

ASSOCIATION of

S.G.A.P. Fern Study Group

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WHEN DO FERNS SHED SPORE?

We commenced this project more than three years ago. Although we have now analysed all the recordings forwarded to date to the Secretary, it is obvious that the sample size that we have is far too small for our findings to be conclusive. So while publishing the best of the data, that is, for those ferns for which we have had recordings from at least three members, or in the case of data supplied by the Schottes, their information plus at least one other member, we are putting forward a proposition for members to consider.

We are very fortunate to have been given the sporing times recorded by "Green Frond Fernery". These records have been compiled as part of Jake and Wendy Schotte's commercial spore growing over the last 16 years. However, apart from information supplied by the Schottes which, incidentally, covers 36 different fern species, a tiny bit of data gleaned from the literature, possibly the data provided by Calder Chaffey, and in respect of a few ferns studied for one year by Betty Rymer, all the other records apparently merely represent observations recorded at one time in the year, year in respect of particular ferns.

Should we continue to record and collate information regarding the sporing times of our ferns? It seems that the reasons which originally prompted us to undertake the study are just as valid today. We still don't have reliable knowledge about the sporing times of most of our ferns. But if the project is to be successful, it seems that we need to change our approach to observing and recording sporing times. One idea would be for this observing and recording action to be made part of our Fern outings both those involving bush walks and those in members' homes. Given that these functions involve the presence of a number of members, it should be a fairly simple task and only occupy few minutes, to look for ripe spore of the ferns of any significant collection and to record the information for collation by the Secretary. We would like to hear member's views as to whether we should continue this project, and if so, any ideas which you may have for its promotion and development.

WHEN DO FERNS SHED SPORE

(Based on information gained in survey to November 1993)

Adiantum aethiopicum December to May
Adiantum formosum November to May
Adiantum hispidulum Throughout the year
Anqiopteris evecta October to February
Asplenium australasicum Throughout the year
Asplenium nidus October to July
Blechnum cartilagineum October to January
Blechnum nudum January to July
Culcita dubia November to March
Cyathea australis July to March
Cyathea cooperi October to May
Cyathea leichhardtiana November to April
Dicksonia antarctica Throughout the year
Doodia aspera Throughout the year
Doodia media Throughout the year
Lastreopsis microsora December to July
Pellaea falcata October to January
Pellaea falcata nana September to January
Platycerum superbum February to August
Pteris tremula October to January
Schellolepis subauriculata December to March
Todea barbara October to March

Any constructive comment on the above welcomed - odd or unusual spore shedding outside the range of months listed have been ignored.

DEADLINE FOR COPY

Contributions to the Newsletter eagerly accepted. For the next Newsletter, copy should be forwarded to reach the Secretary by no later than 15 February 1994.

WHEN DO FERNS SPORE - Some More Thoughts

Having a list of times when fern spore is likely to be viable, is obviously important. Perhaps the problem is how valid is the resultant information. When this project was conceived, many of us wondered about the effects of weather conditions - rain, dry hot spells, etc.; of geography - how relevant was data obtained in say, Victoria, to that of say, North Queensland; and what was the effect of growing conditions - garden situation versus growing in natural bush, in ground or in pot or basket.

The records provided to date don't throw much light on any of the above variables. The ferns recorded by the Schottes were all grown at Maraylya, Western Sydney, just over 40% of these recordings were from ferns growing in the ground, in the case of ten species recordings included ferns growing in more than one garden situation, i.e., both in ground or in pots / baskets. No differences were discerned in information provided for those ten species.

Concerning the geographic variable, most of the recordings were from members situated roughly in the western parts of Sydney. Apart from Wendy and Jake Schotte, these comprised Ray Best, Dulcie Buddee and Betty Rymer. Recordings from the Woolletts came from Southern Sydney and the only other recordings were contributed by Calder Chaffey from the N.S.W. North Coast.

A final thought, no matter how carefully we prepare our list of times when spore is viable, what is stated can only be the general rule, there will always be exceptions. Therefore any recordings made should properly be in respect of a group of ferns and not merely represent what was observed from inspecting a single fern.

