

ABN 85 086 216 704

# NEWSLETTER



Fronds of a single plant rising from the ground

*Marattia salicina*  
(*Marattia fraxinea*)

**VOL. 27, NUMBER 6**  
**NOVEMBER /**  
**DECEMBER 2005**



# **FERN SOCIETY OF VICTORIA Inc.**

**POSTAL ADDRESS:** P.O. Box 45, Heidelberg West, Victoria, 3081  
**E-mail:** [http://gardenbed.com/clubs/clubs\\_vicferns.cfm](http://gardenbed.com/clubs/clubs_vicferns.cfm)  
**Web:** <http://home.vicnet.net.au/~fernsvic/>

## ***Our Society's Objectives.***

*The objectives of the Society are:*

- \*to bring together persons interested in ferns and allied plants*
- \*to promote the gathering and dissemination of information about ferns*
- \*to stimulate public interest in ferns and*
- \*to promote the conservation of ferns and their habitats.*

## **OFFICE BEARERS:**

President:	Barry Stagoll	Phone/Fax	98441558
Imm. Past President	Rex Gresham		57962466
Vice-President	George Start		59625059
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**COMMITTEE MEMBERS:** Jack Barrett 9375 3670, Gay Stagoll 9844 1558,  
Norma Hodges 9878 9584. Brenda Girdlestone 9390 7073 and Mirini Lang 9886 6109.

## **SUBSCRIPTIONS:**

*Single	\$15.00	*Pensioner/student	\$12.00	*Family	\$17.00
*Pensioner Family	\$14.00	*Organisation	\$17.00		
*Overseas	\$22.00 (Payment by international bank cheque in \$A please. Sent by Airmail.)				

**\*Subscriptions fall due on 1st July each year.**

**MEETING VENUES:** The Kevin Heinze Garden Centre at 39 Wetherby Road, Doncaster (Melway 47; H1).  
Other meetings at members' gardens or as advertised on the following page.

Opinions expressed 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.

## **Timetable for evening general meetings:**

7.30	Pre-meeting activities - sale of ferns. Spore, books, merchandise and special effort tickets. Also library loans and lots of conversation.
8.00	General meeting
8.15	Workshops and demonstrations.
9.15	Fern identification and pathology, special effort draw.
9.45	Supper and another good yarn.
10.00	Close.



# **IMPORTANT NOTICE**

## **Re. MEMBERSHIP RENEWAL**

There are quite a number of members who have not as yet renewed their subscription for the Year 2005-6 (this was due on the 1st July 2005). If this situation applies to you, it will be indicated by a yellow dot on the address label. Prompt payment of your renewal would be appreciated.

There are also a small number of members who are significantly overdue with their renewals (eg. 2004-5 & 2005-6). These are identified by a blue dot on the address label. Please note that unless your subscription renewal is received by early December your membership will be cancelled and this will be the last newsletter you will receive.

If you have any query please contact  
Don Fuller on (03) 9306 5570.

## **CALENDAR OF EVENTS FOR 2005**

### **NOVEMBER MEETING**

**Thursday the 17TH, November at the Kevin Heinze Centre, at  
8.00pm**

**Topic:** Structures for housing ferns, designs & materials - Barry Stagoll  
With some slides showing how Barry & Gay used to do it right.

This night will be a must for those members who are considering building or renewing existing structures. There is sure to be lots of information for all those members attending.

**Competition category:** Any deciduous fern.

Some deciduous ferns include: *Athyrium filix-femina* and its many cultivars (Lady Fern)  
*Athyrium niponicum* 'Pictum' (Japanese Painted Fern)  
*Osmunda regalis* (Regal Fern)  
*Onoclea sensibilis* (Sensitive Fern)  
Some *Equisetums* (Horsetails)  
*Matteuccia struthiopteris* (Ostrich Fern)

# **PRESIDENTIAL PERORATION**

It looks as though we should expect a pretty dry and hot summer again this year, and we've had a taste of warmish weather already although officially we have around a month of spring left.

One of the joys of spring for us is seeing our Osmundas wake up and put out new fronds. They are pretty tough plants, and ours are happily propagating themselves through our small bog garden and the adjacent pond. Makes it easy for us, as the population increases without us having to deal with the problem of just when to try to collect and sow the short-lived spore.

