



Understanding Our Natural World
Est. 1880

Field Nats News No.141

Newsletter of the Field Naturalists Club of Victoria Inc.
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Office Hours: Monday—Wednesday 9 am-5 pm.

April 2005

President's Report

Hi Everyone,

We have great guest speakers this month so I've outlined a few below.

Microscopical SIG

The Microscopical SIG has invited Professor Roger Parish from Latrobe University who will be presenting "Genetic Engineering in Plants and How it is done?"

It's your chance to learn more about this speciality field by a leading scientist.

Botany SIG

The field surveys with Trust for Nature have been a great success. A large number of members came along to the Harbury field trip. (See Report page 10)

Thanks to Mimi Pohl and Annie Lamb for their efforts.

This month's guest speaker is Josh Dorrough from the Arthur Rylah Institute who will be presenting "Conserving Native Vegetation in Grassland Areas"

This month's field trip will see us adventuring to Grieve Nature Reserve Mirboo North to compile a detailed species list.

Don't miss out!

Terrestrial Invertebrate SIG

A very important and interesting presentation will be offered this

month. Greg Lefoe, Research Officer Invertebrate Sciences DPI Frankston, will be presenting "Research on Invasive Species in Victoria."

A must for those interested in learning more about future threats and current problems our native species face.

125th Anniversary – Leaves from our History 28– 29th May

Two days filled with guest speakers outlining the Club history and future directions and a dinner celebrating the landmark anniversary. As part of the dinner there will be a special theatrical production (see notice this page) A registration form was published in FNN 140, or is available from the office.

Volunteers are also required to help out with preparations for the event. Please call Mimi Pohl during office hours for more details:

President's Equipment Appeal

Thanks to the great support by those who donated to the appeal in the past two years. Due to your generous donations we have collected a total of \$5129.75.

The donations were used to purchase:

- Sony Data Projector
- Two new Computers for the office.
- Lap top computer

A special thank you to everyone who donated. Due to your support, our club has become more professional and efficient with our new technology.

Karen Muscat
President

"A Signal Service"

Three act playlet

To be performed during the
FNCV 125th Anniversary
History Symposium Dinner
By

**Friends of Woodlands
Historic Park**

Saturday 28th May
Dinner (includes play) \$75

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CALENDAR OF EVENTS

*All meetings are held in the FNCV Hall, 1 Gardenia St. Blackburn, at 8 pm. unless stated otherwise.
On days of extreme weather, excursions may be cancelled. Contact leader.*

April

Monday 4th - Fungi Group *Photographing Fungi*. Contact: Geoff Lay 9898 4816 AH

Tuesday 5th – Fauna Survey Group *Snakes and the City*, A talk by Heath Butler.
Contact Prue Simmons 8901 2882 AH

Sunday 10th to Thursday 14th – Fauna Survey Excursion *General Survey* on private property close to Mt Richmond. Contact Russell Thompson 9434 7046 AH

Monday 11th - Marine Research Group *History of marine science at Port Phillip Heads* by Dr Jan Watson. Contact Leon Altoff 9530 4180 AH 0428 669 773

Tuesday 12th - Terrestrial Invertebrate Group *Research on Invasive Species in Victoria*, by Greg Lefoe, Research Officer, Invertebrate Sciences, DPI Frankston. Contact Pete Neville 9471 0840 AH 0408 223 045

Saturday 16th – Fauna Survey Excursion *Pelagic Bird Trip*. Boat trip from Port Fairy to the edge of the Continental Shelf looking for seabirds and other marine animals. Numbers limited. Contact John Harris 0409 090 955

Sunday 17th Fungi Group Excursion *Fungal Foray*. 10.30am Cambarville (off Marysville Woods Point Road). Meet at Cambarville picnic area (Cumberland Memorial) Melway 528 A3. Checking species list. Contact Ed and Pat Grey 9435 9019.

