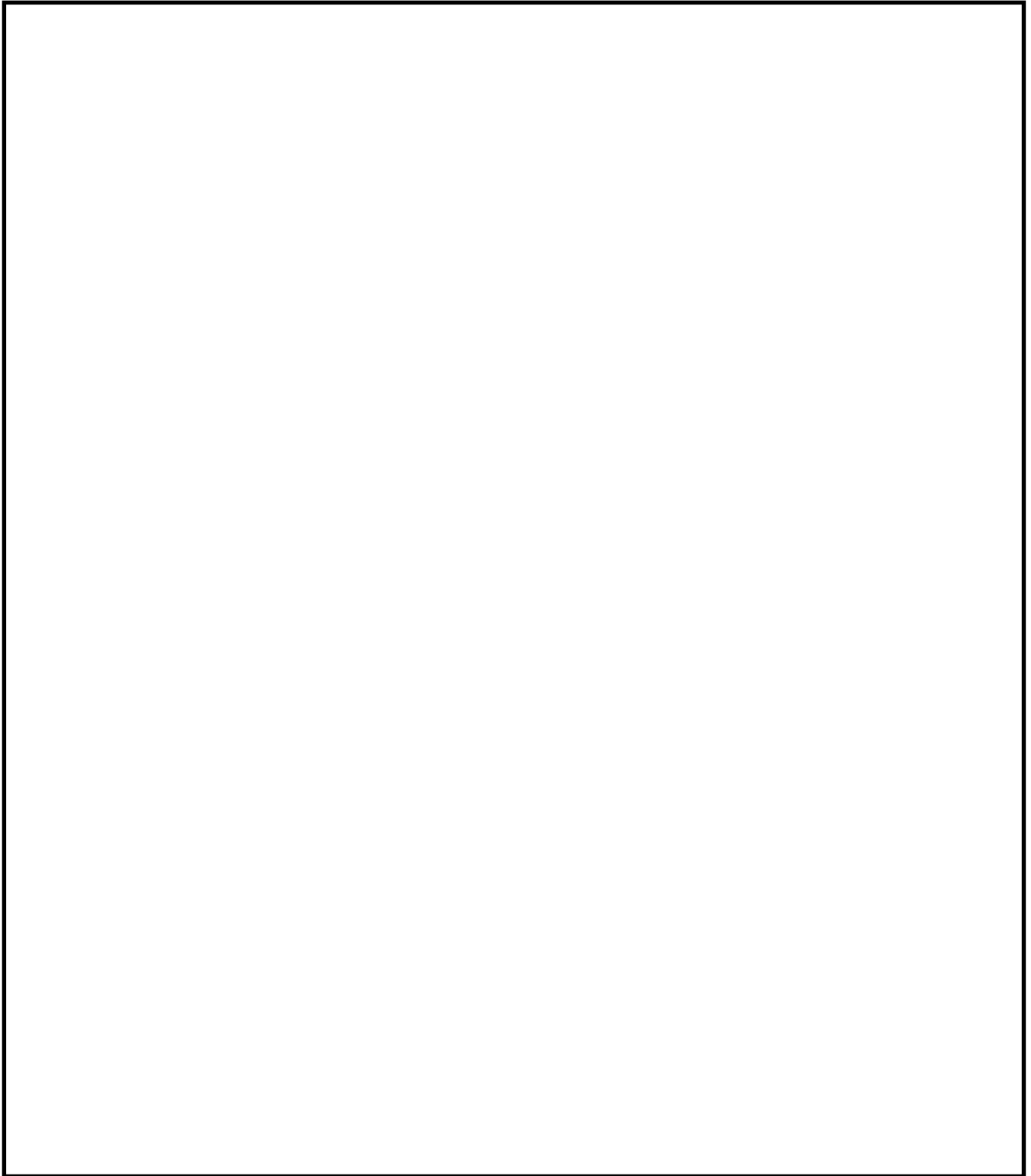


INDIGENOTES



Austral Stork's Bill - *Pelargonium australe*
Please see back cover for description.

Indigenous Flora and Fauna Conservation Euroa Environment Group

By Ray Thomas

Editor's Note: This is another contribution from Ray on his experience with environmental education and lessons he feels it is important to share with others. I also feel it is a great contribution to the range of information in Indigenotes and welcome more writing on the subject from anyone with experience and ideas they are willing to share under the IndigEEnotes banner.

During a period of public debate over the proposed use of local bushland for the town's new landfill, the Euroa Environment Group began a comprehensive community education program on the value of local native plants.

The group recognised that if ecologically unsound decisions were to be a thing of the past, then local people needed to become more aware of the unique value of their natural surroundings. It seemed that whole generations had apparently grown up with very little knowledge of local flora so it was no real loss for a bush block to be used as a rubbish tip.

There also seemed to be few opportunities for people to connect with the local natural environment and learn to appreciate its beauty, so the entrenched pattern was likely to continue. The urgent need to protect endangered species on the proposed works site gave environment group members the impetus to redress the situation.

To begin the process, a public meeting was held to bring the issue of landfill versus threatened species out in the open. The group subsequently produced photographic displays and slide shows featuring the beauty of the local flora and fauna occurring on the site. These were an eye opening experience even for people who had lived in the district all their lives. Media coverage and regular press articles kept the community informed about the ecological and political aspects of the proposed development.

Euroa Environment Group takes a strategic approach to community environmental education to maximum benefit from the time and effort expended. The range of strategies employed aim to reach people on a number of levels because people learn in many different ways and contexts.

Firstly there is information to develop knowledge and understanding of the issues. Secondly there

are memorable experiences of local natural places to develop feelings of care and commitment. Thirdly there is involvement in practical actions to develop skills for environmental protection and a sense of success - that we part of the solution and not powerless in the face of insurmountable problems.

As community response dwindled, the group saw a need to go to where the people are rather than expecting people to come to the group. Accordingly EEG began to plan activities to help with conservation related activities of several other community organisations in the district. It was seen as a way of reaching people through their own current interests - an important first step to engaging people in new areas of environmental action. Projects with the local farming community and the town's Gardening Club demonstrate the point.

EEG assisted two of the local Landcare groups by organising community seed collection and plant propagation days, work parties of young people from Melbourne to help with large scale tree plantings, and indigenous flora identification days on bush blocks the farmers wish to preserve.

