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Turquoise Parrot - photo by Chris Tzaros

Out of the Blue – the Resurgence of the Turquoise Parrot

Peter Turner

The Turquoise Parrot is a spectacular small parrot ranging from Central Victoria to Southern Queensland along wooded slopes on both sides of the Great Dividing Range. Ecologist and renowned bird photographer Chris Tzaros enthralled a large audience of members and visitors at our May meeting with the inspiring story of the recovery of the Turquoise Parrot from near extinction. It is a fascinating example of the way changes in the natural habitat over time threaten native species but further changes can also support their survival.

Widespread along its range, in large numbers, during the mid-1800s, Turquoise Parrot populations had disappeared from many locations by early 1900s, and by 1920s was almost extinct, being compared to the Night Parrot and the extinct Paradise Parrot. The rapid increase in grazing, clearance of woodlands for agriculture, rabbit plagues, and the 1895-1902 Federation drought are all considered causative, along with fox and cat predation and loss of suitable tree hollows for breeding. The birds were also shot and trapped. Then in the 1930s, Turquoise Parrot numbers started to increase along inland slopes of the Divide in Southern Queensland and NSW. By the early 1950s they were reappearing in NE Victoria, and in 1966 Len Robinson photographed birds nesting in hollow stumps on the Colson's property at Taminick Gap in the Warby Ranges – where Ray and Graham Colson had observed the parrots for a decade or more.

So how did the Turquoise Parrot come back from the brink – without direct human intervention? They feed almost exclusively on the ground, on seeds of native grasses, herbs and small shrubs. Rabbit numbers have been greatly reduced, grazing has been removed from woodlands, reserves and National Parks developed, former cattle dams provide water, and the typically metre high stumps of trees felled decades before provided suitable hollows for breeding. In addition, the birds adapted their diets to include the seeds of weeds (e.g. Heliotrope) found along woodland edges and clearings – the parrots favourite feeding areas. But threats remain, including foxes and cats, as well as natural predators such as snakes, raptors and Antechinus, and the number of stumps from felled timber is reducing as they rot away.

In 2012/13, Chris Tzaros was concerned to develop a program to develop a thriving population of Turquoise Parrots in the Warby Ranges and Chesney Vale hills in the Goulburn-Broken catchment. With the Broken Boosey Conservation Management Network and the Goulburn Broken CMA, he initiated the "Practical Parrot Action Project" as a community conservation project. A key aim was to involve those private landholders whose properties adjoining parks and reserves include the "ecotone" zones (where shrubby forested habitat meets more open grassy woodland or lightly timbered pastures) preferred by the parrots. Farmers and community members are involved with a major contribution to breeding success – the design and construction, and installation of nest boxes similar to the metre-high tree and stump hollows used by the parrots. Hollow tree logs collected for firewood are salvaged, closed at one end and attached to a suitable tree or post. Long boxes are made from pine. Over 350 nest boxes have been installed over 50 sites.

An essential component of the project is the monitoring of the parrot populations through regular surveys. From this data, Chris has established key factors about the parrots' lives:

- they move around annually, following food and water sources;
- breeding occurs in more wooded sites, preferring granitic hilly woodlands with Blakelys Red Gum, red Stringybark and Red Box;
- then they move in open areas near ecotones with sparse ground cover and short grasses;
- highest numbers, non-breeding flocks, are seen in Autumn; in Spring females are nesting while males forage for food and water to feed their mates; the parrots are harder to find in Winter;
- nest sites are usually 100 - 650 m. from water (essential for the male to soften seed in his crops to regurgitate for the female); nests are >55m apart in dead stumps about 1.5 m above ground, with a narrow entry 250-1200mm diameter.

These results have been used in the design and distribution of nest boxes, and in promoting habitat restoration and protection on private land. Parts of ecotone zones have been fenced to avoid overgrazing, selective grazing has been used to maintain suitable conditions, and promote regeneration of natural vegetation.

