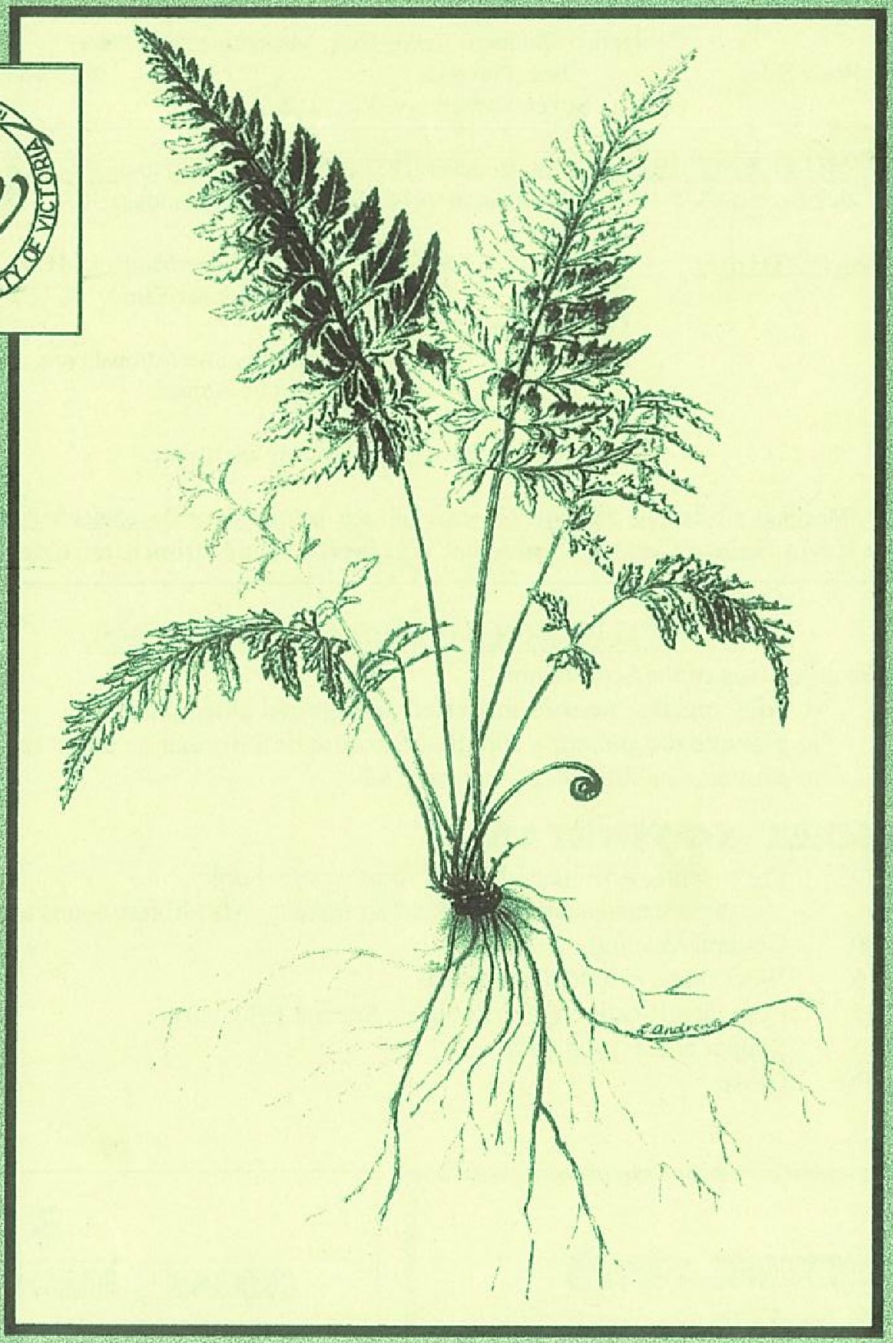
Fern Society of Victoria Inc.
NEWSLETTER



Print Post approved PP334633/0002 Reg. No. A 0002585 E

VOL. 22, Number 4 - July / August, 2000.

NEWSLETTER
If undeliverable return to:
FERN SOCIETY OF VICTORIA INC.
P O Box 45, Heidelberg West, 3081
Victoria Australia.
Print Post approved
PP334633/0002
Reg. No. A 0002585 E

SURFACE MAIL

Postage Paid West Heidelberg Vic. Aust. 3081

MR B WHITE
24 RUBY STREET
WEST ESSENDON VIC 3040
FW

MEETINGS & EVENTS IN 2000

General Meeting on Thursday July 20th

THE FERNS OF Mt KINABALU

Richard Hartland

Five minute fern talk by Joy Horman
Monthly Competition: Epiphytic Fern(s)

General Meeting on Thursday August 17th

ASPLENIUMS

Chris Goudey

Five minute fern talk by Don Fuller
Monthly Competition: *Asplenium*

Annual General Meeting on Thursday September 21st

Membership Fees - Year 2000/1.

Membership Fees for the year July 1st 2000 - June 30th 2001 are now due and prompt payment would be greatly appreciated. A membership renewal form showing the new membership fees is included in this newsletter. Please ignore if you have already paid.

The renewal of your membership requires the action of both the membership secretary and the treasurer. It cuts down the paperwork and is of great assistance to us if you use the form provided.

Please act now and renew your membership.

NOTICE OF ANNUAL GENERAL MEETING.

The eighteenth Annual General Meeting of the Fern Society of Victoria Inc. will be held at 8.00 p.m. on Thursday the 21st September 2000 at the Kevin Heinze Garden Centre, 39 Weatherby Road, Doncaster.

Business to be transacted will be:

1. Receive and deal with the President's Report on behalf of the Committee of Management.
2. Receive and deal with the Treasurer's Report.
3. Election of Office Bearers and Committee Members of the Committee of Management for 2000-2001.
4. General Business.

Nominations for Committee of Management

Nominations are now called for the positions of Office Bearers and Committee Members for the year September 2000 to September 2001. Nominations should be in writing, be signed by the proposer and seconder, and include the written consent of the nominee. They must be received by the 14th September (not less than seven days prior to the Annual General Meeting). Nominations may be called at the Annual General Meeting only if insufficient have been received previously to fill all vacancies.

General Business

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

Ian Broughton, President.

