

Fern Society of Victoria Inc.

NEWSLETTER



Vol. 24, Number 1
January/February 2002

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FERN SOCIETY OF VICTORIA Inc.

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P.O. Box 45, Heidelberg West, Victoria, 3081

NEW E-mail: http://gardenbed.com/clubs/clubs_vicferns.cfm

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Brian Nicholls 9836 6507, Jack Barrett 9375 3670, Gay Stagoll 9844 1558, Norma Hodges 9878 9584.

SUBSCRIPTIONS:

Single -	\$14.00	Pensioner/student	\$11.00
Family -	\$16.00	Pensioner Family	\$13.00
Organisation	\$16.00		
Overseas -	\$21.00	- Payment by international bank cheque in \$A please.	
		Overseas sent by Airmail.	


Subscriptions fall due on 1st July each year.

Meetings are held on the third Thursday of each month except December and January
at the Kevin Heinze Garden Centre, 39 Weatherby Road, Doncaster (Melway 47; H1).

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.*

 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.

THE BUSH HOUSE NURSERY ***WHOLESALE AND RETAIL***



Visitors welcome

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AUSTRAL FERNS

Wholesale Propagators.

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



Calendar of EVENTS IN 2001

MONTHLY MEETINGS

VENUE: Kevin Heinze Garden Centre, 39 Weatherby Road, Doncaster. (Melway 47:H1)

TIMETABLE for 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.

21st February

Looking at The Future of The Society Particularly regarding the program, meeting times etc.

Bring your thoughts and ideas please. Whether you are happy with things as they are or would like to see some changes made, it is important you have your say at this meeting. If you cannot attend, phone either the President or the Secretary and air your views.

The competition is for FERN HYBRIDS (not cultivars).

21st March

The Secret (Sex) Life of Ferns Terry Turney

We hope to see a permission note from your parents!

The competition is, appropriately, for Lady Ferns and Male Ferns (no sex please, a lot of us are British). Includes species from Dryopteris, Athyrium and Diplazium genera.

April 27 & 28

Fern Show 2002

This will be another sizzler. For details see next page.

The President apologizes for not submitting his column this month. Large and mischievous gremlins took over his computer and time was short so a quick phone conversation was the best he could do. He sends his best wishes to all members for the New Year.



COMBINED FERN & VIREYA RHODODENDRON SHOW

Saturday 27th - Sunday 28th April 2001

The

2002 Fern Show will, for the fifth

year, be a joint venture with the Australian Rhododendron Society

(Victorian Branch). The date will be the 27th and 28th April, which is the weekend after Anzac Day.

The venue will again be the Mount Waverley Community Centre (corner of Miller Crescent and Stephenson Road - opposite Mt Waverley Railway Station). Melway Ref. 70 - E1.

The Show will be open from 10.00 am to 5.00 pm both days and the admission charge for the public will be Adults \$4, Concession \$3 and Children under 15 free. Members of both societies who contribute to either the competition or the display, plus those acting in an official capacity for the day, will be admitted free. For other members the admission charge is the concession rate of \$3.

The Show provides us with our best opportunity of attracting new members to the society, hence it is of great importance and we need to ensure that it is a success. This can only be achieved with the total support of the members. You can help achieve this success by the following:

1. Publicise the Show
2. Contribute to the display and competition
3. Attend the Show and assist with its activities.

We would especially welcome those members who are unable to attend our monthly meetings so come along, make yourself known and participate. Advertising flyers will be included with the March/April newsletter. They will also be available at the February and March meetings or by contacting Don Fuller.

COMPETITION

The fern competition will again be held and all members are urged to enter into the spirit of the competition. Please remember that to be eligible to enter a fern you must have owned it for at least six months. The categories this year are as follows:

1. Adiantum
2. Asplenium
3. Davalliaceae
4. Nephrolepis
5. Polypodiaceae
6. Fern in container 150 cm or less
7. Any other fern

FERN DISPLAY

Our feature display will be the genus **Asplenium** and we wish to have a large number and variety of these ferns in both the competition and display.

The Show provides a great opportunity for you to display your best and most interesting ferns so please start selecting and grooming your ferns now as time passes quickly.

Please ensure that all plants are free of pests and clearly labelled with their botanical names. If you are unsure about the name you can get help with identification at our monthly meetings.

SALES SALES SALES

Members who enter ferns in the competition and/or display have the opportunity to bring in ferns for sale. We are particularly interested in having some of the rarer or more unusual ferns available for sale. Your ferns are sold on a commission basis. Further details in the next newsletter.

COMMITTEE

The Show Committee members are Jack Barrett 9375 3670, Ian Broughton 5964 6402, Don Fuller 9306 5570, Fran and Ray Harrison 9337 7573, John and Norma Hodges 9879 9583, Bernadette Thompson 9399 4587 and Barry White 9337 9793.

If you have any queries or suggestions (most welcome), please contact them.

More Show details in the March/April newsletter.

FERN ACRES NURSERY



Retail.

Phone (03)5786 5031.

1052 Whittlesea - Kinglake Road, Kinglake West

(opp. Primary School).

Melway Ref: 510 N11.

Specialising in elks, stags, bird's-nest ferns and native epiphytic orchids, species and hybrids.

Wide range, low prices.

