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S. G. A. P. Fern Study Group

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Dear Members,

September has been a very rewarding period for quite a few of our Fern Study Group members.

Congratulations to our south east Queensland members who put on a ferns display at the Queensland Region Wildflower Spectacular

I have been asked to say a very big thank you to Cliff Ritchie for the tremendous effort put into the display and I hope this will encourage other members to lend a hand next year.

Viv. and I went to Newcastle for the 10th Annual Wildflower Exhibition, to give a little moral support to Roy and Bea Duncan, who with some assistance from Tony Clark and Lyn Millington, manned a very fine display of native ferns. Come on Newcastle members, what about helping these members next year. I can assure you there is a lot of pleasure meeting and chatting to the many visitors to the show. Congratulations to Roy and Bea on a job well done.

The 28th and 29th September the N.S.W. Region Wildflower Exhibition was held at Castle Hill.

After many months of detailed planning, discussions and just hard work the structure for the housing of the walk through rainforest became a reality. None would be more surprised at the result than the team whose job was to make this apparently impossible 'dream' come true. The planning of the layout of the paths and planting areas had to be developed around the supporting 'trees' and the supports and the stays of the roof of the marguee.

I felt very proud to be part of our team which assisted with the creation of the 'walk through rain forest' which was the high light of the exhibition. The high quality and standard of this creation attained by unskilled volunteers greatly impressed the many visitors to the exhibition.

I want to say a special 'thank you' to Sylvia and David Garlick, Jan and Noel Laity, Kyrel Taylor, Peter O'Connell and Roy and Bea Duncan who came from Newcastle to give a hand. There are many more who gave valuable assistance and to those I want to say thank you.

The first prize of the raffle, which was a very large *Platycerium superbum* was won by K. Taylor with green ticket No. 58. Kyrel Taylor is a member of the Fern Study Group so it is a stroke of luck that the raffle tickets were drawn, under public scrutiny by Graham Ross. The second prize, a smaller *Platycerium* was won by Kerry from Avalon with a yellow ticket No. 57. I believe Kyrel continually checks the growth of his prize.

On a rather damp Saturday, 19th September, a group of members went to the Watagan Mountains near Morisset where they did some walking. This will be covered later in this issue.

On Saturday night we enjoyed a bar-B-Q at the home of Roy and Bea Duncan and on Sunday we gathered again for another walk and later finished the day with a short meeting and competition, but I won't mention the names of the people who took off all the prizes. I think we should ban them from future draws.

After 10 years, as Secretary of the Fern Study Group, John Lee has decided to retire, and is looking forward to doing a spot of bird watching. John has always been a very efficient, hard working, thorough Secretary, polite and well liked by all the people he came in contact with, a perfect gentleman. He carried out the onerous job of dispatching the newsletter without complaint.

On behalf of all members I wish John and Addie all the best for the future and hope they can still enjoy their love of ferns and wildflowers, when they move to their new home. I hope they will still be able to attend our meetings in the future.

Moreen Woollett is replacing John as Secretary and I am sure that she will be as efficient in the position.

Phyll Brown.

RED CARPET

We wish to extend a warm welcome to the following new members;

MOTORISTS PRAYER

At 60 Kms per hour
The highway is my home,
At 110 Kms per hour
Heaven is my home,
At 120 Kms per hour
Oh Lord I'm coming home.

Psilotum nudum frond Actual size.



Sporangia enlarged

Showing upright habit of the plant.

Portion of frond of *Psilotum complanatum* (Actual size)



FAMILY - Psilotaceae.
GENUS - Psilotum. Swartz.

(Si lō'tum)

These are simple vascular plants which do not have true roots but have short branching rhizomes bearing hairs which anchor the plants and absorb plant food and water.

The stems are hard, tough, branching and erect or soft flat and pendulous, bearing small narrow scale like leaves. The spore is produced in round, three lobed cases attached to the stems. These turn yellow when the spore is ripe.

Psilotum complanatum Swartz.

The stems are long, flat and pendulous about 3 mm wide. The ferns are usually growing in Platycterium species in the rain forests.

The recorded range of this species is from Northern Queensland to Northern New South Wales.

This is a rare species only occasionally offered for sale through fern outlets in the Cairns area of North Queensland.

Propagation would be by careful division of the fern.

Ferns of this species are growing in old elks, attached to flat boards, under shade house conditions in the Sydney area. Apparently could need extra heat during the winter months, further south.