Report On Fern and Vireya Rhododendron Show 2000

I am pleased to report that the Fern Show held in conjunction with the Australian Rhododendron Society on 29th and 30th April was a success, with attendances being well up on last year. We therefore made a reasonable profit from the Show.

Other pleasing aspects were the level of interest shown by the steady stream of visitors over both days and the increase in the number of entries in the fern competition (Results in the May/June edition).

Our feature display was "Australian Ferns" and we had a good representation of these. A new feature this year was our video taped demonstrations prepared during the year. These were run almost continuously and attracted viewers for most of the time.

The success of the Show was due to the good cooperation between the members of the Fern and Rhododendron Societies and the great efforts put in by those who assisted with the setting up (and packing up), running of the Show and contributed to the display and sales. Your efforts were greatly appreciated and I thank you sincerely. Thanks also go to Multicrop (Aust) Pty Ltd for again supporting our Show.

The Fern and Vireya Rhododendron Show for 2001 will be held on the 21st and 22nd April. Please make a note of the date and aim to keep it free.

Don Fuller

Chairperson - Fern Show Committee. *11111*

The Presidential Powwow.

We have had a very busy time since the last newsletter. We have at last had good soaking rain with at least 150mm in May (unfortunately our rain gauge isn't working properly and I still need to confirm the readings). The cold snap that brought substantial snowfalls to the ranges around Melbourne, and maximums around 5° to Launching Place, has done a lot of damage. I drove across Black Spur on the Maroondah Highway the following weekend. The damage from the snow falls reminded me of the Daintree National Park last year after the cyclone hit that area. Trees and limbs had been brought down everywhere from Fernshaw to Narbethong. There were large piles of branches from road clearing and many tree ferns had been stripped by the weight of snow on them and the rest of them have their fronds hanging limply. Fortunately Spring will work wonders when it comes and signs of the damage will soon disappear.

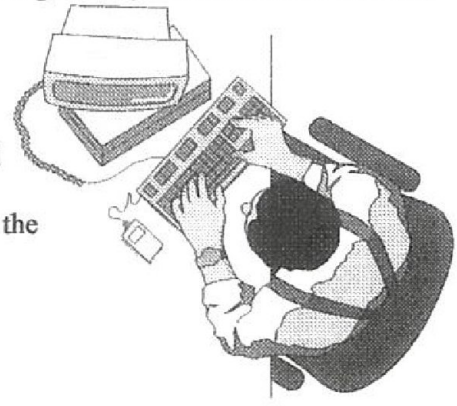
On the Society front, we have had a very successful show by recent standards. Congratulations and thanks to all involved but particularly to Don Fuller, who heads the Show Sub-committee. Don puts in a lot of work on the show each year and we are all appreciative of his efforts.

In May we had our 21st anniversary and what an enjoyable afternoon we all had! There were nearly 70 of us, with a number of members travelling some distance, or extending holidays to be with us. Following the afternoon's program, I stood for a few minutes and watched what was happening. There wasn't a single person standing on their own, everyone was involved in animated conversations and whenever a mouth rested for a few moments, it carried a beaming smile – I had no doubts at all about the value of the afternoon. The venue and meal were great. David Jones' talk on field trips to New Caledonia and PNG, liberally interspersed with spectacular photography, will be long remembered. The memories shared brought many laughs. And some old friendships were renewed. Many thanks to David and Barbara for coming down from Canberra to be our guest speaker. Thanks to Keith and Joyce Hutchinson, Brian and Pat Nicholls and Reg and Mary Kenealy for their efforts in organizing the afternoon. To all who assisted on the day and brought ferns in for the display (coincidently including a number from New Caledonia) our thanks. And to Mavis Potter, who crowned 21 years of cakes for our Christmas raffles and many Society functions, with two lovely cakes – we thank you with every one of our taste buds. I would also like to add my appreciation to all who gave me positive feedback about the afternoon and my role as MC – I was greatly encouraged by them. I have never felt that I take easily to public speaking, so I am always appreciative of the encouragement I receive within the FSV.

Our meetings in May, Bill Taylor and myself talking about Vireya Rhododendrons, and June, a discussion evening on our favourite June fern and/or least favourite fern problem, were very helpful and enjoyed by those present. I know that sometimes we seem to get off the topic of ferns but I believe that it is constructive to see how we can use other plants to compliment our ferns and to assist in providing the conditions in which we can grow ferns. In June we also had an update on the fern growing competition. Three people showed off their prowess with the young *Cyathea macarthuri* plants. Congratulations to all three who each had healthy plants that were establishing very well, but Dorothy Forte (who somehow managed to get three plants) deserves special mention for the growth she had achieved (actually the growth was achieved by her plants rather than Dorothy herself!!)

In the coming meetings we have a former member, Richard Hartland, speaking in July on the ferns of Mt Kinabalu. It is many years since Richard last shared with us but I am sure that those who were present still remember his stunning photography – it will be a terrific evening so do try to make it. The competition category is epiphytic ferns and the 5 minute talk will be given by Joy. In August, Chris Goudey will be talking on Aspleniums, which is also the competition category, and the 5 minute talk will be by Don.

August will also be our Annual Meeting (with the financial report to be presented in September). If you would like to enjoy our Society even more, a sure-fire way is to get involved especially by joining the committee. It is not an arduous responsibility – we meet for an hour before each general meeting and have many laughs, we also meet on another night about once a quarter to deal with weightier matters (over which we usually laugh a lot!) So it should be obvious that being on our committee is a barrel of laughs.



I hope that you all enjoy some ferny highlights despite the chills of Winter

Kind regards
Ian Broughton.

The following article is reproduced from Pteridoforum, the Journal of the Fern Society of Southern Africa; No. 52, October 1999. Ronell Klopper is botanical advisor to the editor of the journal. We trust it will be of interest to our members.

The Scientific Names of Plants

Ronell Klopper

People often look upon the scientific names of plants as being unnecessarily difficult and impossible to remember. These names, however, provide us with an effective means of reference to all plants, which is understood by botanists from all corners of the globe. Scientific names are thus of great importance in botanical communication.

