

**THE
FERN SOCIETY
OF
VICTORIA**

Inc.

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NEWSLETTER

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PRESIDENT'S ANNUAL REPORT AS PRESENTED TO THE 1996 ANNUAL GENERAL MEETING.

Chris Goudey

The past year has rapidly passed us by and our Society continues to prosper. This is our seventeenth year since our inauguration.

Finances.

Our financial position is still quite satisfactory, with a balanced budget and a good balance in the bank, as see in the last newsletter. Again, we are indebted to Don Fuller for his excellent work over the past year as Treasurer.

Monthly Meetings.

Our monthly meetings are still reasonably well attended, despite our changes in venue, not once but twice. We have had some excellent speakers throughout the year. Terry Smyth from the National Museum took us on a trip to China; Ian Rogers to the old fernery in the Geelong Botanical Gardens; Michael Garrett on the fern tour of Tasmania and Ray Edwards on his spore-raising techniques. From our own members, Terry Turney on the genus *Dryopteridaceae*; Barry White on his recent trip to the Philippines and Mary Frost on the preparation and presentation of ferns for show. We had two Members' Nights and our Christmas Break-up was held at Fernworld.

The fern competitions are becoming very popular and it is pleasing to see a variety of members participating.

Excursions.

Two excursions were held this year, the first to Toolangi and the second only a short while ago to the Rippon Lea Fernery at Elsternwick. Three more excursions are planned before the end of the year.

Fern Show.

A very different fern show was held this year at a new venue, the Holmesglen College of TAFE at the Waverley campus on March 30th and 31st.

There were two excellent specialist displays, the usual pergola with a face lift, and members Reg and Mary Kenealy of Marysville put together a fascinating display of fern memorabilia. Unfortunately our fern show was not well-attended by the public. Thanks again to Don Fuller for the hard work he puts into organizing and co-ordinating the show, and also to the members of the Show Committee.

Newsletter.

After many years as Newsletter Editor, Bob Lee stepped down early this year and the position was filled by Lyn Gresham.

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FORTHCOMING MEETINGS & EVENTS

BADGER CREEK EXCURSION

Sunday 17th November - 10.00 a.m.

Melbourne Waterways Badger Weir Reserve, out Badger Weir Road, Healesville, Melway Map 248, off H12.

Meet in the top carpark (through the gate) at 10.00 a.m. for a ten thirty departure.

Bring your lunch - BBQ and hot water are available.

This is not a 'mountain goats only' excursion but as usual sturdy footwear is recommended.

For more information contact **George Start** on (059) 625 059.

NOVEMBER GENERAL MEETING

Thursday 21st November - 8.00 p.m.

Joan Rowlands, who was scheduled to speak on "The ferns of Madagascar", unfortunately is unable to do so.

We look forward to her talk in the near future.

We are very fortunate indeed that **Robin Halley**, who is visiting from San Diego,

U.S.A., has agreed to speak at this meeting. Robin has travelled widely in the U.S.A., studying ferns.

His special interest at present is Xerophytic (drought-resistant) ferns. Robin has entitled his presentation:

"The Ferns of San Diego County"

It will be an interesting and informative meeting, so we look forward to seeing you there.

VENUE: Victoria Bowling Club, 217 Grattan Street, Carlton. (Ample Off-street parking .)

MEETING TIMETABLE:

7.30	Pre-meeting activities - Sale of ferns, spore, books, merchandise and Special Effort tickets. Also library loans.
8.00	General Meeting.
8.30	Topic of the Evening.
9.30	Fern Competition judging, Fern identification and pathology, Special Effort draw.
9.45	Supper.
10.00	Close.

NOVEMBER FERN COMPETITION: A member of the family *Athyriaceae*

This family includes *Cystopteris*, *Diplazium*, *Lunathyrium* and *Athyrium* ferns.

CHRISTMAS FUNCTION GEELONG BOTANIC GARDENS

Sunday 8th December at 12 noon.

Botanic Drive, Off Eastern Park Circuit, Eastern Park, Geelong.

Melway Map 228B, ref. Q5.

Parking is available in Botanic Drive or, if full, there are three other parking areas within 300 metres.

BYO lunch.

FEBRUARY GENERAL MEETING: The date for the first meeting in 1997 will be the 20th February.

Watch for further details in January's Newsletter.



.....Continued from Page 82

Initially, we were a little worried about how a country member would cope with this task, but Lyn has exceeded all our expectations. She is doing an excellent job.

Contributions from members (or lack of them) is a problem, as the editor needs this support to be able to produce a quality newsletter.

Thanks also to Margaret Radley and her daughter, Sharon, for their part in the folding and mailing of the newsletters.

Committee of Management.

The Committee of Management has functioned well once again despite our many changes of venue and having our Committee meetings on the General Meeting night. Several members will not be standing again for the next term, so there will be some vacancies to fill.

My thanks go to all the committee members for their contributions over the year; Barry White (Past President), George Start (Vice-President), Lexie Hesketh (Secretary), Don Fuller (Treasurer), and also Jean Boucher, Simon Hardin, John and Norma Hodges, Ruth Illingworth, Joan Rowlands and Cheryl Shelton.

Non-elected Positions:

Many of our members have given their time and effort, not only over the past year, but for many years and their contributions are acknowledged.

Thanks to: Margaret Radley and Joy Horman for selling raffle tickets at the door. Norma Hodges and Jean Boucher for their work in providing supper at the meetings and Nancy Perry when Jean was away. Don Fuller for organizing the merchandise such as Maxicrop, baskets and liners etc.. Lorraine Goudey for her work on the fern sales table, John Oliver as property manager, David Radford for looking after the library, Ivan Traverso for taking care of the book sales, and also Barry White, who manages the spore bank. Again, as Barry always stresses, its success depends on the donations of spore from members. Thanks also to Mavis Potter for all the cakes she has baked over the years for the Christmas Break-up raffles.

I would like to thank George Start for the excursions he has organized and led over the years, and not to be forgotten, the beautiful hand-turned clocks that he made and donated to the Society for presentation to Mary Frost and Bernadette Thomson.

In conclusion, I would like to thank all the members for their support over the past year and I look forward to the coming year in the knowledge that our Society will continue to prosper.

Chris Goudey.

COMPETITION RESULTS SEPTEMBER AND OCTOBER MEETINGS.



SEPTEMBER COMPETITION CATEGORY : A. Lastreopsis.

- | | |
|------------------|---------------------------------|
| 1. Dorothy Forte | <i>Lastreopsis tinarooensis</i> |
| 2. Don Fuller | <i>Lastreopsis acuminata</i> |
| 3. Dorothy Forte | <i>Lastreopsis smithiana</i> |

SEPTEMBER SPECIAL EFFORT

EXHIBITOR'S DRAW: Dorothy Forte
Lyn Gresham, Mavis Potter, Norma Hodges, Margaret Radley, Joy Horman.

OCTOBER COMPETITION CATEGORY : A fern with colour other than green.

- | | |
|--------------------|---|
| 1. Dick Kissane | <i>Blechnum brasiliense</i> |
| 2. Lorraine Goudey | <i>Athyrium niponicum</i> (Japanese painted fern) |
| 3. Dick Kissane | <i>Selaginella watsoniana</i> (Snow Dust) |

OCTOBER SPECIAL EFFORT

EXHIBITOR'S DRAW: Barry White
Margaret Radley, Bob Lee (Declined), Norma Hodges, Bob Lee, Keith Hutchinson,
Val Kissane.

FERNS OF TASMANIA.

SPEAKER: Michael Garrett

Michael, an otherwise sane person who is absolutely besotted with ferns, came over from Tasmania to speak to us about his local ferns. Michael has been the chief fern (spore) propagator for Westlands in Hobart. He now works in his own business in partnership with Bicheno Nurseries on the east coast of the island. Michael has had a lot to do with Tasmania's Conservation, Forest and Land Dept. as an honorary consultant regarding the clearing/conservation of wilderness areas and other matters and is presently in the process of having his definitive book on Ferns of Tasmania published. His special passion is for Grammitis (Finger-ferns). In his field trips he has made discoveries of a number of ferns in Tasmania. His enthusiasm for the cold climate rainforest wilderness - chilly, windy, bleak, damp, mountainous, treacherous, diverse and breathtakingly beautiful that it is - is obvious to everyone who meets him.