The work has given the farmers a great deal of help with projects that they care deeply about and strengthened the sense of trust and community which is needed for carrying out the hard work of land restoration. It also encouraged people to get involved in further conservation projects organised by the Environment Group such as roadside vegetation surveys and building nest boxes for local wildlife.

Spectacular displays of local flora in the indigenous plant garden which the group cares for, and a widely acclaimed annual wildflower show in the town have been a good way to bring the bush to the many active gardeners in Euroa district. These beautiful displays have captured the imagination of local gardeners and prompted sales of potted specimens for use in home gardens.

For many residents this has been a first step to recognising the value of their own local vegetation. Members of the Garden Club and other local residents are working with EEG to create several private indigenous gardens which promise to be a model for others to copy.

EEG believes that people learn best and become more environmentally committed through active participation and accordingly arranges many practical projects for the community. These have included indigenous seed collection and plant propagation days, spring planting festivals, protection and propagation of rare plants in the district, construction of nest boxes for native animals, roadside vegetation surveys to identify significant areas in need of protection, bushland weeding, and regular plantings in the local arboretum to enhance its habitat value for wildlife.

The group also recognises that experiences of nature play a significant formative role in people's desire to protect our environment - people cannot care for something they have little experience of and no feeling of connection to. Activities like the regular spring wildflower walks, camping for families in the bush, classes in landscape photography, evening sessions to view nocturnal mammals, and indigenous plant identification workshops, have all contributed to a growing community interest in protecting the local bushland.

Community education on the need for recycling and waste minimisation has been another important feature of the group's work to save the bush. The group seeks to demonstrate the very real connection between wasteful habits and the need to find a new landfill site. Regular media items have shown what people can do at home to protect the local environment by living in a more environmentally conscious way.

Euroa Environment Group also works with the local Secondary College to create valuable learning opportunities for the students about real environmental problems of the district. VCE Geography students undertaking the option *Investigation of an Issue* have researched the background to the Shire's proposed landfill development and reported their findings to their peers. Future plans include the preparation of photographic identicards and signage for the indigenous wildflower garden in school grounds.

Prior to the group's activities, the public was obviously not aware of significance of the underlying issues and not in a position to make informed judgements on the matter. A considerable swing of opinion has occurred over the two years of community education work undertaken by the group. The Shire Council has been called to account for its decisions and debate about the matter continues to be a major item of local news.

There have been valuable learning experiences within the group as well as for the wider community. Members are now very aware of the local bushland and its natural inhabitants, and are

keen indigenous plant propagators. Their work in organising the extensive range of community education activities and writing the many news articles have also developed useful personal skills.

The experience of members has broadened tremendously to include several formal presentations to Euroa Shire Council and official hearings related to the landfill development. Group members now have much greater knowledge of the ecological and legal aspects of the issue and have developed skills and confidence in research, writing and public speaking. The expertise and commitment of group members will be valuable in future environmental projects wherever they go.

The work of Euroa Environment Group demonstrates that a small but committed group of individuals can play an important role in community environmental education if there are well-planned strategies to actively involve people. Thinking about where people are coming from and "what's in it for them" is a major part of the process. Once they have become involved for their own reasons, their commitment automatically expands to other environmental issues as they seek to learn more to satisfy their growing interest.

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Ray Thomas, 121 Anderson St., Euroa, 3666. Ph. (057) 952 022.

Weed of the Month:

Swamp Foxtail

Swamp Foxtail (*Pennisetum alopecuroides*) has become an increasingly popular ornamental perennial grass in Victoria. Indigenous to South East Asia, this coarse tufted grass is now readily available from many retail nurseries. Landscapers and local councils have also begun widely using the species. Its present “trendiness” raises concerns about its potential to spread from plantings into indigenous vegetation.

From an ornamental perspective Swamp Foxtail is a delight. It makes a very attractive feature plant with long narrow leaves, clumped form and elegant profusion of loose, purple tinged flowering spikes. Each plant can reach up to a metre in width and may consist of over a hundred flower spikes. Each spike may contain a similar number of flowers.

This species thrives in warm, humid conditions but has proved adaptable to drier sites. In N.S.W. and Q.L.D. it is a weed largely restricted to coastal and tableland farming regions. In Victoria Swamp Foxtail has yet to be recorded as invading indigenous vegetation. It is known to have spread from gardens into surrounding farmland at Tubbut and Goongerah in East Gippsland and two well established stands exist at Terang and Warrnambool. Within the Melbourne region the largest naturalised stand occurs along the southern railway embankment at East Richmond, adjacent to Church Street. This stand is at least five years old, contains hundreds of plants of various ages and forms a dense sward stretching for over 100 metres.

In cooler, temperate regions the spread from naturalised stands may be checked to some degree by the tendency of mature plants to become brittle with age. Old growth creates a thick thatch that ends up inhibiting vigorous new growth from the shallow root crown. As plants age, production of new growth becomes progressively thinner and ranker while flowering stems become shorter and less abundant. Seedlings also exhibit brittleness and poor root development where moisture levels are low during the warm season growing period.

Home gardeners could end up as the main source for the spread of this species. Growers are advised to re-invigorate plants every autumn by slashing them back to a few centimetres above ground level. This ensures a showy, prolific flowering the

***P. alopecuroides* naturalised at East Richmond, Victoria.**

following summer, enhanced dramatically when combined with regular watering.

Each plant can produce over 10,000 seeds through the warm months although I am unsure of viability rates. Certainly if moisture levels are maintained over the growing season then some seed is likely to germinate. In spring of 1990 I planted a single specimen of Swamp Foxtail in a home garden. Wanting to maximise its growth and flowering over summer I watered it every few days. By the middle of autumn growth and seed shedding had virtually ceased. By then there were 104 seedlings within a metre and a half radius of the adult plant.

Three closely related species, African Feathertop (*Pennisetum macrourum*), Fountain Grass (*P. setaceum*) and White Feathertop (*P. villosum*) have gone on to become serious weeds in various agricultural regions across South-East Australia. Inevitably, invasions of indigenous plant communities have followed. All three favour the type of habitat Swamp Foxtail thrives in. Like Swamp Foxtail, both Fountain Grass and White

Feathertop were deliberately introduced as featured ornamentals, their dense form and massed flowering spikes providing the initial attraction to horticulturalists. Presently the spread of Swamp Foxtail in the region is largely limited by the relatively dry summers and autumns here but large scale climatic shifts regularly occur across Australia. Presumably any shifts to a warmer, moist environment would favour this species' expansion.

