

# INDIGENOTES

*Acacia melanoxylon*,  
showing flowers, pods, seed  
(with aril) and gland. From  
Anita Barley.

# Seed Collecting - general guidelines

By Darcy Duggan\*

The availability of seed of local native species is critical for both nursery propagation and direct seeding to enable revegetation and conservation of natural areas.

Seed collecting is an interesting and rewarding way to discover and explore the local flora and fauna of an area. The techniques involved in collecting seed are easily learnt and can be carried out by almost anyone. As such, it provides an opportunity for any interested member of the community to play a small but vitally important part in the conservation and protection of our natural heritage.

It is essential however, that all people undertaking seed collecting have a good understanding of the basic principles or ethics associated with this task, and follow a few simple guidelines.

These can be outlined as follows:

## ETHICS OF SEED COLLECTING

### 1. Respect

Most urban remnant vegetation sites are now small isolates with often depleted species diversity, and fragmented and declining populations of local native species. As such, these sites are now extremely vulnerable to disturbance pressures such as trampling of ground flora and excessive damage/removal of foliage. It is absolutely fundamental therefore, that seed collectors treat all remnant natural areas with total care and respect.

When working in an area;

- [move carefully and watch where you walk to avoid damage to native ground flora.](#)
- [when collecting seed from shrub and overstorey species, minimise damage to vegetation through excessive pruning or breaking foliage.](#)
- [if working with a group, spread out over the site. Small groups are preferable compared with large groups of enthusiastic well intentioned people which can inadvertently cause a lot of damage to sites.](#)
- [Carefully select sites to suit the skills level of groups. Especially sensitive areas should be avoided when working with inexperienced groups such as schools.](#)
- [Exercise caution when disclosing the location of rare or endangered species to minimise the loss of](#)

\* Yarra Bend Park Trust, P.O. Box 103, Fairfield 3078.  
Phone (03) 4810866.

[these sites through "poaching". Ensure collection of seed or propagating material of these species is undertaken by experienced and trusted collectors.](#)

### 2. Integrity

Maintaining the genetic diversity and integrity of a given species is critical to its long term protection and conservation.

The local flora of an area may comprise one or more plant communities. A plant community is made up of populations of numerous different plant species, which over a long period have evolved and adapted to suit the local soils and climatic conditions of a given area. This has led to the development of local forms or varieties of particular plant species, with different genetic make-up.

The term "provenance" is used to differentiate between populations of the same species, and to identify the location from where the seed or cutting material was collected, and hence the area where the particular characteristics and genetic make-up for that species belongs.

To conserve the character and genetic make-up of a local population therefore, it is necessary to collect and propagate seed from that local provenance, and make sure that propagated plants are planted back to that provenance.

Seed collecting however is a subjective exercise.

There is often a tendency to either consciously or subconsciously search for superior healthy plants with a heavy seed load to collect from. This temptation must be avoided, as it is critically important when seed collecting, to obtain a broad sample of the local gene pool of a species, to maintain the genetic diversity within a given population of plants. This can best be achieved by collecting seed from all individuals irrespective of seed load. It is far better to collect a small amount of seed from a large number of plants than vice versa.

In general no more than 20% of the seed present from any given plant should be collected.

There are often problems in collecting seed from rare or isolated individuals. For example the seed may have a low genetic viability due to self pollination and/or incrossing between related individuals: and represent only a small or distorted compo-

ment of the original gene pool.

These factors are of particular concern and relevance to the potential impact commercial seed collecting agencies could have on the integrity of seed used in revegetation programs.

### 3. Documentation

Thorough documentation is essential to ensure the integrity of seed and propagating material which has been collected. Documentation is also important in providing invaluable information regarding the management needs of a given site, by encouraging a better understanding of vegetation dynamics and ecological processes.

The process of documentation is straight forward and is outlined as follows:

- Locate the remnant vegetation site.
- Identify species present.
- Collect a plant pressing showing fruits, flowers and leaves to confirm identification. It is useful to establish a small herbarium collection of plants from a given site for research and as an educational aid.

If there is any doubt as to the identity of a plant in the field, it is essential that it is properly identified before seed is collected from it. In this way, many hours of valuable time and energy can be saved in

collecting seed from what might turn out to be either a weed or non-indigenous species to the area.

### 4. Keep notes for each site

Record things such as flowering and maturation times of species present, general status of the vegetation community, environmental pressures affecting the site, e.g. weed invasion, rabbit grazing, disturbance etc.

These site records are invaluable in documenting a site, especially in developing a management strategy for the area. It is useful to record the changes in a site over a period of time, for example to record flowering times of different species, and variations from year to year.

Hence it is important to revisit the site throughout the year, but especially during spring and summer to monitor the rate of development and maturation of seed.

### 5. Labelling

Each collection of seeds should be labelled with the name of the species, date, name of collector, location (eg Melways map reference) soil type and underlying geology, aspect, and any other relevant observations (e.g. wildlife habitat).

## FACTORS TO CONSIDER WHEN

## Permit requirements (Vic)

At present permits under the Flora and Fauna Guarantee Act are required for collecting seed from protected flora on public land.

Two levels of permission are required:

- A written permit is required from the local Regional Office of the Department of Conservation and Environment, or if the collection relates to a number of regions, to the Flora Management Branch of the Department (378 Cotham Road, Kew, Vic 3101, phone (03) 412 6128). The application form should be accompanied by a covering letter explaining the purpose of the seed collecting.
- Verbal permission should be obtained from the Department's

Regional Flora and Fauna Guarantee Officer before any particular collection takes place, to regulate over-collection.

In general collection of species listed on the Victorian Rare or Threatened Species list, or of orchids, is not permitted unless there is a demonstrated need for research or conservation.

Conditions are attached to permits which are granted. These include that vegetation disturbance is minimized, that sufficient seed is left to ensure natural regeneration, and that vehicles should be confined to existing tracks.

In National and State Parks seed

collection requires a research permit under the National Parks Act. Applications should be made to the National Parks and Public Land Division of the Department of Conservation and Environment. Enquiries to Arnis Heislars (03) 412 4011.

On private land permission should be sought from the owner, and this is considered sufficient, except in the case of declared critical habitat (none is yet declared however).

The collection of tree ferns and grass trees requires special permission from the Department.