For many years, Michael explained, he has lived and breathed ferns and has propagated them for about twenty years, growing them on to tube size (about 12 months old). He is not really interested in growing ferns as pot plants, but does grow some in the garden. He prefers to see them growing in the bush, in their natural environment - so much so that he tends to regard the whole of Tasmania as his backyard and spends as much time as possible in it, enjoying seeing them and learning about them. He likes to think that when off on an expedition he is going where no-one has ever been before. That is not usually the case, but it is usually true that no botanist or fern specialist has been there before. Tasmania looks tiny on a map but when you get off the beaten track it is a BIG place.

Tasmania has about a hundred known species of ferns, just a few less than we have in Victoria. There are thirteen which are not found here, so Michael concentrated on these because they would probably be less familiar to us. He seemed apologetic that most are not the average lush, green, 'potplanty' types but are often rather peculiar looking and found in water, heathland or on mountaintops. No apology was necessary; interesting is interesting - and any new fern or fern ally is fascinating!!

PRECIPITOUS BLUFF.

A favourite area of Michael's is Precipitous Bluff, right down in southern Tasmania. Around the base of the bluff is rainforest, the oldest unburnt rainforest in the State, and to add to the excitement it is a limestone area, with sinkholes and caves.

Anywhere you find limestone and high rainfall you will find a myriad of ferns so it's a fern lover's paradise. It can be too exciting though, in fact downright dangerous - two or three people have disappeared in the area recently, and are assumed to have fallen down sinkholes.

MOUNT ANNE'S NORTH EAST RIDGE.

Located south of Strathgordon (which is in the central south of Tasmania), this is one of the most remarkable places that Michael has been to in Tasmania. The north-east ridge of Mount Anne is composed of limestone in which sinkholes the size of football fields have formed all over it. At an altitude of about 1,000 metres, this area is covered with King Billy Pines, upon which grows *Apteropteris applanata*, also *Pandanus* (mop-top trees similar to Cordyline), *Cyopteris tasmanica*, *Asplenium trichomanes* - a strange assemblage of diverse

plants that you wouldn't expect to find growing together. The sinkholes are virtually bottomless.

THE KING BILLY PINE.

King Billy Pine is a beautiful, slow-growing conifer which Michael recommends as a particularly desirable, ornamental specimen for conifer lovers. It has a towering, pyramidal shape, tight foliage growth and in certain seasons has a glaucous, blue tinge to the foliage.

HORIZONTAL SCRUB.

This tree grows upwards but then the stems fall over to be more or less horizontal. The numerous new shoots grow upwards until they, too, fall over. This process continues until there is a thick, loose but impenetrable tangle of scrub. Progress through this kind of bushland is impossible at ground level so you may find yourself 'walking' 20 feet (6 metres) above the ground! Commonly found in parts of the Tasmanian wilderness, it is a member of the rose family.

THE FERNS

Huperzia varia (Previously *Lycopodium varium*)

Long clubmoss

One of the Tassel Ferns, It is found in Victoria but is much more common in Tasmania. Though not abundant anywhere in Tasmania, one or two plants can be found in almost every gully or on every mountain throughout the State. It grows on trees, rocks and tree-ferns. It resembles the tropical Tassel-ferns. The spore is borne on the ends of the 'tassels'.

Huperzia australiana

Fir clubmoss

A highland species of Clubmoss which grows on mountain summits at about 1,000 metres. It is common to both States. It differs from other Victorian and Tasmanian Clubmosses in that it produces gemmae (little bulbils) near the tips of each stem. These will produce new plants, which fall off and can take root and grow. Only a few will be successful. They grow in shallow soil on top of rocks or in rock crevices.

Apteropteris applanata

Skeleton filmy-fern

A very small Filmy Fern which is found in Tasmania only. It is quite different to those found here in that it is very hairy and is a brown colour, with brown spore cups. *A. applanata* commonly grows on King Billy Pine and Pencil Pine trees in areas of very high rainfall.

Cystopteris tasmanica

Tasmanian bladder-fern

The example we saw was growing on the edge of a sinkhole mentioned later, on Mount Anne.

Hypolepis distans

Ground-fern

Only found growing on King Island, north western Tasmania and New Zealand. It is a scrambling fern which grows in

swampy areas and half climbs trees. *Hypolepis* ferns in the bush can be confusing but once seen, this one will not be mistaken for any other. It has a thin, wiry look about it which is quite distinctive.

Sticherus tener

Silky fan-fern

We saw two forms of this, which in Tasmania are equally common. They both occur in Victoria but one is common, the other quite rare, only being known near Powelltown and in the Otways. The rarer form could easily be mistaken for *S. lobatus*. Identifiable features are - *S. tener* (second form) has silky hairs underneath like *S. tener* and is abundant in Tasmania, whereas *S. lobatus* has no hairs and its habitat is the forest floor where it grows vigorously. It is fairly rare in Tasmania.

Pilularia novae-hollandiae

Pillwort

The Pillwort is a rather strange looking, semi-aquatic fern which looks as though it could fall into the 'Fern Allies' category but is actually a true fern. It looks like grass and holds its spore in capsules at the base of the plant, usually underground. It often grows with Quillworts on the side of lakes and dams. It grows in the highlands and midlands of Tasmania. It is not common in Victoria, but certainly occurs here. It is a difficult fern to recognise.

Lindsaea trichomanoides

Oval wedge-fern

The Oval wedge-fern is found around Precipitous Bluff. It

likes very moist, dark places. It is extremely rare in Victoria.

Schizaea australis

A Cone-fern of New Zealand and South America. It is not recognised as being in Australia but Michael believes that the *Schizaea* in the highlands of Tasmania is identical to *S. australis* in these locations. It is a dwarf, compact fern which grows with mosses and lichen in wet, swampy, highland areas.

Grammitis pseudociliata

It is not found in Victoria. As the name suggests, it is very hairy. The one we saw had a mass of hairs around its frond base. It is one of the "Resurrection Ferns". During summer the fern appears to dry right out but with the onset of rain it will expand again, seeming to 'come back to life'. It grows in forests on old myrtle trees, with very little root system.

Grammitis magellanica

This one is common to both States. Rare in Tasmania, it is rarer in Victoria.

We saw two unnamed species of *grammitis*, both of which are found at high altitude.

Asplenium terrestre

A. terrestre is another rare Victorian fern which is very common in Tasmania. This is a very attractive "fair dinkum" fern, one that Michael particularly likes. It resembles the Hen and Chicken Fern but doesn't produce bulbils and also has a leathery texture. It was given the name *terrestre* in New Zealand where it always grows in the ground but in Tasmania it always grows on old trees or rocks. There is also a natural hybrid between *A. terrestre* and *A. bulbiferum* (Hen and

Chicken Fern) around, which can be confusing. This hybrid is unremarkable, though it produces an occasional bulbil and has fronds which are noticeably bigger than either parent.

Asplenium obtusatum

Shore spleenwort

The Shore spleenwort is found in both States and very common in Tasmania. It is almost always found growing in rock rubble on stable coastal cliffs, the exception being a gorge at Strathgordon, 50 km inland. It thrives in fully exposed positions, taking the full brunt of salt-laden winds and seaspray. We also saw a natural hybrid between *A. obtusatum* and *A. bulbiferum*, which has been found in two locations in Tasmania and one on Flinders Island.

Asplenium hookerianum

It is rare not only in Tasmania and Victoria but throughout Australia. In Tasmania it grows only in the wettest, darkest gullies. Unlike most *Aspleniums*, in Tasmania at least, it grows in the soil instead of on rocks and old trees. This one also produces hybrids with *A. bulbiferum*.

