

MT WORTH STATE PARK

(continued from last issue)

Other plants we saw along Giant Circuit were the Prickly Currant-bush, *Coprosma quadrifida*, which lives up to its common name, Forest Wire-grass, *Tetrarrhena juncea*, which can almost smother plants with its wiry stems, Bootlace Bush, *Pimelea oxiflora*, the bark of which is so tough it was used as bootlaces, in a more open part of the forest a swathe of the white flowers of *Clematis aristata* and, dispelling the gloom up a dim part of the track, several *Fieldia australis*, with their greenish-white bells.

During the morning a Lyre-bird went through its repertoire and we saw ample evidence of their presence in their scratchings beside the track. We could also hear the Black cockatoos and, at lunch-time, a Shrike-thrush was hopping about the picnic area. Wombats had been digging beside the Moonlight Creek track and the other form of wildlife that tried to join us for the day and have their own picnic were those creepy denizens of the rainforest, the leeches. Unfortunately for them, they were unable to latch on to anyone for a good feast.

The much shorter walk along the Moonlight Creek Track still provided us with different species of plants and fungi. Two ferns were the Shiny Shield-fern, *Lastreopsis acuminata*, which have lacy fronds with a hair-filled groove in the axis, and the Lance Water-fern, *Blechnum chambersii*, again dimorphic with its infertile fronds a dark green and semi-weeping.

Among the fungi, developing on an old stump near the start of this track were a clump of Brick Caps, *Hypholoma sublateritium*, whose brick-red caps have a paler fringe. Growing on a damp log was the tiny blue cup-shaped fungi with the long name, *Chlorociboria aeruginascens*, only 3-7mm in size. At least twenty times larger was *Russula persanguinea*, with a pinkish-red cap and white gills and stem. In ranks on a tree trunk grew *Pseudohydnum gelatinosum*; as its name suggests it is a jelly fungus with a smooth dark brown cap and white spine-like projections beneath. Attached to a log, all we could see of the long, wide stretch of *Australohydnum*

dregeanum was the purplish-grey tooth-like projections of its fruiting surface. On bark on the darker side of a tree, the white mass of *Dichostereum rhodosporum* oozed droplets of a clear watery substance. Both of these two latter fungi are said to be resupinate or upside down as the only part we can see is the underside of them. With tan caps and attached to the wood by short stems (or stipes), *Pleurotopsis longinqua* was high enough to display its intriguing divided and patterned gills. High up, in lonely state on fibrous bark, a *Mycena subgalericulata* displayed its white gills and the white hairs on the swollen base (volva) of its stipe. However, close by in a groove of the tree trunk, a dense colony was developing, their usual growth formation, and on them we could see the pale rims of their olive-brown conical caps.

Among the plants was the Austral Mulberry, *Hedycarya augustifolia*, with its shiny, lance-shaped leaves; the Elderberry Panax, *Polyscias sambucifolia*, which has thin, broad leaves; the Snowy Daisy-bush, *Olearia lirata* and Musk Daisy-bush, *Olearia argophylla*. As we wandered back to the car park through a magnificent stand of Mountain Ash, the sun came out at last and lit up the forest.

Many thanks to all who gave me help with names of plants, fungi, lichens and birds. It is thanks to you that this record of the day has been written.

Estelle Adams

THE NATIONAL HERBARIUM OF VICTORIA

Professor David Cantrill, Director of the National Herbarium of Victoria, spoke on the National Herbarium at the August 22nd meeting. He said that the Herbarium was part of the Royal Botanic Gardens complex which includes the Cranbourne Australian species gardens as well as department of Plant Sciences. The Australian Centre for Urban Ecology and operates in co-operation with universities.

The Royal Botanic Gardens principal site is 38Ha and has 50,000 plants representing 10,000 different species. The Gardens have achieved a 60% drop in water use through

computer management and achieved a 40% drop in phosphorus contamination by run-off by using a floating treatment wetland. At Cranbourne, feral animal control (mainly foxes) is by fencing and using one-way gates so that the 300 wallabies can get out but not get back in. He pointed out that Cranbourne was still in the early stages of development. Botanical Gardens have a strong science component including biodiversity and a research collection.