In the largely self-regulating horticultural industry, many grower and retailers persist with using and promoting scores of recognised invasive species. Approaching trade associations over restricting distribution of a species yet to prove an environmental weed surely presents difficulties.

Fortunately a precedent of sorts was established last year when the Brunswick Tree Group approached Brunswick Council to remove Swamp Foxtail from numerous street planting beds. The Council agreed, replacing the weedy plants with *Poa labillardieri*. So if your council is using Swamp Foxtail, why not urge them to save on their future weeding bills by removing the plant!

For those interested in controls, I found Glyphosate at 100:1 quite effective on both seedlings and established plants. Spraying can occur throughout the warmer months though ensure plants are not under heat stress. If intending to spray mature plants an initial kill can be expected if old growth is first removed, say by burning or slashing back. Herbicide is then applied to new growth six to eight weeks later.

ADAM MUYT

* Thanks to David Albrecht for info. on the spread of Swamp Foxtail within Victoria.

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Report: Biological Weed Control Conference

By Lincoln Kern

A symposium on "The role of biological control in weed management" was held at the Keith Turnbull Research Institute on 17 November 1993. It was organised by the Weed Science Society of Victoria Inc. and the Department of Conservation and Natural Resources. I was fortunate enough to be able to attend this enlightening seminar. It answered many questions I'd had about biological weed control and it highlighted some issues I had not considered before. I won't give a detailed summary here because the papers were published in the Plant Protection Quarterly (Vol. 8, No. 4, 1993). There were papers presented on protocols for biological controls and their release, defining successful biological control, funding sources, community expectations, the community's role, the biological control of environmental weeds and its success in pasture situations. In this report I intend to highlight aspects of biological weed control that were especially interesting to me. I hope they coincide with points of interest for readers.

Kate Blood, of the Friends of the You Yangs, spoke about the problem of Boneseed (*Chrysanthemoides monilifera* ssp. *monilifera*) in the You Yangs Regional Park west of Melbourne. She emphasised the enormous problem that it is in the park, Boneseed covers a staggering 98% of the 2025 hectare park. A great deal of money has been spent on chemical control and many volunteer hours have been contributed in handpulling the plant. It has barely made a dent in the problem. A biological control program for boneseed was initiated in 1987 and the park has been used as a release site for potential agents. According to Kate "the group realized that it [biological control] was the only hope the You Yangs had if it was integrated with other control techniques". The group sees biological control as the only salvation for the biological diversity of the You Yangs, will it come in time or at all? Two agents have been released but results are still inconclusive.

Several general issues were highlighted in many of the presentations. Many people, farmers in particular, have slowed down or ceased other control programs when biological control programs are announced for certain species in the belief

Report: Biological Weed Control Conference Cont.

that an effective control will come soon. This is far from the case, biological control programs are a long term proposition with minimal success. The worldwide success rate for control programs is approximately 24%. The first controls for Ragwort (*Senecio jacobaea*) were released in 1930, several more have been released since then but success is still classified as "partial". If there is success savings can be substantial, an estimated \$1 billion dollars has been saved in Australia through the use of biological controls. Funding is always short for biological control programs because the benefits can take many years to appear but those benefits have been substantial and worth the gamble in many cases.

It is important to continue conventional control techniques when biological control programs are initiated. The controls may be a long time in coming and an integrated approach will be more successful in the long run. The control of a weed may not be complete even if control agents are effective, the agent may only reduce its spread, reduce it to more manageable levels or only work in particular situations, climates and geographic locations.

The community also has a potentially major role in biological weed control. The impression is that we can sit back and let the scientists do the work but they can only take it so far. They research the ecology of the plant, the potential agents in the plants natural habitat, the potential of the control agents destructive abilities here in Australia, conduct initial field releases, evaluate the agents performance and finally determine the best agent for mass release. This process may take up to 18 years but there is a long way to go after that. The mass rearing of control agents is an extremely costly and labour intensive process, the community can play a crucial role at this stage.

Ragwort is a good example, a reasonably successful agent has been found, the Ragwort Crown Boring Moth (*Cochylis atricapitana*), but it only spreads slowly on its own. Several schools across Victoria have been recruited to assist its spread and it seems to be a very cost effective way of pushing the process along. Businesses have donated equipment for rearing and the students, often from infested farms, gain practical experience in biology.

Another example of the community approach is Operation Blue Hills, an integrated approach to controlling Paterson's Curse (*Echium plantagineum*), initiated by the Dept. of Conservation and Natural Resources, the Dept. of Agriculture and the Victorian Farmers Federation. A big

part of this program is involving the community in identifying suitable sites for the release of biological controls and the distribution of the agents. NSW, Western Australia, New Zealand and the United States have similar programs and the Victorian Government has plans to involve the community in a more integrated approach to biological weed control in the future.

Robin Adair presented information about the potential of biological control for environmental weeds. "In Australia, classical biological control programs have commenced on 33 environmental weed genera, five of which were initiated for the protection of nature conservation values, while 27 were initiated primarily for the protection of agricultural ecosystems". Robin asserted that biological control techniques offered the only possibility for any substantial control of many environmental weeds (as highlighted by Kate Blood from the You Yangs). He also said that "Selection criteria for future targets for biological control should be based on current and potential distribution, rate of spread, ecological impact, susceptibility to conventional control techniques and relationship with disturbance". His criteria for successful control of environmental weeds include successful natural regeneration of indigenous species or, at least, the reduction of the dispersal of the weed to uninfested areas. It was suggested that certain key exotic grasses and weedy Australian plants outside their native regions should be targeted but that clear protocols for conducting such programs needed to be developed.

Robin Adair is also conducting the research on the a biological control of Boneseed. We were touring the facilities at Keith Turnbull and were shown the potential control agents found in South Africa. Half of the organisms, mostly insects, were undescribed by science when found on Boneseed in the wild in South Africa. Describing the new species became yet another step in long process of the research program. I was reminded of the CSIRO's recent publication of *Insects of Australia* and the cost of taxonomic research demonstrated by the years of effort put into that book. It struck me that the easy identification of biological control agents was one concrete economic benefit of such taxonomic research.

