

FERN SOCIETY OF VICTORIA Inc.

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SUBSCRIPTIONS:

Single -	\$13.00	Pensioner/student	\$10.00
Family -	\$15.00	Pensioner Family	\$12.00
Overseas -	A\$20.00 (Magazine by airmail)		
Subscriptions fall due on 1st July each year.			

Meetings are held on the third Thursday of each month except January
at Victoria Bowling Club, 217 Grattan Street, Carlton. Melways 2B D8.

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.

PRESIDENT'S MESSAGE

Next year will be our twentieth anniversary and we would like to organise something special, so your suggestions for this event would be appreciated by the committee.

At our June meeting we were treated to a special treat. Kathy Goodall and Keith Hutchinson showed two videos, as well as slides and photographs of their recent fern (*Leptopteris superba*!) trip to New Zealand. The talk was very informative and I am sure they were the envy of everyone contemplating on going initially. Special thanks to Kathy who travelled all the way from Wodonga to participate on the evening.

At the July meeting we will have two speakers; Lisa Haines from Rezitech Pty Ltd will give a short talk on fertilisers and Max Moore will talk on Hostas in your garden and he will have a range of horticultural books for sale. The competition category for this meeting is Asplenium. Please bring along as many different species as you can, as we plan to use them for a discussion on the genus.

Jane Edmanson will be our celebrity guest speaker at the August meeting. She was to speak on "Photography of Plants" but is now speaking on "Shady Gardening", so that will be a meeting not to miss. You may wish to bring along your friends.

At our Annual General Meeting in September, Ian Broughton will give a talk on "Propagation by Division". I am looking forward to the October meeting as Milton Dyer will be speaking on Multicrop products and he plans to have available a video of the late Albert Jenkins' fernery.

The excursion to the Den of Nargon and Fairy Dell is on the weekend of the 26th and 27th of September, 1998. The group will visit the Den of Nargon on the Saturday, with an overnight stop at Sale or Bairnsdale and then visit Fairy Dell at Bruthen on the Sunday morning, returning home in the afternoon.

Continued on page 61.....

1998 MEETINGS & EVENTS

July General Meeting Thursday 16th July at 8.00 p.m.



HOSTAS AND GARDEN BOOKS with **MAX MOORE**, Tiverton Enterprise
PAMPER YOUR FERNS WITH SEASOL with **LISA HAINES**, Rezitech

*Competition: Asplenium.



August General Meeting Thursday 20th August at 8.00 p.m.

SHADY GARDENING.

WITH JANE EDMANSON.

Invite your friends to this outstanding night with gardening media personality Jane Edmanson. Ms Edmanson was our guest in June 1995 when she inspired and delighted her listeners as she spoke of her love for ferns.



Competition: Any fern with a simple frond.



September General Meeting Thursday 17th September at 8.00 p.m.

PROPAGATION BY DIVISION

with Fern Society member and wholesale fern grower **IAN BROUGHTON.**



Competition: An epiphyte.



GENERAL MEETING TIMETABLE:

7.30	Pre-meeting activities - Sale of ferns, spore, books, merchandise and Special Effort tickets. Also library loans.
8.00	General Meeting.
8.15	Workshops and demonstrations.
9.15	Fern identification and pathology, Special Effort draw.
9.45	Supper.
10.00	Close.



1999 Fern Show dates;
27-28 March



It's subscription time again!!
Have you renewed your Fern Society

membership yet?
It was due on 1st July. Please return the
enclosed form with your subscription at your
earliest convenience.

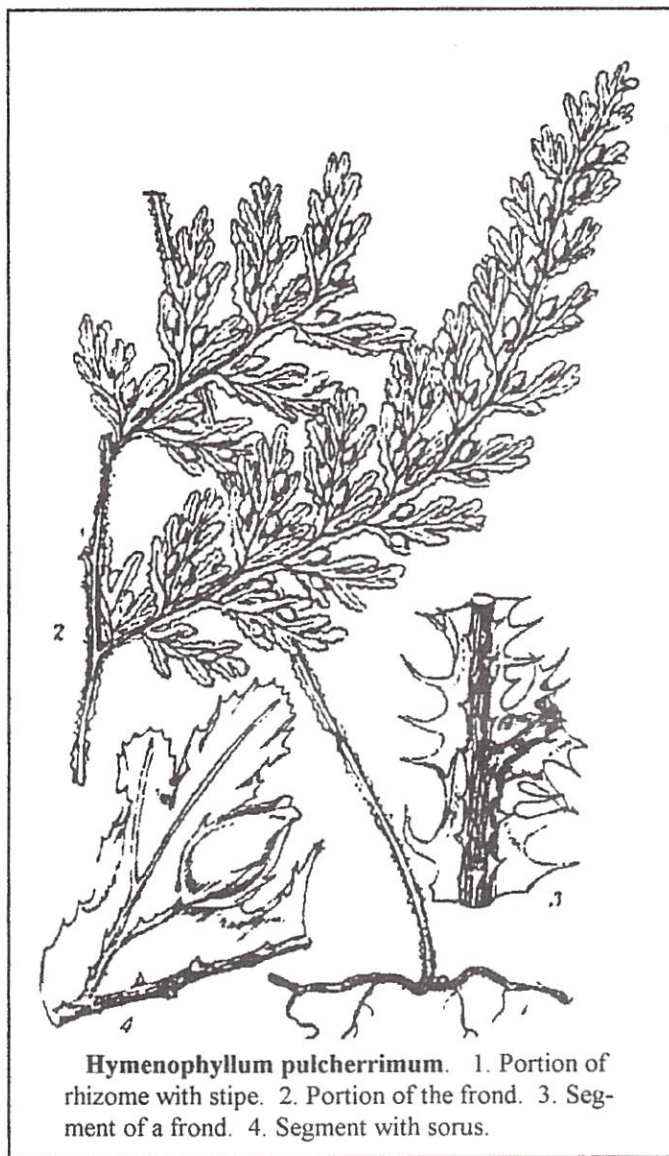
(Sorry about the omission in the last newsletter - we got our wires crossed)

Speaker Report - June 1998 meeting.
NEW ZEALAND EXCURSION
 Participants; Kathy Goodall, Barry White and Keith Hutchinson

Keith Hutchinson

After a rather bumpy flight over Cook Strait we arrived at Nelson late Friday afternoon, collected our Ford Laser and drove to our motel.

I then phoned Joyce Bonnington only to find that she had broken a bone in her foot. Needless to say she had planned well and the next morning her good friend Edith Shaw arrived and we set out for Eve's Park, a beautiful native forest of Beech, Matai, Miro and Rimu trees protecting many lovely tree and ground ferns.



Nelson Fern Society members Gail Atkinson and Jean Harvey joined us and arriving back at our car, we found a very enjoyable picnic lunch laid out for us.

We then set out to visit a wholesale nursery with an extensive array of native shrubs and trees, then to a retail nursery with a large range of ferns in perfect condition - and we couldn't

even buy one!!! Our next stop was the Nelson Queen's Gardens where Edith and Joyce had established an extensive area of ferns. This was an enormous project, instigated by the Nelson City Council but carried through by Edith and Joyce, showing the character of these ladies. We were fortunate to have Edith with us as her fund of knowledge was enormous. She could name every fern, tree or shrub we saw.