Whilst the Osmundas are happy, sadly a fairly well-advanced *Cyathea medullaris* (planted in 1988) capitulated to the dry in the late stages of last summer. We were obviously trying just a bit too hard to be economical with the water in the garden. *C. medullaris* is generally also pretty tough (although of course it needs a certain amount of water regularly). But the fact that a hybrid treefern (*Cyathea Cooperi* x *C. medullaris*) of similar size, just a couple of metres away and experiencing the same conditions, is still very much with us illustrates the advantage of "hybrid vigour." These days we all like to grow the pure species when we're able (this is pretty popular amongst many enthusiasts for flowering plants too) but where we've got demanding conditions for growing ferns in the garden generally speaking we'd probably have an easier time with hybrids. Maybe more experimentation with producing hybrids for the garden would be justified.

We hope we'll see many of you at our two remaining activities for 2005. For those unable to be with us at them I'll take the opportunity now to wish you all a Merry Christmas and a Happy New Year.

*Barry Stagoll*

## **CALENDAR OF EVENTS CONTINUED**

**OUR LAST EVENT FOR THIS YEAR IS TO BE OUR CHRISTMAS  
BREAK UP**

**SUNDAY THE 4TH OF DECEMBER 2005**

**To be held at the Kevin Heinze Centre 39 Wetherby Rd,  
Doncaster (melway 47:H1). Starting at 11.30am.**

Supplied will be food (chicken & salad, desert) tea & coffee, you will need to bring with you plates, cup, cutlery, any other drink you require, also a plate of afternoon tea.

Again this year we will be holding a blind auction so anything you want to donate, wrap it up (Christmas paper) if possible and it will be auctioned, half the proceeds of our auction go to the Kevin Heinze Centre. For those members who didn't attend last year there were some good bargains scooped up and some not such good bargains, but these all added to the fun of the day.

For catering purposes Norma needs to know numbers of those wishing to attend so if you are going to be there then please let her know at the November meeting or phone her on (03) 9878 9584.

We look forward to seeing many of our members at this event





# **DATE TO REMEMBER**

## **FERN SHOW**

**Sat 22nd & Sun 23rd April  
2006**

**This is the dates for our Fern show for 2006, so put this date in your diaries so you don't miss out. Start thinking about assisting and participating in this to ensure the success of this annual event.**

**More information will be in the next issue**

## **A LETTER FROM KATHY GOODALL**

It was a business trip to Sydney with my husbands work Woolworths that took me to Sydney.

A Convention of 4,700 staff and their partners, staying at Darling Harbour. While the staff were in the convention, the partners were entertained by harbour cruises, walks at the rocks with delicious lunches over looking the harbour.

While visiting the Sydney opera house and Botanical gardens, I came across a favourite fern of mine *Psilotum nudum*.

It was outside the Opera house steps on a lime stone wall. To me this was a rare find as I wasn't expecting to find it there out in the open to all the elements like the hot sun. Amongst it were *Doodia* (rasp fern) *Nephrolepis* (fishbone fern) *Cryptomium* (holly fern) and *Adiantum* (Maiden hair fern).

The Nudum was around 6 " to 8" long in great condition in a small crevice running along the lime stone wall. There was around 10 or more specimens of *Psilotum nudum*. While walking around the Rocks area at Sydney harbour I saw many ferns scattered along the lime stone rocks. Also a beach walk from Bronte to Bondi beach. There were many large specimens of holly fern among the rocks and hiding in rock shelters. This was a lovely walk over looking the ocean and looking back over your shoulder to see the houses on the hills meeting the ocean.

It was 26yrs earlier while on my honey moon that I'd seen this beautiful place and it looked just as lovely then. It wasn't quite the same without my husband there but he was there in spirit, I thought of him back in the convention being board or possibly asleep in a chair. I had a lovely 4 days in Sydney, and the weather was very kind, great in fact around 22c but I found it to busy and was glad to get back to our own piece of paradise a little country town known as Wodonga.

Kathy Goodall.



# DORYOPTERIS PEDATA VAR. PALMATA

Reprinted from newsletter April, 1981.

Drawing by Barry Stagoll

Notes by Chris Goudey

This fern is often referred to as the Hand Fern, palmate meaning hand shaped. The family Doryopteris consists of approximately 35 species which are mostly restricted to the American tropics.

Two species occur in Australia - *D. ludens* and *D. concolor*; the latter is sometimes confused with *D. pedata* var. *palmata*.

The "Hand Fern" is native to the tropics ranging from Central America south to Bolivia. The rhizome of this fern is short creeping, slender and densely covered with needle-like scales.

The fronds grow to approximately 30 cm. and are dimorphic, that is, the sterile fronds are quite different from the fertile fronds. The sori are marginal, much the same as in *Pteris*.