Finally, the sources of funding of biological control programs were discussed. Diana Patterson, Manager, Land Protection Branch, DCNR, spoke about the pressure to cut budgets and the present low priority of all weed control programs within DCNR. Biological control programs are not being expanded under the present climate despite the potential benefits and the increasing concern about chemical use. Private industry, the rural industry research corporations, also contribute substantially to biological control programs but

only to ones specifically aimed at their constituents needs. There is some overlap between the agricultural and environmental weeds but the speaker from private industry made it clear the direction of research will be more clearly linked to the farmers needs in the future. It seemed as if public pressure to influence funding priorities would be appropriate but the where and how was never mentioned at the conference, any ideas out there?

I highly recommend reading the proceedings of the conference if you have any interest in this subject. Substantial references are included as well as all many details that I didn't have the space to discuss here.

Environmental Weeds Education Project

Some of you may remember this project mentioned in Indigenotes last November. The project itself is much more solid now and a person has been appointed to conduct the work.

The Steering Committee for the project is made up of representatives of the Department of Conservation and Natural Resources, including Ann-Marie Tenni, Jim Crosthwaite, and Matt White, a representative of the Nurseryman's Association of Victoria, Neil Jackson and myself, representing IFFA. The committee is composed of representatives from these three perspectives to ensure that a broad approach is taken.

The project itself involves two steps. Firstly, a social research component and an evaluation of existing educational material. The second part is actually producing educational materials for

nurseries, gardeners, media, etc.

The social research component will involve focus groups and market surveys. The aim is to identify the attitudes and habits of the general mass of people, i.e. the community, who contribute to the problem of environmental weeds. The focus groups will involve choosing a cross-section of people in rural and city fringe areas and getting them together to talk over the issues. Market surveys may focus on gardeners or the community in general to get a different perspective. Part of the research will also involve interviewing nursery owners to determine their attitudes and how they can be involved in environmental weed education.

The existing educational material on environmental weeds will also be compiled and evaluated. This will involve looking at the actual material and talking with the people who have produced it. The aim is to identify what techniques have been effective and what the results have been.

The results of the research will be presented in a series of reports that will provide future direction for the project and for any other educational work that people will be undertaking elsewhere. The actual educational activities are yet to be determined, depending on what directions the research may point to and the time available. Possibilities include photographic displays, material for community groups, materials for the nursery trade (possibly material for their publications or an information kit), material for journalists and input to horticultural training programs such as a training module.

Deirdre Slattery has been appointed to the consultancy/position. Deirdre has extensive experience in environmental education and is adept at working with a range of people coming from different points of view. She has helped co-ordinate the Alpine Ecology Courses and recently produced the Australian Alps Education Kit. Work will begin on the project in late February.

If you have any questions, wish to comment on the directions of the project or contribute relevant information please feel free to contact me as the IFFA representative on the Steering Committee.

Lincoln Kern (see back page for contact details)

Coming events:

**For IFFA events
see back cover**

Conferences/Workshops/Talks

- 1 March 8pm. Vegetation Diversity at Jilpanger Springs. A talk by Damien Cook organised by the fauna survey group of the FNCV. Contact Felicity Garde (03) 8184684. The Herbarium, Birdwood Avenue, Sth Yarra.
- 11 March 7.30-9.00pm. Bird Talk. Fay Valcanis Park Care Officer and guest speaker Ellen Mc Culloch from the Bird Observers Club of Australia will talk about bird attracting plants. Westerfolds Manor, Westerfolds Park. Bookings essential (03) 846 4499.
- 19 March. The 1994 Friends of National Parks Network Seminar organised by the VNPA. The Seminar is proposed to feature practical workshops, large and small, metropolitan and country. \$10 a head, lunch included. Contact Wayne Woods (h) 7447050 (w) 3445711. Venue: The Herbarium, Birdwood Ave Sth Yarra.
- 4,5,6 October. 1994 National Greening Australia Conference. A Vision for a Greener City: The Role of Vegetation in Urban /Environments. The conference will examine the multi-disciplinary issues related to vegetation in both capital cities and country towns through three sub themes: Ecology of Cities and Country Towns, Planning for Conservation and Development and Management of the Environment. Location: Esplanade Hotel, Fremantle, Western Australia. Contact Martine Scheltema (09) 4812144.

Excursions and field trips

- 19 February 9am-5pm. Marine Studies Day. Snorkel at Pope's Eye, go on a Rock pool ramble and discover what life exists under Port Phillip Bay whilst on a marine biology cruise with the Victorian Institute of Marine Sciences. Meet at the Queenscliff Marine Studies Centre Weeroona Pde, Queenscliff. For further details contact David Pace (03) 2859355 or Kim Godwin (052) 52 3344.
- 19 February 8.15 am. Bird Survey at Gellibrand Hill Park. Join the Bird Observers Club, the Friends of Edithvale, the Friends of Gellibrand Hill Park inc. and the Friends of Braeside Park observe the birdlife and have a BBQ, and walk and talk afterwards. Meet at Woodlands Homestead. Register with Mark Corr (03) 557 2783.
- 26 February 10am. FO the Helmeted Honeyeater. Bird walk in Yellingbo State Nature Reserve led by Bruce

Quin. Meet at the DCNR Rangers office, Macclesfield Rd, Yellingbo. Mel map 119B F11. BYO picnic lunch.