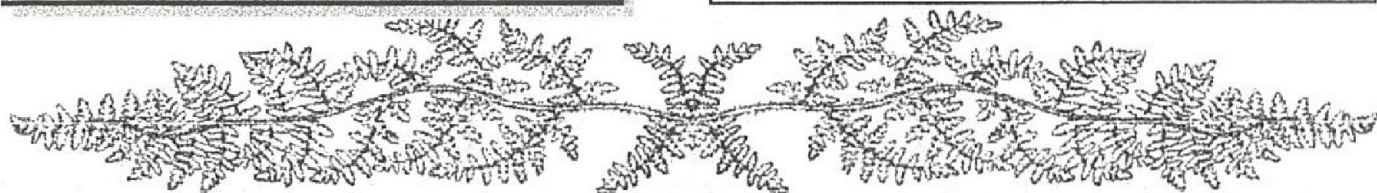
FERN GLEN

Wholesale and Retail.

Visitors welcome.



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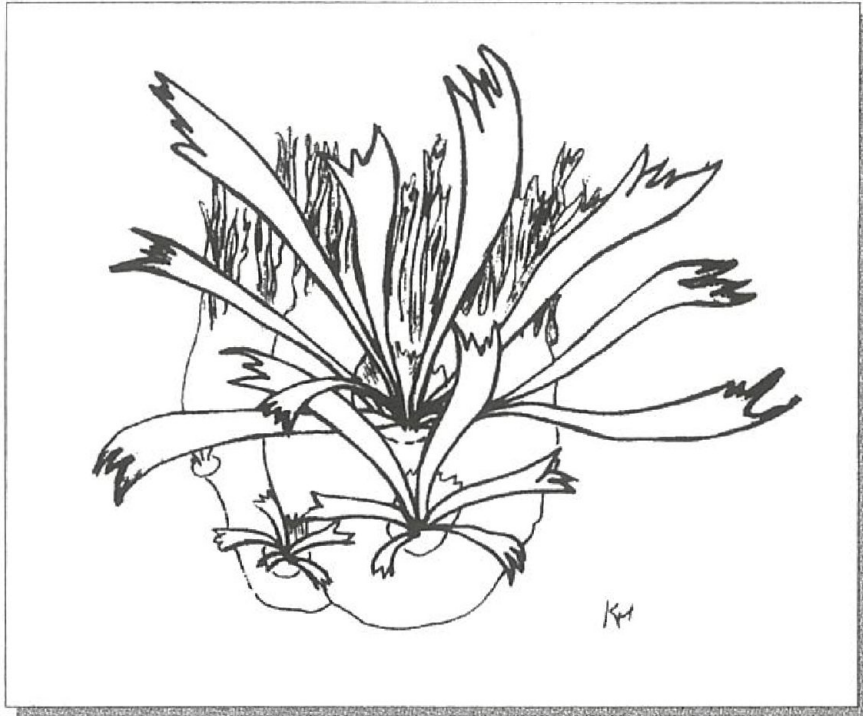
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My Favourite Fern No. 6

Platycerium veitchii

Silver Elkhorn Fern

Keith Hutchinson



Although this fern is rare in Victoria I believe it is by far the easiest of all elkhorns to grow. It will tolerate frost and quite a lot of sun, and it is very showy with its unique and beautiful silver colouring.

It is dimorphic with shield fronds having their upper section featuring vertical finger-like lobes of a membranous texture. These persist behind the new fronds forming a nest bowl to collect the humus they need.

The fertile fronds are narrow wedge-shaped, often bifurcating* up to eight times. They have a leathery texture and are clothed in stellate** hairs giving them the appearance of a silvery felt.

I have never seen this fern growing on a tree. I am told that it grows mainly on strata rocks or cliffs in sandstone gorges West of the Great Dividing Ranges from Rockhampton to the Gulf of Carpentaria***.

I have several growing on Soft Tree Fern slabs facing North East. I water them about once a week in Summer, easing to once a month in Winter. The only feeding needed is some coarse leaf litter and a little Osmocoat wrapped in some sphagnum moss pushed in behind the shield fronds in Spring. A little Maxicrop occasionally is beneficial.

This fern is a must for every fern lover.

*forking, dividing into fingers

**star shaped

*** Northern Queensland

FASCINATING FERNS

A *Platycerium* Observation by Roy Vail

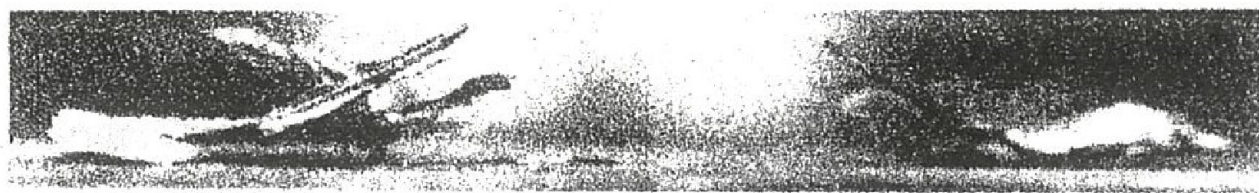
Fernatix*za May 2001

Earlier this year, one of my *Platycerium elephantotus*, (syn. *P. angolense*) was growing a new shield frond. Behind it were some pieces of an old shield that had bent forward into the back of the developing shield. Since I didn't want the old shield to deform the new one, I made a mental note to get out the scissors and trim it away. In the meantime, since the plant looked dry, I took its basket and watered it by giving a quick submersion in the goldfish pond. Later I arrived with the scissors, but saw that the pieces of the dead shield had moved back flat against the basket.

curved slightly in the opposite direction.