As I have mentioned previously, Ginkgos (Maidenhair Trees) are among my favourite trees. Edith took us to see two in private homes. They were quite breathtaking, the first completely filling the front garden of the home and the second a female carrying seeds.

After our evening meal we joined the Nelson Fern Society for their meeting where I showed some slides of our fern shows, some excursions and some of the late Albert Jenkins' fernery. Finally a delightful supper ended a memorable day.

Sunday 7.30 a.m. Edith arrived and drove us through Isel Park, a horticultural delight of rare trees and shrubs, then passed through a very scenic lawn cemetery with specimen trees and roses to Marsden Valley. This was the home of *Blechnum filiforme* which climbed in abundance over every tree. There were many *Aspleniums* also and we discovered the rare *Asp. hookerianum* growing well.

Next we left Nelson and drove through Richmond, Mapua, Tasman and Mariri to Motueka, where we enjoyed another of Edith's picnic lunches under the trees in Gail Atkinson's delightful garden. After an inspection of Gail's husband Gordon's fernery - also delightful - we travelled on through Upper Takaka, over Arthur Range and along Waingaro River to the Asbestos Track at Cobb Reservoir. Ferns were abundant! *Cyathea smithii* impressed us with its very full skirt of dead fronds hanging so neatly. Here we saw our first Kidney ferns, *Trichomanes reniforme* Crepe ferns, *Leptopteris hymenophylloides* and also *Lycopodium volubile*.

Edith had driven us over 160 kms of very scenic, mountainous countryside with winding roads giving us the chance to fully enjoy her beautiful country. Our humble thanks seemed inadequate. What a grand lady.

After our evening meal we spent our final night in Nelson with Joyce Bonnington, another grand lady who had given so much to make our excursion a memorable one.

Monday. We set out early as we had to drive nearly 350 kms to Hokitika. Our first stop was at Lyall for a short walk, then on to Paparoa National Park. At Panakaki we found many *Asplenium obtusatum* struggling to compete with the flax plants growing about the pancake rocks. We also spotted *Blechnum durum* and *B. vulcanicum* growing quite close to

the shoreline. We finally arrived at our destination at about 7 p.m.

Tuesday. Our first walk at the picturesque Lake Kaniere was at Dorothy Falls. This was by far the most dense rainforest we had encountered so far. I was so engrossed with the lush beauty of the ferns and mosses that I wandered off the track and became lost for about 5 minutes. Kathy and Barry thought it quite amusing as I stuck strictly to the track for quite a while! The sheer beauty of the treeferns *Cyathea smithii* and *Dicksonia squarrosa*, the *Blechnum discolor* and *B. capense* and the Lime Fern, *Pneumatopteris pennigera* impressed us.

Our next walk a few kms around the lake was quite different. Drier and less dense. Here Kathy to her delight found her first *Leptopteris superba* (she said, "Before the experts, too!!") We also found many *Pellaea rotundifolia* and *Polystichum vestitum*.

Our third walk, on the other side of the lake, was similar to the first but here we found *Leptolepia novae-zelandiae* and *Sticherus cunninghamii*. After lunch we headed for Lake Mahinapua. This again was a fernist's delight but very similar to Dorothy Falls.

Wednesday. We called in to Hokitika township to replenish our N.Z. dollars and do some shopping. This is an attractive town, very clean, with wide streets, plenty of "free" parking, and an excellent array of shops, particularly the gift shop for Kathy.

As we drove into Ross we saw our first rain so after a brief stop at the museum we continued on to Whataroa for lunch, arriving in the early afternoon at the Franz Josef Information Centre. This is a first class facility with plenty of visual information and literature etc. including a list of all the ferns we could see in the Westland National Park, the walking tracks and time for the walks.

Thursday. Lake Matheson - once again Hawkeye Kathy "stumbled" upon the first *Leptopteris superba* and the "experts" sure copped it!! Here the Matai trees were giants and sheltered a great array of ferns. I noticed there seemed to be two types of *Asplenium flaccidum*, one usually in a more open position with thick, leathery fronds and another more shredded, very fine indeed. Kathy was impressed with the *Asplenium polyodon* hanging from the trees but I was excited to find a bank of *Blechnum colensoi* in perfect condition with some glossy fronds hanging down about 45 cm. Barry discovered *Lindsaea trichomanoides* and _____

Gleichenia dicarpa among the 32 species we found around the lake.

Just the thought of our afternoon visit to the Minihaha Walk had me a little toey. I had waited 14 years to get back there. We soon realized this to be a fern wonderland, almost indescribable in its sheer beauty;- the deep green of the ferns contrasting with the bright orange glow of the fallen fronds of the *Dicksonia squarrosa*, the hundreds of *Leptopteris superba* growing everywhere like weeds. Once again Hawkeye Kathy spotted them first (will we ever live this down?!).

This twenty minute walk took us about three hours and we all agreed it was quite a highlight, making this day a truly memorable one.

Friday. We drove back to Lake Matheson to try for a photo of the snow-covered mountains as the previous day they had clouded over, then to the base of the glacier for another photo. As we headed north for Greymouth we just had to have one more look at Minihaha. I'm sure we could easily have spent another three hours there. Next we turned off at The Forks Road for a look at the coastal walk. The road in was lined with *Blechnum capense* and *Paesia scaberula* but as the walk was about three hours long and the sand flies very numerous, we continued on to Greymouth, the largest town on the west coast. Here Kathy enjoyed a visit to the Jade Shop, buying husband Adrian a lovely jade clock.

Saturday. Leaving Greymouth we took the road through Moana to view the kiwis in the Kiwi House at the Conservation Park. Here a South American monkey took a liking to Kathy and sat on her shoulder, pulling her hair.

We now commenced the climb to the summit of Arthur's Pass through some very majestic mountains. At the summit we stopped to view the multi-million dollar bridge being built up the centre of the river as the winding roads up the side of the mountains become blocked by landslips which close them for several days. Quite a massive project.

As we arrived in Christchurch with two hours to spare we called at the Botanical Gardens and found their fern house had a very nice collection of ferns. After using up the remainder of our film we returned our car and prepared for an early 6.15 a.m. flight home on Sunday morning.

We all agreed New Zealand is a fern lover's paradise. I thank Barry for his excellent driving and Kathy for spotting all the rare ferns.

FERNS FOUND ON THE N.Z. TRIP

CLUBMOSES

Lycopodium scariosum
Lycopodium varium
Lycopodium volubile
Tmesipteris tannensis

Mainly in open lowland forest.
Common from lowland to upland.
Scrambling in well-lit forest from lowland to high altitude.
Rootless epiphyte on tree ferns in lowland forest.

TREE FERNS

Cyathea medullaris
Cyathea dealbata
Cyathea smithii Soft tree fern.

Mamaku. Usually coastal, distinguished by thick, black bases to fronds.
Abundant in lowland and mid altitude forest.

Dichsonia fibrosa
Dicksonia squarrosa

Kuripaka. Tree fern with a very thick trunk. Local on river flats.
Wheki, Harsh Tree Fern. Abundant.