Psilotum nudum (L) Griseb

The stems of this species are skeleton like, hard, erect, branching, three sided, about 2mm across.

It has been found growing as an epiphyte in elks and stag-horns and in the forks of trees and as a terrestrial in rocky outcrops and lime mortar of stonework.

The recorded range is along the eastern coast from North Queensland to the East Gippsland area of Victoria. It has been recorded in the Grampians in Victoria and the Kimberley area of Western Australia as well as Central Australia.

In the Sydney area the fern is growing naturally in rocky outcrops in the Ku-ring-gai Chase and Royal National Parks. It has been found growing in the mortar in rock walls in two northern Sydney suburbs. In parks along the highway at Innisfail in North Queensland these ferns can be seen growing in the forks of the large trees.

A Study Group Member living at Ingham, North Queensland, has no problem with the propagation of this fern, as the spores readily germinate in hanging baskets and pots in her shade house. Although Psilotum complanatum is also growing freely in the same shade house there has been no evidence of spores of this fern germinating.

Evidently propagation by intentionally sowing the spores is rarely successful. This could account for the ferns being expensive to buy, and then only from specialised outlets.

Propagation is by careful division of the rhizome.

The plants of this species purchased are usually growing in elk fibre or dead elks. These make good basket specimens or can be mounted on flat boards.

These ferns are being grown successfully under shade house conditions in the Sydney area.

FAMILY - Blechnaceae

GENUS - Stenochlaena J. Smith.

SPECIES- palustris (Burmann f.) Beddome.

This fern has a long creeping, scrambling rhizome which is green and without scales at maturity.

The fronds are dimorphic being pinnate with the sterile pinnae smooth and shiny, with serrate margins and about 2cm wide and 11 cm long. The fertile pinnae are much narrower about

3 mm wide, covered on the underside with sporangia with the exception of the midrib and a thin margin of the pinnae.

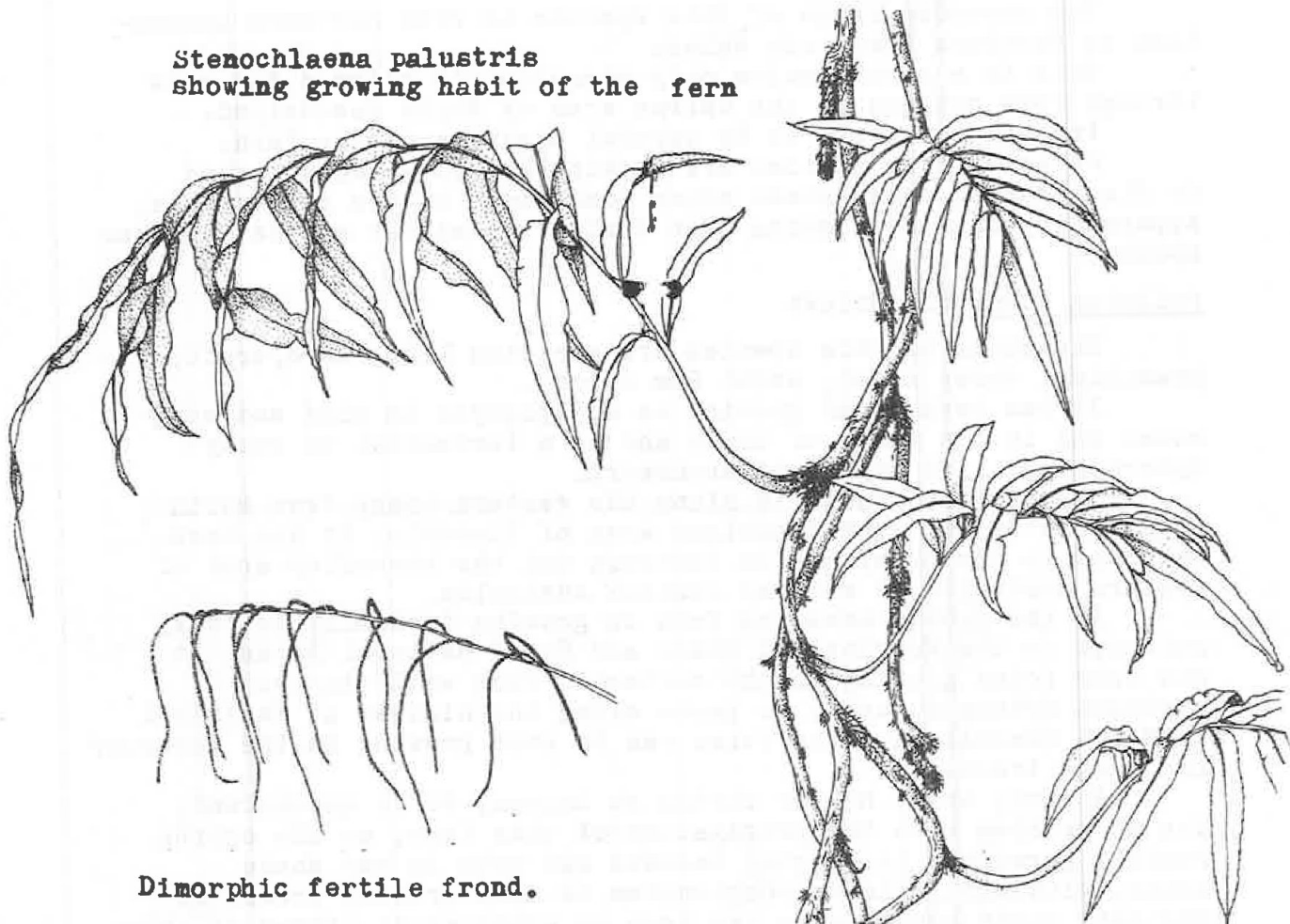
Apparently the fern rarely spores so sporelings are not often found. Propagation is usually by division of the rhizome although this fern is now being tissue-cultured.