This seems to be a trait of the large veins in the dead shields. In nature this could cause the tops of the dead shields to open when the plant is dry, and close when the plant is wet, a definite adaptive advantage.

A botany graduate student could make this into an interesting Masters thesis problem. The first step would be to investigate the structure of the dead veins to see what causes them to move. Then see what species of



A. Two small pieces of dead dry shield. The top of each is toward the center of the picture

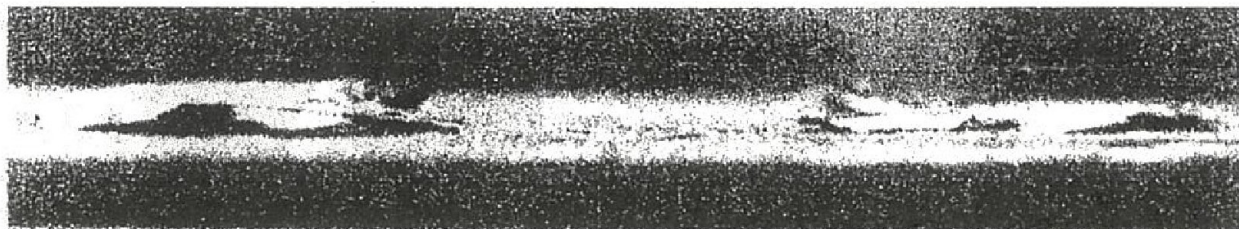
To run a little test on this dead tissue I had to remove it from the plant because the new shield was growing over the whole area. It came off in two pieces, each less than two inches long. I put them in a dish in our oven so they would dry from the heat of the pilot light. Both curved again.

Platycerium have the same structure. The hypothesis could be that the species that are not open at the top, like *P. alcinorne*, *P. ellisii*, *P. madagascariense* and *P. ridleyi* would show different structure.

Perhaps hobbyists can try variations of what I did.

After a photo they were placed together in a dish of warm water, being carefully kept in the same positions as they were in the photo. I returned ten minutes later to find they had not only bent back but they had actually

(This article was reprinted from LAIFS, the Journal of the Los Angeles International Fern Society, Inc. Vol 27, No 6, October 2000 and is used with thanks.)



B. The same two shield pieces after being in warm water for ten minutes. Photos by Roy Vail

University of California Herbarium Fern Types Available On-line

Type holdings of ferns and fern allies found in the University of California Herbarium, Berkley, are now available for viewing online at http://ucjeps.herb.berkeley.edu/fern_type This archive may be searched using key words, eg. basionym accepted: name, country, collector, etc. UC has cataloged 1,591 identified type specimens reflecting the work of curators E. B. Copeland (1928-1932, 1935-1958) and Alan R. Smith (1969 to present).

DRYNARIAS.

Ron Robbins

Drynarias belong in the family Polypodiaceae.

There are 18 species in the genus *Drynaria*, and one natural hybrid.

They range from Africa and Madagascar across to Polynesia via India and much of Asia, from Australia in the South to Southern China in the North.

Africa has two species, *D. laurentii* and *D. volkensii*.

Madagascar has one, *D. wildenovii*.

India has two, *D. mollis* and *D. propinqua*

Indo China (Laos, Vietnam, Cambodia, Thailand) 7 species including *D. propinqua*, *D. quercifolia*, *D. rigidula*, *D. sparsisora*, *D. costulisora*, *D. tibetica*, *D. bonii*, *D. parishii*, *D. sinica*, *D. delarayi*, *D. fortunei* (now *roosii*). (Yeah, yeah. I know that's 11 but that's what the man said and I'm not arguing).

Malaya, Sumatra, Borneo, the Philippines, New Guinea, Celebes and Indonesia have three species; *D. rigidula*, *D. quercifolia* and *D. sparsisora*.

Australia, New Guinea and Polynesia share three species; *D. rigidula*, *D. sparsisora* and *D. quercifolia*.

Drynarias usually have large, fleshy rhizomes covered by conspicuous scales.

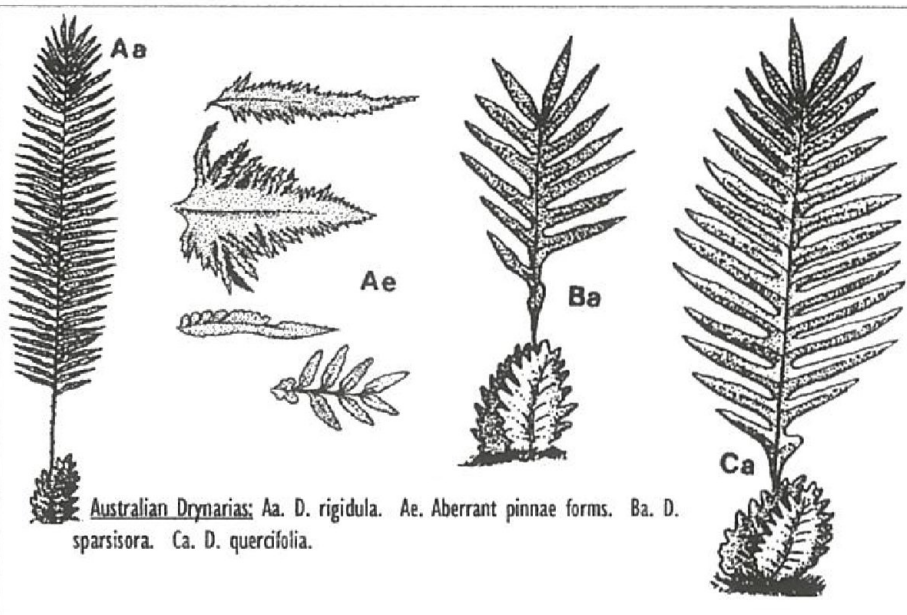
Members of this genus are easily recognized by having foliage of two kinds.