This fern produces vegetative buds at the base of each leaf, usually one either side of the midvein. If the frond is pinned down to the soil medium in the pot once the buds appear, it will reproduce vegetatively. *Doryopteris pedata* var. *palmata* requires tropical conditions, a humus rich potting soil, plenty of humidity and deep shade.



DORYOPTERIS  
PEDATA PALMATA  
(HAND FERN)



# Growing Ferns In and On Rocks

## Bob Halley

If you weren't at the September meeting, you

missed a good one. For years Bob Manthorne has been collecting trophies at the LAIFS Fern

Show with his exhibits of ferns mounted on rocks, logs, boards, etc - but mostly rocks. At this meet-

ing he brought a number of examples of his art and let us in on the secrets of successfully grow-

ing ferns on rocks. Many ferns are described in the literature as epipetric or epilithic meaning that

they grow on rocks. As a matter of fact, nearly any epiphytic fern will grow on a rock with a little

encouragement. Here's how!!!!!!!!!!!!

**Secret Number One:**

Choose the right rock. The rock needs to be somewhat porous, so you need some kind of

volcanic rock. In the garden supply places you will find 'Waterfall Rock'. It has a nice ap-

pearance and can be used, but it is awfully heavy. You will also find 'Feather Rock'. It is very

light and porous but it will tear your hands to bits. In between the two you will find what is usually

known as 'Lava Rock'. It is fairly light and comes in all sorts of attractive shapes and sizes and is

reasonable to work with. Try to find 'Lava Rock' and try to find pieces with natural cavities.

**Secret Number Two:**

If there is no natural cavity in the rock you must make one by drilling or chipping to make a

little nest (2 in. in diameter by 1 inch deep) into which you will pack sphagnum moss.

**Secret Number Three:**

Drill a hole (3/8 to 1/2") through the rock from the bottom of the cavity to provide drainage.

You will need to use a masonry bit with a carbide tip, but if you have the right type of rock it should

not be too big a job.

**Secret Number Four:**

You could guess this one. Fill the cavity with well soaked sphagnum moss. If you have a fairly

heavy rhizome (Davallia, for instance) put the rhizome on top of the moss and pile some moss up on the

sides but not over the top. Take some monofila-ment line (20# will do) and wrap it around the rock and over

the moss to hold everything in place.

**Secret Number Five:**

If you want to grow one of the little crawling epiphytes with thin rhizomes (1/8 or less), you may

not need the cavity and drain hole. Find a piece of Lava Rock with a crease or crack in it that will hold a

little moss, and tamp sphagnum moss into that crease or crack. Put in more moss, piled up around

the rhizome but not covering it, and then tie every-thing down with the fishing line.

**Secret Number Six:**

Remember that epiphytes live in the tops of trees or naturally on rocks. They need very frequent

watering, daily per-haps, but they expect to dry out in between. Never, ever, let the moss dry out. If it does

and you catch it in time dunk it a bucket or something to re-wet the moss. A gentle sprinkling

won't do it. As the plants grow the roots will try to attach to the rock so the whole thing must be kept

watered.

These rules, as they may apply, may be used to fasten little ferns or fern rhizomes to logs,

hapu (tree fern) boards, etc.

Osmunda regalis, etc.

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# A Letter from Sherry prince Member from Tasmania

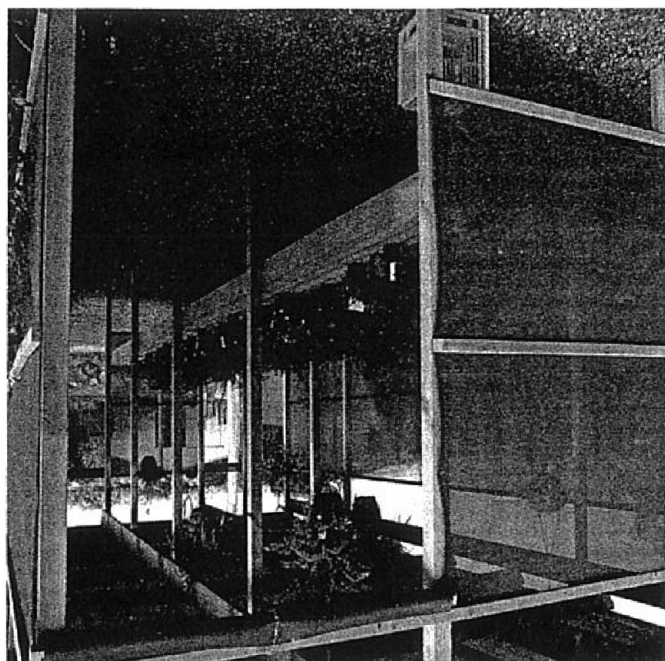
1. Should I repot these ferns? If so, should I go up a pot size (as I would for natives), and can you give me a recipe for a good fern mix which doesn't require me to try and find rotting compost or oak leaves.

