ORANGE FIELD NATURALIST AND CONSERVATION SOCIETY Inc

NEWSLETTER JUNE 2021

NEXT MEETING
Thursday 10th June, 7.30 pm.
Nguluway Ngurang Senior Citizens Centre
North Room
(Opposite side of carpark to Harris Farm)

Mt Canobolas Post-Fire Artefact Surveys
Speaker – Dr Andrew Rawson

Committee Meeting at 6.30pm

NEXT EXCURSION
Sunday 13th June
NSW Plant Pathology & Mycology Herbarium with Dr Jordan Bailey.

Details below

Next Meeting – 10th June, 7.30 pm.
Mt Canobolas Post-Fire Artefact Surveys.
Speakers – Andrew Rawson and Rosemary Stapleton.

The 2018 fire in Mt Canobolas SCA burnt much of the vegetation. It allowed the ground surface to be seen and Aboriginal artefacts to be revealed. The artefacts were noticed in post fire orchid and fauna surveys. These artefacts provide tangible evidence of a long history of Aboriginal use and occupation of the mountain. The talk will outline the significance of these finds.

Flaked artefacts made from a range of rock types found at a site in Mt Canobolas SCA. Photo R Stapleton.

Next Excursion – 13th June, 10am.
NSW Plant Pathology & Mycology Herbarium.
Orange Agric. Institute, Forest Road.
Leader - Jenny Medd.

The Herbarium forms part of the NSW Biosecurity Collections housed at the Orange Agricultural Institute (OAI) on Forest Rd.

The NSW plant pathology collection was founded in 1890 as the official plant disease records collection for NSW. This included dried specimens of infected plants, bacteria, and fungi. The collection expanded to include fungi more generally in the late 1960s with the transfer of the fungal collection from the Sydney Royal Botanic Gardens. This included many specimens of fungi in their more recognisable form (mushrooms), a "living culture" collection of fungi, and bacteria. As of 2017 it is officially called the NSW Plant Pathology & Mycology Herbarium, mycology being the study of fungi.

Dr. Jordan Bailey (Herbarium curator) is providing a tour of the herbarium and culture lab, where work to preserve both dried and living specimens of over a hundred thousand fungal collections continues. Those of you who attended the Fungi Workshops will have met Jordan. Her tours usually evolve depending on the interests of the people who are present. Participants of the recent fungi workshop have been invited to the excursion.

Please help with COVID requirements and **register** for the excursion by emailing orangefieldnats@gmail.com

Meet in the OAI car park at **10am**. OAI is located on Forest Rd, Orange. Follow the signs to the hospital and OAI is on the right not far past the hospitals. Meet at the carpark immediately **behind** the main OAI building by following the driveway which turns around the northern end of the main building.

<u>Last Meeting</u> – 13th May. A Year at Kew Gardens. Speaker – Isobel Colson.
Report Rosemary Stapleton.

Isobel introduced us to Kew by telling us a little of the history of the gardens. They started as a passion project for the Prince and Princess of Wales in the 16th century, then in the 1770s, with Joseph Banks, moved to focus on economic botany. It now promotes global conservation of biodiversity through taxonomic research and horticultural research and aims to improve the livelihoods of local people in countries around the world. Kew is a repository of living and preserved specimens and has the largest fungarium in the world.

In late 2018 Isobel joined the Master's Program at the Royal Botanic Gardens, Kew, for a very intensive year of learning and research. She escaped to the Temperate house when homesick as it had lots of Aussie plants like tree ferns or on cold days went to the tropical Palm House. Imagine that as your workplace!

The Master's Program was established when researchers saw the need to train new taxonomists. It brought together the taxonomy expertise from Kew and the phylogenetics, coding and data handling expertise from Queen Mary University, London.