Asplenium trichomanes subsp. *quadrivalens*

This variant of the Common or Maidenhair Spleenwort prefers to grow on limestone, which is common in the western half of Tasmania. Consequently this fern is, too. A very pretty little fern, it grows in Victoria but is not so common as it is in Tasmania. The example we saw was growing in moss and leaf litter on limestone rock.

Asplenium trichomanes subsp. *trichomanes*

This one looks the same as subsp. *quadrivalens* but has a different chromosome count and does not grow on limestone. In Tasmania it is restricted to fairly hot dry, lowland areas, often with Rock ferns or Blanket ferns.

Gleichenia alpina

Alpine coral-fern

G. alpina is an alpine, dwarf Coral Fern. In Spring it has lovely orange new growth. It is difficult to collect spore from this fern as scales grow thickly in the spore-bearing part of the plant and you can't tell spores from scales or judge when the spores are ripe. Growing to about half a metre high, it tends to form a mound.

Gleichenia abscida

Dwarf coral-fern

It is a coral-fern that is endemic to Tasmania. It is fairly rare and is restricted to only a few out-of-the-way places. It has a different growth habit to our Victorian coral-ferns; they repeatedly produce new growth from the fork of each leaf, whereas *G. abscida* just produces a pair of leaves.

Blechnum vulcanicum

Wedge water-fern

Found in both states, is common in wet areas of Western Tasmania. The one we saw was growing in full sun which had brought out the red colour typical in *Blechnums*. The fertile fronds are similar to a Fishbone Fern in appearance.

Blechnum nudum 'Forcett Feather'

A form of Fishbone water-fern

'Forcett Feather' is a natural cultivar of the common Fishbone Fern. This aberrant growth form appears now and then in very

young plants or in fertile fronds. The spore produces normal *B. nudum* plants so it is in the 'hard to get' basket.

Isoetes, or Quillworts, are aquatic fern allies which grow in rivers. They will survive if the water supply dries up, reshooting from the base once water returns but two we saw, *I. elatior* (Tall quillwort) and *I. gunnii* (Stout quillwort), only grow in permanent water. *Isoetes elatior* which is found in a few rivers in Tasmania was seen growing in running water. It reaches 60cm high, which makes it the tallest quillwort in Australia. In a strong current it is swept sideways, otherwise it will grow upright.

Isoetes gunnii

Stout quillwort

Exclusive to Tasmania, Stout quillwort is fairly common in areas which have highland water.

Isoetes humilior

Rock quillwort

Another endemic one, *I. humilior* grows in highland lakes and tarns in open, unfern-like areas. The one we saw appeared to be growing in dry ground but Michael explained that under the dry surface the soil would be saturated.

Isoetes sp. (unnamed)

Grows in 'alkaline pans' in extreme South Western Tasmania. These are land depressions over limestone that are inland but only about 50 metres above sea level, over which a constant, thin film of water washes. A very strange array of plants have made their homes in these pans.

Lycopodiella diffusa

Grows in healthy plains similar to alkaline pan country, mostly in Western Tasmania. It also grows in New Zealand but not in Victoria. In a sunny position it gets a reddish colour, while in the shade it is green.

Lycopodiella serpentina

Bog clubmoss

It is more common in Victoria than in Tasmania, where it grows in coastal areas. It is very rare in Tasmania.

Lycopodium scariosum

Spreading clubmoss

L. scariosum shares its common name with some other club-mosses. It is a highland species which is rare in Victoria but common in Tasmania. It is attractive, with its shiny green leaves which flatten out into one plane. (This is the name Michael couldn't remember.)

Selaginella uliginosa

Spikemoss

Spikemoss is common in both States but it has a shiny, 'flattened' form in Western Tasmania.

Hymenophyllum marginatum

Bordered filmy-fern

H. marginatum is a filmy fern which is very common in the forests of South Western Tasmania, by far the most common filmy fern to be seen. It grows on the trunks of trees and rock faces and is dark green with a line running down the middle of each finger. Strangely, it is found in New South Wales and Queensland but has not been recognised in Victoria.

Lastreopsis hispida

Bristly shield-fern

This beautiful fern is locally common in both States. Michael likes it just because it looks nice.

TREE FERNS.

Dicksonia antarctica (Soft tree-fern, Man-fern), *Cyathea marcescens* (Skirted tree-fern), and *Cyathea cunninghamii* (Slender tree-fern) are the three tree ferns we saw. (I think of Tasmania as "Tree fern country". They Certainly have lots of them! -Ed.) The common name 'Man-fern' is widely used in Tasmania when referring to *Dicksonia antarctica*. In Victoria we call them 'Soft tree-ferns'.

Tmesipteris elongata

Tasmanian fork-fern

this was growing on the trunk of a soft tree-fern. Fork-ferns are very common in Tasmania and this one is no exception. It is also occasionally to be found in Victoria.

Pellaea calidirupium

This tough little customer is a fern that grows on hot, rocky outcrops in eastern Tasmania and also in Victoria. It has only fairly recently been described. Look for it in areas where Blanket fern or *Cheilanthes* are found.

Histiopteris incisa - variegated form.

There is a population of a variegated form of Bat's wing (*Histiopteris incisa*) found up in central Tasmania. Michael propagated from spore collected from these and about a third came up variegated. He commented that it was not the prettiest variegated plant he'd ever seen.

Hymenophyllum australe

Austral filmy-fern

Common in both Tasmania and Victoria, in New Zealand it is called *H. flexuosum*. We saw a frilly form of this tiny (usually to 20cm), delicate fern, which Michael has observed growing larger than the species form, and generally in slightly drier places.

Hypolepsis amaurochis

Austral ground-fern

We have this ground-fern in Victoria. The old name was *H. australis*. It is uncommon in Tasmania.

Our President thanked Michael for a fascinating talk and commented on the superb photography, to which Michael replied that we had seen the rejects from the book he is having published soon. Roll on, the book! The members present heartily agreed with Chris' comments.

I have added most of the common names in this article for the interest of those who know their ferns by this system (I can't remember either so I read the label), I used:

"Ferns and Allied Plants of Victoria, Tasmania and South Australia" by Betty D. Duncan and Golda Isaac.

"Ferns of Victoria and Tasmania" by N. A. Wakefield

"Australian Ferns and Fern Allies" by D. L. Jones and S.C. Clemesha as my reference.

-Lyn Gresham.

The subject of growing from spore was discussed at our April 1996 meeting and reported in the May/June edition of this Newsletter. The following article on the subject is from LAIFS, 23, 1 (Dec. 1995), the Journal of the Los Angeles International Fern Society.

GROWING FERNS FROM SPORES - IT'S EASY

Denia Mandt

Growing ferns from spores, though not difficult, takes time and patience. Most ferns need about six to ten months growth after sowing before they are large enough to plant into two-inch sized pots. There are various ways to grow spores, and I am going to tell you about the way I proceed. I always pasteurize the soil and thoroughly clean pots or containers and tools that I use for sporing.

I have used a number of different materials to sow spore on. In the first method, I use two parts fine peat moss and one part fine sand or very fine perlite. In the second method, I use Jiffy Peat Pellets with the net material removed. I use milled sphagnum moss in the third method. In the fourth method I use Sunshine Mix #3, also used by the nursery trade to grow seeds. I recommend that you DO NOT use any wood product in the soil mixture other than tree fern trunk.

One way to pasteurize the soil is to microwave it. In a 7" x 7" x 2" container, put the mix and enough water to make a thoroughly wet "soup", then microwave it for 20 minutes. Keep it covered while it cools to room temperature.

Another way to pasteurize the mix is to pour boiling water through the soil a few times. You will have to use a container with holes in the bottom similar to a colander or else a large clay pot with a net over the hole. You should make sure to thoroughly heat all the soil. As a guide, the amount of water that you pour through should be at least three times that of the volume of the soil. Keep the medium covered while it is cooling.