Wednesday 20th - Microscopy Group *Genetic Engineering in Plants and How it is done*. A talk by Professor Roger Parish, Latrobe University. Contact Ray Power 9717 3511 AH

Thursday 21st – Botany Group *Conserving Native Vegetation in Grassland Areas*. A talk by Josh Dorrough, Arthur Rylah Institute. Contact Mimi Pohl FNCV Office Hours 9877 9860, email fncv@vicnet.net.au

Saturday 23rd - Sunday 24th – Botany Excursion *Grieve Nature Reserve Floral Survey*. This newly acquired Trust for Nature Property in Mirboo North is urgently requiring detailed species lists. Bush camping is available. Contact Mimi Pohl FNCV Office Hours 9877 9860, email fncv@vicnet.net.au

Saturday 23rd to Monday 25th – Fauna Survey Excursion *Kinglake National Park*. General Fauna Survey. Contact Ian Kitchen 9795 7423 AH

Wednesday 27th – Geology Group *Joseph Beete Jukes and his 1850 "Sketch" of Australian Geology* - Science historian, Doug McCann, describes Jukes' pioneering voyage on *HMS Fly* and the life of this eminent 19th century geologist. Contact: Rob Hamson 9557 5215 AH; 9925 4399 BH, email rob.hamson@rmit.edu.au or Clem Earp 9676 2146 AH

Friday 29th – Juniors' Meeting *Freshwater Fish survey techniques*. A talk by George Paras. Contact Wendy Clark 9877 9266. Excursion to be advised.

Saturday 30th – Fauna Survey Excursion *Stagwatch*. Enjoy an evening in the forest as we look for Leadbeaters' Possum and other night life. Contact Ray Gibson 9874 4408 AH or Bob Taylor 9729 6775 AH

Saturday 30th - Marine Research Group *Excursion Rosebud Pier*. Meet at 11:00 am at car park Melways 158 E11. Contact Leon Altoff. 9530 4180 AH: 0408 223 045

May

Sunday 1st—FNCV AGM—2 pm. Annual General meeting and election of FNCV Council. Speaker: Andrew Bennett, Associate Professor, School of Ecology and Environment Deakin University. Contact Mimi Pohl FNCV office hours.



Fauna Survey Group

Spotlighting at the Organ Pipes National Park, 19th February

At the request of the Friends Group at the Organ Pipes we conducted a spotlight walk on 19th February. Julie and I arrived at 6.45 pm. Finding the gate closed but not locked we waited outside before opening the gate and driving to the visitors centre. We met Rosta and Terry and were shortly joined by Tony and his friend.

Rosta and Terry are in the Friends Group. They showed the others around while I checked the gate for new arrivals. Robert also from the Friends reached the gate at the same time that I did, and I opened it to admit him. As we were saying our hellos, Rosemary, a potential member, joined us. Proceeding to the Visitors Centre we gathered the others and Robert gave us a potted history of the park. He then led us down the hill to some points of interest. At one stage he led us off the path to see some *Callitris* seedlings that had been saved from the resident rabbits and were thriving in their guards, which were also high enough to deter the odd hungry marsupials that may find them.

Proceeding down the road again an alert pair of eyes spotted a Black Wallaby and then another. These moved off, not wishing to be with us. More people from the Friends Group arrived, bringing our group up to 12. On the other side of the road up the slope another Black Wallaby was sighted in the classic pose sitting on a rock silhouetted against the sky.

All the available cameras were used

to capture this special moment and those who had the foresight to bring their binoculars confirmed she had a youngster in her pouch. We then went bush to be told of another treasure from Robert's extensive knowledge of the site.

We diverted to the Tessellated Pavement where we were regaled with figures of millions of years of geological happenings, (it made me feel quite young really), and were shown the boundary between the original sandstone rock and the overlying basalt.

At this point darkness closed in. The original plan was to try to cross the creek but it was too deep so we spotlighted from where we were.

The first creature that we saw was an Orb Weaving Spider, which was just starting its night's work of weaving its web. We continued, not seeing anything until we reached the Organ Pipes where Robert gave us a run down on the background of the origin of the pipes. The next section of the park contains the Bat Boxes of the longest Bat Box study in Australia. Robert changed hats from geology to fauna and explained the project to those of us who were new to the project. About half way along we spotted our first mammal, a Brush-tailed Possum. We had the Bat detector switched on so we proceeded to the accompaniment of the buzz of bat calls, spotting another Brush-tail before we reached the creek. Reaching the creek we saw two Ring-tails across the water and on retracing our steps we found a young Ring-tail sitting on a low branch looking as endearing as ever.