SOME EARLY BOTANISTS

Contributed by Ray Best

LINN. LINNAEUS CAROLUS (1707-1778)

Swedish botanist was born at Rashult 23 May 1707. He studied medicine at Lund and Uppsala Universities, was assistant to the Professor of Botany at Uppsala and became Professor himself in 1747. He was enobled in 1757 as Carl von Linne. He travelled and collected widely as did many of his students. A systematist he expounded his artificial system of classification, greatly improved the method and accuracy of plant description and brought the binomial method of nomenclature into general use. He died at Uppsala on the 10th January 1778.

BANKS. SIR JOSEPH BANKS (1740-1820)

British botanist who accompanied Captain Cook on his first voyage around the world, was educated at Harrow, Eton and Christ Church Oxford, and elected Fellow of the Royal Society in 1766. During that year he went to Newfoundland to collect plants. Banks obtained permission to accompany Cook's expedition on the Endeavour, the voyage lasted until 1771, and visited South America as far as Cape Horn, Australia, New Zealand, and through the Great Barrier Reef to New Guinea and thence to the Cape of Good Hope. His account of the voyage in the Endeavour shows

In 1766 he visited Iceland, Labrador and Newfoundland and on his return succeeded Sir James Pringle as President of the Royal Society and held that position until his death. Banks ranks as a munificent patron of science rather than an actual worker himself. His extensive collections made during many exploratory voyages and his magnificent library were left to Great Britain.

HOOK. W.J.HOOKER (1785-1865)

Sir William Jackson Hooker, English botanist, born at Norwich, was Professor of Botany at the University of Glasgow in 1820 and became the first Director of Kew Gardens in 1841. Here he proved himself a great administrator and it is mostly due to his activities, followed by those of Sir Joseph Hooker and Sir William Thistleton Dyer, that Kew developed into its present high position. He was an excellent artist as shown in his "British Jugermannia", 1816. He travelled in Iceland, wrote many works on many floras and edited many botanical periodicals. He died on the 12th August 1865.

HOOK f. SIR JOSEPH DALTON HOOKER (1817-1911)

English botanist son of Sir W.J.Hooker, was born at Halesworth in Suffolk, 30 June 1817. He graduated M.D. at Glasgow University in 1839. In 1865 he succeeded his father as Director of Kew Gardens. He was a member of several expeditions which resulted in his well known Himalayan Journals (1854) and in the acquisition of many interesting ornamental plants. Besides writing many floras, he is noted as a plant photographer. His most important work is the "General Plantarium" written in conjunction with George Bentham and his best known "The Students Flora of the British Isles", 1870. He died on the 10th December 1911.

WHERE TO BUY NATIVE FERNS

The following nurseries stock a range of native ferns.

Geekie's Fern Nursery, 6 Nelson Street, Thornleigh, 2120; phone (02) 484 2684.

Kanerley Fern Exhibition & Nursery, 204 Hinton Road, Nelsons Plains, Via Raymond Terrace, 2324; phone (049) 87 2781.

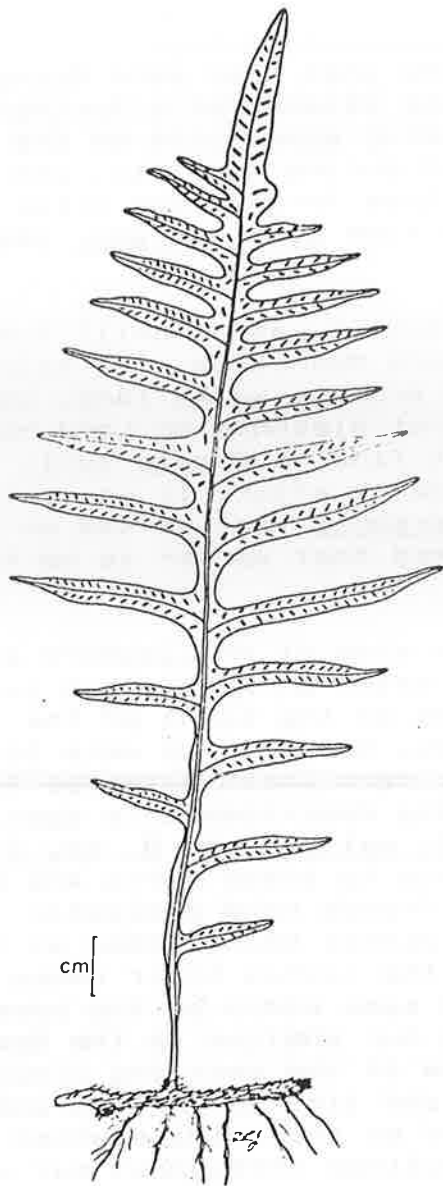
Marley's Ferns, 5 Seaview Street, Mt Kuring-gai, 2080; phone (02) 457 9168.