- 27 February 10.30 am. F.O Grey Crowned Babbler. Field trip to Mt Eliza to find the local babbler group. Also to check on the other groups nearby. Contact David Lockwood (03) 543 8227.
- 26-27 February. Environment Victoria (formally CCV) are organising a Fabulous Forest Tour, looking at forest ecology and the effects of logging in the Central Highlands. Guided Tours looking at the leadbeaters possum, Astelia lilies and rainforest. 10\$ adult, 7\$ conc. per day, under 16 free. The campsite is off Powelltown Rd. Bookings and maps Barry Traill (w) 654 4833. Easter in East Gippsland-further details next month.
- 6 March Sun. A VNPA Walk, Talk and Gawk: Jawbone Flora and Fauna Reserve, Williamstown. Rockpools, mangroves, saltmarsh and mudflats. This is an area of great importance for wader birds and significant in terms of vegetation type. Contact Christine Kenyon (03) 803 3495.
- 12 March. 9am.-5pm. Landcare. Join V.A.E.E. during 'Landcare month' as we take part in some landcare activities - tree-planting, weeding, wildlife survey, BBQ. Guests will include 'Land for Wildlife' and native plant experts. Bring the kids! Meet at Victoria St, Wandin. Contact Karen Benn (03) 651 7478 or Peter Preuss (059) 647 559 for details.
- 19 March. Murrindindi. A VNPA organised walk lead by Dale Bateup to the falls and along the creek. Contact Dale (03) 877 7719.
- 20 March. Walk, Talk and Gawk at the You Yangs Regional Park. Follow in the footsteps of Mathew Flinders. Koori sites, spectacular views, regeneration after fire and regeneration. BYO lunch. Contact Geoff Durham (03) 523 5559.
- 25-27 March. Melbourne Water Envirofest. An Environmental extravaganza. Explore many kinds of environmental orientated foods, displays and products that are available. Westerfolds Park. Bookings essential (03) 846 4499.
- 26 March. Leadbeaters Possum Stag Watch at Powelltown in the Central Highlands. Organised by the FNCV. Please contact Ray Gibson (03) 874 4408 (h) (03) 3721899 (w) for details.
- 12-14 March. The FNCV are organising a full survey camp at Wilsons Prom, comparing the trapping rate in areas of heathland that have been burnt. They are trying to determine how soon animals return to an area. For further details contact Ray Gibson (03) 874 4408.
- 27 February. 10.00am-3.00pm. Macedon Ranges walk. Join a ranger for a walk through messmate and gum forest along the spine of the Macedon Regional Park. Enjoy the views and catch a breath of moun-

tain air while learning about past and future management of the Macedon Ranges. Bring hiking boots, hat and lunch. Bookings essential (054) 261 866 between 8.30am and 4.30 pm.

23-25 April. The fauna group of the FNCV are organising an excursion to the Brisbane Ranges Area. They will be focussing on the brush tail phascogales, cage trapping and spotlighting. Contact Ray Gibson (03)874 4408.

Restoration Activities

February

20 Sun 10am-12 noon. Brunswick Tree Group. Working at Union Bush Park. Moonee Ponds Creek. Eric Ward 388 2123.

20 Sun 10 am. Men of the Trees. Working on a new area that has begun to be mulched. Weeding and continue mulching. Deep Rock, Yarra Bend Park; Melmap 2D, ref D6. Minette Russell Young (03) 898 1364.

20 Sun 10 am. Meander...a group caring for the Menzies Creek and Emerald Tourist Track including weeding, planting and track work in the creek Reserve. Meet at A'Vard Picnic Ground. Melways 125 F 12. For further details contact Kate Forster (059) 685 828

26 Sat. FO Sherbrooke Forest inc. Project afternoon. Cestrum near Neumanns track and ivy on edge of Foden Track. Meet at 2pm on Grantulla Rd at the beginning of Neumanns track, Kallista. Mel ref 75 D5.

27 Sun 10am. FO Royal Park West. Project Day. Mel ref 29 C12. Contact Mick Arundall (03) 380 8075.

27 Sun 10am. FO the Helmeted Honeyeater Revegetation Day. Meet at Yellingbo store. Mel ref 119B J8. BYO lunch. We'll leave a map in case you're late. Contact Gaye Gadsden (059) 648 350 for details.

March

5 March Sat. Gellibrand Hill Project Day. Meet at the work centre. Hand weeding and cut and paint thistle, boxthorn, briar rose, serrated tussock. Afterwards a pest plant talk and grass identification session and lunch. Contact Mark Corr (03) 557 2783.

5 March Sat. 10 am Green Link Box Hill activity day. Working activities every Monday morning at the council nursery in Nelson St, Box Hill and Tuesday in the Koonung Valley replanting Bushy Creek. Contact Minette Russell Young (03) 898 1364

5 March Sat. Montrose Environment Group working bee. Rare Swamp Gum community with lots of

birds. Nature walk and handweeding. Contact Graeme Lorimer for details (03) 728 5841.

9 March Wed. 9.30am. FO Sherbrooke Forest inc, Project morning at Ridge Track, high side, Big Bend Extension. Concentrating on weeding ivy, laurustinus, honeysuckle. Bring garden forks. Meet at Ridge Track gate on Belgrave-Ferny Creek Rd. Mel ref 75 D5. Contact Jeff Preston (03) 755 2602.

12 March Sat. 10am. Wurundjeri Garden. This Koori food garden by the Yarra in Hawthorn has been established for three years. Glan Avon Rd. Mel. ref. 45 A11. Planting and weeding. Contact Dorothy Sutherland (03) 818 4706.

13 Sun 3-5pm. Green Link Camberwell. Weeding, planting and seed collection in Welfare Pde. Meet at the corner of Dion St and Welfare Pde. Mel 60 E7. Contact Diana Burgess (03) 809 2092.

13 Sun 10am.URAGE (Upwey Regional Action Group for the Environment). Project day. Weeding and planting to restore indigenous vegetation along Ferny Creek, Upwey. Meet at the corner of Deans and Morris Rds, Upwey. Mel 74 k12. Contact Rob Stephens (03) 754 3792.

13 Sun. 10am. FO Yarra project day-handweeding etc. Meet at Galatea Point. Mel ref 2D D7. Also Wednesdays 10am. Contact Judy Rutherford (03) 347 2252 for details.

The Australian Trust for Conservation Volunteers activities, contact ATCV: (053) 33 1483.

For other Victorian National Parks Association activities, call (03) 650 8296.

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 on (03) 650 8296.

Visitors/participants are welcome to all events listed in Indigenotes.

Thank you to all the people who contact us regarding on-coming events their groups are organising. If you wish to have your events covered, or you can see corrections that need attention, please get in touch with Jo Ferguson (see back cover)

What's left of the ground-dwelling fauna of the northern woodlands?

A project team of the Flora and Fauna Branch of the Department of Conservation and Natural Resources is currently investigating the importance to native fauna of remnant woodland patches (including those on private land) in the Northern Plains region of Victoria. We are working in this part of the State because most of this region has been cleared and we already know that several threatened species are found there.

Unfortunately, relatively little is known of much of the reptile fauna in this region, especially which habitats are the most important for them and how their distribution and abundance is affected by different management regimes. Practices such as grazing, burning and timber harvesting may affect different reptiles in different ways, so information gathered during this project should help us to understand these relationships.