Photo: Chris Tzaros
Birds, Bush and Beyond

The project is a great example of the benefits of raising community awareness, through concern for iconic and stunningly beautiful species such as the Turquoise Parrot. The involvement of and enthusiastic support from private landholders, whose properties can form important buffers for national and state parks and reserves, is critical, along with other local community support groups. The story of the near extinction of the Turquoise Parrot following European settlement of Australia and its recovery as our uses of the land changed is fascinating – but only through detailed studies and community commitment to optimise their habitat will the longterm future of these gorgeous birds be ensured. Chris and the Warby Ranges community deserve congratulations and thanks.

References:

https://www.gbcma.vic.gov.au/news_events/turquoise-parrot-project-packs-a-punch-in-taminick.html and related items on gbcma website.

Tzaros, C & Mentiplay-Smith, J. (2016) Turquoise Country – Communities caring for the threatened Turquoise Parrot. Goulburn Broken CMA

Excursion to Muckleford Forest

Peter Turner

On our May Field Trip, on a cool cloudy afternoon, nine of us started near the junction of the Mia Mia and Spring Hill Tracks. We were hoping to find Swift Parrots, but only a few of the eucalypts were flowering – no parrots! But we saw Yellow-tufted, White-naped and White-plumed Honeyeaters, Brown and White-throated Treecreepers, Dusky Woodswallow, Superb Fairy Wrens, Weebills, a Scarlet Robin, Red Wattlebird and Magpies. The bush was looking fresher after the recent rain, with lichens and green mosses standing out. Twining Fringe Lily, emerging Chocolate Lily and Saloop (*Einadia hostata)* were identified.

Moving on, the dam on South German Track seemed to be a haven for Red Wattlebirds and a Pied Currawong, but nothing else. So on to Bells Lane Track, passing 3 large (15+) flocks of White-winged Chough, to the Red White & Blue Mine with picnic tables for a welcome warming afternoon tea. Heading home, another flock of Choughs was seen, and some Black Duck and Little Black Cormorants on the farm dam at the junction of Bells Lane Track and Muckleford School Rd.

Editorial

The cold wet weather has arrived with some sorely needed rain. My gauge recorded about 120mm for May in Wesley Hill. So its time to think Fungi...! Our speaker for June, Alison Pouliot, is a well known expert on the subject, and we have Gayle Osborne to take us to fungi in the Wombat Forest on Saturday. To get us up to speed, Geraldine has written a fungi intro from her own resources.

Thanks to all who contributed to the newsletter

The deadline for articles for the July edition of Castlemaine Naturalist is before Saturday 29th June

Correction: The article about garden skinks on p7 last month was wrongly attributed to Peter Turner. The author was in fact Euan Moore. My humble apologies to Euan.

About Fungi

Geraldine Harris

At last we have had some rain! And within days the paddocks are turning green and fungi are appearing. Each year I photograph fungi and end up surrounded by field guides and unable to make many positive identifications. This year, to increase my identification skills, I am going back to basics……

Habitat: Each species of fungi has its own set of favourable environmental conditions mainly related to moisture and soil temperature. So while fungi are found in all terrestrial habitats, they are most prolific in moist gullies of tall forests and in rainforests.

Fungal Reproduction: A major part of an individual fungus consists mainly of invisible microscopic threads, called ***hyphae***, which weave their way through a substrate of soil, wood, or other dead or living organisms. A mass of hyphae is called ***mycelium***. Mycelium converts matter to nutrition and when conditions are favourable this mycelium sends up a fruiting body or temporary reproductive organ that is often mistakenly regarded as the whole fungus. The **fruit-bodies** of fungi species come in a bewildering range of shapes, sizes, textures and colours and the main function of these fruit-bodies is to produce spores for reproduction.

Fungi are a large group of living organisms that do not depend on light as an energy source — they do not photosynthesise.