FERNS WITH SEPARATE STERILE AND FERTILE FRONDS

Blechnum sp. aff. capense	Kiokio. Very abundant and variable fern of forest floor and draping cliffs. Ascends to alpine belt.
Blechnum colensoi	
Blechnum durum	
Blechnum procerum	
Blechnum chambersii	A fern with tufted fronds growing in lowland and upland forest, mainly on moist banks
Blechnum discolor	A tufted fern which often dominates the forest understorey.
Blechnum filiforme	
Blechnum fluviatile	A tufted fern of lowland and upland forest.
Blechnum nigrum	A tufted fern of lowland and upland forest on dark, wet banks.
Blechnum penna marina	A small, creeping fern of damp, well drained soil, usually subalpine.
Blechnum vulcanicum	A creeping fern with triangular fronds, which grows on steep banks.

OTHER LARGE FERNS

Asplenium bulbiferum	Hen-and-Chickens fern. Abundant on new soils in lowland and upland forest.
Asplenium polyodon	Terrestrial or epiphytic. A common epiphyte in lowland forest.
Asplenium flaccidum	An epiphytic spleenwort with narrow, hanging fronds. A common lowland to subalpine species. Also rupestral.
Asplenium obtusatum	In coastal forest and scrub.
Sticherus cunninghamii	Waekura, Umbrella fern. In lowland and upland forest.
Gleichenia dicarpa	
Histiopteris incisa	Abundant in damaged lowland and upland forest.
Hypolepis rufo-barbata	A fern with a far-creeping rhizome, in lowland and mid-altitude forest.
Lastreopsis glabella	A rare coastal fern.
Lastreopsis hispida	Common in lowland forest.
Leptolepis novae-zelandiae	Mainly by tracks in lowland forest.
Paesia scaberula	Hardfern. Aggressive, especially on slips and cleared areas from lowland to mid altitude.
Pneumatopteris pennigera	In lowland forest. Leaves tufted on a slender, erect trunk.
Polystichum richardii	
Polystichum vestitum	Prickly Shield fern. Very abundant in some upland forest.
Pteridium esculentum	Bracken fern. In local pockets, mainly on old beach ridges.
Pteris macilenta	In scrub on coastal talus.
Rumohra adiantiformis	Climbing on tree trunks in lowland forest.
Leptopteris hymenophylloides	Heruheru, Prince of Wales Feather. Occasional in dry places in lowland forest. Fronds flat.
Leptopteris superba	Heruheru, Prince of Wales Feather. Common in humid forest to 600 m. Fronds crisped.

FILMY FERNS

Hymenophyllum bivalve	Very local, on warm ridges in forest.
Hymenophyllum demissum	Bright green fronds, mainly found on the floor of lowland forest.
Hymenophyllum dilatatum	Large fronds. Epiphytic in lowland forest.
Hymenophyllum ferrugineum	Very large. Epiphytic in lowland and high altitude forest.
Hymenophyllum flabellatum	Epiphytic in lowland forest.
Hymenophyllum flexuosum	Epiphytic in lowland forest. Crisped "wings" on stalk.
Hymenophyllum peltatum	Usually in rock crevices.
Hymenophyllum pulcherrimum	A local epiphyte with long, tufted fronds.
Hymenophyllum rarum	Epiphytic in lowland forest.
Hymenophyllum scabrum	A lowland forest epiphyte characterised by harsh hairs on stalk of frond.
Trichomanes reniforme	Kidney fern. On tree bases and fallen logs in lowland forest.

OTHER SMALL FERNS (Fronds generally less than 10cm long)

Asplenium hookerianum	Fronds of diverse shape. Distribution very local, under rock ledges.
Grammitis billardieri	Live fronds tufted together. An abundant epiphyte near the base of tree trunks.
Lindsaea trichomanoides	Fairly common on floor of lowland forest.
Phymatosorus scandens	
Phymatosorus (Phymatodes) diversifolius	An abundant climbing epiphyte, may be rupestral or terrestrial also. Lowland.
Pyrrosia eleagnifolia	A lowland and coastal epiphyte on exposed branches. SCCS

Keith and Kathy treated us to an abundance of very beautiful video, slide and printed photographic images of New Zealand's ferns. We thank them for the effort they put into sharing their holiday with us at the meeting.



OVERNIGHT EXCURSION DEN OF NARGON and FAIRY DELL. 26th and 27th September, 1998.



Fairy Dell and the Den of Nargon near Bairnsdale are **remarkable** in that they are the most westerly sites in Victoria in which the **subtropical** ferns of Australia are found. As such, they contain a vastly different group of fern species to those found in the rest of Victoria.

A two day **excursion** being organised by your committee will go to these two beautiful fern spots in eastern Victoria and you are invited! Our two destinations are, according to people who have been there, quite something - well worth a visit.

We are planning to stay in a motel or other suitable

accommodation in Bairnsdale or Sale. You may like to organise with a couple of your friends to share a room and so cut down on cost. Non-members are welcome.

If there is enough interest, we will run a minibus so you can leave your car at home, relax and let someone else drive. The cost would be shared by those using the bus.

The price of the weekend will depend on numbers. Strong interest was shown at the June meeting so please **register your interest** with Barry White, our Secretary, as soon as possible.

NOTICE OF ANNUAL GENERAL MEETING

The nineteenth Annual General Meeting of the Fern Society of Victoria Inc. will be held at 8.00 p.m. on Thursday 17th September 1998 at the Victoria Bowling Club, 217 Grattan Street, Carlton.

Business to be transacted will be:

1. Receive and deal with the President's Report on behalf of the Committee of Management.
2. Receive and deal with the Treasurer's Report
3. Elect Office Bearers and Committee Members of the Committee of Management for 1998-99.
4. General Business.

Nominations for Committee of Management

Nominations are now called for the positions of Office Bearers and Committee Members for the year September 1998 to August 1999. Nominations should be in writing, be signed by the proposer and seconded and include the written consent of the nominee. They must be received by the Secretary not less than seven days prior to the Annual General Meeting. Nominations may be called at the Annual General Meeting only if insufficient have been received previously to fill all vacancies.

General Business

Items to be discussed and voted on under General Business at the Annual General Meeting must be notified to the Secretary in writing not less than 21 days prior to the meeting.

Barry White
Hon. Secretary

FERN SOCIETY OF VICTORIA Inc.

NOMINATION FORM For the election of 1998 -1999 Officers and Ordinary Committee Members at the 1998 Annual General Meeting.

POSITION

MEMBER NOMINATED

SIGNATURE.....

TWO MEMBERS' SIGNATURES

Written and signed nominations must reach the Secretary by 10th September, 1998.

FERN SHOW 1998 - REPORT.

DON FULLER

Show Committee Chairperson.

Our Show this year on the weekend of the 18th - 19th April was held at a new venue for us being the Mt Waverley Community Centre. It was a Fern and Vireya Rhododendron Show, a combined venture with the Australian Rhododendron Society. Both the combined show format and the new venue proved to be a great success with ample room for all activities in very pleasant surroundings. The weather over the weekend was also ideal.

Although the attendance by the public was less than expected, and a little disappointing, the show will return a modest profit.

The Mt Waverley Community Centre complex comprises a Main Hall and two large rooms on the other side of a large lobby area. Our fern display was located in the main hall while both the fern sales and the refreshments were in the rear side room. The raffles and demonstrations were conducted in the lobby area.

