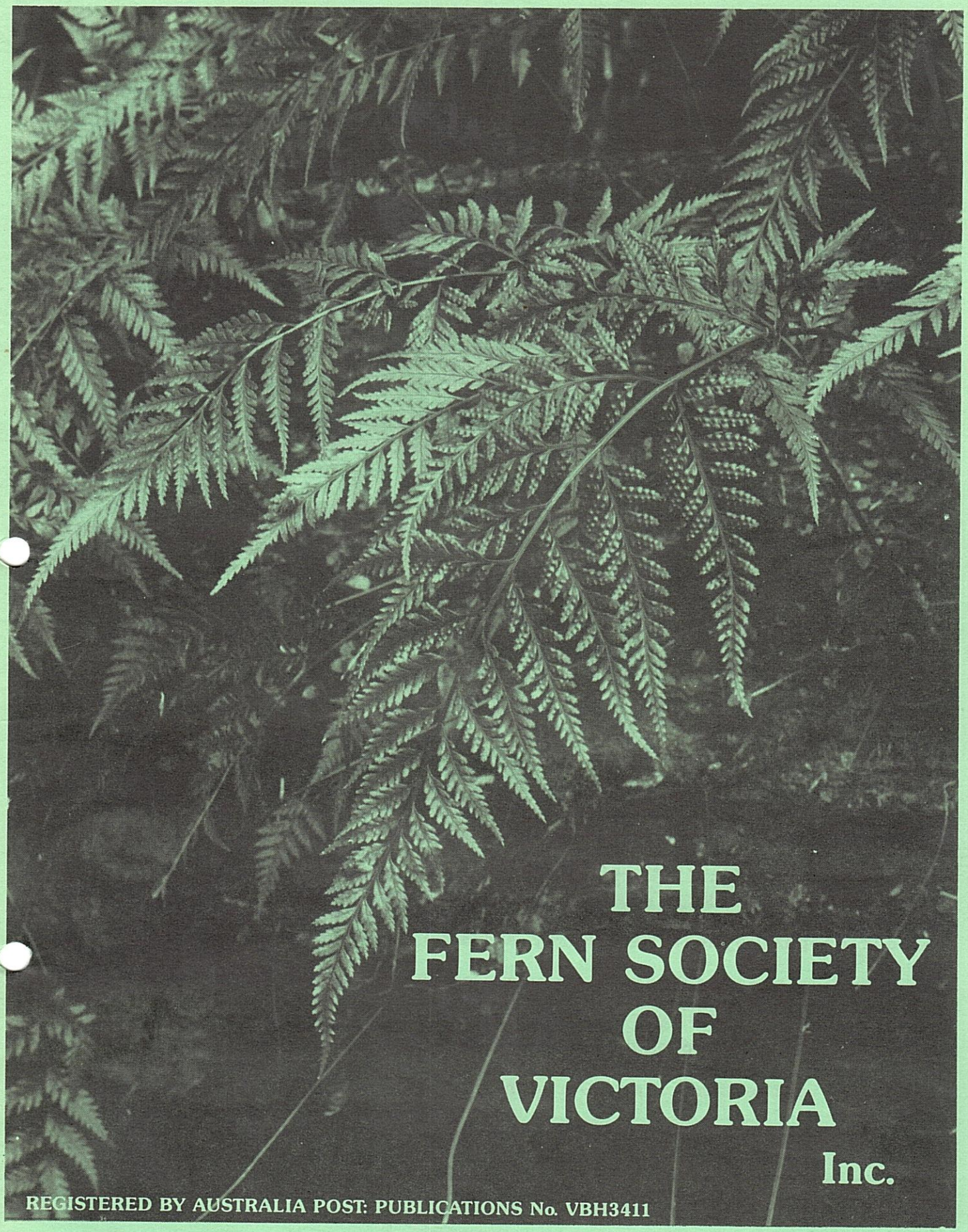

THE FERN SOCIETY OF VICTORIA Inc.

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NEWSLETTER

VOLUME 15, Number 10, November 1993

FERN SOCIETY OF VICTORIA Inc.