As part of this project, pitfall trapping was undertaken for two weeks in January of this year (1993) and some very unusual results were obtained. Pitfall trapping (20 litre buckets are buried to their rims with a 25 cm high nylon flywire 'drift-fence' placed over each bucket in the shape of a 'Y' to direct animals towards the bucket) was undertaken in the Gunbower/Mitiamo, Nathalia and Benalla/Violet Town areas. Pitfall trapping is recognised as an effective way of catching shy or uncommon species which would not normally be recorded by other trapping or census techniques.

During the trapping period 13 reptile species, 10 frog species and 4 mammal species were captured. Most of the reptiles were small skinks, although the occasional gecko, dragon lizard and a small number of blind snakes were also recorded. Notably, not one legless lizard was captured! This is a surprising result considering that several individuals of this shy group were observed on roads around Nathalia a short time before the trapping period. No elapid snakes (e.g. Brown Snake, Tiger Snake, Bandy-Bandy) were captured, and this parallels the relatively low number of recent snake records for the northern Victorian woodlands. Several landholders have commented on the scarcity of these large reptiles.

Interestingly, total reptiles (138 individuals) were grossly outnumbered by total frogs (approx. 12,000 individuals), reflecting both the low numbers of reptiles and the beneficial effect that exceptionally high rainfall has had on frog populations. Most of

these frogs were sub-adults and belonged to two species, Southern Bull-frog (*Limnodynastes dumerilii*) and Spotted Marsh Frog (*Limnodynastes tasmaniensis*), which (combined) accounted for at least 90% of total frogs captured. Thus, while numbers of captured frogs were high, diversity of this animal group was surprisingly low. This reduction in frog diversity, a worldwide phenomenon, seems to be a result of the combined effects of human interference rather than one single cause. For instance, human activities such as swamp reclamation, insecticide and herbicide use, salinisation following timber harvesting and pollution of various types are all known to disadvantage frogs.

Fifty-nine individual mammals, representing four species, were captured during the study, of which the House Mouse (*Mus musculus*) accounted for 90%. Only one Fat-tailed Dunnart (*Sminthopsis crassicaudata*) and one Rabbit (*Oryctolagus cuniculus*) were captured; it is extremely unusual for rabbits to be captured in pitfall traps! The fourth mammal species recorded during the trapping period, Yellow-footed Antechinus (*Antechinus flavipes*), was captured in small numbers from two of the three trapping areas reflecting its widespread distribution across northern Victoria.

Further pitfall trapping is envisaged for the upcoming spring-summer period, weather permitting! With recent heavy rainfall and subsequent flooding, trapping results should enable a seasonal comparison to be made. Ultimately, the information gathered during this project should provide landholders with a much clearer idea of what different ground-dwelling species require to survive in these remnant woodlands and grasslands (apart from snorkel and flippers!).

Landholders can assist this project by providing information on large, conspicuous reptile species or those rare or shy species for which there is a shortage of records. We especially require locality information for the following species: any elapid snake, (mostly the large species such as Eastern Brown, Red-bellied Black, Lowland Copperhead and Tiger snakes, as well as the smaller and more cryptic Eastern Small-eyed, Yellow-faced Whip, Bandy-bandy and Curl snakes), any blind snake (*Rhamphotyphlops* spp.), Carpet Python (*Morelia spilota variegata*), any legless lizard, Lace Monitor / Tree Goanna (*Varanus varius*), Eastern Bearded Dragon (*Pogona barbatus*), and Tree Dragon

(*Amphibolurus muricatus*). While some of these species may be relatively common in your area, it may be that their presence there has not been documented. Information such as locality, date, whether the animal was an adult or juvenile, and the type of habitat(eg. grassy roadside verge, swamp, in dead Red Gum) is all very useful.

Dr. Geoff Brown, DCNR

Send your records to:
Dr. Geoff Brown, Department of Conservation and Natural Resources
123 Brown St., Heidelberg, 3084.

Suggested reference:

Cogger, H.G.(1992),*Reptiles and Amphibians of Australia*. 5th edition, Reed.

Source: Land for Wildlife Newsletter, Vol. 2, No. 2 Nov 1993

Rediscovering firestick 'farming'-Regeneration of indigenous plant scapes with native grasses

By Ian Higgins

Control of the ground layer is vital in any revegetation work. The ground layer is where recruitment of both weeds and native plants takes place. If management can tip the balance of recruitment in favour of the natives, we could win a few battles in the fight to conserve viable native vegetation.

The experiences described below show that local native grasses and fire can be used to gain control of the ground layer. Once weeds are reduced, regeneration of a range of other species becomes possible.

John Robinson lives at Strathfieldsaye, near Bendigo (rainfall 550 mm p.a., elevation 220 m) on the silty soils next to Sheep Wash Creek. His interest in wildlife and native vegetation has led him to work at increasing the extent of the remnant native grasses that were patchily present amongst the weeds. The grass species are mainly *Danthonia linkii*, and *D. racemosa*, with some *D. procera*, *D. duttoniana*, and *D. eriantha*. *Elymus scabrus*, *Microlaena stipoides*, *Stipa scabra* ssp. *falcata*, *S. mollis*, *Aristida behriana*, and *Themeda triandra* are also present. There are very few broadleaf herbs in general and only a few individual species present. They include *Pelargonium rodneyanum*, *Rumex brownii*, *Alternanthera denticulata* (and a so far unidentified *Alternanthera*) and locally rare *Glycine tabacina* and *Desmodium varians*.

The five acres have been John's house block for 20 years and are now a marked contrast to the adjacent paddocks. The ground layer vegetation there, like most of the district, is dominated by annual weeds (Wild Oat, Bromes, Barley Grass, Silver Grass, Capeweed etc). Away from the trees perennial weeds (Docks) and exotic pasture species (Phalaris) occur. In this situation, which is widespread in much of rural Victoria, there is very little regeneration of any native vegetation, including trees.

Previously John hand weeded amongst some of his native grass patches and this has allowed the stands of grass to thicken up. Now he is able to sweep up the fallen *Danthonia* seed (uncontaminated by weed seed) and use it to sow new areas.

Recently, he has started using fire to achieve weed

control. He feels that autumn or summer fires are of no disadvantage to annual exotic weeds and burning at these times simply maintains the status quo. By burning in spring (the fuel load is provided by the previous season's ungrazed growth) he has found that the balance is tipped in favour of the native (perennial) grasses which recover well from (and seem rejuvenated by) fire even when quite small plants. Burning at this time retards and often destroys the annuals present, reducing their seed set. It also helps remove the layer of partly decomposed plant residues (grass and tree leaves) and exposes mineral soil.