All containers and the tools that you use must be disinfected with a 10% chlorine bleach solution and then rinsed before they come into contact with cool treated soil. I use clear plastic cups, previously used clear plastic fast food trays or small margarine bowls to hold the growing medium.

In a small plastic cup, I put enough of the cooled moist medium to fill to a depth of about one and one half inches. Then I dust the spores sparingly over the surface. A small amount goes a long way! I sow thinly to avoid spindly, tangled growth. Finally I cover the cup with plastic wrap and place a rubber

band on the cup to keep the plastic in place.

After sowing, the cups are kept in filtered sunlight of low to medium intensity. The optimum temperature range to germinate and grow spores is between 68 and 86 degrees F.

It will not be necessary to add water for some time after sowing if the medium was thoroughly moistened before sowing and the planting was covered tightly. It is not a good idea to water right after sowing spore. If water must be added later, I use a fine mist or spray of distilled or cooled boiled water.

After the appearance of green growth I fertilise with a weak solution 1/4 to 1/8 strength every two to three weeks. When the green mat of prothallia is thick enough to lift off, I take small pieces 1/8 to 1/4 inch across off with tweezers and place them firmly in newly prepared moist potting mix, placing them about 1/2 inch apart. Each clump must make good contact with the planting medium.

Remember the planting mix and new container must be sterilized before being used. I can not stress the importance of pasteurizing the soil mixture, boiling the water, and disinfecting the containers and tools enough. If you don't want the moulds and fungus to grow you must keep everything very clean.

I like to use the same mixture for the transplants that I used for sowing the spore. I continue to keep the new plantings tightly covered with plastic wrap so they cannot dry out. When the prothallia enlarge, and/or the young fern sporelings appear, I divide the clumps again and place them 1/2 inch apart in another newly prepared sterilized mix. At this stage I begin to lessen the humidity on the prothallia and small plants. Over a period of time I gradually peel back and then remove the plastic cover. When the ferns are about 1/2 to 1 inch tall they can be potted into 2 1/2 inch pots, which have also been cleaned in 10% chlorine bleach.

I place the potted plants into a covered clear plastic sweater box. After a week I begin to lessen the protection of complete humidity. Every few days I

lift the cover a little more until I completely remove it. The ferns still need to be watched closely, so they don't dry out.

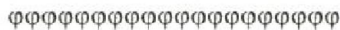
These young ferns are not yet ready to be transplanted outdoors in your yard at this stage. I do keep them outside on the patio. When they are ready for a four inch pot, they are developed enough to be put in the ground.

Thanks to Bob Lee for editing this article. Bob's training and continued assistance is making my job a lot easier. Already he has prepared a number of similar articles to this, for inclusion when the opportunity arises. - Lyn G.

OUR SYMPATHY



goes to Mavis Potter on the recent loss of her husband. Mavis, who is a Foundation Member of the Fern Society, has been a faithful and active member for the seventeen years we've been going. It is always a pleasure to be with you, Mavis. We feel for you just now.



AN EASY PURGATIVE

Take a pynte of white wyne, one ounce of serce and a goode handfull of reysons of he somme, the stones beinge takinge out, and halfe sponefull of annyseedes. Put all theis in the said white wyne a whole nighte, and the nexte morning-boile it to a draught, and soe let hem drinke it bloode warm. And yfe you will you maye putt thereinto iij or iiij rootes of polipodion of the oke.

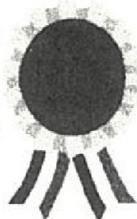
Now, won't that be handy to have!!



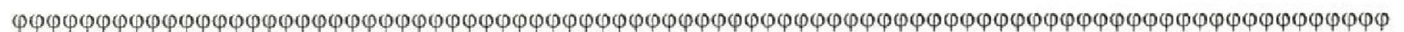
BOB LEE HONOURED

At the October meeting Chris Goudey, on behalf of the Society, took great pleasure in honouring Bob Lee with Life Membership in recognition of the many services he has performed for the Fern Society over several years.

Bob retired from his most recent position last February, after five years as Newsletter Editor. He has served on the Committee in various positions for twelve years, including President and Immediate Past President (that's not a retirement role!) as well as serving as Chairman of the Show Committee for ten years.



On presenting Bob with his member's badge to which was attached a Life Membership bar, our President caused more than a ripple of merriment when he apologised for the delay, saying that the committee had had a lot of trouble getting a bar made for him (Try SAYING it!!).



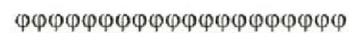
Opinions expressed in articles in this Newsletter are the personal views of the authors and are not necessarily endorsed by the Society, nor does mention of a product constitute its endorsement.

Ed. note: *The procedures for treating the equipment and planting mix are often rather casually referred to as sterilizing. (Our friendly proofreader wanted to know if accustomizing the sporelings to a garden could be referred to as pasturizing!)*



SECRETARY

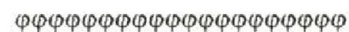
At present we don't have a Secretary. One is sorely needed for the continued smooth operation of the Society. If you are willing to offer your services please contact Chris Goudey, Barry White or Don Fuller (Phone numbers at the front of the newsletter) who will be keen to talk to you. You will find that the committee members are supportive, helpful and a pleasure to work with.



TIP FROM A FERNIST

if you are growing spore under fluorescent lights, be sure you have the lights on a timer. The prothallia and baby plants only need approximately twelve hours of light a day. Like all babies, they need to sleep. They do the majority of their growing in the dark.

-Taken with thanks from the South Florida Fern Society's April 1996 Newsletter.



FREE PLANT TIES

If you have a use for washed, used bale twine please let Lyn Gresham (03 5796 2466) know shortly before the November meeting and she will be happy to take them to the meeting for you. They are quite good for plant ties, hanging basket hangers and lots of other garden or other uses. Being synthetic, they don't seem to rot. Our farmers might be low on profit but their hearts are still big! We are offered much more than we can use. Please feel free!!

The following article consists of excerpts from "Muelleria" Vol.9, Pp 37 - 40 and is used with thanks. It is of special interest to us as it involves our President.

CHRIS'S "NEW" FERN.

A New species of *Asplenium* L., section *Thamnopteris* C. Presl (Aspleniaceae) from Lord Howe Island.

David L. Jones

Centre for Plant Biodiversity Research, G.P.O. Box 1600, Canberra, 2601, Australian Capital Territory, Australia.

ABSTRACT

Asplenium goudeyi; from Lord Howe Island and related to *Asplenium australasicum* (J.Sm.) Hook., is described and illustrated.

Introduction

The opportunity is taken here to formally describe a fern, related to *Asplenium australasicum* (J.Sm.) Hook., that has become a popular horticultural subject in Victoria and New South Wales. The distinctiveness of the new species was recognised by Chris Goudey from Lara, Victoria, after he grew for a number of years plants that were originally collected on Lord Howe Island. Cultivated plants of *A. australasicum* and the new species contrast strikingly in growth habit as well as frond features including size, colour and texture. Holttum (1974) has drawn attention to the importance of growth habit in the taxonomic delimitation in this group of ferns and this was supported by the recognition of *A. harmanii* (Jones 1988). Green (1994) noted that the Lord Howe Island plants have 'a narrower, more erect habit, with thicker, more obtuse, glaucous fronds than those elsewhere', but concluded that more comparative observations were required.

Methods

Cultivated plants of *Asplenium australasicum* from various locations in eastern Australia and the new species from Lord Howe Island have been grown in close proximity for five years in the glasshouses at the Australian National Botanic Gardens (ANBG), Canberra. Sporelings of both taxa, raised through two generations by Chris Goudey, have been found to maintain their individual characteristics. Samples of these progeny have been grown at the ANBG. Measurements given in descriptions are from living plants or from herbarium specimens. Notes on habitat were derived from my own field studies and those of Chris Goudey.