Newcastle Wildflower Nursery, 45 Pacific Highway, Bennetts Green, 2290.

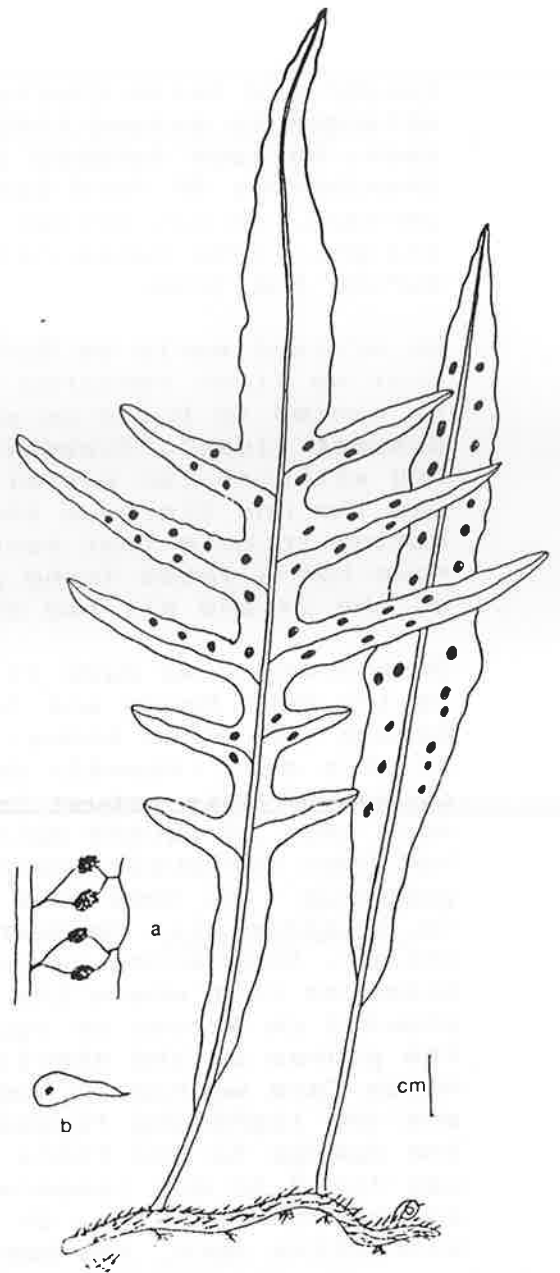
Wagga Fern Grove, 49 Copeland Street, Wagga Wagga, 2650; phone (069) 216 183.

EXTRACTS FROM PAST NEWSLETTERS

Two little booklets containing a selection of articles from earlier Newsletters are still available on application to the Secretary. Volume 1 covering Newsletters up to Number 20 costs \$2, and Volume 2 comprising items from Number 21 to 31 costs \$3, each post free.



COLYSIS SAYERI



MICROSORIUM SCANDENS.

- a) Section of fertile frond
b) Scale x5

(The above sketches are taken from our Group's bible, "Australian Ferns and Fern Allies" by D.L.Jones and S.C.Clemesha, published by Reed - refer to article on page 10, "A Member's Fern")

LORD HOWE ISLAND BLECHNUMS

During November, eight Study Group members enjoyed 7 days in Lord Howe on a special botanical tour organised by Geoff Long. Our guide was Ian Hutton, author of the book "Lord Howe Island" the definitive work on the Island's natural history, and what a genius he proved to be! Not only was Ian able to name all the plants without losing his patience with us, he knew where to find them. Most of our time was spent in the Southern Mountains where many of the Island's endemic plants grow, and where there are many special places of interest. Our one complaint - no one warned that it was imperative to use bicycles to reach the beginning of the mountain walks - we were short on riding practice!