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Subscriptions fall due on 1st July each year.

VALE

This has been a sad month for the Fern Society, as we have learned of the sudden deaths of Pam White, the wife of our President, and Henry Rossell, our recently elected Vice-President.

Pam's main contribution to the Fern Society was a background one of support to Barry, but to those members of her acquaintance she was known as a person of great friendliness and warmth. We extend our deepest sympathy to Barry and his family on their sad loss.

Henry joined the Society only a few months ago after retiring from CSIRO. His agreement to nominate for the position of Vice-President at the last Annual General Meeting showed the enthusiasm with which he approached his membership of the Society. His notable capacity for lateral thinking would have been a great asset to the Committee. Our condolences go to his wife and family.

NEXT MEETING

DATE: **Thursday, 18th November, 1993**

TIME: From 7.30 p.m.

VENUE: The National Herbarium, Royal Botanic Gardens, Birdwood Avenue, South Yarra. (Melway Directory Ref. 2L A1)

TOPIC: CYATHEAS OF VICTORIA

SPEAKER: **Sarah Keel**

MEETING TIMETABLE

7.30 - 8.00 p.m.	**Booking in of Ferns for Sale** Pre-Meeting Activities:- Sales of Spore, Books and Special Effort Tickets ; Library Loans.
8.00 p.m.	November General Meeting
8.15 p.m.	Topic of the Evening
9.15 p.m.	Fern Competition Judging Fern Identification and Pathology Special Effort Draw
9.25 - 9.55 p.m.	Sale of Ferns
9.30 p.m. 10.00 p.m.	Supper (served during Fern Sale) Close.

PLEASE NOTE THAT THERE WILL NOT BE THE USUAL FERNS SALES BEFORE THE MEETING.

FERN COMPETITION: The category for this month is a deciduous fern (complete with new fronds!).

The category for December will be a *Dryopteris*.

---ooOOOoo---

OCTOBER FERN COMPETITION

The category for the fern competition for the October meeting was a *Pteris*. Congratulations to the following winners:

First:	Diana Mayne	*Pteris multifida 'Cristata'*
Second:	Don Fuller	" *dentata*
Third:	Dorothy Forte	" *cretica* 'Childsii'

The draw for the exhibitors' fern prize was won by Dorothy Forte.

---ooOOOoo---

SPEAKER REPORT - GENERAL MEETING - 21ST OCTOBER, 1993

Speaker: Betty Duncan

Topic: **FILMY FERNS**

Betty is well known to Society members as one of the authors of the book 'Ferns and Allied Plants of Victoria, Tasmania and South Australia'. Her talk on filmy ferns was illustrated by many photographs and diagrams plus an extensive display of pressed specimens.

The ferns that we call "filmy" are part of the family Hymenophyllaceae which contains more than 600 species. There are a few other ferns that have delicate fronds but their basic structure is different. One such is *Leptopteris superba*, the 'Prince of Wales Feathers' from New Zealand, but this is a higher fern with its spores on the back of the fronds. It is related to and was once in the same genus as our very sturdy King Fern, *Todea barbara*.

The Hymenophyllaceae are mainly tropical but in the southern hemisphere extend to sub-tropical and temperate regions. This is a very successful family - members have spread nearly all over the earth. Some species are very widely distributed and this seems remarkable as the spores are very delicate. One would expect the chances of surviving the dry conditions involved in wind dispersal over long distances to be rather low. Then finding a suitably moist site adds a further difficulty. There is a remarkable number of species and variety of form in the family. However, only three species of filmy fern grow in Europe.

Betty showed a diagram of the life cycle of a fern to illustrate the need for a moist environment in reproduction - firstly for growth of the delicate prothallus (gametophyte) and then to provide sufficient water for the sperm (male gamete) to swim from the antheridium on the prothallus to and down the neck of the archegonium to fertilise the egg (female gamete). In the more advanced ferns the prothallus is commonly kidney-shaped and 5-8 mm across, but in filmy ferns the gametophytes are minute and these delicate plants are easily overlooked even when abundant. In *Hymenophyllum* the gametophyte grows from the spore into one delicate strap-like structure, while in *Trichomanes* it consists of fine branching filaments developing from two or more points on the spore.