# Seed collecting - general guidelines (continued)

## COLLECTING SEED

There are a number of interrelated characteristics of a plant species and its seed, which influence both the techniques used to collect it, as well as the success or cost efficiency of the exercise in meeting your particular needs.

For example, you may require only a small amount of seed for propagation, or require bulk amounts for direct sowing and revegetation trials.

**1. The number of plants in an area** (more or less than 100 per ha). The greater number of plants from which seed is collected, the greater the genetic diversity of the gene pool of a given collection.

**2. Height of seed pods from the ground** (more or less than 2 m). Pod or seed capsule location is an important factor when considering the ease of collection and the tools required to collect the seed e.g. hand saw, step ladder, cherry picker, long handled pruners, climbing gear etc.

It is often claimed that seed from the middle and upper reaches of the canopy of a tree or shrub is generally of a better quality and viability than that collected lower down.

**3. The number of seed pods per plant** is both genetically and environmentally controlled. Some species (e.g. *Acacia*) exhibit distinct cycles in seed production (i.e. every 4 to 7 years a high seed yield is produced whilst in other years little or no seed matures). It is important therefore to have seed in storage to offset the lack of seed in a poor year. Environmental factors such as soil moisture and nutrient levels, temperature and rainfall will effect the health and growth of a plant and the amount of seed produced in a given year. Seed production is also clearly influenced by other factors such as

strong winds which dislodge flowers and or pods, heavy frosts or attack by insect predators.

### 4. Number of seeds per pod

This affects the amount of effort required to collect a required quantity of seed.

### 5. Pod size

Determines the ease of collection and handling of a given species.

### 6. Seed Retention

The time between flowering, seed maturation and seed shed of different species is highly variable, and may be as short as several weeks. For some plants such as *Eucalyptus*, which produce woody capsules, it may be up to one year or more after flowering, before seed is mature and ready to collect.

A number of groups of plants retain the seed for several years within woody capsules until fire or some other environmental factor triggers seed dispersal. Genera such as *Callistemon*, *Leptospermum*, *Banksia*, *Hakea* and *Melaleuca* fall into this category. The advantages of this character is that seed is generally available for collection at any stage of the year.

In most other species however, seed is not retained, but dispersed fairly quickly after maturation. For most "pea" species, e.g. *Kennedia*, *Bossiaea*, *Eutaxia*, *Pultenea*, *Hardenbergia* etc, the seed is dispersed within four to five weeks after flowering, and is often forcibly ejected from the seed pods. In some species the seed may be forcibly dispersed up to 2 metres from the parent plant.

The *Acacia* group displays a fair degree of variation in the rate of seed retention which can be related

## Labelling Requirements

Where seed is collected for sale, requirements for labelling of the seed are set out in the relevant State legislation. The Victorian Seeds Act 1982 and Seeds Regulations 1983 applies to seed of all species.

Small parcels of seed (less than 100g) should be labelled with:

- the name of the kind of seed
- If a hybrid variety, the name of the variety;
- a lot number, code or brand relating to the source of the seeds;
- any chemical treatment of the seeds; and

- a "Sow before [date]".

Large parcels (containing 100 g or more) are to be labelled with:

- the prescribed common or botanical name of each species present in the seed lot in a proportion of 5 per cent or more;
- the proportion of each species named;
- the proportion of the seeds of each species named (and for which there are prescribed seed germination test methods prescribed in the Rules of the International Seed Testing Association - most genera of

Australian plants are not at present covered) that are germinable;

- the total proportion of other seeds;
- the prescribed common name and proportion of prescribed declared weed seeds;
- any chemical treatment;
- mass of the parcel; and
- lot number.

Additional details should be obtained from the Department of Agriculture and Rural Affairs, P.O. Box 500, East Melbourne, Vic 3002.

to certain physical characters of the seed. *A. melanoxylon* and *A. implexa* both have a well developed aril (an appendage which attaches the seed to the inside of the pod), allowing seed to be retained on the plant for 4 to 6 weeks after the pods split open. *A. pycnantha* on the other hand has a greatly reduced aril resulting in seed shed as soon as the pods split open.

Monitoring of an area from which seed is to be collected, and the timing of collection, is highly critical in maximizing the availability of seed for many species.

**7. Distance travelled to collect seed** (travelling time more or less than 50% of time spent)

This factor affects both the cost and efficiency of seed collecting, especially if collecting large quantities of seed, or a variety of different species from a site.

**8. Differential Ripening**

In some plant species such as native grasses, seed on the same plant ripens at different times. The timing of collection is less critical, as seed can be collected over a period of time.

**9. Difficulty in collecting seed**

Various native plants are "armed" with spines or prickly foliage, making seed collection a somewhat painful and unpleasant experience. Thick protective clothing and leather gloves may therefore be required.

Some plants such as *Hakeas*, have thick woody capsules which are difficult to remove and may have to be cut off the plant.

**10. Recognising when seed is mature** and ready to collect is generally a combination of observation and common sense. The most obvious tell tale sign is a change in colour and appearance of seed or seed pods from green to brown or black. Colour change is usually associated with a drying out and hardening of seed pods.

If unsure, a test sample of seed should be taken and examined. For example in *Stipa* (a native grass) if the seed is dark in colour, has a hard seed coat (requires fair pressure to split seed if squeezed between fingernails) and the seed is easily removed from the flower head, then it is mature and ready to collect.

In *Eucalyptus*, there is usually a discernible colour change in the capsules from green to red/brown. When a sample of capsules is placed in a paper bag and seed is shed within 3 to 4 days after

collection (and the seed is dark in colour as opposed to pale) then it is ready to collect. You may also notice the valves in the opening of each capsule start to split open, indicating it is ready for collection.

## METHODS OF COLLECTION

### Royalties

In Victoria, under the Forests Act, royalties are payable on commercial quantities of seed collected from all public land managed by the Department of Conservation and Environment. Enquiries should be made to the relevant regional office of the Department.

A number of different methods and a range of equipment and materials are required. The method chosen is dictated by the type of plant being collected.

Basic equipment and materials include:

- Notebook and pen
- Lots of large paper bags or envelopes
- Plastic ground sheets
- Secateurs, tree lopper
- A few plastic garbage bags
- Old nylon stockings

Three broad categories of plants are annuals and herbaceous species, shrubs, and tall trees. Suggested collection methods for each category are as follows:

#### 1. Annuals and Herbaceous species

This category includes native grasses, lilies and wildflower species. Collection is by hand, is intensive, time consuming and often tedious.