Calder and Keith Chaffey obviously knew what they were doing and arranged to extend their holiday on the Island for a further week. We look forward to Calder providing some notes on the approximately 50 fern species identified during our trip, and also, perhaps, on his system of keying out tree ferns using stipe scales. These notes refer only to the five Blechnum spp. seen during the trip.

We arrived early on Saturday morning but it wasn't until Tuesday that we first ventured into the Southern Mountains. Ian said that he wanted to build us up for the more arduous walks (and, we suspect rides). Tuesday we saw our first Blechnum on Lord Howe and although Ian was mildly excited at finding B. patersonii this was the one Blechnum that we didn't search after. It was interesting to note that none of the B. patersonii that we saw on Lord Howe had a lobed frond and Ian confirmed that as far as he knew, on the Island all had entire fronds.

On Wednesday we made it up the eastern side of Mt Lidgbird as far as the Goat House and Ian led us to a patch of B. howeanum just before the storm broke. Cameras clicked at the sight of the first of this only recently described species, but soon we were to see clumps of this robust looking leathery fern which extended for more than 10 square metres. Before being described this species had been variously known as B. sp. aff. wattsi and B. sp. aff. procerum - it does have some resemblance to these ferns and maybe to B. camfieldii. However, its fertile fronds were decidedly unique, the narrow (around 5 mm wide) pinnae being lobed at their bases so that where the pinnae joined the rachis their bases were about 2 cm across or roughly about the same width as the bases on the pinnae of the sterile fronds. From our shelter in the Goat House Cave we had an awe inspiring view of the swirling clouds and the lightning flashes beneath us, and time to reflect and rue the damage to the flora being inflicted by the animals whose name was fixed to our temporary abode. We noticed throughout our walks in the mountains how in particular, Asplenium surragatum, a truly attractive fern, had been eaten down by the goats.

Well the rain soon passed and we survived the slippery track on our descent and the following day we set out at 6 am to climb Mt Gower. At Erskine Creek we found more B. howeanum and then as we clawed our way towards the summit we came upon B. contiquum a surprisingly very attractive fern with a huge creeping rhizome climbing tree trunks and covering them with shiny green pin-natisect fronds, dark when mature and pale green when new. We saw B. fullageri shortly after but were disappointed at this somewhat dull looking tufted fern with largely pinnate fronds of roundly 50 cm long.

Finally right at the summit and close to a creek we located B. geniculatum. There were about half a dozen clumps of this recently described rare endemic, its creeping rhizome bearing clusters of soft pale green new fronds and a mid green sterile fronds. The tell tale feature of this lovely fern of the shadiest wet places is its pendant 75 cm long fronds which "articulate" or bend in a way which forms the pinnae into an inverted "cup".

NOTES FROM MID NORTH COAST

Contributed by Charlie Charters

Report on Outing to Camden Haven, 25 / 26 September 1993

On the Saturday we joined with members of SGAP at Camden Head for our outing called "Something Different", a leisurely walk in the Kattang Nature Reserve, or better known as the "Flower Bowl". It was a delightful afternoon and very informative with Betty and her members able to name all the plants for us. Thanks for the wonderful afternoon, Betty.

On Sunday we travelled to Big Hill, a part of the Limeburners Creek with a variety of terrain, from rugged cliff face, where we found Asplenium obtusatum, to a small pocket of tropical rain-forest where most of our ferns were found.

Ferns identified during the two days were:

Big Hill: Adiantum hispidulum, Arthropteris tenella, Asplenium attenuatum, A. australasicum, A. obtusatum, Blechnum camfieldii, B. cartilagineum, Calochlaena dubia, Cheilanthes sieberi, Christella dentata, Cyathea australis, C. cooperi, Davallia pyxidata, D. aspera, Gleichenia rupestris, Histiopteris incisa, Hypolepis muelleri, Lastreopsis decomposita, L. microsora, L. munita, Lindsaea microphylla, Ophioglossum pendulum, Pellaea falcata, P. paradoxa, Platycterium bifurcatum, Pteridium esculentum, Pteris tremula, Pyrrhosia confluens and Todea barbara. Other ferns known to be in the area but not recorded on the day: Blechnum indicum and Botrychium australe.

