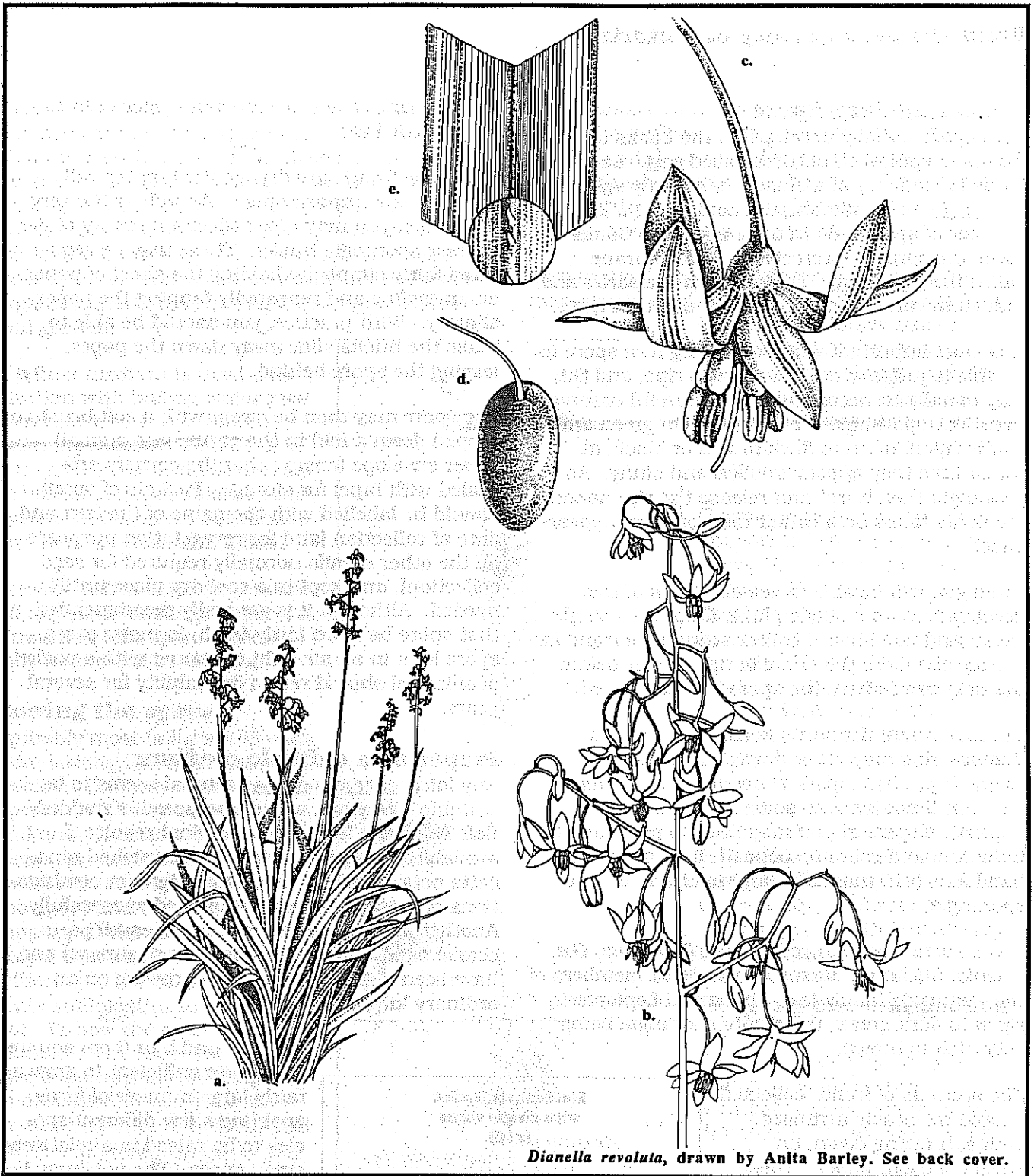


INDIGENOTES



Dianella revoluta, drawn by Anita Barley. See back cover.



Propagating ferns from spore

From the Fern Society of Victoria*

Collecting Fern Spore

Fern spore usually develops on the backs of fronds in special structures called sori. Each sorus is made up of a cluster of roughly spherical sporangia, each sporangium containing a large number of spores (64 in most species). Sometimes the sorus is protected by a membrane called the indusium. The shape of the sorus and indusium varies considerably for different ferns.

It is most important when collecting fern spore to be able to judge when the spore is ripe, and this may usually be accomplished by careful observation. The sporangia are initially light green and slowly ripen, often to dark brown or black, at which time they appear swollen and shiny. As the sporangia then burst and release the ripe spore, the sorus takes on a rather tatty or furry appearance.

Often you will be able to see all stages of this development on a single plant, if not on a single frond, and you should collect sections of frond in the region where the spore is ripest, just before the tatty area where the spore has been shed.

In cases where the sorus is covered by an indusium, this may lift or shrivel as the spore ripens (e.g. *Lastreopsis*, *Rumohra*, *Polystichum*, etc.) but if not (as with some *Adiantum* and *Asplenium* species) you may need to peel back the indusium and examine beneath it with a small hand lens (x10 magnification) to check for ripe sporangia.

Some spore ripens to yellow (e.g. *Dicksonia*, *Gleichenia*, *Sticherus*, *Microsorium*). Most members of the *Osmunda* family (e.g. *Todea* and *Leptopteris*) ripen to dark green, the empty sporangia being yellowish to brown.

The sections of frond collected should be loosely arranged, with sori facing down, on sheets of clean paper. These should be kept in a warm dry spot, away from any draughts, and allowed to dry out for a day or two. If the spore is ripe, very fine powder should start to collect on the paper within a couple of hours. If you are not sure whether

spore is ripe or not, a very small piece of frond may be tried first.

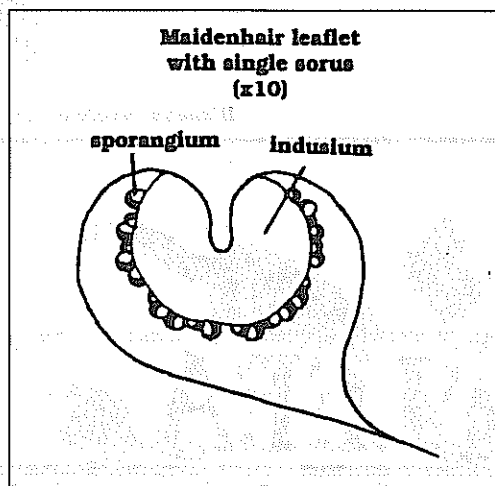
When the fronds are dry, gentle tapping will dislodge any trapped spore. As well as the very fine spore, you may also collect a quantity of the coarser sporangia husks. These may be separated fairly simply by holding the sheet of paper on an incline and repeatedly tapping the paper sharply. With practice, you should be able to make the husks slide away down the paper, leaving the spore behind.

The spore may then be swept with a soft brush, or tapped down a fold in the paper, into a small paper envelope (ensure that the corners are sealed with tape) for storage. Packets of spore should be labelled with the name of the fern and date of collection [and for revegetation purposes all the other details normally required for seed collection], and kept in a cool dry place until needed. Although it is generally recommended that spore be sown fairly fresh, in many cases, spore kept in an air-tight container with a packet of silica gel should retain its viability for several years.

Preparing a suitable medium

Any fairly coarse, porous material seems to be suitable. Very old, well decomposed, shredded Soft Treefern# fibre gives excellent results if available. Peatmoss# (unseived), crushed terracotta pots, charcoal or Elkhorn fibre (or combinations of these) have also been used successfully. Another alternative is a mixture of equal parts coarse sand and treefern fibre (or peatmoss) and I have seen a good crop of ferns growing on an ordinary kitchen sponge.