##### Grasses

Collect by running fingers in an upward motion along the flower head. If seed is mature, it should pull out with gentle pressure. It is important to keep awns intact as these aid germination. Place in a paper bag.

Another effective method is to grasp a handful of flower stalks and cut using secateurs or scissors. This is a particularly useful method for species such as *Poa* and *Danthonia* which have a small seeds, and a distinctive tussock habit. Seed heads can then be threshed to remove seed.

##### *Dianella* (Flax Lillies)

Seed is contained within fleshy fruits which change

# Seed collecting guidelines (continued)

colour from green to purple. Fruits drop to the ground when mature or can be gently picked off by hand. It is recommended the fruits be placed in a plastic bag as they tend to make paper bags go soggy.

## **Dichopogon (Chocolate Lilies) and Bulbine Lilies:**

Seed of these species is contained in small round capsules along the stem which visibly dry out and split open. Seed disperses quickly. It is best to collect the whole stem and place it in a large paper bag upside down to allow seed to shed into the bag.

**Brunonia (Blue Pincushions):** these have tight clustered flower heads. The seed is ready to be collected when heads can be gently picked off.

**Asteraceae** e.g. *Helichrysum*, *Helipterum*, *Vittindinia*, *Senecio*, etc :

The seed of this group is small and attached to a pappus; it is generally ready to collect when the flowers start to dry and develop a fluffy appearance. Light pressure with fingers should easily dislodge seed. Remove the flower head and place in a paper bag.

It is also possible to use a small portable vacuum cleaner to collect fine herbaceous seed of this type.

**Ground cover and prostrate species** e.g. *Eutaxia microphylla*, *Convolvulus erubescens*; collection of seed from these species can be very tedious and fiddly, hand picking individual pods. A more effective method is to gently lift the foliage and carefully slide a sheet of stiff cardboard under the plant. Tap mature pods or seed onto the cardboard. Carefully remove the cardboard with the seed in place.

## **Bossiaea prostrata (Creeping Bossiaea)**

Pods split open and forcibly eject seed out. Maturation of pods therefore needs to be carefully monitored. These will first start to swell and then dry out and darken in colour. To check if they are ready, lightly squeeze pods with fingers and the pods should split open easily. Seed is light brown or tan in colour when mature. It is easier to collect the pods whole and remove the seed later.

## 2. Woody shrubs and small trees

Different methods can be employed - depending on the dispersal strategy of the species and the time lag involved. A ground sheet may be placed at the base of the plant, and seed pods can be hand picked, or seed knocked onto the ground sheet. This method can be very efficient and time saving, and is suitable for a range of species - especially Acacias, and fleshy fruited species e.g. *Hymenanthera*, *Coprosma* and *Myoporum*.

Alternatively seed may be hand picked and placed directly into a foam box or paper bag.

By far one of the most difficult groups to collect from are the "peas" e.g. *Dillwynia*, *Pultenea*, *Daviesia* etc. The seed of these species is generally forcibly ejected and will be dispersed over a very short period [1 - 2 days]. It is critical therefore, that these species are actively monitored to ensure correct timing of collection. Key indicators to look for are swelling of pods and colour

change from green to brown.

Two methods have proven successful in collecting seed of these species:

**Selective and careful pruning of shrubs with seed pods attached**, which are then placed into large paper bags. As the material dries out, the pods open releasing seed.

This method is far more successful compared with hand stripping of pods from the plant. The attachment of pods to the branches would appear to be essential to the pods splitting open.

When it is not possible to regularly monitor a site, branches with pods attached may be **enclosed with old nylon stockings** which are then tied firmly in place. Seed will be shed into the stockings, which must then be carefully removed from the plants.

## 3. Tall tree species

These can present problems because of the height of the trees and difficulty of access. It may be possible to collect seed from the lower branches using secateurs. For higher branches a tree lopper, commando saw, climbing gear or even a cherry picker may be required.

Wherever possible, attempt to coordinate seed collection with annual pruning work undertaken by the local council or SEC.

## CLEANING AND STORAGE

When collected, seed pods etc, need to be dried out to fully release the seed. Two options are to spread pods out onto sheets on the floor, turning the pods regularly to prevent sweating and ensure even drying, or to suspend seed from the ceiling in sheets.

Some species (e.g. *Banksia*) may need heat treatment to induce opening of fruits to release seed. Place them in a paper bag in a warm oven.

Seed cleaning is an essential process. You may need to use a combination of graded sieves and or winnowing in a light breeze to remove chaff. Removal of bulk material is important, as this often harbours insects which may attack seed and reduce viability.

Low temperature and humidity conditions are also important to maintain viability of seed. Satisfactory short term storage may be achieved by placing seed in paper envelopes and storing in a cool dark cupboard fumigated with moth balls (Naphthalene). For longer term storage, place seed in screw top glass jars.

Clear labels with relevant data including name of species, site and date of collection are essential. •

# Seed collecting times for a range of species from the Melbourne area

By Murray Ralph\*

This list was put together from the Victorian Indigenous Nursery Cooperative's seed collecting records compiled over the last few years and from the experience of the Melbourne based National Seed Collection Project Group. Times given are the most likely periods for seeds of a particular species to be collected, however, depending on conditions, seeds may ripen earlier or later. Careful observation over time is the key to success. It is also important to keep in mind that seed crops vary greatly from year to year.

## Woody species:

Acacia species - most acacias in the Melbourne region mature around late December and early January. Seed on most species drop soon after maturity so close attention is warranted.

*Acacia acinacea* - late Dec to early Jan

*A. dealbata* - late Dec

*A. genistifolia* - late Dec

*A. implexa* - Jan to Feb

*A. melanoxylon* - late Dec to late Feb

*A. mucronata* - mid Dec to Feb

*A. paradoxa* - late Dec to early Jan

*A. pycnantha* - late Dec to early Jan

*A. retinoides* - Nov to Feb

*A. verniciflua* - mid Dec to Jan

*A. verticillata* - mid Dec to Jan

*Allocasuarina* species seed tends to be persistent, and can be collected all year round. Summer to Autumn tends to be the best time as the current year's crop matures around this time.

*Allocasuarina luehmanni* seed is not persistent.

