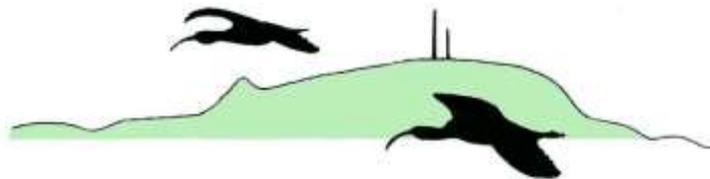


ORANGE FIELD NATURALIST AND CONSERVATION SOCIETY Inc



NEWSLETTER AUGUST 2019

NEXT MEETING

Thursday, 8th August, 7.30pm
SPEAKERS: Rosemary & Doug Stapleton
TOPIC: Namibia to Victoria Falls

Committee Meeting at 6.30pm

Senior Citizens and Pensioners Centre
(On opposite side of Woolworths carpark to Harris Farm)

All welcome

EXCURSION

Sunday, 11th August
Goobang National Park – Bumberry Section

Meet 9am Orange Bus Bay to organise car pooling
See details below

Next Meeting: Namibia to Victoria Falls – an amazing journey.
Speakers: Rosemary and Doug Stapleton.

Namibia? Where's that? We were sometimes asked when we told people we were going there in March 2018. The birds and animals of South Africa got under my skin in 2009 when I travelled there with Doug who was representing the Australian Mohair Industry. We usually self-drive but this time my target birds were in the desert and the Kalahari was a bit too remote and adventurous. We took a leap of faith and decided to try an organised birding tour.



Elephants in Etosha National Park.

Come share our adventure into the varied landscapes of Namibia - from deserts to the Etosha Pan and tropical rivers, the Okavango Panhandle of Botswana and the might of the 'smoke that thunders' at Victoria Falls.... And even a few waste water treatment works along the way... a must for all birders!

Next Excursion: Goobang National Park, Bumberry Section.

Dick Medd will lead the excursion to this southern section of Goobang National Park. He has organised with NPWS for us to be able to drive along the track. The area includes stands of Ironbark, other eucalypt species, Callitris and interesting shrubs, some of which will probably be flowering. There is also a patch of Spinifex, an unusual species this far east. Hopefully those with eagle eyes will spot some flowering orchids and a few birds.

As it is 35 kms from Manildra bring a snack and some lunch. Meet at the Orange High Bus Bay at 9am to organise car pooling.

Last Speaker: The Grey-headed Flying-fox Phenomenon, Nigel Hobden.

Report by Rosemary Stapleton, photos by Nigel Hobden.

Nigel certainly created lots of interest in Flying-foxes by telling us a little about the species in Australia and those that visit Orange. He went on to outline the results of monitoring and control measures used elsewhere.

There are seven species of Flying-fox in Australia, with the Grey-headed, the Little Red and occasionally the Black Flying-fox being the main ones in NSW.

The Grey-headed Flying-fox, *Pteropus poliocephalus*, is the species that most often comes to Orange, with 2-5,000 visiting from January to March this year. This species is found mainly in South-eastern Queensland and along the coast but as we know sometimes

comes west in summer. It was once listed in Government statues as an agricultural pest species but is now listed as vulnerable in NSW and nationally. They are estimated to have declined by 30% in the decade to 1999, in part because of coastal land clearing. The smaller Little Red Flying-fox, *Pteropus scapulatus*, also comes to Orange.



Hang time for a Grey-headed Flying-fox.

The diet of the flying-foxes is usually pollen and nectar from eucalypts, melaleucas and banksias. They follow flowering events and because of the unreliability of nectar and flowering will raid orchards. Rather than using echolocation like microbats, flying-foxes use their excellent night vision and sense of smell to find their food sources. They need to drink water daily and will travel up to 25 kilometres a night to feed.

Nigel outlined their breeding biology and that for 15 days following birth the pups can't thermoregulate so are carried out to the feeding area by their mothers. Later they are left in creches until they learn to fly. He suggested the smell at a colony tends to be from males

marking their territory rather than their droppings.