We then took to the bush seeing the

same Brushy again. Then there was a call from the back and there was a Tawny-frogmouth that Rosemary had spotted perched on the top of a stump. We continued through the bush to the track and made our way to the Visitors Centre where a cup of tea and some buns fortified us for the trip home.

In total for the night we saw:

Three Black Wallabies, one with pouch young
Two Brush-tailed possums
Three Ring-tailed possums
One Tawny Frogmouth

Pretty good for a place that had very few trees not so long ago.

Ian Kitchen



Library News

Recent Additions

- Barton, F.C.W. (2002) *The Bartons of Banksia*
- Braby, M.F. (2004) *The complete field Guide to Butterflies of Australia*
- Floor, J. (1990) *The Riches of Ancient Australia*
- Hall, L.S. and Richards, G.C. (1979) *Bats of Eastern Australia*
- Horton, H. (1976) *Around Mount Isa: a Guide to the Flora and Fauna*
- Lavine, S.A. (1969) *Wonders of the Bat World.*

Sheila Houghton
Honorary Librarian



Geology Group

REVIEW OF THE GEOLOGY SPECIAL INTEREST GROUP Meeting held on 23 February

2000	27
2001	24
2002	31
2003	26
2004	23

The purpose of this meeting was to elect a committee in line with Council policy. Several people need to be familiar with the way a group works for continuity to be ensured when the organiser resigns. Also the workload is increasing with such events as the coming Open Day and tasks need to be shared out.

The evening started with a chart showing excursions run by the Geology SIG since 1995 - there have been 33 trips over this period. Some have been run in conjunction with other groups such as the evening visit to Waverley Gem Club and the joint Mineralogical Society/FNCV trip to the volcanoes of the Western District. On others, local field naturalist clubs have been invited to make up our numbers, notably on the Buchan excursion. Members of affiliated groups are asked to pay \$2.50 to cover insurance and costs; non-members pay \$5. The same applies to evening meetings. Over the past two years \$138 collected in this way has been paid into the FNCV. All our trips have been very enjoyable but the three weekend trips to Wilsons Prom/Walkerville, Bendigo and Buchan stand out. Attendance has always been good with a peak of 72 for the last visit to Batesford Quarry in 2001! Our thanks to the leaders, quarry managers and others who made these excursions possible.

After a slide show featuring many of these excursions, we looked at the program of evening meetings since June 1999. There have been 55 meetings during this time and the average attendance per meeting each year is listed below:

So attendance has not varied a great deal over time and this seems to match the Club's overall membership which has hovered just under 1000 during the same period. If the Club's membership doubled to 2000, would attendance at Geology also double? The figures above do not reveal the problem of occasional low attendances, such as 11 once last year and 14 the year before, which are embarrassing when eminent geologists have given up their time and may have travelled some distance to give their presentations. Would changing the program from 10 talks a year to 5, i.e. one every two months, concentrate the Geology audience and guarantee a consistent turnout? Despite these worries about occasional low attendance, every talk has offered us something new and stimulating in the field of geology and we are grateful to all our speakers who have shared their knowledge with us.

Another problem we are facing in Geology is that as a group we are ageing. Can we attract younger field nats to our program? How do we do it?

Finally a document was read which tried to separate the various tasks done by the SIG organiser into five roles that could be taken on by the members of a committee with a 'job description' for each. These roles are:

- Chair (chairs meetings)
- Council representative
- Secretary/publicity officer (coordinates report writing, publicises Geology program)
- Program organiser (does 4-month calendar of speakers)
- Excursions officer (organises and runs excursions)

At the end of the evening a committee of five was elected, namely Rob Hamson, Noel Schleiger, Ray Power, Lyn Ansell and Clem Earp. Readers will know that these five already do a lot for the Club. It is hoped that the different roles within the SIG are taken on in rotation so everyone gets to know how things are done and can pass these skills on in the future.