*Banksia marginata* - late Dec to Jan

*Bursaria spinosa* - usually March to early April

*Cassinia* species - Jan to Feb

*Coprosma quadrifida* - Jan to Mar

*Davesia* species - Dec to Jan

*Dillwynia* species - Dec to Jan

*Eucalyptus* species - vary throughout the year from species to species, with some species having persistent seed (indicated by a (P))#

*E. behriana* - Oct to Dec

*E. camaldulensis* - Mar to Sept

*E. cypellocarpa* - Jan to June

*E. dalrympleana* - Dec to May

*E. dives* - (P)

*E. leucoxylon* - Feb to June

*E. macrorhyncha* - Dec to Feb (P)

*E. melliodora* - Summer to Autumn

*E. microcarpa* - Summer to Autumn

*E. muellerana* - Dec to Feb (P)

*E. obliqua* - Dec to Mar (P)

*E. rubida* - Feb to May

*E. viminalis* - July to Jan

*E. yarraensis* - variable

*Gynatrix pulchella* - Dec to Jan

*Indigofera australis* - Mid Dec to Jan

*Hymenanthera dentata* - mid Dec to Feb

*Myoporum viscosum* - Dec to Feb

*Nicotiniana suaveolens* - Dec to Jan

*Olearia* species - Nov to Jan

*Platylobium obtusangulum* - mid Dec to Jan

*Pomaderris aspera* - Jan

*Viminaria juncea* - Jan to Feb

## Herbs

*Acaena* species - Dec to Jan

*Brachycome* species - Dec to Feb

*Brunonia australis* - mid Dec to mid Jan

*Calotis scabosifolia* - Jan to Feb

*Convolvulus erubescens* - Dec to Jan

*Helichrysum* species - late Nov to Feb

*Geranium* species - Dec

*Leptorhynchus squamatus* - mid Dec to mid Jan

*Teucrium corymbosum* - Dec to Jan

*Vellea paradoxa* - Dec to Jan

*Vittidinia* species - Dec to Jan

*Wahlenbergia* species - late Dec to Jan

## Grasses

*Chloris truncata* - mid Dec to Jan

*Danthonia* species - Dec to Jan

*Poa* species - mid Dec to Jan

*Stipa* species - late Nov to Jan

*Themeda* species - mid Dec to Jan

## Groundcovers and climbers

*Bossiaea prostrata* - Dec

*Clematis microphylla* - Dec to Jan

*Eutaxia microphylla* - Dec to Jan

*Hardenbergia violacea* - Dec to Jan

*Kennedia prostrata* - Dec

#Boland, Brooker and Turnbull, *Eucalyptus seed*, CSIRO.

\*Victorian Indigenous Nursery Cooperative, c/o CERES, Lee St East Brunswick 3057, phone (03) 387 4403.

# Coming Events

## NOVEMBER

- 11 Sun 2pm. **Friends of the Point** (Pt. Nepean) project afternoon. Weed eradication planting and fortifications study. Meet at the Orientation Centre inside the Park. Stuart Sherrin (059) 84 1953.
- 21 Wed 8pm. **Victorian National Parks Association General Meeting.** Room K, Main Building, Ormond College, College Crescent, Parkville. VNPA (03) 650 8296.
- 24 Sat 10.30am. Excursion of Botany Group of FNCV. **Hotchkins Ridge Flora Reserve.** Croydon North, Melways map 36, ref K8. Can only enter Exeter Rd. from Maroondah Hwy. Meet in car park at Reserve. Leader: Cecily Falkingham. Margaret Potter (03) 29 2779.
- 24 Sat 2pm. **Montrose Environment Group.** Weeding in the Dandenong Ranges N. P. Contact Graeme Lorimer for further details (03) 728 5841.
- 24 Sat 2pm. **F.O. Sherbrooke Forest project afternoon.** Preceded by 'Christmas' break-up lunch at 12.30. Meet at foden Track on Grattulla Rd., Kallista (Melways map 124 C6) and walk into The Wallaby Patch. At 2pm "we will go to the area we are surveying, to cut ivy off trees, pull ivy & drill & fill Pittosporums. Bring secateurs, pruning saws etc". Margaret Finger (03) 754 3548.
- 24 Sat. **Leadbeaters Possum watch.** Organised By Fauna Survey Group of FNCV. Ray Gibson (03) 874 4408.
- 25 Sun 10am-1pm. **Nunawading Indigenous Plants Project** - workshop. Nunawading Council Horticultural Centre, 82 Jolimont Rd., Forest Hill. Les Smith (03) 874 2641.
- 25 Sun 10am-4pm. **LaTrobe University Wildlife Reserves Support Group** activity day - Gresswell Forest. George Paras (03)4792871.
- 25 Sun 10am. **Mt. Worth State Park project day.** Pam Scott (03) 570 2909.
- 25 Sun 2 pm. **F. O. Victoria's 1st Settlement site** - Sorrento. Stuart Sherrin (059) 84 1953.
- 27 Tues 10am-1pm. **Greenlink Box Hill planting & maintenance.** (Every Tuesday). Fred & Fiona Cumming (03) 898 4808 (AH).
- 27 Tues. IFFA meeting.
- 28 Wed. 8.30 am - 4.45 pm. Workshop on the **Legal Aspects of Pesticide Usage.** Organised by the Weed Science Society of Victoria Inc. Venue: North Melbourne Football Club social rooms. Fogarty St., Nth. Melbourne. Cost: \$90 (includes lunch & refreshments). WSSV (03) 347 1277.

- 28 Wed. 10am-3pm. **F. O. the Yarra** activity day. Galatea Pt, Melways map 2D, ref. D7. Judy Rutherford 347 2252.
- 29 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)