Abundant water is necessary for normal growth of filmy ferns. The beautifully translucent fronds are exceptionally thin - usually only one cell thick. Hence these ferns are found only in places that are very moist for the greater part of the time. Such places are humid forests, rocky streams - especially close to waterfalls - and misty sites at higher altitudes. Some of our rock dwellers can be found, with mosses and liverworts, covering large boulders in streams. But few places are constantly wet and from, time to time, filmy ferns must withstand short periods without water. Their protection is to curl up tightly, so as to avoid water loss and cut down on gas exchange. They can survive for a limited time in this fashion and revive completely when moistened again.

Most Hymenophyllaceae are epiphytes or rock dwellers though a few grow on the forest floor forming a carpet. One such is *Hymenophyllum demissum*, which is a large variety with fronds over 30 cm long, but

some are very small. By means of long, slender creeping rhizomes the ferns can densely cover branches or scramble up trunks - often growing in association with mosses.

The very thin lamina is the peculiar feature of filmy ferns. The fronds may vary in size from less than 1 cm to more than 60 cm. Ferns with such long fronds usually grow in the tropics but some New Zealand ferns are longer than 40 cm. Some have simple fronds but most are finely dissected with a single vein in each ultimate division (segment). The Veined Bristle-fern (*Polyphlebium venosum*, alt. *Trichomanes venosum*) is an exception and the branching veins in the broad segments are distinctive.

The thin leaf structure of filmy ferns is almost unique amongst vascular plants, where leaves usually have a protective upper and lower epidermis with several layers of cells in between. These inner cells are partly separated from each other by air spaces, access to which is permitted by tiny pores (stomata) in the epidermis. The life of a plant depends on the exchange of gases, including water vapour, between the living cells inside the leaf and the air outside. In filmy ferns the single layer of cells has immediate contact with the air and is able to carry out direct gas exchange. A few Australian and New Zealand species are 2-3 cells thick but seem to lack internal air spaces. The veins, of course, are more than one cell thick but their water conducting strands are very fine. The veins also strengthen and support the lamina.

The sori are borne at the ends or edges of the segments - not on the surface as in most ferns. This is considered to be a primitive feature. Another primitive feature is the structure of the sporangium with an oblique annulus (a special ring of cells with thick walls). Instead of projecting the spores explosively, as in the higher plants, the sporangium merely splits across at the annulus (as in *Gleichenia*).

The indusium is tubular and flared towards the top or is divided into two lips. Within each sorus the sporangia cluster around the receptacle - a central column that in the mature sorus may project. The sporangia are produced first near the tip of the receptacle, which in *Hymenophyllum* may be very short and somewhat swollen. The production of sporangia continues as the receptacle elongates until, in *Trichomanes*, the receptacle projects far beyond the indusium and the bare tip may be lengthened into a "bristle". This gives rise to the common name Bristle Ferns. The receptacle projects in only a few *Hymenophyllum* species.

(These features are illustrated clearly in photographs and diagrams in the section on Filmy Ferns in 'Ferns and Allied Plants of Victoria, Tasmania and South Australia', pages 78-89.)

The large family Hymenophyllaceae has been divided into two main genera, *Hymenophyllum* and *Trichomanes* with about 300 species in each. The division has been based on the structure of the sorus. The key for distinguishing these genera is

- Indusium hollow with the two lips well developed and broader than the basal part: receptacle usually not projecting beyond lips of indusium . . . . . HYMENOPHYLLUM

- Indusium tubular to trumpet-shaped with mouth entire to very shortly 2-lipped: receptacle markedly elongated and, in an old sorus, far exserted (projecting) as a "bristle" . . . TRICHOMANES

Because there is considerable diversity within both genera, they have been divided into several sub-genera (Copeland named 33 in 1947) and many botanists treat these as genera in their own right. For her talk Betty used the simpler classification, including *Apteropteris* and *Meringium* under *Hymenophyllum* with *Polyphlebium, Macroglena* and *Cardiomanes* under *Trichomanes*.