Rob Hamson

**Deadline For Copy
FNN 142
Tuesday 5th April**

Field Naturalists News goes to the printer on the second Tuesday of the month, and **collation** is always on the third Tuesday of the month.

The **absolute deadline** for copy is the second Monday of the month. However, as space and time are limited, it is appreciated if copy could be placed in the "in box" or emailed to: fnnews@vicnet.net.au as early in the month as possible.

Editors.

This newsletter is printed on recycled paper.

SEANA, South East Australian Naturalists' Association Inc. and ANN, Australian Naturalists' Network

SEANA is an organisation created in the late 1960's to enable field naturalist clubs all over Victoria to link together. It was formerly known as the VFNCA (Victorian Field Naturalists' Club Association). The reason for the new name was to be able to include clubs from South Australia, Riverina NSW and even from Tasmania if they wish to join. The name change was made in late 2003.

Each year SEANA organises two accommodated get-togethers, one in autumn and one in spring. The autumn one is always on the Labour Day weekend. The spring date varies, usually September or October. This year it will be held at Mallacoota in East Gippsland hosted by Sale and District Field Naturalist Club from 14th – 18th October. FNCV members are all welcome to attend and details will be published in FNN. These "campouts" are excursion based and having local field naturalists as leaders makes them really worthwhile. This year's autumn campout hosted by Upper Goulburn Field Naturalist Club, is at Thornton from 11th to 14th March.

SEANA offers grants to clubs to assist with club projects. FNCV SIG's would be eligible to apply. Guidelines for such projects are as follows:

- To increase knowledge of and encourage preservation and protection of the natural environment.
- To foster and conduct regional activities which further the appreciation and study of natural history.
- To support and promote conservation issues, based on well researched strategies.
- To have a responsible voice on environmental matters.
- To improve communication and

- cooperation between affiliated clubs
- To encourage the establishment of new natural history clubs.
- To foster younger members in all natural history clubs
- To support other natural history organisations with similar objectives to SEANA
- To provide and disseminate natural environment information at whatever level is required in pursuit of items 1 – 8.

For more information re grant applications contact:

*Secretary, SEANA
C/- Field Naturalists Club
of Ballarat
PO Box 328W
Ballarat West Vic 3550*

Details of SEANA's member clubs and activities can always be accessed on the web at <http://home.vicnet.net.au/~seana/> This site is updated regularly by web master, Ern Perkins from Castlemaine FNC.

AUSTRALIAN NATURALISTS' NETWORK

This brings us to the Australian Naturalists' Network (ANN). What is it, and how does it differ from SEANA?

For several years prior to 1999, Dick Southcombe of the Geelong Field Naturalist Club had been collecting details on existing field naturalists' clubs throughout Australia. His aim was to accumulate a list of contacts so that travelling naturalists could take part in local club programs, and gain details of natural history sites.

As well as providing this information, ANN facilitates an extended get-together for all member clubs every two years. There have been three; August 2000 based at Alice Springs, November 2002 North East Tasmania and September/October

2004 based in the Darling Ranges Perth. In each case there were pre and post conference tours as well as the core program. All three were hosted by local field naturalists and allowed interstate members to get to know each other. They were all very successful. .

ANN 2006 ALPINE TOUR

In 2006 there will be no autumn get-together. Instead SEANA will host the Australian Naturalists' Network tour of the Victorian High country based at Harrietville and Jindabyne in January 2006. This will allow locals and interstate visitors to enjoy the alpine wildflowers and scenery and climb the highest mountain in Australia. An application form and details were published in September 2004 FNN, and can be accessed on the SEANA website or at the FNCV office.

In conclusion SEANA is an umbrella organisation covering Victoria and adjacent areas. ANN is an umbrella organisation covering the whole of Australia. The aims of both are to allow people of similar interests to meet together and learn from each other. Do yourself a favour and consider getting involved

The FNCV office has a list of all SEANA and ANN member clubs, when and where they meet, with contact details including phone and email. If you travel in Victoria or interstate this information can be very useful.

Noel Schleiger is the FNCV contact for both SEANA and ANN.