TYPE: cultivated at Australian National Botanic Gardens, Australian Capital Territory, Canberra, 22 Apr. 1990, D.L. Jones 5901 (HOLOTYPE: CBG; ISOTYPE: AD, BRI, K, MEL, NSW, K). **PROVENANCE:** plant originally collected on the Goathouse Track, Mt Lidgbird, Lord Howe Island, 1985, C.J. Goudey.

Lithophytic or epiphytic fern with a very condensed spiral of steeply ascending fronds forming an erect, litter-collecting rosette. *Rhizome* erect, not branching, stout, woody, with a large mass of roots bearing copious, persistent, brown root hairs. *Scales* linear-lanceolate, c. 30 mm long, c. 2 mm wide, clothing apex of rhizome and base of stipes, thin-textured, clathrate, dark brown, margins with sparse, hair-like appendages. *Fronde*s simple, more or less oblanceolate, 50-75 cm long, 12-18 cm wide, dull green with a glaucous bloom,

coriaceous. *Stipes* short, stout curved, greenish grey, somewhat shiny, adaxial surface nearly flat, hardly raised above the lamina, abaxial surface a broad, shallow vee, the ridge rounded, *Lamina* tapered to each end, margins entire or undulate, suddenly incurved in proximal quarter and forming a section c. 3 cm wide with nearly parallel margins before tapering into a short narrow wing which ends just above the stipe, apex obtusely apiculate. *Costa* of similar colour to stipe in proximal half to two thirds then becoming pale green, flat or shallowly raised adaxially, bluntly keeled abaxially. *veins* forked once or twice near the costa or above the middle, a few of those on the basal section anastomosing, at an angle of c. 45° to costa, uniting to form a continuous vein c. 0.5 mm from margins. *Sori* narrow, linear, present on nearly every vein or vein branch in the distal half of a fertile frond, extending from near the costa for three-quarters of the distance to the margin. *Indusia* c. 0.3 mm wide, reflexed at maturity. *Spores* monoletate, light brown, wing thickened or folded. (Fig. 1)

DISTRIBUTION

Endemic on Lord Howe Island where locally common.

HABITAT

Grows as an epiphyte on trees in closed forest and as a lithophyte on basalt rocks, boulders and cliff faces, sometimes in very exposed situations.

NOTES

Asplenium goudeyi has obvious affinities with *A. australasicum* but can be distinguished readily from this species by the much more leathery, dull green, thicker-textured fronds which have a glaucous appearance (yellow-green in *A. australasicum*). The fronds are much shorter than those of *A. australasicum*, (to 75 cm long compared with over 2 m long in *A. australasicum*), and arise at a steeper angle to the rhizome, so that the rosette is more erect than the widely radiating rosette of *A. australasicum*. In addition, the stipe and costa are grey-green (blackish in *A. australasicum*) and the obtuse ridge on the abaxial surface of the costa is in marked contrast to the strongly acute ridge of *A. australasicum*. These characteristics are retained in cultivation and sporelings of each species can be distinguished from an early age, the leaf colouration and the erect frond habit of *A. goudeyi* being distinctive. *Asplenium goudeyi* also has some similarities to *A. nidus* (L.) but that species has larger fronds (to 1.5 m long), the midrib on the adaxial surface is prominently raised and rounded (level with the lamina and flat in *A. goudeyi*) and the sori extend about halfway from the midrib to the lamina margin (about three-quarters the distance in *A. goudeyi*).

CONSERVATION STATUS

This species is common and conserved.

ETYMOLOGY

It gives me much pleasure to name this species after Christopher John Goudey, ardent fern enthusiast and nurseryman from Lara, Victoria. Mr Goudey introduced the species into cultivation and later recognised its distinctiveness.

SPECIMENS EXAMINED

LORD HOWE ISLAND: Smoking Tree Ridge, 22 Oct 1978, *Telford* 7063 (CANB); track to Mt Gower, 14 Mar. 1990, *Harman s.n.* (D.L.Jones 5750) (CANB); E. side of North Hummock, *Beaglehole* 5589 (MEL).

Acknowledgements

I thank Chris Goudey for bringing this species to my attention

and supplying living plants for study, Colin Harman for discussion about the species, Alex George for the Latin diagnosis and Bob Chinnock, Mark Clements, Lyn Craven and Jim Croft for commenting on the manuscript.

References

- Green, P.S. (1994). *Aspleniaceae, Flora of Australia*. Vol, 49. (Australian Government Printing Service: Canberra.) pp. 591-597.
- Holtum, R.E. (1974). *Asplenium* Linn, sect *Thamnopteris* C.Presl. *Garderns' Bulletin Straits Settlements*: 27: 143-154.
- Jones, D.L. (1988). New Fern Species from Northern Australia. *Austrobaileya* 2(5): 475-476.

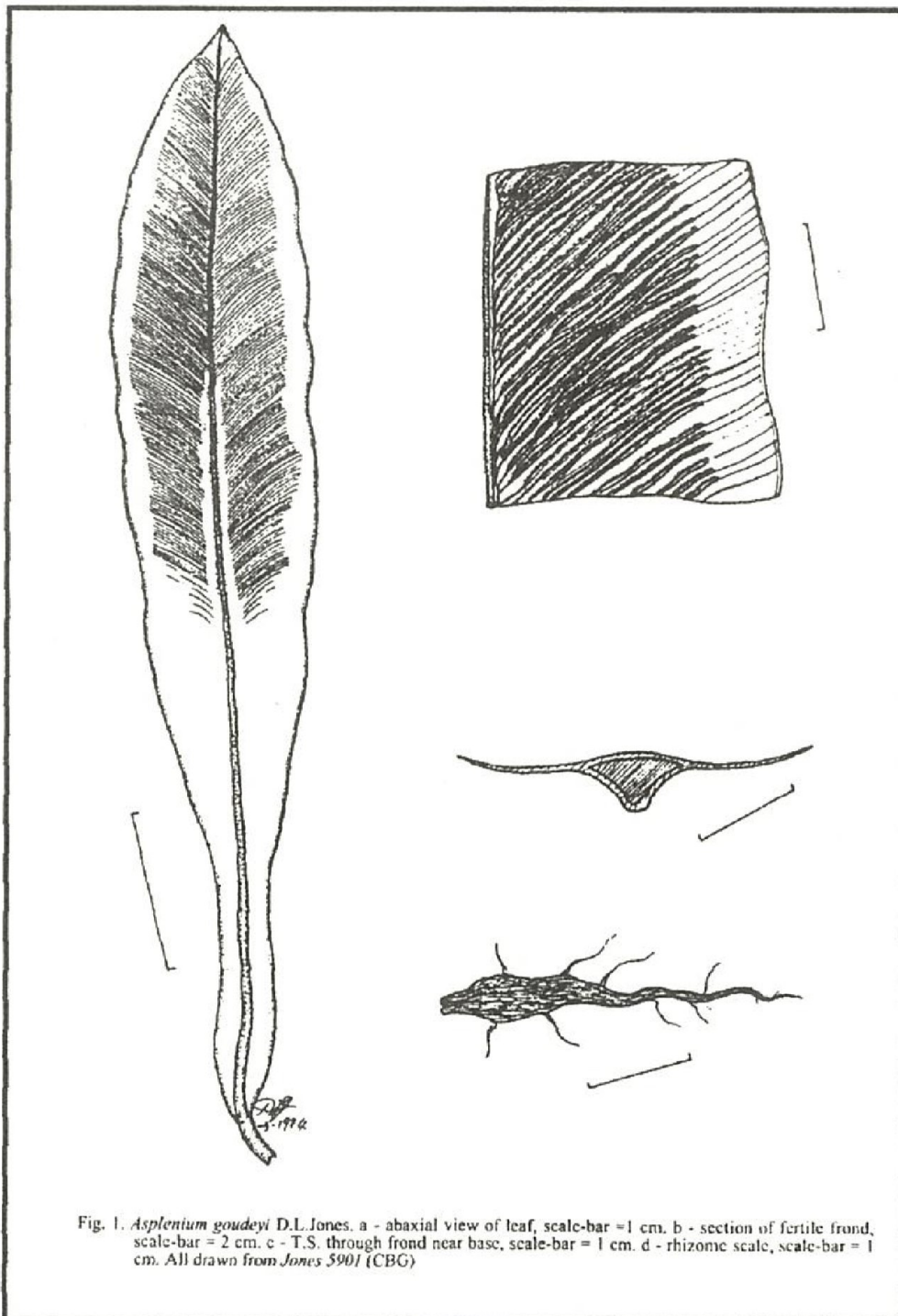


Fig. 1. *Asplenium goudeyi* D.L.Jones. a - abaxial view of leaf, scale-bar = 1 cm. b - section of fertile frond, scale-bar = 2 cm. c - T.S. through frond near base, scale-bar = 1 cm. d - rhizome scale, scale-bar = 1 cm. All drawn from Jones 5901 (CBG)

CARNARVON GORGE TRIP.