These ferns make excellent basket specimens but can also be grown in the ground and allowed to climb up poles or trees. An example of the latter can be seen in the pyramid in the Royal Botanic Gardens, Sydney where a very vigorous plant is growing on a palm tree.

The ferns can be grown in shade houses in the Sydney area.

The range is in wet areas in Northern Queensland, Northern Territory and Kimberley areas of Western Australia. The common name is "Swamp fern".

Stenochlaena palustris
showing growing habit of the fern



Dimorphic fertile frond.

Burrendong Arboretum - Shade Area.

By Peter Althofer.

From the inception of the Burrendong Arboretum scheme in 1964 it was intended to, at some point in time, endeavour to establish an area that would be devoted to fern species and selected sub-tropical plants.

Preliminary discussions took place between members of the newly formed Burrendong Arboretum Association over a period of years 1972 to 1978.

Only one place was deemed suitable for such a venture within the 160 hectare area and this could not be used until a suitable water supply was provided.

The area selected was a steep sided creek situated in the south eastern corner of the Arboretum. Protected on the southern end by an intense regeneration of *Callitris columularis* in an adjoining, privately owned property; an easterly aspect and set in an advancing plantation of *Eucalyptus* and *Acacia* species.

Members were aware that an artificial environment would have to be created to ensure success for such a project where extremes of heat and cold were commonplace.

Various methods of covering the creek bed were investigated. All were discarded as not being, either practical or were beyond our capabilities as a voluntary group to undertake.

An approach was made to the University of N.S.W. for suggestions for a suitable structure that would possibly create the desired environment for the successful establishment of a fern area for Burrendong.

The plan was enthusiastically received by the University of N.S.W. and from a grid survey prepared by Surveyors from the Department of Lands, a structure was designed by a member of the University Faculty, Dr. Peter Kneen, Department of Civil Engineering.

His design of an aesthetically pleasing suspended wire cable structure; to be anchored at six points; three on each side of the of the creek bed was accepted and so plans got underway to raise finance to erect the structure.

In July, 1979 work by volunteers got under way. Six massive foundation holes were dug for the anchor points. Each to hold five cubic yards of concrete. Anchor steel mountings had been prepared by a Wellington tradesman and these were set in place at this stage to allow hardening of the concrete for approximately two months before construction took place.

In September 1979 a team of 70 students of Landscape Architecture arrived at Burrendong; 50 to work on a project for the Burrendong Park Trust and 20 to the Arboretum project.

In conjunction with Professor P. Spooner, Head of the School of Landscape Architecture University of N.S.W. under the supervision of Dr. Kneen, designer and Mr. D. McCready from Geodome Space Frames of Melbourne the shade area was erected and partly covered with brush in a working week.

Work ceased at this stage for some time. Then in early 1980 word was received from Mrs. Molly Murray, Leader of the Fern Study Group, Sydney Region S. G. A. P. that their members would like to supply ferns and develop the sheltered area.

This generous offer initiated a feverish burst of activity by permanent staff and volunteers to prepare the area for planting

All landscaping under the canopy was done, the remainder of the canopy was covered with brush, a water supply connected to the area and all was ready for planting.