John emphasises that this litter layer is of great importance as its presence seems to favour and support the growth of annual weeds and preclude the regeneration of native species. He rakes up any unburnt litter into heaps for burning later.

Burning in this manner has allowed the native grasses to regrow and produce a seed crop, and new seedlings colonise the bare soil.

Tree and shrub seedlings also find ample opportunities to regenerate, although the next year's burning will kill or cut them back. If applied on a broad scale, this regime would create an open grassy landscape just as Aboriginal firing practices are said to have. When John wants the seedlings to survive, he avoids burning them in the next year.

The point is that there are plenty of seedlings regenerating. (Perhaps herbaceous ground flora species could be re-established the same way?)

John's experiences show that burning can help rejuvenate remnant vegetation. Does this mean we have our rural revegetation (tree planting) priorities back to front? Perhaps if we focussed on managing the vegetation at ground level, the re-establishment of trees would take care of itself (given a seed source).

Danthonia linkii Drawn by Jo Ferguson.

Your Patch Of Bush: Managing remnant flora and fauna

A series of discussion and field days organised by the Victorian Conservation Trust.

The Victorian Conservation Trust is pleased to bring a stimulating education program in bushland management to country Victoria funded through the National Landcare Program. The Trust is hoping that people who own a patch of bush, native grassland, wetland or other remnant will attend as well as any one who has an interest in protecting our native flora and fauna and would like to learn more and share their knowledge. Special activities are being organised for children.

A series of workshops and field days will cover many aspects of flora and fauna management including plant and animal identification, weed and vermin control, native grassland management, the use of fire in bush management, creating fauna habitat and more. There will be displays and tables where local weeds and other material will be exhibited. Speakers will include local landowners, naturalists, VCT regional representatives and scientists from the DCNR and other government departments.

Each regional course will consist of an introductory day followed by three or four field days later in the year focussing on local issues. Participants can attend as many or as few of the days as they like. The introductory days will involve a keynote address, presentations by local experts, workshops and field activities. Courses are planned at Wangaratta, Bendigo, Sale and Stawell on Saturdays in April to May 1994 and at other centres in 1995.

Come and meet other people with similar interests in nature conservation. Share your own ideas or hear others talk on flora and fauna management. Children's activities with a conservation focus will also be available so bring the whole family.

For more information about the course nearest you, contact:

North east - Sue Brunskill (057) 287 285

North central - Elvyne Hogan (054) 353 344

Gippsland - Frankie MacLennan (051) 871 291

Wimmera/Grampians - Neil Marriott (053) 562 404

nity leaders and agency representatives has been formed. The Yarracare Interim Working Group now invites nominations from the community to participate in the development of the Yarra Catchment Management Plan, through sub-catchment Yarracare groups. These groups will appoint delegates to the final working group. To nominate for sub-catchment groups, you should have relevant interest and experience in areas related to water and/or land issues in the Yarra Catchment and preferably be able to represent your community group or organisation. **Nominations close on 28 February 1994.**

The key government agencies involved are Melbourne Water, Environment Protection Authority, Dept. of Conservation and Natural Resources, Dept. of Agriculture, Dept. of Planning and Development and the Upper Yarra Valley and Dandenong Ranges Authority.

If you wish to nominate or would like further information on Yarracare...Ring Carol Kunert (Coordinator) on (03) 480 7408 or 480 7274 or write to: Yarracare, P.O. Box 8233, Preston, Vic 3072.

Yarracare:

Community Involvement in Caring for the Yarra Catchment.

To protect our land and water resources it is necessary for community groups, individuals and government to all play their part. The Port Phillip-Westernport Landcare Plan identified the need for government agencies to work more closely with the community to protect land, water and biological resources in the Yarra Catchment.

A **Yarra Catchment Management Plan** is therefore to be developed by a joint community/government Working Group. The Plan will determine both long-term directions and short-term on-ground actions for catchment improvement. It will consist of three parts; an overall Implementation Strategy, a revised State Environment Protection Policy dealing with water quality and on-going action programs for land and water management in sub-catchment areas.

An **Interim Working Group** composed of commu-

Snippets

Fire Management Code of Practice

The Fire Management Code of Practice will ultimately guide all fire management activities in Victoria. It is the first of its kind for Australia and the world.

Max Coulter has been appointed as Project Officer to facilitate this project. He is well suited to the task both in experience and in policy development. Originally from the staff of the Victorian School of Forestry and Land Management at Creswick, he has experience in fire management including fire suppression, prevention, research and training. Max is keen that this practical Code will provide standards ensuring quality control and consistency across all fire management activities on public land in Victoria.

For the Code to be practical, input must come from a wide cross section of those involved in fire management. There will be widely advertised opportunities for people to participate in the development of the Code.

The management of public land should not be allowed to degrade the environment, and this includes proper fire management which can assist the development of our flora and fauna. If you have any comments or questions about the Code, send it in (fax, write or phone), and it will be considered for a future amendment to the Code.

Write to Max Coulter, Project Officer - Code of Practice, Department of Natural Resources, 601 Bourke St., Melbourne 3000. Telephone (03) 628 9400 or Fax (03) 628 9459.

Source: **Field Naturalists Club of Victoria Newsletter, Dec 93/Jan 94**

Mallee Country Wildlife

The Nature of the Lower Murray-Darling Basin by Sid Cowling and Deborah Savin. Available from the Gould League, P.O. Box 446, Prahran, 3181; Ph. (03) 5101493 and Fax (03) 5211217 for \$19.95 plus \$4.00 postage and packing. 64 pages. This is a natural history of the mallee which has been written with use by students in mind.

Source: **Land for Wildlife News, Vol. 2, No. 2, November 1993.**

Australian Flora

Foundation Research Grants 1994-95 Call for Applications

Applications for Grants to support scientific projects on the biology or cultivation of Australian plants are invited from research workers in Australia. Projects may aim to increase our basic understanding of native plants or to solve practical problems associated with their cultivation.

Some of the donors to the Foundation are interested in encouraging research on the following, but other topics will be considered:

Propagation and cultivation of species of importance to ornamental horticulture including *Ricinoscarpos*, *Conospermum*, *Persoonia* and *Newcastelia*.

Seed biology of the Asteraceae, Tribe Inuleae.
Research into mycorrhiza.