- Sterile (nest) fronds are short, broad, lobed, erect and become brown and papery after a while.
- Fertile fronds are erect, pinnate, usually lobed.

Nest leaves are inclined out from the supporting host, acting as debris collectors, thus providing humus for the root system and as a catchment for moisture. They also protect the rhizome from the sun during hot weather. Ferns found on rocks are often covered with masses of shield (nest) fronds. Ones found in the gravelly scree are usually partly covered, which protects them from hot sun.

Requirements

- Drynarias require a well drained, open mix. They usually cannot be grown in soil. Coarse bark, charcoal, gravel and fern fibre can be suitable. They can be mounted on slabs or grown in baskets.
- Adequate water is needed during growing months but
- Drynarias should be allowed to dry out over winter or non productive months.
- Fertilizer can be applied during the growing period, the best time being in Spring and early Summer.
- Good light conditions. In sunny areas a filtered light is required, as they need protection from excessive hot sun.
- They will tolerate temperatures as low as 3°C or even less, some truly tropical plants can be sensitive to extreme cold.



Australian Drynarias: Aa. *D. rigidula*. Ae. Aberrant pinnae forms. Ba. *D. sparsisora*. Ca. *D. quercifolia*.

Distribution in Australia

- *D. quercifolia*—terrestrial among rocky areas or epiphyte in open rainforest. Northern Western Australia, Northern Territory and Northern Queensland.
- *D. sparsisora*—Terrestrial among rocks and rocky scree or epiphytic in open and dry rainforest. Northern Queensland down to about Bundaberg.
- *D. rigidula*—as for *sparsisora*. Can also be lithophytic (growing on rocks). Eastern Queensland and North Eastern N.S.W down to mid-N.S.W.

Drynarias can stay in the same basket for years and only need disturbing if you want more plants. Ron starts rebasketing in late October. In September he cuts off the old fronds and tops the baskets with his own growing mixture;

- 1 part tree fern fibre
- 1 part pine bark (15 mm)
- 1 part charcoal (15 mm)
- 1 part peanut shells
- 1 part composted oak leaves
- fertilizer of your choice.

(Continued on page 9)

(Continued from page 8)

Watering can sometimes cause the fines of the mixture to settle at the bottom of the basket, forming a fine, wet silt towards which the rhizomes beneath the surface head, resulting in excessive movement at the bottom of the basket and not much up top.

Another fault that we have encountered, particularly in extremely hot conditions, is to turn the sprinklers on to give a good dousing. Beware because excess overhead watering can easily cause the fragile, young fronds to become too heavy, bend and consequently die.

Finally, *Drynarias* are notoriously difficult to divide and the main plant, as well as the smaller divisions, may well die—or at least struggle for years afterwards. As much as one would like to share plants around, it is not always possible. It takes years to develop and establish an excellent specimen and one is loath to mutilate or disfigure an excellent fern to satisfy others. When it gets too big for the basket—yes, then is the time to

decide.

Remember that information gained, whether it be from books, articles or verbally, should be considered but applied at the discretion of the grower. Conditions such as position, light, atmosphere and geographic position and growing medium are all important factors. One more important condition is the human element.

It is up to you as a grower to use your own findings and try to simulate the natural requirements of this fern. If you do so and abide by your findings you can only succeed. But at best we can only simulate nature, not duplicate her.

Ron acknowledges that much of this information is courtesy of Peter Bostock and Rod Pattison.

Our thanks to him for visiting from South Australia and presenting virtually two very informative and enjoyable illustrated talks at our September 2001 meeting. ☺☺☺



FERNY INFO CORNER

This article is taken with thanks from the Fern Society of Southern Africa's newsletter. (The title is mine—Lyn)

Cheilanthes eckloniana - Desert Survivor.

Cheilanthes eckloniana is widespread throughout most of Southern Africa. It is found around boulder bases and in seepage areas, generally above 1 000 metres altitude, fully exposed to sunshine. The widespread distribution of this species could be due to its apogamous life-cycle or sporangial apomixis. This phenomenon was described as recently as 1950.

Apogamy involves the production of a sporophyte or true fern from the prothallus without the normal process of sexual fertilization. This enables the fern to reproduce in drier environmental conditions because there is no need for free water to establish fertilization. These ferns are therefore well adapted to their xeric or drier environments.

The gametophyte still forms antheridia and these ferns are still able to produce sporophytes in the usual way. The gametophytes or pothali of these ferns mature and produce sporophytes in a shorter time than the sexual process. By eliminating sexual reproduction, apogamous plants can retain all the genes which favour survival in a drier environment. Sexual fertilization on the other hand could lead to hybrid forms which may express hybrid vigour.

All the Southern African species of *Pellaea*, excepting those with articulated ultimate pinnules, have been placed in *Cheilanthes*. Previously the division was made according to the continuousness of the indusium.

