyathea leichhardtiana the prickly tree fern, very numerous and now well recognised by all with scratched hands, Asplenium attenuatum and A. flabellifolium clinging to moist rock faces, A. australasicum, Pyrrosia rupestris, Pellaea falcata var nana, Blechnum ambiguum and or B. wattsi, B. patersonii, Sticherus flabellatus, Histiopteris incisa, Todea barbara, Microsorium scandens, Adiantum silvaticum and Lastreopsis acuminata.

After lunch some of the party elected to return via the rope, a few other adventurers chose to climb out of the gorge by discovering a new route and ten followed Peter further down stream in search of Imesipteris truncata. After much scrambling and slow progress and fruitless search during which however Adiantum diaphanum, Blechnum nudum and Cyathea australis were added to the list of ferns sighted, a steep climb returned us to the fire trail and the cars just on 4 o'clock. A memorable day perhaps best summed up by our New Zealand visitor as invigorating.

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NOTES ON MEETING AT THRONLEIGH ON 23rd JULY 1988

Our hosts were Beryl and Jim Geekie. Most of the 25 attending occupied themselves prior to the meeting by inspecting the Geekie's outstanding large collection of ferns. Among the many native ferns in the collection a few that really impressed were Drynaria rigidula in a fibre lined basket with several rows of attractive nest leaves, D. rigidula var whitei and Schellololepis subauriculata var knightaei two more mature plants in baskets which looked quite spectacular and Acrostichum speciosum in a pot, almost a metre tall, healthy vigorous looking plant. One of the features of the Geekie's ferns was the healthy looking condition of the ferns even though it was mid-winter.

At our May meeting Peter had shown us features of the five Adiantums which can be found in bushland in the Sydney area. Notes on some of the discussion concerning the other native Adiantums follow.

A. capillus-veneris fronds have thin hair-like rachises but the scales at the stipe bases are darker and thicker than on A. aethiopicum. It has large oblong sorus, the outer margins are noticeably flat. It has a widespread distribution although rare and oddly does not occur in N.S.W. although native to all other mainland States and the Northern Territory. In nature it usually grows among rocks, it is easy in cultivation but resents cold conditions.

A. caudatum Extremely rare in Australia, the original collection here occurred as recently as the 1970's. Peter has collected it at Cohen in North Queensland during the wet season. In dry weather the fronds curl up and the pinnae are often deciduous. The frond only reaches to about 30 cm long and is pinnate with close sessile pinnae with the upper pinnae gradually reducing in size and the apical portion of the frond sometimes leafless and rooting at the tip.

A. cunninghamii looks like a big glaucous form of A. silvaticum and Peter mentioned having collected and being given small plants called A. cunninghamii which when grown on proved to be A. silvaticum. A. cunninghamii sometimes appears almost dark blue, it is glaucous underneath the fronds and the secondary rachis turn up. The scales on the rhizome are dark brown and almost entire. Although from Queensland once established it is hardy in cultivation.

A. philippense From the tropics, in Australia it is only found in Queensland, West Australia and Northern Territory. It is difficult in cultivation and in southern States is probably best kept in a pot in a hot house. This is another small fern usually less than 30 cms tall. The pinnate fronds may die off during the heat of summer.

A. pubescens is very similar to A. hispidulum and most at the meeting could not confidently identify the plants which Peter brought to the meeting. In fact during the course of the discussion it was observed that Peter changed the labels. Peter mentioned that A. hispidulum's pinnules are sharper pointed and the branching of the fronds is variable. The fronds on A. pubescens are pedate and relatively flat and the harris are thin and only sub rigid.

A. whitei this is usually described as a hybrid between A. formosum and A. hispidulum. However this is not conclusive and we eagerly await publication of a paper prepared by Peter Bostock. Its distribution is restricted to the environs of Brisbane. As for A. hispidulum it has white hairs on the segments. It is easily cultivated.

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S.E. QUEENSLAND REPORT

Contributed by Irene Cullen

Our group will again take part in the Annual S.G.A.P. Flower Show on Saturday and Sunday 10/11 September. This year it has a new venue in the grounds of the Redeemer Lutheran College, 745 Rochedale Road Rochedale. The already beautifully landscaped area will give us scope to display our ferns to great advantage. Final arrangements will be made when we meet at Mapleton. A start has been made to our "Key to Lastreopsis". Even though we became bogged down when trying to decide whether the lamina was anadromous or caladromous and find ourselves wrestling with a completely new language we are keen to keep on with the project and all interested are doing some 'homework'.