## DECEMBER

- 1 Sat. **Pelican rookery count and weed eradication** - Friends of French Island State Park. Des Quinn (03) 791 2315.
- 1 Sat. **F. O. Gellibrand Hill Park** activity day. Kerryn Pratchett (03) 306 8180.
- 2 Sun 2-4pm. Green Link Camberwell - **Seed Collecting and Weeding.** Outer Circle, Dion Street. Dianna Burgess (03) 809 2092.
- 2 Sun 1pm. **F. O. Langwarrin Flora and Fauna Reserve** activity day. Meet at the McLelland Drive car park, Melways map 103, ref C10. Contact Leon Costermans (03) 783 5015.
- 2-6 Sun-Thurs. **Mount Field National Park - Tasmanian Botany & Ecology Course.** From the world's tallest hardwood forests, to alpine cushion plants, you will see the best accessible altitudinal vegetation sequence in Australia. Prof Bill Jackson has taught plant species identification and ecology here for over twenty years. Accommodation in Wellington Ski Lodge beside Lake Dobson. Cost: \$410 (catered) or \$340. **Book before 2 Nov.** For registration contact Tasmanian Environment Centre Inc., 102 Bathurst St, Hobart 7000, Tas. Other courses are:
- Flinders Island** (29 Dec - 2 Jan),
  - Mt Field N.P.** (12 - 18 Jan),
  - Central Plateau** (2-6 Feb) &
  - Ben Lomond N.P.** (11-16 Feb).
- 8 Sat 9.30am. **F. O. Organ Pipes** work day. Meet at the workshop. Robert Bender (03) 49 2413.
- 8 Sat. **F. O. Dandenong Ranges N.P.** project day. Graham Barstow (03) 758 6935.
- 8 Sat. **F. O. Nepean parks.** Meet at Seawinds. Bill Nicholson (059) 81 1605.
- 8-9 Sat-Sun. Campout - **Water Rat study** at Board of Works farm, Werribbee. Fauna Survey Group of FNCV. Julian Grusovin (03) 543 8627.
- 9 Sun 10am. **Stony Ck weeding** followed by wildflower walk at Professors Hill. Mark Gardner (03) 844 3799.

- 28 Sun. 10am-3pm. **F. O. the Yarra** activity day. Galatea Pt, Melways map 2D, ref. D7. Judy Rutherford 347 2252.
- 14 Fri 8pm. **General meeting of the Entomological Society of Vic.** Exhibits for discussion. Clunies Ross House, 191 Royal Parade, Parkville. Tim New (03) 718 1007.
- 15 Sat. **Leadbeaters Possum watch.** Organised By Fauna Survey Group of FNCV. Ray Gibson (03) 874 4408.
- 15 Sat 9.30am. **Friends of Werribee Gorge & the Long Forest Mallee.** Project day. Judy Douglas (03) 67 2672.
- 15 Sat. **Friends of Churchill N.P. & Lysterfield Lake Park** project day. Neal Smith (03) 873 2635.
- 16 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.
- 16 Sun. 2-5pm. **Green Link Camberwell** - excursion to Royal Botanical Gardens, Cranbourne. With guided tour. Dianna Burgess (03) 809 2092.
- 26-2 Jan. Fauna Survey Group Christmas camp & survey - **Nooramunga Marine Coastal Park.** Malcolm Turner (03) 690 5906.

## JANUARY 1991

- 5 Sat. **Pittosporum eradication followed with a swim** - F. O. French Island S. P. Des Quinn (03) 791 2315.
- 13 Sun. 9.30am. **Friends of Sherbrooke Forest mapping survey.** Meet at beginning of Foden Track on Grantulla Rd. (Melways map 124 ref. C6). Bring compass, pencil, clipboard, anti-blackberry clothing. Vivien Freshwater (03) 754 3093.
- 13 Sun 2-4pm. Green Link Camberwell - **Plant Identification and Weeding.** Outer Circle, Dion Street. Dianna Burgess (03) 809 2092.
- 26 Sat 2pm. **Friends of Sherbrooke Forest project afternoon.** Ridge Track - Ivy & tutsan to dig. Meet at entrance gate on Belgrave - Ferny Creek Rd. (Melways map 75 ref E5). Margaret Finger (03) 754 3548.

## APRIL

- 4-7 Thurs-Sun. The **fifth Ecopolitics conference** at the University of New South Wales, Sydney. The organisers are **calling for papers** for

presentation. 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.

## FEBRUARY-1992

17-21 Sun-Thurs. **First International Weed Control Congress in Melbourne.** Organised by the International Weed Science Society and hosted by the Weed Science Society of Victoria. Venue: Monash University. For further information contact WSSV: Clunies Ross House, 191 Royal Parade, Parkville. Tel: (03) 347 1277.

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 Melbourne: (03) 583 3388,*

*Adelaide: (08) 365 1612,*

*Sydney: (02) 413 5522,*

*Tasmania: (003) 415 444.*

\* Each lecture has a \$7.50 charge & includes excursion where offered.

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

# How to tell when indigenous fruits/seeds are ripe

By Andrew N. Paget\*

The following notes are intended as a guide to judging when fruits/seeds are ripe; they relate to the Knox area, Melbourne, Victoria, but may be useful in other areas also.

## Colour changes:

The fruits or seeds of most species change colour distinctly when they ripen:

*Acacia* spp - most turn shiny black, from creamy green. Some (like *A. ulicifolia*) do not attain a high gloss finish.

*Acaena* spp - turn from green to light grey-brown.

*Acrotriche serrulata* - have a creamy bloom on the green succulent fruits when ripe.

*Alisma plantago-aquatica* - turns pale red-brown from green.

*Amperia xiphoclada* - the seeds inside the green fruits turn from cream to black and shiny when ripe.

*Amyema* spp - turn slightly yellower when ripe, are plump, and break off easily when ripe.

*Arthropodium milleflorum* - seeds turn black when ripe.

*Astroloma humifusum* - fruits become glaucous when ripe, and seeds turn red-brown.

*Billardiera longiflora* - fruits turn purple from green, and seeds turn dark maroon when ripe.

*B. scandens* - fruits turn translucent kahki, and seeds turn red-brown.

*Bulbine bulbosa* - seeds turn from creamy to grey-brown when ripe.

*Burchardia umbellata* - seeds turn from cream to red-brown when ripe.

*Bursaria spinosa* - fruits turn from green to red-brown, and the seeds also become red-brown when ripe.

*Caesia parviflora* - seeds turn black outside when ripe, inside green capsules

*Cassytha glabella* and *pubescens* - seeds turn red-brown within green fruits

*C. melantha* - seeds turn almost black.

*Centipeda minima* - seeds turn from green to creamy yellow-green when ripe.

*Coprosma quadrifida* - fruits turn from green to red when ripe.

*Cymbonotus preissianus* - seeds turn from cream to black when ripe.

*Cynoglossum* spp - seeds change from green to a grey-brown colour when ripe.

*Danthonia* spp - most have seed heads which turn from green to rawn-cream when ripe.

*Dianella* spp - fruits turn purple when ripe and seeds are shiny and black.

*Dichopogon strictus* - seeds inside green capsules will be black when ripe.

