

FROGCALL



No 146, December 2016

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MEETING FORMAT

Friday 2nd December 2016

6.30 pm: Lost frogs needing homes. Please bring your FATS membership card and \$\$ donation. **NPWS NSW, Office of Environment and Heritage amphibian licence must be sighted on the night.** Rescued frogs can never be released.

7.00 pm: Welcome and announcements.

7.45 pm: The main speaker is Marion Anstis, for a change giving us a look at a 'no frog zone' in a very cold part of the world!

8.30 pm: Frog-O-Graphic Competition Prizes Awarded.

8.45 pm: Show us your frog images, tell us about your frogging trips or experiences. Guessing competition, continue with frog adoptions, Christmas supper and a chance to relax and chat with frog experts.

Thanks to all speakers for an enjoyable year of meetings, and all entrants in the Frog-O-Graphic Competition.

Email monicawangmann@gmail.com to send an article for FrogCall.

CONTENTS

President's Page	Arthur White	3
The Story of FATS - 25th Anniversary	Arthur White	4
Our Remarkable <i>Neobatrachus</i>	Stephen Mahony	12
Veterinary Observations on a Captive Green Tree Frog	Dr Kim Le	14
Centre Poster Spread: Splendid Tree Frogs	Karen Russell	16
FATS Frog-O-Graphic Competition winners		18
Eyes Bigger than their Bellies!	Dr Shane Simpson	20
Meet the New Species	Marion Anstis	23
Smiths Lake Field Trip, March 2016	Peter Spradbrow	26
Field Trips	Robert Wall	30
Meeting directions and map		31
Committee members contact details		32

Cover photo: Dahl's Aquatic Frog, *Litoria dahlia* from Karumba, Qld

Aaron Payne

President's Page

Arthur White

2015–2016 has been another good year for FATS. FATS has been as active as ever and has been present in many public events spreading the word about frogs and frog conservation. We have also held several field trips, participated on governmental panels and maintained the Frog Rescue Service.

This year is a significant year as it will be the first time that **Lothar Voigt** will not be an Executive Officer. Lothar has been in our committee since FATS was founded and has been a very active member throughout. FATS owes Lothar and Louise a great debt of gratitude and we wish them well in the future.

FATS remains financially strong, thanks to our long-standing Treasurer **Karen White**. Because we are so sound, we again offered student research grants this year.

FATS held a number of community activities this year including various garden clubs and frog activities at regular venues such as the Kuring-gai Wildflower Gardens and Narrabeen Wetlands, as well as being at the Royal Easter Show. We also participated in Science in the City at the Museum during Science Week. Great thanks are given to **Kathy** and **David Potter** for organising most of these events and extra thanks to the rest of the family and other volunteers for helping out at these events. FATS also undertook the annual Bell frog auditory surveys at Sydney Olympic Park in November and December. Thanks to **SOPA** for supporting FATS. FATS is a member of the NSW Government's Advisory Committee on Native Animals, as well as the Task Force for Cane Toads in New South Wales. We were the major contributors to the production of a cane toad eradication plan for NSW.

Robert Wall organised a great series of field trips that are always well attended. They are an excellent way to become familiar with frogs and get to know fellow members. But make sure that you get your name down on the attendance sheet as quick as you can after the trips are announced or else you could miss out.

Monica Wangmann, our editor, has been busy as always, putting out FrogCall, our flagship publication. It is a great credit to her and a wonderful means of getting frog news around. Our special December colour editions produced by **Marion Anstis** are keenly sought by non-members and will continue to be published in colour for as long as we can afford it.

Many thanks to our other executive members: **Wendy** and **Phillip Grimm**, **Marion Anstis**, **Andre Rank**, **Lothar Voigt**, **Punia Jeffery**, **Vicki Deluca**, **Robert Wall** and **Jilli Streit**. Each has contributed whole-heartedly and helped keep FATS alive and well.

Another special thanks to our website Manager and Membership officer, **Phillip Grimm**.

Of course, I would like to thank all of our members for making FATS such a great group to be in. People who are friendly and helpful really make it a pleasure to run an organisation like FATS.

FATS membership has fallen over the last 12 months and I would like to hear from you if you can think of activities we should do to attract new members.

The Story of FATS in our 25th Anniversary Year!

Arthur White

Early Days

Twenty five years ago a group of frog enthusiasts met at the Sydney Technical College at Ultimo to discuss the formation of a specialist frog group. These frog lovers will be known to many of you: Lothar Voigt, Harald Ehmann, Martyn Robinson, Steve Kum-jew, Karen Thumm, David Miller, Danny Wotherspoon, Shane Gow and Arthur White. We were all members of the Australian Herpetological Society and went to the meetings with all the reptile people. Often at the end of the meeting, the froggers would sit at the back of the room and talk frogs (much to the disgust of the reptile fanciers). The time had arrived for the froggers to go it alone and so FATS was spawned.

No-one expected FATS to last – but it did. FATS has survived because of the people in it. We have avoided the tensions and cliques that often form in societies and everyone in FATS is welcome to help out whenever they can. We do not discriminate between the frog know-alls and the newcomers. Nor do we limit ourselves to just frogs. All of us have a wider interest in the environment- frogs are an important cog in the grander plan.

But this is not the whole story.....

Laws were Changing

In the same year that FATS was being formed some major changes were taking place with NSW laws. Prior to 1991, animals, in the eyes of the law, meant mammals and birds. Creatures such as frogs did not get a mention. Elsewhere in the world moves were afoot to bring in protection of animals, particularly those that were uncommon.

In 1991 a Private Members Bill was passed in the NSW Parliament that declared that frogs were animals and as such should be protected under NSW legislation. This act also initiated threatened species legislation and called for a review of all vertebrate species in NSW. At the time, the knowledge of frog distribution and abundance was not documented and relatively few people had much field experience with frogs. This was an

opportunity for the fledgling FATS group to prove its worth.

EndFrogs

In the early days of our society, it was agreed that FATS would be more than just a frog fanciers' group, or frog keepers' club. We wanted FATS to have a scientific basis and to be constantly striving to push frog awareness in the wider community and at a political level. As most of us were doing lots of frog field work, we were only too well aware of the frog declines taking place across the country. We wanted greater protection for frogs and frog habitat – but most of all we wanted conservation measures to be based on knowledge and not whim. This was one of the reasons why FATS undertook the EndFrogs program so early in its history – this was to be a state-wide survey of threatened frogs. For many years this study was the backbone of subsequent government and local conservation initiatives, and led to a number of later targeted surveys and studies on frog species at risk.

Harry Ehmann (right) was the prime mover in this project. He rallied froggers from all across the state and prepared a standardised protocol for frog surveys. It was necessary to know what frog species were about and how many there were, but it was also important to know what condition their habitats were in. So the frog teams were allocated different parts of the state and the great frog survey commenced.



The survey ran for five years, between 1991 and 1996. As the legal focus became clearer in the new legislation, FATS was asked to contribute to the data pool that would eventually lead to the formation of a list of threatened frogs in NSW. In 1991 FATS nominated 25 frog species that were suspected to be in decline and undertook to

collect as much specific information about these species as possible. In 1995, the NSW government formulated law to protect threatened species and the *Threatened Species Conservation Act 1995* was passed. Threatened animals were at last listed for protection, and amazingly, the first species to be added to the list was a frog – the Green and Golden Bell frog, *Litoria aurea*.

Recording Threatened Frogs

The enactment of threatened species legislation in NSW also changed the focus of the frog surveys that FATS was conducting. The focus was now definitely on the rarer frogs, and so the aptly-named **EndFrogs** project (Ehmann, 1996) was the first compendium of threatened frogs in this country and became the bible for threatened frogs in NSW for many years.