The name of a plant is the key to its literature and all known information. Therefore it is essential that a plant name is universal, so that anyone in any part of the world may accurately communicate about it. It is for this very reason that the use of common names is most undesirable as a means of formal botanical communication. There is nothing wrong with using common names, provided that all parties concerned know exactly which plant is being referred to. The major problem with common names is that a single plant can have a variety of common names, often in different languages, depending on the different regions in which it occurs. For example, *Equisetum ramosissimum* is known as 'drilgras', 'dronkgras', 'lidjicsgras', 'bewerasiegras' and 'perdestert' in Afrikaans and as 'horsetail' in English. *Osmunda regalis* iscalled 'blomvaring' or 'rojaalvaring' in Afrikaans and 'flowering fern, 'royal fern' and 'green fern' in English. *Ceterach cordatum* is referred to as the 'resurrection fern' or 'scaly fern'.

Another problem is that different plants are often referred to by the same common name, e.g. 'carrot fern' may mean *Asplenium rutifolium* or *Asplenium theciferum*; 'oak leaf fern' may mean *Dryopteris concolor* or *Microsorium scolopendrium*; 'resurrection fern' may mean *Cheilanthes eckloniana* or *Ceterach cordatum*. Inedible plants and plants with no obvious medicinal or structural use often do not have any common names. Furthermore, common names are applied indiscriminately to genera, species or varieties, which is totally unacceptable to taxonomists.

Plants were initially known by long descriptive phrases, which were very impractical to use. During the Renaissance period in Europe, the development of the science of navigation made a possible to successfully explore the New World. This greatly increased the number of plants known to Europeans and led to the practical need to expand their classification system to he able to cope with the large amount of new names. The current system of binomal nomenclature was experimented with by the Swiss botanist Gaspar Bauhin (I560 - 1624), but only became popular when a Swedish naturalist, Carl Linnaeus (1707 - 1778 consistently used it in his *Species Plantarum*, which as published In May of 1853. Binomial nomenclature requires that each entity receives two names, a genus name (generic name) and a species name (specific epithet), and that, when a person names a plant, he or she should state both names. The world's taxonomists adopted this scheme almost immediately and it has remained essentially intact to the present day. The publication of *Species Plantarum* has been universally accepted as the starting point of modern nomenclature and most of Linnaeus' names are still in use today.

Generic names and specific epithets can be taken from any source, but must be treated as Latin, and Latin terminations should be used as far as possible. Taxonomists are urged to refrain from forming names that are long and difficult to pronounce in Latin or to adapt to Latin, and should also avoid combining words from different languages as epithets. The fact that scientific name are always Latin or Latinised is one of the reasons why people frown upon scientific names as the Latin name usually means nothing to them and they often find them difficult to pronounce and remember. There are two very important reasons why scientific names should be Latin or treated as such when derived from other languages. Firstly, when the science of botany originated and first developed in Europe, Latin was a common language of the learned men and intellectual classes. Plants were thus first named in Latin during this time and the practice has remained in use to the present day mainly for consistency and for its universal applicability. Secondly, as Latin is no longer spoken as a native tongue by any people, it avoids any possibility of national bias and therefore, national jealousy, which might arise if a modern language had been chosen.

Scientific names of genera and species must always be printed in italics or underlined when typed, handwritten or printed. The initial letter of the generic name is always capitalised, while the remaining letters of the generic name are in the lower case. All the letters of the

specific epithet should be lower case. When more than one species of the same genus is referred to, or if the same species is mentioned more than once, the scientific name should be written in full for the first species or the first time the species is mentioned, and thereafter the generic name can be abbreviated, provided that it will not be confused with other generic names with the same initial letter used in the same writing. The correct way ol` abbreviation is as follows: *Asplenium erectum, A.,rutifolium* and *A adiantum-nigrum.*

In formal botanical writing a species name is not considered to he accurate or complete unless it is followed by the full or accepted abbreviated of the name(s) of the author(s). This author citation is necessary so that the date of first valid publication of the name can be verified and this also simplifies the process of tracing the nomenclatural history of the plant. The author of a scientific name is the first person who validly published the name. Thus *Isoetes wormaldii* Sim was named by TR Sim; *Pleopodium simianum* Schelpe & NC Anthony was named by EACLE Schelpe and NC Anthony; *Polypodium vulgare* L. by Carl Linnaeus and *Asplenium sandersonii* Hook. by WJ Hooker. The author's name is not part of the botanical name, but must he added for purposes of precision in formal botanical writings.

To assure that all plant names are universal and consistent, a set of rules of nomenclature, which is used by modern botanists in all countries of the world, has been drawn up. This set of rules and regulations whereby all plants must be named is know as the *International Code of Botanical Nomenclature* (ICBN) and it governs the formation and usage of all scientific plant names, except those of cultivars that are governed by the *International Code of Nomenclature for Cultivated Plants* (ICNCP). The ICBN is a precise and simple system dealing with terms that denote the ranks of taxonomic groups or units, and with the scientific names, which are applied to the individual taxonomic groups of plants. The main aim of the Code is stability.

The preamble to the ICBN states amongst others, that: "The purpose of giving a name to a taxonomic group is ... to supply a means of referring to it and to indicate its taxonomic rank. This Code aims at the provision of a stable method of naming taxonomic groups ... and at avoidance of the useless creation of names ... The Principles form the basis of the system of botanical nomenclature ... The object is to put the nomenclature of the past into order and to provide for that of the future ... The recommendations deal with subsidiary points, their object being to bring about greater uniformity and clearness ... the rules and recommendations apply to all organisms traditionally treated as plants..."

The six principles of the ICBN that form the basis of botanical nomenclature are:

1. *Botanical nomenclature is independent of zoological and bacteriological nomenclature.* This implies that it is not illegal to assign the same name to a plant and an animal.

2. *The application of names of taxonomic groups are determined by means of nomenclatural types.* This means that each species name must be irreversibly associated with a particular specimen, the "type specimen" of that species.

3. *The nomenclature of a taxonomic group is based upon priority of publication.* Therefore the oldest validly published name for a plant is considered as the correct name. The starting date for seedplants and ferns is 1 May 1753, the date of publication of Linnaeus' *Species Plantarum.* Names older than this are not considered on the basis of priority.

4. *Each taxonomic group can bear only one correct name.* The reason for this is the same reason why common names cannot be used in formal botanical communication.

