



# CNFN

the  
**NATURAL NEWS**

**2004 SPRING ISSUE**

Patron - Dennis Morris

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## Program and Events

### \* 9 & 10 October Waterhouse Camping/Day

Meet at Waterhouse Lake at noon on Saturday. Take road into Waterhouse and turn left at road after Waterhouse Homestead. Frogs and tadpoles at a few sites that afternoon. Come have some great fun and learn about frogs and tadpoles. For Sunday, meet at South Croppies point at noon for a look at lizards, birds, plants, tide pools, and more.

• **7 November Lobster Falls 9:30** at parking lot off B12 road from Red Hills to Mole Creek. Then **AGM at 3 pm at Weegena Hall** followed by BBQ. RSVP to Sarah or Jim for free catered BBQ

• **19, 20, & 21 November Federation of Field Naturalists Weekend at Weegena.** Come meet the other clubs, take local walks, participate in invertebrate workshops, partake of a Saturday night Fijian-Indian banquet, camp near the Mersey. More details by post in October

• **5 December Mother Cummins alpine walk.** Meet at 9 am at the Meander Bridge at Meander. We will travel together to the upper carpark on Mother Cummins, then take the track to the top. Bring suitable clothing for changeable mountain weather. Great views, and alpine flora and fauna.

A red tick indicates you may be  
unfinancial. \$10 single \$15 family to Sarah

## Birds and Fungi – not that unrelated

by Sarah Lloyd

It is likely that the majority of the general public view those of us with an interest in natural history as a bit odd. Recently, for instance, I could have saved myself a lengthy explanation and some very peculiar looks if I'd told the travel agent that my trip to Victoria was to attend a family gathering or the weekend footy match rather than a "Cryptogamic extravaganza".

Even some of my bird watching colleagues think that my interest in fungi is a little bizarre, especially when I drop to my knees and get out the hand lens to closely examine that yellow coloured spiny stuff that grows on the underside of branches. Yet other people have grave concerns about the condition of my neck as I suppose they think that watching for birds in the canopy alternating with inspecting the ground for fungi is particularly hard on that part of the body.

Anyone who has ever monitored birds, especially in dense vegetation, will know that it is much more an aural than a visual exercise. Becoming familiar with the different calls and songs of birds is essential if meaningful surveys are to be conducted. During many surveys well over 90% of "records" are from vocalisations only with the birds themselves rarely seen.

So with an ear out for birds and the eyes looking downwards, reasonably successful surveys of both can be done simultaneously. In fact an interest in both birds and fungi is not as unrelated as one might imagine and there are numerous examples of birds,

either directly or indirectly, interacting with fungi.

The most direct interaction that I have observed was of a Tasmanian Scrubwren consuming a fungus. I was in the vegetable garden when this endemic, predominantly ground foraging bird started pecking at a fungus growing on an old eucalypt stump. The fungus was large, fleshy and most likely *Hydarenia frondosa*, although as it was before I had started documenting the fungi around home, I can't be absolutely sure of its identity. The Scrubwren was so intent on eating the fungus that when I approached to within a meter to check whether it was eating the fungus itself or the numerous invertebrates living within, this usually shy bird was unperturbed. It was indeed eating the fungus, and after flinging pieces far and wide, in a Scrubwren sort of way, it eventually consumed all the bits.

There are several other reports of mycophagy (fungus eating) in birds in Australia. A near relative of the Tasmanian Scrubwren, the Pilotbird, a species of similar habitat, appearance and habits, has been reported "to feed rarely on small mushrooms" in the Sherbrooke Forest near Melbourne.

Some bracket fungi form a significant part of their diet of Southern Cassowaries. Malleefowls have been observed eating mushrooms, possibly *Pezizella*. Brush Turkeys have eaten offerings of *Alycia* and Emus have taken immature puffballs including *Lycoperdon* and *Bovista* species.

An Eastern Yellow Robin ate a fruit body of a *Gymnomyces* sp when it was offered to it and later, when accompanying a mycologist who was scratching for these truffle-like organisms, again ate some specimens thrown its way.