Why were Bell Frogs Listed First?

Most people assumed that it would be a mammal that would have the honour of being the first



Green and Golden Bell Frog

threatened species listed for protection. Why a frog, and why the Green and Golden Bell frog? In the post WWII years in Sydney, there was still a lot of undeveloped land, and intact wetlands still persisted. Many of

the wetlands in and around Sydney were on old floodplains or in small coastal catchment areas. As such they were close to houses and frequently passed by walkers and travellers. The most common and obvious frogs in these wetlands were Green and Golden Bell frogs. These frogs were unusual in that they would sit out on a sunny day and bask (a most un-froglike behaviour). In the early 1970s they were in large populations across Sydney, especially in the Botany swamps, along the Cooks and Georges River floodplains and a massive population along the Nepean floodplain (see Map 1). As a kid I grew up with Bell frogs and spent many afternoons and mornings prowling the Eastlakes swamps looking for snakes, eels, turtles, frogs and golf balls. But something happened...

Between the early 1970s and the mid-1980s most Bell frogs disappeared. I saw my last Bell frog at Eastlakes in 1992 (White and Pyke, 1996). Within 15 years the Botany Swamp population was decimated to just a few animals, the Cooks



Map 1 (top): Distribution of Green and Golden Bell frogs in Sydney prior to 1970; Map 2 (lower): after 1990

River population was reduced to minor isolated populations at Greenacre, Enfield and Strathfield; the Georges River population was almost entirely gone, with just a few frogs surviving at Hammondville and Voyager Point. The Nepean population was even more devastated with no original populations surviving (Map 2). Fortunately one local resident at Riverstone collected some frogs and established a conservation area on his property; this ark still remains today and may serve as a seeding population in programs to re-establish the frogs back into past habitats.

Bell frogs were immediately listed because they went from being a common and conspicuous animal to one that was not seen in almost the blink of an eye. We did not know what was causing the decline of the frogs, the answer was not found until 1995 when the chytrid fungus organism was first isolated by Lee Berger in Queensland (Berger *et al.* 1999).

FrogCall

Every frogger in NSW is familiar with FrogCall. FrogCall is the FATS newsletter. The first edition (a slim affair of just a few pages) was issued in December 1991. The newsletter was to be chatty, up to date and open to all contributors. The early

editors had a lot of trouble soliciting information for FrogCall, but as it became better known, the size of the newsletter increased and the quality of the articles improved.

The biggest problem with FrogCall was its erratic publication times. Editors would not print FrogCall until they had enough to fill 8 pages and this could mean a period of many months between publications. This all changed in 1996 when a young Monica Wangmann joined the



editorial team (centre left) with daughter Katherine (bottom right of photo). The production of FrogCall became tied to the timing of our public meetings and its

newsworthiness increased dramatically. Monica has remained as Editor since issue No 27 in November 1996 to the present day – a remarkable effort.

FATS Finances

Most societies have one position that no-one wants to do – namely the Treasurer. FATS was no exception. Who wants to chase people who forget to renew their membership, who wants to find long lost receipts for items bought in a hurry, who can read the scribble in the cheque book stubs, who can balance the books and manage the money so that the society is not always broke??

In the early years, the Treasurer was the person who missed the AGM and was elected because they were absent. Needless to say, record keeping was poor and the FATS accounts were a mess. In 1998, FATS was saved when Karen White (below, at the Easter Show) became the elected Treasurer.



The first thing she did was to recall all cheque books and take control of the purse strings. Since then, FATS has never looked back financially.

Karen slowly built up the FATS cash reserves to a point where the Society is able to fund larger projects and also make available grants to new frog researchers. Karen is still our Treasurer and has

established a book-keeping system that is easy to follow and use.

The Presidents

Harald Ehmman 1991–1995

During this time Harald was a teacher at Ultimo Tech College. He taught mainly the standard course but also developed more specialised courses in herpetology. The first FATS executive meeting was held in Ultimo Tech and Harald was the mastermind in getting FATS started.

Harald's main task was not to find keen people, they were already around, but to organise them. Harald was good at this. He had a vision for FATS that was not simply as a splinter group from the Australian Herpetological Society. While our first meetings were very informal and the agendas were made up on the run there was a purpose about FATS and Harald was not reluctant to push this mottly group of froggers into a cohesive unit – one that could manage a state-wide survey for poorly-known frogs.

In 1995 Harald moved from Sydney to Adelaide (where he started up a South Australian version of FATS). Who would fill the void left by the founding president?

Lothar Voigt 1995–1996

One of our keen froggers was a tall, imposing Germanic character by the name of Lothar Voigt. Lothar was a close friend of Harald's but was reluctant to step in when Harald left for Adelaide. Lothar (at right) was a great thinker but did not relish trying to organise the mob. By now the number of people in FATS had grown considerably and had almost 70 members. We were holding our public meetings at the Auditorium in the Australian Museum and were starting to attract large audiences to the meetings.



Lothar was a regular speaker at the meetings and is fondly remembered for many great presentations. Perhaps he is best known for his creative and sometimes bizarre series of broccoli boxes. Lothar was able to build multi-storied, self-filtering frog enclosures out of these styrofoam boxes before an incredulous audience. Lothar was also the brains behind the FrogMobile (see below).

Martyn Robinson 1996–1997

Lothar had decided that he wasn't president material and preferred to run the FATS public displays and workshops so he stepped aside. Martyn Robinson was a natural history guru and worked as an education officer at the Australian



Museum. He stepped into the void. The EndFrog project had come to a natural conclusion and FATS was recovering from this exhaustive enterprise. No-one wanted to take on such a large project for the time being.

Instead Martyn focussed the group on promoting the plight of frogs through more public days and community activities. FATS slowly developed a series of posters and display materials that could be used at all sorts of venues. Martyn's work commitments also meant that his time was limited, so when an heir-apparent appeared, Martyn readily handed the reins over to Frank Lemckert.

Frank Lemckert 1997–1999

Frank (below, at Smiths Lake) was a Research Officer with NSW State Forests and a recent post-graduate. He entered FATS at a time when the Society boasted a few hundred members and was undertaking a variety of public activities. With all of the activities at hand, the organisation required to co-ordinate people and resources was becoming a major concern. Frank decided that his role was to be that organiser. He did not get it all his own



way, the diverse following that FATS had then meant that it was in danger of splintering into small local groups. While this had some merits,

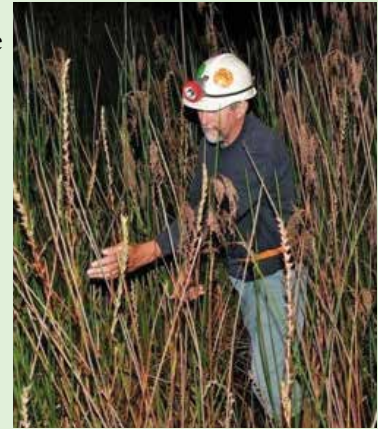
small groups often had little clout, and were less likely to get organised to attract grants or present cases to government agencies. FATS as a whole could.

Frank set about to re-assert FATS as primarily a conservation group with no political focus. This he achieved but not without a lot of angst!