SPEAKERS: Norma Hodges, Don Fuller and Barry White.

Six of our members joined a bus tour recently which included time at both Carnarvon Gorge and Fraser Island. They were in a group of thirty five travellers. Unfortunately Mary Frost, who had first suggested the idea of going, was unable to do so because of ill health.

Three of these tourists gave us an interesting report of some aspects of their trip. They concentrated on Carnarvon Gorge due to there not being sufficient time to properly cover both areas at this meeting.

THE GEOLOGY OF CARNARVON GORGE.

Carnarvon Gorge is 722 km north-west of Brisbane and 242 km north of Roma, and Don reckons it's oodles of km from anywhere else. The Carnarvon National Park covers 217,000 hectares and is made up of four sections, of which Carnarvon Gorge is just one.

Travelling north, the bitumen ends at the Carnarvon deviation road, along which is the turnoff to Oasis Lodge, about 40 km past the bitumen. As they approached the Carnarvon National Park, the flat, brown fields gave way to the massive sandstone walls of the National Park.

The Gorge is approximately 30 km in length and was formed by the action of the Carnarvon Creek on sandstone. The approximate height of the walls on either side is 200 metres. There is also a second tier to the plateau, again with its own walls.

The Gorge contains a number of special features, each geologically different, and each located inside gorges or caverns. In each case access is via tracks which turn off the main one and climb up into the side gorges.

CARNARVON GORGE NATIONAL PARK.

On the third day on the road they approached Carnarvon Gorge National Park, eager to see the natural wonders of the Gorge and hoping to see lots of ferns. The accommodation at Oasis Lodge, the only resort in the area, was in cabins made of timber frames with canvas walls and ceilings and iron roofs. These cabins apparently provided some 'interesting' nocturnal entertainment for the guests, with the permanent inhabitants making their presence known. (Hasn't 'interesting' become a useful, multipurpose word?) There was a large population of possums, many of which had left evidence of their visits in the area between roof and ceiling; a nice, warm spot. Outdoor wildlife mentioned were kangaroos and wallabies and lots of birds. Barry was disturbed by a mouse in his wastepaper bin one night and removed it to the Great Outdoors in the interest of his own peace. Unfortunately none of these species was identified to us. (I definitely prefer to think of the mouse as a native marsupial mouse rather than the common old house pest. I think I'm going off ecological holidays!)

DAY ONE

CARNARVON CREEK TRACK.

The first afternoon they were there, some of our walkers began

at the Ranger Station and went back to Oasis Lodge, following the creek downstream. Carnarvon Creek flows all the year round and was flowing fairly swiftly while they were there. The track is reasonably flat but makes several creek crossings. It moves through some areas of dense vegetation and there were several places with interesting ferns, but not of the density that we are used to seeing in our fern areas in Victoria. As it was late in the afternoon, the group saw quite a few platypus in the water. They seemed to be quite abundant in that area. In places the creek spreads out and is quite wide and sometimes is close to the gorge wall.

MICKY CREEK TRACK.

As the stay at Carnarvon Gorge was very short, only one and a half days in fact, after lunch, Barry, John and Don commenced the serious business of checking out the area, choosing the Mickey Creek Track first. Mickey Creek is not actually in the Gorge but is just outside. The track goes for about 2 km from the main road. Much of it was quite dry, and the creek reduced to a series of waterholes. Even so, this area contained quite a variety of ferns, though the number of each was quite small (See accompanying list). Throughout this area there were quite a large number of cabbage palms (marked as *Livistona nitrida* at the campsite) and the cycad *Macrozamia mooreii*. The last section of this track required walking up the creek bed through a narrow gorge.

DAY TWO.

For those of you who have never been away with Barry (White), you don't know just how much energy he has and how fit he is. He arranged for his lunch to be packed on the first evening, took his breakfast to his cabin and left at 6 am for a very long trek, much further up the gorge than the others were to go, looking for ferns. They had to be content with the slides of these further reaches that were shown at Oasis Lodge on the first night.

While Barry was off on his expedition Dorothy Forte, John and Norma Hodges, Margaret and Don Fuller (the other fernies) went with some of their co-travellers to see the more accessible wonders of the gorge. (The one Norma remembers very clearly was the Amphitheatre.)

This walk went from 9 am to 5 pm and was led by a ranger. The group negotiated stepping stone crossings over the creek which runs down the centre of the gorge, about twenty times. It was quite demanding as it was up hill and down dale most of the time.

THE AMPHITHEATRE.

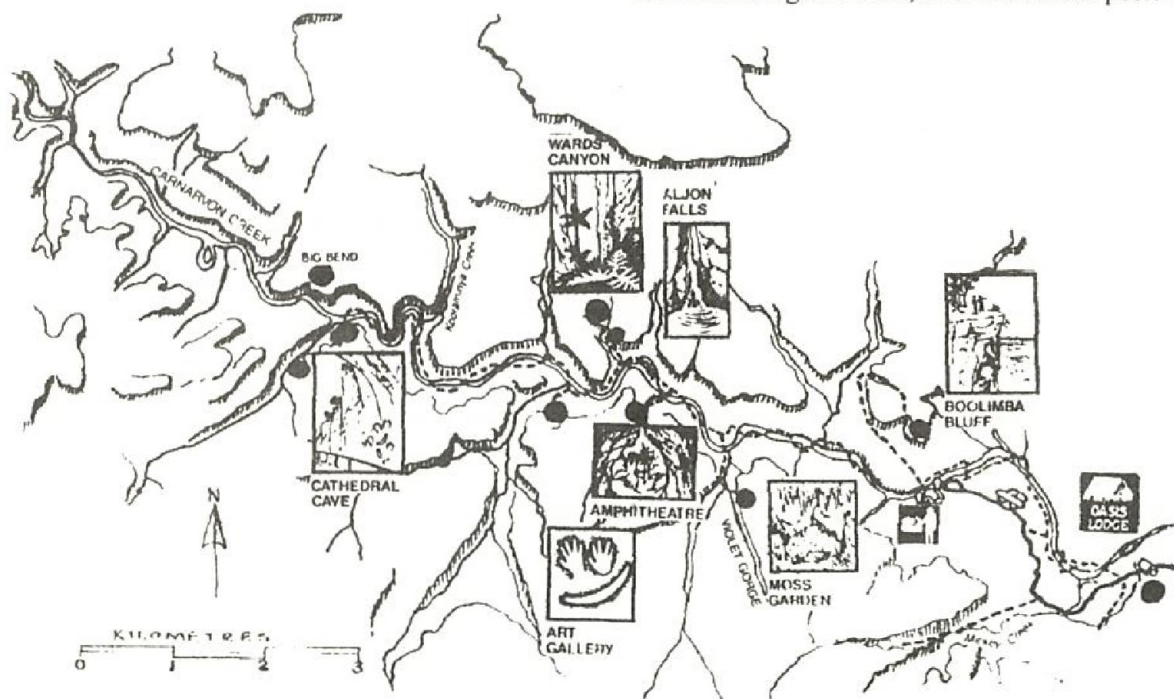
This amazing natural feature resulted from the crossing of two fault lines. Wind and water erosion subsequently formed this huge, open area. Don made a rough guess that it would be 30 to 40 metres in length and width and the walls would be at least 50 metres high! Inside the air is perfectly still and it is claimed to have perfect acoustics. A natural garden of tree-ferns grows in the centre. To get up to this beautiful place, they had to go up a vertical steel ladder ten metres high with

rungs about 30cm apart, through a narrow crevice and up more steps. As there was no other way in, despite her misgivings Norma decided to give it a go. With John ahead telling her not to look down and Dorothy behind telling her not to fall on her, she froze halfway up! One of life's little HIGHLIGHTS!! Finally she thawed herself out (did Dorothy's pinching and pep-talking help or not?) and continued. When she saw the beautiful Amphitheatre with tree-ferns and mosses growing there, she was glad she had conquered her fears.