Fungi obtain their energy by various methods:

Saprotrophic fungi — from dead and dying organic material such as wood, dung, bones. These play a vital role in reducing accumulated waste materials and recycling essential nutrients, particularly carbon and nitrogen.

Parasitic fungi — from living organisms with no benefit to the host - eg Honey Fungus (sap from living trees), Dark vegetable Caterpillar (underground larvae of moths), Tangles Lignum Rust (the Tangled Lignum shrub).

Symbiotic Fungi - from an association with living organisms, which is of benefit to both. The hyphae of the fungi forms a relationship with rootlets of trees and other plants (mycorrhizal association) and in turn for having its energy needs met it increases the capacity of the host plant to take up water, nutrients and trace elements.

This association is vital to the health of Australian native forests and plants growing in our country's old and impoverished soils.

In turn, fungi provides food and habitat for many groups of invertebrates, including beetles, beetle larvae, springtails, fly larvae, slugs and snails, and vertebrates such as kangaroos, wallabies, wombats, bandicoots and possums. Truffle-like fungi make up the major part of the diet of potoroos and bettongs.

Identifying fungi

Using the fruit-body forms, position and their type of spore bearing tissue, fungi can be divided into groups. Listed below are some major varieties of fruit-body forms –

Spores in a layer restricted to the undersurface

1 **AGARICS** have gills and are usually fleshy.
2 **BOLETES** are fleshy and have tubes opening by pores.
3 **POLYPORES** are tough and have tubes opening by pores
4 **TOOTH FUNGI** have downward pointing teeth or spines.
5 **LEATHERS** are leathery with a smooth or slightly wrinkled spore-bearing surface.

Spores on outer surface

6 **CORALS** are fleshy with spores on the entire surface of the club or coral-like fruit-body.
7 **JELLIES** have a gelatinous texture and various shapes with spores on the outer surface or on spines under a shelf-like cap and are often yellow, orange or white.

Spores formed in a spore mass that is initially closed

8 **EARTHSTARS** spores are released when the outer layer is split into rays.
9 **STALKED PUFFBALLS** have a distinct stalk supporting the head which contains the spore mass.

Two major groups with a unique appearance

10 **BEECH ORANGES** round orange fruit bodies with large pits.
11 **MORELS** are honeycomb-like head on a stem.

Other groups

12 **CUPS** with spores formed on the inside surface of a shallow to deep cup.
13 **DISCS** are disc-like with flat upper surface where spores form.
14 **CLUBS** and
15 **PINS** with spores formed on the outside surface of the upper part of the fruit-body.

Ref:

Grey, P & E. 2009, *Fungi Down Under – a Fungimap guide to Australian Fungi,* Fungimap Inc c/o Royal Botanic Gardens, Melbourne.
Clusker & Wallace, J & R. 2018, *Fungi of the Bendigo Region*, Bart 'n' Print, Bendigo.

The Following photographs show representatives of the 15 categories above

1 Agaric - Saffron Milk Caps (*Lactarius deliciosus*)

2 Bolete - Beefsteak Bolete (*Fistulina hepatica*)

3 Polypore - Fringed Polypore (*Lentinus arcularius*)

4 Tooth Fungi - *Antrodiella* sp.

5 Leather - Turkey Tails (*Trametes versicolor*)

6 Coral Fungi - Cauliflower Coral (*Ramaria capitata var ochraceosalmonicolor*)

7 Jelly - White Brain (*Tremella fuciformis*)

8 Earthstar - Collared Earthstar (*Geastrum triplex*)

9 Storked Puffball - Mallee Drumstick (*Battarrea stevenii*)

10 Beech Oranges - Myrtle Beech Orange (*Cyttaria gunnii*)

11 Morel - Black Morel (*Morchella australiana*)

12 Cups - Brown Forest Cup Fungi (*Plectania campylospora*)

13 Discs - Dung Buttons (*Peronia erici*)

14 Clubs - Vegetable Caterpillars (*Cordyceps* sp.)

15 Pins - Candle Snuff Fungi (*Xylaria hypoxylon*)

All photographs are by Geraldine Harris

Roadside Cleanup

was held on Monday 13 May. Pleasant weather and a good turn-up made for a quick & easy job - we were finished before 10:30 and collected about 600 litres of rubbish (20 half-filled 55 litre bin bags). Thanks to Jan, Sylvia, Peter, Jennifer, Euan, Geraldine, Sue, Anne & Jeremy. - Geoff Harris.