Cheilanthes is a large and diverse genus of about 150 species worldwide. It is closely related to *Pellaea* and *Doryopteris*. These ferns are usually found in open habitats in dry to seasonally dry areas. These xerophytic ferns are protected from drying out by the upper surface being leathery while numerous hairs and scales cover the underside of the frond. These are found especially on the underside of the mature leaf. The young uncurling fronds of *C. eckloniana* are often a white silvery colour due to these hair-like scales. As the fronds mature the covering can become rusty brown. Shiny pale to golden brown scales cover the costae and costules.

Christian Frederick **Ecklon** was a pharmacist who collected plants in South Africa during the nineteenth century. The fronds of these ferns were often smoked as a cure to colds.

These are difficult ferns to keep in good health in cultivation, but their natural habitats indicate their requirements.

Complete List of Books in Fern Library

Title	Author	Pages	Contents Description
A Guide To Hardy Ferns	Richard Bush	70	British book - short description no illustrations
A Book of Ferns	Greta Stevenson	168	NZ Book (1954) Descriptions, identification, cultivation, line drawing illustrations
A Guide to the Ferns of Singapore	Wee Yeow Chin	72	Small booklet, many colour photos
A Handbook of Ferns for Australia and NZ	Christopher J Goudey	212	Cultivation, identification, colour and B&W photos
A Key to Genera of NZ ferns and allied plants	PJ Brownsey, TNK Galloway	31	Key and line drawing illustrations
Australian Fern Journal - Vol 1 No 1	Ed. David Jones, The Fern Soc of Victoria	34	Various articles, colour photos
Australian Ferns - Growing Them Successfully	Calder H Chaffey	256	Cultivation, identification, colour photos
Australian Ferns and Allied Plants	Jones, DL and Clemesha	232	Good Aust book on cultivation, descriptions, illust. with line drawings & colour photos
British Pteridological Soc Bulletin	British Pteridological Soc		Various copies
Carnivorous Plants	Gordon Cheers	93	Includes colour photos, Aust author
Common Ferns and Fern Allies	E. Heath & RJ Chinnock	76	Small book of NZ ferns - descriptions and col. drawings
Conspectus Florae Angilensis- Vol. Pteridophyta	E.A.C.L.E Schelpe	200	Illustrated with drawings, text in Portuguese or Spanish?
Encyclopedia of Ferns	David Jones		Large detailed book, includes cultivation notes, well illustrated with colour photos.
Exotic Ferns in Australia	D L Jones & C Goudey	72	Descriptions, cultivation ,numerous colour plates
Feasting on Fiddleheads	The American Fern Soc.	32	Fern recipes
Fern Books?		12	List of books, articles, papers on ferns
Fern Collectors Guide	W N Chute	64	Small book - descriptions and key - USA
Fern Gazette	British Pteridological Soc		Various copies from 1980s
Fern growers Manual	Barbara Joe Hoshizaki	256	Good book on cultivation, descriptions, and illust. with line drawings & B&W photos -USA
Fern Lessons	Los Angeles International Fern Society	100+	Descriptions and diagrams of numerous ferns originally published in LAIFS magazine
Fern Study Group S.C.A.P- Selection of Items from Newsletters - July 1984	S.C.A.P Fern Study Group	51	Various Articles
Ferns	Roger Grounds	264	British Ferns
Ferns; a Handbook	Brookland Botanic Gardens	76	Many B&W Colour photos - USA
Ferns and Allied Plants of Victoria, SA and Tasmania	Duncan and Isaac		Descriptions, key, distribution, line drawing and photo illustrations
Ferns and Club Mosses	Edit. Shirley Roohe, T Stead	32	Small Aust Book Illustrated with drawings
Ferns and Fern Allies of NZ	E. Heath & RJ Chinnock	46	Descriptions and col. Drawings
Ferns and Fern-Allies of the United States and Canada	D B Lellinger	389	Scientific descriptions with some colour illustrations
Ferns for Ferneries	R W Martin	80	Small NZ book of ferns. Some line drawings
Ferns for Garden and Greenhouse	Phillip Swindles	85	Cultivation (UK) some B&W photos
Ferns for Modern Living	Merchants Pub. Co.	80	Cultivation, well illustrated in colour
Ferns from Mother nature	J E Gick	40	Numerous good colour illustrations
Ferns in Australia	D L Jones & C Goudey	128	Australian and exotic ferns descriptions, cultivation , numerous colour plates
Ferns Mosses and Lichens of Britain and Northern and Central Europe	Hans Martin Jahns	178	Descriptions and colour plates
Ferns of Burma	F G Dickson	70	Descriptions, key, some B&W photos
Ferns of Florida	O Lakela & R W Long	178	Descriptions and B&W plates
Ferns of Jamaica	G R Proctor	631	Descriptions, key, line drawing illustrations
Ferns of Puerto Rico and Virgin Islands	George R Proctor	389	Descriptions, Key, line drawings and some B&W photos
Ferns of Queensland	S B Andrews	427	Scientific descriptions and line drawings
Ferns of the Home and Garden	Gillelan Dunk	127	Pub. in Aust, well illustrated B&W some colour plates
Ferns of Victoria and Tasmania	N A Wakefield	84	Excellent small book published 1975 B&W line drawings and plates