I have found 5 or 6 cm square pots quite sufficient to grow a fairly large number of ferns, enabling a few different species to be raised in a relatively small space. The pots may be filled with the chosen medium or a 2-3 cm layer may be added on top of your normal potting mix. This may be sterilized by carefully pouring hot water (see below) through the mix and then standing the pots in hot water, up to the rim, in a closed container, for an hour or so. The pots



*Rod Hill, Fern Society of Victoria, P.O. Box 45, Heidelberg West, Victoria Australia 3081.

should then be removed, hot water poured through the mix for a second time and then allowed to cool, again in the closed container. If the mix contains no organic material then boiling water may be used. However if organic materials are present, the water should be boiled but then left to stand for 5-10 minutes before it is used. Boiling water often releases toxic chemicals from organic materials, resulting in poor germination and growth.

If a finer medium is used, sterilization with boiling water may prove rather messy. In this case, the mix may be placed in a tray, covered with foil to retain the moisture, and baked in the oven at 250 degrees Fahrenheit for about an hour and a half.

Sterilization is necessary to kill off any moss or fungus spore, or unwanted fern spore, which may be present in the mix.

Sowing the spore

Probably most failures will come from sowing the spore too thickly. One way of sowing spore thinly is by covering the end one centimetre of a small, clean pen-knife blade (or very small chemical spatula) with the spore and then gently tapping off the excess to leave only a thin single layer of spore adhering to the blade. This is quite sufficient to sow a 5-6 cm pot. To sow the spore, hold the blade 6-7 cm above the pot and give it a sharp tap with a pencil to dislodge the spore. This must be done in a perfectly still room, completely free from any draughts or breezes.

Conditions for germination

For spore to germinate, it must be kept moist at all times. This is simply achieved by placing sown pots in a closed container (e.g. plastic ice-cream container, food crisper or glass aquarium covered with a sheet of glass). Provided there is reasonably close contact between the top of the container and the glass cover, the pots should

remain moist almost indefinitely. The pots should be sufficiently moist from the sterilization process and do not need to be standing in water (although some growers advise it). Pots should not be watered from above in the early stages or the spore will be washed away.

Germination seems to occur most rapidly if the spore receives a fair amount of light. A north or east facing window usually provides a suitable aspect, providing that direct sunlight does not fall on the pots. A single thickness of white rubbish-bin liner is often sufficient to diffuse sunlight.

Germination is usually apparent within 3-4 weeks as a fine green film across the surface of the pot. Each tiny green speck slowly develops into a flat, heart-shaped prothallus (the first stage in the life cycle of the fern), usually 2-5 mm across. The prothalli may begin to produce true fronds from the notch of the heart at almost any time from 2-3 months in some very rapid species to several years in other cases. Once prothalli are a reasonable size, any growth of fungus or mould can usually be checked by watering pots with half strength Benlate solution.

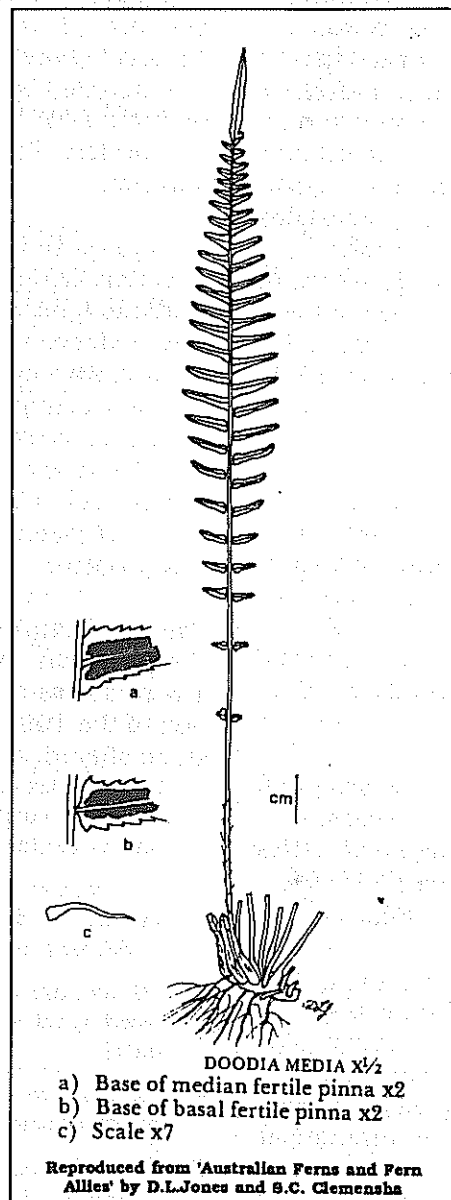
Pricking out and potting on

The tiny sporelings may be pricked out into tubes or trays with only one or two true fronds developed. Containers should be filled with a suitable potting mix and thoroughly moistened. A mixture of about 2 parts peat moss, 2 parts washed river sand and 1 part mountain soil,

all ingredients having been sieved, (or any standard potting mix) should prove satisfactory.

By carefully grasping a tiny frond between thumb and index finger, it should be possible to lift the fern off the pot with its prothallus still attached.

Continued on page 6.



The Natural Resources Conservation League of Victoria: environmentally responsible or not?

By G.W. Carr*

It is now widely acknowledged that environmental weed invasion is overwhelmingly the most serious conservation problem in Victoria (and by extension, Australia), as well as the major vegetation management issue (Carr 1988, in press; Froud and Calder 1987; McMahon et al. 1989). Problems of hybridization between in situ indigenous species and deliberately introduced exotic species have also arisen and threaten rare species or plant populations (Carr 1988, in press). Approximately 1500 exotic species are naturalised in this state (Ross 1990; Carr 1988, in press) of which over 450 are regarded by Carr and Yugovic (1989 and unpubl. data) as serious or potentially-serious environmental weed species. Exotic species include those from overseas, elsewhere in Australia and from Victoria — i.e. species naturalised outside their natural geographic range as a result of human-mediated dispersal (Carr 1988 in press).

Most naturalised exotic species have been deliberately introduced into Victoria, during the history of European colonization, for ornament or utility and Carr (1988, in press) estimated that this applies to 65-70% of such species. Numerous serious environmental weed species are currently available in the nursery trade (Carr and Yugovic 1989) and are disseminated all over the state.

This is hardly new information and the issue has been discussed for at least the last 15 years, while various articles have been published to this effect (e.g. Carr 1986, 1988; Reid 1988; Garnett 1987; Robin and Carr 1983; Elliot 1986).

So far the nursery trade has been extremely reluctant to hear, let alone heed the message. In an attempt to embarrass two major nursery operations in Victoria to respond, Carr et al. (1988) published an article in *Indigenotes* "Plant species available from representative commercial nurseries which are naturalised in Victoria - mostly as proven or potential environmental weeds". These nurseries were the Vicflora nurseries operated by the Department of Conservation and Environment and the Natural Resources Conservation League nursery at Springvale (and elsewhere) in Victoria. Carr et al. (1988) listed 108 species from the nursery catalogues which

* Ecological Horticulture Pty Ltd, 69 Spensely Street, Clifton Hill Victoria 3068.

are naturalised in Victoria, of which they regarded 12 as serious and 15 as very serious environmental weeds.

The Department of Conservation and Environment (DCE) has finally responded positively by making moves to withdraw some species from sale throughout Victoria, other species in parts of Victoria (where weedy), or else nursery stock is accompanied by a warning label alerting would-be purchasers of the potential dangers posed by the species. The last is a less than satisfactory solution.

In contrast to DCE, the Natural Resources Conservation League has apparently maintained a studious ignorance of the problem. On the available evidence one could be led to assume that a profit motive overrides conservation imperatives. It is now common knowledge that weeds are promoted by the horticulture industry. In addition the article by Carr et al. (1988) was published, and I also addressed the League at a well-attended meeting several years ago on precisely this problem. When can we expect change?

The 1991 catalogue of the Natural Resources Conservation League has just come to hand and it is business-as-usual for the League. Examination of the 1991 catalogue reveals that, of the stock offered, the following applies:

- 271 species or taxa (including hybrids and horticultural selections) are offered, of which 77 (28%) are naturalised in one or more places in Victoria.
- 13 taxa are regarded as very serious environmental weed species in Victoria (Carr and Yugovic 1989, unpubl. data).
- 16 taxa are regarded as serious environmental weed species (Carr and Yugovic 1989, unpubl. data)
- 12 taxa are regarded as potentially serious environmental weed species (Carr unpubl. data).