The original herbarium building was demolished in the 1930s in order to build the Shrine. The current building dates back to that period. The collection contains plant specimens which predate the European discovery of Australia which were obtained by Baron von Mueller (the first Director) who swapped Australian plant specimens with overseas herbaria. It has 200 sheets of plants collected by Sir Joseph Banks and Solander from the voyage to Australia with Captain Cook in 1770. Only Sydney Herbarium has more. Our Herbarium has specimens collected by Burke and Wills, Louis and Mills and Livingston (from Africa) as well as collections of all early Australian expeditions. It has 1.4 million specimens and the largest collection of Australian type specimens (the specimen by which all other plants of the same species are identified) – 20,000¹. There are collections of all early Australian expeditions.

The Herbarium has programs based on Themes. Theme 1 is the responsibility to monitor biodiversity of the past, present and future. It requires sound taxonomy. David showed maps of Victoria where specimens had been collected. Not surprisingly, many collections followed major roads and areas within 5 km of the road. This was particularly evident in East Gippsland. The least collected came from the Victorian Volcanic Plains Grasslands. Most of this area is farmland and the remaining ecosystems of these Plains need preserving. Fungal records for the whole of the State are also patchy with probably 20,000 undescribed species in Victoria. Some collectors have provided large numbers of specimens. One collector, R A Black, sent specimens from Tasmania between 1908, from NSW while on holidays from 1926 to

1931, NE VIC while a travelling salesman between 1932 to 1944 and from Tasmania again from 1947-48. Collections have changed through time. Now DNA is collected but only for the past 10 years.

Research leads to plant material being borrowed from all over the world. Seed banks are being created. More use is made of the internet. Type species are available on line and high resolution to the level of a hand lens. The Biodiversity Heritage Library (BHL) has a project to collect all known fungi. Use of inter-library loans has lessened the cost because of the BHL. The Australian Plant Naming Index has 75,000 names for Australian plants – but there are on average more than 3 names for each species. For example *Persoonia* has 6 or 7 names. Grass seed imported as *Stipa tenuis* turned out to be *Nasella tenuis*, a prohibited weed. Data repositories for both plant and animal species are GenBank and MorphBank. GenBank holds genetic DNA sequences for more than 300,000 organisms and MorphBank is an open web repository for images. There is also a web site for chemical data

The second Theme concerns the Origin of Australian Biota and David commenced with the Acacia debate (see the October LV Naturalist for further info). African Acacias have proper spines and a unique pollen grain arrangement. Australian Acacia have different pollen. David quoted about 2000 Acacia species worldwide with about 1000 in Australia². Africa has 30 species and Central America has some species. He discussed briefly Plate Tectonics, pointing out that the wet tropics contain a primitive base flora. Mezic (sclerophyll or hard leaved) are similar on the east and west Australian coastal areas but not much in between. He pointed out that there are eucalypt fossils in New Zealand and South America. Similarly there are Casuarina fossils in Patagonia and Acacia in the New Zealand Miocene. He discussed some natural reasons for the change in climate – the Milankovic cycle, the change in beach lines and how the Murray River flowed into the sea near Portland 10 million years ago and now flows between the Grampians and

the Adelaide Hills. He spoke of an inland sea and strand lines³

Theme 3 included the identification of plants, the Herbarium's Census publication, conservation, plant propagation, seed bank programs and the digitisation of the Flora of Victoria and the Census. Program Keybase will bring identification keys together to create a virtual herbarium with all records and distribution – the AVH, the Australian Virtual Herbarium and the Atlas of Living Australia. Money as always is a problem and crowd sourcing is being investigated to fund research.

Thank you David for a fast paced talk, right up my alley of course, which has stimulated my desire to update my knowledge.

Jackie Tims

1. The main type specimen is called the holotype. David mentioned that the collection had more than 30,000 other 'types' – isotypes, syntypes, lectotypes and neotypes. Isotypes are duplicates of the holotypes in case the holotype is destroyed by insects, fire or other misfortune.

2. The Flora of Victoria Vol. 2 (1996) quotes 1200 species world with about 950 in Australia. I am not saying David is wrong but there is a big difference in the worldwide figure in 18 years.