Title	Author	Pages	Contents Description
Flora of Australia- Vol 48, Ferns, Gymnosperms and Allied Groups	Ed. Anthony E Orchard, CSIRO	766	Descriptions of species, key, drawings and some colour photos
Flora of Chiapis, Part 3, Pteridophytes	Alan R Smith	370	Description and key
Flora of Malaya, Vol. 2, Ferns	RE Holttum	653	Descriptions, key, line drawings, no photos
Flora of Malesiana - Series II -Pteridophyta			Descriptions, key, line drawing illustrations, some B&W photos
Flora of Thailand - Pteridophytes Parts 1, 2 & 3	M Tagawa & K I Wasaki		Thai ferns - scientific descriptions and line drawings
Flora Zambesiaca - Peridophyta	EACLE Schelpe	254	Zambian Ferns. Scientific descriptions and line drawings, cultivation
Gardening with NZ ferns	Muriel E Fisher		
Growing Ferns	Ray Best	80	Aust. - Good book for beginners
Growing Media	K Handbreck & N Black	401	Everything you need to know about potting mixes
Hardy Ferns	Reginald Kaye	205	Cultivation (UK) , line drawings, some B&W photos
Heinemann guide to Common Epiphytic Ferns of Malaysia and Singapore	Audrey Piggott	26	Small book - well illustrated
Home Gardeners Book of Ferns	John Mickle	256	USA book drawings, B&W photos
Ideas for Private Gardens	McMaster & J Edmanson		Gardening, landscaping, with photos
Irish Ferns	Donald Synott	96	Descriptions and colour photos
Maidenhair Ferns in Cultivation	C. Goudey	336	Descriptions and colour illustrations for each
NZ Ferns and Allied Plants	Patrick J Brownsey, John Smith-Dodsworth	168	NZ ferns, colour and B&W photos
NZ Ferns in Your Garden	Muriel E Fisher, L. Ward	111	Cultivation, B&W Illustrations
Platynerium Fern Facts	Wendy Franks	119	Staghorns and Elks. B & W plates
Platynerium Hobbyists Handbook	Roy Vail	171	Staghorns and Elks. B & W plates
Pteridophyte Flora of Oaxaca, Mexico	John Mitchell, Joseph Beitel	576	Drawings and descriptions
Revision Del Genera Platynerium	Eugenio J Pingitore	20	Photo copies of article in Spanish? Illus. with drawings
Students Flora of North Eastern NSW - Part 1- Pteridophytes	Univ of New England	65	Descriptions, key and line drawings
The Fern and Allied Plants of New England	A F Tyron, RG Moran	325	Descriptions, distribution, line drawing illustrations, some B&W photos
The Fern Dictionary	Wilbur W Olsen	132	Names - meanings and pronunciation
The Ferns of Britain and Ireland	C N Page	447	Line drawings and descriptions
The Ferns Of Tasmania - Their Ecology And Distribution	Michael Garrett	217	Descriptions, distribution maps, numerous colour plates
The Genus Adiantum in Cultivation - Part 1 (from Bailey 17 (3) 1970)	Barbara Joe Hoshizaki	46	Descriptions of species, key, drawings and some B&W photos
The Genus Adiantum in Cultivation - Part 2	Barbara Joe Hoshizaki	196	Descriptions and B&W drawings of cultivated maidenhair ferns
The Genus Davallia in Cultivation -(from Bailey 21 (1) 1981)	Barbara Joe Hoshizaki	42	Descriptions of species, key, drawings
The Genus Polypodium in Cultivation - Part 1 (from Bailey 22 (1) 1982)	Barbara Joe Hoshizaki	52	Descriptions of species, key, drawings
The Genus Polypodium in Cultivation - Part 2 (from Bailey 22 (2) 1982)	Barbara Joe Hoshizaki	47	Descriptions of species, key, drawings
The Genus Pyrrosia in Cultivation - (from Bailey 21 (1) 1981)	Barbara Joe Hoshizaki	47	Descriptions of species, key, drawings
The Genus Selaginellia, Tropical South America	A H J Alston, et al	330	Descriptions, drawings , some B&W photos
The Observers Book of Ferns	Francis Rose	128	Small illustrated book on English ferns
Welsh ferns	H A Hyde, A E Wade, S G Harrison		Scientific descriptions and line drawings
What Fossil Plant is That?	J G Douglas	86	Fossil plants of Victoria -predominantly ferns
What Pest is That?	Frances Hutchison	107	Garden pests and their control - well illustrated

*Many thanks to our librarian David Radford for this comprehensive catalogue of our library's books.
It should whet our appetites for next meeting - look out, David!!*

DRYNARIAS.

- the alternative article

Ron Robbins

After Ron gave his presentation at our meeting last year, he handed me his notes which included two articles on Drynarias (when are we getting him back—he's an editor's dream!). I think there is enough material in this one to warrant its inclusion in addition to the transcript of the talk.

As a keen collector and grower of Drynarias, I've decided to put my procedure and views to paper. Whether they be right or wrong, they work for me giving excellent results.

The growing season in Adelaide appears to begin around the month of October. At this time old fronds would be by now deciduated or browned off and should be removed to allow new growth buds and fronds to progress freely.

During this period I top up my baskets as required, with an epiphytic mix supplemented with one of the following; Dynamic Lifter, Rapid Raiser, Ultraflora 2000 or a similar fertilizer. If the fern needs rebasketing this is the time to do it, using an epiphytic mix laced with one of the above mentioned fertilizers. I then dunk the ferns in an old tub filled with water, to which I add Fish Emulsion or Nitrosol or similar. The baskets are totally immersed for 10-15 minutes, removed, drained and hung in a well lit position with good air movement.