The list of species or taxa for which the above statistics apply is given below (Appendix 1). Note that the names are those used in the Catalogue though they are not necessarily in line with current taxonomic literature such as Ross (1990), e.g. *Eugenia smithii* should now be called *Acmena smithii*.

This article is meant to be deliberately provocative.

tive and it will be interesting to see the response. It would help if "Farm Members" of the League could petition the administration to get its act together. Meanwhile, members of the Indigenous Flora and Fauna Association are freely available to discuss the issues raised here with the League or any other relevant people.

It should be noted that the use of indigenous species (propagated of course from local provenance material) in farm and any other type of

plantings, automatically precludes the problem of environmental weeds arising, as well as hybridization problems. We do not have to move species around the globe or Australia.

Let us be absolutely clear about what is at stake here: The issue is not about the equilibrium of some wishy-washy environmental ideologies or crazed scientists, we face the prospect of the annihilation of the Australian flora and fauna.

References on next page.

Appendix 1.

Plant species available from the Natural Resources Conservation League of Victoria nursery, 1991, that are naturalised in Victoria, including many serious and potentially serious environmental weeds. (Nomenclature follows the 1991 NRCL catalogue with minor modifications)

Species	Common name	serious-ness	Species	Common name	serious-ness
<i>Acacia baileyana</i>	Cootamundra wattle	vs	<i>E. gomphocephala</i>	Tuart	
<i>A. boormannii</i>	Snowy River Wattle		<i>E. kitsortiana</i>	Gippsland Mallee	
<i>A. cardiophylla</i>	Wyalong Wattle		<i>E. leucoxydon</i>	Yellow Gum	
<i>A. dealbata</i>	Silver Wattle		<i>E. maculata</i>	Spotted Gum	s
<i>A. decurrens</i>	Early Black Wattle	vs	<i>E. occidentalis</i>	Swamp Yate	
<i>A. elata</i>	Cedar Wattle	vs	<i>E. spathulata</i>	Swamp Mallet	
<i>A. floribunda</i>	Catkin Wattle	s	<i>E. steedmanii</i>	Steedman's Gum	
<i>A. howittii</i>	Sticky Wattle	p	<i>Eugenia smithii</i>	Lilly-pilly	
<i>A. iteaphylla</i>	Gawler Range Wattle		<i>Fraxinus oxycarpa</i>	Desert Ash	vs
<i>A. longifolia</i>	Sallow Wattle	vs	<i>Grevillea hybrids</i>		s
<i>A. podalyriaefolia</i>	Mount Morgan Wattle		<i>G. robusta</i>	Silky Oak	
<i>A. pravissima</i>	Ovens Wattle	p	<i>Grevillea rosmarinifolia</i>	Rosemary Grevillea	s
<i>A. prominens</i>	Golden Rain Wattle	p	<i>Hakea laurina</i>	Pin-cushion Hakea	s
<i>A. pycnantha</i>	Golden Wattle	p	<i>H. salicifolia</i>	Willow Hakea	p
<i>A. retinodes</i>	Wirilda	s	<i>H. suaveolens</i>	Sweet-scented Hakea	s
<i>A. saligna</i>	Western Wreath Wattle	vs	<i>Hardenbergia violacea</i>		
<i>A. sophorae</i>	Coast Wattle	vs	<i>Kennedia rubicunda</i>		
<i>A. spectabilis</i>	Glory Wattle		<i>Lagunaria patersonia</i>	Pyramid Tree	
<i>Acer negundo</i>	Ash Leaf Maple	s	<i>Leptospermum laevigatum</i>	Coast Tea-tree	vs
<i>Agonis flexuosa</i>	Willow Myrtle		<i>Melaleuca armillaris</i>	Bracelet Honey Myrtle	vs
<i>Agapanthus</i>	Agapanthus Blue	s	<i>M. decussata</i>	Cross-leaf Honey Myrtle	p
<i>Angophora costata</i>	Smooth-barked Apple	p	<i>M. ericifolia</i>	Swamp Paperbark	p
<i>Anigozanthos flavidus</i>	Kangaroo Paw (yellow)		<i>M. hypericifolia</i>	Red Honey Myrtle	s
<i>Banksia integrifolia</i>	Coast Banksia		<i>M. incana</i>	Grey Honey Myrtle	
<i>Betula pendula</i>	Silver Birch		<i>M. nesophila</i>	Lavender paperbark	s
<i>Brachychiton populneus</i>	Kurrajong		<i>Myoporum insulare</i>	Boobialla	
<i>Brachysema lanceolatum</i>			<i>Pinus halepensis</i>	Aleppo Pine	
<i>Callistemon citrinus</i>	Crimson Bottlebrush		<i>P. radiata</i>	Monterey Pine	vs
<i>C. linearis</i>	Narrow-leaf Bottlebrush	s	<i>Pittosporum eugenioides</i> 'variegata'	Tarata	p
<i>C. macropunctatus</i>	Scarlet Bottlebrush	p	<i>P. tenuifolium</i>	'James Stirling'	p
<i>Casuarina cunninghamiana</i>	River Sheoak	p	<i>P. undulatum</i>	Sweet Pittosporum	vs
<i>Chamaecytisus palmensis</i>	Tagasaste/Tree lucerne	vs	<i>Prunus cerasifera</i> 'nigra'	Purple Leaf Plum	s
<i>Cupressus macrocarpa</i> var 'Lambertiana'			<i>Schinus molle</i>	Pepper Tree	s
<i>Eriostemon myoporoides</i>			<i>Sollya heterophylla</i>	Blue Bell Creeper	vs
<i>Eucalyptus botryoides</i>	Southern Mahogany	s			
<i>E. calophylla rosea</i>	Pink Marri				
<i>E. campaspe</i>	Silver Gimlet				
<i>E. citriodora</i>	Lemon-scented Gum				
<i>E. cladocalyx</i>	Sugar Gum				
<i>E. crenulata</i>	Buxton Gum				
<i>E. forrestiana</i>	Forrest's Marlock				
<i>E. globulus</i>	Blue Gum				

Key:

vs - very serious environmental weed

s - serious environmental weed

p - potentially serious environmental weed

Data from Carr and Yugovic (1989 and unpubl. data).

The NRCL: environmentally responsible or not? (continued)

References:

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- Ross, J.H. 1990. *A census of the vascular plants of Victoria*, National Herbarium of Victoria.

Propagating ferns from spore (continued)

At this stage, true roots will usually not be well developed, and the prothallus can be gently pushed down onto the surface of the new pot or tray to support the tiny fern plant. This should be done fairly quickly and in a cool, draught-free location as the delicate sporelings will not survive for long out of the humid atmosphere they are used to. As soon as possible, transplanted sporelings should be very gently watered and placed under glass again.

If the sporelings are allowed to grow too large and crowded before they are pricked out, they may be scooped out in clumps with a spoon, placed in a saucer of water, and then gently separated and planted into tubes or trays. Again they should be replaced under glass without delay.

The newly transplanted sporelings should be allowed to develop under glass until their fronds are about 5-10 cm high. At this stage they may be very gradually acclimatized by slowly raising the glass cover, a few millimetres at a time, over a period of 4-6 weeks. You will need to keep a close watch at this stage to ensure pots don't dry out and you may need to water some plants from time to time. Ferns in trays may be potted up into tubes or small pots either before or after this hardening off process.

If you wish to plant these ferns in an outdoor fernery, they are best grown on in a cold glass-house until fronds reach about 20-30 cm and then planted out, preferably in mid-spring, when indoor and outdoor temperatures are very similar.

Using the techniques outlined above, it is not unusual to grow one or two hundred ferns from each 5-6cm pot sown with spore.