3. I have come across the mention of strand lines twice in the past few weeks. Obviously they are a type of fossil beach but will look into asap.

WONTHAGGI HEATHLANDS EXCURSION

On Saturday 20th September Terri Allen lead a group of eighteen of our club members around her 'patch'. We were a mix of bird and plant enthusiasts, but I have to either look up or down, so this report will be about the plants. Most had travelled down from the Latrobe Valley and Warragul areas and we were pleased to be joined by some members who live down by the coast.

Terri gave us a little background to the site. It was first visited by Hovell around 1827 when he travelled from the settlement at Corinella to Harmers Haven where coal was found. The heathlands were not developed,

as they were the drop zone for the Wonthaggi rifle range.

It was good weather for walking around the heathlands, with lots of plants in flower and active calling birds. We walked along the track, which leads to the boardwalk and then on to the beach. Bright colours were provided by Showy Bossiaea, *Bossiaea cinerea* and two hibbertias, *Hibbertia sericea* and *H. fasciculata*. A plant that caused some interest was *Myositis australis*, the Austral Forget-me-not with its basal rosette of hairy leaves and tall racemes of tiny blue flowers.

Drosera auriculata was flowering, and its small pink flowers had smooth sepals, which distinguishes it from *Drosera peltata* with hairy sepals. Also, it rarely has a basal rosette, whereas *D. peltata* does. In other ways, they appear quite similar, both having tall stems and leaves which are auriculate (ear shaped) and peltate (shield like, with the leaf stem in the centre of the back of the leaf). Who knows why they have the different species names, but at least they have reverted to the names given above rather than the long-winded *D. peltata ssp. auriculata* and *D. peltata ssp. peltata*.

Gahnia fillum, Chaffy Saw-sedge is a gahnia I was not familiar with. It is quite tall, and has the typical long leaves tapering to a long point, but its floral heads are quite broad, whitish and 'chaff like'. Bassian Dogwood, *Pomaderris oraria ssp. oraria* was flowering, but its flowers have no petals so are not very noticeable. It has dark green ovate leaves with white underneath and a white edge turning up on the leaf.

Baiba and I lagged behind and lost the group, so walked down to the beach where we saw *Pimelia serpyllifolia*, with tiny clusters of yellow-green flowers on the branch ends. Another plant that attracted our attention had a low growing matt of leaves with white notched 4-petalled flowers, with green sepals between them. It was only a weed, but turned out to be Sea Mouse-ear, *Cerastium diffusum*. We commonly see Mouse-ear Chickweed, *Cerastium glomeratum* but it differs in being a taller plant with larger leaves and 5-petalled flowers. The rest of the group saw orchids

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on the return - Donkey Orchids, *Diuris orientis* and the Slender Greenhood *Pterostylis foliata*,

After lunch back at the car park, we walked the perimeter of the main block along a track that was slashed along its edge, providing a variety of shrubs, herbs and orchids. Here we saw Blue Stars, *Chamaescilla corymbosa*, Brown beaks *Lyperanthus suaveolens*, Red beaks *Pyrorchus nigricans*, two of the rare Eastern Spider Orchids *Caladenia orientalis*, Wax Lips and more Donkey Orchids.

A swampy section of track yielded Swamp Boronia *Boronia parviflora*, Pygmy sundew *Drosera pygmaea*, a patch of yellow button flowers of Water Buttons, *Cotula coronopifolius* and one of my favourite tiny plants the Tiny Violet, *Viola seiberiana*. I did not find another little plant that Terri had shown me growing here previously – *Stylidium inundatum*, Hundreds and Thousands. It is easily overlooked, and has a basal rosette of pointy reddish succulent leaves and minute white flowers on a stalk. It is one of the trigger plants but it must have a tiny insect to pollinate it.

Terri remarked on how few orchids there are in the heathlands compared with when she used to play there as a child and would pick bunches to take home to her mother. Cattle grazed the heathland then, and now Coast Tea tree has encroached and the burning regime has made the vegetation impenetrable leaving less space and light for the orchids.