Wildlife Observations June '19 (1940)

George Broadway

It was noted sadly that the price of the magazine "Wildlife" had been raised to one shilling. On the other hand the size of the magazine had been increased.

As we noted last month the Autumn of 1940 must have been a good period for insects – there were so many queries that it was not possible to include them all. In 2019 on the other hand observers have commented on the dearth of insects, which raises concern about the fate of insect-eating birds. Anyway here is a list of some of the queries of June 1940.

Birds

Melbourne: A bustard quail, distinguished by having no hind toe. This one is the Yellow or Red-chested Quail, *Turnix pyrrhothorax.*

Hampton: The bird which took the gum moth caterpillar so readily is the Grey Butcher-bird or "Derwent Jack". As well as being one of our most melodious songsters he is a great enemy of lots of insect pests. His only black mark is his taste for baby birds.

Caulfield: A Kiwi at Koondrook ? An unusual sight for Victorian naturalists. Without further description I cannot guess what the bird you saw might have been, but you can be sure it was not a Kiwi.

Insects

Williamstown: The specimen from the pussy willow tree was a case-moth caterpillar, already described previously. See Oct '16

Swan Hill: Caterpillar of the Snout Moth or Drinker Moth, also described previously. See Dec '16

Carrum: Leopard Moth, cocoon and eggs on coastal tea-tree. (*Leptospermum)* June '16

Harrow: Large Tachinid fly, a parasite on harmful caterpillars and therefore useful. Not dangerous but can sting.

Thornbury: Very young casemoth, hiding under the beginnings of its silken bag home covered with fragments of leaf.

E.Malvern: Painted Crane Fly, one of the largest and most beautiful of the Crane-flies.

W.Heidelberg: "Old Lady Moth" sometimes called "Peacock Moth" because of the peacock "eyes" on the forewings as distinct from the Gum Emperor Moth which has "Eyes" on all four wings. The larvae feed on grass.

Northcote: Beetle larva, sometimes called a wireworm. Feeds in the ground on roots of grasses etc. The adult is one of those slender black beetles which lie on their backs, spring into the air with a sharp click and are gone.

Bacchus Marsh: Yellow-green Eucalyptus Hopper, *Siphanta acuta*. Has a beak and sucks sap of gum trees and other plants. Never in such numbers to be a pest.

Ormond: The beetle was one of the Longicorns but does not appear to be Australian. It seems that the beetle larva was in the timber from which the stick was made and emerged to find yards of Japanese silk rolled around it, whereupon it set to work to eat its way out. It is not normally a textile-eating pest. This is another example of commerce facilitating the spread of a pest from one country to another.

S. Melbourne: A gum tree boring weevil sometimes called an Elephant Beetle

because of the long "trunk" at one end. It is interesting to watch one walking, the action is like a mechanical toy.

Surrey Hills: Pine Swift Moth, a large night-flyer. Sometimes the caterpillars do great damage to pine plantations.

Tiega: Silver-striped Hawk Moth, one of a group noted for their swift flight.

Warracknabeal: Large Phasma or Stick Insect. The body mimics a collection of sticks and leaves. Remains motionless while under observation to enhance the deception.

Millicent S.A.: Wingless Wattle Moth, with eggs. The females have poorly developed wings and cannot fly. They feed on wattle leaves, in this case Golden Wattle and spin a very flimsy cocoon.