In Orange the first arrival Nigel documented was in December 2010. They came again in 2012 and every year since 2016. At the end of his talk Nigel was interested that several locals said that flying-foxes had been visiting Orange for at least the last 50 years.

Recently there have been 2 main camp sites; in Ploughman's Lane with a mixture of Little Reds and Grey-headed Flying-foxes and Grey-headed ones in Cook Park. The community issues are smell, noise (including at 4am!), damage to orchards and trees, disease and bat droppings, including on cars and seating in Cook Park. While the deciduous trees in the park appear to recover, of more concern are the conifers such as the Podocarpus.



Little Red Flying-fox colony.

Nigel showed some amazing time lapse images of male Grey-headed Flying-foxes that were tracked over an average of 25 weeks. They were from studies by Billie Roberts and Peggy Eby who looked at dispersal methods and the success or otherwise of control measures. One animal moved more than 1,100 kilometres in the study period, and another moved 500 kilometres in 48 hours. Others were fairly stationery although they moved through a range of roost sites in the one area.

The vulnerable status of the GHFF prevents any dispersal attempts during the mating and breeding season so control can only be attempted between May and July when they are not in Orange!

So, what are the options for Orange? Efforts in other places have shown culling and dispersal have limited success, especially as the flying-foxes don't move far and there is no way to

predict where new camps will be set up or if the flying-foxes will return and re-establish camps. For orchards the best option is crop protection with full exclusion netting. Nigel presented figures that showed that the financial and human resource costs were very high in the few cases where relocation has been successful. However as in the Sydney Botanic Gardens the flying-foxes have returned.

Nigel has joined a 'Flying-fox Land Managers Forum' to network, share information and link with research studies. He plans to do another tree assessment in Cook Park and develop a plan of successional planting. Council has allocated \$5,000 to use for signage and educational purposes, including a bat night. Many present were happy to help as they felt that maybe the only option was to mitigate the impact of the flying-foxes and learn to live with them.

Nigel is keen to build a picture of their previous visits. If you know of roost sites and where they fed in the years before 2010 please contact him at nhobden@orange.nsw.gov.au

Last excursion: Age of Fishes Museum, Canowindra.

Report by Peter Toedter, with a few additions and photos by Rosemary and Doug Stapleton.

A pleasant half day was spent at the Age of Fishes Museum by four members of the OFNCS on Sunday the 14th June. The display does Canowindra and the people behind the formation and running of the museum proud. The fish fossil site is of global importance geologically and of profound significance to humankind as here is the unfolding of an event on a particular day some 370 million years ago.

What I find fascinating is the process of how the fossils came to be in the museum at all. In 1955 a council grader driver, Charlie Stephens, doing his regular job of widening a gravel road snagged onto a slab of rock. The fish fossils (casts) were on the underside of the slab and weren't obvious but it caught his attention enough for him to put it aside instead of turning it into road fill as would have been the normal procedure. By a series of events the slab ended up as a display at the Australian Museum in Sydney. No more had been done to investigate the site.

In 1968 Dr. Alex Ritchie took up the position of Curator of Palaeontology at the museum; his

main interest was in fish of the Devonian Era, especially some of the types which are represented at Canowindra. When he saw the slab of rock with the fish fossils which was being cleaned for a new display in 1982, he could hardly believe his eyes. Through many enquiries he traced the slab of fossils back to Canowindra; no-one at the Australian Museum could remember the precise details. With the help of Canowindra locals, he found his fish fossil nirvana.



Guide Colin sharing the story of the original slab that is behind him.

The Cabonne Shire President at the time was Max Stapleton and the council donated excavator time to expose the fossil site in 1993. The dig gave up more unique and numerous fossils, many of which were new to science. Our small group was fortunate in that it included Doug and Rosemary Stapleton who were at the dig and told us their daughter helped clean the fossils on-site with a group from Canowindra High School. Other digs occurred in 1994 and 1995. Study of the fossils has revealed eight species of Devonian fish, only one specimen of which is *Canowindra grossi* and surprisingly, it is right in the middle of the original slab.