IFFA recommends that wherever possible alternatives be used to peatmoss and tree-fern fibre, as the collection processes for these materials usually involve considerable destruction of natural vegetation. An alternative to these materials is shredded and rotted leaf mould, and this is recommended by the Fern Society in their newsletter. Oak, Liquid Amber, Claret Ash, Elm, Hawthorn and Birch leaves are good.



MR. POLLIE, OUR NEW MINISTER FOR COMPROMISE AND EXTRACTION,
PLANTS A TREE.

Seed collection data sheet

The data sheet shown below was prepared by IFFA members for Go Green for use with any collection of seed made for the Indigenous Seed Bank. This sheet is under review by Go Green, before they print it in copy books. Any comments should be sent to Go Green. In the interim, we suggest that IFFA members collecting seed should photocopy this sheet and use it to document their seed collections, whether or not these are destined for the seed bank.

Explanation:

Collection no: sequential numbering for the day.

Supervisor: e.g. S. Diez

Collection Group: e.g. LTU volunteers, ATCV

Geology/soil type: A=Basalt

B=NE suburbs Silurian

C=Eastern suburbs heathy forest areas (heavy soils)

D=SE suburbs sandy heath areas

E=Coastal sands

F=Dandenong Ranges.

Aspect: tick one or two boxes e.g. SW tick south and west.

Position in landscape: A=Riverine/Riparian

B=Lower slopes and plains

C=Ridges and upper slopes

Voucher specimens: Please collect specimens for all species that seed is collected from.

Note: Small tear-off slips to go into each bag of a collection i.e. up to 3 bags per collection (1 species at 1 site) are catered for.

INDIGENOUS SEED BANK - SEED COLLECTION SHEET

SEED COLLECTION PERMIT NO. _____		DATE _____	
SUPERVISOR _____		COLLECTION GROUP _____	
GENUS / SPECIES _____		LOCATION _____	
STATE _____	LAT. _____ deg.	LONG _____	deg.
LOCATION DESCRIPTION _____		MELWAYS REF. _____	
SUBURB _____		COMMUNITY DETAILS _____	
OFFICE USE ONLY: COMMUNITY CODE _____		3 DOMINANT UPPER STOREY _____	
3 DOMINANT MIDDLE STOREY _____		3 DOMINANT UNDER STOREY _____	
OTHER NOTES _____		OFFICE USE ONLY: RAINFALL > 600 mm <input type="checkbox"/> 450 - 600 mm <input type="checkbox"/> < 450 mm <input type="checkbox"/>	
GEOLOGY		A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/>	
NORTH <input type="checkbox"/> SOUTH <input type="checkbox"/> EAST <input type="checkbox"/> WEST <input type="checkbox"/>		E <input type="checkbox"/> F <input type="checkbox"/>	
SLOPE < 10 deg. <input type="checkbox"/> 10 - 20 deg. <input type="checkbox"/> > 20 deg. <input type="checkbox"/>		POSITION IN LANDSCAPE riparian <input type="checkbox"/> flat to slightly undulating plains <input type="checkbox"/>	
slopes & ridges <input type="checkbox"/>		COLLECTION DETAILS	
No. PLANTS COLLECTED FROM _____		QUANTITY COLLECTED _____	
IDENTIFICATION SPECIMEN COLLECTED <input type="checkbox"/>		IDENTIFIED BY: _____	
IDENTIFICATION NOTES: _____		SEEDBANK STORAGE NO. _____	
SEEDBANK STORAGE NO. _____		ENTERED SEEDBANK DATE _____ INITIAL _____	
90 / _____		ENTERED ON COMPUTER DATE _____ INITIAL _____	

Coming Events:

FEBRUARY

National Clean Water Month. Part of "Every Little Bit Helps" campaign organised by ACF, Life. Be in it and ECO (Earth Communications Office).

- 23 Sat 11am. **General meeting of Australian Association of Bush Regenerators** with illustrated talk by **Tein McDonald** (Bush Regeneration Officer with Ku-ring-gai Council): **Ecological Restoration in the US and Aussie Bush Regeneration - what can we learn from each other?** Field of Mars Education Centre, off Pittwater Road, Ryde. Contact Toni McKay (02) 419 6803.
- 23 Sat. **Leadbeaters Possum Watch**, Fauna Survey Group. Contact Ray Gibson (03) 874 4408. (Also on Sat 16 March).
- 23 Sat 2pm. **Friends of Sherbrooke Forest project afternoon.** Coles Ridge - Ivy, Pittosporum, hollies, &&! Meet at the gate at far south end of Grants Ponic Ground (Melways map 75, ref K4). Margaret Finger (03) 754 3548. (Also on 13 & 23 March, but check location and time with Margaret).
- 23 Sat 4pm. **Mount Eliza Association for Environmental Care** project day. Anne Read (03) 787 2034.
- 23 Sat. Botany Group excursion of FNCV; **Rainforest at Toolangi** with David Cameron. Dorothy Mahler (03) 850 9379 (AH).
- 23 Sat. VNPA Walk, Talk & Gawk: **Rocky Shores - Sorrento** with Patrick Honan. A stroll along rock platforms to look at the ecology of intertidal animals and plants. Access may be steep. Patrick (03) 569 6275.
- 24 Sun. **Flora and Fauna of the Macedon Range - an ecological perspective.** One day program to examine the F&F communities of the Range and to consider their long term viability. Program includes morning lectures and discussions with afternoon field trip. Course leader: Tony Davis. Fee: \$65. Contact Les Fell (054) 27 2273.
- 24 Sun 10am - 1pm. **Nunawading Indigenous Plants Project.** Seed collecting / propagation work, as required. Nunawading Council's Horticultural Centre, 82 Jolimont Rd, Forest Hill. Brian Crouch (03) 878 5053. (Also on 24 March).
- 24 Sun 10am. **Friends of the Wildlife Reserves -** (LaTrobe University) working bee. Gresswell Forest. George Paras (03) 479 2871. (Also on 24 March, but at Campus Reserve).
- 24 Sun 10am. **MEAFEC** see 23 Feb. MEAFEC also has project work on the 4th weekend of March.
- 24 Sun 2 pm. **F. O. Victoria's 1st Settlement site - Sorrento.** Stuart Sherrin (059) 84 1953.

26 Tues 8pm. **IFFA (Vic) meeting.** Tour of the new Herbarium with Michelle Arundell. Herbarium Hall, Birdwood Ave, Sth Yarra, Melways map 2G, ref 12 A.

MARCH

National Landcare Month. Part of "Every Little Bit Helps" campaign organised by ACF, Life. Be in it and ECO (Earth Communications Office).

- 2 Sat. **F.O. French Island S.P.** - inspection of Sea Eagle nesting site. Fay Gordes (03) 772 9668.
- 2 Sat. **F. O. Gellibrand Hill Park** activity day. Kerry Pratchett (03) 306 8180.
- 3 Sun 9am - 6pm. **Victoria's Flora and Fauna: Can it survive the Greenhouse Effect?** What could happen? Is Victoria's conservation reserve system good enough? What should be done to save Victoria's flora and fauna from climatic change? Speakers include prominent biologists, geographers, politicians, government land managers and community groups. Open to the public. Melbourne University. Contact Jamie Pittock, Victorian National Parks Association (03) 650 8296.
- 3 Sun 1pm. **F. O. Langwarrin Flora and Fauna Reserve** activity day. Meet at the McLelland Drive car park, Melways map 103, ref C10. Contact Ann Read (03) 787 2034.
- 3 Sun. VNPA Walk, Talk & Gawk: **Central Highlands.** Grade: medium, full day. Leader: Jamie Pittock (03) 572 1562 (H), (03) 654 6843 (B). A spectacular area of important conservation value under investigation by the LCC and subject to much controversy. 80km NNE Melb.
- 3 Sun 10.30. FNCV excursion. **Spiders and general natural history** with Gerard Marantelli. LaTrobe University Wildlife Reserve, meet at front gate of reserve. Contact Dorothy Mahler (03) 850 9379.
- 4-7 Mon-Thurs. **Conference: Protective custody - ex-situ plant conservation in Australia.** Convened by the Australian National Botanic Gardens. Registration fee: \$65. Enquiries: Mr Lyn Meredith, Conference Convenor, A.N.B.G. GPO Box 1777 Canberra ACT 2601.
- 5 Tues 6.30pm. **IFFA committee meeting.** At Graeme Lorimer's, 42 Gratten Rd, Montrose.
- 5 Tues 8pm. Fauna Survey Group meeting. Speaker: **Dr Gerry Quinn** (Monash University) - **Rocky Intertidal Shorelines: a study in human interference.** National Herbarium Hall, Birdwood Ave., Sth Yarra. Alex Kutt (03) 347 0012.
- 5 Tues 10am-1pm. **Greenlink Box Hill planting & maintenance.** (Every Tuesday). Fred & Fiona Cumming (03) 898 4808 (AH).
- 7 Thurs 10am. **Propagation day, F.O. Warrandyte S.P.** Meet at the Park depot. Margaret Burke (03) 844 1060. (This activity is on every Thursday)
- 9 Sat. **F. O. Dandenong Ranges N.P.** project day. Graham Barstow (03) 758 6935.
- 9-11 Sat-Mon. **Fauna Survey Group** labour day weekend campouts:
1) **Nooramunga Marine Coastal Park survey.** Contact Mal Turner (03) 525 6693 or Julian Grusovin (03) 543 8627.