Arthur White 1999–Present

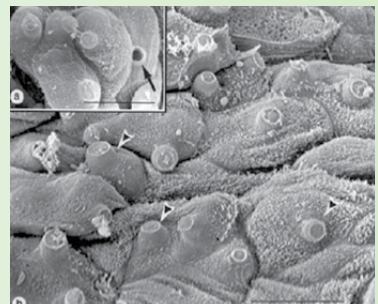
When I became President (Arthur in the field, top right), FATS was a dynamic and exciting group. The membership was growing to a point where we

were considering hiring a membership secretary just to deal with the new members. I was keen to get FATS back into some semi-scientific work and so with Monica, Lothar and others the Frog Rescue Service was started. The service was started for two reasons: 1) to save a lot of escapee frogs from meeting a sad end unnecessarily at the Sydney Markets, 2) to trial methods of controlling frog diseases, especially chytrid. Lothar in particular, set up isolation areas at his place where incoming frogs could be quarantined. We then started testing a range of known fungicides on frogs to see if they could overcome chytrid without killing the frogs in the process. Chytrid was rife at the time and many of the frogs coming through the rescue service were infected. As it was difficult to recognise an infected frog in the early stages of the disease we opted to treat all new frogs as though they were infected.



We struck up a liaison with Dr Karrie Rose at Taronga Zoo. She was developing a skin swabbing procedure as a tool for identifying infected frogs not showing symptoms. Many of the rescued frogs went to Karrie for testing and treatment. I set up an isolation area in my place as did a few others. Eventually we developed a procedure whereby incoming frogs were isolated, given daily baths of diluted benzalconium and treated for two months before being re-tested. This treatment was effective for frogs with low levels of infection; frogs that already had significant tissue damage could not be saved and had to be euthanased. The figure (below) shows a section of skin from a Great Barred Frog.

Arrows point to chytrid spores that have penetrated the skin. The procedures FATS developed became the blueprint for the **Frog Hygiene Protocol**: a



protocol developed with the DECC (now OEH) for field workers who work in wetlands or with frogs. This protocol is still in use and can be accessed at www.nsw.gov.au/resources/nature/hyprfrog.pdf

Cane Toad Alert Program

A spin-off from the Frog Rescue Service was the Cane Toad Alert Program. This started in 2002 because frog collectors were seeing more and more cane toads in Sydney. FATS began collating records and even did a media blitz in 2003 about Cane Toads in Sydney and what to do if you found one. Our work revealed that most toads were coming into Sydney on the backs of trucks, usually in loads of landscaping materials being trucked into Sydney from north coastal NSW.

As a result of the Cane Toad work FATS was invited to become a regular advisor to the NSW Government for Cane Toad control. I acted as the FATS representative for over 12 years in this role. Together with DECCW, FATS contributed to a booklet on toad control in NSW. This was dispersed throughout the state to various land managers.

In 2003, FATS was involved in a major toad eradication project at Port Macquarie on the central north coast of NSW. Port Macquarie was the most southerly permanent population of toads and was isolated from the next toad population by over 100 kilometres. Working with DECCW, a program was developed to target and remove toads. This involved assisting with community awareness days at Port Macquarie as many people would be needed to make this work. By the second year of the program we had discovered two important facets of toad behaviour in these southern temperate areas: firstly, the breeding season was short and restricted to about a 6 week window commencing in late January each year; secondly, about a month prior to the onset of the breeding season, female toads become exceptionally active and begin seeking out potential breeding sites in advance of the breeding event.

Once we had some idea where most of the breeding sites were located we were able to place collectors nearby in the month preceding the breeding season to intercept and collect the female toads. By removing the female toads prior to breeding, the toad populations quickly plummeted. By the 4th year toads were so scarce that we needed some other way of locating the remaining toads and so sniffer dogs were recruited. The star was "Snifty", a toad-sniffing dog from Western Australia specially loaned to us for the toad mop-up at Port Macquarie. Toads are no longer present at Port Macquarie. This was the first time that toads had ever been eliminated from an area this size.

In 2006, FATS was again asked to assist in a toad eradication at Harrington, also on the mid-North



Jen and 'Snifty' ready to smell out toads

coast. The toads had only been established there for a year and eradication was achieved within two years.

A Change of Venue

Events at the Australian Museum were to force a shift for FATS. The public meetings were drawing crowds in excess of 150 people and so the Theatre at the Museum was the only venue large enough to hold the crowds. A change in the Museum administration meant that the theatre would be used for other corporate functions and FATS would either have to go somewhere else to hold the meetings, or use a smaller back room in the Museum. In fairness, the Museum did also offer the option to continue to use the theatre but at corporate rates. After much agonising we made the decision to move, knowing full well that we would lose members in the process. In the end we decided to move to a more central location, namely Sydney Olympic Park at Homebush. In September 2005 we held our first meeting in Building 22 in the Newington Armoury and later moved to our current location in the Education Centre in Bicentennial Park.

FrogMobile

The FrogMobile was Lothar's brainchild. FATS was doing so many public displays that we considered buying a trailer and putting a few frog tanks and posters boards in it. Lothar argued that this was not enough – the trailer needed to be impressive enough to draw people from afar. Lothar set about drawing up some sketches for the trailer. It would have moulded display tanks, filtered water, internal pumps



Lothar prepares the Frogmobile



The Frogmobile with its fold out sides



Arthur with Mike Archer, Lothar and Simon Marnie at the launch of the FrogMobile in November, 2003

and storage space for the remaining display items. Perhaps most impressive were the fold-out wings of the trailer (now known as the FrogMobile) that greatly increased the information board areas of the trailer.

The FrogMobile was regularly present at venues such as Centennial Park and Sydney Olympic Park and always drew a crowd. It was a success but it was also a chore. Much of the chore fell on Lothar's shoulders, but many others pitched in to help either set it up or dismantle it at each venue. We had been a bit too ambitious with the FrogMobile: it was probably the right display tool for an organisation that had full-time workers. In the end, we had to give up the FrogMobile but it went to a good home – to the RSPCA.

Rosebery Bell Frog Project

One conservation project that FATS undertook was the Rosebery Bell Frog project. In 2004, Elaine Davies, an elderly resident of Rosebery contacted FATS to inform them of a frog problem. She had a disused swimming pool in the back yard that had

become home to a group of frogs. The neighbours claimed that the pool was a breeding ground for mosquitoes and demanded that it be drained. Elaine was dismayed at this and contacted FATS to see if we would at least rescue the frogs and tadpoles before she had to drain the pool.

When I went around to her place I was shocked because the frogs that she had were Green and Golden Bell frogs. These were probably the last surviving Bell Frogs from the great Botany Swamp population. FATS approached the local council to try to get the pool demolition order revoked. This was unsuccessful so we tried to get the derelict pool taken down and replaced with a clean frog pond where mosquitoes could not breed. We drew up plans for such a pond, Elaine was happy with it and the Council consented to this.

FATS held a couple of work days at the Davies' house. The old pool was demolished, frogs and tadpoles were captured and held in safety while the new pond and associated bog garden was created. Lothar was again the brains behind the design of this pond and garden. Eventually the pond was finished and the captive frogs were released back into the garden. The survival of these frogs is totally dependent on the goodwill of the Davies. Should the house change hands, the frog population may well be lost. A longer-term solution to the conservation of these frogs is yet to be developed.



FATS workers at Rosebery

Information Days and Workshops

The public demand for FATS services at information days, environment fairs or workshops is endless. FATS has many regular events that we attend such as the annual Kuring-gai Wildflower Gardens Day, Narrabeen Spring Festival, Willoughby Spring Fair and so on. We also conduct classes and displays in schools and at the Australian Museum Science in the City and Science in the Suburbs.

The organisation of these public events was for many years arranged by Lothar. However, in 2014 Kathy and David Potter took over this role and have given new gusto and focus to these trademark activities of the Society. As always, the public display days require helpers and everyone is invited to help out – not just the frog experts.