5. *Scientific names of taxonomic groups are treated as Latin regardless of their derivation.* The reasons for this have already been explained. Names have to be orthographically correct, i.e they must comply with Latin gammar and spelling rules.

6. *The rules of nomenclature are retroactive unless*

expressly limited. New rules may thus have implications on names published before the rule came into effect. This serves to enforce uniformity.

An International Botanical Congress is held every six years at which the ICBN is revised and amended if necessary. The Fifteenth International Botanical Congress was held in Yokohama, Tokyo in 1993, and the Sixteenth Congess was recently held in St Louis, Missouri.

DEFINITIONS

Taxonomy is the study of nomenclature, description, classification, identification and relationships. The purpose of taxonomic study is to develop systems of classification in which elements, components, objects or named taxa are arranged in a way that gives the greatest possible command of knowledge, makes the most efficient and effective use of information and leads most directly to the acquisition of more data, information and knowledge.

Nomenclature is a precise and simple system used by botanists in all countries that deals on the one hand with terms denoting the ranks of taxonomic groups or units, and on the other hand with the scientific names that are applied to the individual taxanomic groups of plants. The purpose of nomenclatural study is to provide one correct name for a taxon with a particular circumscription, position and rank that is universal and unambiguous; to provide names for groups of plants (taxa) that are the communication symbols and reference bases for information storage, retrieval and use; and to provide names for goups of plants (taxa) that are indicative of rank.

Taxon refers to a taxonomic group of any rank.

References

BURROWS J.E. 1990. *Southern African ferns and fern allies.* Frandsen Publishers, Sandton.

GREUTER, W.; Barrie, F.R., Burdet, H.M, Chaloner, W.G.: Demoulin, V.; Hawksworth, D.L.; Jorgensen, P.M.; Nicolson, D.H.; Silva, P.C.; Trehane, P. & McNeill, J. 1994. *International Code of Botanical Nomenclature (Tokyo Code).* Koeltz Scientific Books, Germany.

JEFFREY, C 1990. *An introduction to plant taxonomy.* Second edition. Cambridge University Press, Cambridge

RADFORD, A.E. 1986. *Fundamentals of plant systematics.* Harper & Row Publishers, New York.

□□□

Living on the Edge

Henry T. Levi

Near Nanticoke, Pennsylvania there is a small creek lined with ferns. What is unusual is that underground water comes into contact with pyrite-bearing rocks, causing it to become contaminated with dissolved iron and sulphur. The contaminated water flows through the mine voids and resurfaces at places like the creek at Nanticoke, which flows directly into he nearby Susquehanna River. The dissolved iron changes chemically to form liquid rust (yellow-bay) that coats the streambed and kills most aquatic life. Surprisingly, an abundance of *Osmunda regalis* var *spectabilis,* the royal fern, grows on the banks. This attractive fern appears to be perfectly suited to a site where almost no other plants can exist. It thrives in spite of the foul-smelling, orange-stained waters.

From Fidlehead Forum (American Fern Society) Vol. 26 No. 4, Sept. - Oct. 1999. □□□

Found on Fernet...

Q I've never grown ferns in terrarium but have read the thread with interest asking myself, How can ferns, or any plants for that matter, do well without decent air movement? Could someone so inclined give me a scientific explanation of this? Just very curious.
Cynthia Farden

A Air movement facilitates the gas exchange at the leave surface (C02 in, Ox out). However, because of the high concentration of 02 within the leave tissue relative to the surrounding air, diffusion also takes place passively, so without the excess oxygen being transported away. Wind helps by removing oxygen near the outside of the stomata and thus making the concentration gradient steeper and the diffusion process faster.(the same applies to the carbon-dioxide, though in the other direction).

When the diffusion process becomes too slow, it will be a limiting factor in the plant's photosynthesis. The plant will reduce its growing rate. This could be a competitive disadvantage that, however, all its potential competitors in the terrarium will suffer from too.

On the other hand, growth factors in the terrarium like moisture, nutrition and light may be optimized so with a prolonged photosynthesis time at a reduced rate growth within the container may be better than outside. Of course, depending on the plants specific adaptations to such environments.
Wim de Winter
Wageningen Agricultural University, The Netherlands

Speaker Report - October 1999 - and about time, too.

PALMS AND CYCADS

BOB FLETCHER

Bob brought a great collection of plants with him for us to admire and learn to recognise, which I for one found very interesting.

Bob offers in his nursery 49 species of palm, all tried and tested for Melbourne-hardiness! He plans to continue adding more as they are proven.