Our display this year included two excellent nursery displays by Ian Broughton and Chris and Lorraine Goudey. Our feature display was the genus *Asplenium* and a good representative display of this genus was arranged across the front of the hall. A large and excellent display of *Adiantums* formed a separate display in the centre of the hall, together with the pergola which was used for most of the hanging ferns.

We again conducted a fern competition with the number of entries being very similar to that of last year. Congratulations to Jean Boucher for gaining the sash for the Best Fern. Her winning entry was a magnificent specimen of *Adiantum raddianum* cv. Brilliantelse.

With the extra space this year we were able to extend the

scale of the show with an area for the serving of refreshments. This proved to be very popular as it was an excellent spot to sit down and rest weary feet. We were also able to give demonstrations to the public at regular intervals, alternating fern and vireya rhododendron presentations.

Our "bigger and better" Show was only achieved by a number of people accepting responsibility for various functions and a large number of others giving their time and efforts over the weekend. To all who helped set-up and clean-up, assisted with the functioning of the Show or contributed to the display, I extend my sincere thanks.

The committee members also extend their thanks to Mary Frost for again judging the fern competition. Her interest and expertise is greatly appreciated. We also wish to record our thanks to Multicrop (Aust.) Pty Ltd for again sponsoring our fern competition by covering the cost of the sash/ribbons, providing product prizes and product samples as given away with fern sales. We also wish to thank Debco for their donation of bags of potting mix and other products. This was also greatly appreciated.

ADVANCE NOTICE - 1999

Your committee have met and have made preliminary arrangements to again have a joint show with the Australian Rhododendron Society. The venue will again be Mount Waverley Community Centre and the date

MARCH 27TH - 28TH 1999.

Please put this date in your diary and keep it free.

Don Fuller

MONTHLY COMPETITION RESULTS

MAY GENERAL MEETING

Competition: A Fern Ally

1. Ian Broughton's *Psilotum nudum*
2. Lorraine Goudey's *Lycopodium verticillatum*
3. Ian Broughton's *Selaginella martensii*

'Snowdust'

Exhibitors' Draw: Dorothy Forte
Special Effort: Don Fuller (2), Nancy Perry,
Jean Boucher (3!), Margaret Radley,
Mavis Potter, Lyn Gresham.

JUNE GENERAL MEETING

Competition: Any New Zealand Fern.

1. Keith Hutchinson's *Dicksonia squarrosa*
2. Dorothy Forte's *Blechnum filiforme*
3. Dorothy Forte's *Lastreopsis glabella*

Exhibitors' Draw: Dick Kissane
Special Effort: Bill Gouge, Jean Boucher,
Margaret Radley (2), Reg Kenealy.

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.

BRITISH FERNS

A Green Science video of the British Pteridological Society.

Lyn Gresham

When Martin Rickard visited our sunny state recently he loaned Lorraine and Chris a very interesting video which some of our members were fortunate enough to view with them.

The very impressive 25 minute video showed most of Britain's native ferns growing in their natural habitats. It demonstrated the wide variety of their size and form and the broad range of habitats they colonise. Key identification characters of each species were explained and shown.

With over fifty species of ferns the British Isles has a remarkably varied fern flora. Many species have distinctive distributions reflecting regional variations in environmental conditions. In particular the cool, relatively damp environments of the north and the mild western fringes of Britain bring together species typical of the Atlantic, Arctic and Alpine regions, resulting in a fern flora that is unique to the British Isles.

Habitats

Ferns are varied in appearance and grow in a wide range of different habitats. Some grow in west country hedgerows, others in rocky valleys where moisture and shade favour luxuriant fern growth. In woodlands ferns sometimes form extensive colonies, carpeting the floor between the trees.

Other species can survive in more hostile environments and exist quite comfortably in sheltered corners on exposed uplands such as among the rocks on the mountains of central Scotland or in Snowdonia overlooking Cardigan Bay and the Lleyn Peninsula (in Wales). In such places the moisture laden north-westerly winds contribute so much to the success of the fern flora. Loose screes and vertical cliffs are particularly favoured habitats.

Ferns can even flourish between the blocks of rock in upland

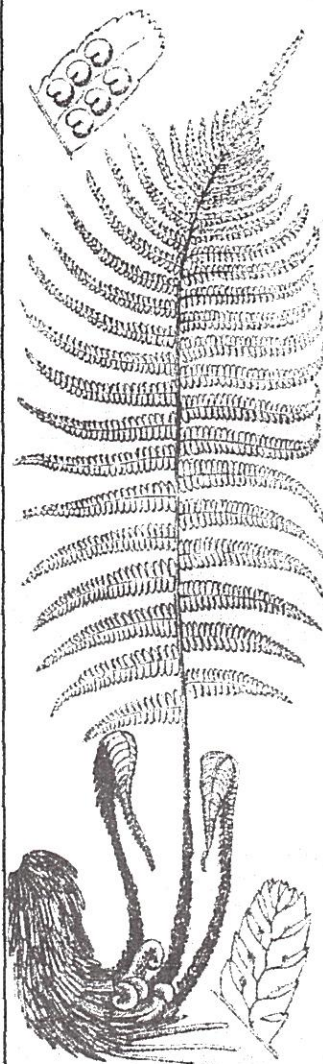


Fig. 1 SCALY MALE FERN
(*Dryopteris affinis*)