Kathy Potter talks frogs at Denistone East Primary

Public Meetings

The public meetings are held every second month and are well attended. Normally a main speaker is invited, but I have always tried to encourage the general members to get up and talk. In particular I have tried to get our younger members to speak and to become accustomed to talking about their frog encounters. After all, the next generation will contain the people who will either fight to protect frogs or by their ignorance destroy them. If frogs are to have a future in a globally-competitive world it will have to come from those who have some empathy and familiarity with frogs. It is a prime role of FATS to trumpet loud and long about the wonders of frogs and their right to continue to live on this planet.

FATS Website

FATS was a bit slow in developing a website. Once we did have one, but we weren't able to maintain it. Fortunately in recent years Phillip Grimm has taken on the task of bringing FATS into the 21st century. He has updated our website, made it more presentable and user-friendly and a place to visit for frog information. In addition, Monica Wangmann and Phillip Grimm have started up the FATS Facebook page, which Monica and Phillip constantly check and reply to any queries or concerns. The rise of electronic social media allows those who can't make it to meetings to find out about frogs but it also appears to have a down side. If you can get all of the information that you want from a computer, why bother going to FATS meetings and why bother with community displays?

Membership

FATS, like most community groups is suffering now from a decline in membership. Other community groups tells us that the younger people are less likely to join a club or Society than before. This is a pity because it robs them of the first-hand



Phillip and Wendy Grimm at Frog & Reptile show 2009

experience of interacting with nature, or frogs in particular.

Student Grants

In 2008 FATS initiated a student grants scheme. The aim of this scheme was to help and encourage students to research frogs. The scheme was originally aimed at tertiary education students but is not limited to them. We have had university academics apply for these small grants, as well as secondary schools. If the project from an applicant seems worthwhile, FATS will try to support it where possible.

Tadpoles and Frogs of Australia

One of our better-known members is Marion Anstis. Marion is a researcher with a special interest in tadpoles. In 2013 she prepared her magnum opus, "Tadpoles and Frogs of Australia". This weighty tome contained an account of the life stages of almost all Australian frogs, a feat never done before. Of course a book as large as this is expensive to produce. The publishers were also concerned that the market for such a book might be small and so balked at publishing it in a form that did the work justice. The FATS executive decided that "Tadpoles and Frogs of Australia" was too important to produce in an inferior format and so decided to co-sponsor the production of the book with Taronga Zoo (who were also adamant



Marion receives the Whitley Silver Medal, 2014

that the book should come out as a useful reference book for future froggers). Because FATS' finances are so well looked after we were able to afford to co-produce the book and the final publication was worth every cent. The book is a great credit to Marion, New Holland publishers and the various colleagues who assisted Marion during her field work travels around Australia.

December FrogCall

FrogCall is traditionally a black and white newsletter. However, in 2009, it was decided to make the December edition of FrogCall a special colour edition. This meant extra work for the editors Marion and Monica to produce a more professionally designed publication with select articles and photographs. The December FrogCalls have become so popular that they are now collectors' editions. Although they are expensive to produce and taxing on our editors, FATS will continue to produce these colour editions for as long as possible. Apart from the December issue, FrogCall issues are now being sent out as a colour Pdf file by email.

Frog-O-Graphic Competition

Many of our members are excellent photographers and artists. To celebrate their talents the frog-O-Graphic Competition was started in 2009. Apart from the Best Senior Image, we introduced different categories to enable our general members to show their abilities as well. In particular, the Most Interesting Frogs and Best Pet Frog categories attract a lot of happy snaps. Winning entries go into an annual calendar and the December edition of FrogCall.

Field Trips

FATS has never been just about keeping frogs. Every year we try to run an assortment of field trips to great frog locations. In the past we only ran a few trips each year, but in 2006 Robert Wall stepped forward and offered to arrange the field trip schedules for each year, including 2 overnight field trips to Smiths Lake. The field trips are an easy way for people to see frogs in their natural habitats doing what frogs do. They are well attended and the group leaders are always well versed in the local frogs of the area.

FATS has been doing field trips to Smiths Lake since 1994. In the same year FATS commenced surveys in Wallingat State Forest (SF). As a result of these ongoing surveys a large data set of fauna has been accumulated for the area. FATS members do not just confine themselves to frogs,



Rob Wall with FATS members on a field trip

we always record other fauna on our trips. The data collected from these surveys was dutifully reported to the state government agencies who recorded the wildlife data (now under the auspices of the Office of Environment and Heritage). The fauna records supplied by FATS (and other natural history groups) documented a rich and diverse fauna in Wallingat SF including 26 frog species (of which one is a threatened species), 40 reptile species (two threatened species), 30 mammal species (six threatened species) and over 100 bird species (five threatened species). This data paved the way for the gazetting of 6,557 ha of Wallingat SF to become Wallingat National Park (NP). The justification for the creation of the national park was its demonstrated high biodiversity and faunal significance (DECCW 2010). FATS continues to survey in Wallingat NP and to compile a record of changes in the frog communities there over time.

FATS is for Everyone

FATS is not an exclusive club. Frog conservation depends on as many people as possible being aware of and understanding the plight of our native fauna. While FATS exists it will continue to be an advocate for frogs and their conservation. Like all clubs it relies on the goodwill of its members to help out wherever possible, and so far our members have answered the call whenever it has been sounded. I hope that FATS will always be around to help frogs. There is no room to adequately mention many people who have greatly helped FATS; people such as Wendy Grimm (our long-suffering secretary), Punia Jeffery, Vicki Deluca, Jilli Streit, Andrew Nelson, Alistair MacDougall, Steve Weir and a host of others. Without you FATS could not exist!

Our Remarkable *Neobatrachus*

Stephen Mahony

Western Australia is Australia's largest state, renowned for its diverse and beautiful landscapes. It varies from temperate cool forests in the southwest to tropical high rainfall rainforest gullies, and savannah plains in the north, with every variety of arid in-between. Unsurprisingly, it is home to a wide variety of Australian frogs including the well-known species such as the Magnificent Tree Frog (*Litoria splendida*), the weirdly wonderful Turtle Frog (*Myobatrachus gouldii*) and the eerily beautiful callers the Hooting Frogs (*Heleioporus*). It is with no surprise then that WA is high on the cards as a travel destination for all those interested in Australian frogs, and nature in general.

In April of 2015 my father and I were lucky enough to spend several weeks in WA chasing an intriguing group of Burrowing Frogs, genus *Neobatrachus*. This genus is extremely widespread over the semi-arid and arid zones of Australia, though WA is certainly a stronghold, with eight of the nine recognised species occurring there - several being endemic to the state. It is crucial when searching for these enigmatic burrowing frogs to correctly time a trip. They are well adapted to spending



Neobatrachus sutor (Shoemaker Frog), named after the tapping notes of its call. When breeding they can brighten in colour from mottled brown to yellow.

prolonged periods underground to combat the harsh desert conditions, and emerging for only short periods to breed. For this reason we watched a rain front moving across the inland of WA before jumping on a plane to Perth, hiring a car, and driving inland through core habitat of five *Neobatrachus* species.

From Perth we headed north-east through the wheatbelt of WA, optimistic about the darkened clouds and on-off drizzle around us. By dusk, we had reached the inner edge of the wheatbelt and started looking for bodies of water that may yield our target burrowing frogs. To begin with we found only a handful of Humming Frogs (*N. pelobatoides*) but heard no calling *Neobatrachus*, despite inspecting many pools of water formed by run-off in granite outcrops. Heading further north, the soil became progressively sandier and the puddles became progressively more common and larger in size. Along the road we began to find Shoemaker Frogs (*N. sutor*) and Kunapalari Frogs (*N. kunapalari*) as well as infrequent *Neobatrachus* choruses. After hours of driving, a dip in the road revealed flooded woodland either side for a great distance and an enormous chorus of desert burrowing frogs was finally heard. It was exactly what we wanted!