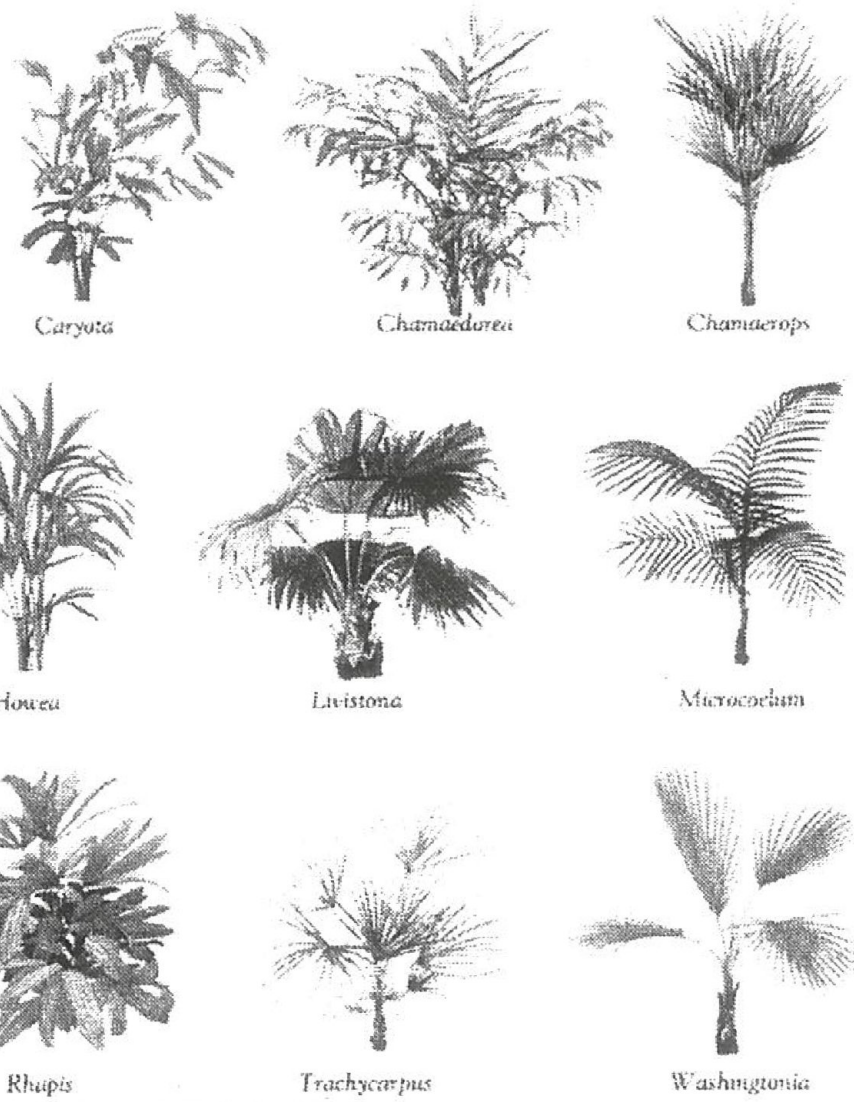
CULTURAL NOTES

Garden-grown palms which are in a position they like will be found to grow quicker than those kept in a pot because in the ground the roots can establish themselves in the surrounding area.

Before planting, prepare the soil well. To improve drainage in clay, either plant on a mound or work lots of organic material into the soil. Dig a hole at least twice as big as you need for the root ball and put in several bucketfuls of compost, several handfuls of sheep or cow manure and turn it through the clay. Plant into that and use it to backfill. Water in with a seaweed extract to stimulate root growth. Mulch heavily. Water the whole rootball area liberally for at least a month after planting. Don't let it dry out, even slightly. Feed every six weeks from mid-spring to mid-autumn and maintain the mulch.

When potting up, don't overpot, and use a good quality potting mix. I use Debco. Ian mixes sand in his. I'm sure there are other good ones, but I use what I know works. Put a bit of Osmocote under the root ball and around the top of the pot when potting up, and use liquid fertiliser from then on. Apply slow release fertiliser to the surface every spring thereafter.

Palms: representative forms
Each plant here belongs to one of the genera included in the family *Palmae*. Other species within a given genus may, of course, look very different from the illustrated species.



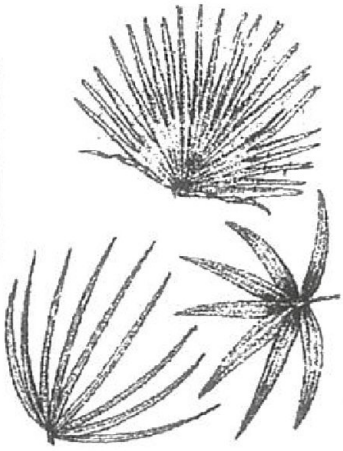
SOME PALM FROND TYPES.

←Pinnate:

Fronds have an extended leaf stalk from which two ranks of leaflets grow. Leaflets can be spiky, as in *Phoenix* (top) or soft, as in *Chrysalidocarpus* (right). *Caryota* leaflets (left) are divided.

Palmate:→

Leaflets are arranged in a 'fan' shape. Segments are either separated partially as in *Washingtonia* (top), or completely as in *Rhapis* (bottom right) or *Trachycarpus* (bottom left).



It is easiest to break palms into three groups, depending on their cultural preferences:

- indoor ones,
- outdoor ones which need shade and

outdoor ones that revel in full sun.

INDOOR PALMS.

Indoor palms with a good 'head' of leaves may need watering every second or third day because of evaporation through the leaves. However, they MUST not sit in water.

ALEXANDRA PALM

Archontophoenix alexandrae

Widely and cheaply sold here. Not suitable for Melbourne, indoors or out. The exception is one subspecies from Queensland.

KENTIA PALM

Howea forsteriana

Most popular indoor palm around the world. It is about the only palm which will tolerate being 'dried out'. Graceful, slow growing, it is fairly easy to manage. Most situations inside, including both high and low light. Garden but no heavy frost.

RHAPIS PALM

Rhapis excelsa

Spectacular indoor palm will get to 8 ft (2.4m) at most and can stay in a container for life. It is a suckering palm which forms quite a dense clump in time. It grows extremely well in the garden in Melbourne in shade or filtered light.

WEDDING PALM

It does exceedingly well in Melbourne. If kept inside it needs good light. Grows to only about 6 ft, and can grow outdoors. Though it is not recommended, it will even take full sun IF the site is well drained and it gets well watered and heavily mulched. Keep moist.

PARLOUR PALMS - the *Chamaedorea* genus:

LITTLE METAL PALM

Only grows to about 4 ft tall. Also suitable for growing in the fernery or underplanting in the garden.

Chamaedorea ernesti-augusti

A beautiful, slim, very slow-growing, single trunked palm with a small crown of undivided, 2-lobed leaves.

SHADE LOVERS.

This group of palms is suitable to grow in our ferneries as it shares cultural requirements with many ferns and complements their textures well, also providing desired height in many instances.

Rhapis costa-ricana

One of the most brilliant shade-loving palms, it is frost tender but will grow in some parts of Melbourne.

A smaller species from Asia only grows to about 4 ft but is totally unsuitable for indoor use as it won't tolerate the dry conditions inside.

WALKING STICK PALM

Linospadix monostachya

The most spectacular member of the genus. Fronds are broad and fringed, borne on a group of remarkably slender stems of various size and age in mature plants. It has quite a variable growth habit - 0.9 m at 5 years, 3 m at maturity in cultivation. The fruit is edible.

WAIT-A-WHILE PALMS, LAWYER PALMS

Calamus genus.

There are several species of climbing palms in the genus and all go under these common names. Only two grow here. They bear fierce barbed prickles right along their stems and on tendrils, allowing them to climb up through the trees and also latch onto passing humans. It is also rampant. But interesting and out of the ordinary.

DWARF COCONUT PALM

A real collector's item. It is said to resemble a

(Continued on page 59)

(Continued from page 58)

coconut palm, but its requirements are quite different as this is a true rainforest plant. Slow-growing, it can have beautiful, full fronds up to 12 ft long - very spectacular. It doesn't like to dry out and requires a lot of mulch. An interesting feature is an attractive rusty colour on the backs of the leaves.