2. What should I be feeding them, and how often. I did buy some Manurec foliage feeder (soluble) and watered them with this, and I think they did improve, but it says on the pack that I should do this once a week and given the number of ferns we have, it would take me half a day each week just to mix up all the watering can mixes. I would prefer to purchase one of those fertiliser packs that fits on the end of a hose, but if this is not good for the ferns, well I am happy to hand fertilise with the watering can.

I hope you don't mind me asking your advice like this, but we don't appear to have anyone local who can help us, and I find that clubs usually have the best advice! (I have been a member of the Launceston Field Naturalists Club for 30 years!!!) I look forward to hearing from you.

Regards  
Sherry

A reply will be printed in the next newsletter.



It's Sherry Prince here.... I am a new member of your Fern Society and I was wondering if someone could give me some advice please.

We opened our nursery in May this year, mostly specialising in native plants, proteas and ferns. I have always grown ferns in my various gardens as a hobby and found them to be reasonably easy to grow - hence my reason for deciding to sell them in our nursery. However, I am finding it not as easy as I thought - probably because they are in pots.

We purchased most of our stock from one supplier in Hobart - various types and pot sizes, taking delivery in April this year. They were beautiful and looked very green and healthy. We built a fern house - 10m x 5m and initially had shade cloth on the roof and both sides. Unfortunately not long after we took delivery, we had really cold winds and severe frosts (the worst experienced in some time). Well... our poor ferns looked a mess. So then we covered both ends (I will attach a photo to make things easier) with shade cloth and put in an overhead mist system. The ferns now seem to have recovered, ie: new fronds coming, BUT they look quite yellow. A local lady who is into ferns told us we should re-pot most of them, but her idea of a mix was very complicated and consisted mostly of oak leaves - something we have no idea of where to collect.

So my questions to you are:

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For full list and photos, [www.fernacres.com.au](http://www.fernacres.com.au)  
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# Otways Weekend 2006

## **The Society will be holding an excursion to the Otways on the weekend of 29<sup>th</sup> and 30<sup>th</sup> April 2006.**

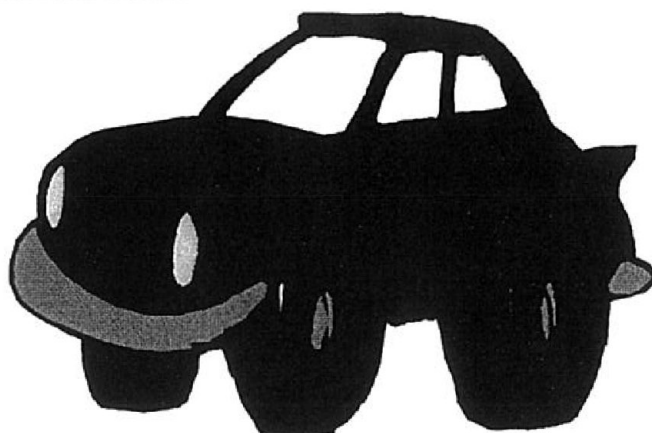
The tentative itinerary will include Melba Gulley, Maits Rest, Beauty Spot Scenic Reserve, Triplet Falls and the Otway Fly, Beauchamp Falls, Turtons Track, Les and Rosemary Vulcz's Nursery.

It will be a drive yourself weekend, with accommodation in cabins in Apollo Bay on the Friday and Saturday nights. This will enable an early start to the fern areas on the Saturday morning. We will meet at Apollo Bay at the accommodation cabins at a time of your convenience on Friday evening. If anyone cannot make it on the Friday evening a rendezvous point can be arranged for the Saturday morning.

Accommodation will be in cabins in Apollo Bay. These are one or two bedroom cabins with cooking facilities, costing about \$70 or \$110 per night. Members can also make their own private arrangements. The one bedroom cabins have a double bed and two bunks, and the two bedroom ones have double that.

At this stage we are calling for expressions of interest in the weekend.

For further information or to advise of interest please contact  
Barry White on 9740 2724.