Kattang Native Reserve: Ferns here included Lindsaea linearis, Schizaea bifida and Selaquinella uliginosa.

NOTES FROM SYDNEY AREAReport on North Rocks Garden Show, 4-5 September 1993

This our first participation in the North Rocks School for Deaf & Blind's Annual Exhibition, proved a resounding success. Ted Newman's faith in encouraging the Group's involvement and his and Pat Kenyon's shouldering most of the work and responsibility, including negotiations with SGAP Groups at Blue Mountains and Central Coast to take our unsold stock, finally netted the Group a profit of roundly \$490 and resulted in 500 ferns finding new homes. A thank you too to all others who assisted the project and especially Joan Moore who not only handled the bookkeeping but also grew and donated a large number of ferns.

Report on Meeting at Como, 24 October 1993

Among a good deal of correspondence was a letter from the North East Forest Alliance seeking support for their cause. After discussion it was resolved to contribute \$50 towards the campaign that the Alliance is conducting. Anyone wishing to make a donation to the work of the Alliance or wanting to assist in any way, perhaps by identifying and drawing attention to ferns in the area which may need protection, should contact the Alliance at 149 Keen Street, Lismore, 2480, or phone (066) 213 278.

The Study Session looked at two ferns. Stenochlaena was the first of these and Peter told us that there was only one Australian species Stenochlaena palustris and it can be found in Queensland, Northern Territory and maybe, the Kimberley. Peter called it pantropic, being widely distributed from India, through

Malaysia to Polynesia and Australia. It has been mistaken by some (or at least one) for a *Blechnum*, and like many *Blechnums* has dimorphic fronds and sori parallel to the midrib and close to it, but *Stenochlaena* does not have an indusium. Its the absence of an indusium clearly separates it from *Blechnum* spp. as all of these have a long flap covering the sori. *S. palustris* has a clinging rhizome. Peter demonstrated on the piece of rhizome brought to the meeting, how this could be used to propagate new ferns after removing the fronds and breaking the rhizome into longish pieces. The fronds are articulated while the small glands near the base of the pinnae are another conspicuous feature. In nature it favours swampy conditions; a vigorous fern it climbs up paper barks and other trees.

Oleandra neriformis is the only member of this genus in Australia being confined to the ranges and tablelands in North Eastern Queensland. There is some disagreement about the family in which *Oleandra* should be placed. Peter explained that the Royal Botanic Gardens in Sydney place it in Nephrolepidaceae - it has a radially constructed rhizome, peltate scales and similar shaped sori and spores. *Oleandra* is easily recognised by its simple, wavy edged fronds and stilt roots which support the rhizome above the ground. The fronds yellow and some drop off in the winter. Peter said it does well in a basket and from discussion at the meeting, it favours a good deal of light and humidity. A word of warning was given by one member, whose husband had mistakenly killed her *Oleandra* with kindness - he had repeatedly covered up the stilt roots with soil - others have had a similar experience with orchids, not everything grows like potatoes!

Both ferns are being grown by several members present at the meeting and are described as hardy away from frosts.

Report on Outing to Mt Tomah, 13 November 1993

Contributed by Joan Moore

A storm and heavy rain in the morning failed to deter 11 keen members. In the absence of Peter, Betty led the party on a tour of the Gardens. The many and varied Australian plants were impressive. The following ferns were listed as growing naturally in the area: *Dennstaedtia davallioides*, *Polystichum proliferum* - this was the dominant fern, and in the planted areas, *Asplenium flabellifolium*, *Pellaea falcata*, *Blechnum cartilagineum*, *B. nudum*, *Dicksonia antarctica*, *Cyathea australis* - there were several of these with trees growing out of their trunks, *Microsorium scandens*, *M. diversifolium*, *Christella dentata*, *Sticherus tener*, and *Pyrrosia rupestris*.

In the planted parts, in the garden in front of the Centre, *Cyathea australis* and a *Dicksonia antarctica* growing fused together at the base. Ferns at the edge exposed to sun and wind were very yellow and burnt, those well sheltered were fine and included *Todea barbara*, *Hypolepis muelleri*, *Blechnum wattsi* - very large and coarse, *Asplenium bulbiferum*, *Lastreopsis hispida*, *Blechnum nudum*, *B. cartilagineum*, *Microsorium diversifolium*, *Christella* sp., *Dennstaedtia davallioides*, *Dicksonia antarctica*, *Cyathea australis*. Finally, down in the spagnum bed was an intrusive Bracken!

