Latrobe Valley Naturalist

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General meetings

Held at 7:30 pm on the fourth Friday of each month at the Newborough Uniting Church, Old Sale Road Newborough VIC 3825

Southern Tigertail *Eusynthemis guttata* photographed on the walk to Craig's Hut during the Club's 2019 Summer Camp (Photo: Tamara Leitch).

Upcoming events

Botany Group: Saturday 3 August – Aquatic plants at Wonthaggi State Coal Mine. Details TBC.
Bird Group: Tuesday 6 August – Heyfield Wetlands. Meet 9.30am at the Environment Centre in Heyfield.
Bird Group: Friday 16 August – EA Wetland survey. Meet 9.30am at Morwell Bridge gate.
August general meeting: Friday 23 August
Greater Glider and Leadbeater's Possum surveys – Louise Durkin
August excursion: Saturday 24 August – Spotlighting at Mirboo North.
Botany Group: Saturday 31 August – Holey Plains recovering from fire. Details TBC.
Bird Group: Tuesday 3 September – Mt Worth State Park & Allambee Reserve. Meet 9.30am Moonlight Creek Visitor Area carpark.
September general meeting: Friday 27 September
Eucalyptus Leaf Beetles – Martin Lagerwey
September excursion: Saturday 28 September – Mathison Park, Churchill

CLUB SUMMER CAMP 2019 – Part 2

Mt Stirling – Sunday

We were all pleased to leave the heat of Merrijig and set off to Telephone Box Junction (TBJ) on the Mount Stirling Road where the temperature was several degrees lower. Our first excursion was the 5 km Woollybutt Loop track beginning and ending at TBJ. The plan was for the slower botanists to make it partway, to King's Saddle Shelter, for lunch while the others completed the loop and drove back to the lunch spot.

On arrival at TBJ, Tamara and Matt identified the call of the elusive Pilotbird and then the search was on – a few lucky folk got a look but, despite our best efforts, the rest of us remained envious. Ken was busy in the carpark identifying Mountain Hickory Wattle *Acacia obliquinerva*, Bootlace Bush *Pimelea axiflora* and Tree Lomatia *Lomatia fraseri*.

Mountain Nertera (Photo: Lorraine Norden)

As the name of the track suggested, we were in Alpine Ash or Woollybutt *Eucalyptus delegatensis* forest, the trees tall and straight with the lower part of the trunk fibrous-barked. Along the track there were several mystery plants to delay the botanists, including a matting ground cover eventually diagnosed by Ken and confirmed by Neville Walsh as Mountain Nertera *Leptostigma breviflorum*, a species not previously noted for the area. A tall shrub with reddish bark turned out to be a tall form of Mountain Plum-pine *Podocarpus lawrencei*, and a heath plant with pink berries Beard-heath *Leucopogon gelidus*. Alpine Shaggy-pea *Podolobium alpestre* was common along the way, as were Derwent Speedwell *Veronica derwentiana* and Rough Coprosma *Coprosma hirtella.*

The track meandered up the hill to Razorback Hut, used until only recently by mountain country cattlemen during annual stock drives, as the weeds around the hut denoted. By the time the laggers had reached Razorback Hut, the rest of the party had completed the loop and were back having lunch at King's Saddle Shelter, but it was not far along the ridge to join them. On the way, we saw the robust web of a mountain funnel-web spider and Denis kindly tried to feed it a dinner of swatted March fly.

After lunch, some people drove the Circuit Road to Craig's Hut, Phil and Gill walked the Wombat Drop Loop and the rest filled in the afternoon around TBJ birdwatching and botanising. There were good sightings of female flycatchers and female Flame Robins, and later the male robin was seen near the carpark. On the Little Baldy Loop we saw Large-leaf Daisy-bush *Olearia megalophylla*. No-one was in a hurry to return to the heat at Merrijig.

Lorraine Norden

Male Flame Robin (Photo: Tamara Leitch)

Howqua Hills Heritage Trail – Monday

Sacred kingfisher (Photo: Phil Rayment)

The group set off on the Howqua Hills Heritage Trail in the morning, beginning at Sheepyard Flat, to follow the trail along the Howqua River to Frys Flat. A chimney was seen standing majestically at the site of a era smelter built in 1884 for processing very fine gold particles. along the trail is an area that contains greenstone, a metamorphic that can be worked to a sharp edge and was used by the Taungurung aborigines to make knives, axes and spearheads. At Frys Flat hut constructed in the 1940s by Fred Fry. Birds seen during the included a Sacred Kingfisher, and King Parrots feeding on the seeds of Sweet Bursaria.