*Diplarrena moraea* - mature seeds are red-brown.

*Drosera* spp - seeds are black when ripe.

*Einadia nutans* - ripe fruits are red, and the mature seeds are almost black.

*Exocarpus cupressiformis* - fruits turn red, seeds turn dark brown.

*E. strictus* - fruits turn pale silvery pink, seeds turn dark brown.

*Gahnia sieberiana* - mature seeds turn red-orange.

*Glycine clandestina* - ripe pods turn almost black, and mature seeds inside are red-brown.

*Goodia lotifolia* - mature seeds are almost black.

*Gynatrix pulchella* - the fruits turn grey, and the ripe seeds inside are red-brown.

*Hedycarya angustifolia* - ripe fruits are orange.

*Hibbertia stricta* - ripe seeds are mottled red-brown.

*Hovea linearis* - seeds change from cream to dark grey when ripe, and the pods turn from green to grey-brown.

*Hypericum gramineum* - capsules turn from green to red-brown, and mature seeds are also red-brown.

*Indigofera australis* - seeds are red-brown when ripe.

*Lagenifera* spp - ripe seeds turn from green to grey-brown.

*Leptorhynchus tenuifolius* - seeds are almost black when ripe.

*Linum marginale* - seeds are shiny red-brown at maturity.

*Lomandra* spp - creamy seeds when mature

*Luzula campestris* sp. agg. - seeds almost black when mature.

*Pandorea pandoreana* - fruits change from green to yellowish then progressively become mottled with brown. At maturity the seeds are papery red-brown.

*Patersonia occidentalis* - mature seeds change from creamy to shiny red-brown.

*Pelargonium odorum* - seeds are dark grey on maturity.

*Persoonia juniperina* - green fruits become yellow, and mature seeds are red-brown.

*Pimelea* spp. - most seeds are black, inside leathery fruits.

*Pittosporum bicolor* - mature fruits open to reveal

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\* Bushland Flora, P.O. Box 312, Mt Evelyn 3796. Phone (03) 736 4364.

dark red stick seeds.

*Polyscias sambucifolius* - clusters of ripe fruits are translucent grey-lilac.

*Prostanthera lasianthos* - green seeds change to grey when ripe.

*Pultenaea* spp - green pods turn red-brown, and seeds within change from green to almost black.

*Ranunculus* spp - green seeds turn yellowish, and fall if brushed.

*Ricinocarpos pinifolius* - green burr-like fruits turn red-brown and split open when ripe.

*Rumex brownii* - green fruits turn red-brown when ripe.

*Sagina* spp - seeds turn from cream to dark brown when ripe.

*Sambucus gaudichaudiana* - ripe fruits change from green to a translucent creamy colour.

*Solanum aviculare* - green fruits turn dark orange-red, and seeds are red-brown when ripe.

*Solanum laciniatum* - green fruits turn yellow-orange and seeds are red-brown when ripe.

*Sphaerolobium vimineum* - green pods change through purple tinges to grey-brown when ripe.

*Stylidium graminifolium* - green capsules turn fawn-grey, and seeds change from cream to red-orange on ripening.

*Thelymitra* spp. - Most capsules turn grey-brown, and seeds from creamy to brown when ripe.

*Themeda triandra* - fruit (awn and florets) turns dark red-brown and shiny, from green-cream.

*Thyssonotus* - seeds turn from creamy-green to black when ripe.

*Tricoryne* - seeds within green fruit turn black when ripe.

*Viminaria juncea* - pods enclosing ripe seeds turn grey-brown.

*Viola hederacea* - from creamy, ripe seeds turn dark maroon.

*Wahlenbergia* spp - ripe seeds are red-brown, and capsules turn from green through yellow green to grey-brown.

*Wurmbea dioica* - cream seeds mature to red-brown.

*Xanthorrhoea minor* - ripe seeds are black in colour.

## Other changes:

Other observable changes which will indicate the fruits/seeds are ripe are:

### Valves formed:

*Casuarina* spp, *Eucalyptus* spp, *Kunzea ericoides*, *Leptospermum* spp, and *Melaleuca* spp.

### Ease of removal:

Most fruits/seedss are easier to remove when they are ripe than when immature. This is an easy way of determining ripeness of:

*Acaena* spp, *Amyema* spp, *Billardiera* spp, *Brachycome* spp, *Carex* spp, *Centipeda minima*, *Clematis* spp, *Cynoglossum* spp, *Lagenifera* spp, *Leptorhynchos* spp, *Persoonia* spp, *Ranunculus* spp, *Triglochin* spp, and most native grasses.

### Fruits opening

This is the easiest way of telling that the seeds of the following species are ripe:

*Acacia* spp, *Arthropodium* spp, *Bulbine bulbosa*, *Burchardia umbellata*, *Bursaria spinosa*, *Chamaesilla corymbosa*, *Comesperma* spp, *Cymbonotus preissianus*, *Dichopogon strictus*, *Diplarrena moraea*, *Hypericum gramineum*, *Juncus* spp, *Kunzea ericoides*, *Linum marginale*, *Lomandra* spp, *Lomatia* spp, *Pandorea pandorana*, *Parahebe derwentiana*, *Patersonia* spp, *Pittosporum bicolor*, *Plantago* spp, *Pomaderris* spp, *Ricinocarpos pinifolius*, *Spyridium parvifolium*, *Stylidium* spp, *Villarsia* spp, *Wahlenbergia* spp, *Wurmbea dioica*, and *Xanthorrhoea minor*.

### Timing

It is essential to keep good records of when you collect seeds as they rarely vary much from year to year. Once you have collected them one year, you can go back and within a couple of weeks the next year expect to find them ripe. To this end, Operation Revegetation has compiled a seed collecting calendar with the time of the year (in half-months) each species' seed ripens in the Knox area. •

# Genera with both indigenous and introduced taxa in Victoria:

This list is provided for situations when you are able to identify a species you intend to collect only to genus level. If there are introduced species in the genus it is wise to collect a specimen and have it identified by the Herbarium or some other competent botanist before collection, and certainly before propagation or direct seeding.

With the monocots on this list fruiting specimens are preferable for identification purposes. With dicots, the ideal specimen would have both flowers and fruits, but in some cases it may only be possible to procure flowers or fruits (one or the other).

This list is based on Ross, J.H. A census of the vascular plants of Victoria, 3rd edn. National Herbarium of Victoria, Lands & Forests Division, Dept of Conservation, Forests and Lands, Melbourne March 1990.