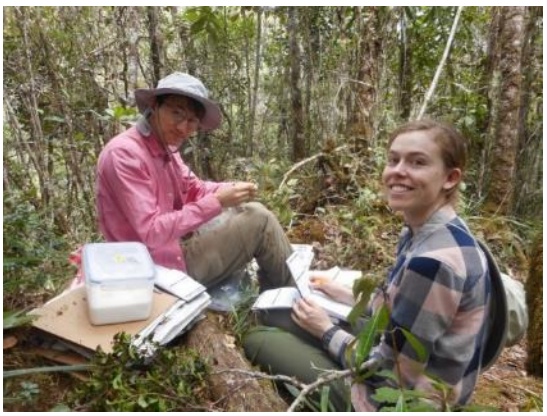
Isobel and other Master's students studying fungi collected in the gardens.
Photo - Vanessa Stevens of the MSc cohort.

The taught component of the program included:

- Plant and fungal taxonomy (morphology, plant and fungal classes and families, microscopic traits)
- Phylogenetics (building family trees)
- Coding and data handling
- Training in the methods used for assessing species for IUCN (International Union for Conservation of Nature) Red Listing.

There were seminars on research projects at Kew and a visit to the labs at the Millennium Seed Bank at Wakehurst. Kew Wakehurst is looking to the future by running trials to investigate propagation methods for rare species and the impact of changed conditions on seed germination due to climate change.

Isobel was fortunate to be part of an annual trip by Kew researchers to their partners the Kew Madagascar Conservation Centre (KMCC). This included 2 weeks training in tropical plant identification (helped by adapting fun games like Celebrity Head!) and collecting plants and fungi for the Kew collections. The team also assisted in developing management plans for the Andasibe-Mantadia National Park, in the wetter eastern forests. The plant diversity in Madagascar was revealed when one team in the mossy rainforest collected plants from 28 families and 40 genera, including from the endemic Madagascan family Sarcolaenaceae. And this was just in 50m along a track!



Collecting in the mossy forest.

Forest clearing is a significant issue on the island. The Masters students learnt about conservation projects like Association Misintjo who are restoring habitat though tree planting and providing alternative sources of timber to community through community forestry. The Association also run a Livelihood Program by training of guides, making woven goods from endemic Raffia, and doing paintings for tourists. Isobel enjoyed the chance to be a tourist when they visited Lemur Island to see the lemurs.

Back in Kew Isobel choose to do her Master's research project on the macrofungi found in the

department of Boyacá, Columbia. A team, that included staff from Kew Gardens, had collected macrofungi samples in 2017. They were from three locations and included sites in oak forests and dry acacia forests, disturbed oak forest and an area of mixed Weinmannia and plantation pine. Isobel explained how she undertook DNA sequencing of the 204 samples and identified species to add to the checklist.

This was exciting research as Colombia is among the most biologically diverse countries, but also among the most data-poor. At the time Colombian mycologists had created a comprehensive checklist of macrofungi for the country. It contained around 2000 species, which is less than 2% of the potential diversity of fungi for the country. There were only 79 species records for the Boyacá area.

From her work Isobel identified 32 species that had never been recorded in Boyacá, and 27 were new to Colombia. As not all samples could be identified to species level, she used a grouping technique to look at within site and between sites diversity as well as functional diversity (trophic mode). And what were the results …. the diversity was high, so high that the study didn't sample anywhere near the total expected diversity! In short, the undisturbed sites had greater functional and species diversity, while in the introduced pine forest the fungi species were mostly exotic but were surprisingly of a comparable diversity and function. Isobel's work has added to the knowledge of macrofungi in Columbia but there is more work to be done. Other samples that were collected in 2017 need to be studied, the new species described, and more collections are needed as species may not have been fruiting in 2017.

Boyacá fungi specimens. Photo L Davis, Kew.

One final highlight of the MSc for Isobel was presenting to the Linnean Society and viewing Linnaeus' original collections and writing. She said that overall, the best part of the year was the people she met; the passionate group of young people she studied with, the scientists and researchers at Kew and Madagascar. Just occasionally there were birding highlights with Beau, such as the resident flamingos in Portugal.