The Foundation was established in 1981 with the aim of fostering scientific research on the biology and cultivation of Australian plants. Since establishment, the Foundation has built up a modest research fund and regular donors. 22 projects have been funded.

By November, 1994 the Foundation expects to be able to provide further small grants (\$3,000) with possible continuation in 1995-96. Projects with a clear industry orientation may receive a grant of up to \$4,500, with possible continuation, because of matching funding of Special Grants by the Rural Industries R and D Corporation.

Preliminary applications for grants should be submitted to the Secretary by **March 10th, 1994**. These should consist of a brief statement, 300-400 words in length, outlining the project together with a budget. All information must be included in two A4 pages. Indicate the research institute or company to which you will be attached during the project. Applicants for RIRDC funded Special Grants should include a sentence indicating if the research will be done by someone new to research on native plants or is on species or genera not previously worked on.

Directors expects about thirty of these preliminary applications. Perhaps eight of these applicants will be asked to submit detailed proposals by the end of June, 1994 for approval by the Scientific Research Committee of the Foundation. Funds should be available by December, 1994 or alternatively for the academic year 1995.

President
Dr. Malcolm Reed (02) 805 8155

Address preliminary applications to: Hon. Secretary, Australian Flora Foundation, GPO Box 205, SYDNEY NSW 2001

Native Grasslands may help with earth mite control

The Red-legged Earth Mite and Blue Oat Mite are pests of pasture and crops in Victoria and may reach plague proportions in some years. The current method of controlling earth mites involves application of chemicals, however, this has the disadvantage that it removes natural controls and is a potential environmental and health hazard.

Research in undisturbed vegetation in southern NSW has shown that there is a complex of natural enemies of Red-legged Earth Mite and Blue Oat Mite. Eight species of native predatory mite and a number of insect predators have been identified. Hence, there is the potential for an integrated earth mite control strategy utilising natural controls and relying less on chemicals.

Native grassland remnants in Victoria are a refuge for native predatory mite species and so a valuable biological resource from which natural earth mite controls could be derived.

It is also interesting to note that introduced earth mites have been suggested as a cause for lack of regeneration in some native grassland remnants. Does this mean that previous management has not favoured natural earth mite controls?

References: James, D.G. (1991) Proceedings National Workshop Red-legged Earth Mite, Perth. Neville Scarlett, La Trobe University, Botany (pers. comm.).

Stephen Platt

Source: *Land for Wildlife News*, Vol. 2, No. 2, November 1993.

Rangelands Issues Paper

Australian & New Zealand Environment and Conservation Council Agriculture and Resource Management Council of Australia & New Zealand: National Strategy for Rangeland Management

The Working Group on the National Strategy for

Rangeland Management is seeking input and involvement in the process of developing a national strategy and action plan for rangeland management. As the first step, a Rangelands Issues Paper was released at the Outlook 94 Rangelands Session in Canberra on Wednesday, 2 Feb. '94.

Rangelands are generally native grasslands, shrublands and woodlands. The majority of the Australian mainland is rangeland- particularly the arid, and semi-arid, sub-tropical and tropical areas.

A national strategy and action plan for rangeland management is needed to ensure that the valuable natural resources of the rangelands are managed to meet the needs of Australians today, while conserving our ecosystems for the benefit of future Australians.

The **Rangelands Issues Paper** attempts to identify the broad spectrum of issues associated with the use of rangelands. It is being distributed to key organisations and individuals to obtain assistance in developing responses to issues that are of a concern to those with an interest in the rangelands.

The paper is part of an overall process of public consultation in the development of the strategy. There will be another opportunity to comment when the draft strategy is released for public comment later in the year.

The working group will also hold workshops in several rangeland centres during April, May and June 1994 to gain input to the strategy.

Further information and copies of the **Rangelands Issues Paper** can be obtained by phoning 008 803 772 (toll-free).

Comments should be sent to:

Secretary
Rangeland Working Group
GPO Box 787
Canberra, ACT 2061

(Comments can also be provided by the toll-free number.) The closing date for comments is 8 April 1994.

Source: *The Age*, 5 February 1994.

IFFA activities:

IFFA (Vic)

Next meeting:

Tuesday 22 February at 7:30 pm* at the Herbarium Hall, Birdwood Ave, South Yarra (Melways map 2G ref 12A). **Carol Kunert will speak on Yarracare: Integrated Catchment Management for the Yarra Catchment.** All welcome.

*NOTE THE EARLIER MEETING TIME. Speakers will still start at 8:00, promptly.

Committee meeting:

Thursday 3 March at Sue Mills, 24 Clarence St, East Brunswick. 6.30pm onwards.

SPIFFA

Mon 7 March Waterfall Gully Ctty Centre, Cnr Bayview Rd and Nixon St, Rosebud South at 7.30 pm. Subject: **Gary Summers on the Intertidal Zone.** Contact Mark Adams (059)851122.

Indigenous Nurseries Network subcommittee:

No Meeting in February.

Contact Murray Ralph (03) 419 3040 or Sue Mills (03) 383 2937.

NSW activities:

Next meeting:

Monday 4 April 7.30 - 10.00pm. Subject to be determined. Contact Sally Fisher (02) 9706486 (work), Penny Brown or Andrew McGahey (02) 9133681 (work)

Front Cover: Austral Stork's Bill - *Pelargonium australe*. Family: Geraniaceae There are 300 species of *Pelargonium* worldwide and 7 in Australia, of which 6 are endemic. Five named native species grow in Victoria, including *P. australe*, a species found in all Australian States.

***P. australe* is a sub-erect perennial which can grow from 30-70cm high. It has stout stems covered with soft white hairs. Drawn by Peter Strickland and described by Kathie Strickland.**

Membership

IFFA membership costs
\$40 for non-profit organizations,
\$50 for corporations,
\$25 for individuals and families,
or \$20 concession.

Membership includes
11 issues of *Indigenotes* per year.

Memberships should be sent to the Membership Secretary. Include your name, address and phone numbers, and a bit about yourself.

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Next Month:

Fire: Perspectives from New South Wales and California

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Coming Events: Jo Ferguson, (03)4814682

Snippets: Jane Robinson, (03)428 9573 (ah)

Contributions to *Indigenotes* should be sent to the editors — **the deadline for the next issue will be August 6.**

The views expressed in Indigenotes are not necessarily those of the Indigenous Flora and Fauna Association.

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