Volunteer guide Colin explained that palaeontologists have concluded that the fish were washed into a pond by a billabong and within 72 hours were covered in silt and gravel from another flood surge that preserved them. This resulted in a mass grave of thousands of fish being packed tightly together and ensured the many of the fossils were complete and in excellent condition. Some were bottom feeders, and several were predators.

After the visit to the museum we had a nice cup of coffee and then had a look at the fossil location, a National Heritage Site, on the Gooloogong Road, now renamed Fish Fossil

Drive. The excavation has been carefully backfilled and there are no fossil outcrops but there are many more fossils at depth awaiting further development.

Scientifically interesting features associated with the Canowindra fish fossils can be found on the internet. Two of particular interest are:

- One of the fish, *Mandageria fairfaxi*, represents the transition from fish to the ancestor of all land vertebrates, which include us. Our guide Colin explained that it was a large, air-breathing lobe finned fish that grew to 1.7 metres long with powerful jaws and many large fangs. It was the largest fish and top predator and you can see a slab where one has a smaller fish in its jaws. In 2015 this fossil was accepted as the NSW State Fossil Emblem. It's been named Fred to honour Fred Fewings the dozer driver who unearthed the fossil slab in 1993.
- The fossils confirm the theory of global tectonics, previously known as continental drift. The Canowindra fish are freshwater species, yet they are found in widely spaced locations around the world which are now separated by the saltwater of oceans.



Nick, Rosemary and Peter at the fossil site on a cold and breezy morning.

On our return to Orange Nick commented, ‘the museum was incredibly interesting and brought home to me the massive scientific importance of it. The potential of the place is vastly underrated and there needs to be a lot more resources put into it. I wish them all the best in their efforts in seeking world heritage status and extra funding to fully develop its potential.’

The museum now displays the slabs on stands along with casts of them allowing visitors to see the true form of the fossils. There are models of

the fish, other fossils, videos of the original dig, documentary segments and activities for children and school groups. It is well worth a visit.

Editor’s Update: At the museum we noticed a very large new shed beside the museum and were told it was to house the 100 slabs of fossils that have been stored under the show grandstand since 1993. It is happening this week and ABC Radio ran a story on the move on 30th July. The fascinating news is that in the process all the slabs will be digitally scanned and photographed allowing the images to be more easily used for research across the world. This will also allow the images to be put together like jigsaw pieces and an overall ‘view’ of the fossil bed created.

Committee News: no committee meeting in July.

Mt Canobolas Update: The value of opportunistic records.

Report by Dick Medd, photos by Rosemary Stapleton.

Opportunistic records are sightings of species made incidentally outside of formal survey operations.

Following the wildfire in February 2018 that burnt around 70% of the Mt Canobolas State Conservation Area, considerable interest and input has gone into monitoring flora and fauna recovery. The recovery process and species responses to fire on the mountain has hitherto been little studied, but over the past year or so systematic flora and fauna surveys have been undertaken by NPWS with the help of citizen volunteers. It is intended to continue these surveys to build a knowledge of the successional changes during the recovery process.

As with any survey, only a portion of the area can be sampled. So, whilst the surveys are designed to capture stratified and replicated information across main vegetation types and fire intensities, and professionally collected data will always be a preferred data source, opportunistic or incidental observations can fill in gaps. Vagile species move throughout the landscape so new species can turn up incidentally. Others may be confined to small niche habitats remote from formal survey sites or are rare or uncommon.

Opportunistic sightings data have their flaws however, including the lack of data on species absences, unequal sampling effort and the reliability of identification accuracy. Yet these data may still provide valuable information on the distribution of species and complement the data from formal surveys.

Such has been the case in the Mt Canobolas SCA. Previously, only the flora had been surveyed systematically, once, although there have been forays by scientists from various institutions looking at lichens, insects and bryophytes for example, and some students involved in training surveys. The knowledge of amphibians, molluscs, reptiles, birds and other mammals, for instance, has mostly been compiled from opportunistic observations.



Cunningham's Skink Egernia cunninghami, at Orange View.