Mark Watkins

Reptiles of the Mount Buller area

Southern Grass Skink (Photo: Matt Campbell)

My main objective during the Mt Buller summer camp was to see the reptiles, and they didn't disappoint. The 'possible' species list was reasonably large but the first morning was hardly reptile weather on the summit of Mt Buller. We were greeted with cold temperatures, strong winds and low cloud. Our trip to the top produced nothing scaly, however conditions rapidly improved and on the second track, the Summit Nature Walk, we started to see a lot of skinks. Most turned out to be the Southern Grass Skink *Pseudemoia entrecasteauxii*, possibly the most widely-distributed member of the genus. It is found throughout Victoria from the coast to the highest peaks, as well as occurring in south-eastern South Australia, the higher areas of south-eastern New South Wales, and Tasmania. We also found the Tussock Skink *P. pagenstecheri*, which occurs in the same places as *P. entrecasteauxii,* although it tends to prefer more elevated areas where there are few trees and more grass.

Southern Water Skink (Photo: Matt Campbell)

Also seen along the track was *Eulamprus tympanum* – this is the Southern Water Skink that most people from our area will be familiar with. It too is quite widespread and highly adaptable, living everywhere from coastal dunes to high peaks. It is a much larger skink than the two previously mentioned and is generally more bold, often being quite happy to come and take a look at you if you're sitting still.

The highlight of the Summit Nature Walk, though, was the Highlands Copperhead *Austrelaps ramsayi* that was hunting grasshoppers. It didn't seem to care that we were there and moved amongst us, occasionally striking at 'hoppers that it felt were close enough, even managing to catch a few. The Highlands

Copperhead, despite its common name, is found in coastal areas as well as the alpine regions of Victoria and NSW. It is generally smaller than the Lowlands Copperhead *A. superbus*, topping out at about a metre, and its head tends to be more strongly marked. Some think the two Copperheads could be a single species and genetic testing in the future may tell us more, but for now they are treated as two different species.

Highlands Copperhead hunting grasshoppers (Photo: Tamara Leitch)

The other walk I did on Mt Buller was the Little Buller Walk, which turned up more Southern Grass Skinks and Southern Water Skinks.

The next day saw us head up to the Mt Stirling area. Conditions were just right for reptiles, and again they were out in force. However, some of the other potential species I had in mind were nowhere to be seen, just huge numbers of Southern Grass Skinks and a few Southern Water Skinks. Both species were present from the start of our walk and I was still finding both in the afternoon up at Craig's Hut. I managed to add another species when I got back to my accommodation and found a *Lampropholis guichenoti* in the kitchen. This is the Garden Skink that many of us have around our own homes.

Black Rock Skink (Photo: Matt Campbell)

On our last morning, we walked along the Howqua River heading downstream towards Frys Hut. This was very different habitat to that seen during the previous two days and, sure enough, it turned up different species. The Southern Water Skink was to be found here again, but was joined by the Garden Skink and Black Rock Skink *Egernia saxatilis*. I had hoped to possibly find some dragons or more snakes but it was not to be. Another member mentioned seeing a small 'black' snake at the start of the track, but they couldn't give an exact species; there's every chance it was a Highlands Copperhead again, although there are several other possibilities.

Interestingly, despite travelling so far from home, I have recorded on my own property all of the reptiles I saw on the trip other than the Tussock Skink and Highlands Copperhead, although I do have the Lowlands Copperhead here. Overall it was a great trip for reptiles and hopefully I'll get to go back in the near future and add to the species list for the area.

Matt Campbell

Plants colonise the land

One day in February 2019, Professor Dianne Edwards, a palaeobotanist from the UK, arrived in Australia for a holiday with her friends in the Latrobe Valley. Fortunately for her friends and other members of the LV Field Naturalists Club, Dianne had her laptop with her, loaded with slides for a talk entitled "Plants colonise the land". Instead of relaxing on her first evening in Australia, Dianne

generously filled a sudden speaker vacancy when the person booked in to address the Club had to cancel at the last moment.