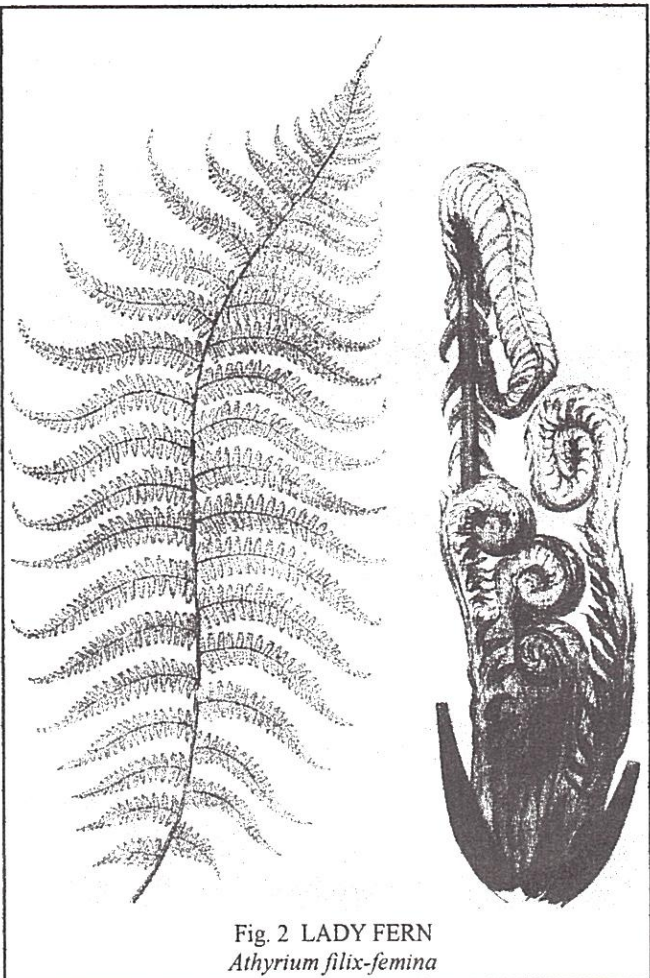


Fig. 2 LADY FERN
Athyrium filix-femina

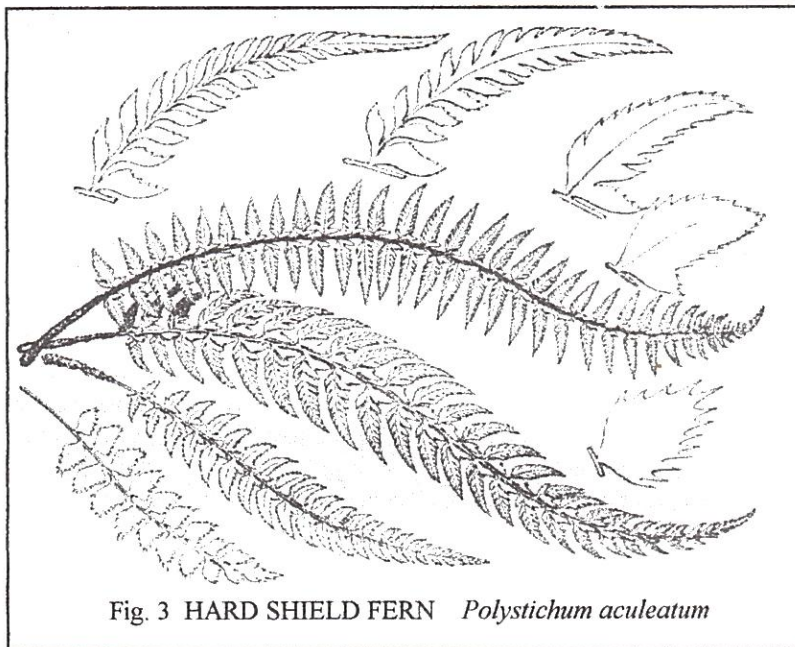


Fig. 3 HARD SHIELD FERN *Polystichum aculeatum*

limestone regions in the north of England. Cracks in the mortar of walls can be colonised by a few of the smaller ferns, especially in the wetter, more westerly areas of the British Isles. Even salt-sprayed cliffs are home to a select number of species.

Identifying The Ferns

Male Fern *Dryopteris filix-mas* is one of the commonest fern in the British Isles. The fronds arise in a shuttlecock-like manner.

Scaly Male Fern *Dryopteris affinis*. (See Fig.1) The fronds are divided twice, with less notched edges than the common

Male Fern. Its rachis is densely covered with golden brown scales. A dark spot where the side branch joins the main rachis is a diagnostic character.

Broad Buckler Fern *Dryopteris dilatata* is a species commonly found in woodlands. The fronds are more lax than the Male Ferns and arch out in a much more open shuttlecock. They also have more divisions. The scales at the base of the rachis are nearly entirely brown or have a characteristic brown central band.

Hay Scented Buckler Fern, *Dryopteris aemula*, seen on a roadside bank, is a much rarer species, growing at its best only in low lying areas of south and west of Britain. It is best identified by its crisped fronds and by the scales on its rachis, which are fewer and narrower than that of the Broad Buckler Fern.

Lady Fern, *Athyrium filix-femina* (Fig. 2) is commonly found in association with the other species mentioned so far, although it often favours wetter areas. Its fronds are more delicate-looking and are elliptical in outline, being broadest near their middles. It is this delicate appearance which gave the fern its common name of Lady Fern. The reproductive structures (sori), which we can see on the underside of the frond, are roughly J-shaped.



Fig. 4 HART'S TONGUE FERN
Asplenium scolopendrium

Hard Shield Fern, *Polystichum aculeatum* (Fig. 3) and **Soft Shield Fern**, *Polystichum setiferum*

There are two woodland species of Shield fern. They are similar in overall frond shape although the Hard Shield Fern is more leathery and darker green than the Soft Shield Fern. In the Hard Shield Fern the divisions of the frond (pinnules) are attached at acute angles to the midrib but in the Soft Shield Fern the pinnules are obtusely

angled at the base and attached to the midrib by a short stalk.

The **Hart's Tongue Fern**, *Asplenium scolopendrium* (Fig. 4) has entire, strap-like fronds. Its linear sori run nearly from the midrib to the edge of the frond.

Some ferns grow best in moist, shady woodlands and amongst mountain rocks. One such species is the **Oak Fern** *Gymnocarpium dryopteris*. It frequently forms large colonies of individual fronds from its branching, underground stem. The fronds are broadly triangular in outline.

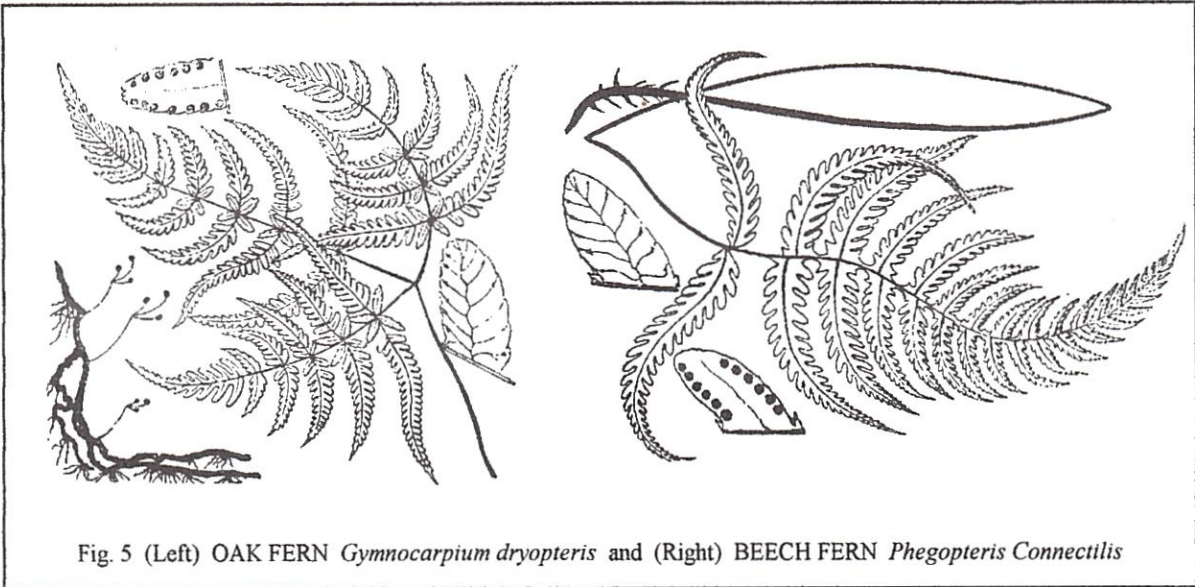


Fig. 5 (Left) OAK FERN *Gymnocarpium dryopteris* and (Right) BEECH FERN *Phegopteris connectilis*

Beech Fern, *Phegopteris connectilis* is often found together with the Oak Fern. The frond outline is that of an elongated triangle, in which the lowest pair of pinnae are reflexed backwards.