A disturbing account of birds eating fungi was reported in a Fungimap newsletter sourced from an article that originally appeared in the newsletter of the Australian Bird Study Association. A 'Wires' rescuer received numerous phone calls from concerned residents at Katoomba after they witnessed Red Wattlebirds falling from the sky. The birds, 24 in all, had been feeding on the red caps of the very distinctive Fly agaric *Amanita muscaria*. Before they could be treated twelve birds were dead, with symptoms ranging from blood exuding from their eyes, limp necks, splayed legs, spread wings and yellow diarrhoea. The twelve birds that survived drank thirstily throughout the night and had fully recovered by the next morning.

There are several overseas examples of birds eating fungi. In South America, pigeons eat the fruiting bodies of *Cytaria* sp., a close relative of the Tasmanian beech orange, *Cytaria gunnii*. Canadian, Oregon and Siberian Jays have all been observed feeding on mushrooms, and the latter species will apparently steal fruiting bodies

from squirrel caches.

In the deserts of Kuwait, at least eleven species of migratory birds, including hoopoe lark, desert lark, bifasciated lark, bar-tailed desert lark, desert lark, cream-coloured courser, Temminck's horned lark, shore lark, crested lark, Theckla's lark, black-throated accentor and the hoopoe scratch out and eat a truffle-like species *Phaeoglossum lefebvrei*. Although not sold in the local markets as are two similar species of fungi, Bedouin children will collect and eat this fungus raw, and it is also used as a bait to capture live birds by Bedouin Arabs.

There are several examples of parrots eating fungi. Ground foraging New Zealand Kakapos eat fungi and Kees, which also forage on the ground, are possibly mycophagous. The genus *Microscops* that includes the smallest parrots in the world, the pygmy parrots of New Guinea and the Solomon Islands, include some species that are reported to be specialist fungus feeders.

Given the widespread occurrence of fungi, it is surprising that more birds don't include them as a regular part of their diets. It may be that whereas fruits are rich in sugars such as glucose and fructose, fungi store sugar alcohols which may be either unpalatable or toxic to birds.

In Tasmania there are few birds for which vegetable matter comprises a significant proportion of their diets and although many birds are opportunistic feeders our ground foraging birds are mostly insectivorous. Two omnivores, the Black Currawong and the Forest Raven possibly consume fungi but to my knowledge it has not been recorded.

There are difficulties in detecting exactly what birds are eating. As well, because fungi are mostly soft and fleshy and easily disintegrate it is difficult to determine if they have been eaten unless the faecal matter is examined for spores.

However, while there are relatively few examples of birds eating fungi, there are many instances of indirect relationships between birds and fungi.

Many people think that the galls that form on the branches, stems and trunks of silver wattles and other acacia species are caused by invertebrates, because when the galls are opened grubs of various descriptions are found within. In fact the galls are the result of infection by the rust fungus *Uromycladium tepperianum* which infect either young, stressed trees or older declining trees.

Recent studies in Tasmania have found that 32 different species of insects including moths, beetles and wasps use the galls as a food source or refuge. Beetles and their larvae feed on the spores that cover the outer surface of the fungus, while other insects use the tunneled out galls as refuges. Some moth species lay their eggs and complete their development within the galls and parasitic wasps hunt for insects in and around the galls.

All this insect activity doesn't go unnoticed by Yellow-tailed Black Cockatoos that use their incredibly strong bills to rip apart the galls to gain access to the hidden insects.

Yellow-tailed Black Cockatoos and many other ground dwelling birds also feed on invertebrates that inhabit dead trees, logs and litter on the forest floor, and as many of these invertebrates feed on fungi rather than on the dead plant material, there is yet another association – albeit an indirect one.

A story titled "Fungus and Woodpecker activities" appeared in a recent edition of the *Interpretive Birding Bulletin*.

Some North American Woodpeckers search out those trees on which bracket fungi grow. They are apparently aware that the presence of shelf fungi indicates decay and can therefore significantly reduce the time and effort required to excavate a cavity. However, there is a fine line between choosing a tree that is decayed enough to facilitate excavation thus reducing the necessity for a considerable amount of head banging and one that is so decayed that it is in danger of falling and endangering the lives of the occupants.

The decision to excavate a tree can depend on the age and species of the tree, and the type of fungus involved. Different species of fungi infect different tree species and attack different parts of the tree, e.g. sapwood or heartwood. Small woodpeckers seem to be more associated with sapwood fungi which cause rot in the tree limbs and small trees where they nest. Woodpeckers that are strong excavators and use larger diameter limbs are associated with heartwood fungi which increase as the diameter of the trunk increases.