BIG BEND AND CATHEDRAL CAVE.

On the second (full) day there, Barry's trek saw him reach Big Bend, which is an overnight camping area for adventurous people with plenty of time. The track to Big Bend crosses the creek 17 times. Big Bend is at least ten km from the Ranger's Headquarters.

Cathedral Cave is one of the two outstanding sites of aboriginal art in the area, though there are also many other less extensive ones. The soft sandstone walls were ideal media for abraded decoration and the deep overhangs have protected these primitive treasures.



KOORAMINYA CREEK.

This is an untracked gorge a short distance back from Cathedral Cave, which offers some very good walking and judging by the list, a few ferns. There is a waterfall an hour or two's walk up the gorge, and permanent water.

THE ART GALLERY.

This is the second location of aboriginal art. Hand stencils are the style found in this area. They are thought to be relatively young, being an estimated 200 to 300 years old. The nearly vertical, slightly overhanging walls would be about 80 to 100 metres high. The art is done on rock which has been smoothed, the paint (ochre?) being sprayed on from the mouth. Because of thoughtless vandalism there has been some damage but the area is fenced off well now, so the artwork is protected.

WARDS CANYON & UPPER ALJON FALLS.

Wards Canyon is reached by a climb past the Lower Aljon Falls and into a narrow, cool-sided gorge. It is rather dark. In a cavern at the upper end of the canyon are the Upper Aljon Falls. These falls are only lit by the sun for about five minutes a day, when the sun is directly overhead, and our travelers were fortunate to be there at that time. Permanent water provides moisture for the ferns inside Wards Canyon and here is to be found *Angiopteris evecta*, the King Fern.

THE MOSS GARDEN.

It is reached by backtracking about a kilometre downstream from the Amphitheatre and taking the Violet Gorge track. On this track they observed a number of ferns which they had not seen previously. The Moss Garden has been formed by water seeping down through porous sandstone and out over impervious shale. The constant flow of water and the moist atmosphere in a shady, narrow gorge provide the ideal environment for the variety of ferns and mosses which make up this beautiful natural garden. Neither Don nor Barry managed to take acceptable photos of this area because of the extremely low level of light in there, so a commercial poster was used in

their talk. It is even more difficult to catch the sunlight there than in Wards Canyon, where time exposure has to be used, and our group were there late in the afternoon. One photo showed the moss growing thickly just above the pool formed by the seeping moisture.

BOOLIMBA BLUFF.

Barry was still feeling fit when he returned with the others after walking and climbing over 25kms that day, so decided to go for a stroll up to Boolimba Bluff. The testing walk of 3.2km to the lookout on the Bluff takes you to one of the highest points at the entrance to the gorge, from which some breathtaking views and photographs can be obtained. Barry certainly proved his fitness that day - didn't even have the decency to nod off during the slide show that night!

The recommended tourist beats have their limitations in that a lot of them are now fenced off and you can't get a good look at them. At Mickey Creek, Kooraminya Creek and the upper reaches of the gorges you can go where you like and have a good look around.

Don and Barry agreed that one and a half days was nowhere near enough time to see Carnarvon Gorge properly, just long enough to be frustrating. At least a week seems to be the go. It has some of the most spectacular and diverse features to be found in such a relatively small area anywhere, each full of interest. Even if you weren't interested in ferns (which do tend to slow one down) you need this time to explore it satisfactorily.

FERNS OF CARNARVON GORGE N.P.

Nardoo *Marsilea drummondii*.
Actually in northern NSW, but listed because it was their first fern sighting, Nardoo was growing fairly commonly in shallow river flats.

Silver Elkhorns *Platycerum veitchii*.
The degree of silver varies. This silver is due to the white, star-shaped hairs on the fronds. Its normal habit is to grow on rock with leaf litter in quite exposed positions. There are apparently a number of forms of Silver Elk.

Common Maidenhair (Large form) *Adiantum aethiopicum*.
Was the significantly larger-than-usual form due to the growing conditions or was it a distinct variety?

Venus-hair Fern *Adiantum capillus-veneris*
Not common in Australia, it was growing in a number of places. Near Big Bend it was lining the creek bank and looking very attractive.

Common name unknown *Ampelopteris proliferata*
A new fern to Barry, (It **must** be unusual!) this fern has some unusual features, the prostrate or scrambling fronds seem to have an indeterminate size, sometimes growing to several metres with a perpetual curl on the end. This long frond also has proliferous buds on it which form new plants as they touch the ground. It also has another kind of frond - small ones with terminal pinnae. The fern becomes a scrambling mess!

Scaly Tree-fern *Cyathea cooperi*.
This is the predominant tree-fern in the area. There were many slender-trunked ones in the Moss Garden.

FERNS OF CARNARVON GORGE

The following 36 ferns were observed during the short stay in Carnarvon Gorge.

Site 1 Mickey Creek Site 2 Kooraminya Creek Site 3 Wards Canyon Site 4 Moss Garden Site 5 Main canyon

SPECIES	SITE					SPECIES	SITE				
<i>Adiantum aethiopicum</i>	1	3	4	5		<i>Cyathea australis</i>	1	2	3	4	
<i>Adiantum capillus-veneris</i>		2	3	4	5	<i>Cyathea cooperi</i>	1	2	3	4	5
<i>Adiantum diaphanum</i>	1		3	4		<i>Diplazium assimile</i>		2		4	
<i>Adiantum formosum</i>	1	2	3	4	5	<i>Diplazium australe</i>					4
<i>Adiantum hispidulum</i>		2	3	4		<i>Doodia caudata</i>	1	2	3	4	
<i>Ampelopteris proliferata</i>					5	<i>Doryopteris concolor</i>					4
<i>Angiopteris evecta</i>			3			<i>Hymenophyllum flabellatum</i>	1				
<i>Arachniodes aristata</i>	1		3	4		<i>Hypolepsis muelleri</i>		2			5
<i>Asplenium australasicum</i>				4		<i>Lastreopsis acuminata</i>	1		3		5
<i>Asplenium sp.</i>	1	2		4		<i>Macrothelypteris torresiana</i>	1	2	3	4	5
<i>Blechnum nudum</i>	1					<i>Nephrolepis cordifolia</i>		2		4	5
<i>Blechnum patersonii</i>	1		3	4		<i>Pellaea falcata</i>		2		4	
<i>Cheilanthes austrotenuifolia</i>	1					<i>Pellaea paradoxa</i>	1	2			
<i>Cheilanthes distans</i>	1					<i>Platycerium veitchii</i>	1	2		4	
<i>Cheilanthes sieberi</i>	1			4		<i>Pteridium esculentum</i>	1		3		
<i>Christella dentata</i>		2	3		5	<i>Pteris tremula</i>		2			
<i>Christella parasitica</i>	1	2		4		<i>Pyrrosia rupestris</i>		2		4	
<i>Calochlaena dubia</i>	1	2				<i>Sticherus flabellatus</i>				3	

The following 17 ferns are listed by the National Parks Authority as present in the Gorge area but were not recorded on this trip:

- | | | |
|-------------------------------|------------------------------|-----------------------------|
| <i>Adiantum sylvaticum</i> | <i>Doodia media</i> | <i>Microsorium scandens</i> |
| <i>Asplenium polyodon</i> | <i>Gleichenia rupestris</i> | <i>Macroglena caudata</i> |
| <i>Cyathea cunninghamii</i> | <i>Histiopteris incisa</i> | <i>Psilotum nudum</i> |
| <i>Cyclosorus interruptus</i> | <i>Hymenophyllum bivalve</i> | <i>Pteris vittata</i> |
| <i>Davallia pyxidata</i> | <i>Lastreopsis marginans</i> | <i>pteris comans</i> |
| <i>Dicranopteris</i> | <i>Lunathyrium japonicum</i> | |

The following is another of the many articles written by Trevor Norman for the Newsletter of the Fern Society of South Australia. This one is taken, with thanks, from No. 171, March 1996.