The number of indigenous species within the genus is listed first, followed by the number of introduced species.

## Ferns and fern allies:

Selaginella 2/1

## Monocots:

Agrostis 18/5  
Alisma 1/1  
Bromus 1/14  
Carex 31/4  
Cyperus 23/5  
Digitaria 6/3  
Eragrostis 11/8  
Festuca 4/2  
Glyceria 1/3  
Isolepis 20/2  
Juncus 37/14  
Lemna 2/1  
Panicum 3/8  
Poa 30/7  
Puccinellia 1/1  
Schoenoplectus 3/2  
Sorghum 1/1  
Sporobolus 4/2  
Stipa 40/4  
Typha 2/1

## Dicots

Acacia 114/6  
Alternanthera 2/1  
Amaranthus 2/10  
Aphanes 1/2  
Apium 5/1  
Atriplex 31/4  
Barbarea 2/1  
Calandrinia 6/1  
Callitriche 6/2  
Calystegia 3/1  
Cardamine 8/2  
Carpobrotus 3/2  
Chenopodium 13/7  
Convulvulus 3/1

Coprosma 7/2  
Cotula 4/2  
Crassula 11/5  
Cuscuta 2/6  
Daucus 1/1  
Dichondra 1/1  
Epilobium 14/3  
Erigeron 6/1  
Erodium 1/5  
Eucalyptus 113/1  
Euphorbia 4/8  
Ficus 1/2  
Frankenia 6/1  
Galium 9/5  
Geranium 7/3  
Glycyrrhiza 1/1  
Gnaphalium 8/1  
Hibiscus 1/1  
Hydrocotyle 17/1  
Hypericum 2/6  
Lavatera 3/2  
Lepidium 11/6  
Limonium 1/5  
Linum 1/2  
Lotus 2/6  
Ludwigia 2/1  
Lycium 1/3  
Lythrum 2/1  
Maireana 21/1  
Mentha 6/5  
Mimulus 3/2  
Myosotis 2/5  
Myriophyllum 19/1  
Nicotiniana 4/2  
Orobanche 1/1  
Oxalis 6/11  
Oxylobium 5/1  
Parietaria 1/1  
Pelargonium 5/3  
Persicaria 7/1

Picris 1/3  
Pittosporum 4/1  
Plagiobothrys 2/1  
Plantago 12/10  
Polygala 1/2  
Polygonum 2/4  
Prunella 1/1  
Psoralea 7/1  
Ranunculus 27/9  
Rorippa 4/3  
Rubus 3/13  
Rumex 6/6

Salvia 1/5  
Scleranthus 5/1  
Senecio 34/5  
Sida 7/3  
Solanum 13/16  
Stellaria 8/2  
Suaeda 1/2  
Taraxacum 2/1  
Urtica 1/2  
Veronica 8/6  
Viola 10/3

# How to separate and clean seeds

By Andrew Paget\*

These notes explain how, once you have collected ripe fruits, to separate the seeds from various types of fruits; and when you have the seeds, how to clean them. Once separated and cleaned they should be stored carefully or sown immediately.

## Drying cabinet

For most fruits a drying cabinet is required to dry the fruits until seeds are released. This cabinet is best fairly well sealed and heated with a small fan heater to move the air around. The fruits can be put into brown paper bags or wooden boxes and placed on racks in this cabinet for several days until they open. Vigorous shaking when the fruits have opened will help to remove all the seed from the fruits.

## Burning

For Banksias a drying cabinet is not hot enough, and the cones must be burnt for the follicles to open and release their seeds. Either burning with a blow-torch, or on a small bonfire is effective; or high oven temperatures also work.

## Bashing

Some fruits, like Blackwoods (*Acacia melanoxylon*), are reluctant to let go of their seeds. We put such fruits into a large rubbish bin and beat them with a large broom handle to separate them. It is advisable to use a dust mask when doing this to avoid the dust created.

## Mush, dry and scrunch

For fleshy fruits we find that the best method to obtain clean seed is to put the fruits into a bowl and add some water. Mash all the fruits up, trying to squeeze the flesh off the seeds. Drain off as much liquid as possible and spread out the pulp onto absorbent paper. Put this into the drying cabinet. This is the important stage because if the pulp does not dry quickly enough or well enough it will go mouldy. Once dried the pulp can be scrunched up and all the clean seeds should separate easily. This method is suitable for *Actrotriche spp*, *Astroloma humifusum*, *Billardiera scandens*, *Coprosma spp*, *Dianella spp*, *Per-soonia spp*, *Polyscias sambucifolius*, *Rubus parvifolius* and *Solanum spp*.

## Sieving

Sieves of various mesh sizes are essential in cleaning most seeds. In ideal situations it will be

possible to select two sieves for each seed being cleaned. One sieve will be larger than the seed, to allow the seeds to fall through but catch larger trash. The second sieve will be just smaller than the seed to catch the seeds but discard smaller trash.

It is difficult and expensive to obtain a good range of sieves. A set of 2 sieves which are useful for most seeds is available from "Gembrooks" at Nunawading for about \$30. A wider range is available through "Hannafords" (manufacturers of "Seedmaster" seed cleaning machines) of 64 East Avenue, Beverley, South Australia, 5009, or "Kimberley Seeds" of 51 King Edwood Road, Osborne Park, W.A. 6017 for over \$60 each.

## Rubbing

Rubbing grass heads between 2 rubber mats is a method we have found useful for separating *Danthonia* seeds. These seeds will not germinate while still enclosed in the heads, but rubbing them separates them easily. Again masks are recommended to avoid inhaling the dust created. •

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\* Bushland Flora, P.O. Box 312, Mt Evelyn 3796. Phone (03) 736 4364.

# Snippets:

## Wetlands proceedings available.

*Wetlands... their ecology, function, restoration and Management - proceedings of the seminar series held at La Trobe University* is now available. They cover a wide range of topics pertaining to wetlands. The volume will be reviewed in a future issue of *Indigenotes*. The Proceedings cost \$32.50 plus \$3 postage and handling. For more information and to place orders, please write to the convener, Wildlife Reserves, LaTrobe University, Bundoora 3083.

## Bridal creeper "officially" a problem in the SA Mallee

The increasing impact of the weed Bridal Creeper has been detected in a major survey of Murray Mallee native vegetation by South Australia's Department of Environment and Planning.