PALMS SUITABLE FOR OUTDOORS.

BANGALOW PALM

Archontophoenix cunninghamiana

Widely and cheaply sold here as indoor plants, for which they are unsuitable. They are great for out in the sun, though heavy frost knocks them. Though the Bangalow Palm is a single trunked species, it is sometimes sold as a clump, a number of plants potted up together. This makes a lovely specimen for the garden bed or a large, outdoor pot. It is self-cleaning.

FISHTAIL PALM

Caryota sp.

This is another fairly rare plant. There are a number of Fishtail Palms around the world, but the one Bob stocks is the only one known to take heavy frost.

DWARF DATE PALM

Phoenix loureiri

A versatile palm for Melbourne, it can be used indoors, in shade or full sun, in a container or the ground. No heavy frost though, please. Usually seen as a squat 'bush', it will develop a trunk which, over time, will reach no more than 5 or 6 ft in length. The Date Palm's 'garden friendly', compact cousin. When well grown it produces a wonderful 'head' of densely packed fronds. Basal leaves are reduced to thorns.

TRIANGLE PALM

This is from Madagascar and is rather marginal for here, though in a mild, bayside garden they will grow well in a sun trap area. In the sun they go a striking silvery blue colour.

DWARF PALMETTO

Sabal minor

One of the hardiest small-growing palms for Melbourne, this is also very slow growing. It is variable in that sometimes it won't grow any trunk, sometimes it will grow a trunk 2 ft tall. Full sun or -15°C frosts. Extremely striking wide, full, fan-shaped fronds. Compact, no thorns.

BLUE LATAN PALM

Latania loddigesii

Rare. A mature palm is spectacular for our conditions, with a lovely full crown of bluish foliage. Very slow growing.

WINE PALM

Jubaea chilensis, syn. *J. spectabilis*

Massive trunk, big, grey, weeping foliage. Takes -15° frost, loves the sun. Needs room.

CYCADS

Cycads are not related to palms. They are extremely ancient, long living plants, hundreds or even thousands of years in fact, and, in Victoria anyway, very slow growing. They are extremely interesting plants.

The main requirements of cycads are good drainage and regular watering. In nature they usually grow in shaley soil in high rainfall areas. Yellow spots on the leaves indicate they they have been drying out so step up the watering frequency.

They look best when grown in shade because in the hot, dry summer they tend to bleach a bit.

SAGO PALM

Cycas revoluta

Probably the most popular cycad in Australia and originating in Japan, this 'palm' is a cycad. In the ground they will eventually form quite a crown and then sucker. Australia has a similar cycad, called Macrozamia.

CARDBOARD PLANT

Zamia furfuracea

Has quite a lot of colour in the new growth. In mild suburbs it goes all right but in colder regions it only just survives winter with a bit of protection. □

Judging by the number of comments and questions from the floor, those present found Bob's talk very interesting. He was thanked in our traditional way - applause and a Society glass. □□□

COMPETITION WINNERS 2000

May -

1. Ian Broughton — *Pyrossia lingua* cultivar
2. Keith Hutchinson — Silver Elk
3. Ray Harrison — Crested *Polypodium formosum*

Exhibitors' Draw; Ray Harrison

Special Effort; George Start, Bill Taylor, Bernadette Thomson, Fran Harrison, Ray Harrison Jean Boucher, Reg Kenealy.

June - results are unavailable at this time, sorry. Please see next issue for these.

FERN SOCIETY OF VICTORIA
SPORE LIST

ORDERING The following spore is free to members who donate spore. Otherwise members 20 cents per sample, non-members 50 cents, pus $1.00 to cover postage and handling. Available at meetings or by mail from Barry White, 24 Ruby St. West Essendon Vic. 3040 Australia, Ph. (03) 9337 9793. There is no charge for overseas members however to cover postage two international coupons would be appreciated.
Overseas non-members may purchase spore at three packets for one international reply coupon plus two coupons for postage and handling.