Dianne has researched palaeobotany for around 50 years, in particular the emergence of plants in the Silurian-Devonian period which was about 450 million years ago. Before this time there were smouldering fires, and there was algae, but not yet plants. When the ozone layer developed, it screened out ultraviolet light, allowing the earliest plants to appear. They were very simple organisms, just a tiny stem with no leaves. They had a little sac containing spores at the top of the stem. The genus was given the name *Cooksonia* after an Australian palaeobotanist, Isabel Cookson, who started her research on these plants in 1929.

Fossil (left) and reconstruction (right) of *Cooksonia* (Source: Dianne's presentation)

Dianne explained that 'four great inventions' allowed these simple *Cooksonia* organisms to develop into the forebears of the plants we have today. The inventions concerned water. Organisms that managed very well as part of a swampy microbial mat had to adapt to a life on drying land by solving these challenges: how to get water, how to keep water, how to transport water (within the plant), and how to disperse or reproduce without water.

To get water, the simple stem of a *Cooksonia* developed the ability to absorb water with rhizomes and roots. To keep water, a more complex structure was needed by the plant to be able to retain the water absorbed by roots or rhizomes; cuticles, stomata, and intercellular air-space systems emerged. These defences and alterations prevented water loss. To transport this water to all parts of the plant, water-conducting tissue or vascular systems developed, with suction created by transpiration from leaves pulling up moisture from below. Now leaves were needed as well as roots. Furthermore, stiffened stems were required to support the vascular system, so wood evolved.

Microbial mat at Yellowstone National Park (Source: Dianne's presentation)

How about reproduction? The *Cooksonia* technique of setting in a little cup at the top of a stem became an "architectural impediment" in Dianne's words, as the plants found themselves on land rather than in water. They overcame this by putting spores on the sides of their stems and this allowed them to grow taller stems while still getting good dispersal of spores. Dianne said there is a puzzle regarding the increase in plant height: taller plants make a much earlier appearance in Australia than in the rest of the world, for reasons as yet unknown.

Another strategy employed by plants to improve spore dispersal was to develop sporangium: little parcels of spores which can be shed. Ferns, or at least their earliest forms, had now arrived. They have living descendants: the *Lycopodium* genus of clubmosses.

Another puzzle is that fossilised spore packages, some in tetrads (packs of four) but often in pairs, have been found and studied by researchers but no other information exists to indicate what kind of plants the spores belonged to.

Lycopodium sp. (Source: Dianne's presentation)

Through the Devonian period, plant roots grew deeper and deeper. Carbon dioxide in the atmosphere at the beginning of this period was 16 times higher than it is today. The busy plants took this up and stored it in the ground until CO_2 levels were very much lower. Animal life followed plant development.

Dianne has recently been looking at some very, very tiny *Cooksonia* fossils – so tiny that a dressmaker's pin looks like a mighty post laid among them. They are early forms of life, predating the vascular plants described above. They formed a crust, along with lichens and algae, and similar crusts are still found today where flowering plants will not grow, such as on rocks or trees. They remain important for their role in decomposition, particularly in arid environments.

Crust of lichens on a rock (Source: Dianne's presentation)

The difficulty with fossils is that they are generally flattened. The tiny *Cooksonia* examples, being both very tiny and simple in structure, are very hard to distinguish. Dianne showed us some pictures of a car – the Mini – to help explain her conundrum. In early models of the Mini, a cord was used internally to open the doors. If one of these Minis was crushed and compared to a later model, also crushed, it would be easy enough to recognise that both are Minis, but the morphological changes, such as differences in door-opening mechanisms, could not be detected. According to Dianne, a long time Mini owner, the newest version of the vehicle is rubbish and deserves to be crushed.

By this stage, Dianne's audience was jetlagged from whizzing through several million years of natural history, although Dianne herself looked perfectly fresh and alert. Then followed a discussion with Club member Jackie Tims, who was in the audience. Jackie was a student of Dianne's at a time when there were only about 15 palaeobotanists in the world. No doubt there are many more now because, as Dianne conveyed, it is a fascinating field of study.