Because there are no primary excavators such as woodpeckers in Australia hollows take much longer to develop. The hollows used by small species such as Striated Pardalotes can take from 120-150 years to form while larger cavities suitable for birds including Salpiter-crested Cockatoos, Yellow-tailed Black-Cockatoos, Green Rosellas, Eastern Rosellas and Owls can take a further 100 or more years to develop.

Fungi play a role in the hollow formation in eucalypts. The injuries caused by fire scars, logging damage or holes bored by insects provide a conduit to the heartwood for decay-causing organisms such as fungi. The heartwood is further excavated by the actions of fungi and invertebrates, typically termites and beetles, assisted in some cases by the action of fire, wind, and other animals such as cockatoos and parrots.

There are few people who have the opportunity or get close enough to watch and identify what birds are eating. If anyone has observed a bird or birds eating fungi, I would be very interested to know the bird species involved and a description or name of the fungus.

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If you think Sarah's article on birds eating fungi is amazing, well here is CNFN's own Bae preparing to eat a delicious giant puffball!





# Failed Nomination for the Forester Kangaroo

by Steve Cronin

Nominations were made in 2002\* to list the Forester Kangaroo in Tasmania after much thought and consideration by a group of concerned Tasmanians. The range of the species has decreased by 90% and fragmented into three core natural areas and this fact is seen as an important consideration for the continued presence and security of the species. Without the additional security of a listing, and the subsequent management considerations that would be given to the species from that listing, it is believed that the Forester Kangaroo is in danger of further decline.

The main concerns for the Forester Kangaroo in the immediate future involve the Northeast sub-population, which is effectively isolated from the midlands population. The concern with this sub-population is surveys showing declines, recent habitat clearing and reports from local residents of declines in this sub-population.

The population estimates from monitoring surveys from 1983 to 2000 show a trend of declining numbers in the Northeast core area. There are reports that there has been a reduction in numbers in the Northeast core area in the past ten to fifteen years. The reduction is due to the clearing of open forest and heathland for agricultural purposes, illegal culling along with the issuing of permits for legal culling with insufficient population data for the properties bordering the Mt. William National Park area – in the case of the 'Rusby Lagoon' and Cape Portland' areas, no population data.

The forest clearing that occurred in Forester Kangaroo habitat from 1980-1988 (the only firm data available) was at least 1,450 hectares and up to 3,200 hectares with most areas in the Northeast core area and some in the Ross core area cleared. Up to date information is desperately needed for informed management of the species.

The threatening processes that will continue to contribute to the decline of the Forester Kangaroo throughout its natural range without some form of positive intervention by listing of the species are as follows:

- Land clearance resulting in habitat loss from prime natural habitat areas.
- competition with introduced and native herbivores for grasslands

- degradation of native grasslands from overstocking
- damage to understorey plants from browsing introduced herbivores that change the important forage and shelter structure important to the Forester Kangaroo
- Excessive legal and illegal culling.
- Removal of government staff from "secure" habitat areas resulting in an increased opportunity for illegal culling (relocation of the Ranger from the Mt. William National Park to Bridport in 2001).
- Lack of habitat management in the reserve set-aside for the Forester Kangaroo (Mt. William National Park).
- Mortalities due to poisoning by 1080 poisoned bait (especially baits laced with the attractant cinnamon).
- Mortalities due to toxoplasmosis and other diseases.
- Mortalities directly attributable to human activity and infrastructure, but not including culling (for example, road death and catching in fences).
- Climate change possibly resulting in further habitat loss, low water resources; heat stress and additional use and pressure on inland areas due to sea level rise.
- Inadequate policing of legal and illegal culling.
- Automatic issuing of permits to cull without recent monitoring survey data on population trends or based on no data.

The present situation is that the subpopulations of Forester Kangaroo in Tasmania are located in less than ten populations, occurring in seven main areas, as follows:

**NATURAL POPULATIONS** Subpopulations, along with (Fragmented Populations within each subpopulation)

**Northeast core area** = Mt. William National Park and surrounding properties. (Rusby Lagoon and Cape Portland private property and Crown lease areas north of Gladstone township.)