FORTHCOMING EVENTSIN SOUTH EASTERN QUEENSLANDSunday 6 February 1994, Meeting at Macgregor

Meet at the home of Pat Shaw, 5 Fleetwood Street, Macgregor, at 9.30 am. Compare results of spore sown in November. Discussion on Microsorium spp.

Sunday 6 March 1994, Excursion.

An excursion is planned. Venue is to be decided at the February meeting.

Enquiries contact Irene Cullen (07) 341 4272.

IN THE MID NORTH COAST OF N.S.W.

For information about coming events contact Charlie Charters, 203 Oxley Highway, Wauchope, phone (065) 85 6296.

IN THE SYDNEY REGIONSunday 5 December 1993, End of Year Function at Dee Why

A final reminder for our end of year social highlight! Plan to arrive from 11 am - the venue, Stony Range Flora Reserve, Pittwater Road, Dee Why. If you haven't advised what you are contributing towards the shared lunch, please inform Jan 971 6132, or Cynthia 451 6531, as a matter of urgency. Bring own cutlery and crockery. In keeping with tradition of these occasions, please bring a gift (or several according to number in your party).

Sunday 20 February 1994 Outing, Royal Botanic Gardens, Sydney

A representative of the Gardens is expected to meet us at the recently opened Sydney Fernery - meet there from 10 o'clock ready for start at 10.30 am. Enter via the Woolloomooloo Gate in Mrs Macquarie Road (just past the Cahill Expressway). Enquiries to Peter 625 8705.

Sunday 20 March 1994, Meeting at Mt Druitt

Meet at the home of Peter & Margaret Hind, 41 Miller Street, Mt Druitt from 10.30 am for 11 o'clock sharp start on study of the genus Colysis. "A Member's Fern" is to be presented by Roy Duncan. Enquiries to Peter 625 8705.

Saturday 16 April 1994, Outing to Fox Grounds

Visit to Ann & Geoff Long's recently acquired property. Details next Newsletter.

SUBSCRIPTIONS FOR 1994

Subscription notices issued with this Newsletter are for the 1994 calendar year. The annual fee covers full membership to members of SGAP - to non-SGAP members the \$4 provides an entitlement to the Newsletter only. Please pay subscriptions to the Treasurer, Miss Joan Moore, 2 Gannet Street, Gladesville, 2111.

A MEMBER'S FERN

Presented by Kyrill Taylor

At the October meeting, Kyrill discussed two attractive ferns which he brought to the meeting in large baskets. The larger of these was Microsorium scandens growing so luxuriantly that it was difficult to see through the mass of fronds. Kyrill spoke about the fragrance of this fern, a delicate musk odour which he said is discernible throughout the year and in all conditions. Kyrill has Microsorium scandens growing in three positions in his garden, he told us that possibly the most successful is the one planted near the base of Grevillea robusta. Although two of Kyrill's ferns are growing in only part shade, he reminded everyone, that they do like shaded positions. The growing habit of M.scandens was demonstrated by a series of photographs.

Kyrill drew attention to the variation in the degree of lobing on fronds between different ferns and canvassed various influences as the possible cause of this lobing including the possibility of certain traits being inherited rather than being the consequence of seasonal and / or differences in cultivation. Kyrill said that there was little need to apply fertilizer to this fern but it likes water. Another tip from Kyrill was to grow Microsorium scandens at the base of a tree which does not shed its bark .

The other fern Kyrill brought to the meeting was Colysis sayeri and it was also thriving. As Kyrill explained, it is superficially similar to Microsorium scandens but the spore patterns are quite different. M. scandens spores frequently and in a round pattern, on Colysis sayeri the sori are elongated and it seldom spores - at least in Sydney, perhaps it needs a warmer climate. For fertilizer, Kyrill uses blood and bone or a little fowl manure. oth ferns were growing in a mix of rice kernels and peat and a little soil, a very open medium.



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