Field Nats and Orange are fortunate to have such a young skilled and passionate person living here and sharing her knowledge.
Thanks Isobel.

<u>Last Excursion - Fungi Workshop and Survey</u>. 15/16 May

Report by R Stapleton, photos H Berndt.

Wow.....this is going to be a fascinating workshop is what I thought when I walked into the ELF and saw hundreds of different fungi spread around the tables. About 30 people had come to the **Fungi in Focus Photography Workshop with Alison Pouliot** on the 15th May. Alison is an environmental photographer and natural historian who has held such workshops and fungal ecology forays in Australia and internationally. She explained that Australia's First Nations people probably have the oldest knowledge of fungi in the world and Australia is one of the countries with the greatest diversity of fungi.

The weekend was organised and funded by Liz Davis, Regional Ag Landcare Facilitator (RALF) from the Central Tablelands Local Land Services (LLS). Having watched the LLS videos where Alison clearly explains all about fungi it was great to have the opportunity to learn from her in person.

Saturday morning was about learning the terms and key identification features of fungi. We were urged to look, touch, and carefully smell some of the specimens. Thinking about the age of the fungi was also important as some species change as they age. Alison highlighted the vital role that fungi play in the landscape and key relationships they have in ecosystems. We often see fungi as discrete disconnected mushrooms without realising there is a 'mycorrhizal network of interconnectivity' below the surface. This highlights the importance of noting the habitat and substrate of the fungi to help with identification. For those participants interested

in foraging for edible species, Alison urged caution as there are toxic lookalike species.

The second part of the workshop was about photographing fungi. The most basic message was before taking a fungi photo ask yourself why you are taking it. Was it for scientific and identification purposes or to create an aesthetically pleasing photo? Advice on lighting, depth of field, colour and composition were shared by Alison. If you have seen Alison's books you will have been enthralled by the beauty of fungi that she has captured.

Alison explaining the importance of stabilising the camera when photographing fungi.

To end the day, we rugged up and headed into the chilly weather at Kinross State Forest to put what we had learnt into practice. Out came the mobile phones, cameras, mirrors on sticks and hand lenses. While there were lots of fungi found, they were only from a few species and reflected the monoculture of the pine forest.

What would Sunday bring for the first formal fungi survey in Mt Canobolas SCA? The day dawned bright, sunny, and still, such a relief after Saturday's chill. Alison briefed us about the survey and explained that fungi cannot be collected on any public land without a permit. Fortunately, Dr Jordan Bailey, from the Mycology Herbarium, had a scientific collection licence. Steve Woodhall, NPWS Area Ranger, gave an overview of the SCA and we headed to Orange View.

Four teams were guided by the expert knowledge of Alison and volunteer mycologists from the region, the Blue Mountains, and as far away as Queensland. They explored areas of the SCA at Orange View and around the Federal Falls Campground and trails. Liz's wish for rain before the survey had been answered and there were fungi to be found.

Anyone passing Orange View would have wondered what was happening with shouts of delight as new species were located followed by people crowding around (below) to look at the fungi, photograph them and record details and location.

We returned to the sites after a delicious lunch to continue searching. At 3 o'clock the teams gathered at Orange View to see what had been found. The variety of specimens was amazing with most teams finding different species. Interesting and intriguing specimens were a caterpillar taken by a parasitic fungus and a jelly fungus, that looked like a cup or a lost denture! Ranger Jack Fry was intrigued by an Earthball, *Scleroderma citrina*, that is this month's Creature of the Month. The team led by Dr Michael Priest found 30 different species and he talked about a large specimen of what was likely to be *Lepista nuda*, also known as a Wood Blewit. All specimens and record sheets were taken to the Mycology Herbarium by Dr Jordan Bailey for identification. Liz will have a big but exciting task gathering all the photos and passing them on.

Some of the specimens collected on the foray.