Adiantum raddianum cv micropinnulum 1/98
Adiantum trapeziforme 9/99
Adiantum whitei 1/99
Aglaomorpha meyeniana 2/99
Anemia mexicana 9/99
Arachniodes aristata 1/00
Arachniodes simplicior 12/98
Asplenium australasicum 5/98
Asplenium milnei 5/00
Asplenium obtusatum 4/98
Athyrium filix-femina 12/99
Athyrium niponicum 'pictum' 2/99
Athyrium niponicum v.pictum (lge) 1/00
Belvisia mucronata 12/98
Blechnum attenuatum 2/98
Blechnum braziliense 1/00
Blechnum camfieldii 5/00
Blechnum chambersii 2/99
Blechnum chilense 5/00
Blechnum colensoi 2/00
Blechnum discolor 4/98
Blechnum filiforme 4/98
Blechnum fluviatile 2/00
Blechnum fraseri 2/00
Blechnum gallanum 12/99
Blechnum minus 6/99
Blechnum novae-zelandiae 2/00
Blechnum patersonii 8/99
Blechnum penna-marina 4/98
Blechnum procerum 4/98
Blechnum punctulatum v.punctulatum 6/98
Blechnum tabulare 6/98
Blechnum vulcanicum 4/98
Cibotium schiedei 4/00
Coniogramme fraxinea 6/99
Cyathea albifrons 2/99
Cyathea aramaganensis 3/99
Cyathea atrox 3/99
Cyathea australis 3/99
Cyathea brownii 2/98
Cyathea celebica 3/99
Cyathea colensoi 2/00
Cyathea cooperi 9/99
Cyathea cooperi 'Brentwood' 98
Cyathea cooperi var. cinnamonia /99
Cyathea dealbata 9/98
Cyathea leichhardtiana 2/98
Cyathea medullaris 2/00
Cyathea muelleri 3/98
Cyathea robusta 2/98
Cyathea smithii 4/98
Cyathea tomentossissima 9/99
Cyclosorus interruptus 3/99
Cyrtomium caryotideum 5/98
Cyrtomium falcatum 8/99
Cyrtomium macrophyllum 5/00
Dennstaedtia davallioides 2/98
Deparia petersenii 6/00
Dicksonia antarctica 2/00
Dicksonia fibrosa 1/99
Dicksonia youngiae 1/99
Diplazium australe 6/00
Doodia australis 12/99
Dryopteris guanchia 9/99
Dryopteris sieboldii 3/99
Elaphoglossum sp. 6/00
Gymnocarpium oyamense 6/00
Humata tyermanii (crested) 10/98
Hypolepis ambigua 2/00
Hypolepis dicksonioides 2/00
Hypolepis rufobarbata 4/98
Lastreopsis acuminata 9/98
Lastreopsis glabella 5/00
Lastreopsis hispida 2/00
Llavea cordifolia 4/98
Macrothelypteris torresiana 6/00
Microlepia platyphylla 6/00
Microlepia speluncae 5/98
Microsorum pappei 7/99
Niphidium crassifolium 10/99
Ophioglossum pendulum 2/00
Paesia scaberula 2/00
Pityrogramma calomelanos v.aureoflava 6/98
Platycerium bifurc. cv. Hilo /99
Platycerium bifurc. cv.HulaHands /99
Platycerium bifurc cv.Roberts /99 Platycerium bifurc. var.venosa "Mt.Lewis" 99
Platycerium bifurc.cv Willinckii Scofield 99
Platycerium bifurcatum 6/98
Platycerium hillii /99
Platycerium holttumii /00
Platycerium superbum 6/98
Platycerium superbum (Cairns) /99
Platycerium veitchii 8/99
Pneumatopteris pennigera 2/00
Polypodium formosanum 9/99
Polystichum australiense 12/99
Polystichum formosum 6/99
Polystichum retroso-paleaceum 10/98
Polystichum richardii 2/00
Polystichum vestitum 1/00
Polystichum wonrovii 11/98
Pronephrum asperum 3/99
Pseudophegopteris aurita 6/00
Psilotum nudum 8/99
Pteris cretica 'Parkeri' 6/98
Pteris hendersonii 12/99
Pteris macilenta 2/99
Pteris umbrosa 12/99
Pteris wallichiana 11/99
Rumohra adiantiformis (Cape Form) 2/99
Scyphularia pycnocarpa 3/98
Sphenomeris chinensis 2/00
Sticherus cunninghamii 4/98
Sticherus flabellatus 8/99
Sticherus urceolatus 3/99
Tectaria confluens 6/00
Thayeria cornucopia 2/99
Thelypteris navarrensis 6/00
Woodwardia martinez 4/99

Thanks to the following spore donors: Don Fuller and Claire Schakel

FERNS

from "The Illustrated Dictionary of Gardening
-An Encyclopaedia of Horticulture"
L. Upcott Gill
Publication date unknown, probably about 1890.

Whether viewed collectively as plants of extreme beauty and interest when grown as specimens, or for their general usefulness in arrangements with flowering subjects, Ferns are indispensible, and possess attractions peculiar to themselves. The very large number of genera now in cultivation, including native and exotic, stove, greenhouse and hardy, supply means of making a suitable selection for every requirement. Remarkable variation in size and habit is most noticeable among Ferns, apart from the extreme conditions under which the different ones succeed. The now almost universal use of plants and cut fronds intermixed in floral decorations, has led to their production in immense quantities annually, to supply the demand for a few of the more popular of genera and species that are suitable for the purpose. The popularity of Ferns is ever increasing, as ideas regarding the supposed difficulty in their culture, and the amount of heat required, have of late been considerably modified, many being found to succeed in much cooler positions than was at one time supposed to be suitable. The majority require more or less heat, but many that are kept in a high temperature would be healthier and do better in a somewhat cooler one. Hardy Ferns are, perhaps, plentiful in more varieties than in distinct species, although the latter are numerous. Both are interesting and useful for various positions outside, and are in combination extremely diverse in general habit. It will be impracticable, on account of space, to describe separately the cultivation of every genus referred to this heading. The following general remarks respecting the treatment of the different groups, according to the amount of heat or other special requirements, with cultural notes on some of the principal genera, may, however, with the description accompanying each individual genus separately, prove sufficiently suggestive for the treatment of all.

FIG. 257. HYMENOPHYLLUM TUNBRIDGENSE.

PROPAGATION.

This is effected in various ways, according to the different habits or modes of growth exhibited in the several types. The most general plan of propagation is by spores, but with many species it is at best difficult, and in many cases quite impossible, to obtain these, and raise plants from them successfully. The most popular of Ferns, Adiantums, and several species of Pteris are easily raised in immense quantities from spores. All Ferns that form several crowns may be increased by division; and those with creeping rhizomes like many of the Davallias, are easily perpetuated either by layering the points or removing portions that have formed roots. A few ferns — Aspleniums particularly — produce small bulbils along the upper portion and at the end of the fronds, and these eventually form plants, if removed and placed in soil. The increase of Filmy Ferns is, in most cases, an ex-

tremely delicate operation. Plants imported from their native habitats, with every care taken in transit, frequently do not live to become established, even if they arrive in fairly good condition. These may be propagated by carefully made divisions of such plants as become established and grow well. Tree Ferns are imported in quantities and a large proportion generally succeed. Young plants may be raised from spores, where obtainable but it would take many years for them to grow to the size of imported stems. The spores of many of the Tree Ferns germinate freely enough, but, under cultivation, never advance beyond the prothallus stage.