Still it's a lovely place to visit, and we enjoyed our day.

Wendy Savage

BIRDLINE REPORT

Birdline Victoria is an internet site for the reporting of rare or unusual birds outside their normal range, unusually high or low numbers, early or late arrivals or departures for migrant species and interesting behaviour or unusual habitat usage.

The reports entered are moderated by people from Birdlife Victoria. Then if the report fulfils the above criteria it is published on

Birdline. After our last Bird Day I entered the following that was published as a "Highlight"! It was for us and is good to share with others. Suggest that you Google Birdline Victoria to access this interesting site.

Species: Freckled Duck

Date: 2 September

Site: GDF Suez Hazelwood Morwell River Wetlands, Morwell

Notes: One Freckled Duck a very unexpected sighting in the Latrobe Region, also an Australian Shoveler (male) and a Mallard (hybrid?). Great viewing of a perched adult White-bellied Sea Eagle and an immature in flight.

Observer: Alix Williams with the Latrobe Valley Field Naturalists' Bird Group

THE FUTURE OF THE GREAT BARRIER REEF

In the past few weeks I have read two accounts on the decline of coral reefs all over the world. The decline is because the oceans are becoming more acidic due to increasing amounts of carbon dioxide (CO₂) being dissolved in sea water forming carbonic acid. CO₂ has increased in the atmosphere from less than 300ppm (parts per million) in the atmosphere back in the 1950s, to more than 400ppm today. It is still increasing at an accelerating rate and the expected acidification will increase in tandem.

Corals cannot deposit the calcium carbonate needed to form the hard parts or skeleton for these colonial animals if the ocean is too acidic. Reports from the Hebrew university found that calcification rates had fallen by 27 to 49% although the extent of coral reef cover was the same. It is not just the corals but mussels, scallops and other shellfish, and other shelled creatures such as crabs and prawns which will also be unable to form shells if the acidification is increased. Also alarming is that krill will also be affected. Many marine creatures depend on krill for food, including the Baleen whales which filter the tiny krill through their mouthparts. The largest animal alive, the giant Blue Whale, already a threatened species, is a Baleen whale. The coral reefs are expected

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to be 30% of their original state by 2030 and be just dead coral by 2050.

The Great Barrier Reef Marine Park Authority's 2014 Outlook Report assessed ocean acidification as 'a very high risk to the reef'. However the federal and Queensland governments' draft Reef 2050 Long-Term Sustainability plan does not mention the risk to the reef of ocean acidification.

So take your children/grandchildren to see the magnificent Great Barrier Reef soon.

Jackie Tims

REPORT ON BUSINESS MEETINGS HELD 12.9.2014 & 27.10.2014

General Meetings & Excursions

Friday 28 November: Migratory Flyway Routes – Ken Gosbell

Saturday 29 November: Heyfield Wetlands. Meet 10am at Wetlands carpark.

Saturday 13 December: Club Christmas Party at David and Marlene's, Yinnar South.

Botany Group: No botany this month due to Bird Challenge. Contact: Wendy Savage ☎ 5634 2246.

Bird Group: Bird Challenge: Saturday December 6. Contact: Alix Williams ☎ 5127 3393, alixw@spin.net.au.

Summer Members' Night: Friday 16 January 2015 – open theme.

Wildflower Walk with Friends of Baw Baw NP: Saturday 17 January 2015.

Finance – Cash Mgt Trading A/c \$3870.02. Term Deposit \$14,386.10.

Business Arising, Correspondence & General Business

Still pending: botany microscope; purchase of spare bulb for data projector; SEANA risk management policies.

Trust For Nature 'Spring into Nature' event on Saturday 11 October at Uralla Nature Reserve – 8 members attended and led/joined in walks. Good promotion for club with display, and books sold. Letter of thanks from John Hick.

Red Gum Plains Project – David M to send invoice for \$1250. Next outings: Nov 5

TRRCR mammal trapping and mothing. Nov 19 Bird Watchers Breakfast meeting Toongabbie.

Edward Hunter HBR COM – developers of site near reserve have lodged a VCAT objection. COM and Latrobe City will be contesting it. Councillor Peter Gibbons has asked if club could supply a representative to Friends of EHHBR. Will ask Julie Murray.