**Nile core area** = Massey Hill-Ben Stewart area. (Fordon and Patterdale areas).

**Ross core area** = The Quoin-Burbury's Tier-Trefellis Sugar Loaf region. (Macquarie Tier region west of Campbelltown.)

## RELOCATED POPULATIONS

Maria Island, Three Hummock Island, Narawntaga National Park, Kemplon

## CONCLUSIONS

The Forester Kangaroo is an important Tasmanian species and the nominations were made in the interests of the future of the species. All nominations were rejected mainly due to an increase in numbers in the Ross and Nile core areas. The positive thing coming out of the nominations was a commitment by the Tasmanian Threatened Species Scientific Advisory Committee to create a conservation dependent category under the Tasmanian Threatened Species Protection Act 1995.

The current species' status is as follows: occupies 10% of its former range; reduced and fragmented into three natural in situ sub-populations; numbers are reducing in the Northeast sub-population; a large area of suitable habitat exists in the eastern half of Tasmania which no longer contains the species, this empty habitat being indicative of the vulnerability of the species to a number of threatening processes. Vacancy of suitable habitat has been seen in the areas surrounding the Mt. William National Park in the past ten years during the population counts, and in this sub-population the trend continues.

It is believed that with the protection offered by a listing, the empty suitable habitat may once again contain the Forester Kangaroo and the past reduction in range and numbers could be reversed. The category of Conservation Dependent included in the Tasmanian Threatened Species Protection Act 1995 would allow for species such as the Forester Kangaroo to be conserved through conservation measures and recognizing that without continuing conservation measures the species may become threatened.

## A New CNEN Project For Troubled Frogs

by Jim Nelson

Just about everyone has heard that frogs have been disappearing from environments around the world. Scientists have been struggling to understand the causes of frog declines and disappearances for a sound reason: beyond an almost universal appreciation of frogs: frogs represent important bio-indicators. In other words, if things are going wrong with amphibians, which have been around since animals decided to try their luck at living on land, then there may be strong reasons for us to worry.

It is more than obvious that many frogs have suffered due to habitat degradation due to human expansion and greed, but in the last 25 years there have been sudden population crashes in protected high altitude areas where no habitat problems were evident. Central and South America were early examples, and then the montane rainforests of Queensland experienced crashes that have resulted in extinctions of stream-dwelling rainforest species.

It is now believed that a chytrid fungus probably caused these precipitous population declines. Chytrids are small spherical fungi that produce motile infective stages called zoospores. Some species are found free-living in soil and water where they degrade organic matter such as chitin or keratin, and others are parasites of algae, plants, nematodes or insects. Before the discovery of the amphibian chytrid, none had been found to cause disease in vertebrates.

Now, many species of frogs are suffering from chytridiomycosis on the mainland of Australia, and the worry is such that a Commonwealth Amphibian Disease Abatement Committee (ADAC) has been established. (Do I hear your collective sigh of relief? Probably not...) Well, at least we are finally getting around to officially declaring that we have a crisis.

The main problem in Tasmania is that we don't have the slightest idea what is happening to our frogs here. We know that *Litoria raniformis* (green and gold tree frog) is on the threatened species list based on its decline from unknown causes, and that *Limnodynastes peroni* (striped marsh frog) has recently been listed – presumably because someone finally realized that much of its habitat has disappeared in the NW of Tassie where its wetlands have been drained for plantations.

*L. raniformis*, however, has apparently disappeared from the entire NW of Tassie, and such a dramatic



\*The nomination for the Forester Kangaroo under Tasmanian legislation was for RARE, with the NE sub-population as VULNERABLE. Under Commonwealth legislation the nomination was as

total disappearance would surely have to make a disease the prime suspect. Less well documented but



*Litoria raniformis*

equally worrying is the disappearance of our endemic *Litoria burrowsae* (Burrows tree frog) from most of the NW, including the Cradle Mountain area where the type specimens come from. Clearly, Tasmania is a hotspot for frog decline, and no one is doing anything about trying to find out what is happening with these two *Litorias*. *Litorias* are tree frogs, and this group has been a susceptible one to chytrid disease.