Spores. The fronds from which spores are required should be carefully examined at frequent intervals, when they are beginning to ripen, in order to obtain the spores at the proper time. When the sori begin to turn brown, the fronds should be cut and allowed to dry in close paper bags. The sooner they are sown, after being kept a few days, the better, as any part of the year is suitable for the operation, early spring being, however, preferred for the majority of species. They should be sown in pots or shallow pans that have been half-filled with crocks, the remainder being filled to within ½in. of the top with a mixture of fine sifted loam and very small pieces of crushed brick. An even surface may be obtained by pressing firmly with the bottom of another pot. The soil should then be watered and allowed to drain before the spores are sown, as by watering afterwards the latter might be washed away. Fern spores are extremely minute, and, consequently, should be scattered very thinly over the surface of the soil, pieces of glass being placed over the tops of the pots. The pots should be stood in saucers of water and placed in a close frame of a propagating house, being kept shaded at all times during sunshine, but not in dull weather. Laying pieces of paper on the outside of the frame, and removing them when not required, is a handy method usually adopted. When the spores are sufficiently grown to be visible as very minute plants --a stage that varies considerably, with different ferns in the time taken to reach it - they should be very carefully pricked off in pots of similar soil, filled, this time, level with the top. Yery small patches must be taken on a stick, having the least notch cut in the end, and they should be merely pressed into the new soil abont 1" apart. No water should be applied overhead until the little plants have been pricked off some time, and have formed fronds. Sufficient will have been supplied by the pots being placed in water, and the moisture contained inside the frame which is not usually one with bottom heat. Adiantums are frequently fit for pricking out in a month or six weeks after being sown. These, or any others, should be returned to a similar frame afterwards and kept close until small plants are established, when air should be very gradually admitted. If conditions are suitable, the young Ferns grow fast in the spring or summer; and the next shift should be into pots singly, or; in the case of Adiantums, each little bunch of plants may be treated as one for quickly forming decorative subjects. Raising Ferns of any description from spores is an exceedingly delicate operation, and one that requires considerable care and attention to accomplish successfully. It frequently happens that spores obtained from fronds of any particular Fern which may have been kept separated from others will, when sown, apparently produce a host of young plants that eventually are found to belong to another and commoner species or genus. The fact of spores being so light as to be removed and

FIG. 255. HYMENOPHYLLUM FALKLANDICUM.

carried by a breath of wind, may account for the presence of the commoner one, that would probably overgrow the other; or good spores of the one desired may not have been present at all. The mode of treatment above described applies to the raising of both stove and greenhonse ferns and, with the exception of a cooler temperature will be also suitable for the hardier species. Young plants should be potted on before they are very full of roots as, if allowed to become starved in the younger stages, it is a long time

FERN SOCIETY OF VICTORIA Inc.

POSTAL ADDRESS: P.O. Box 45, Heidelberg West, Victoria, 3081
E-mail: http://gardenbed.com/vicferns

OFFICE BEARERS:

President:	Ian Broughton	Phone	(03) 5964 6402
Imm. Past President	Chris Goudey	"	5282 3084
Vice-President	George Start	"	5962 5059
Secretary	Barry White	"	9337 9793
Treasurer	Don Fuller	"	9306 5570
Membership Secretary	John Oliver	"	9879 1976
Spore Bank Manager	Barry White	"	9337 9793
Librarian	David Radford	"	9598 8398
Editor	Lyn Gresham	"	5796 2466
	("Kilpara", Goulburn Valley Hwy, Mangalore, Vic, 3663)		
Book Sales	Ivan Traverso	"	9836 4658
	(19 Alta Street, Canterbury, Vic., 3126)		

COMMITTEE MEMBERS: Jean Boucher 9707 1592, Lyn Gresham 5796 2466, 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

GENERAL MEETING TIMETABLE:

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 a good yarn.
10.00	Close.

before they recover.

Division, &c. The best time for dividing Ferns, or for propagating by means of the creeping rhizomes, is just before growth commences in *February or early spring. It is best not to divide too severely, as small plants are much better obtained from spores if that plan be practicable. Rhizomes should be pegged to a piece of peat, or on small pots of soil, and allowed to form roots before being detached The insertion of the little bulbils in pots of soil, in a close frame, will soon increase the stock of those species which produce them.

FIG. 162. GYMNOGRAMME SCHIZOPHYLLA.

STOVE FERNS. An idea is often formed that tropical Ferns require a great heat at all times, with constant heavy shading in summer and but little air at that season as well. This is altogether a mistake, as the result is invariably weak, elongated fronds that are at once subject to all insect pests and are rarely strong enough to stand any change to which it may be necessary to subject them. Blinds on rollers that admit of being let down and removed as desired, should be used. Although Ferns delight essentially In shade and moisture, both may be carried to an excess; especially in winter time, when all should be at rest. The growing and resting periods are as necessary with many Ferns as with flowering plants; although the ripening in autumn, so ordinarily understood, is not of so much importance. The general arrangement of stove Ferns greatly depends on the structure and space at command. Adiantums, Davallias, Gymnogrammes and Platyceriums may be cited as examples for situations where most light is obtainable, and only a thin shading applied in sunny weather; while Acrostichums, and the stove species of Aspidium, Asplenium, Nephrodium, and Pteris, succeed in darker or more shady positions. The introduction of Tree Ferns produces a fine effect where there is sufficient height, but, if planted out these soon require much more room than it is possible to obtain in the majority of stoves. By growing them in tubs, and plunging, a more suitable appearance is presented, the restriction of the roots having a corresponding effect on the rate of growth in the fronds. Any repotting should be performed before growth commences as, if it is deferred till afterwards, many of the young fronds will become crippled. For stove Ferns, a growing season of eight months should be allowed, namely, from *February till September inclusive. The other four months should be the resting period, when a night temperature of 50deg. to 55deg. will be sufficient with a minimum rise by day of 5deg. more. A drier atmosphere must also be maintained, and less water applied to the roots, at the same time avoiding an extreme in the latter case. When growth commences, the minimum night and day temperatures may be gradually raised until, in summer, the former will seldom go below 60deg. or 65deg. Air should be carefully admitted, and plenty of water applied to the roots and amongst the pots, with a view to the production of fronds of moderate growth and good substance - conditions not to be insured by a close atmosphere and very high temperature. Light syringings may be occasionally applied to most stove Ferns in summer, but too much has a tendency to weaken many of the fronds. Adiantums, Gymnogrammes and, generally speaking, species with powdery or very hairy fronds shoud not be syringed at any time. The whole beauty of Ferns consists in the full development of the fronds; and if these are to be kept in good condition afterwards, until the new ones of the following year appear, it is important that the plants be kept properly watered and subjected to treatment, in summer, calculated to produce a moderate amount of solidified growth, that, in the autumn, should be thoroughly ripened by the admission of sun and air to the structure in which the Ferns are grown. If, as before recommended, blinds on rollers are in use for summer shading, they will, of necessity, have to pass over the roof ventilators. This has an advantage both of breking the force of the wind and preventing an undue evaporation of moisture from the inside. If found to fit too closely, blocks may easily be fixed to the rafters at the top, to keep the shading a little open.