Moorlands may seem inhospitable places for ferns but **Bracken**, *Pteridium aquilinum* is one that often does well here. The species is usually a good indicator of an acid soil. The fronds are borne individually at intervals from an underground stem, which gives the impression of there being many separate plants. Individual

fronds can be 2 metres or more in height, roughly triangular in outline and characteristically divided.

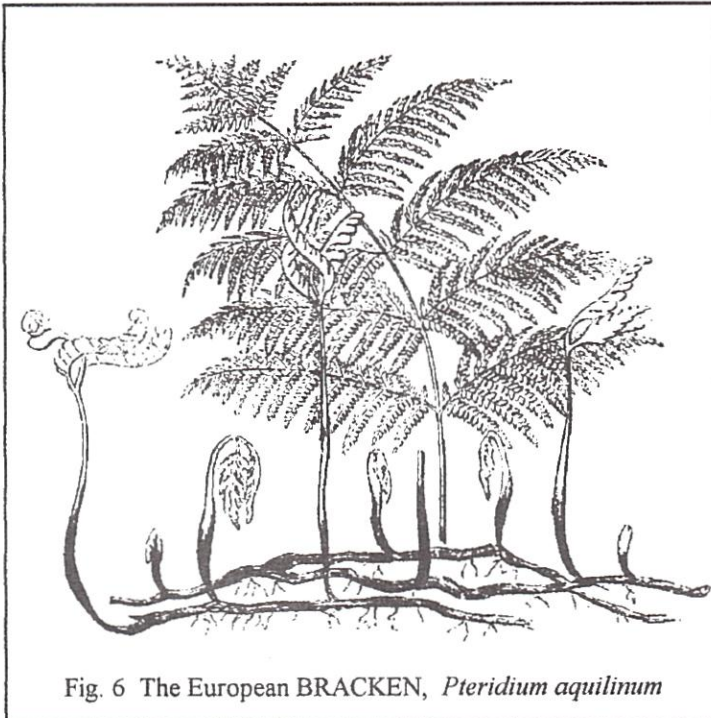


Fig. 6 The European BRACKEN, *Pteridium aquilinum*

Hard Fern, *Blechnum spicant* is another abundant species that grows equally well in a number of acidic habitats. This species is unusual in having different vegetative (sterile) and fertile fronds. The longer and narrower fertile fronds stand erect in the centre of a flatter rosette of vegetative fronds. The segments of fertile fronds have sori running along their lengths.

In upland Britain, such as Snowdonia, we find different fern communities, some requiring an acid substrate, others needing lime. Similarly, high in the mountains above Glen Lyon in central Scotland the same types of community exist. We will first look at those species which require acid or neutral conditions, before going on to those that need lime or standing water.

FERNS IN THE GLASGOW BOTANIC GARDEN

Gay and Barry Stagoll

After hearing years ago about the famed Victorian-era Glasshouse, housing a big collection of ferns, at the Glasgow Botanic Gardens we were determined to pay a visit some time. The fact that Melbourne has also preserved a large Victorian fernery (at Rippon Lee, as described afresh recently in Newsletter Vol. 20, No. 2), increased our level of interest in seeing the Glasgow example. When we got there finally (some little while ago now -we were slow to put pen to paper on the subject) we were not disappointed.

The Gardens themselves are just about the friendliest we have encountered (amongst strong competition, because we seldom find that visitors truly interested in plants are not treated to a good welcome in such gardens). Whilst they are not particularly large, there is a fine arboretum stretching along the River Kelvin, and very nicely-planted lawns and semi-enclosed garden spaces in the main gardens surrounding the extensive glasshouses. The glasshouses contain an extremely fine and varied collection of plants, largely from warmer climates than that of the Glasgow region.

THE KIBBLE PALACE IN THE 1870s AND AFTER

John Kibble arranged the erection of this building in the Botanic Gardens in 1873. He had earlier built it at his estate at Coulport, Loch Long, and he dismantled it and brought it up the Clyde. It was considerably enlarged on its new site and was intended as a concert hall and meeting place, run by Kibble himself.

The floor was of cast iron and there were collections of large potted plants and plaster cast statues. The main dome contained a pond with an island from which an orchestra played. For large meetings such as the rectorial addresses of Gladstone and Disraeli, the pond was covered over. Some meetings attracted great attention. On the visit of the American evangelists, Moody and Sankey, there were said to be six or seven thousand people crushed inside and an overflow meeting of over 20,000 in the Gardens. (As laid out today fire regulations permit only 200!)

After a few years John Kibble lost interest. The limitations of the building for meetings in all weathers became apparent and the Botanic Gardens authorities purchased it for £10,000. (This payment, which was made from a loan, led to financial difficulties in later years, followed by the eventual taking over of the Botanic Gardens by the City in 1891.) After John Kibble's departure the building was laid out much as it is today.

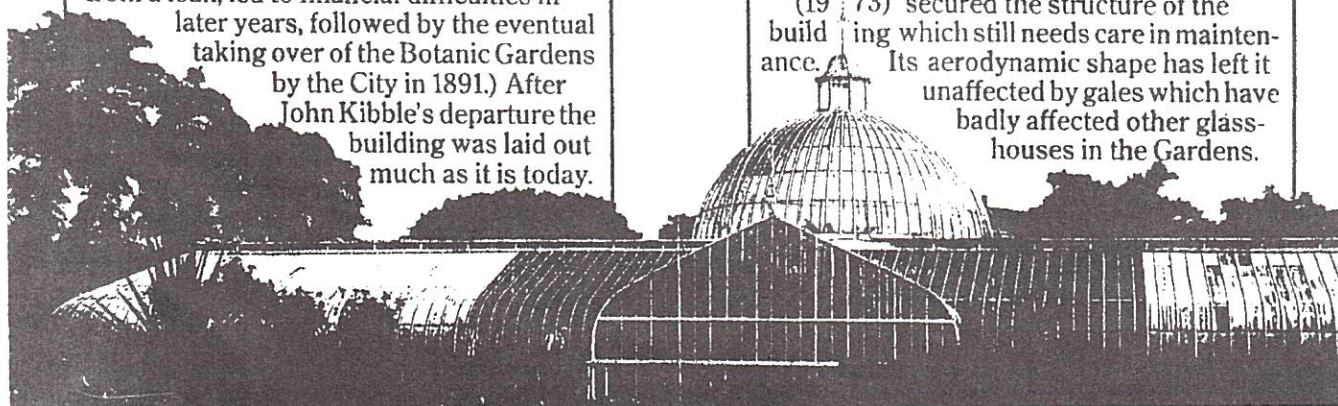
THE KIBBLE PALACE TODAY

The centre of the main dome contains an outstanding collection of tree ferns. These plants, coming mostly from New Zealand and Australia, grow in moist sheltered places. Their trunks are covered with fibrous roots, indeed there are more roots above ground than under the ground. The humidity is maintained with irrigator sprays and by hoses.

Around the outer circle of the main dome is a collection of Victorian Camellia cultivars which flower in late winter. The remainder of the main dome and the corridor is devoted to a geographical arrangement of plants from temperate regions of the world - the Mediterranean, New Zealand, Southern Africa, the Canary Isles etc. The building is only heated during the winter.

The smaller entrance dome contains a fishpond with an island planted with a tree fern and a large group of the royal fern (*Osmunda regalis*). The two sections leading from this dome are used for the Gardens' Visitor Centre and for an exhibit on the Plant Kingdom. (see separate leaflet).

Over the years the external Victorian cast iron tracery has been lost but extensive repairs carried out for the centenary year (1973) secured the structure of the building which still needs care in maintenance. Its aerodynamic shape has left it unaffected by gales which have badly affected other glasshouses in the Gardens.



The "Main Range" glasshouse (really a large number of interconnected glasshouses offering varied environments to meet different plant requirements) includes a substantial collection of many hundreds of different species of ferns and fern allies. In one relatively-small, purpose-designed "wing" the Gardens have a filmy-fern house of which they are justly proud, with many different species (including a good many of the Australian and New Zealand species) growing lushly and displayed in a way that they can easily be inspected at close quarters. We were treated to an inspection of this house, and other areas given over to propagation and raising of ferns (and many other types of plant) not usually open to public visitors, courtesy of the special hospitality extended by Hughen Donaldson, General Manager of the Gardens, after one of his staff with whom we had got talking tipped his off about our special interest in the ferns.

But the highlight of the Gardens has to be the famous "Kibble Palace". The structure itself is of great interest to visitors generally. But for those interested in ferns it is absorbing, because most of it is almost wholly occupied by ferns and fern allies.

The accompanying panel taken from a Gardens leaflet provides a brief history of the Kibble Palace, and of the main features of the display. It also shows a perspective photograph but it is difficult to appreciate from this just how large and elegant the structure is. It was designed and built (for John Kibble, a Glasgow engineer and industrialist) based in general on the engineering methods used to construct the famous "Crystal Palace" in London, for an international exposition in the mid-Nineteenth Century - the "Palm House" at the Royal Botanic Gardens, Kew, is another structure inspired by the now-gone Crystal Palace.

Fully a quarter of the main dome space is devoted to display of Australian plants (mostly ferns) and another quarter to those of New Zealand. The large number of

tree ferns, including many very old, very tall examples growing right up into the higher airspace under the dome, are mostly Australian and New Zealand species with which we are familiar.

Ferns, together with other forest plants from the appropriate regions, are arranged in areas according to their geographic origins around the remaining half of the space. The other main regional groupings are South America, North America, the Canaries (very prolific for their size, of course), Temperate Asia and the Mediterranean. One fascinating plant, a "ground cover" fern *Hypopterygium atrotheca* is known only to Kibble Palace, its origin in the wild being now entirely a mystery.

The plantings in the Entrance Dome are described in the extract from the pamphlet on the previous page. But what it doesn't say is that the plantings of *Osmunda regalis* surrounding the central treefern (*Dicksonia antarctica*) are absolutely striking, being the largest and most lush you are likely to see anywhere.

This has to be one of the very best displays of ferns in a glasshouse setting, anywhere in the world. Glasgow's must also be one of the best collections. We didn't have the presence of mind to ask how many species are represented, much less to enquire about a list of the collection, but observation alone made it clear that it is enormously varied.

FOOTNOTE: Whilst in the Glasgow Gardens, we noticed that a number of plants, situated in various houses, were labelled as *Blechnum fluviatile*, whereas they were *Blechnum chambersii*. There didn't seem to be any *B. fluviatile* around. Subsequently, with Barry White's help, we got some spore off to Glasgow for them to try. We haven't heard the result, but hopefully the Gardens will fill a gap in the collection with our spore.

PRESIDENT'S MESSAGE.....continued

As mentioned earlier, the AGM is approaching and nomination forms are included in this newsletter. There will be two positions vacant on the committee, the position of President and one committee member is required. These positions must be filled, in particular that of the President, as my term is up and I am unable to continue in this position, so we need nominations for these.

Western Flower Thrip

The restrictions on the movement of plants from New South Wales and Queensland into Victoria have been lifted and the compulsory monitoring of Nursery Industries Association members' nurseries with sticky traps has been suspended, although many N.I.A.V. members will continue to trap.

The efforts to stop this pest entering Victoria were in vain, as it is now well established in several areas. Unfortunately the N.I.A.V. has no control over nurseries who are not members of the N.I.A.V. These people were free to bring plants into Victoria from areas infested with WFT and also were not obliged to monitor their nurseries for WFT.

WFT multiply quickly and also have a very large range of hosts, including many fruits, vegetables and ornamentals as well as plants that never used to have problems with thrip. They are resistant to many chemicals, which work well against other thrips and can hide in flowerbuds where chemicals don't reach. It spreads tomato-spotted wilt virus very easily. Fortunately for us, it is believed that Western Flower Thrip does not attack ferns.

Chris Goudey.

Speaker Report - May 1998 meeting.

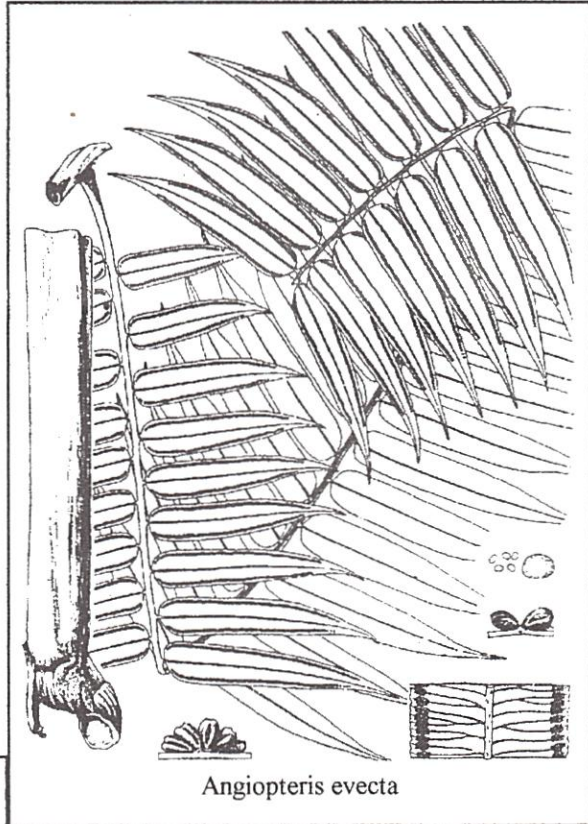
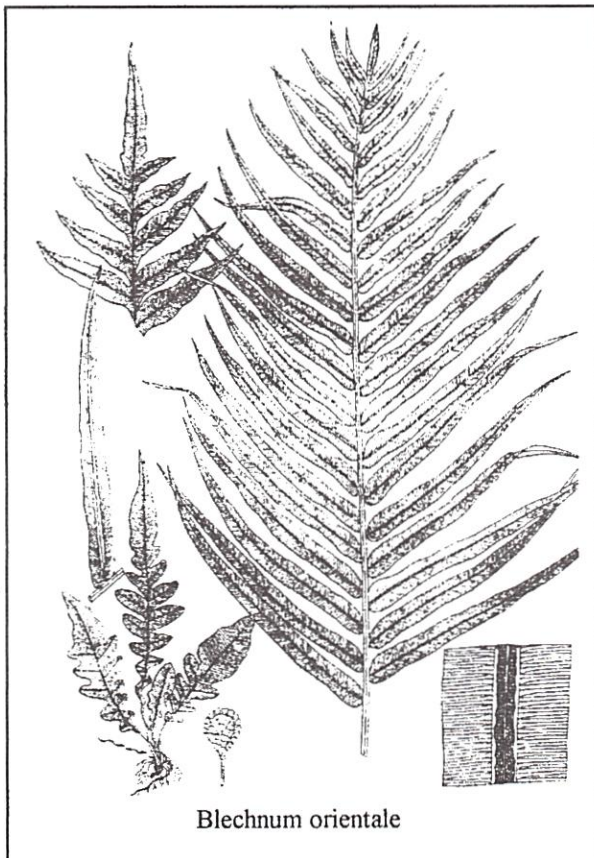
FERNS OF FIJI

Barry White

Fiji consists of a group of about 300 islands located on roughly the same latitude as Townsville. There are two major islands, Viti Levu being the main one, and the setting for Barry's talk. Fiji's capital, Suva is located on the south eastern 'corner' of Viti Levu and the main airport, Nadi, is in the south west. Most of the resorts catering for tourists are on the southern coast between these two, called the Coral Coast.

The population consists of approximately 50% each indigenous Fijians and Indians, who arrived as indentured labourers for the canefields about a century ago. The many cultural and religious groups have each maintained their identities and an interesting variety of temples and shrines bear witness to this.

Each traditional Fijian village has a meeting place, a buré which has the stump of a tree fern



sticking out both ends of the roof ridge. The significance eludes us but we'd like to hear from anyone who knows what it represents.

Viti Levu is a mountainous island, with altitudes of up to 1300 metres in the centre. The rainfall pattern for the island varies, most falling on the eastern side whilst the west is much drier.

Much sugar cane is grown on the western, drier hinterland. The nearby hills are rather bare, mainly due to the long-held practice of extensive burning off. It is good to see that the government is trying to do a bit of reforestation here.

The interior, which is in places covered by dense forest was enticing but largely unexplored on this trip. Due to circumstances Barry was not able to see as much of it as he would have liked. There are very few roads penetrating far beyond the coast. A four-wheel-drive vehicle would be necessary to get any distance inland. The road

which circumnavigates the island is sealed except for about 70 km of unmade road on the eastern side.

PLACES OF INTEREST AND THE FERNS FOUND THERE.

Colo-i-Suva

About ten miles north of Suva there is a forest reserve which is worth a visit. Quite a few ferns are to be found there. Barry showed slides of a *Hypolepis* (*H. elegans*?), a *Dicranopteris* which is very similar to a *Sticherus*, one of the three species of *Angiopteris* found in Fiji (probably *A. evecta*) and a *Diplazium* showing the typical 'herringbone' spore pattern.

We also saw *Culcita straminea* which develops a trunk like a tree fern and one of the range of *Cyathea*s they have there, showing a mass of silvery scales around the top of the trunk. There was a *Davallia* climbing up a rough-barked tree, a *Nephrolepis*, a *Lygodium* (a terrestrial, twining climber) and probably *Marattia smithii*.

Blechnum orientale had two metre long fronds, the typical *Blechnum* spore pattern but not the typical, reduced fertile pinnae. A diagnostic feature is that the lower pinnae of the frond are very much reduced to little, ear-like structures.

On the eastern side of the island, beside the unmade portion of road Barry found *Pyrossia adnascens*, a *Vittaria* of which there are three species in Fiji, a *Davallia* (Hares Foot Fern) and a slender *Cyathea* which reaches well above the forest canopy.

The Garden of the Sleeping Giant

Close to Nadi is a garden, called "The Garden of the Sleeping Giant" which is well worth a visit. Developed by Raymond Burr (the actor) it is noted mainly for its orchids. It has over 1,600 varieties of orchid, and is a commercial orchid nursery. It has many other plants, including a number of ferns and some very nice specimens of *Selaginella*. Barry has photographed a number of the ferns, including a path border planted with one of the finer forms of the Boston Fern.

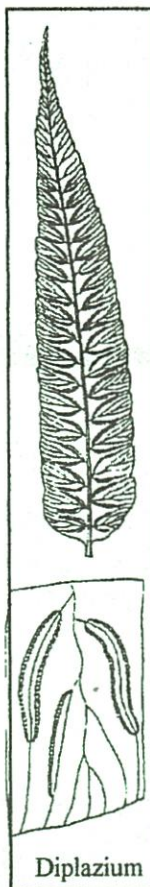
Elaphoglossum pendulum has strap-like fronds several metres long. In contrast, we were shown an *Elaphoglossum* from Lord Howe Island where the various forms are little ground ferns. Apparently "Elaphoglossum" means literally, "snake's tongue", referring to the unusual and interesting spore body they have.

Callipteris prolifera is also found in North Queensland. As the name suggests, it develops tiny plantlets along the fronds. These have the ability to take root and grow when they fall off. There is also a great deal of *Lygodium microphyllum* growing there.

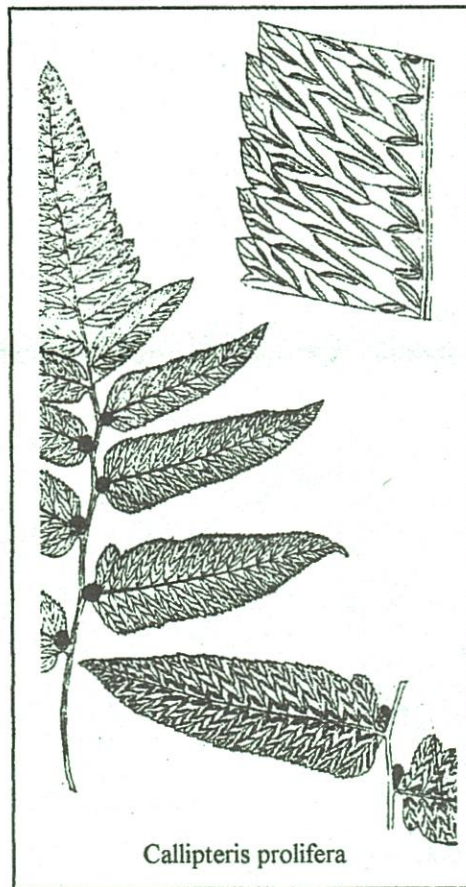
AN INVADER IN PARADISE

Barry also found *Pityrogramma calomelanos* (Silver Back Fern) which is native to Central America and the West Indies but has successfully naturalised here as well as in P.N.G., the Philippines and Queensland. (It is a very temperature-sensitive fern which doesn't like Victoria's weather at all.)

Those present thanked Barry for an interesting and informative slide presentation and talk.



Diplazium



Callipteris prolifera

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All Fern Society members welcome. By appointment.

QUEENSLAND:

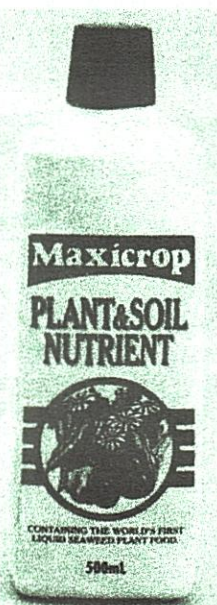
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