The main characteristics distinguishing one species from another are:

- edge of lamina toothed or not
- stipe and/or rachis hairy or not
- stipe and rachis winged or not
- sorus immersed in segment or not, i.e. free
- type of sorus - bivalved or tubular
- receptacle exserted or not
- shape and size of lips of indusium

These characteristics were illustrated in a transparency showing many different fronds, then a number of species were shown by slides, transparencies and pressed specimens.

HYMENOPHYLLUM GROUP

(A) Examples with **Edge of Frond Toothed or Serrate**:

(i) *Hymenophyllum cupressiforme* (Common Filmy-fern) is the most widespread of filmy ferns in Victoria and Tasmania. It is comparatively drought resistant and has been found in dry situations such as on the banks of intermittent streams, in rock crevices, etc. The finely dissected fronds are crowded together and often form dense mats on the forest floor. The fine branching rhizomes form tangled masses trapping humus, soil and moisture. It is also epiphytic on trunks and branches, favouring tree-ferns as do many of our Australian and New Zealand species.

(ii) *Hymenophyllum peltatum* (Alpine Filmy-fern) occurs in Victoria, Tasmania and N.S.W. and is widely distributed outside Australia in New Zealand, South America and South Africa. It was thought to grow in Europe but that fern has been renamed *H. wilsoni*. *H. peltatum* is mainly alpine and sub-alpine but is also found at lower altitudes. It often grows with *H. cupressiforme*. The rhizomes are fine and tangled, the fronds overlap and, when growing on tree trunks, they tend to grow outwards and then downwards. It also grows on wet mossy rocks. The pinnae have segments only on the side nearest the apex. The sori are free and elongate, brownish when mature, with the lips opening to the base.

(iii) *Hymenophyllum revolutum* (meaning "rolled back") is endemic to New Zealand. It is very small (less than 10 cm) and grows from the coasts up to sub-alpine habitats.

(iv) *Hymenophyllum bivalve* is native to New Zealand and eastern Australia but is not found in Victoria. It occurs in low-altitude to alpine forests, usually perching on branches but sometimes on the ground. Fronds are rather dark green, 10-20 cm long but often shorter.

(v) *Hymenophyllum multifidum* grows in low-altitude to alpine forests, on rocks or the ground or perching on trees or logs. The fronds grow to about 20 cm and are more finely divided than *H. bivalve*. The sori are large and this is one of the few *Hymenophyllum* species that has a projecting receptacle.

(B) Examples with **Edge of Frond Smooth (not toothed)**:

(i) *Apteropteris* is a genus confined to Tasmania and New Zealand and, until recently, was thought to contain only one species - *A. malingii*, the type specimen of which was collected in N.Z. by Maling in 1861. However, the Tasmanian fern has now been confirmed as a separate species, *A. applanata* (Skeleton Filmy-fern). *A. malingii* tends to be smaller than the Tasmanian fern, and the final segments are narrower and almost cylindrical. In *A. applanata* the final segments are flatter and the receptacle in the mature sorus is exsert. Both species are densely clad in stellate hairs that tend to give them a greyish colour. The lamina is more than one cell thick.

(ii) *Hymenophyllum australe* (Austral Filmy-fern) is thought to be endemic to this country and hence the adjective "australe". It forms dark green, loosely matted patches on tree-ferns, trees, decaying logs or rocks in wet, usually mountainous forests. It is variable in form and seems to have affinities with *H. flexuosum*, which is endemic to New Zealand.

(iii) *Hymenophyllum rarum* (Narrow Filmy-fern) is usually pendant on tree trunks, branches or rocks and occurs in Victoria, Tasmania, N.S.W. and New Zealand. It is a very small fern (less than 15 cm) with delicate fronds and a hair-like rhizome.

(iv) *Hymenophyllum flabellatum* (Shiny Filmy-fern) gets its species name from its fan-shaped pinnae. It is a beautiful fern with fronds 5-25 cm long, pale green, shiny and membranous. The croziers of new fronds and the bases of the stipes are covered with delicate yellowish hairs, as are the young rhizomes.