David S has bought a sound system operated with battery or mains and 2 wireless microphones from Aldi. Motion: That we purchase them for use at GMs. Alix Williams/David Mules. Passed

Sustainability Gippsland Website – David S has joined the club and is the contact person. Should put our programs on each year and have link to our website.

Summer Camp at Mallacoota Friday 6 to Tuesday 10 February 2015 – have booked 8 cabins at Shady Gully Caravan Park in Mallacoota. 28 on list. Deposit of \$700 covers one night basic accommodation for each cabin. Costs will vary depending on type of cabin and number of occupants, and this will be calculated for each person. Ask for \$30 deposit per person, and balance to be paid by Jan meeting.

SEANA Camp at Portland attended by about 14 LVFNC members. Next SEANA camp at Ballarat 13-15 March 2015. Details will be mailed in December.

Naturalist survey responses – majority view was to produce magazine bimonthly so will adopt this in 2015. Produce Jan/Feb, Mar/Apr etc, coming out early Feb then late in the odd numbered months. Secretary will email members each month in the week before GM giving details of upcoming events and any changes which may occur. This will include a link to the website each time the new Naturalist is available, and a hard copy will no longer be posted to those who chose this option in the survey. The membership charges will be decided for each option by the 2015 AGM, and members who did not respond to the survey will need to choose from the 2 membership options.

Naturalist changes for 2015. Suggestion that we use local MP office to print Naturalist for

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free (happens with some other local groups) being considered as raised at GM. Alix will obtain 1 box free paper from Paperlinks for our use (not Naturalist). John Sunderland would prefer us to send the Naturalist as an attachment to avoid the possibility of exceeding the download allocation on our website.

Hazelwood Power request for rep to replace Lorna Long on their Environment Review Committee – David S will represent the club, and respond to request.

2015 Program planning – have arranged speakers for all months except one so far.

Purple Diuris Orchid count – Dawson count 15 October, Longford 29 October.

Conservation Matters

Alpine NP submission prepared by Phil and Jackie sent.

WELCOME TO NEW MEMBERS

Welcome to Tamara Leitch from Traralgon and Paul Sandford from Morwell. We wish you a long and happy association with the Club.

FOR THE DIARY

BIRD CHALLENGE

Saturday 6 December. Contact: Alix Williams ☎ 5127 3393, alixw@spin.net.au.

CHRISTMAS PARTY

Saturday 13 December at Stickneys', Explorers Rd, Yinnar South, (approx. 1km from Gilberts Rd, first house on RHS) from 12 noon. BYO food, drinks, table and chairs. Punch and Christmas cake provided, boiling water, tea and coffee available. And, once again, the QUIZ!!

SUMMER MEMBERS' NIGHT

Friday 16 January 2015 – open theme, time for club members to show and tell.

WILDFLOWER WALK WITH FOBB

Saturday 17 January 2015 on Baw Baw Plateau with Friends of Baw Baw NP. Meet DSE Office, Parkers Corner at 9am for 9.30

departure (after car pooling). Back late afternoon.

A moderate level of fitness is required. You will need to bring your lunch, water, walking shoes and clothing suitable for an alpine environment, including wet weather gear. Weather conditions can change rapidly on the plateau, so be prepared! Don't forget your camera and binoculars.

For more details and to say that you are coming: contact Alix on ☎ 5127 3393, or alixw@spin.net.au.

2015 CLUB SUMMER CAMP AT MALLACOOTA

Note change of venue and dates – Friday 6 to Tuesday 10 February at Shady Gully Caravan Park, Mallacoota. Eight cabins have been booked. Accommodation costs will vary depending on type of cabin and number of occupants, and will be calculated for each person. Payment is required by January meeting. Camping area is available. For more information contact Secretary Wendy Savage ☎ 5634 2246.

MESSAGE FROM THE EDITOR

A big thank you to all contributors and helpers throughout the year. Next year will see some changes – that's life, full of challenges!

Best wishes for a safe and happy Christmas and New Year to all club members, family and friends.

The January-February issue will be mailed to everyone in early February 2015.