Botany Group

Trust for Nature Surveys 2005

A talk given by Natalie Holland of Trust for Nature on Thursday 17th February

Natalie Holland is the Stewardship Manager for Trust for Nature in its Melbourne Office. Trust for Nature is a not-for-profit organisation that works to protect remnant bushland in Victoria and was created out of the *Victorian Conservation Trust Act 1972*. They are the oldest independent land trust in Australia. Initially, Trust for Nature worked by enabling people to bequeath land or money for conservation or to purchase privately owned remnant bushland. In 1978, the Act was amended to allow landholders to place conservation covenants on their land. In 1989, the Revolving Fund was created to allow the Trust to purchase land and sell it again with a covenant in place, this money would then go back into the Revolving Fund for more purchases.

Conservation Covenants

The Trust's work is important when we take into consideration that over 65% of Victoria is privately owned. Ninety-five percent of that land has been cleared for agricultural purposes and urban development. This means that only 5% of private land is untouched and even less is protected. Conservation Covenants are the only way to permanently protect private land and Natalie explained how they work..

A conservation covenant is an agreement between a landowner and Trust for Nature, it protects and enhances the natural, cultural and/or scientific values of the land. The covenant is registered on the property title and therefore binds all future owners so that property cannot be cleared or changed by anyone, no matter how many times the property changes hands. Contrary to common law covenants and planning schemes, which

can be amended, conservation covenants are permanent.

What is involved in getting a covenant?

The type of land suitable for covenants is varied, but generally is land of high conservation significance. Properties might have threatened plants or animals, or be one of the last remaining patches of bush in a landscape of farmland. They may make up part of an important habitat link, or be situated adjacent to a National or State Park. Properties do not have to be covered entirely by bush or be large in size. They can have areas of modified land or farmland within them. Covenants are specific to each property and take all factors into account. A covenant may also be put in place to protect an individual species, such as one area of land on a farm in North East Victoria that is just 2.5ha in size and protects a stand of concave pomaderris. Land owners can apply for a covenant, outlining the significance of their property, which is visited by regional staff and assessed for various factors. These are level of disturbance, biodiversity values, whether or not rare species are present, it's value on a landscape scale and the management required to maintain it. The report then goes to the Board of Trustees and if approved, to the Minister for Environment who then has to approve it.

What is the Stewardship Program?

The process of monitoring land that is protected by covenants is called the Stewardship Program. Each region has Stewardship Officers who are responsible for the ongoing monitoring of covenanted properties, which is done by Stewardship visits. These visits are undertaken every three years to monitor the overall health of the remnant vegetation, note any changes to the area, identify threats and assist landholders to address these threats. The visits are also important in maintaining links

with landholders and for information flow. Reports from Stewardship visits are filed so they can be referred to and are useful for identifying changes over time.

Are there tax benefits?

As of June 2004, there are tax incentives for landholders with covenanted properties, just as there are incentives for farmers to help with maintenance costs. Some Council's also offer rate rebates for those with covenanted properties.

For more information on conservation covenants or Trust for Nature, visit the Trust's website www.tfn.org.au or give Natalie a call on 03 9670 9933.

Annie Lamb



Juniors' Report

Snakes Alive!

Friday the 25th of February saw Raymond Hoser deliver a fantastic talk on reptiles to the Juniors' group. With typical flair he told us of his work with 'Snake Busters', a company that specialises in removing unwanted snakes from people's houses and gardens. Interestingly the suburb with the most call outs is Ivanhoe.

Snakes, apart from being magnificent to look at are obviously very useful creatures, capable of reducing vermin numbers far better than any cat. But if you have young children it's probably not the best idea to have highly venomous snakes slithering all over the backyard! After telling us all what sort of things you can do to avoid having snakes in your house and around your backyard he then proceeded to bring out his first exhibit.... an enormous red bellied black snake. More and more snakes came out, tigers, browns, copperheads and even a collett's

(Continued on page 8)

Club Personalities.



FNCV President, Karen Muscat (left) and FNCV Office Administrator, Mimi Pohl

Photo: Wendy Clark

(Continued from page 7)

snake, one of Australia's most colourful snakes.

The snakes were quiet and docile and looked like great pets, however we were reminded that these snakes were used to being handled and had their venom glands removed. Clearly it would be foolhardy for an inexperienced person to attempt to catch a wild snake.