Rose Mildenhall

Tiny *Cooksonia* specimens next to a dressmaker's pin (Source: Dianne's presentation)

Ken overlooking the glassy waters of Port Albert (Photo: Jay Duncan)

Bird outing 12.03.2019

Ken Harris, Joelle and myself had a catch up on March 12 when we went birding at Port Albert and then visited the Toora bird hide.

The sea was glassy calm and the reflections and clouds were stunning. Seeing birds as well was a bonus!

We thought the waders would have already gone, but there were quite a few still hanging around. We had a couple of good views of Eastern Curlews, and a Great Egret was fishing in the Port Albert marina – we were able to watch and photograph it from the next pier along for quite a while.

We checked out the Franklin River picnic and camping ground as a possible future birding site on our way home, but ran out of time for a trip down to Port Franklin itself and the Bennison Reserve.

Great Egret (Photo: Ken Harris)

My disappointment was not getting to eat fish and chips at Port Albert pier. Next time we'll have to do our scheduling a little bit better!

Jay Duncan

View from the Toora Bird Hide (Photo: Jay Duncan).

REPORT ON BUSINESS MEETING 24.06.2019

Finance

Cash Management Trading Account: $3,982.49 Term Deposit: $16,560.48

Business Arising, Correspondence & General Business

- Club mugs: Two boxes delivered, one stored at Rose's, the other in cupboard at Newborough Uniting Church Hall
- Club Spring Camp in Kerang, 18-22 October 2019: Cohuna Caravan Park will be our base. Participants to make their own bookings. Lots of access roads are unsealed, some dry weather only, so program will be flexible.
- Tasmanian Fungi-Flip publication $10 each – the Club will collect money, place a bulk order and pay postage for any members interested.
- Sapphire McMullan-Fisher has requested feedback on the Fungimap talk and excursion for inclusion in their reporting to funding bodies. Rose will send information.

Conservation Matters

- Dawson Railway Reserve signage: Ken reported that the design is being fine-tuned.
- Hazelwood mine rehabilitation: David Stickney attended a presentation by the commissioner, whose role will soon be replaced by a new Mine Land Rehabilitation Authority.
- Post-bushfire monitoring in Holey Plains State Park: Wendy retrieved several plant lists from a box currently with Ken Smith, and will scan and send copies of them to Mitch Smith.
- Australian Paper Waste-to-Energy plant: Environmental controls have been tightened up as a result of a VCAT challenge by Environment East Gippsland.
- A wind farm has been proposed within Hancock managed plantation areas in hills near Boolarra and Yinnar, incorporating 53 turbines, 5.3 megawatts, blade length 90m, overall height 250m. An opposition group has been formed, and asked if we would support them. Their objections are based on several grounds; the only one relevant to the Club is that raptors may be killed, although there doesn't appear to be a lot of evidence to support this. We decided the Club would not support the group's objections.
- Preserve Our Forests group from Mirboo North have asked the Club to respond to DELWP's Regional Forest Agreement modernisation consultation. David S will fill out the online form on behalf of the Club.

A pair of Tawny Frogmouths (left) and a Bird's Nest Fungus (below) observed at Traralgon South Flora and Fauna Reserve in early July (Photos: Tamara Leitch).

Guest speaker for August

Louise Durkin

Louise is a wildlife ecologist at the Arthur Rylah Institute working on threatened possums and gliders in Victoria's forests. She will speak about recent targeted surveys for Leadbeater's Possum and Greater Glider, involving camera trapping in the canopy and line transect spotlighting, to estimate current population densities and inform conservation management.

Guest speaker for September

Martin Lagerway

Martin is an amateur entomologist who studied biological science at RMIT and has a particular interest in leaf beetles. With his colourful photos, he will teach us to recognise some of the common species of leaf beetles, and show how a citizen scientist with curiosity and a camera can contribute to scientific knowledge.

Latrobe Valley Naturalist is the official publication of the Latrobe Valley Field Naturalist Club Inc. The Club subscription includes the "Naturalist".

Brief contributions and short articles on any aspect of natural history are invited from members of all clubs. Articles, including those covering Club speakers and excursions, would typically be around one A4 side in length, should not exceed 1,000 words, and may be edited for reasons of space and clarity. Photos should be sent as an attachment and be a maximum of 1 megabyte in size.

Responsibility for the accuracy of information and opinions expressed in this magazine rests with the author of the article.

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