Over the past 18 months since the fire, some 70 additional species records have been added to the known biota for the SCA through opportunistic observations associated with the post fire monitoring efforts. This brings the total known biota to almost 1,000 species. These additional records include six bird species, a frog, four reptiles, five fungi, three insects and four other invertebrates (including a yabby and a second planarian worm species) and 44 vascular plants. One or two additional observations may in fact be new to science.

It just goes to show what can be found with looking and sharing observations. No doubt Mt Canobolas SCA has yet to fully reveal all its secrets, so keep your eyes peeled.

The Cunningham's Skink and cockroach pictured are two of the additional species that had not been recorded before.



Cockroach Laxta granicollis on Towac Road.

Orange Nature Kids.

By Nick King.

Increasing urbanisation of modern society and the alternatives it offers can disconnect us from the natural world. This can have adverse effects on our health and well-being. There is a danger that our children can become overly immersed in the attractions of technology, causing them to miss out on a world of experiences and adventure offered by interaction with nature.

Orange Nature Kids is a not for profit organisation that seeks to assist parents and children to meet the need to connect with the natural world. This is accomplished through a two-day school holiday program, which aims to immerse children in the natural world as well as providing a sense of connection, reverence and appreciation for our natural environment and the necessity for its protection and nurture.

The venues chosen for the July holiday's Orange Nature Kids Program were Borenore Caves and Lake Canobolas, sites that provide opportunities for a wide range of outdoor environmental experiences. A feature of the day at Borenore Caves was a performance by Galumaay and Riverspirit indigenous dance groups who, through traditional stories, dance and song strikingly conveyed the cultural significance of the Borenore caves and the connection Australia's first people have with the land, and how we depend on Mother Nature for all of our needs, and in turn how important it is to take care of Mother Earth. This was reinforced by the children being given a chance to sample traditional bush tucker. Exploration of the caves and information of their cultural significance to the local Aboriginal people was another highlight of the day.

The Lake Canobolas program provided for activities which encouraged the children to explore and to interact creatively with their environment through building structures and creating art works from natural found materials. They were also given the opportunity to give to “Mother Earth” through planting some native grasses, and being encouraged to participate in National Tree Day, which will be held this year at Lake Canobolas. Time was also time set aside for free play and independent exploration. The children enjoyed the cooking and eating of damper on both days.

Kate Willoughby, Orange Nature Kids co-ordinator is confident that the children who participated came away with a greater sense of connectedness with the natural world, will value the experience and will communicate this sense of connectedness with nature to others.

Editor’s Note: Nick contributed this Earth First article as he thought OFNCS members may be interested in supporting Orange Nature Kids.

Tour of the DPI’s Biosecurity Collections, 29th June 2019.

Report by Jenny Medd, photo R Stapleton.

A few members of OFNCS were able to take advantage of an opportunity to see behind the scenes at DPI’s Biosecurity Collections as a concluding activity to Orange Regional Museum’s recent exhibition on “The Art of Scientific Illustration”. Organised by Friends of the Museum, the tour was hosted by Dr. Jordan Bailey, Leader Plant Pathology Curation at DPI’s Orange Agricultural Institute.



Visitors to the DPI Biosecurity Collection.

After an introduction in the foyer with static displays covering much of the Units work, the group was able to spend time checking out the Entomology collection (more than 450,000 specimens), with a couple of fascinating specimens set out under microscopes, followed

by the Mycology and Pathology Herbarium (more than 120,000 dried specimens and more than 6,000 “living cultures” held in dormancy) where Jordan had also organized additional displays. Most notable were some of the original artwork from early Agricultural Gazettes and one special illustration done by our own Dr Murray Fletcher whose talent in stippling has been particularly appreciated by his colleagues.

Jordan was keen to have us see some of the scientific “kit” that enhances their work today and helps create the stunning images they now produce -- a Light box with camera for hard to capture subjects, along with a scanning electron microscope that enables the most detailed, microscopic images imaginable. Jordan shared an absolute wealth of information, both historical, scientific and of public importance.