Neobatrachus can burrow up to 1.5 metres deep where they form a protective cocoon to lock in moisture. Here they slow their physiological processes, possibly waiting years to emerge. When they do emerge, in the right places they do it in their thousands, and it is explosive! Walking around several flooded clay pans was a first-hand experience of this amazing phenomenon. Frogs all around us made soft trilling or tapping calls coalescing into one sound. They jumped everywhere around our feet. Eager to make the most of these conditions amplexing pairs were almost as common as lone individuals. Many frogs are known to



Neobatrachus sutor x *Neobatrachus wilsmorei*: A male *N. sutor* attempts to amplex a much larger male *N. wilsmorei*. The mass of frogs available in these boom breeding events seems to lead to this occurring more frequently than observed in other frogs.

get over-excited and attempt mating with the wrong frog. In *Neobatrachus*, this is extremely common, and we found numerous males in amplexus with other males or species comically larger or smaller than themselves. While such mix-ups seem like a funny quirk, they may also have played a vital role in the fascinating evolution of *Neobatrachus*.

With their awesome arid adaptations, their cute pudgy bodies, charming smiles and sometimes bright colours, *Neobatrachus* are pretty cool. But hidden from the eye what makes them truly some of Australia's most fascinating frogs is their weird and wonderful genetics. For most organisms, the normal make-up of chromosomes is to have two sets, or one pair of each chromosome (these are known as diploid). In some *Neobatrachus*, however, the chromo-



Neobatrachus albipes (Whitefooted Frog). After the large choruses of more northern *Neobatrachus*, we found only a few of these, one of which was calling. They occur more in the southern coastal sandy areas.

somes have doubled and they have four of each in two pairs (hence are known as tetraploids). This is fascinating because it means some *Neobatrachus* species may have evolved very quickly. It is not known how tetraploids first occurred in *Neobatrachus*, but once they did they were instantly isolated from their diploid counterparts and a species was created figuratively overnight. This doesn't mean that diploids and tetraploid *Neobatrachus* can't interbreed, and the explosive nature of their breeding often seems to lead to mis-matched partners of various *Neobatrachus* species getting together. In zones where diploid and tetraploid species overlap, triploid hybrids can occur and may even be common, and this hybridisation leads to one of the most interesting features of *Neobatrachus*. All of the tetraploid species contain portions of genes from multiple species of *Neobatrachus*. Some mechanism has allowed for hybridisation over time to create a one-way flow of genetic material from the diploid into the tetraploid species where species overlap. Each of the tetraploid species can contain a little bit of as many as four different species of *Neobatrachus*. Genetic diversity is often a key to success in evolution, and the genetic sinkhole of tetraploid *Neobatrachus* leads to them having amazing genetic diversity and makes them a taxonomic enigma. It is no wonder they are some of Australia's most widespread and successful frogs.

Over the three weeks of the trip we saw five of southern Western Australia's *Neobatrachus* species and several humongous choruses of desert burrowing frogs. Seeing these less encountered desert frogs was great, allowing me to experience the many facets of just how interesting they are. But as much fun as the field is (it remains the most fascinating to me), the incredible process of evolution that has shaped *Neobatrachus* is one of the most remarkable examples of Australian amphibian evolution.

Veterinary Observations on a Captive Green Tree Frog

Dr Kim Le

A captive green tree frog (*Litoria caerulea*) was presented to our hospital with a history of being flat and listless for five days. It was still eating, though with a significantly reduced appetite, and was described as appearing uncomfortable when moving.

The actual age of the animal was unknown though it had been in a collection for 12 years. It had been attained as a 'rescue' animal with a history of suspect 'metabolic bone disease' given the deformity in its spine, stunted size and conformation. The individual lived in a colony with similar species of varied ages. There was no recent history of illness within the colony. The unwell individual was placed into a separate enclosure at the first sign of illness.

The husbandry of the collection was deemed appropriate according to recorded activities – UVB lighting, enclosure temperature gradient, relative humidity, diet, water quality and hygiene. At presentation to our hospital, a veterinary examination found the frog to be quiet and mildly weak. There was a small degree of dehydration evident. It was initially managed as an out-patient with instructions to continue with separation from the colony, and to monitor its appetite and behaviour. Treatment using rehydration therapy via partial intermittent immersion in amphibian Ringer's solution was prescribed. Instructions were offered to collect faeces for parasitological examination, as none could be attained at initial consultation.



Fig. 1: The frog presented with a head tilt

Five days later, the animal represented for continued weakness with no further reduction in appetite. It had also developed a head tilt towards the left which was accompanied by a 'circling' gait towards the left side (Fig. 1). The frog also appeared to develop slightly pale mucous membranes (gums) with a subjective reduction in body condition, despite no overall weight loss in comparison to the first visit. No other signs of balance deficits such as nystagmus (eye tracking/flicking) or ataxia (incoordination) were observed along with the head tilt. Possible causes for these presenting signs included neurological disease, musculoskeletal disease, middle ear disease, brain disease, trauma, toxin exposure, degenerative disease, malnutrition and unknown cause. For further investigation, whole body radiographs (X-rays) were taken. These revealed some mild gas accumulation in the gastrointestinal tract and an overall good level of skeletal bone density (Fig. 2).

The frog was admitted into hospital for monitoring and supportive management which consisted of fluid therapy, antimicrobials, pain management, daily hygiene care and feeding. Over the next week, the frog remained stable with no change in its head tilt and no apparent development of other clinical signs. A microscopic analysis of a fresh faecal sample demonstrated the presence of numerous large motile single-celled organisms (flagellates). The animal was subsequently commenced on a course of oral anti-parasitocides in addition to the antibiotics. The frog was discharged with a 4 week course of continued anti-parasitocides, antibiotics and daily fluid supplementation.

Two months later, the frog had reportedly resolved its head tilt and was seen to be eating and behaving normally. Although a clear cause of the head tilt and listlessness had not been found, supportive care and empirical treatment appeared to aid in the frog's recovery.

Similar to other species seen in our veterinary service, (including reptiles, birds, rabbits, rodents and wildlife) husbandry is considered the greatest contributor to illness by far. It is always imperative to adopt husbandry appropriate for the species



Fig. 2: X-ray result of the frog showing good bone density and curved spine

housed. An animal's environment should be optimal for it to remain healthy and be able to thrive. The diagnostic approach we adopt is a process of elimination based on what system or systems may be affected. Often, ill animals have their immune system compromised rendering them less able to fight 'basic' infections.

There is still much unknown regarding anuran medicine, disease and treatment – even more so with neurological disease as was suspected in this case. In a general sense, working up a neurological case would involve comprehensive bloodwork (looking at organ function and white/red cell counts) and imaging of the brain in the form of an MRI (ideal) or a CT scan. If information was inconclusive, then collection of the fluid that surrounds the nervous system could be analysed. Unfortunately such testing can add

up financially, be limited by the small size of the patient and still not be able to find the cause of the underlying problem. In some circumstances where a whole colony might be affected by disease, it may be necessary to consider 'sacrificing' the most ill animal and performing a post-mortem examination along with tissue sampling for pathologist review. These measures may appear drastic but can be necessary to identify cause of disease.