(v) *Hymenophyllum rufescens* is a small and delicate New Zealand endemic related to *H. flabellatum*, but covered in finely spun, very pale brown hairs.

(vi) *Hymenophyllum scabrum* occurs in low altitude forests in New Zealand, perching on trunks and branches. The fronds are usually drooping, dark brownish-green, large (to 40 cm), very much divided and fairly firm. The stipes have numerous bristly hairs when young, which tend to rub off and make the fern appear shiny.

(vii) *Hymenophyllum pulcherrimum* (meaning "very beautiful") is another large New Zealand filmy with fronds to 60 cm long. It is one of the few without a creeping rhizome and the tufts of fronds are arching or pendant. It is found perching on tree trunks and branches.

(viii) *Hymenophyllum dilatatum* is another large New Zealand species with fronds more than 30 cm long, firm and bright yellow-green. It has broad final segments which give rise to the species name. It grows on trees or logs, rarely on the ground.

TRICHOMANES GROUP

This group is not so strong numerically in Australia and New Zealand.

(i) *Macroglena caudata* (Jungle Bristle-fern) has a very short rhizome so that the fronds appear tufted. The segments are very fine. It occurs in Victoria, N.S.W., Queensland, New Caledonia, Fiji, Samoa and Tahiti. *Macroglena stricta* of New Zealand is a very similar species.

(ii) *Cardiomanes reniforme* (Kidney Fern) is an unusual and very beautiful fern with kidney-shaped laminae, hence the adjective. It is the only species in its genus and is endemic to New Zealand. It grows in low-altitude forest, forming extensive mats on fallen logs, banks and rocks. The sori are arranged radially around the margins of the fronds and the sporangia are on long receptacles emerging from cup-shaped indusia.

Vice-President Terry Turney, who chaired the meeting, thanked Betty on behalf of the Society for an excellent presentation, which had obviously required much effort in preparation. The members present showed their appreciation by acclamation.

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THE COMMON NAME - A MARKETING BONANZA?

by Keith Hutchinson

Almost always whilst giving a fern talk at a garden club I hear the cry "But what is the common name?"!! This is particularly so when a slide of *Goniophlebium subauriculatum* 'Knightiae' comes up, of which I know no common name.

During the past 25 years a trend has developed in the nursery trade to aid the marketing of stock. In 1969 a *Callistemon viminalis* seedling showed promise of being very compact and was named *C.* 'Captain Cook'. It became very popular indeed. Then a *Grevillea* thought to be a better variety than 'Robyn Gordon' but with an ordinary name was renamed *C.* 'Ned Kelly'. It became a top seller.

Now ferns which have been given interesting common names are becoming very popular. Over the years ferns have been named in various ways. A botanical example is our Soft Tree-fern discovered by Mr Dickson in the lower southern hemisphere and called *Dicksonia antarctica*. A common name of *Polystichum proliferum* is Shield Fern, so named because the spore case resembles the shield used by the knights of old whilst jousting. The Button Fern, *Pellaea rotundifolia*, has a pinna resembling a small button, whilst the Kidney Fern, *Trichomanes reniforme*, is a perfect kidney shape.

The Rainbow Fern had me confused until I saw it growing in Queensland. During the wet season it had grown quite lush to over two metres, but when the dry season arrived it arched into a perfect semi-circle with the tip of each frond touching the ground.

In New Zealand, the *Paesia scaberula* growing in full sun dies out in the centre leaving a full circle of healthy fern. Perhaps this is why it is called the Ring Fern.

Some common names vary in different states of Australia. Our Soft Tree-fern is known as a Man Fern in Tasmania. The Bird's-nest Fern is an *Asplenium australasicum* in southern states but a *Drynaria rigidula* in north Queensland. I sometimes wonder who named the *Adiantum* a Maiden-hair Fern, and although I'm sure of the aptness of the common name Staghorn for our Platyceriums, I have heard female members of audiences take exception to the descriptive names *superbum* and *grande*!

Perhaps in the future it will be mandatory for a botanist to give a fern a common name also, to aid all those who love ferns but hate long botanical names. Maybe we could have suggestions for all ferns which don't have a simple name - particularly the "*Goniophlebium*".