- 11) **Introduction to bat surveying techniques - Western Plains.** Contact Lawrie Conole (03) 481 4926 or Alex Kutt (03) 419 0752.
- 10 Sun 9.30am. **ANGAIR meeting.** At the Senior Citizens' Club, Anglesea. Mary White (052) 631 975.
- 10 Sun. 10am-3pm. **F. O. the Yarra activity day.** Galatea Pt, Melways map 2D, ref. D7. Judy Ruth-erford 347 2252. (Also on Wed. 27 March).
- 10 Sun 10am. **Stony Ck weeding.** Mark Gardner (03) 844 3799.
- 11 Mon. **ANGAIR walk.** See 10 March.
- 12 Tues 7.30pm. FO Gould League Nat. Hist. program. **Developing a Naturalists Kit** by Cecily Falkingham & Alan Reid. Cost: \$75 for 10 month program or \$10 each. Gould League: 67 High St. Prahran. Contact Gayle Seddon (03) 510 1493.
- 14 Thurs 8pm. Botany Group meeting of FNCV. **Biology of seaweeds** by Mrs. Iona Christianson and panel. National Herbarium Hall, Birdwood Ave., Sth. Yarra. Margaret Potter (03) 889 2779.
- 16 Sat 9.30am - 3pm. **Bird Observers Club of Australia Open Day.** BOCA H.Q. will be open for extended hours on this day. There will be a continuous audio-visual program, information leaflets, bird-song tapes, nest-boxes, videos, books, wallcharts and more. BOCA: PO Box 185, Nunawading, Vic, 3131, (183 Springvale Rd.), ph: (03) 877 5342.
- 16 Sat. **Friends of Churchill N.P. & Lysterfield Lake Park** project day. Neal Smith (03) 873 2635.
- 16 Sat 9.30am. **Friends of Werribee Gorge & the Long Forest Mallee.** Project day. Judy Douglas (03) 67 2672.
- 17 Sun. 10am-12noon. **Brunswick Tree Group** activity day. Meet at Moonee Ponds Ck at end of Union St. Melways map 29, B9. Eric Ward (03) 387 9490.
- 17 Sun. **VNPA Walk, Talk & Gawk: Lal Lal - Bungal.** Grade: easy/med, full day. Leader: Patrick Hinan (03) 569 6275. Bungal Dam, Lal-Lal Falls and a look at the diversity of early mining activities. 100km W Melb.
- 17 Sun 8pm. FNCV general meeting hosted by Fauna Survey Group. **Fauna exposition** including mist nets and bat trapping in Botanical Gardens. Julian Grusovin (03) 543 8627.
- 18 Mon 8pm. Society for Growing Australian Plants - Victoria, general meeting. Speaker: **Dr Gretna Weste on *Phytophthora cinnamomi*** (Cinnamon Fungus). National Herbarium Hall, Birdwood Ave., Sth. Yarra. Enid Bowman (03) 882 5297.
- 23 Sat. Botany Group excursion of FNCV. **Seaweeds at Mornington**, with Mrs. Iona Christianson. Margaret Potter (03) 889 2779.
- 23 Sat. **VNPA Walk Talk & Gawk: Western Grasslands.** Grade: easy, afternoon. Leader: Chris Kenyon (03) 803 3495. Remnants of relatively intact native grassland are rare. We will inspect those remaining to the west of Melbourne and learn about their flora and fauna. 15km W Melb.
- 23 Sat 8.45am (registration). Seminar: **Urban Bushland in Western Sydney.** University of Western Sydney, Nepean Campus, School of Humanities, Werrington. Speakers include Doug Benson, Robin Buchanan, Tein McDonald, Ian Perkins. Cost: government and commercial - \$45, individual - \$20, concession - \$10. Contact Gay Spies (02) 958 8569.
- 24 Sun, starting 7am. **Clean Up Brisbane Day.** Various areas around Brisbane have been chosen. Toohey Forest Protection Society participating. TFPS: Shirley Walton (07) 848 1036. General enquiries (07) 221 1331.

APRIL

National Clean Air Month.

- 3 Wed 8pm. Geology group meeting of FNCV. Geomorphology by Mrs Gabi Love. Helen Bartoszewicz (03) 311 5106.
- 3 Wed 7.30pm. FOGL nat. hist. prog. **Spiders** by Wendy Clark. With field trip on 6 April. See 12 Mar
- 4-7 Thurs-Sun. The **fifth Ecopolitics conference** at the University of New South Wales, Sydney. For details contact Dr Ronnie Harding, Centre for Liberal and General Studies, University of NSW, PO Box 1, Kensington 2033. NSW. Phone (02) 697 2433 or (02) 697 2436.
- 9 Tues 7.30pm. FOGL natural history program. **Bush birds** with Alan Reid. Field trip on 18 May. See 12 Mar.
- 10 Wed 7.30pm. FOGL natural history program. **Melbourne's Geology & Fossils** with Bruce McLeash. Field trip on 25 May. See 12 Mar.
- 7-14 Sun-Sun. **Heritage Week.** Theme this year is "Save the Bush".

A large range of activities such as bushwalks and "Friends" activities are published by the **Victorian National Parks Association** in their newsletter. For details contact VNPA (03) 650 8296.

The Australian Trust for Conservation

Volunteers coordinate plantings throughout Victoria and interstate. They take place throughout the week and on week-ends, usually a specified number of volunteers is required and most plantings are indigenous. For further information contact ATCV:
 National Headquarters in Ballarat: (053) 32 7490
 Adelaide: (08) 365 1612.
 Sydney: (02) 413 5522,
 Tasmania: (003) 415 444.

The editors will be pleased to receive information about any relevant events for listing in **Indigenotes**.

Book Review:

'Western civilization in biological perspective — Patterns in biohistory'

Stephen Boyden, Oxford University Press, RRP: Paperback, \$35.00; Hardback, \$90.00

By Roger Jones

I first ran across this book in the local library when the title caught my eye. A happy accident, because by the time I had read the preface I was hooked. When OUP released the book in paperback at a much reduced price from that of the hardback, I bought it and returned to the library the copy I had taken hostage much to the relief of the other two people who were known to use it.

Those who have been in a position to ponder the relationship between human affairs and the natural world are only too conscious that when our society and ecosystems come into contact, it is generally the natural world that comes off second best. When we study these ecosystems in order to learn from and defend them we find they have histories that stretch back to the dawn of life, 4000 million years ago. Plants, animals, landscape and climate all have their origins in the distant past, and it is impossible to understand them if we do not understand their histories.

Stephen Boyden is a Professorial Fellow in Human Ecology at the Australian National University in Canberra. In his book he argues that by taking the conventional view of history in trying to understand and solve human problems, western society is limiting itself. By studying the biological history of humanity and its links with culture and the natural world we can greatly increase our understanding of society and its relationships with biological systems. He terms this concept biohistory.