With the snakes back in their boxes the show rolled on with shingleback, bluetongue and Cunningham's skinks all making appearances. It was interesting to see the similarities between the tiger snakes and eastern bluetongues, both from the same area and both exhibiting dark and light bands, perfect for camouflage. Unfortunately for the bluetongue, this often means they are mistaken for snakes and sadly killed.

With the evening rolling to a close we had time for one last surprise, a juvenile Johnstone's freshwater crocodile! A fantastic specimen and something you don't normally see up close, it really did look prehistoric.

Finally to top off a great evening, everybody got the chance to hold some of the specimens, which we had seen earlier in the night! Thanks to Raymond Hoser.

Nick Andrewes

Advertising Price list for the Field Nat News

The **Field Nats News** is the monthly newsletter (except December) of the Field Naturalists Club of Victoria Inc. (FNCV). We have a circulation of almost 1000 members, including universities, libraries and other environmental organisations. The Field Nat News is approximately 12 pages long, printed in black and white on recycled paper. Each page is formatted A4 portrait with three columns per page.

2004 Rates – Prices includes GST

Column	\$	Page	\$	Inserts	\$
¼ Column	\$ 20.00			Single A4 or A5 Inserts	
½ Column	\$ 33.00	½ Page – horizontal	\$ 70.00		\$ 110.00
Full Column	\$ 50.00	Full Page	\$ 100.00	DL 110 x 220mm	\$ 220.00

Conditions

Copy should be sent to fnews@vicnet.net.au in plain text word format, with any artwork provided separately as a gif or jpg.

Inserts @ \$110 must be a single A4 or A5 sheet

Inserts should be booked in advance: a draft of proposed insert is required. Payment should be received with material. Cheques can be made out to Field Naturalists Club of Victoria, or payment can be made via credit card using credit card payment form. Tax invoice will be sent on receipt on funds if requested.

Advertising is at the discretion of the Editor.

For any further information please call Mimi Pohl on 03 9877 9860, on Mondays—Wednesdays between 9 and 5pm, or email on fncv@vicnet.net.au



Marine Research Group News

Notes on transportation of live specimens under legal permit

The legal collection of a living invertebrate from the field (something only justified for the purposes of scientific study) requires an optimal mode of transport in order to keep the specimen in good condition. Apart from reasons scientific, this is also an ethical requirement. In recent months some debate has occurred among MRG members on how to best achieve this.

Ideally, the specimen should be transported in plenty of seawater that is clean, well aerated and prevented from overheating. Aquatic creatures derive their oxygen from the water and excrete wastes into it, therefore more available water means more oxygen and less concentration of excreted products during transport. Also, larger water volumes are less susceptible to temperature change, again limiting the stress to the captive specimen(s). Physically, however, there are limits to how much water can be carried in the field; a standard bucket of water would weigh 10kg or more; and very small specimens would be difficult to find in it. Specimens may also escape from a bucket of water. Therefore, it becomes necessary to use sealed plastic containers (glass is dangerous in the field as it might be dropped), the bigger the container, the better.

The use of a sealed container, however, effectively fixes the amount of oxygen available inside it, and animals could asphyxiate if the oxygen becomes critically depleted. The air we breathe is composed of the following gases (figures are for dry air which excludes water vapour) (Otis, 1964, in Schmidt-Nielsen, 1980:8):

Oxygen	20.95
Carbon dioxide	0.03
Nitrogen	78.09
Total	100.00

Oxygen is the vital gas in respiration, but is poorly soluble in water. The presence of salts in seawater further reduces the oxygen solubility. The following table (from Krogh, 1941, in Schmidt-Nielsen 1980:12) shows the oxygen content of water in equilibrium with atmospheric air, at various temperatures (numbers indicate volume, in millilitres, that the dissolved oxygen per litre of water would occupy in gaseous phase):

Temp. Fresh Sea

0	10.29	7.97
10	8.02	6.35
15	7.22	5.79
20	6.57	5.31
30	5.57	4.46

Average summer water temperatures in Bass Strait range from 16-19°C (Bennett & Dakin, 1987: 27), where seawater has about 5.5ml of dissolved oxygen per litre of water compared to 209.5ml of oxygen available in a litre of atmospheric air. Therefore, allowing air in a container means relatively more available oxygen that will continually re-equilibrate across the air-water interface with the depleting oxygen in the water (as the latter is consumed).