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(The following article was given to Chris Goudey by Keith Vagg, one of the authors.)

Warrandyte State Park fern survey

A study of ferns in Warrandyte State Park, 1993, by members of Friends Of Warrandyte State Park (FOWSP), Pat Coupar and Keith Vagg, in conjunction with Warrandyte Park Ranger, David Van Bockel.

The fern species that occur in Warrandyte State Park is quite diverse for an area which is predominately dry sclerophyll forest. There are also areas of damp sclerophyll forest, and other plant communities. The State Park covers an area of 586 hectares which includes some separate reserves and a continuous strip of river frontage on the Yarra River. The State Park was declared in 1975 and there have been substantial additions since then. There are also council reserves in the area, along with uncommitted crown land and significant vegetation on private land.

The bush around Warrandyte has been stressed since the discovery of gold at Andersons Creek in 1851, resulting in a considerable modification of the vegetation. Early photographs show that in many areas, topsoil was almost completely disturbed as a result of mining activities, and areas of the forest were stripped for timber to use in the mining industry. Later bushfires have also devastated areas of the forest.

In spite of these pressures and other influences such as localised weed infestation and tourism, the bush has regenerated to the extent that it supports a high diversity of native species and is renown for its wildflower and orchid display in spring. While the area has never been considered to carry a great variety of fern species, our recent studies have recorded as many as 22 species in the Park to date. These have been confirmed by the National Herbarium and 11 of these are new records.

These have also undergone stress, however. A local naturalist has reported that a particular gully once contained about 60 *Cyathea australis* but many of these were maliciously removed. The overall fern population is now relatively sparse, however we are attempting to propogate as many of these as possible from spore and by division, and FOWSP has many willing helpers in this respect.

The following species have been recorded to date, and an indication of the overall local population is shown in brackets:

Adiantum aethiopicum	Common Maidenhair	(prolific)
Asplenium flabellifolium	Necklace Fern	(common)
Azolla pinnata	Ferny Azolla	(isolated)
Azolla filliculoides	Pacific Azolla	(isolated)
Blechnum cartilagineum	Gristle Fern	(rare)
Blechnum minus	Soft Water-fern	(rare)
Blechnum nudum	Fishbone Fern	(isolated)

Calochlaena dubia	False Bracken	(isolated)
Cheilanthes austrotenuifolia	Rock Fern	(isolated)
Cyathea australis	Rough Tree-fern	(common)
Doodia caudata	Small Rasp-fern	(common)
Doodia media	Common Rasp-fern	(common)
Histiopteris incisa	Bats-wing Fern	(rare)
Hymenophyllum cupressiforme	Common Filmy-fern	(isolated)
Hypolepis rugosula	Ruddy Ground-fern	(rare)
Lindsaea linearis	Screw Fern	(rare)
Microsorum pustulatum	Kangaroo Fern	(rare)
Ophioglossum lusitanicum	Adders Tongue	(rare)
Pellaea falcata	Sickle Fern	(isolated)
Polystichum proliferum	Mother Shield-fern	(common)
Pteridium esculentum	Bracken	(prolific)
Pteris tremula	Tender brake	(isolated)

Notes: *Microsorum pustulatum* was previously known as *Microsorum diversifolium*; *Calochlaena dubia* was known as *Culcita dubia*; *Cheilanthes austrotenuifolia* was also known as *Cheilanthes tenuifolia*.

We would welcome any further input to this survey regarding either additional diversity, historical items or propogation practices. Please contact Pat Coupar (844 1650) or Keith Vagg (844 1457).

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FERNS IN A WORLD OF THE DAPPLED GREEN

by Barry White

The above is the title of a chapter in Diana Snape's book "Australian Native Gardens" published in 1992 by Lothian Books. The chapter describes the garden of Alf and Marie Wallbridge in Mitcham, an eastern suburb of Melbourne. Alf and Marie have been long term members of the Fern Society of Victoria; however, they have recently moved to a unit in Lilydale.