An ecologist would agree and call it common sense.

Western Civilization in Biological Perspective, after introducing some aspects of biological and cultural need in society, begins its history in primeval society and moves through to the current high-energy phase of western society. Presented to the reader is a history of human health, adaptation, culture and its effect on the world. Professor Boyden has written this book after a number of years teaching and researching biohistory and the depth and breadth of information he uses to explain the concept is impressive.

It is clearly written, if academic in tone, and supported by extensive notes and references at the end of each chapter. The reader will find the

reading of this book a lengthy task, but well rewarding. It can be in turn depressing and exhilarating. This reader found himself regularly putting the book down to follow a train of thought suggested by the author, picking it up and putting it down again a few pages later to follow another.

The wealth of facts collected will arm one against those who wish to argue with one's ecological convictions. For instance, although the Australian farmer is proud of their "world's highest efficiency" in food production, which is true for calories produced per unit area, it is one of the worst countries for energy consumption, with an energy input/yield ratio of 0.35 by the time it is at the retail outlet. Considering this energy is currently being fought over gives one pause for thought.

Particularly impressive was the section describing the public health movement in the 19th century. It describes the difficulty of reformers in changing conditions to those we take for granted today. Clean water, unadulterated food and regular access to medical aid are assumed as everyone's right, however they were widely resisted by those in power for much of last century. The parallels between the public health movement and the conservation movement today are inescapable, and help to describe the massive resistance to calls for society to take a more ecological direction. The ideas as expressed in this book can only help to make those calls louder.

A biohistorical view must also call into doubt the philosophies of the right and left as expressed by Karl Marx and Adam Smith. Both of these philosophies are based on a limited historical view of western society, and in many cases, use analogies from the natural world which are quite false.

Western Civilization in Biological Perspective is an important book. In its turn it deserves to be a landmark such as *Silent Spring*, *Animal Ethics* and *One Straw Revolution*. It also proves that concise and critical thinking will be the most effective tool there is for change, rather than the mindless and misguided emotionalism which is supposed to rule the conservation movement. •

Snippets:

Friends of Parks Conference

A conference, sponsored by VNPA, for members of Friends groups and other interested parties will be held at Northcote Camp near Bacchus Marsh on Labour Day Weekend, March 9,10,11 1991. There will be workshops on everything from weed control to writing newsletters and Dr. Jim Willis will be Keynote Speaker. The cost is \$78 for the weekend including meals and accommodation. Contact the VNPA at 650 8296 for more info.

Peninsula Pest Plants

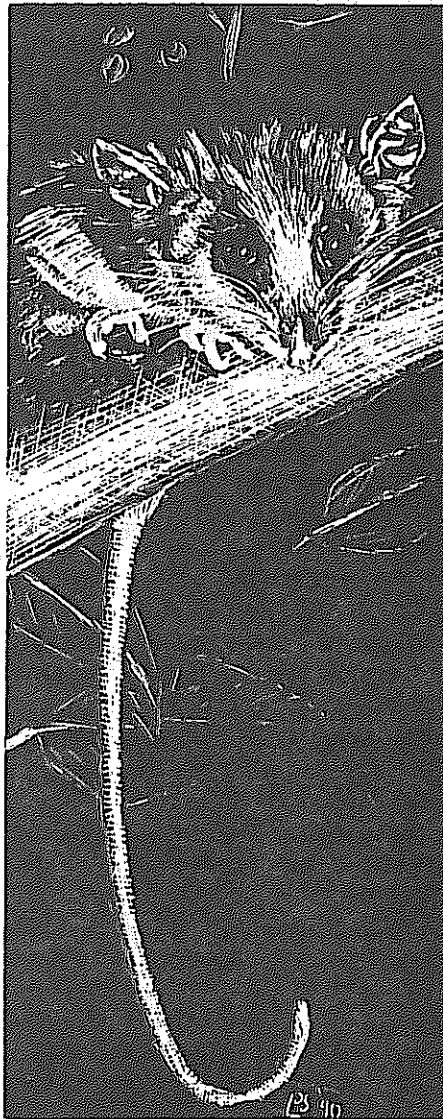
A new publication supported by concerned local Councils titled "Mornington Peninsula Pest Plants", is a valuable guide to 32 threatening weeds on the Peninsula ranging from Agapanthus to Wild Watsonia. It includes good photographs for identification, together with appropriate control measures, suggested replacement plants and those not to plant. It would be an excellent companion for "The Mornington Peninsula -- A Field Guide to the Flora, Fauna and Walking Tracks." It is available for FREE! from Dromana C & E Information Center and Peninsula Shire Parks and Gardens Offices.

Environmental Impact Assessments

RMIT And the Department of Planning and Housing are sponsoring a one day workshop on Environmental Impact Assessments for people involved in planning and development. There are six speakers from different perspectives and they hope to answer many questions: what is it, why do we have it, when is one needed, how to do them and who can help. The workshop is on Friday 1st March at 8:30 AM and costs \$100, including lunch and speakers' notes. For more info call 628-5416 or 660-2226.

Forests Under Threat

Greg Barber, Forest Campaign Officer of the Conservation Council of Victoria(CCV) spoke to the January meeting of IFFA about the ongoing destruction of forests in the Central Highlands and Otways regions of Victoria. The forests in both regions have been logged and burnt heavily in the past leaving the old forest habitat that is left in fragments. Rare and endangered species such as the powerful owl, yellow bellied glider, tiger quoll, Spencer's skink and many species of bats and birds depend on these fragments for their survival.



Burramys parvus by Lynlee P. Smith

Widespread woodchipping is the newest threat to the old forest habitat, as recently announced by Steve Crabb. This means that clearfelling will become more heavily entrenched and forests that have formerly been uneconomic to log will be opened up.

Rainforest areas are also still under threat. As reported in *Indigenotes* (Vol. 3, No. 10) last year certain rainforest areas have been left out in the cold by the loss of a few words in C&E's official definition. Somehow developing rainforest overshadowed by commercially valuable eucalypts is now not to be considered rainforest and can be logged. In the Otways this will mean that approximately 3/4 of the area given protection in 1987 as part of the State Conservation Strategy has now been withdrawn from protection because of the change in definition.

In light of these new threats to the last old forests of Victoria the CCV is starting a high profile campaign to protect the remaining old forest habitats in the Otways and Central Highland. The Otways Forest Plan is already out and response kits can be obtained from CCV. The Forest Plans for the Upper Yarra and Alexandra Regions are coming soon. Comments in support of preserving the old forests that are left are urgently needed.

The Forestwatch Campaign that was started in 1989 is also to be continued as part of CCV's campaign. At that time Jamie Pittock did a survey

Snippets:

on adherence to the Code of Forest Practice. The results were appalling, breaches of the Code proved to be the norm. When the report was published it caused quite a stir for the then Minister for Environment, Joan Kirner, who subsequently promised to clean up the department's act. CCV plans to check up on C&E again, this time in the Central Highlands. Donations are urgently needed for this worthwhile project.

For more information on any of these issues or to make a donation contact CCV, 247 Flinders Lane, Melbourne 3000 PH. 03 654 4833

Success with *Exocarpus*

David Lloyd reports success at last in propagating *Exocarpus* from seed. He fed fruit to his chooks, and then sowed the seed with *Themeda*. David believes that the *Themeda* provides the young semi-parasitic *Exocarpus* with a host. The adult plants are considered to be parasitic on eucalypts, so presumably *Exocarpus*+*Themeda* pots should now be planted next to a eucalypt to allow growth to adulthood.

Vegetation Clearing Controls

The official response period to proposed Amendment S%, that would require a permit to clear any native vegetation ended on February 8 and the temporary controls will also expire at the end of this month. IFFA and several other conservation groups have made strong criticisms about the amendment's weak points. Despite its shortcomings the controls should prove to be a valuable step towards preserving our important remnant bushland if it isn't watered down when it goes to cabinet in the near future, and if the government shows a clear commitment to implementation and enforcement. Even though the deadline has passed, more letters would keep the pressure on. Address letters to: The Premier, 1 Treasury Place, Melbourne 3002.