The churning of seawater by wave action also increases oxygenation of the water column, something which does not occur in a container of still water. This may be one reason why many snails will crawl up the sides of a container to the air-water interface when captured. The absence of such an interface in a container denies them of this ability.

Likewise, an air-water interface will allow some of the carbon dioxide released during respiration, which is about 30 times as soluble as oxygen in water (Schmidt-Nielsen, 1980: 11-15), to re-equilibrate back into the air column and help lessen changes to the water chemistry, particularly the pH.

For maximal efficiency in gas exchange, the shape of the container should ensure that the area of the air-water interface is large in relation to the total volume. (This is why the traditional goldfish bowl, with a bulging body and a narrow neck, is inefficient for fishkeeping).

The next question concerns how much air should be left in a container. Owing to a multitude of variables (eg. size and number of animals, metabolic rates, tolerance levels to stress) the answer can only be broad: the more air that is practically possible, the better. There are restrictions, however, in the ability to excessively reduce water volume. As mentioned above, animal wastes excreted into water must be kept as dilute as possible. Also, in the field, sealed containers are placed in a bucket which itself has been filled with several litres of seawater to stabilise and maintain their temperature. This minimises stress, and by preventing a temperature rise keeps more oxygen dissolved in the water. Containers with relatively little water float on the water surface in the holding bucket, and will not maintain optimal temperature. The animals in a floating container are also knocked around considerably whenever the bucket is moved.

The 'take-home' messages in specimen transport under legal permit are thus:

1. use a plastic, sealable container that is as large as possible;
2. this should not be filled flush with water but should contain some air;
3. the container should be shaped so that it has a large air-water surface area relative to its volume;
4. the container should have sufficient water in it to allow it to submerge into the water of the holding bucket;
5. an individual container should receive as few specimens as possible, especially if they are relatively large;
6. the specimen(s) should be transferred to a larger body of fresh seawater as soon as is practical; and
7. aeration of water (eg. with a simple aquarium pump and an air-stone) would be a useful strategy away from the field.

References and further reading:

- Dakin WJ, Bennett I (1987). Australian Seashores. Revised Edition. Angus & Robertson Publishers, NSW, Australia.
 Schmidt-Nielsen K (1980). Animal Physiology. Adaptation and Environment. 2nd Edition, Cambridge University Press

Platon Vafiadis



**Field Trip
to Harbury—
a Trust for Nature owned
property in
Upper Pakenham,
on Sunday 20th February**

The Botany Group met at the community centre car park in Gembrook and then proceeded to Harbury, about 7km down Gembrook Road towards Pakenham. The day was a bit overcast, but a comfortable temperature for being outside, not too cold and not sunny enough to get burnt faces. We were greeted by the neighbour's barking dog, which continued to 'greet' us for the duration of our visit! We had a good turn out with about 20 people on the list, all ready to get stuck into it. The trip started off with a brief introduction by myself and Mimi, about EVC's (Ecological Vegetation Classes) and how we were going to record our results then we went off in teams to see what we could find.

The 21.5-hectare property begins on a hilltop leading down to Bessie Creek, which runs through the property and has a number of EVC's within it. We managed to sight almost all the species on the list

provided by Trust for Nature and even added a few to it!

Thanks to all those who turned up and those who helped identify some of the more tricky species, I am sure I speak for all when I say we had a really good time and look forward to undertaking some more surveys for the Trust.

Annie Lamb

VALE

It is with regret we announce the death of Honorary FNCV Member, Dr. Gordon McKenzie of Balwyn. Gordon joined the club in 7/3/1955. He was awarded honorary membership in 1995, and has been involved with us for 50 years. The FNCV offers their sincere sympathy to his family. Gordon will be missed by all.



Members attending the field trip to Harbury

Photo: Rosta Buc

Field Nats News 141



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