Possible causes

With the case of the head tilt in this frog, specific neurological causes to consider included:

- a) Infection that responded favourably to an antibiotic. Infection(s) may have been present in the ear, nervous system or systemic (circulating around in the blood stream)
- b) Vascular accident (stroke) that was resolved with time
- c) Migrating worms – there is one case report of this in the literature in different species, in 4 animals in a collection
- d) Atypical signs of Chytridiomycosis – emerging diseases need to be considered and reported if confirmed in our region
- e) Tumours and metastases (seeding) affecting the body
- f) Trauma and unknown causes

Dr Kim Le

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Normal healthy Green Tree Frog Christian Hofmann





Splendid Tree Frogs
Litoria splendida
© Karen Russell

FATS Frogographic



SENIOR PET Green Tree Frogs

John Pumpurs



MOST INTERESTING Peron's Tree Frog trapped by snake

John Pumpurs



JUNIOR PET Splendid Tree Frogs

Julie Shaw

Competition WINNERS



BEST SENIOR: Red-eyed Tree Frog

Karen Russell



BEST SENIOR: Red-eyed Tree Frog Brad McCaffery



PEOPLE'S CHOICE Kimberley Spadefoot in threat pose

Marion Anstis

Eyes Bigger than their Bellies!

Dr Shane Simpson

The ownership of pet frogs continues to grow as the attraction of these fascinating animals starts to become more well known. Gone are the days of a dog or cat being the only type of pet most people wanted. Today many people are looking for something a little unusual and frogs certainly fit the bill!

As veterinarians with a special interest in reptiles and amphibians it is not uncommon for us to have frogs presented for a wide range of health concerns. Some common ailments include eye injuries, skin lesions and the occasional lump or bump.

One of the most common reasons frogs are brought to our Hospital is for gastrointestinal foreign bodies. With their voracious appetites and impressive feeding response it is not surprising that many frogs will eat something they should not have. Sometimes it is obvious that they have eaten something but other times it is not with owners bringing in their pet simply because it looked a little off colour or was not eating.

Green Tree Frogs (*Litoria caerulea*) are by far the most common species seen at our veterinary hospital and as such are the ones most often seen with a gastrointestinal foreign body. The foreign bodies seen in these frogs can be basically divided into two types: substrate ingestion (e.g. pebbles, rocks) and cage furniture (e.g. artificial plants).

Many frog keepers will choose to keep their pets on gravel, small rocks or pebbles. These are easily ingested when the frog launches at a food item. If small enough the frog will either regurgitate the foreign object or it may pass through the stomach and be defaecated out. There is always the potential risk of such an object causing an intestinal obstruction but

we are yet to see one. It may not be very obvious the frog has swallowed a rock. A diagnosis may be made by gently palpating the abdomen. Single, larger stones can be felt quite easily. If a number of smaller stones have been ingested these may feel like a “bag of ice” when moved around inside the stomach as they rub against each other. To confirm the presence of a stone or stones the best method is to take a radiograph or x-ray image. Objects like pebbles are easily seen on such images.

Once the presence of a stone foreign body has been confirmed the next phase of treatment begins and that is extraction. In order to achieve this with minimal stress to the animal, the frog is anaesthetised. There are several documented methods of anaesthetising frogs. This includes applying a mixture of water-based lubricant and a liquid anaesthetic agent called isoflurane

CASE 1: Single Large Stone



Fig. 1: Radiograph of frog with single large stone



Fig. 2: Frog being anaesthetised

to the body of the frog. Due to their permeable skin the isoflurane is absorbed into the blood stream and 5–10 minutes after the mixture is applied the frog will be anaesthetised. Another method of anaesthetising frogs involves placing them in a small plastic box that can be sealed completely. A small plastic vial with a number of holes drilled in the lid is placed into the box. Inside this vial are placed 2–3 cotton balls that have been soaked with the anaesthetic agent, isoflurane. Again after 5–10 minutes exposure to this the frog will be adequately anaesthetised to allow the foreign body to be removed.

With the frog anaesthetised it is then a case of carefully manipulating the stone out of the stomach through the mouth. This can be achieved via manually pushing it around through the abdominal wall. Alternatively, surgical instruments called forceps may be passed through the mouth, down into the stomach and used to grasp the stone. On some rare occasions an endoscope may be required to visualise the pebble and allow its retrieval.



Fig. 3: Stone being removed from the everted stomach

CASE 2: Multiple Small Stones

Many frog keepers used artificial plants to add decoration to the terrarium. While these have the advantage of being non-toxic and easy to keep clean, depending on their design they are not without risk. Many have small barbs on the stems which can become lodged in the throat and stomach of frogs that ingest them. Other types of artificial plants have very sharp edges



Fig. 4: Radiograph showing multiple stones in a cloacal prolapse



Fig. 5: Close-up of gravel in cloacal prolapse

to the leaves. If swallowed these can literally act like a knife and cut through the stomach wall and other organs. Such damage requires surgical repair and as can be imagined this is not always easy to perform in an animal that is so small!



Fig. 6: Gravel is removed from the frog's stomach



Fig. 7: A section of plastic plant that had cut through the stomach and abdominal wall



Fig. 8: Arrow indicates the stalk of a plastic plant penetrating the abdominal wall



Fig. 9: Artificial plant caught inside the stomach of a frog

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Frog Friday..it's an actual thing!

Every Friday, the Instagram community uses the (hashtag) **#FrogFriday** to upload frog photos and flood the internet with all things froggy. It's been going pretty strong for about four years now, so if you haven't joined Instagram yet, this is your chance to show your amazing images to the rest of the world. Include a watermark if you don't want your images to be re-posted without permission.

To raise awareness of amphibian conservation worldwide, FATS member **Josie Stokes** curates the **@frogfriday** Instagram account and features two fabulous frog photos each Friday. To be featured:

Follow @frogfriday on Instagram

Tag @frogfriday in your post, and make sure to **Include** the #FrogFriday somewhere in your post.

Those 2016 Frog-O-Graphic entrants with an Instagram account have the opportunity to be featured on the @frogfriday gallery.

Search #FrogFriday to see some of the stunning froggy pics that have been recently featured.

Meet the New Species

Marion Anstis

From 2007 to 2016, as many as 19 new species of frogs have been described in Australia, with more likely to come in 2016 and beyond. The new species are emerging, in many cases, as a result of more recent research involving molecular DNA and increased field work. Apart from the DNA sorting them out, descriptions also involve detailed morphological descriptions of adults with photos, call descriptions and tadpoles (when available), as well as a distribution map and habitat preferences. Publications of new species are mostly undertaken by teams of scientists, and published in online scientific journals not readily accessible to the general public. There are major revisions underway at present of the family Hylidae (tree frogs).

Here I will showcase only the species that have been newly described in the last four years, and at the end of each summary, the citation for the paper describing the species is given.

1. Kroombit Tops Tree Frog, *Litoria kroombitensis* 2013



Kroombit Tops Tree Frog

Harry Hines

A new tree frog from Kroombit Tops in SE Queensland. This frog was described in the online journal *Zootaxa* as follows:

Litoria kroombitensis is known only from the Kroombit Tops, SW Gladstone, Qld and is a green and/or brownish stream-dwelling frog with white markings under its eyes. Males grow to 32 mm and

the larger females can reach 44 mm. It is closely related to *Litoria pearsoniana*, Pearson's Stream Frog, but DNA, distribution and call separate these two species. The tadpoles are also very similar to those of *Litoria pearsoniana*.

Hoskin, C. J., Hines, H. B., Meyer, E., Clarke, J. & Cunningham, M. (2013). A new treefrog (Hylidae: Litoria) from Kroombit Tops, east Australia and an assessment of conservation status. *Zootaxa* 3646: 426–446.