Origin unknown

### **DID YOU KNOW**

'The world's 700 species of Selaginella mainly inhabit tropical and subtropical lands. But a few are temperate, far northern or high alpine in habitat. The several selaginellas that have evolved in cold, harsh regions have compressed their bodies earthward and reduced their leaf size to little slivers, until they become so close and small that they quite resemble some of the more cautious mosses. But most of the selaginellas, being more equatorial in origin, stand taller and leafier.'

From: Moss Gardening, 1997 by George Schenk

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# Australian Fungi

*Expert on fungi, Bruce Fuhrer gave us a most interesting presentation some months back. Most the excellent close-up slide photographs he showed were taken in Warrandyte State Park, which he long since found was very rich in fungi species. Bruce had a long career as a Senior Technical Officer with the Departments of Botany and Zoology at Monash University. He is also similarly expert on mosses and lichens, and we hope to have him back with us at a future time to explain these.*

Bruce explained that Fungi are not plants - they belong to a separate group of organisms, but they have a very vital and important connection with plants and without them plants in general, including ferns as we know them, would not exist. Fungi have three major roles in the ecology of the "bush." These are (1) assisting plants to "digest" nutrients; (2) recycling dead plant material and (3) some have antibiotic properties.

First, he showed us the spotted red toadstool (*Amanita muscaria*) which we first encountered in our youth when we were read fairy stories. In early days in Europe it was used to mix with milk to make a potion to kill flies. In some places it was also used to give to warriors to make them more willing to fight to the death. This is not a native - it's found around pines, birches and other introduced trees. It's mycorrhizal which means it associates with the roots of these trees, and acts something like the microbes in our intestinal system perform in "digestion" by the plant. These form an association with the roots of plants and in turn enable the plants to take up minerals and synthesize other nutrients that otherwise they couldn't do. They also perform an antibiotic function - their association with the roots of the trees will help to prevent pathogenic or disease fungi invading the tree as well, so there's a very important parallel between the organisms in our digestive system and the role these fungi play in nature. This is a beautiful fungus, but it's not native and unfortunately it's now starting to get out into our native bushland, and in particular into our *nothofagus* (myrtle beech) forest. When it's doing this it's not doing the trees any harm, but it tends to be replacing many of the native species that historically many of our animals and invertebrates live on. So the invasion may in time cause some quite serious and massive changes.

The discussion then moved on to some of the natives of the same *Amanita* group. These have a skirt

and a veil over it. As it expands the veil tends to form little warts and then washes off with rain.

Another common type of native fungi is a *Lepiota*, with scales on top from which it gets its name (like the scales on a butterfly's wing). A distinguishing feature is a little ring which in the young stage protects the gills, but in the older stage forms a movable ring that can slide along the stem. This, and some of its near relatives are edible, but another with slightly green-tinged gills is quite poisonous. Some only grow on the corky remains of trees already destroyed by other fungi.

*Cortinarius* have a web-like veil connecting the edge of the cap to the stem. A distinguishing feature is rusty brown spores. This is part of the world's largest mushroom genus, and all are mycorrhizal - contributing to the health of trees. They can only be found in forests. Bruce explained many types. One has recently been discovered to produce a previously unknown red-brown pigment which will have scientific uses. Some grow underground like truffles. These are utilized by animals to an extent that most of us will never realise. Some small wallabies, potaroos, bandicoots, wombats, etc. exist mainly on these small truffle-like things, which they can smell when they're ripe. The part attached to the tree is not the fungus itself, but the mycelium threads that ultimately give rise to the fungus.

Moving on to fungi which break down wood tissues and recycle the m into usable material, found on decaying logs, leaf litter, twigs and so forth, an important genus is *Mycena*. Some produce their own light.

Many *Cyprinus* grow on dung, although they can be found on twigs.

*Armillaria* is famous as a forest pathogen. It can wipe out orchards. It's close to the one called the "Honey fungus".

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Continued from previous page

It kills trees, but fortunately many trees have their own specific mycorrhizal species that give protection against some of these. These pathogens will therefore attack the old and the weak instead of destroying the whole forest.

Another group of saprophytes (or fungi not associated with trees) are the hygrocybes. These come in all sorts of lovely colours. The name means "water-bearing". The stems look a bit like old-fashioned boiled lollies, often quite slippery or glutinous.

Marasmius oreades will colonise dead wood stumps including pines, sometimes forming great soft-coral-like colonies.

Bruce went on to talk about a Phlebopus - probably our largest terrestrial fungus - that will grow up to a metre across, and it's a great mating and egg-laying place for certain flies. If you cut them in half often they're full of maggots. These are also all associated with trees.