Frog enthusiasts in the CNFN have been wringing their hands for years, but what can a group of amateurs do? Well, actually quite a lot if they can just find some professional leadership to guide them, as we have shown with crayfish work, platypus work and plant work in the past.

Enter Dr David Obendorf, animal pathologist and bio-security expert who is now semi-retired and interested in the role of community groups. David involved us many years ago in the platypus disease research he was supervising, where the platypus ulcers were also being caused by a fungal disease, *Mucor amphibiorum*.

Over the years, I have kept in contact with David and constantly whined to him about the lack of work being done on frogs. We had sought to do some work with *M. amphibiorum* and its relationship to frogs in Tassie at one stage, but we were never able to get a project off the ground.

I guess David finally became sick of hearing me complain, and so we went off together to talk to Dr Niall Doran, the Threatened Species Zoologist for the Nature Conservation Branch, DPIWE, about putting together a project. He informed us that our timing was excellent, because the Commonwealth ADAC had been formed and was looking for projects to support in "hotspots" such as Tasmania.

David put together and submitted a project proposal, but we still are waiting to hear back

regarding support. Meanwhile, we needed to get things rolling in terms of putting together a team to do the work, and get up to speed on establishing protocols for field work to ensure that we didn't become part of the problem by further spreading disease.

David and I attended the National WWF Frog Conference in Sydney in July, where we made some valuable contacts and collected a lot of information. Since then we have been gathering more information and support from a number of sources, and putting together ideas for getting into the field this Spring.

On 4 September a group of 10 came together at a meeting to begin establishing a team, with David delivering information as to how we might go about things, beginning with some training workshops, and then some very targeted sampling of tadpoles for chytrid in their mouthparts if they pick it up from the vegetation in their environment, and thus the animals that appear to have chytrid affected oral discs can be sacrificed and used as fairly effective indicators.

The CNFN October weekend camping excursion at Waterhouse will involve the team working out some catching and examination techniques. Members are all welcome to come along and see what its all about, and even participate if they like. Otherwise, there is just about anything that might interest anyone regarding natural history at Waterhouse reserve, natural history at Waterhouse Reserve. Come out for a day or the weekend and enjoy one of the great spots in Tassie.

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## A Mitey Story by Jim nelson

Paul Hydes recently handed on a lizard from his garden that was seriously encrusted by clumps of mites of a type I had never seen on a lizard before. Upon looking at them under the microscope, they didn't seem to be feeding on the lizard, but simply clustered together. Samples were taken by Lionel Hill, entomologist at Stoney Rise DPIWE, and sent to Owen Seeman in Qld. He identified them as in the Uropodina, and said they were phoretic deutonymphs, which means they are in a non-feeding immature stage specifically adapted for phoresy (a non parasitic relationship where one species is carried about by another). When the mites arrive at a suitable habitat, they will quit the lizard and moult into adults. Adult uropodids tend to feed on nematodes. Normally the carriers of these mites are insects, but Lionel also supplied a paper recording a lizard host.

Interestingly, the lizard in both cases was *Lampropholis delicata*, a cryptic, litter dwelling species which rarely basks, perhaps making it a good carrier.



## FROGS OF TASMANIA Fauna of Tasmania Handbook no. 6

The Fauna of Tasmania Committee, University of Tasmania in association with WWF and DPIWE have at last printed a 2nd edition of the out of print and out of date 1st edition of the above title.

Murray Littlejohn, a Principal Fellow at the University of Melbourne and the co-author of the 1st edition, has updated the species section of the guide to include the relatively newly described moss froglet among our eleven amphibians. The handbook has also been expanded to include many interesting discussions such as history, taxonomic revisions, zoogeography, conservation issues and

methods for field observations. There are also keys to eggs, tadpoles, and adult frogs.

The species accounts now have nice coloured pictures of the frogs which include some variations in colour and pattern. There are also distribution maps which give a general guide, although somewhat out of date. A few slight arguments might be made with the life history information, such as the 12-15 month larval development of *Litoria raniformis*. There would in our experience be very few tadpoles of this species that overwinter, and most are capable of quite rapid development over the summer period to develop into good sized metamorphlings within a few months.