2. Blotched Boulder Frog, *Cophixalus petrophilus* 2013



Blotched Boulder Frog

Conrad Hoskin

This is a new microhylid frog known only from the massive boulder piles found in Cape Melville National Park, far north coastal Queensland. The species name '*petrophilus*' refers to its rock-dwelling habitat preference. It is a small frog (males grow to 28 mm, females to 32 mm), creamy yellow above with distinct dark brown blotches and bright orange over inner surfaces of hindlimbs (females are paler in colour). Previously only *Cophixalus zweifeli* (another microhylid) was known from this area, and *Litoria andirrmalin*, the Cape Melville Tree Frog. All these frogs hide deep down in boulder piles and come to the surface at times during the night in the spring/summer season.

Hoskin, C. J. (2013). A new frog species (Microhylidae: *Cophixalus*) from boulder-pile habitat of Cape Melville, north-east Australia. *Zootaxa* 3722 (1): 061–072.



Ratcheting Toadlet

Renee Catullo



Western Water-holding Frog (female)

Marion Anstis

3. Ratcheting Toadlet, *Uperoleia stridera* 2013

A new species of *Uperoleia* from the north-west desert country of Australia. Previously thought to be the same as *Uperoleia trachyderma* (Blacksoil Toadlet), but now has been separated from *U. trachyderma*.

Apart from distribution, the main differences between *U. trachyderma* and *U. stridera* are the call, which in *U. stridera* has fewer pulses per call and a faster pulse rate than *U. trachyderma*, and *U. stridera* lacks the scattered orange to red flecks on the dorsum present in *U. trachyderma*. *U. trachyderma* is now confined to the black soil country of the eastern portion of the northern deserts region from near Cloncurry in Qld across to near Daly Waters in NT, while *U. stridera* occurs in the western portion from west of Daly Waters, NT across to Fitzroy Crossing in WA.

Catullo, R., Doughty, P. & J. Scott Keogh (2013).

A new frog species (Myobatrachidae: *Uperoleia*) from the Northern Deserts region of Australia, with a redescription of *U. trachyderma*. *Zootaxa* 3753 (3): 251–262.

4. Western Water-holding Frog, *Cyclorana occidentalis* 2016



Western Water-holding Frog (male)

Marion Anstis



Female showing dorsal tilt of eyes

Marion Anstis

A new species of Water-holding frog found only in Western Australia (hence the species name which refers to western). This burrower is closely related to the well known eastern Water-holding Frog, *Cyclorana platycephala*. It is large (especially the females, which may reach at least 10 cm in length) and yellow-brown in colour with rougher skin than the eastern form. The eyes are slightly dorsal in orientation, similar to the eastern *C. platycephala*. This paper also describes a northern, more pinkish-grey form which may be a distinct species, but more data is needed yet before this can be clarified.

Anstis, M., Price, L. C., Roberts, J. D., Catalano, S. R., Hines, H. B., Doughty, P. D. & Donnellan, S. C. (2016). Revision of the water-holding frogs, *Cyclorana platycephala* (Anura: Hylidae), from arid Australia, including a description of a new species. *Zootaxa* 4126 (4): 451–479.

5. Cape York Graceful Tree Frog, *Litoria bella* 2016

A beautiful new tree frog from Cape York, Queensland, which is closely related to *Litoria gracilentia* (Dainty Tree Frog), *Litoria xanthomera*



Litoria bella showing its stunning colour contrasts

Jodi Rowley



Litoria bella, the beautiful underside

Jodi Rowley

(Orange-thighed Tree Frog) and *Litoria chloris* (Red-eyed Tree Frog). No prizes for guessing the reason for selection of its species name '*bella*'! It is

distinguished by a combination of its moderately large size, call, distribution and brilliant orange venter, digits and webbing. The dorsal surface of the thighs is bright blue and purple.

Unlike *Litoria gracilentia*, it lacks a paler stripe on the head, and the bright orange hands, feet and webbing really single it out from other related species.

McDonald, K., Rowley, J. L., Richards, S. J. & Frankham, G. J. (2016). A new species of treefrog (*Litoria*) from Cape York Peninsula, Australia. *Zootaxa* 4171 (1): 153–169.

6. There is also another new species of *Uperoleia* in press at the moment, but because it has not yet been published, I cannot divulge its name, suffice to say it is distinctive and differs from other east coastal *Uperoleia* in colour, call and DNA.

Clulow, S., Anstis, M., Keogh, J. S. & Catullo, R. (2016, in press). A new species of Australian frog (Myobatrachidae: *Uperoleia*) from a populated region of the New South Wales mid-north coast sandplains. To be published soon in *Zootaxa*.

What You're Missing if You've Never Been to a Smiths Lake Field Trip!

March, 2016

Peter Spradbrow



The Lake water level was very low this year...

Josie Styles

The question “*are you coming to Smiths Lake?*” forms a considerable part of the FATS oral tradition, and not without cause. These trips have been going, and going, twice a year for over twenty years and many of the people who go, go every time. Consequently, the Smiths Lake team is less a familiar group of acquaintances than a group of old friends; however, newcomers are welcomed very warmly! All of which begs the questions: ‘What makes this trip so great?’ and ‘Why do the same people keep going?’

One possibility is the idyllic location. Our accommodation is on the edge of the lake itself! The lake is quite large, although one of the smaller water bodies in the Myall Lakes sys-

tem, and is invariably calm and quite shallow. Though tidal, Smiths Lake gets deeper quite gradually and is an ideal place to swim, even for kids. An assortment of thriving ecological communities immediately surrounds the lake



This Magpie joined us for lunch!

Marion Anstis



Green Tree Snake taken after a photography lesson with Marion! Josie Styles



Baby Eastern Yellow Robin Josie Styles

and our base—all of which are quite accessible. I doubt there are very many places on earth where you can sleep within three hundred metres of grassland, forest and wallum, not to mention the lake, simultaneously. This unique position in the landscape often brings wildlife into our midst at the base too. In fact, it's an unusual day when lunch or afternoon tea is not attended by at least one magpie, kookaburra

or goanna. Additionally, snakes, kangaroos, koalas and even dingoes have been seen in and around the field station at times, and the Horse Point track is a favourite with birdwatchers. The base is also very close, ten minutes by car, to Seal Rocks and the rather beautiful Boat Beach where Green Turtles (*C. mydas*), Grey Nurse Sharks (*C. taurus*), rays and many fish species are regularly observed by our snor-



Southern Angle Headed Dragon, *Hypsilurus spinipes*

Josie Styles



Peron's Tree Frog, *Litoria peronii*

Josie Styles

kelling contingent while the rest of us swim peacefully in the gentle surf or sleep on the beach.

Another possibility is the people themselves. As I said before, many of the people who go, do so every single trip. Over many years we have come to know each other very well too. For my own part, and I have been going since I was 8 or 9 (about 20 years), my connection with the people and the place is very special. In fact,

almost as soon as I get back from one Smiths Lake trip, I ask to be placed on the list for next time. I'm not the only one either! Some of my fondest childhood memories of Smiths Lake trips are memories of the people: the cricket games, the swimming, the freedom to explore with new friends. Without doubt, this fondness for the people and the place is due to the efforts of our hosts, Karen and Arthur White, who have been running this trip for FATS since to dawn of time! In their own gentle way,



Little Forest Bat, *Vespardelus vulturnus*

Josie Styles



Lesser long eared Bat, *Nyctophilus geoffroyi*

Josie Styles



'Peek a Boo'...Whirring Tree Frog, *Litoria revelata*

Josie Styles

Karen and Arthur have made each and every person who has ever come to Smiths Lake feel welcome. Consequently, so much of the experience of a Smiths Lake trip is about the relationships you form with the people around you, and the relationship that you (and your family) form with the place itself. None of which is to say that we don't welcome newcomers—we do. Most earnestly! But, most people come more than once, and no one stays a newcomer for long.