Barwon Heads: Fawny-grey Hawk Moth. Has been plentiful lately until the cold weather has killed most of them. The caterpillars feed on wild convolvulus, a weed in many places.

E. Brighton: Field Crickets, the kind that chirps softly instead of the noisy clamour of the Mole Crickets. Generally a vegetarian but under adverse circumstances is not above eating meat and even resorting to cannibalism.

Swan Hill: Pupa cases of the Dragon-fly. The young fly possesses frightening jaws and is the terror of tadpoles. The pupa or "Mudeye" crawls up the stem of a plant growing in water and having shed the pupa case never enters the water again.

Natimuk: Carpet Beetles, a terror for woollen carpets, the Silverfish does not touch woollens. (*If that is so, what made the holes in my woollen jumpers ?)*

Castlemaine: A letter from Mr Frank Robbins, a one-time teacher at Castlemaine High School and later at Bendigo. He did a lot of work on local natural history and while in Bendigo he compiled a minutely detailed map of the Whipstick which appeared in instalments in several issues of "The Bendigo Naturalist" in the late 60's. I remember the old jalopy which he used for excursions into the bush. Apparently he requested a recipe for silverfish, which was:-

One ounce of Barium fluosilicate
One (generous) ounce of flour
One (skimpy) ounce of sugar. Mixed with a cup of water to produce a paste.

Templestowe: Gordius worm or "Horse-hair worm" The larvae are parasitic on water-beetles. Frequently found in fresh water and occasionally in domestic water supply. Not to worry however, they are harmless.

Various: Other specimens received included:- Elephant beetle; larvae of Cabbage White Butterfly, (still a novelty in 1940). Earwig; Long-horned Grasshopper; A moth with silvery satin wings *Thalaina clara.* Has no common name, but White Satin Moth would be appropriate. (Is now known as "Clara's Satin Moth; the caterpillars have been found on Black & Silver Wattle). Beetle larvae, and looper caterpillars, impossible to identify until they become adult.


Thalaina clara

Little beetles striped with various shades of green are leaf-eaters of the family *Chrysomelidae* most of which do considerable damage in forest and garden. Bird-dropping or Orchard spider (previously described), Also "Johnny Hairylegs"

or Scutigera or House centipede Jan 17, An Ichneumon fly, really a wasp, Oct '16

Fungus
Malvern: The fungus with rose-red "claws" is *Aseroe rubra,* one of the Stinkhorn group of fungi. Instead of disseminating dry spores it gradually melts into a foul-smelling fluid mass which attracts flies and they distribute the spores which abound in the fluid mass. Nov '16

Stinkhorn – photo Bruce Fuhrer

Castlemaine Botanical Gardens - planning for the future

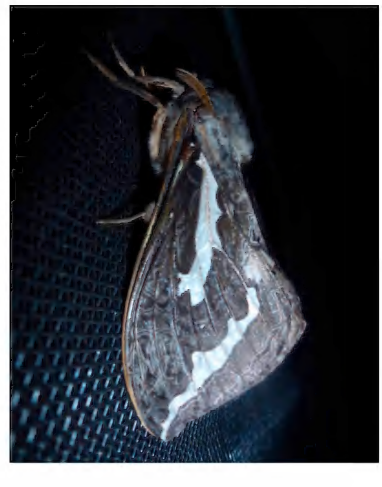
Mt Alexander Shire Council has released a draft Conservation Management Plan to guide management of the CBG over future years. The plan can be viewed at the Castlemaine Library, and online at
http://www.mountalexander.vic.gov.au/HaveYourSay.

It was developed by John Patrick Landscape Architects with input from heritage experts, and makes interesting and encouraging reading. The Club has been involved with the Gardens in several ways, so members are encouraged to examine the CMP and consider making a submission – due by Friday 21st June.