However, this handbook is such a welcome sight and a vast improvement that it seems ungrateful to nit pick with a few little disagreements. For anyone

interested in Tasmanian frogs, this is a 'Must Have' book. My 1st edition is in sad repair after about 15 years of use, and can finally be retired. It has never been out of use as a reference, and has been the basis for much of my enthusiasm for Tasmanian frogs.

I highly recommend this new edition to every field naturalist and enthusiast. If you own this book and still can't recognise our frogs, then you aren't trying at all. Cost, \$20.

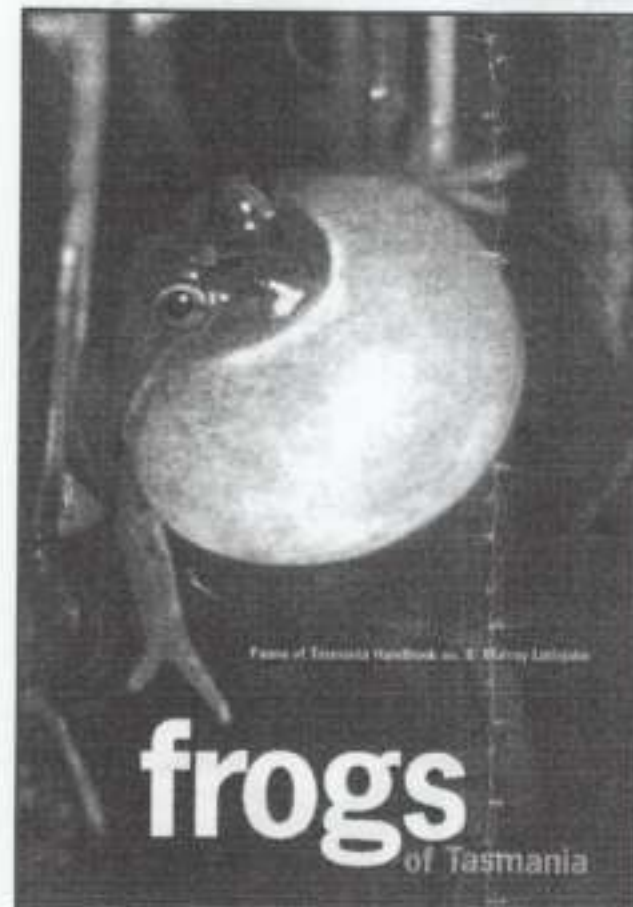
Ordering information and a list of other handbooks can be obtained from:

The Secretary  
School of Zoology  
University of Tasmania  
GPO Box 252-05  
Hobart, Tas 7001

The CNFN could do a bulk order if there is enough interest from members, so if you would like a book please let me know.

P.S. Once you have the book, why not get a frog tape or CD from your friendly CNFN? Contact me for a member's price.

-Jim





## Know Your Place: *Passer Domesticus*

If starlings are, to some,  
No more than avian rats  
Sparrows may be seen, again by some,  
As even less commendable.

Your humble sparrow, true, lacks  
A host of attributes  
Particular to 'superior' birds.  
It can never hope to emulate  
The black swan's smooth-gliding elegance,  
A blue-wren's pertness  
Or the wedgie's thermalling pride.  
Nor aspire, not ever, to stomp  
The brolga's feisty dance.

In any twitcher's catalogue of merit  
It doesn't stand a chance.

Observe the sparrow closely.  
Its unregarded plumage carries subtle shades  
Of brown, and grey, and black.  
It chatters "Cheerup!" to its mates-  
There are plenty of them-  
They chirp it back.  
Bold and self-reliant  
Cheeky to a fault.

West Australia, only, in all this 'wide, brown  
land'  
Has brought its pioneering to a halt.

Its Galapagian fellow-finches  
Using tools an' all  
Got Darwin thinking..  
Beat that!

No social climber, The sparrow knows its  
place..  
Survivor.  
Thrifer.  
Proudly,  
Unashamedly  
Lumpen-proletariat!

*by Peter Bamford*

## Pre-dawn chorus

before dawn..  
maggie's melody  
weaves the ends of  
'darkness' to  
sensual  
wonder

potter's hands..  
caress with loose  
metaphors a  
'thusness' heart  
message  
in clay

hands and beak..  
inverted commas  
capturing truths  
the meaning  
to each, so  
like song

*by Jim Nelson*