The ferns should grow on to become healthy and attractive specimens by mid to late November or early December with large fronds. Care should be taken when ferns have their new growth because at this stage the fronds are quite tender and brittle, if mishandled they could snap or break easily.

By mid to late December the ferns should be flourishing, and by now will be quite hardy with some signs of new growth appearing. As January progresses the ferns should be full and well developed. At this time I give a dose of fertilizer, Dynamic Lifter or similar to ensure that they will have enough nourishment to last for the rest of their growing season.

You will find on well established ferns, that through January to March and at times into April there could be new growth still appearing. This of course will depend on the climatic conditions at the time. A late and humid summer could have astonishing results in growth. But whatever the conditions, from November through to April you should be rewarded with excellent ferns to admire.

I find that the ferns prefer a **well lit** position with an Easterly to North Western aspect, although this is not absolutely necessary, plenty of **air circulation** and common sense **watering**. Remember that these ferns are mainly tropical to semi tropical, and in nature can be deluged in the wet season with copious quantities of water, but being epiphytic they should only retain the amount they require. So to simulate these conditions, or close to their natural growing habitat, they should be monitored and watered to suit their requirements. In exceptionally hot weather, this could be twice daily, or a little but often not heavy watering, but an amount to keep the fern damp. It should be noted that it is not advisable to excessively water overhead (as we could be prone to do during a hot spell); this tends to weigh down the fronds, causing them to fold or crease, and they will eventually die off.

Drying out over a short period doesn't seem to cause damage, but undue dryness under exceptionally hot conditions could be damaging. Drying out during the winter (their dormant period) would be advised but this should also be monitored.

Take note that this is my personal summation for growing these ferns in the Adelaide area, and therefore should be adjusted to suit the individual conditions and requirements of your particular area.

I hope that this article can be of some assistance with the growing of Drynarias.

RON ROBBINS

Ron's growing mix is on page 8 of this newsletter.



THE CHRISTMAS GATHERING

Once again the members and their families who gathered for our Christmas celebration had a happy day of fun and friendship. A few went home with wider smiles and fuller cars than when they arrived after picking up some real treasures and some bargains at the auction. The Kevin Heinze Centre and the Fern Society were both a little better off from the shared proceeds. Thank you to all those involved in organising and working on the day, and of course a BIG thanks to the people who generously donated items to be auctioned, eaten or won. It was great fun and the food was yummy.

Winners of the Christmas raffle and their prizes were:

Margaret Radley

Jack Barrett

Barry White

Lyn Gresham

Decorated Christmas cake

Joy Horman's Fern

Fern basket and Maxicrop

Tray of seedlings which are doing very nicely, thank you!



I'm older; no-one said I'm wiser

Now that I'm older, here's what I have discovered:

1. I started out with nothing, and still have most of it.
2. My wild oats have turned into prunes and All Bran.
3. I finally got my head together, now my body is falling apart.
4. Funny, I don't remember being absent-minded.....
5. All reports are in; life is officially unfair.
6. If all is not lost, where is it?
7. It is easier to get older than it is to get wiser.
8. Some days you're the dog; some days you're the hydrant.
9. I wish the buck stopped here - I sure could use a few.
10. Kids in the back seat cause accidents.
11. Accidents in the back seat cause kids.
12. It's hard to make a comeback when you haven't been anywhere.
13. The only time the world beats a path to your door is when you're in the bathroom.
14. If God wanted me to touch my toes, He would have put them on my knees.
15. When I'm finally holding all the cards, why does everyone decide to play chess?
16. It's not hard to meet expenses - they're every-

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where.

17. The only difference between a rut and a grave is the depth.
18. These days I spend a lot of time thinking about the hereafter...I go somewhere to get something, and then wonder what I'm here after.

Probus News July 2001.



From FERNNET

Mosses, Lichens and Ferns A comparison

What are the differences in the plant physiology, the formation of spores and the germination of spores of the above plants? (Of course there are differences in the location of the spore on the plant and the ultimate size and shape definition).

Regards Joel New York

I would just say that mosses and ferns have similar spore germination and growth requirements.

The spores need water, light and dilute minerals to germinate and grow into gametophytes. Low light is superior to high light for most species in terms of germination and subsequent growth of gametophyte. Excessive light bleaches these gametophytes typically.

There is probably some exception to these generalizations above, but the "typical" (whatever that is) moss and fern have similar requirements, in my opinion.

A lichen is a whole different kind of organism. It is a symbiotic relationship between a fungus and an alga (eukaryotic or prokaryotic depending on which lichen

you are examining). The partners can sometimes be cultured separately under specialized conditions, but often the lichens grow from soredia (not spores) that contain both alga and fungus in the propagule.

These almost microscopic soredia are often wind-carried (as are moss and fern spores), and need to land in a suitable environment to become established.

What is a suitable environment depends upon the lichen in question. Some live on bare rock in the sun, some in moist soils, some in dry soils, some on bark, etc.

The conditions for growth of the soredium for lichens then probably varies with the lichen. I'm not really well-qualified to give you good examples for which lichen soredia need which conditions.

However some combination of light, water, and minerals is essential...my guess is that many kinds of soredia could initiate growth under the same conditions as moss and fern spores. However, the conditions necessary for growth and reproduction of the maturing lichen could be substantially different.