Another famous fungus is Serpula lacramans or Dry Rot. Under the right conditions of temperature and moisture can actually travel at a metre a day, and then every so often stops and starts eating the wood. It breaks down the complex carbohydrates in wood, producing water as it goes. So once it gets going it doesn't need water.

Polyporus are usually hard, woody, bracket fungus, which grow on trees. Many of them are important diseases of forest trees. Some develop underground food reserves which can go on growing for years, perhaps half a century or more, and it keeps on binding soil particles together with its thread-like mycelium. It won't send up any fruit until after a fire. So after a

fire, up will come the mushrooms from a submerged stone that they have formed. One Bruce found on one occasion was the size of a refrigerator and impossible to move.

Puffballs stink badly like rotten meat and attract flies, etc. which then carry the spores abroad.

Calostomas often have a bright orange or bright red orifice in their structure. At maturity, under an inner membrane is suspended a little bag of spore and when rain hits that and expands the air inside the cap, a little fountain of spore emerges.

In a pine plantation a procession of fungi will come up as it matures. When it's between 15 and 20 years old you'll get a mass of pine mycorrhizal species, and also species that live on the decaying pine needles, Mycenas and others. Then as the pines get older, the amount of fungi will diminish. The main time for fungi is when the trees or plants are in active growth. As a rule of thumb pale fungi spores are very short-lived, maybe only a week or two, or even a day or two. Dark spores tend to be viable for much longer. The whole ecology will be removed if the forest is cleared. But if forest regenerates, spore will blow in to recolonise. So-called "fairy rings" of fungi in certain circumstances could be half a kilometre in diameter.

Bruce recommended that if you want to eat fungi, stick with the supermarket ones. Native species don't have a long history of trial for edibility and safety, and can be quite poisonous, so they're better not eaten. There's no rule of thumb about whether it's poisonous, apart from knowing exactly what it is you're looking at. In any case some are edible but not very nice tasting.

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## September Raffle Winners:

Don Fuller  
Ken Hall  
Barry White

Norma Hodges  
Bernadette Thomson  
Lauren Bradley





# **FERNS OF BOUGAINVILLE**

## **By Chris Goudey**

In 1988 I planned a trip to New Guinea and Bougainville I had a great adventure.

Chris started his talk with a talk and reading extracts from his diary which he kept on the trip.

Left on Sunday the 3rd, July, 1988, I got a domestic flight to Sydney to meet air New Guinea, plane left late, there was a head wind, arrived Port Moresby at 9.25pm. I got a taxi to the Civic Guest House, I couldn't make any reservations for accommodation in New Guinea so I just had to get what I could. The civic guest house was full up so they sent me to a flat next door which was quite good.

The next day I went back to the airport, it was a real culture shock, the airport was like a pig sty. I will never forget there was a ring of native women sitting on the floor chewing on beetle nut (made from the seed of a beetle palm and they mix it with ground lime stones) and they dip these seed pods in it and chew then they spit, its red like blood, they were doing this in the middle of the airport.

I had a lot of trouble getting on my plane for Bougainville as I should have confirmed it when I arrived and didn't, I was put on a later flight and finally I got there and I had a chap Barry Middlemiss to meet me, he arranged for me to stay at the accommodation that they use for the copper mine, all accommodation and meals were free.

The next day I was up at 5.00am in preparation for a climb up to the above the Kupie goldfields which was over 1100meters, Barry and another chap was to come with me, we left them along the wayside. It was that hot and steep, we got right up to the goldfields and there wasn't even the right environment, I was looking for *Leptopteris laxa*. We came down the mountain without it I had 2 local native people as guides and all the way up I was trying to describe to them what I was looking for. By the time we got down they thought they knew what I wanted and where it was.

The next day we climbed the mountain again from the other side and it was a pleasant stroll through rainforest, driving most of the way and within the hour we were at these magnificent plants.

My aim was to collect all the species of *Leptopteris* to put into my filmy fern house, this trip was mainly

about getting the 2 species that I didn't have which were *Leptopteris laxa* from Bougainville and *leptopteris alpine* from New Guinea.

Diary entry try again tomorrow, accommodation and meals no charge. Climbed the Mount Price Range 1100 meters in altitude found *Laptopteris laxa* collected specimen plants and good fresh spore. The ferns grew on a ridge and not in a valley as I had expected, their trunks were about 2 inches in diameter and the largest were about a meter tall with fronds of no longer than a meter, the basal pinnae were recurved and all the segments were deflected as the species name suggests. I collect spore from a large *Blechnum* and an interesting *Cyathea*.