According to a report in *The Bush Chronicle*, The Department's newsletter of farming and conservation (no. 3, September 1990), Bridal Creeper appears to have increased significantly in the region's higher rainfall areas. Its vine trails and smothers everything, particularly understorey plants. If left unchecked, it will destroy valuable habitat in scrub blocks and along roadsides. The seed is spread by birds, and as the plant leaves bulbs in the ground its control will be very difficult according to the article.

## Boneseed control

In the SGAP Vic Newsletter\* Beryl Birch reports that two biological control agents have been released for *Chrysanthemoides monilifera* (Boneseed and Bitou-bush). The first was a tip-feeding geometrid moth *Comostolopsis germana*, released in northern NSW in mid March 1989. The leaf beetle *Chrysolina progressa* has also been approved, with the first release occurring in Studley Park, Melbourne in October 1989. Three other insect species are undergoing host specificity studies in quarantine at Keith Turnbull Research Institute - two leaf beetles and a seed fly.

According to the article the biological control program over the next 10 years will concentrate mainly on thistles, Blackberry, Ragwort, Paterson's Curse and Boneseed. The current emphasis on Ragwort will decrease as resources are concentrated elsewhere and the agricultural and environmental weed Horehound is being investigated as the next target weed.

\*Vol 33:4, March 1990.

## Indigenous reveg in the Amazon

New Scientist (3 November 1990) reports that three Botanists from the Royal Botanic Gardens at Kew (UK) recently unveiled "Plants for the people" a project which aims to improve the way of life of the local people and so prevent massive migration to the overcrowded cities of the south and into the Amazon. Overall, it aims to slow down the spread of desert by repairing what is left of the indigenous forest and improving the productivity of the land.

The botanists will identify and domesticate species of tree and shrubs that are adapted to dry conditions, and which have plenty of uses locally — as food and animal fodder, fuel, timber or medicine. The information they collect will be gathered together in a database of indigenous plants, that will be available to researchers throughout the world.

## And Australia exports good weed material...

A recent article in *Geo* (Vol 12 No 3) by the Tree Seed Centre of the CSIRO Division of Forest Research in Canberra states that "At the moment Australian trees seem to be the answer to the wood fuel shortage - the Third World energy crisis. Eucalypts, acacias and casuarinas grow quickly and thrive in poor or infertile soils. The seed is collected and distributed worldwide - last year to over 100 countries - by the Tree Seed Centre". The article overlooks the problems of exporting plants in this situation. Our plants can be weeds in other countries - *Eucalyptus camaldulensis* is in wetlands in Spain for example. Eucalypts when planted often benefit not the poor locals, but the wealthy timber companies — "In some countries the forester's major role has been to police forests from wood-hungry locals". Finally, the indigenous trees often provide other products as well as simply timber - fodder, medicine, food, and these trees are displaced by exotics. The Tree Seed Centre needs to have a good hard look at its programme, and think about just who they are aiming to benefit.

## Help with snow-grass harvesting

Harvest snow-grass and wildflower seed at Fall's Creek for a few days in mid February 1991. We provide accommodation and meals and you enjoy the alpine environment and help collect seed for reveg work. Precise dates depend on ripening. Contact Warwick Papst or Peter Ockenden, Department of Conservation and Environment, Wangaratta Vic. (057) 215022.

## New EES procedures for Vic.

New guidelines have been released by Andrew McCutcheon, Victoria's Minister for Planning and Urban Growth, for assessing the Environmental Effect of new projects and implementing the Environment Effects Act. Some improvements seem to have been made in terms of public involvement, and some clarification has been made of which projects should be subject to the procedures, although this is still necessarily vague. It is important to note that projects have to be referred to the Minister for a decision as to whether an EES is required. It may be up to you to do the referral.

Copies are available from DPUG, Ground Floor, 477 Collins Street, Melbourne, Phone (03) 6285416.

## East Gippsland forest to be chipped

According to the East Gippsland Coalition (*East Gippsland Coalition News*, October 1990), Victoria's State Government has caved in to industry pressure and allowed logging in almost all the unprotected National Estate forests in East Gippsland.

Some of the most magnificent of our remaining ancient forests will be condemned to the chainsaw! Places like the Yalmy wilderness, Ellery Creek, Big River and Brown Mountain which provide crucial habitat for rare and endangered species now face destruction.

Disastrously, the Government has also approved a huge increase in woodchipping. They have effectively abandoned the study into the environmental effects of woodchipping, the VAUS trial, and given the all-clear to full scale chipping in East Gippsland's forests.

According to the Coalition, this will be nothing short of catastrophic for the plants and animals that depend on our old-growth forests. It plans to hold a campaign of protests over this summer.

## Land for Wildlife Extension Officers:

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## IFFA November Vic meeting

Tuesday 27 November, 8 p.m. at the Herbarium Hall, Birdwood Ave, South Yarra, Vic. (Melways map 2G 12A. **Grasses - What you should know about them, and why.**

Of all the families of plants, the grasses are the most important in ecological, economic and agricultural terms. There are 230 native grasses in Victoria, and in most areas they play a pivotal ecological role. There are also around 170 introduced grasses growing wild, and they make a very large contribution to land degradation. In fact, there isn't much of Australia where you can understand nature in any detail without knowing about grasses. Graeme Lorimer will discuss these issues and, in conjunction with the following field trip (see below), give you useful basic grass identification skills for ecological purposes.

## End of year field trip and Xmas breakup

Sunday 2 December. **A field trip from the seashore to snow gum woodland - all in walking distance!**

At **Mt Martha**, Mornington Peninsula, Vic. Meet at Mt Martha Park, (cnr Forest Drive and Park Road, Melway 150 H7) at 10.30 a.m. for a nature walk (and optional training in grasses by Graeme Lorimer), or at 12.30 p.m. for lunch - electric barbeques available.

## No December meeting

## Have a happy seed collecting season and a merry new year!

Indigenotes editors wish you the best for the next few months - December is our holiday, and there will be no newsletter. But we'll see you (or you'll see Indigenotes) in January. Thanks to all the people who contributed material and sent us newsletters to keep us informed. There's lots of exciting things happening out there.

Incidentally, the prize for the most entertaining newsletter goes to Friends of the Wildlife Reserves, La Trobe University. Best childrens page goes to Friends of Warrandyte State Park Newsletter.

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

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