The book contains details on the layout of the garden, the philosophy behind the development of the garden and information on soil preparation, mulching, fertilisers and general management. Alf and Marie concentrated mainly on native ferns, and the book contains photographs showing the luxuriant response of the ferns to the care and attention obviously given to them.

Alf's gives some advice to new gardeners which is worth repeating: "Good luck. I'm glad it's you and not me! Don't listen to too many experts. It's a personal thing: you make your own mistakes and learn from them. The main thing you need is perseverance. For ferns, build your beds up about 15 centimetres. Ferns like water but they don't like wet roots. There's no need to dig deeply, perhaps a spade's depth. Then use plenty of humus - as much as you can get. Ferns do like nitrogenous fertilisers such as chook manure."

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NEW LIBRARY ACQUISITION

"PTERIDOPHYTES OF THAILAND"

This publication consists of three separate parts which together make up Volume 3 of the "Flora of Thailand". All three sections are written by M.Tagawa and K.Iwatsuki, and were published over the period 1979 to 1985.

The first part, 128 pages, contains a key to the fern families of Thailand and covers the following families: Psilotaceae, Lycopodiaceae, Selaginellaceae, Isoetaceae, Equisetaceae, Ophioglossaceae, Marattiaceae, Osmundaceae, Plagiogyriaceae, Gleicheniaceae, Schizaeaceae, Hymenophyllaceae, Cyatheaceae, Dicksoniaceae and Dennstaedtiaceae.

The second part, 167 pages, covers the Lindsaeaceae, Davalliaceae, Olenadraceae, Parkeriaceae, Vittariaceae, Pteridaceae and Aspleniaceae families.

Part three, 183 pages, covers the Blechnaceae, Lomariopsidaceae, Dryopteridaceae, Thelypteridaceae and Athyriaceae families, and contains an overall index to the three parts.

Thailand is a country rich in ferns and these books cover 620 species. As well as the key to families there are keys to genera and species. There is a good description of all species, as well as information on distribution and ecology. In addition there is often a useful comment about distinguishing features between closely related ferns. A limited number of line drawings are provided.

The publication is an excellent source of information about individual ferns of the region.

Reviewed by Barry White

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SPECIAL EFFORT WINNERS

October General Meeting

Mavis Potter

Mac Gregory (2)

Diana Mayne

Sarah Keel

* * * * *

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

BUYERS' GUIDE TO NURSERIES

VICTORIA:

Andrew's Fern Nursery / Castle Creek Orchids - Retail.
Goulburn Valley Highway, Arcadia, 3613. (20 km south of Shepparton).
Large range of ferns and orchids for beginners and collectors.
Open daily 10 am - 5 pm except Christmas Day. Ph: (058) 26 7285.

Austral Ferns - Wholesale Propagators. Ph: (052) 82 3084.
Specialising in supplying retail nurseries with a wide range of hardy ferns; no tubes.

Coach Road Ferns - Wholesale. Monbulk. Ph: 756 6676.
Retail each Saturday and Sunday at the Upper Ferntree Gully Market (railway station car park), Melway Ref. 74 F5. Wide selection of native and other ferns. Fern potting mix also for sale.

Fern Acres Nursery - Retail. Kinglake West, 3757. (On main road, opposite Kinglake West Primary School). Ph: (057) 86 5481.
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.

Kawarren Fernery - Wholesale and Retail.
Situated on the Colac - Gellibrand Road, Kawarren (20 km south of Colac). Ph: (052) 35 8444.

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.

Kanerley Fern Exhibition and Nursery - Wholesale and Retail.
204 Hinton Road, Nelsons Plains, via Raymond Terrace, 2324.
Ph: (049) 87 2781. Closed Thursdays and Saturdays.
Groups of more than 10 must book in advance, please.

Marley's Ferns - Wholesale.
5 Seaview Street, Mt. Kuring-Gai, 2080. Ph: (02) 457 9168.
All Fern Society members welcome. By appointment.

QUEENSLAND:

Moran's Highway Nursery - Wholesale and Retail.
Bruce Highway, Woombye (1 km north of Big Pineapple; turn right into Keil Mountain Road). P.O. Box 47, Woombye, 4559. Ph: (074) 42 1613.