The next day Thursday the 7th, up at 6.30am Barry picked me up at 9.30am all went well today flight from New Guinea to Port Moresby then on to Lae. Barry Middlemiss sent a message to Karl Kerenga (he was the head botanist at the division of botany at the herbarium) in Lae, who I had been corresponding with telling him I was expected on Friday.

The spore that I had collected at from all the ferns except *Leptopteris laxa* are rotting in the bags in the humidity.

On Friday I picked up a car which I changed it over to 4 wheel drive, I met Karl Kerenga at the herbarium he took me out to meet Professor Bob Johns at the university, I brought a book there. Karl and I purchased provisions and set out at about 1.30pm for Wau, the drive was a nightmare mud and slop everywhere almost lost control of the vehicle a dozen times and had a near collision with a PNG bus, there was mud with single wheel tracks and the bus and I was coming around in the same wheel tracks on a bend we both locked wheels and stopped just before hitting.

On Saturday the 9th stopped at the Wau ecology institute and I met all sorts of people there who were collecting all sorts of things from plants to insects, beetles, and moths. We brought a lot of provisions on the way all these sorts of grasses and leaves Karl cooked it up that night and it was really delicious.

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We set out the next day to take a drive to the top of Mount Kaindi the road was very steep with huge cliffs on either side and mud and wheel tracks, I had a car full of people all taking a ride with us to do their collecting. I got to the base of this Mountain and said, "I'm not driving any further." Some one in the back took over and we got to the top I collected plants of *Todea papuana*, *Hymenophyllum* species, *Dicksonia* and *Cyathea* species, but did not find *Leptopteris alpina*.

On the way down we stopped at a water fall and collected bags of beautiful sphagnum moss that I wanted to wrap around the plants I was bringing back.

We drove onto a place called Bulolo to meet the chief forestry officer and he was assisting us with finding *leptopteris alpina* in the Ekuti Divide.

Sunday the 10th we left at 7.00am to pick up forestry officer, drove into the Ekuti Range stopping in places to collect ferns and fern spore, found *leptopteris alpina* and a magnificent *Marrattia* species, saw a magnificent moss forest on the mountain summit. It wasn't till we got out that we were warned that it was an extremely dangerous place to be because there is bandits in there that hit people on the head and rob them then leave them there. We didn't see any.

Dropped every one off and brought groceries but couldn't cook them I felt that sick, I went out and found a drug store, I don't know what he sold me but I just took it, when I got back to the salvation army accommodation where I was staying, a big black fellow stepped out of the bushes right in front of me at my door and wanted to sell me these carved things that he had made, and I brought them, then threw them away they were just rubbish. I wasn't very happy with my accommodation there were cockroach, grease and dirt every where.

On Monday the 11th I called into the herbarium to have some specimens identified, changed my 4 wheel drive back to a sedan and asked Karl about the speed limit as there was no signs about, his reply was you go as fast as you can, so I did. I drove up to Goroka and met father Norman Crutwell of the Mount Gavasouka Provincial Park who I had been corresponding with, he suggested I stop going to the salvation army hostels and he booked me into the Lutheran Guest House, they were fabulous, ran by Australians good meals.

I met Norman at 10.00am the next day Tuesday the 12th at his house, looked at ferns and orchids, had morning tea, then we left for Mount Gavasouka

where he has a reserve where the natives bring in orchids and they propagate them there by putting them on trees to propagate.

We left for Mount Gavasouka around lunch time climbed to a look out collected ferns and spore also some interesting tree ferns got very wet. Norman and I went up the Mountain again, I climbed to the summit with a guide collected some more plants and spore, the guides didn't care what I did.

Returned to the guest house to pack and label spores washed the soil from collected plants and packed them in the sphagnum moss for transit.

Spent the night with Norman working out the identity of several problem species.

Thursday the 14th, a good night sleep, got up early for the drive to Lau, picked up specimens from Norman Crutwell to deliver to the herbarium in Lau. Arrived mid afternoon delivered specimens and picked up a copy of a telex from the herbarium directing the department of forests in Lau to issue me with a export licence for plants and spore collected in PNG.

