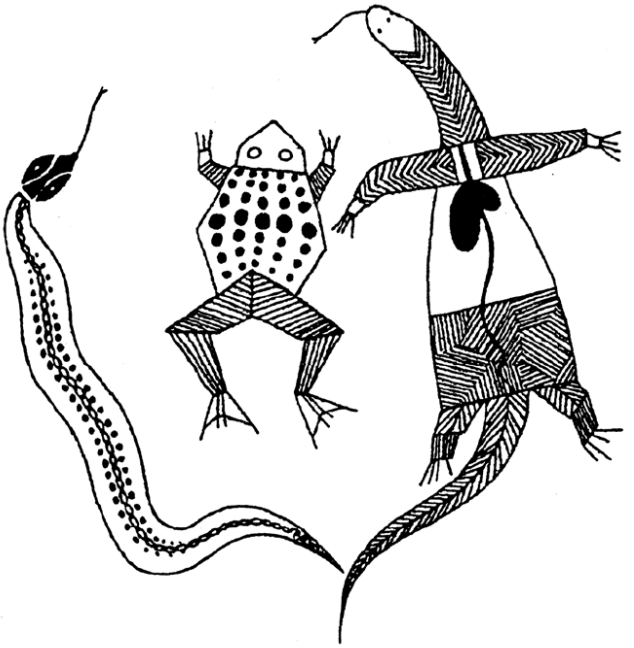
THE AUSTRALIAN SOCIETY OF

HERPETOLOGISTS

INCORPORATED



NEWSLETTER 44

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Website maintained by Jean Marc Hero

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President:
Michael B. Thompson
Professor in Zoology
School of Biological Sciences
University of Sydney, NSW 2006
Email: mike.thompson@bio.usyd.edu.au

Vice-President:
Paul Doughty
Curator of Herpetology
Department of Terrestrial Vertebrates
Western Australian Museum
49 Kew Street, Welshpool WA 6106
Email: paul.doughty@museum.wa.gov.au

Secretary:
Frank Lemckert
State Forests of NSW
Forest Research and Development Division,
PO Box 100, Beecroft, NSW, 2119, Australia.
Email: frankL@sf.nsw.gov.au

Treasurer:
Glenn Shea
Faculty of Veterinary Science
University of Sydney
NSW 2006
Email:gshea@mail.usyd.edu.au

Newsletter Editor:
Deborah Bower
Institute of Applied Ecology,
University of Canberra,
Canberra, ACT, 2601.
Email: bower@aerg.canberra.edu.au

Website Editor:
Jean-Marc Hero
School of Environment,
Griffith University,
Gold Coast Mail Campus, Qld 4222
Email: m.hero@griffith.edu.au

Public Officer:
Scott Keogh
School of Botany and Zoology
Australian National University
Canberra, ACT 0200, Australia
Email: scott.keogh@anu.edu.au

Ordinary Member 1:
Danielle Edwards
Postdoctoral Research Associate
University of Michigan
Ann Arbor, MI U.S
Email: daned@umich.edu

Ordinary Member 2:
Wildlife Ecologist
Australian Wildlife Conservancy
Scotia Sanctuary
Care Post Office
Wentworth, NSW 2648
Email: eridani@australianwildlife.org

ASH Website: http://australiansocietyofherpetologists.org/index.html

Please direct all membership enquiries to the Treasurer, Glenn Shea. Membership forms can be downloaded from the ASH web site. Newsletter feedback can be given to Deb Bower. All other enquiries should be directed to the Secretary, Frank Lemckert.

Table of contents



ASH Update

The Australian Society of Herpetologists met on the North Island of New Zealand in a town called Albany, situated in the outskirts of Auckland, to attend the SMASH (Second Meeting for the Australasian Society of Herpetologists). It was there that the Kiwis showed us that herpetologists don't necessarily need reptiles to have a good time...

The conference mixed the presentation of some excellent science with hippy communes, networking and giant dancing sperm. David Towns and Michael Bull gave fantastic plenary lectures and we enjoyed symposia on topics as diverse as ecophysiology, population genetics and behavioural studies; underlying the conference theme of conservation. Georgia Ward was awarded the Murray Littlejohn Prize for the best Honours presentation by an ASH member; Bridget Murphy received the overall award for the best presentation at the conference, and Sharron Perks received the Peter Rawlinson Prize for the best ASH postgraduate presentation.

To much amusement, it eventuated that the main student hub was a rather suave hippy commune and after some research of our own we discovered why… it transpired our venue was once ran as a couple's resort, which explained the beautiful 25m lap pool complete with a home-built slippery slide and trampoline. The juxta-positioning of deluxe buildings filled with bizarre artwork and homemade mishmash could not be overlooked. Yet the hippies were invitingly friendly and accommodating and allowed the entire conference back to the 'eco lodge', where Peter Harlow and Simon Clulow led the conga line of giant dancing sperm; the pool became full of herpetologists playing water polo and slippery slide train—and so was born the herpetologists aquatic version of 'nut cruncher'. The hippies even put on a show of their own with flashing lights on strange dancing men and even a gigantic snake, lit up against the New Zealand night sky [see photo below].