When asked about the workshop and fungus foray OFNCS member Isobel Colson said '*It was fantastic learning from Alison, she's so knowledgeable. It was great meeting with a*

wonderful network of people who are so passionate about nature, fungi and love the mountain'. Jenny Medd said '*It was quite amazing to see just how many different specimens of fungi were turned up. Our local experts will have quite a task ahead to confirm and complete identification of the samples that were collected*'.

We all look forward to the results and hopefully this first formal survey will add to our knowledge of the significant biodiversity within Mt Canobolas SCA.

Alison spoke about Fungimap, whose aim is to record and map fungi in Australia. Members spread the word about the essential role of fungi in biodiversity and advocate for fungal conservation and investment in mycology. Details of how you can join are at https://fungimap.org.au/

Alison also encouraged everyone to record fungus sightings on iNaturalist. Remember to take several photos of key features of the fungi and habitat. Other tips on recording fungi on iNaturalist can be found on Fungimap website. OFNCS members who attended plan to use the knowledge gained to add to the knowledge of fungi and their distribution in the Central West.

Thanks to Alison, Liz, and the Central Tablelands LLS for giving OFNCS members such a great opportunity to learn and have fun.

One of the specimens found on the foray – tiny blue fungi identified as the Green Elfcup from the Chlorociboria aeuruginascens group.

Committee News

OFNCS made a submission to Orange City Council (OCC) on the draft Lake Canobolas Precinct Masterplan. Of concern were aspects of the draft plan that extended beyond the areas that the OCC controls. This included extending access tracks across private land to connect with the SCA and incorrectly suggesting the route of a mountain bike track within the SCA. The draft Masterplan lacked detail and did not include any environmental assessment.

Several members have also been doing preliminary work on brochures for Mt Canobolas SCA.

Central West Environment Council News

OFNCS was represented at the meeting on 2nd May. Main items of discussion were:

- new coal releases just announced in the Mudgee and Rylstone areas
- the campaigns against the Gin Gin Weir and raising of Wyangala Dam wall.
- review of a new draft CWEC constitution
- NCC lobbying about lack of progress on AOBVs.

Mt Canobolas Update

The mountain is continuing to recover from the fire. In some places there is now a dense cover of heath in areas that were bare 12 months ago. I suspect that they will be stunning in Spring. However, in other places post-fire erosion has washed away the soil and there is now bare rock where the heaths once were.

NPWS has commenced redevelopment work at The Walls Picnic Area, and it is closed off.

Canobolas Conservation Alliance Update

Report by Jenny Medd. Photos Helmut Berndt.

Zoom meetings were conducted by the Committee on May 3rd, 17th and 31st. A delegation comprising Col Bower, Andrew Rawson and Nick King travelled to Sydney twice to attempt to talk with Environment Minister Matt Kean at meetings scheduled by his Office. On May 18th Minister Kean pleaded sickness, with insufficient warning advice to the CCA delegation; on May 26th Minister Kean again failed to appear, delegating the meeting to his Deputy Chief of Staff, a Liaison Officer, and a phone hook-up with Emma Roxanas of DPIE, no-one of whom provided any satisfactory answers.

The crowd at the picnic at John Williams Park.

A public picnic at John Williams Park, followed by guided walks on the SCA's Nature Trail, was held on Sunday 23rd May. It was well-attended and many positive comments from those participating in the walks have been received. A public forum is currently in the planning stages.

Col Bower speaking about the significance of the SCA before the walkers divided into groups to walk the Nature Trail.

Wyangala Dam Wall Update

WaterNSW and consultants have been holding meetings in the Lachlan catchment about the raising of the Wyangala Dam wall. Keith Hyde, from Hovell's Creek Landcare, who is opposed to the proposal, provided the following notes. I've copied them with his approval:

- Of the estimated 1,600ha increased inundation area at 10 metre increase in dam water level some 1,000ha of endangered grassy box/gum woodland will be affected. This will need to be offset in some way and will also trigger assessment of the proposal under the Commonwealth EPBC Act.
- Significant aboriginal artefacts have been found within the current inundation zone and within the increased inundation zone.
- Construction would take four years and have a significant impact on the Wyangala community. The workforce will vary from 100 to 400+ families and need to be accommodated at either Wyangala, Cowra or at other regional locations.
- Some extra 250 light vehicle and up to 210 heavy vehicle movements are expected on Darby's Falls Road - the main access road - each working day.
- Rock and clay will be sourced quite close to the dam site. Sand and cement will need to be trucked in. Trees within the inundation zone will be chipped for local use!
- The Environmental Impact Statement is not expected to be released for public comment until 2022. It is still uncertain if the Business Case, expected by the end of this year, will be released.
- Erosion in the catchment and sedimentation within either the dam or the river seems to be a non-issue for WaterNSW. Water is let out from the bottom of the dam taking the sand and silt with it downstream into the river. WaterNSW did not seem concerned about the impact of this turbid cold water or the downstream 'sand slug'.
- Cold water pollution of the river will be controlled by taking warmer water from a higher level during critical fish breeding seasons.
- Downstream flood modelling is yet to be completed by DPIE – control of flooding is still a key argument used for the need for increased dam capacity.
- Other issues raised include biosecurity, weeds, noise, and air quality especially around Wyangala village, and associated impacts on local roads which are only of light construction or dirt and treacherous.

There have been differing views raised across the catchment at these meetings with some communities, such as at Wyangala, seeing it as a boost for their community and others, such as at Booligal, seeing it as a disaster for their farming enterprises and the environment.

Dates for your Diary

2021 Cowra Woodland Bird Surveys, 17-18 July, 16-17 October.
If you are interested contact Malcolm Fyfe on (02)4471-8757, malcolmfyfe85@gmail.com

22/23 June - Orchid Conservation Symposium. The program has a wide range of topics. It's online so accessible by subscribing. For more information on the project please head to their website.

10/11 August – Listening to the Lachlan Conference, Forbes. New dates for the conference have been set. Details here.

Snipe Surveys - September 18, November 20, January 15 (2022)
https://lathamssnipeproject.wordpress.com/

22-25 October - Great Southern BioBlitz.
Details in future from Orange City Council.

10, 11, 12 November – Central West Councils Environment and Waterways Alliance Conference.

Sightings around Orange
If you see anything interesting, please email orangefieldnats@gmail.com or post it on Facebook.

Orchids
Nigel saw some thin leaves near Mount Bulga Reserve that have been identified as 'almost certainly Thelymitra' or Sun Orchid leaves.

'Things with Wings'
Blue-billed Ducks – 25 seen at Spring Creek Reservoir on 18th May was a good winter gathering.

Hardheads, Pink-eared Ducks, and a **Black Swan** on a dam at the end of Springvale Lane in Millthorpe.

Plum-headed Finches – attracted to water on the eastern edge of Conimbla National Park.

Superb Parrots – some are overwintering in Orange with a flock of about 12 occasionally visiting a tree near Geoff Selwood's home.

Eastern Barn Owl – sadly, a dead owl at the traffic lights on the Northern Distributor.

Are Male Red-capped Robins disappearing?

Member Leanne Huxley asks this question and says *'Since October I have seen only 1 male Red-capped Robin during my birding, but he was attending to a female on a nest at Cocoparra NP. I've had a number of sightings of females since at different locations, but no males. Recently, at Willandra NP I had picked up a couple of females, so I played a call and all that it attracted was 3 females. I was expecting a stroppy male to show up. A friend up at Gilgandra spends a lot of time in the Pilliga forest - she is not finding them either and they should be abundant in that part of the world'.*

Do you have any ideas as an answer to Leanne's question? If so send them to orangefilednats@gmail.com and I'll pass it on to her.

Other Creatures
Banjo Frog or Eastern Pobblebonk, *Limnodynastes dummerilii* photographed by Michelle Holland on her driveway in Orange.

Rakali – spotted several times in Ploughman's Wetlands including 5 near the new observation deck at the northern end.