MINIMISING THE USE OF PESTICIDES

Trevor Norman

I have found that most fern lovers are reluctant to use pesticides as they are concerned about the effects on the environment, but also hate to see their prized specimens chewed by caterpillars. Even constant inspection of ferns and removing caterpillars by hand when they are found, will result in some damage to fronds, as moths usually lay their eggs on tender newly emerging fronds and a minute hole made by a minute caterpillar becomes a large hole when the frond grows to its full size.

Regular spraying with pesticide seems to be the only way of achieving undamaged fronds and preserving the beauty of the fern.

Over the past year I have found that I can achieve good protection using approximately one tenth of the pesticides I used previously. I have noticed that tiny caterpillars appear almost invariably on the tender newly emerging fronds and move to the older tougher fronds only when they are larger and the new fronds have been eaten. Larger caterpillars which migrate from other ferns will usually eat the tender new fronds in preference to the older fronds.

The theory is that spraying only the newly emerging fronds regularly on all the fern collection will kill any newly hatched caterpillars. As all the ferns are sprayed there should be no larger caterpillars to attack the older tougher fronds.

I have also noticed that new fronds also don't seem to

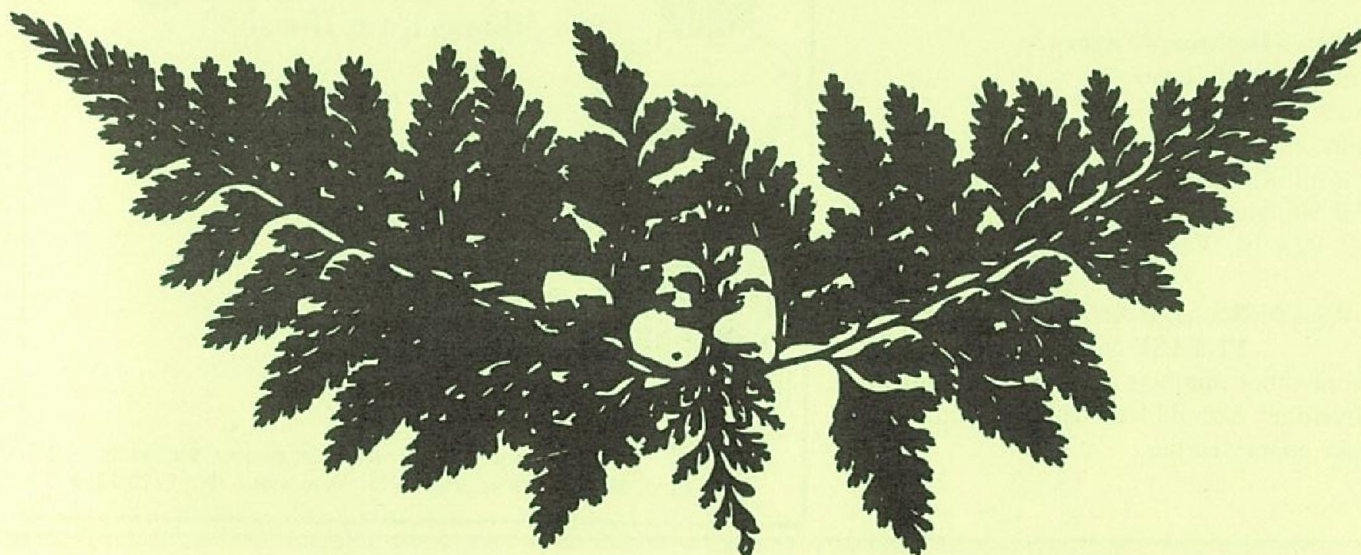
need as much spray to achieve protection.

I think there are two factors at work here. Firstly, small newly hatched caterpillars don't seem to need as much pesticide to kill them, as do larger caterpillars. Secondly, I believe adult moths laying eggs can detect the pesticide and move on to other plants in preference, hopefully far from your prized ferns.

I have observed moths flying into the crown of sprayed ferns and then leaving immediately, later settling in the crowns of unsprayed ferns.

Using a small hand held 500ml spray which can be purchased from supermarkets, rather than a full sized pressure sprayer, allows me to spray my entire collection with only 500ml of spray. One spray pump (or two for larger specimens) into the central crown area seems to be all that is needed to give adequate protection. I have been doing this once every two weeks but may be able to reduce this to once every three weeks in all but the early weeks of Spring, when there are fewer moth and caterpillar predators about.

If you wish to try this out, I recommend that you use this method on some of your less important ferns until you are satisfied that it works. Hopefully you will find it successful and the environment will be the winner.



BUYERS' GUIDE TO NURSERIES.

VICTORIA:

Andrew's Fern Nursery / Castle Creek Orchids - Retail. Phone (03)5826 7285.

Goulburn Valley Highway, Arcadia 3813 (20 km south of Shepparton).

Large range of ferns and orchids for beginners and collectors. Open daily 10am - 5pm except Christmas Day.

Austral Ferns - Wholesale Propagators. Phone (03)5282 3084.

Specialising in supplying retail nurseries with a wide range of hardy ferns; no tubes.

Coach Road Ferns - Wholesale. Phone (03) 9758 6878. Monbulk 3793.

Retail each Saturday and Sunday at Upper Ferntree Gully Market (railway station car park) Melway Ref, 74 F5.

Wide selection of native and other ferns. Fern potting mix also for sale.

Fern Acres Nursery - Retail phone (03)5788 5431. 1052 Whittlesea-Kinglake Road, Kinglake West 3757.

On main road, opposite Kinglake Primary School. Specialising in Stags, Elks and Bird's-nest Ferns.

Fern Glen - Wholesale and Retail Phone (03)5829 2375, D & I, Forte, Garfield North 3814. Visitors welcome.

Kawarren Fernery - Wholesale and Retail. Phone (03)5235 8444. Situated on the Colac-Gellibrand Road, Kawarren (20 km south of Colac),

The Bush-House Nursery - Wholesale and Retail. Phone (03)5566 2331.

Cobden Road, Naringal (35 km east of Warnambool), Ferns - trays to advanced. Visitors welcome.

NEW SOUTH WALES:

Jim & Beryl Geekie Fern Nursery - Retail. Phone (02) 9484 2684.

6 Nelson Street, Thornleigh 2120, By appointment.

Kanerley Fern Exhibition and Nursery - Wholesale and Retail. Phone (049) 87 2781.

204 Hinton Road, Osterley, via Raymond Terrace 2324. By appointment.

Marley's Ferns - Wholesale.

Phone (02) 9457 9188.

5 Seaview Street, Mt. Kuring-Gai 2080.

All Fern Society members welcome.

By appointment,

QUEENSLAND:

Moran's Highway Nursery -

Wholesale and Retail.

Phone (07) 542 1613.

Bruce Hwy, Woombye (1 km north

of Big Pineapple: turn right into

Kiel Mountain Road).

P.O. Box 47, Woombye 4559.

READERS AND ADVERTISERS

PLEASE NOTE:

These phone numbers are correct from 11th November. See old Newsletters if you wish to make contact earlier.



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