DCE ever changing department

Victoria's Department of Conservation and Environment now has responsibility for the Environment Protection Authority and residual environmental functions and the Land Conservation Council transferred from Department of Planning and Urban Growth, and Clean Up Australia transferred from the Department of Premier and Cabinet.

Regional vegetation database

Revegetation workers from a number of "sandbelt" municipalities have been meeting to discuss the idea of compiling a database to detail occurrence, propagation and cultivation of flora indigenous to the region.

Dr Paul Gullan of the Department of Conservation and Environment's Flora Survey Group has outlined to the meeting the way in which databases work and can be applied to flora mapping and revegetation. Discussion is covering what information should be recorded on paper, what should be entered into a database, how regional databases could share information with each other, and with the Flora Survey Group's and Board of Works' databases, and how regional variations to the structure of the databases could be allowed for.

IFFA, together with St Kilda City Council applied for \$25,000 funding from the Federal "Save the Bush" grant scheme to develop a pilot scheme for the Regional vegetation database. According to a letter from Save the Bush, this application was competing with over 400 applications seeking more than \$6.5 million in support, but there was only \$550,000 available. In any event this project was not funded.

For further information, contact Rob Scott at City of St Kilda on (03) 536 1491 or Andrew Shannon at City of Springvale on (03) 549 1290. Further details in next *Indigenotes*.

Recent articles of interest:

Bates, R.J. and Weber, J.Z. 1990, *Orchids of South Australia*, Government Printer, Adelaide.

An excellent new book, one of the best yet published on Australian orchids and an indispensable reference for the botanist's shelves. (\$35 + postage from the SA Government Printer).

Moir, A. and Jessel, D. 1991, *Brainsex - The real difference between men and women*. Mandarin Paperbacks, London.

One of the most important books you are ever likely to read on human behaviour (which affects just about everything doesn't it?). Should be mandatory reading for all.

Carr, G.W. 1991, 'New taxa in *Caladenia* R.Br., *Chiloglottis* R.Br., and *Gastrodia* R.Br. (Orchidaceae) from south eastern Australia', *Indigenous Flora and Fauna Association Miscellaneous Paper no. 1*, 8 Feb. 1991. Descriptions of 21 new species and sub-species

of orchids. (See notice on back page regarding price and availability).

Handen, G.J. ed. 1990, *Flora of New South Wales Vol 1*. New South Wales University Press, Kensington.

Number one of a complete four volume state flora, a first available for NSW and an essential reference for the serious botanist; highly recommended.

Shann, J. 1990, *Australian Native Plants in Melbourne - where to find them*, Society for Growing Australian Plants, Victoria.

Documents living collections of 3920 Australian plant species in Melbourne gardens. See review by J.H. Willis, in the December 1990 edition of *Society for Growing Australian Plants Newsletter*.

Proceedings of the 9th Australian Weeds Conference, Adelaide, South Australia, August 6-10, 1990. The following papers of interest were presented in the 'Weeds in National Parks, conservation and amenity areas' sessions of the conference and published in the proceedings: Available from: J. Heap, South Australian Department of Agriculture, Box 1671 GPO Adelaide, SA 5001.

Balneaves, J.M. & Hughey, K. 'The need for control of exotic weeds in braided river beds for conservation of wildlife' pp. 103-108.

Russel lupin (*Lupinus* hybrid) and Tree Lupin (*Lupinus arboreus*) are encroaching on breeding habitat for waterbirds in the braided river systems of New Zealand, along with various other hard-seeded species and willows.

Bass, D.A. 'A comparative study of the invasiveness of two alien fleshy-fruited woody plants on the northern tablelands of New South Wales' pp. 109-112.

Compares *Crataegus monogyna* (Hawthorn) with *Prunus mahaleb* (St Lucie's Cherry) and concludes that "the history of introduction and the degree of human assistance/management in moving plants around are the main factors determining the variation in range expansion between the two species"

Cooke, D.A. & Robertson, M. 'Bridal Creeper, *Myrsiphyllum aparagoides* (sic) in South Australia' pp. 113-115.

Favoured methods for control includes spot-spraying with 360 g/l Glyphosate at 1:100. Most effective if carried out during active growth period prior to flowering in July to Sept to allow translocation to the rhizome. In trials in scrub on Yorke Pen. S.A. at least 2 follow-ups were necessary.

Carter, R.J., Cooke, D.A., Chapman, G. and Sheridan, P. 'South African milkworts, *Polygala* spp. in southern Australia' pp. 116-120.

Two species naturalized in S.A.: Myrtleleaf milkwort (*P. myrtifolia*) and Purple Broom (*P. virgata*). "Long distance dispersal by man is unpredictable. Seed dispersal from satellite infestations causes the fastest spread. Increased popularity as garden plants would increase their rate of dispersal to new areas. The habitats susceptible to invasion are

typically ungrazed sites on calcareous sands or shallow calcrete. This includes most coastal areas of S.A. The characteristics which make milkworts suitable for gardens in coastal localities enable them to volunteer readily in those localities." Control by hand pulling or herbicides including amitrole, dicamba, glyphosate, picloram and triclopyr can kill mature *P. myrtifolia*

Pritchard, G.H. 'Control of rust-infected blackberry with herbicides in Victoria' pp. 121-124.

Rust has not to date decreased the susceptibility of blackberry to foliar-applied herbicides, and applying these herbicides after the rust has caused some defoliation gives equal or better control than applications later in the season.

Swarbrick, J.T. & Dreler, K.M. 'Cat's claw creeper and its control' p. 125.

Cat's-claw Creeper (*Macfadyena unguis-cati*) propagates readily by layering but also sets many wind-borne seeds which germinate freely in moist leaf-litter. Following its introduction as an ornamental, this species has become naturalized in coastal and subcoastal Queensland and NSW wherever soil moisture, nutrients and temperature permit. The soft wooded vines are easy to cut and the plant is susceptible to glyphosate. An effective control program starts with cutting vines 1 m above ground before flowering, followed by spraying the cut lower ends with 3% glyphosate. This kills the vines in the tree canopy and kills back vines between the cut & the ground. Vines and seedlings on the ground are killed by spraying with 3% glyphosate.

Scott, J.K. & Adair, R.J. 'The commencement of biological control of bitou bush and boneseed (*Chrysanthemoides monilifera*)' pp. 126-129.

It is too early to assess the success of the two agents released so far - Bitou Tip Moth and Black Boneseed Beetle. The large number of potential other agents under investigation portends success.

Skeat, A.J. 'Biological control of *Salvinia molesta* in Kakadu National Park, Northern Territory' pp. 130-133.

The weevil *Cyrtobagous salviniae* has failed to control *Salvinia* in Kakadu, although it has proved successful in many other areas. High water temperatures seem to be inhibiting the weevil.

Lonsdale, W.M. & Lane, A.M. 'Vehicles as vectors of weed seeds in Kakadu National Park' pp. 134-136.

A total of 1511 seeds from 84 species, many alien to the region, were collected (by vacuuming) from 222 tourist vehicles travelling in Kakadu National Park. In Sept. and Oct. around 70% of vehicles were carrying seed. "It seems reasonable to argue that driving off roads and marked tracks should be restricted as far as possible.

St John-Sweeting, R.S. and Morris, K.A. 'Seed transmission through the digestive tract of the horse' pp. 137-139

'The majority of seeds tested showed little or no loss in viability after transmission. Small seeds had higher levels of survival than large seeds. Seeds which had a high % hard seed before transmission had a high % of seed transmission survival' The rate of transmission was high on the second and third days after ingestion and peak recovery of seed occurred on the fourth day. Of the seeds studied, peaks ranged from 3 to 5 days. "After peak recovery seed transmission declined till nil seed was recovered 13 days after ingestion. The work indicates that horses will disperse weed seeds for 10 days after ingestion and pass relatively high levels 4 days after ingestion. It was found that in a single day a horse has the potential to pass 700 live Marsh Mallow seeds.