Stopped at the Lutheran guest house, better than the salvation army hostel, labelled and packed ferns. In the afternoon I went for walk through the Botanic Gardens, at Lau. They just have palms everywhere and I took a lot of photos of palms but, I sent them all to David Jones, and he used a lot of them in his palm book. Karl told me that his brother in law was murdered in there the night before I was in there. Later in that afternoon I parked the car in the main street in Lau, and went souvenir hunting, when I got back I couldn't find the car, I had forgotten what it was even called, there was all these white cars in a row, I looked up and down the street looking for the car. At the end I had to get the papers out and look at the registration number. I had passed it half a dozen times.

Up early the next day for the flight back to Port Moresby, left the car at the airport, taxied to the Lutheran guest house, I rented a car off them really cheap. I visited the museum, Botanic Gardens and looked through the gardens nursery, I wasn't very impressed.

Lutheran guest house nice and clean and cheap, I went to the Department of Forest Headquarters with my plants and spore also the letter from Karl to pick up my export permit. They knew nothing about me, and I had quite a battle getting it, eventually I got my permit.

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Next morning I slept in till 6.30am couldn't do much, I went to the university library in the morning purchased some books on ferns, visited the botanic gardens again, and I went into a fernery that they had at the university and some beautiful ferns that they had in there, I was trying to photograph them, there was mosses everywhere the mosses won in the end as I just thinking of malaria and got out of there.

On Sunday the 17th, I packed my gear, for the flight home. The plane from Port Moresby to Sydney was 45 minutes late, and looked like I was going to miss my connecting flight, I went flying out of the airport with my baggage, there was a whole que of people waiting for taxi's, I run right past them, and grabbed the first taxi. They were waving their fists and swearing at me. The taxi driver had a go at me too, I gave him \$20.00 and told him if he could get me to the airport on time to get my flight it's yours. I got my flight and he got his \$20.00.

The rest of the night was spent with Chris showing us slides of the trip.

### **Drynaria rigidula Whitei Basket Fern**

*Drynaria rigidula* cv. *Whitei* is indeed, the most beautiful of Australian ferns. It is still a rare fern in cultivation growing initially from rhizome division only, but has now been developed by tissue culture.

Originally found in the early 1900's growing in the Glasshouse Mountains, near Nambour, Queensland, it is now extinct in its native state. *Drynaria rigidula* cv *Whitei* is a form of basket fern, naturally growing on rocks and trees and easily cope with the changes from summer heat to winter cold. The smaller shield fronds collect leaves, dust and moisture to funnel the nourishment to the roots.

The true fronds can reach three metres in length and are most beautiful with their frills. In South Australian conditions, this fern is surprisingly hardy and will grow quite successfully in a protected position under 70% shade cloth.

Val Slater

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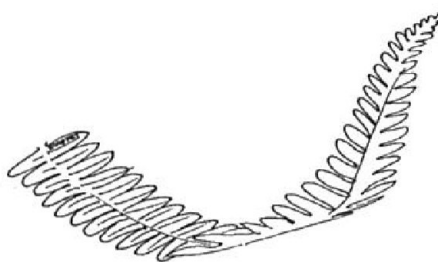
### **SPORES TRAVELLING**

Because of the minute size of spores, they are so light in weight that they form a normal ingredient of atmospheric dust. The spores of most fern species can stay viable for many years, in spite of sometimes extreme climate conditions. We are all familiar with the seeds of coconut palms' (*Cocos nucifera*) and sea-beans' (*Entada rheedii*) ability to cross the oceans. A single seed weighs far more than a million spores. Therefore, ferns have a far greater mobility than the higher order of plants. A few years ago *Asplenium adiantum-nigrum*, (indigenous to high-lying areas of South Africa, and common in Europe and Asia) was found near Boulder, Colorado, USA.

There are no records, fossil or otherwise, that can show that this fern is or was indigenous to the American continents. It is supposed that the spores were carried from Asia to the Rocky Mountains by sub-statospheric air currents. In 1933 the jet stream was discovered, Its estimated speed is up to 643,72 km/h ( $\pm 400$  miles/h). It seems probable that this jet stream quickly transported the spores from Asia to Colorado.

#### Reference:

Cobb, B. (1984), A FIELD GUIDE TO FERNS AND THEIR RELATED FAMILIES: NORTHERN AND CENTRAL NORTH AMERICA, Houghton Mifflin Company, New York, USA



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# MERRY CHRISTMAS AND A HAPPY NEW YEAR

*The President and Committee Members of the Fern Society of Victoria would like to take this opportunity to thank all our members for their support throughout the year. We look forward to serving the members with a bigger and brighter 2006*

*We wish all our members and their families a happy and prosperous Christmas and New Year, and we look forward to seeing many of you throughout the coming year at one of our many gatherings.*





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