Ross Koning
Eastern Connecticut State University
Willimantic, Connecticut

Luminous Ferns

Fernatix*za June 2001

'On holiday recently I was reading 'The Island of the Colourblind' by Oliver Sacks an interesting book which covers a wide range of subjects. The last chapter is a paean of praise for our sort of plants but more interesting is a suggestion that there might be a filmy fern which is luminous! He didn't exactly say that he has seen it glow but it is described on page 85. On the island of Pohnpei in the Pacific is a Trichomanes with the same name, 'didimwerek', as fish which emit light.

Have any of our members seen this fern?

He also mentions a fern on Guam, Humata heterophylla, which is named after Umatak Bay where it was found in the 1790s. What a fascinating book, lots of information about cycads and brain disease too.

Alan Ogden (U.K.)

'There are filmy ferns in the jungle that appear to be iridescent. The irony is one expects them to be soft and they are rigid and erect. They often carry a blue metallic glow. There are Elaphoglossum ferns that have a similar

look to them also. And then there is the Selaginella ferns that have a metallic glow to them. Now, I am speaking in reference to South America, but there is a Selaginella from Vietnam that has such a look. Usually such ferns are found in very dark, damp understorey jungles. The glow is more profound, the darker the forest. Very often they are terrestrial; but not always.

Betsy Feuerstein

"In the North of Portugal I entered a very dark pen one day. It was all stone with but a small entrance opening through which some dim light fell in. However, from all the walls a green light radiated, bright enough to take a picture of it. On closer inspection this came from a moss that not really emitted light, but very effectively reflected it; like cats' eyes.

Recently I read about some ferns that should show a similar effect. This was caused by a special microstructure in the tissue. I now torture my memory to remember which ferns this was all about. Maybe I'll come up with it later."

"Physical and ultrastructural basis of blue leaf iridescence in four Malaysian understorey plants. Gould-KS; Lee-DW; American-Journal-of-Botany. 1996, 83: 1, 45-50, 20 ref.

Certain understorey plants growing in moist: shady environments of tropical rain forests produce iridescent blue leaves. Iridescent blue leaf colouration in 4 Malaysian rain forest understorey plants, *Diplazium tomentosum*, *Lidsaea lucida*, *Begonia pavonia* and *Phyllagathis rotundifolia* is caused by a physical effect, constructive interference of reflected blue light. The ultrastructural basis for this in *D. tomentosum* and *L. lucida* are multiple layers of cellulose microfibrils in the uppermost cell walls of the adaxial epidermis. The helicoidal arrangement of these fibrils is analogous to that which produces a similar colour in arthropods. In *B. pavonia* and

P. rotundifolia the blue-green colouration is caused by parallel lamellae in specialized plastids adjacent to the abaxial wall of the abaxial wall of the epidermis. The selective advantage of colour production, if any, is unknown'

Wim de Winter - Netherlands

"The moss is probably *Schizostegia pennata*, and it is in fact the protonema (formed of spheric cells acting like lenses) that reflects the light, so that it appears to glow in the darkness."

Yves Krippel

Parkes and the ferns I grow there.

Barry Hubbard

Before he was a member of our Society, Barry grew a few ferns and wanted to learn more about doing so, so asked Ray Best in Sydney how to go about it. Ray pointed him in our direction and he has now been with us since 1985.

Parkes is in central western New South Wales (a good place to fill up with petrol on your way to Queensland and other points north) and has a population of 10,000. Barry lives on the outskirts of the town and his garden is subject to frosts. He has a fibreglass house and a shadehouse.

Like everyone everywhere, he has problems with fern growing. They include;

- **Extremes in weather.** Normal winter temperatures range between -4° and 18° , and in summer it can reach 45° ! with very low humidity. In the winter of 1999 they had three consecutive nights of -8°C which, as you would expect, really took their toll on ferns.
- **Water.** Parkes has no ground water so the town supply is bore water, which is heavily mineralised and cannot be used for overhead watering because the dried minerals form a white powder on plant foliage which most ferns cannot tolerate. Barry's solution is to hand water with rainwater from their own tank — very time consuming.

The best solution to these problems in summer is peat moss, and Barry uses lots of it. It keeps the potting medium moist for longer and also raises the ambient humidity level slightly.

Pests Barry encounters include;

- **Brown Scale** on elks, Woodwardias and Polypodi-ums.
- **Mealy Bugs** on probably half his ferns at times. The only product that overcomes them is Confidor® in his experience.
- **Blackbirds.** He has no effective remedy though hanging a dead blackbird (which he found in his garden) up deterred them for a long time. (*Sounds horrible to people who don't have them visiting their gardens but they do terrible damage, with both their nests and their scratching. Examinations of dead birds reveal that they don't eat a significant number of garden pests either, as their diet is almost 100% earthworms.*—Ed)

It was great to meet one of our interstate members, hear about his fern growing and see slides of his remarkable garden. They included *Nephrolepis*, *Platyce-rium*, *Drynaria*, *Adiantum* and tree ferns. He is to be congratulated on the results he gets in very trying conditions.

HHH

Thought for the day: 'Normal' is getting dressed in clothes you buy for work, driving through traffic in a car that you're still paying for, in order to get to the job you need so you can pay for the clothes, car and the house that you leave empty all day in order to live in it.

Hmmmmmm.

"Probus News—June 2001"

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