The weekend of 29th and 30th November, 1980 was the date selected for the first planting of ferns. Some perimeter trees had already been planted,

Ten Sydney Group members arrived with their ferns and I think on sighting the raw mess of rock with very little soil showing that their enthusiasm was dampened somewhat. However, 300 ferns were set in place and these responded well and made a good showing for the "Fernies" next visit on the 14th March, 1981.

By November 1984, the structure was full to overflowing with plants. Successful beyond our wildest dreams.

Already plans were underway for stage 2 which would give us much more room for the many species of plants that could be grown under controlled conditions.

The Fern Study Group has worked tirelessly to raise funds for the new structure. At the time of writing much of the necessary material has been purchased. Foundation holes have been dug and we are at present waiting on quotes for foundation steel, internal supports and reinforcement.

Stage 2 has also been designed by Dr. P. Kneen, University of N.S.W. on a voluntary basis.

At present the fern area is in need of rearrangement. Many of the tree ferns have exhausted their growing space and must be moved on to the stage 2 area, so that the smaller denizens of the fern world can develop unhindered.

Throughout the very dry years of 1980 the shade area has been an oasis and has attracted many visitors who are amazed such a dry hostile environment can be transformed to what it is today.

The Executive Body of the Burrendong Arboretum Association is deeply grateful to all those individuals and groups who have contributed valuable time and money to better the Arboretum concept.

A VISIT TO THE WATAGAN MOUNTAINS.

There are thirteen state forests, in the area known as the Watagan Mountains, which are located west of Tuggerah Lakes and Lake Macquarie, with easy access from Cessnock, Newcastle and Sydney. The mountains form part of the Hunter River watershed and stretch from Mount Sugarloaf in the north and southward to the vicinity of Ourimbah.

On the weekend of 19th and 20th October, a small group of members gathered at the home of Bea and Roy Duncan who live in Freemans Drive, Morisset.

On Saturday 19th October, it was decided to visit the Gap Creek Reserve. The party travelled along Freemans Drive through Cooranbong and Avondale to the Mount Faulks turnoff. A rough gravel road led to the Bangalow Road turnoff, from this point the road passed under the Monkey Face Lookout and terminated at a picnic area which was the starting point for the walk.

At the picnic area high up in a small tree is a good specimen of *Platyterium bifurcatum* and on rocks are *Pyrrosia rupestris* and *Dictymia brownii*.

The path leading to the creek is well worn, easy to follow and without any steep grades. Along both sides of the path were colonies of *Lastreopsis decomposita* and *L. microsora* whilst the small trees and rocks were hosts to masses of *Microsorium scandens* and *Arthropteris tenella*. Perched precariously on large boulders were various sized *Asplenium australasicum*. *Cyathea australis* and *Cyathea leichhardtiana* dotted the landscape. Away to the left of the path almost hidden from sight was a large stand of large *Blechnum cartilagineum*. Interspersed amongst the ground ferns were *Adiantum aethiopicum*, *cunninghamii*, *formosum hispidulum*, *Pellaea falcata*, *falcata var. nana*, *paradoxa* with a few large plants of *Pteris umbrosa*. A few plants of *Arachniodes aristata* were found about halfway to the creek, whilst large numbers of *Doodia aspera* were beautiful sight with the masses of bright pink new fronds.

The walking path ended at the creek. On the far bank *Asplenium polyodum* were growing on trees, *Blechnum pattersonii* grew along the wet banks whilst small plants of the dainty *Asplenium flabellifolium* crept out from the crevices in the rocks.

The find of the day, on rocks and small trees near the creek were masses of *Arthropteris beckleri* whilst a plant of *Asplenium attenuatum*, with small plantlets, was found in a dark area between large rocks.

It was raining when the party returned to the picnic area so lunch was taken in cars, in vans and under the raised tail gates of vans.

On Sunday 20th October the Wishing Well Walking Trail was selected for the walk. The route to the Wishing Well Forest Park on Martinsville Hill was along Freemans Drive, left into Martinsville Road and then left again into Martinsville Forest Road which led to the forest park.

This walk covers steeper terrain, particularly at each end of the walk, than the walk on the previous day. Along this walk some of the trees are numbered and named and these correspond with a brochure available from the N.S.W. Forestry Commission.

Ferns found on this walk, not seen on the previous walk were *Doodia caudata* and *Lindsaea microphylla*.