In addition, the Council has commissioned ecologist Karl Just to develop a 10-year management plan for the CBG Flora & Fauna Reserve - the "wild" part of the gardens, west of Barkers Creek, with specific reference to the conservation of the Eltham Copper Butterfly. We have been invited to attend an initial consultation with Karl at the end of June, so your Committee welcomes input from members about the future of this precious remnant of woodland. Please contact George Broadway or Peter Turner for details, or email your thoughts on any or all of the following questions to http://castlemainefnc@hotmail.com:

1. Have you been involved in the Club's past work in the reserve?
2. Do you have a vision for how the reserve should look in 10 years?
3. What are the main issues that need to be addressed in a management plan?
4. Do you have suggestions for management and monitoring of the site?
5. Are you interested in assisting any future monitoring work, such as weed control, planting and monitoring of the Eltham Copper Butterfly population?

May Observations - Geraldine Harris



1/5/19 **Labyrinthine Ghost Moths** *(Abantiades labyrinthicus*) of the Hepialidae family, attracted to the light after dark, attracted my attention banging on the window. Look closely at the beautiful markings on the wing of this species. Later on the same night we had 34mm rain. I wondered is there a connection? I found my answer on the Australian Museum website -

"These moths fly in late summer and Autumn into early winter. They sometimes emerge on mass after rains. They often come to domestic lights. The earliest adults appear in January, but they are most common in March and usually disappear by April. The males come to lights more readily than the females, and are more uniform in size."

Our June guest speaker will be Alison Pouliot

Jelly Ear & Devil's Tooth – A Foray in Fungal Realms

Throughout history, fungi have confounded with their strange appearances, peculiar habitats and dubious connotations. Across continents and languages, humans are sharply divided in their regard for fungi, with some cultures revering them and others subjecting them to the wrath of a reckless kick across the paddock.

Yet without fungi, life as we know it would be radically different. Fungi regulate the biosphere and support the earth's ecological functioning. They provide us with food, wine and medicine. However, in the English-speaking world, the exceptionally few mushrooms with the capacity to dismantle human organs have received disproportionate attention. Centuries of mythologies and misunderstanding take time to unravel and redress.

Alison will take us deep into the fungal kingdom, showcasing the aesthetics of these perplexing yet enchanting organisms, and explore some of their natural and cultural curiosities.

About Alison:

Alison has worked as a scientific photographer and ecologist for almost three decades. She has presented over 350 workshops and seminars on environmental and conservation themes in Australia and internationally – more details at alisonpouliot.com

Signed copies of Alison's recent book *The Allure of Fungi* will be available at a discounted price. Photo above by Alison: *Amillaria hinulia*

Disclaimer: The opinions expressed in this newsletter are those of the contributors and not necessarily those of the club

Castlemaine Field Naturalists
Coming events

Fri June 14 Meeting: speaker ALISON POULIOT on Fungi

Sat June 15 field trip: Fungi in the Wombat Forest with Gayle Osborne
(check club website for earlier starting time)

Fri July 12 Meeting: speaker PATRICK KAVANAGH on the insect world

Fri August 9 Meeting: speaker PAUL BATES (DELWP)

VISITORS ARE WELCOME AT CLUB ACTIVITIES

General meetings - (second Friday of each month, except January) are held in the Uniting Church (UCA) Hall (enter from Lyttleton St.) at 7.30 pm.

Field Trips - (Saturday following the general meeting) leave from the car park opposite Castle Motel, Duke Street at 1.30pm sharp unless stated otherwise. BYO morning and/or afternoon tea. Outdoor excursions are likely to be cancelled in extreme weather conditions. There are NO excursions on total fire ban days.

Business meetings - third Thursday of each month, except December, at George Broadways; 24a Greenhill Ave., at 6.00 pm. Members are invited to attend.

Club website (Web master: Chris Timewell) - http://castlemainefnc.wordpress.com/

Subscriptions for 2019
Ordinary membership: Single $35, Family $50
Pensioner or student: Single $25, Family $30
Subscription includes postage of the monthly newsletter, Castlemaine Naturalist

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