Stafford, J.L. 'Revegetation with native grasses in conservation/amenity areas' pp. 140-143.

In the East Torrens district where approximately 50% of the land is now no longer cropped or grazed having been cleared or otherwise disturbed to varying degrees, weed invasion is a continual problem. Much of the land is also very steep and is not accessible to conventional equipment. Trials and pilot projects have demonstrated that native grasses such as Kangaroo Grass can be successfully established on almost any terrain and thereafter used to counter weed invasion. The challenge now is to develop more efficient methods of growing, harvesting and sowing seed on a scale that will make it possible for significant areas of degraded vegetation to be revegetated and put under post-establishment management practices.

Bulman, P. 'Revegetating with trees and shrubs on degraded land' p. 144.

Syrett, P. 'The twig mining moth *Leucoptera spartifoliella*, an accidental introduction for biological control of Broom (*Cytisus scoparius*) in New Zealand' p 523.

Managing conflict in Parks and recreation - Proceedings of the 63rd National Conference of the Royal Australian Institute of Parks and Recreation and the Inaugural Congress of the International Federation of Parks and Recreation Administration Asian/Pacific Region, Adelaide Convention Centre, Adelaide, Australia, 30 September - 4 October 1990.

This is a hefty collection of 51 papers, many of which might be relevant to reserve planners more so than managers. Three papers caught my eye:

Coveney, J. 'Threats to peri-urban parks: are there any solutions? Case study - Dandenong Ranges National Park'

Bateson, P. and Grimwade, R. 'Managing conflict in Sydney's Urban Bushland'.

van Pelt, J. and Wright, M. 'Green Point, Lake Macquarie, NSW: a case study in conservation and development'.

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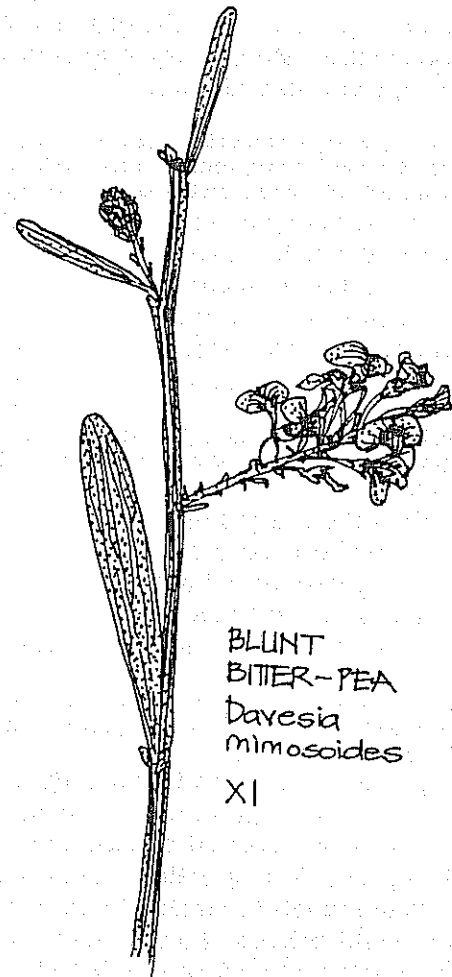
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Enquiries (03) 386 0264 (home)



BLUNT
BITTER-PEA
*Daviesia
mimosoides*
XI

By Andrew Paget

What is IFFA?

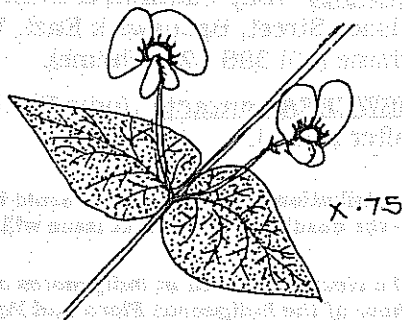
The Indigenous Flora and Fauna Association (IFFA) is an organisation dedicated to the conservation of the indigenous Australasian biota. Its members, comprising both amateur and professional workers come from diverse backgrounds including botany, zoology, ecology, horticulture, environmental management, education and other fields.

The organization believes that conservation of plants, animals and the communities they form, must be based on sound knowledge of their biology, ecology, distribution, status and management requirements. To achieve these ends, we aim to foster a broad multidisciplinary approach, bringing together expertise from a wide range of professions which are too often independent and narrowly focussed. We believe this approach is necessary to maximise the conservation, social and economic benefits of responsible resource management.

In particular we wish to encourage participation and involvement in the important emerging disciplines of conservation and restoration biology, habitat reconstruction, revegetation and the active management of vegetation and fauna - on public and private lands.

It is a primary objective of the Association to research, collect and disseminate information concerning conservation matters to relevant agencies, groups and individuals through *Indigenotes* and our new journal *Advances in Nature Conservation*, and a miscellaneous paper series. We also aim to participate on debate in environmental issues and help in the formation of conservation policies at the local, state or national levels.

The resources of IFFA are available to both the public and private sectors of the community to help establish appropriate conservation and management strategies.



HANDSOME FLAT-PEA
Platylobium formosum

By Andrew Paget

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Indigenotes are available from
Michele Arundell
for \$2.

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(vol. 1 no. 1 to vol. 4 no. 1)
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Make cheques payable to the
Indigenous Flora and Fauna Association,
and send orders to
The Secretary,
IFFA,
Ms Michele Arundell,
2/81 Alexandra Ave,
South Yarra 3141.

Memberships

IFFA membership costs
\$40 for groups,
or
\$20 for individuals
and families.

Membership includes
11 issues of
Indigenotes per year.

Memberships should be sent to
The Secretary,
Indigenous Flora and Fauna Association,
Ms Michele Arundell,
2/81 Alexandra Ave
South Yarra Vic 3141.

IFFA (Vic) February Meeting:

Tuesday 26 February, at the Herbarium Hall, Birdwood Ave, South Yarra (Melways map 2g 12A). The meeting will include a tour of the Herbarium led by our Secretary, Michele Arundell. Bring things to show and tell also.

March IFFA Committee Meeting:

Tuesday 5 March at 6.30 p.m. at Graeme Lorimer's, 42 Gratten Road, Montrose.

IFFA Booklet review night:

Friday 15 March at 6.30 p.m. at Tony's, 10 Alsace Street, East Brunswick 3057.

March IFFA meeting:

Tuesday 26 March.

Cover Illustration:

Dianella tasmanica, drawn by Anita Barley.

According to Willis, *D. tasmanica* is widespread in cooler, damp forest country of Victoria where often frequent, usually in sheltered situations, and ascending into the alps. Also in Tas. and NSW. Can be distinguished from other species by the Y-shaped leaf base in cross-section, serrulate along leaf margins and keeled midrib and its yellow anthers. **a.** whole plant (x c.1/5), **b.** inflorescence (x c.1/2), **c.** flower (x c.2), **d.** berry (x c.2), **e.** leaf section showing serrulate keeled midrib (x c.2)

IFFA Miscellaneous Paper No 1.

IFFA's inaugural paper in this series is a description by Geoff Carr of 21 new species and sub-species of orchids, and is entitled

'New taxa in *Caladenia* R.Br., *Chiloglottis* R.Br., and *Gastrodia* R.Br. (Orchidaceae) from south-eastern Australia'.

Copies are available for \$7 + postage from IFFA, c/o 69 Spensley St., Clifton Hill, Vic. Aust. 3068.

Contents:

Propagating ferns from spore	2
NRCL of Vic.: environmentally responsible or not? by Geoff Carr.	4
Seed collection data sheet	7
Coming events:	8
Book review: 'Western civilization in biological perspective - patterns in biohistory' from Roger Jones.	10
Snippets:	11
Friends of Parks Conference, Peninsula pest plants, Environment Impact Assessments, Forests under threat, Success with exocarpus, Vegetation clearing controls, DCE ever changing, Regional vegetation database, recent articles of interest.	

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Contributions to *Indigenotes* should be sent to the editors — the deadline for the next issue will be 1 March.

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