Check out the website: www.dpi.nsw.gov.au/biosecurity-collections ; and for those who like merchandise with a difference: <https://www.redbubble.com/people/BiosecurityColl>

Dates for your Diary

Latham’s Snipe Counts are on 21 September, 16 November and 18 January. Visit local wetlands and report any sightings.

7-9th November 2019 – the annual Linnean Society of NSW Natural History Field Symposium in Katoomba. The theme is ‘The Natural History of the Blue Mountains - Geology, Flora, Fauna and Human Impacts.’ Go to [Linnean Society of NSW](http://www.linnean.org.au)

Sightings around Orange

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

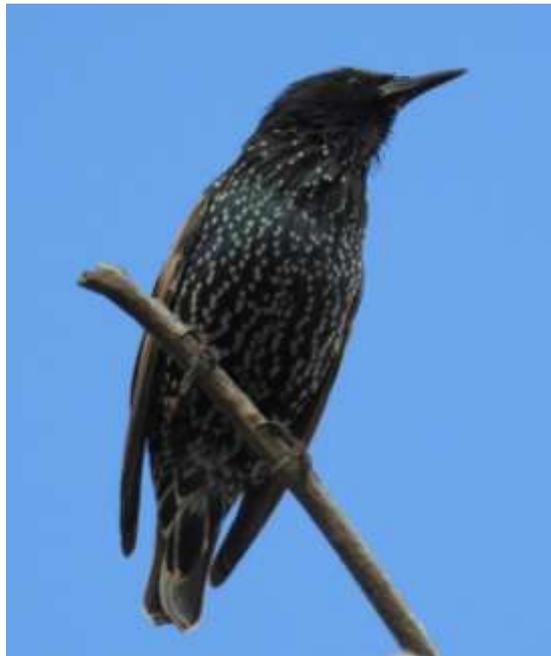
Black-fronted Dotterels – about 30 standing stock still in a drainage area below the huge dam at the dairy near Canowindra.

Spring Creek Reservoir – despite the very low water level all the regular species were present during the quarterly bird survey conducted by Cilla. The male Musk Ducks were ‘strutting their stuff’ in courtship display. Cilla said it was wonderful to watch and was as if they were saying ‘What a big, big clever duck I am!’

Swift Parrots – it is exciting to see 2 records on [Erenea Birdlines](#) of Swift Parrots west of the mountains. One was to the south east of Cowra on 13th July and the other at Burrendong Arboretum on the 21st July, both in flowering *Eucalyptus albens*. These trees were flowering on the Cargo Road when we went to Canowindra for the last excursion so there may be more Swifties around.

Creature of the Month

Common Starling *Sturnus vulgaris*.



Common Starling in autumn plumage.

Sometimes we don't take much interest in species we often see, especially when they are an introduced species. When hanging out the washing in our suburban backyard my eyes and ears were opened to the skill and beauty of the

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Common Starling. I was delighted to hear Red-rumped Parrots and Yellow-rumped Thornbills but when I looked for them the calls were coming from a Starling. It turns out Starlings are great mimics and since then I've heard them make the calls of at least 5 other species. Take a close look at Starlings during the year to see how their plumage changes.

Pizzey and Knight's Birds of Australia describes them well:

Note the longish fine, pointed bill and short tail; plumage blackish, glossed bronze-green and purple. In autumn, feathers tipped buffish, underparts tipped white, giving finely spotted appearance. By spring, tips worn, birds appear glossy black. Bill pale yellow in summer (base blue-black in male, pinkish in female); bill blackish in winter, legs red-brown. Singles to large flocks. Runs about jerkily with quick jabs of open bill into soil in sewing machine action. Flight swift; flocks rise and fall.

Sings with slowly flapping wings; wheezes, clicks, rattles; loud descending whistle; mimics; harsh descending 'tcheer'; sharp 'dick!'

It is a native of Europe and established through deliberate release in about the 1860s and is now found throughout south eastern Australia and Tasmania. It is expanding slowly north and west with annual intrusions into Western Australia. A 2017 bird guide states it has self-established on Macquarie Island.

I guess one good thing about Common Starlings is that they are frequently caught by the Peregrines and fed to the chicks in the water tower at CSU!

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