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FORTHCOMING EVENTS

SOUTH EAST QUEENSLAND

SUNDAY 4th September 1988 Excursion to East Cedar Creek.

Meet at Mapleton 9.30 a.m. between main street and Waterlilly pond.
Members intending to go please notify P. Bostock 202 6983 or J. Cullen 341 4272.

FRIDAY 9th September 1988 2 p.m. Set-up Fern display
Redeemer Lutheran College 745 Rochedale Road Rochedale.

SUNDAY 13th November 1988 9.30 a.m. Final meeting of year.
Jan Glazebrook 14 Carramar Street Loganlea.

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FORTHCOMING EVENTS - SYDNEY REGION

16/17/18 September 1988 Australian Wildflower Spectacular

This annual feature of S.G.A.P. activities in N.S.W. is being held at a new venue, the Bankstown Basketball Stadium, Third Avenue, Condell Park. As well as helping with various displays we are seeking the loan of ferns that could form part of other exhibits. If you have ferns in pots or baskets that might be suitable for display, would you please agree to make them available for the duration of the Spectacular. The inclusion of our ferns should both enhance the displays and attract public interest in our ferns.

We have ordered in an extensive range of ferns for sale including some species seldom available here. Members wishing to offer their own surplus ferns for sale through our sales area or who are willing to assist by loaning ferns for display purposes at the Spectacular are requested to contact Moreen on 528 4881 concerning arrangements. Contact as early as possible would be appreciated. Also please advise Moreen if you are able to assist on any part of the three days as we would like to arrange a roster of members to provide sales and promotional information. Helpers are needed too for the set-up on 15th September and pull-down on late afternoon/evening of 18th September.

Sunday 23rd October 1988 Meeting Sylvan Grove Native Plant Reserve

The main activity will be to inspect and identify the various ferns that have been planted in the Reserve situated at 7 Sylvan Grove, Picnic Point. There is to be a short business session commencing at 11 o'clock sharp followed by an examination of the wide range of plants throughout the Reserve. This is intended to be an open air study session with discussion centred on the ferns found in the Reserve. Bring lunch and afternoon tea and hot water if required.

Week-end 19/20 November 1988 Visit Watagan State Forest

On Saturday meet at 9.30 a.m. at the home of Bea and Roy Duncan, 167 Freemans Road, Morisset, for a cuppa prior to 10 o'clock sharp start by car convoy to start of walk. If you are likely to be late it is suggested that you contact the Duncans prior to the day and obtain details of the walk's location. If travelling from Sydney by car it should take approximately 1 hour's drive from the toll gates at Berowra. Follow Freemans Drive past the two caravan parks over a bridge, No. 167 is the second drive way on the left. Carry a light lunch as it may be necessary to eat away from where our cars will be parked.

Arrangements for the Sunday have not been finally decided at this stage. However we are to meet at the Duncans' at 9.30 a.m. and have been invited to spend the morning inspecting their extensive fern collection. Depending on requests from those attending it may be possible to arrange a short walk in the Watagans. However it is planned to conclude proceedings by lunch time to allow time to beat the traffic back to Sydney.

For those wishing to stay in the area overnight there are caravan parks in the near vicinity. The Duncans have offered to allow anyone bringing own van to park on their property. Further details may be obtained by phoning (049) 77 1482.

Sunday 11th December 1988 Meeting at Illawong

Our last get-together for the year is to be held at the home of Margaret and Peter Olde, 138 Fowler Road, Illawong commencing at 11 o'clock with a short business session. On this occasion it has been suggested that we should pool our lunches. Please contact Margaret at least a few days prior to the day to advise whether bringing meat, salad, sweets, etc. Margaret may be phoned on 543. 2242.

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Helga

Dicksonia antarctica. Labill.

Helga Alcock of the Mackay Group of S.G.A.P. who provided sketches featured in the previous two issues of our Newsletter was also responsible for this fine detailed drawing. Dicksonia antarctica is a large tree fern which is distributed in all Eastern States and is also popular in cultivation.