That being said, FATS is a frog group and the Smiths Lake trip is a field trip—maybe it's the frogs. And, given that we have recorded over 30 frog species as well as many reptiles and birds too, this is a theory with considerable support. Each evening we decamp as one and visit many of the wild and wonderful forests, swamps, quarries and wetlands of the surrounding area in search of our favoured amphibian friends. Often these quests take us deep into the Wallingat National Park to the oft mythologised Fire Dams where the Whirring Tree Frogs' (*L. revelata*) bacchanalian

revelry can be deafening. This place is significant to us, as our survey work contributed to the former state forest being protected as a national park in 1999. Sometimes we visit The Grandis in search of Red-Backed Toadlets (*P. coriacea*), gliders, bats, Leaf Tailed Geckos (*S. mauritzii*), Diamond Pythons (*M. sp. spilota*) and even Sooty Owls (*T. tenericosa*). Or the Sandbar Quarry to look for Tusked Frogs (*A. brevis*) and small elapid snakes like the beautiful Golden Crowned Snake (*C. squamulosus*) and the cryptic Bandy Bandy (*V. annulata*). These creatures of the night always delight our group, whether it's their first or one hundredth encounter.

On the whole, it's quite difficult to distil the essence of a Smiths Lake trip into a brief article. For me, I go as often as I can because the place, the people and the frogs are special to me, and because I love all of it. This is more than a frog trip—it's a brief frog-related holiday with people that I have come to know over many years. I hope to see you there!

Field Trips

Please book your place on field trips. Due to strong demand, numbers are limited. Be sure to leave a contact number. Regardless of prevailing weather conditions, we will continue to schedule and advertise all monthly field-trips as planned. It is YOUR responsibility to re-confirm in the last few days, whether the field trip is proceeding or has been cancelled. Phone Robert on 9681-5308.

3rd December. 8-30pm. Scheyville National Park. Leader: Grant Webster.

Meet at the corner of Scheyville Rd and Dormitory Hill Rd, Scheyville.

Tonight we will revisit the woodlands of the Cumberland Plain and look at the frogs of the shale country. These frogs endure quite different conditions to their cousins of the coastal sandstone. We will discuss these differences and also look at some of the threats that have compelled authorities to list the Cumberland Plain Woodland as an endangered ecological community. The habitat that is represented in the Scheyville National Park is diminishing at an alarming rate and tonight Grant will show us some of the frogs that rely on these woodlands. Grant has developed into an outstanding researcher. Many FATS members will be familiar with his talks at our monthly meetings. Tonight he will return to some of those sites where he undertook his first research projects. He knows this area intimately and he will explain some of the threats the frogs here are facing.

14th January. 8-15pm. Murphy's Glen. Leader: Peter Spradbrow.

Meet in the carpark on the southern side of Woodford station.

Research shows that "...all roads, even minor service trails, have a disproportionate and negative impact upon aquatic environments and adjoining bushland". Problems of silting, re-routing of water-flows, increased access for both native and feral predators and the inadvertent introduction of pollutants, weeds and disease all become evident. Roads can be responsible for the significant fragmentation of habitat. While incidences of roadkill are generally more obvious to the public, tonight we will consider some of the more insidious and far-reaching impacts of roads upon our wildlife and bushland environments. Using the higher topography of the mountains as an example, we will discuss how water-quality many kilometres away is compromised, and how our frog life is often the first to be affected. Peter has been involved in the long-term monitoring of many of these western Sydney sites. He has developed great insights into the subtle changes that have taken place over decades. Tonight he will share some of these insights with us.

In the event of uncertain frogging conditions (e.g. prolonged/severe drought, hazardous and/or torrential rain, bushfires etc.), please phone 9681-5308. Remember! rain is generally ideal for frogging! Children must be accompanied by an adult. Bring enclosed shoes that can get wet (gumboots are preferable), torch, warm clothing and raincoat. Please be judicious with the use of insect repellent – frogs are very sensitive to chemicals! Please observe all directions that the leader may give. Children are welcome, however please remember that young children especially can become very excited and boisterous at their first frogging experience – parents are asked to help ensure that the leader is able to conduct the trip to everyone's satisfaction. All fieldtrips are strictly for members only – newcomers are however, welcome to take out membership before the commencement of the fieldtrip. All participants accept that there is some inherent risk associated with outdoor fieldtrips and by attending agree to; a release of all claims, a waiver of liability, and an assumption of risk.

FATS meets at 7pm, on the first Friday of every **EVEN** month at the **Education Centre, Bicentennial Park, Sydney Olympic Park**

Easy walk from Concord West railway station and straight down Victoria Ave. By car: enter from Australia Ave at the Bicentennial Park main entrance, turn off to the right and drive through the park. The internal road is one-way and winds and twists. Just follow it and turn right at the P10f parking sign. Or you can enter from Bennelong Road / Parkway. It is a short stretch of two way road. Park in P10f car park, the last car park before the exit gate. Take a good torch in winter. It is a short walk from the car park to the Education Centre, Bicentennial Park. It is a short walk to the single story education centre and its tall tower. Both can be seen from the car park. Directions from your home: <http://www.sydneyolympicpark.com.au/maps/getting-to-the-park?type=venue&id=384059>



THANK YOU to the committee members, FrogCall supporters, meeting speakers, Frog-O-Graphic competition entrants, events participants and organisers David, Kathy, Sarah and Harriet Potter and Ryan Kershaw for an enjoyable year. The FrogCall articles, photos, media and webpage links, membership administration and envelope preparation are all greatly appreciated. Special thanks to regular newsletter contributors, Robert Wall, George Madani, Jilli Streit, Karen & Arthur White, Andrew Nelson, Wendy & Phillip Grimm, Henry Cook, Marion Anstis and Bill Wangmann.

The FATS committee especially thanks Marion Anstis for producing our December Colour Editions.

FATS MEETINGS: Commence at 7 pm, (arrive 6.30 pm) and end about 10 pm at the Education Centre, Bicentennial Park, Sydney Olympic Park, Homebush Bay. Meetings are usually held on the **first Friday of every EVEN month** February, April, June, August, October and December but not Easter (Good) Friday. Call, check our web site or email us for further directions. We hold six informative, informal, topical and practical meetings each year. Visitors are welcome. We are actively involved in monitoring frog populations, field studies and trips, have stalls at local events, produce the newsletter FrogCall and FROGFACTS information sheets.

All expressions of opinion and information are published on the basis that they are not to be regarded as an official opinion of the Frog and Tadpole Study Group Committee, unless expressly so stated.

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FATS ON FACEBOOK: FATS has over 1,800 Facebook members from almost every continent. Posts vary from husbandry and frog identification enquiries to photos and posts about pets, gardens, wild frogs, research, new discoveries and habitats from all over the world. The page includes dozens of information files. <https://www.facebook.com/groups/FATSNSW/>

RESCUED FROGS: are seeking forever homes at most meetings. Please contact us in advance if you wish to adopt a frog. Cash donation required. FATS must sight your current amphibian licence. Licences can be obtained from NSW National Parks and Wildlife Service (NPWS), Office of Environment and Heritage <http://www.environment.nsw.gov.au/wildlifelicences/GettingAnAmphibianKeepersLicence.htm>. We request that you join FATS before adopting a frog. This can be done on the night of our meeting. Sorry we have no EFTPOS at meetings. Rescued frogs are only available to re-home at meetings.

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