Unidentified Snake (as I apparently didn't get close enough for a good photo!) on the eastern walking path around Ploughman's Wetland on 30th May. It has been suggested that 'someone should tell it that it was the second last day of autumn and it's time to curl up for winter'.
So just be aware when out and about.

Eclipse of the Moon
May 26th was a cold and windy night with foggy clouds scudding across the moon, however the earth's shadow moving across the moon could be glimpsed occasionally.

Volcano in Iceland
In March, the Gledingadalir volcano, south of Fagradalsfjall in Iceland, erupted and the lava has been flowing ever since. It's not a violent eruption so webcams have been set up and you can watch its progress on Youtube or get commentary on RVK Newscast. There has been no eruption there for 800 years. Apparently, it has been caused by two tectonic plates 'unzipping' along the mid-ocean ridge allowing the lava to escape through vents. Makes me wonder if some of the lava flows from Mt Canobolas were like this?

<u>Creature of the Month</u>
Common Earthball, *Scleroderma citrinum.*
Text by Isobel Colson.

This Creature of the Month was found by NPWS Ranger Jack Fry, Beau Palmer, and others in the team just off the Nature Trail on Mount Canobolas, during the Autumn Fungi Foray. This was a fantastic day of learning about fungi and one of the first organised (licenced) collecting trips on the mountain.

Plenty of fascinating fungi specimens were found on the day, including some creepy insect-eating fungi, lots of little brown mushrooms, the fragrant edible purple mushroom called Wood Blewit and a variety of colourful bracket fungi. The specimen featured from the day has been chosen due to its striking appearance and its relative ease of identification.

Scleroderma citrinum is found in Australia, the UK, Europe, and North America and is associated with woodlands where it tends to occur along footpaths. It is a mycorrhizal species, meaning that it forms a symbiotic association with trees via their roots. In Australia, the species has been recorded throughout southern Australia including NSW, Victoria, Tasmania, southern Qld and WA.

Earthballs get their name from the appearance of their fruiting body, which is a round sometimes misshapen ball that emerges from soil or leaf litter, and which has a very short attachment to the soil (no real stem). Earthballs are also known for their tendency to break open to release their spores. This is in contrast to other gastropod species like puffballs (gastro = 'stomach' which is a reference to their closed fruiting body) that release spores through a singular opening at the top, e.g., the genera *Lycoperdon* and *Geastrum*.

Outer skin of an Earthball showing large irregular flakes. Photo Jenny Medd.

Scleroderma citrinum is characterised by its thick outer flesh which can range in colour from a slight tinge of lemon-yellow to a deep ochre. The outer skin forms large irregular flakes (see the photo taken by Jenny Medd for a great example of this), the inside flesh is white, and the spores are a deep purple-black when young but become brown as they mature. The Common Earthball is toxic when eaten (which is a shame because the spores resemble chocolate mousse!) and should be handled with care, as spores can cause conjunctivitis and hayfever-like symptoms in humans. Overall, a beautiful if less than friendly species!

A young Earthball that has been cut to show the deep purple-black spores. Photo Jack Fry.

Fungi Surveyors at Orange View and two of the species collected for identification. Photos H Berndt.

2021 membership is now due. Please pay by EFT or to Dick at a meeting. Details of fees are below.

Annual Subscriptions. To join please send your cheque or money order made out to "OFNCS" to the Hon. Treasurer, Dr Dick Medd, OFNCS, PO Box 369 Orange NSW 2800.
EFT payments to BSB 802 129: Account 100014678:
O F N & Cons Soc Inc.
Please be sure to identify payments with your name and send confirmation to orangefieldnats@gmail.com

Subscription rates:

Single member – $25	Concession rate (emailed newsletters) – $12.50
Each additional family member – $5	Concession rate (printed newsletters) – $25

Note: concession rate is for *bona fide* pensioners and students only

Orange Field Naturalist & Conservation Society acknowledges the traditional custodians of the land, including the people of the Wiradjuri Nation, and we pay our respects to Elders past, present and future.