After lunch the group continued along Martinsville Hill Forest Road turning right into Watagan Forest road which led to The Pines Forest Park. Here there are large stands of massive *Todea barbara*. Other ferns were *Hypolepis muelleri* in abundance at the picnic ground, *Blechnum minus* and *Gleichenia dicarpa* along the creek.

At the Boarding House Dam (not visited on this trip) a short walking path leads to a natural rock wall which is thickly covered with moss, in the wet seasons. It is here that members of the Fern Study Group recorded the sighting of small plants of *Vittaria elongata*.

PROGRAMME.Sunday, 15th December, 1985.

Meet at 11.00am at the home of Phyllis and Viv. Brown, 254 Edgar St., Condell Park. Please bring your lunch and a 'plate' for afternoon tea. Bring a gift, win a gift.

Sunday, 23rd February, 1986.

Meet at Joseph Banks Native Garden, Bates Drive, Sylvania Heights at 10.00 am. The entrance is off Manooka Place. Please bring your lunch and afternoon tea.

Sunday 16th March, 1986.

A visit to Adelina and Federal Falls, Blue Mountains. Meet at the Memorial on the left hand side of the Great Western Highway at Lawson, at 10.00am.

Friday to Sunday, 25th to 27th April, 1986.

Visit Burrendong Arboretum, Burrendong Dam, Wellington. 'On site' caravans have been booked, limited vacancies on a share basis will be available. Any member requiring this type of accommodation, please contact Margaret Olde, 138 Fowler road Illawong, 2234. There are plenty of powered sites available. The usual bar-b-que will be held on Saturday night.

In our March, 1984 Newsletter, mention was made of the intention of Society for Growing Australian Plants New South Wales Ltd. to publish a book on growing native ferns, there was a plea for photographs, articles etc. that might be suitable for inclusion.

A Committee of Fern Study Group members has been preparing material and putting together contributions received. It has become apparent that because of the size of the subject matter, it would be preferable to attempt to publish a series of books and work has been proceeding towards that end. It is currently planned that the first volume would be devoted to just four genera *Platyserium*, *Cheilanthes*, *Blechnum* and *Drynaria*, for which certain material is already in hand.

Nevertheless further material is still required particularly regarding experiences of members growing the various species in the four genera. It is believed that comments from knowledgeable persons on growing ferns under possibly a variety of conditions would provide worthwhile information to beginners and the more experienced growers alike.

Recognition will be given in the book as to the source of any contributions used.

Although the urgent need is for material relating to *Platyserium*, *Cheilanthes*, *Blechnum* and *Drynaria* species, as it is intended that all ferns will eventually be covered, your comments, articles or slides on any native fern would be welcomed.

In order to assist in the preparation of your response, a copy of a form is enclosed for your use.

It would greatly assist the preparation of the book according to our timetable if any information that you supply relating to the four genera listed could be forwarded to reach the Secretary, 3 Currawang Place, Como West, 2226 not later than 31st, January, 1986.

As this is the final newsletter for this year, I want to wish you all a very happy Christmas season and a happy and contented New Year.

Phyll Brown.

(Mrs) Phyllis Brown,
Leader,
Fern Study Group.
S.G.A.P.

DATA ON GROWING FERNS.KEY

POSITION eg SHADEHOUSE GROUND ROCK POTS LOGS BASKETS OTHER
ASPECT eg DEEP SHADE PARTIAL SHADE SUNNY OTHER
SITUATION eg DRY DAMP WET BOG
SOIL MIX eg SANDY SAND & PEAT LOAM& ORGANIC MATERIAL OTHER
TEMPERATURE eg °

POSITION ASPECT SITUATION SOIL MIX TEMPERATURE

BLECHNUM

ambiguum

articulatum

camfieldii

cartilagineum

chambersii

fluviatile

gregsonii

indicum

minus

nudum

orientale

patersonii

penna-marina

vulcanicum

wattsii

whelanii

wurunuran

sp. (King Island)

Cheilanthes

caudata

distans

hirsuta

hirsuta (Dwarf)

lasiophylla

prenticei

pumilio

sciadioides

sieberi

tenuifolia

vellea

DRYNARIA

quercifolia

rigidula

sparsisora

POSITION ASPECT SITUATION SOIL MIX TEMPERATURE

Platyserium

bifurcatum

hillii

superbum

veitchii

Fertilizers

Quantity:

How often:

Insects, pests or diseases

What treatment given?

Hints on growing

Other comments

NAME:

ADDRESS:

STATE: