



THE
FERN SOCIETY

OF
VICTORIA

Inc.

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NEWSLETTER

VOLUME 13, Number 10, November 1991

FERN SOCIETY OF VICTORIA Inc.

POSTAL ADDRESS: P.O. Box 45, Heidelberg West, Victoria, 3081.

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SUBSCRIPTIONS:

Single	-	\$15.00	(Pensioner/Student - \$11.00)
Family	-	\$18.00	(Pensioners - \$13.00)
Overseas	-	A\$30.00	(by Airmail)

Subscriptions fall due on 1st July each year.

PRESIDENT'S MESSAGE:

The truth of the adage "It's an ill wind that blows no good" was well illustrated at the last meeting. The guest speaker on shade cloth failed to appear, but we still had a most successful evening with Chris Goudey first providing an extended commentary on the Fern Table, and then conducting a general question and answer session covering a wide range of ferny topics. Thank you Chris for admirably filling the breach.

The November meeting will be a Members' night with "Problem Ferns" as the topic. The success of the night's discussions will depend upon members bringing along ferns causing problems, and I am sure we have plenty of those. The aim is to have a general discussion on fern problems, covering aspects such as cause, treatment and prevention. So drag out those bedraggled ferns hidden in the back corner of the fernery and let us have a display table resembling my fernery.

And speaking of ferneries, did you know that a fernery in the strict horticultural sense as used in England and Europe is a glazed and heated structure. Non-glazed structures such as that at 'Rippon Lea' are termed shade houses. However, our less demanding needs for growing ferns has resulted in a wider interpretation of what is a fernery.

On another note, Lorraine Deppeler of Allansford has made the suggestion that the Society provide a fern identification service for country members. This suggestion is being adopted and details are given elsewhere in this Newsletter.

The Committee is keen to improve services to members outside of Melbourne. It is considering holding a meeting in Wangaratta next year and, if the format proves successful, meetings will be arranged in other country locations. Other suggestions for improving services to country members will be welcome.

(continued opposite)

NEXT MEETING

DATE: Thursday, 21st November, 1991.
TIME: Commencing at 7.30 p.m.
VENUE: The National Herbarium, Royal Botanic Gardens,
 Birdwood Avenue, South Yarra.
 (Melway Directory Ref. 2L A1)
TOPIC: "Problem Ferns" - Group Discussion
 (see paragraph 2 of President's Message).

MEETING TIMETABLE

7.30 p.m. Pre-Meeting Activities:- Sales of Ferns, Spore, Books
 and Special Effort Tickets ; Library Loans.
 8.00 p.m. November General Meeting.
 8.30 p.m. Group Discussion (as above).
 9.40 p.m. Special Effort Competition.
 9.45 p.m. Supper.
 10.00 p.m. Close.

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DECEMBER GENERAL MEETING

The December meeting will be held on Sunday, 15th December, at 2 p.m. instead of on our usual third Thursday. It is hoped that this change will provide an opportunity to attend for some of those members who are unable to be present at our regular evening meetings.

The Herbarium hall has been booked for the afternoon and will be used for the start of the meeting, but it is hoped that the majority of the afternoon's activities can be held outside in the Botanic Gardens. If the weather is inclement, a different meeting programme will be held in the hall.

We hope to again have our usual Christmas hampers as some of the Special Effort prizes. Would you please bring your donations along to the November meeting if possible to allow the hampers to be packed in advance and ease the rush at the December meeting.

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President's Message (cont'd):

I mentioned in the October Newsletter that we hoped to participate in a fern display and sale at "Rippon Lea" in December. This was proposed by the National Trust as a joint activity, but they have now decided against proceeding.

Regards, Barry White.

FERNS and OTHER ASPECTS of ZIMBABWEby Chris Goudey

(Continuation of Speaker Report from August General Meeting)

The grandeur of the Victoria Falls themselves was shown in a sequence of slides taken from both sides of the river and from the air. It was necessary to cross the Zambesi River into Zambia to see all the falls and it was here that the best rainforest and fern areas occurred. Huge amounts of spray and mist are generated by the impact of the falling water, giving rise to problems in keeping clothes and camera dry but also producing spectacular rainbows in the mid-afternoon sunlight.

The river chasm, which is just on a mile wide (1708 metres) at the falls, contracts soon after and the whole flow of water goes through a narrow gorge known as the Boiling Pot. The flow over the falls was much higher in earlier times before the river was dammed upstream.

An interesting plant growing near the Victoria Falls is Gladiolus primulinus. In contrast to the tall G. grandiflorus hybrids common in our gardens, which have upward-facing flowers, G. primulinus has nodding flowers to prevent them being filled with water from the mist.

The most common fern growing in the area was Adiantum capillus-veneris, which was also found in profusion at almost every damp spot encountered on the trip. Cheilanthes farinosa, which has lovely silvery-white frond backs, was found growing on the Zambian side both in the ground and on tree trunks. Other ferns photographed were Adiantum oatesii, A. philippense (found throughout the tropics), A. incisum (a member of the A. caudatum group) and Nephrolepis undulata (very like our common Fishbone).

Another safari trip to a dry area added Baobab trees, impala, warthogs, waterbucks and water buffalo to the list of sightings. Then came a return trip to Harare to the magnificent gardens of some friends. The glasshouses here were sunk right into the ground with only the roof above ground level. Amongst the ferns photographed from their collection were Platycterium angolense, the local P. alcicorne (which has shield fronds that curl over) and superb specimens of Adiantum capillus-veneris "Imbricatum". Pellaea calomelanas and P. viridis were two of many varieties of this genus growing among rocks in the garden.

The next area visited was in the eastern mountains which are very rocky and have large forests of Australian eucalypts. One eye-catching local tree is the Flat-topped Acacia which has the shape of an inverted cone. Chris and Lorraine came to this area to see the owner of a fern nursery and many slides were shown of ferns from the nursery and the surrounding area.

Tree ferns are not common in Africa and a specimen of Cyathea dregei was much prized even though rather unattractive by comparison with many Australian varieties. This fern is deciduous in exposed areas.

A very attractive form of Asplenium friesiorum had its pinnae far more deeply cut than those of the sample Chris obtained from Kew Gardens. This fern grows similarly to the Australian A. polyodon (Mare's Tail),

on the ground in fairly dry areas such as under pine trees. One of the nicest ferns seen on the trip was an epiphyte A. hypomelas, which is like a very fine pendulous form of A. bulbiferum but without bulbils. It grows only on the trunks of Cyathea manniana, an attractive tree fern with a slender trunk which grows in rain forests.

The nursery had 10 to 12 different forms of Asplenium aethiopicum on the bench and Chris was forced to conclude after much discussion that the fern he has been selling for some time as A. lividum is in fact one of the many forms of A. aethiopicum (even though his naming was based on an identification by an Herbarium in South Africa!).

The large and very attractive fern Polystichum zambesicum was found in a pine forest. An old favourite A. gemmiferum was sighted growing as an epiphyte in a tree. Also shown was A. sandersonii which is very similar to the Necklace Fern of Australia, A. flabellifolium.

Other ferns of interest were photographed at a site overlooking the Honde Valley. Mohria caffroron is a very attractive fern which also has a beautiful fragrance when crumbled. It is a rainforest plant but grows in exposed areas. Cheilanthes quadripinnata is another rainforest fern which grows about a metre tall and has marginal sori; it looks very like a Pellaea.

A striking Osmunda regalis about 60cm tall with purple/red spore was a marked contrast to the English variety which grows about two metres tall and has green spore. We also saw a slide of the real Blechnum capense (as opposed to the Blechnum species from New Zealand which was called by this name until recently).

Chris concluded his presentation with some views of the M'tarazi Falls which are the second highest in Africa, and a description of the sequence of geological events, beginning some 150 million years ago, that had led to a changing of the course of the Zambesi River and the formation of the Victoria Falls.

Our new President, Barry White, thanked Chris for his entertaining and informative presentation and presented him with some Society glasses. Members present endorsed these thanks with enthusiastic acclamation.

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OCTOBER SPECIAL EFFORT

The prize winners in the Special Effort competition at the October meeting were: Ray Harrison, John Hooper, David Griffiths(2), Dorothy Forte and Baxter Vertigan.

Many thanks to Jean Trudgeon for her kind donation of a plate with fern decorations as one of the prizes.

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REPORT ON THE HEALESVILLE EXCURSIONby Barry White

On Sunday, 29th September thirty odd members, and a few not so odd, gathered at Fernshaw eleven kilometres east of Healesville. They were greeted by George Start who had started up a barbecue fire which was appreciated by members.

The Fernshaw Reserve is an attractive spot in itself, once the site of a township, but abandoned about 1890 when the Melbourne Water Board took it over in order to clear the area for a clean catchment zone for the Maroondah Reservoir.

Few signs of the old township remain except for some magnificent exotic trees such as the Californian Redwood. The stumps of the old band rotunda may be seen among some large Mountain Ash trees which have grown up since the town was abandoned.

At the far end of the reserve is a track which the group followed for about one kilometre to the bridge across the stream. The ferns observed along the track included:

Blechnum cartilagineum (Gristle Fern)
Blechnum minus (Soft Water-Fern)
Blechnum nudum (Fishbone Water-fern)
Culcita dubia (Rainbow Fern, False Bracken)
Cyathea australis (Rough Tree-fern)
Cyathea cunninghamii (Slender Tree-fern)
Dicksonia antarctica (Soft Tree-fern)
Histiopteris incisa (Batswing Fern)
Hypolepis punctata (Downy Ground-fern)
Hypolepis rugosula (Ruddy Ground-fern)
Pellaea falcata (Sickle Fern)
Polystichum proliferum (Mother Shield-fern)
Pteridium esculentum (Bracken)
Todea barbara (King Fern).

Also spotted was the exotic fern ally Selaginella kraussiana, making a total of 15 ferns. Obviously much of the stroll was occupied by gossiping as Geoge asserts that there are over 20 ferns in the area. Scope therefore exists for members making private visits to add to the above list.

Dorothy Forte also spotted the Bird Orchid, Chiloglottis gunnii, nestling between the roots of a tree and just coming into flower.

The group then convoyed to Mt Dom Dom where George unlocked a gate and took the group into the catchment area which is not normally open to the public. After a quick lunch the first stop was at a creek where the Board had a flow meter operating. This area provided the most diverse fern flora of the day, including a profusion of filmy ferns. Additional ferns observed here included:

Asplenium bulbiferum (Mother Spleenwort)
Blechnum watsii (Hard Water-fern)
Blechnum fluviatile (Ray Water-fern)
Grammitis billardieri (Finger-fern)
Hymenophyllum australe (Austral Filmy-fern)

Polyphlebium venosum (Veined Bristle-fern)
Microsorium diversifolium (Kangaroo Fern)
Rumohra adiantiformis (Leathery Shield-fern)
Tmesipteris billardieri (Long Fork-fern)

The penultimate stop was alongside a section of the old Black Spur Road adjacent to a fern-enveloped creek. Here Blechnum chambersii (Lance Water-fern) occurred in abundance, and also added to the list of ferns observed for the day were Lastreopsis acuminata (Shiny Shield-fern) and Diplazium australe (Austral Lady-fern), bringing the day's total to 27 ferns.

The final brief stop was further along the same road to observe some ancient Dicksonia antarctica tree-ferns which reached a height of at least 12 metres. As these ferns grow by only 5-10 centimetres a year these giants are indeed ancient.

After completing the circular trip the party regrouped in Fernshaw Reserve for a final 'cuppa', and an opportunity to thank George for organising the trip and arranging entrance to the closed areas.

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FERN IDENTIFICATION SERVICE

A fern identification service for country members will be instituted in response to a request received via our Suggestion Box. The arrangements below are proposed to get the service started and we can modify them in the light of experience (suggestions welcome).

Members wishing to take advantage of the service are invited to post a sample of the fern, together with any further information that seems appropriate, to "Fern Identification" at the postal address inside the front cover of the Newsletter.

The identifications will be done during the Fern Table segment at our monthly meetings, which will generally be held on the third Thursday of the month. The posting of samples should be timed so that they arrive no more than a few days before the meeting, so as to minimise deterioration. Please note that our December meeting will be held on Sunday the 15th and there will be no meeting in January.

The fern sample should comprise at least a complete frond; one with spore is highly desirable and will be essential in many cases. If the fern is dimorphic, send both fertile and sterile fronds. A sample of the rhizome will also assist identification, if the fern is of a type where taking such a sample is feasible. Please seal all samples in a plastic bag to help keep them in good condition.

If a sample of rhizome cannot be sent, please be sure to provide a description of it which includes at least its form (i.e. whether tufted, short creeping or long creeping); its colour and the degree of cover by hairs or scales are also significant. Any other descriptive information about the fern that can be sent to complement the sample will be of assistance.

The results of the identification efforts will be passed on by letter or telephone as soon as possible after the meeting.

FERN ADAPTABILITY

by Kevin Handreck, FAIH

The following research paper on how ferns from alkaline soil areas can be grown in slightly acid, soil-less media is reproduced from the August, 1991 edition of "Australian Horticulture" magazine by kind permission of the Editor.

Fern-growing manuals recommend that ferns native to alkaline soils grow best in alkaline soils. They also recommend that soil-less potting media for these ferns should be of neutral to slightly alkaline pH.

On the basis of these statements, many fern growers include crushed shells and coarsely ground limestone in soil-less media for such ferns. Many growers say these actions are vital for vigorous growth of ferns.

In contrast, many fern nurseries use the one medium of about pH 6 for all of their ferns. This is for practical reasons but is based on much scientific evidence that growth of a wide range of flowering plants in soil-less media is best at pH values in the range 5 to about 6.5. Supplying sufficient iron to plants gets increasingly difficult at higher pH values.

A couple of years ago I became intrigued by this apparent contradiction in experience. I decided to grow some ferns under experimental conditions to see for myself. This article summarises the experiments that led to the conclusion that:

- some ferns grow very well in slightly alkaline soil-less media;
- but they will grow just as well in slightly acid media so long as the level of available calcium is high.

Main experiment

Three ferns listed by Hoshizaki — the leading authority on fern growing — to require a 'basic' (ie. alkaline) growing medium were grown in a pinebark/peat/perlite/sand (6:2:1:1) medium amended with ample concentrations of all trace elements. The pH values of subsamples were adjusted to 4.5, 5.5, 6.5 or 7.5. using calcium carbonate and/or magnesium

hydroxide in different ratios.

The idea was to produce at each pH value media with a range of calcium/magnesium ratios. A very low ratio should produce calcium deficiency symptoms in plants growing in the medium. A very high ratio should produce magnesium deficiency.

The effect of the liming materials was strengthened by leaching through the media solutions of calcium, magnesium and potassium nitrates. There were five calcium/magnesium ratios in extracts of the mixes at potting, ranging from 0.1 to 30. A ratio as low as 0.1 should produce calcium deficiency and one as high as 30 should produce magnesium deficiency.

There were therefore 20 mixes: five calcium/magnesium ratios at each of the pH values 4.5, 5.5, 6.5 and 7.5.

Application to nurseries and homes

The results suggest that the health of ferns in soil-less media in pots can be prolonged with minimum hassle via the following actions.

- For ferns known to tolerate a slightly alkaline medium (and therefore to be highly intolerant of a very acid medium) it is sensible to include in the medium coarsely crushed shells and/or fine gravel sized pieces (2-4 mm) of a soft grade of limestone — as fern manuals recommend. Rates of lime use might be in the range one to two heaped teaspoonsful per litre of mix.
- For ferns known to need slightly acid media, the medium can have a pH range of 5.5 to 6.5, pH can be initially in between 5.0-5.5 if very alkaline water is used.
- When the pH preference of a fern is not known, have the pH

of the mix close to 6 at potting and to keep it in the range 5-6.

- Excellent balance between calcium and magnesium for all ferns is achieved by adjusting pH with one of these mixtures:
 - limestone:dolomite 1:1 to 4:1
 - limestone:magnesite 3:1 to 7:1
 - limestone:gypsum:dolomite 1:1:1 to 1:1:2

The mixtures can be a bit richer in dolomite or magnesite for ferns that tolerate acid media.

These mixtures might need to be varied if the water used has very much more calcium than magnesium, or vice versa.

- The pH of potting media in which ferns are growing should be checked every six months or so. Liming materials should be applied if pH is too low or, in the rare event that pH is too high,

dusting sulfur (about a teaspoon per 10 litres of medium) applied.

- Drift down in pH is reduced or prevented if fertilisers used contain a high proportion of their nitrogen as nitrate. A nitrate-nitrogen to ammonium-nitrogen ratio of about 5:1 to 8:1 seems to be best. To the best of my knowledge the only fertiliser on the retail market fitting this description is Phostrogen. Its modest nitrogen content may be adequate for ferns, but can be too low for use with media with a high nitrogen drawdown rate.
- When fertilisers containing much of their nitrogen as ammonium or urea are used for fertilising ferns that dislike very acid media, it is essential that liming materials be applied from time to time, as indicated by a check of pH.

The three ferns grown are all now classified in the genus *Asplenium*: *A. trichomanes* L. cv. *Incisum*, *A. ceterach* L. (formerly *Ceterach officinarum*) and *A. scolopendrium* L. (formerly *Phyllitis scolopendrium*). Tubestock obtained from commercial nurseries were transplanted, after partial barerooting, into 140 mm pots of the various media. The pots were placed on benches under 70% shade cloth and misted as needed with deionised water.

Nutrients N, P, K and S were applied via calcium and magnesium-free slow-release fertilisers and liquid feeds. Any deaths were noted as they occurred. Plants surviving to harvest at 12 months after potting were assessed for vigour and severity of foliar symptoms.

All three ferns had poorest quality at the lowest calcium magnesium ratio (Table 1). In fact, at the lowest calcium/magnesium ratio, all *A. ceterach* and *A. scolopendrium* plants died in pH 6.5 and 7.5 media and only one out of five *A. trichomanes* survived at pH 7.5.

All *A. trichomanes* plants at pH 7.5, irrespective of calcium magnesium ratio, were of poorer quality than were those in media of lower pH. This was due to iron deficiency. Plant tops looked healthy enough at pH 4.5, but their root systems were very sparse. Best overall growth of this species was obtained at pH 5.5. Plants in media with the highest calcium (lowest magnesium) content had magnesium deficiency symptoms.

A. ceterach and *A. scolopendrium* plants were all of very poor quality at pH 4.5. Their response to higher pH values depended on calcium/magnesium ratio.

A. scolopendrium quality was best in media with calcium/magnesium ratios of 1-4. Plants showed symptoms of magnesium deficiency in low-magnesium media and calcium deficiency in low-calcium media.

Two of the ferns requiring alkaline media did grow well in media of pH 7.5. But they grew equally well in media of pH 5.5 and 6.5, so long as the calcium/magnesium ratio was in the range about 2 to about 10. The other fern — *A. trichomanes* cv. *Incisum* — did not tolerate a pH of 7.5 and it had a lower requirement for calcium (Table 2).

Table 1
Quality score at harvest of three ferns grown in a soilless medium, as affected by calcium/magnesium ratio and pH.

Ca/Mg ratio	4.5	5.5 ^a	6.5	7.5
Asplenium trichomanes cv. Incisum				
lowest	9.6a	7.0ab	5.6ab	0.2d
	10a	10a	9.2a	3.2c
	9.6a	8.9a	7.6a	4.8ab
	10a	9.6a	8.3a	7.6a
highest	10a	10a	8.4a	6.4ab
Asplenium ceterach				
lowest	2.8c	1.0d	0e	0e
	4.4bc	5.8b	4.8b	6.0b
	4.6b	8.0ab	7.6ab	7.2ab
	5.0b	9.0a	8.8a	9.0a
highest	6.0b	10a	10a	10a
Asplenium scolopendrium				
lowest	4.0cd	7.2b	0e	0e
	5.1c	9.3a	8.5a	9.5a
	5.8c	10a	10a	9.2a
	7.0b	10a	10a	10a
highest	4.5c	8.0ab	7.8ab	7.2ab

^a Score of 10 for a plant of excellent form, colour and size.

Scores for a species followed by the same letter are not significantly different at P = 0.1.

Second experiment

In a second experiment, two ferns listed as not needing basic media (*Adiantum hispidum* and *Asplenium bulbiferum*), one listed as needing a basic medium (*Adiantum raddianum* cv. *Fragrans*) and one indigenous to coral rocks and soils derived from them on Lord Howe Island (*Asplenium milnei*) were grown in soil-less media of pH values 5.4, 6.0 and 6.6, calcium/magnesium ratios in the range of 1.3-2.3 and two levels of iron.

All plants were of excellent quality and grew well in all media having the higher level of iron and higher calcium/magnesium ratio, irrespective of pH. *Adiantum raddianum* cv. *Fragrans* suffered from iron deficiency in the highest pH-lowest iron medium.

Conclusions

- Some ferns listed as needing alkaline media do grow very well in soil-less media with pH values in the range 6.6 to 7.5.
- Other ferns, including some that need alkaline soil-less media, suffer from iron deficiency at pH values of 6.6 and above.
- A pH of 4.5 was too low for some ferns. Both fronds and roots of most ferns were of inferior quality

Table 2
Concentrations of calcium in the fronds of healthy ferns.

Fern	Ca (mg/kg dry matter)
<i>Asplenium trichomanes</i> cv. <i>Incisum</i>	0.27-0.38
<i>A. ceterach</i>	0.49-0.73
<i>A. scolopendrium</i>	0.57-0.83

at this pH, while in one only roots were adversely affected.

- Vigorous, healthy plants of all species were grown in soil-less media with pH values in the range 5.4 to 6.5 so long as the extractable calcium/magnesium ratio in the media was 2 to 10.
- A slightly acid pH in soil-less media was suitable for all ferns grown so long as there was plenty of calcium present in the medium.

Acknowledgements

The financial support of the Horticultural Research and Development Corporation (HRDC) is gratefully acknowledged, as is much helpful advice given by C Goudy, *Austral Ferns*, and M Young, Adelaide Botanic Gardens.

References

B J Hoshizaki (1975). *Fern Growers Manual*. Alfred A Knopf, NY. ☉

THE FERN SOCIETY OF VICTORIA INCORPORATED

BALANCE SHEET AS AT 30TH JUNE, 1991

	<u>1991</u>	<u>1990</u>
<u>Members Funds</u>		
As at 1st July, 1990 & 1989	22,048.97	21,336.67
Surplus/(Deficit)	586.07	712.30
	-----	-----
<u>TOTAL MEMBERS FUNDS</u>	<u>\$22,635.04</u>	<u>\$22,048.97</u>
 <u>Represented by:-</u>		
<u>Current Assets</u>		
Cash at Bank Book Sales (WBC)	129.60	587.81
Cash at Bank Book Sales (WBC)	2,557.78	2,402.32
Stock	958.68	1,199.30
Cash on Hand - Book Sales	866.90	39.20
Cash at Bank (NAB)	1,110.20	1,579.69
Cash at Bank - Library	7.90	0.00
Cash on hand - Fern sales & stock	100.00	100.00
Cash at Bank - Cash Management A/c	12,954.23	11,461.97
Cash at Bank - Show Committee (NAB)	2,774.25	2,641.68
Cash on Hand - Subscriptions	169.00	0.00
	-----	-----
	21,628.54	20,011.97
 <u>Fixed Assets</u>		
Library - Less depreciation	197.00	253.00
Plant & equipment - Less depreciation	1,090.00	1,784.00
	-----	-----
	1,287.00	2,037.00
	-----	-----
<u>TOTAL ASSETS</u>	<u>\$22,915.54</u>	<u>\$22,048.97</u>
 <u>Current Liabilities</u>		
Accrued Expenses	280.50	0.00
	-----	-----
Total Liabilities	280.50	0.00
	-----	-----
<u>NET ASSETS</u>	<u>\$22,635.04</u>	<u>\$22,048.97</u>

STATEMENT OF INCOME & EXPENDITURE

FOR THE YEAR ENDED 30TH JUNE, 1991

SHOW COMMITTEE

	<u>1991</u>	<u>1990</u>
<u>INCOME</u>		
Door	1,243.60	1,776.71
Plant Sales Commissions	2,267.71	2,443.81
Refreshments (Net)	20.26	48.25
Interest	0.00	3.51
	-----	-----
	3,531.57	4,272.28
Less Cash Float	862.00	862.00
	-----	-----
	2,669.57	3,410.28
	-----	-----
<u>LESS EXPENSES</u>		
Bank charges	32.08	16.51
Show expenses incl. Hall Hire	1,204.92	886.35
	-----	-----
	1,237.00	902.86
	-----	-----
Surplus for year	<u>\$1,432.57</u>	<u>\$2,507.42</u>

THE FERN SOCIETY OF VICTORIA INCORPORATEDSTATEMENT OF INCOME & EXPENDITURE FOR THE YEAR ENDING 30TH JUNE, 1991

	<u>1991</u>	<u>1990</u>
<u>INCOME</u>		
Subscriptions	2,547.50	3,182.91
Spore bank	130.60	64.40
Special efforts	199.80	236.90
Fern Sales Commissions	232.63	358.20
Glasses	21.00	106.50
Donations	0.00	1.00
Advertising	330.00	20.00
Interest	1,216.19	1,238.59
Fern Badges	0.00	25.00
Library	7.90	16.00
Birthday special effort	0.00	1,089.00
Sundry	5.00	0.00
	-----	-----
	4,690.62	6,338.50
<u>LESS EXPENSES</u>		
Newsletter	2,436.27	2,843.32
Postage	787.11	902.62
Hall Hire	280.50	206.00
Bank Charges	57.80	107.77
Executive & secretary expenses	189.33	285.72
Speaker expenses	0.00	360.00
Glasses	189.01	678.58
Stationery	140.77	240.60
Show expenses	231.94	276.68
Donations	110.00	30.00
Subscriptions	35.20	60.00
Library books	26.50	250.75
Corporate affairs	0.00	24.10
Honorariums	0.00	300.00
Badges	0.00	206.45
Prize money	0.00	370.90
Library expenses	39.00	37.10
Audit fees	385.00	350.00
Slide bank	0.00	78.85
Repairs & maintenance	40.00	49.75
Travel	0.00	67.00
Depreciation	750.00	649.24
Excursion Expenses	220.00	0.00
	-----	-----
	5,918.43	8,375.43
(Deficit) on General account	(1,227.81)	(2,036.93)
<u>Less</u> Surplus/(Deficit) on:-		
Show Sub-committee account	1,432.57	2,507.42
Book Sales	381.31	241.81
	-----	-----
Surplus (Deficit) for year	\$586.07	\$712.30
	=====	=====

STATEMENT OF INCOME & EXPENDITUREFOR THE YEAR ENDING 30TH JUNE, 1991BOOK SALES

	<u>1991</u>	<u>1990</u>
<u>INCOME</u>		
Book sales & exhibitions	1,138.65	1,653.21
Interest	155.54	165.47
	-----	-----
	1,294.19	1,818.68
<u>LESS EXPENSES</u>		
Cost of books sold	875.32	1,513.54
Bank charges	37.56	63.33
	-----	-----
	912.88	1,576.87
	-----	-----
Surplus/(Deficit) for year	\$381.31	\$241.81
	=====	=====

AUDIT REPORT

The attached statements are drawn up to show the financial position of the Fern Society of Victoria Incorporated according to the information at our disposal and as shown by the books of account and vouchers of the Society.

G.S. PARKER A.C.A.

MCDONALD CARTER

BUYERS' GUIDE TO NURSERIES**VICTORIA:**

Allans Flat Plant Farm - Retail.

Tomkins Lane, Allans Flat, 3691. Ph: (060) 27 1375.
(25 km south of Wodonga on the Yackandandah Road).

Specialising in ferns and indoor plants. Open daily (except Wednesdays) and all public holidays.

Andrew's Fern Nursery - Retail.

Cosgrove Road, Invergordon, 3636. Ph: (058) 65 5369.

Large range of ferns for beginners and collectors.
Open Sundays only; other days by appointment.

Austral Ferns - Wholesale Propagators. Ph: (052) 82 3084.

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

Dingley Fern Market - Wholesale and Retail. Ph: (03) 551 1868.

233 Centre Dandenong Road, Dingley, 3172.

Specialising in Ferns, Palms, Indoor Plants, Orchids and Carnivorous Plants. Open daily except Christmas Day.

Fern Acres Nursery - Retail.

Kinglake West, 3757. Ph: (057) 86 5481.

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

Fern Glen - Wholesale and Retail. Visitors welcome.

D. & I. Forte, Garfield North, 3814. Ph: (056) 29 2375.

R. & M. Fletcher's Fern Nursery - Retail.

62 Walker Road, Seville, 3139. Ph: (059) 64 4680.

(Look for sign on Warburton Highway, 300m east of Seville shopping centre). Closed Tuesday, except on public holidays.

Mt. Evelyn Fern Centre - Retail. Mail Orders welcome.

63 York Road, Mt. Evelyn, 3796. Ph: (03) 736 1729.

Ridge Road Fernery - Wholesale and Retail.

Weeaprounah, 3237. Ph: (052) 35 9383.

Specialising in Otway native ferns.

Viewhaven Nursery - Wholesale and Retail.

Avon Road, Avonsleigh (near Emerald), 3782. Ph: (059) 68 4282

Specialists in Stags, Elks, Bird's-nests and Native Orchids.

NEW SOUTH WALES:

Jim & Beryl Geekie Fern Nursery - Retail. By appointment.

6 Nelson Street, Thornleigh, 2120. Ph: (02) 484 2684.

Marley's Ferns - Retail.

5 Seaview Street, Mt. Kuring-gai, 2080. Ph: (02) 457 9168.

QUEENSLAND:

Moran's Highway Nursery - Wholesale and Retail.

Bruce Highway, Woombye (1 km north of Big Pineapple; turn right into Kiel Mountain Road). P.O. Box 47, Woombye, 4559. Ph: (074) 42 1613.