On a slightly more serious note, ASH members met to discuss the society at the AGM where Mark Hutchinson became the new president with plans to host the next meeting on the shores of Lake Bonney (complete with nudist beach) in Barmera. Mike Thompson became vice president after an impressively productive year of presidency while secretary Frank Lemckert and treasurer Glenn Shea remain in their positions after fantastic contributions throughout 2008. We voted to raise the cost of membership to $15 for students and $35 for adults. The recipients of the research and travel awards were announced. Travel grant recipients were Diana Virkki, Katie Smith, David Pike, Sharron Perks, Bridget Murphy, Keisuke Itonaga, Renee Catullo, Choloe Cadby and Deborah Bower. Student research grants went to MItzy Pepper, Nadav Pezaro and Mathieu Russell.

ASH members decided on an annual newsletter to be produced in our quiet season (winter) featuring our latest adventures as well as the usual incriminating photos… enjoy.

President's Report

Happy 2009 to all the ASHers. Being given the role of ASH President in February this year has been a very pleasant burden to bear. The Society is one that I have always thought has its priorities pretty well in place, with its emphasis on supporting younger researchers to meet each other as well as older (declining?) herpos, and to feel welcomed into the community of professional enthusiasts who have reptiles and amphibians as their model organisms. I am always impressed at ASH meetings at the truly collaborative and cooperative spirit that flows through this group of people. It is something we must continue to value and to cultivate.

As the figurehead for the Society, I am well aware of those who do the real organisational work for the Society. Our new Vice-President, Mike Thompson, presided during his term over a vital financial review of the Society, for which much of the legwork was done by Glenn Shea (Treasurer) and Frank Lemckert (Secretary), a very timely and time-consuming task that has provided ASH with a much needed catch-up to get us back into compliance with our responsibilities as an incorporated body. The AGM at Auckland this year made it clear how much work had to be done and also, how well it was done. This work has meant that I walk into this position without the financial worries that would have affected my predecessor. Equally, I am grateful to Deb Bower for her dedication to the sometimes thankless task of being the one to tap her fellow herpos on the shoulder and getting them to contribute something to our Newsletter, and to Marc Hero for his continuing willingness to keep the ASH website a lively and useful information source for Australian herpetology.

The joint ASH – SRARNZ meeting in Auckland was a very welcome chance to visit our New Zealand colleagues at their place for a change, rather than them (as they usually do) having to come to Oz. The warmth and enthusiasm of the reception was delightful. Thanks to Marleen Baling, Weihong Ji, Dave Towns, and the rest of the organisers who made "SMASH" a smash hit. One thing that I was very much struck by was how easy we have it in Australia, where so many of our species are still abundant and easy to study. The dedication that Kiwi herpetologists show in facing the ecological catastrophe besetting their herpetofauna is simply admirable. The next ASH meeting will be in South Australia in September/October 2010. Initial organisational meetings are already taking place and we hope to get a first announcement with the venue and dates posted on the ASH web site very soon. Think deserts in spring.

Many Australians went to Manaus for the 6th World Congress in 2008 and had a great time (and a few adventures). The next will be in Vancouver in 2012 (save your pennies), and there is some talk already of a possible Australian bid for a subsequent Congress. Perhaps more on this after the next ASH meeting.

With the financial problems of the Society now under better control, there are several issues that I can see the Society facing in the next few years. One is names. Nomenclatural matters are being discussed quite a bit at present. Australia still lacks an agreed checklist, unlike the mammalogists and ornithologists who have had theirs for some time.

Checklists are useful milestones that allow some clarity for non-taxonomists when confronted by what is close to a barrage of revisions and new discoveries in the biodiversity of our herps. Is this new name really something new? How to keep up with the literature on all these new critters? Attempts have been made in the past, unsuccessfully, to arrive at something that could act as an authoritative resource for all those working on reptile or amphibian diversity. Maybe we should look at this again. With on-line resources being relied on more and more and with a well set-up web site, ASH seems to be in a good position to provide this service. Well placed, that is, just as long as we can agree among ourselves on compromising here and there when opinions differ.

Hope all your grants come through, all your papers are accepted first draft and all those theses pass with flying colours. Best wishes on behalf of the ASH committee for the rest of 2009.

Mark Hutchinson.
ASH President.

35th Meeting of the Australian Society of Herpetologists

Lake Shed and Eco Park, Barmera, SA
27th-29th September 2010
Pre-mixer on Sunday 26th September
Expedition day Thursday 30th September

Set in South Australia's Riverland where the Murray meets the mallee, our next meeting will take place on the shore of Lake Bonney, 220km from Adelaide. The Lake shed and Eco Park offer a range of accommodation from powered sites and bunkhouses to cottages and cabins.

Join the ASH mailing list to receive regular updates and watch the website for more information
www.australiansocietyofherpetologists.org

THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

MEMEBERSHIP RENEWAL FORM

The Australian Society of Herpetologists Inc. is a society for professional herpetologists and publishing amateurs. The Society is incorporated in the Australian Capital Territory and is administered by a council of seven members. The Society meets at intervals of between 12 and 18 months, usually in a residential situation away from a major city. Meetings take the form of sessions of scientific papers and a business meeting.

Dues are currently AUS$25.00 per annum for non-students and $10.00 for full time students. All fees must be tendered in Australian Currency and cheques made payable to: Australian Society of Herpetologists Inc. Fees are due in June every year. All enquiries and nominations for membership should be sent to the Secretary/Treasurer of the Society (address below).

Name	
Current Email	
Organisation	
Do you wish to remain on the ASH list server?	
Student or non student?	

This form, accompanied by dues should be sent to:

Treasurer:
Glenn Shea
Faculty of Veterinary Science
University of Sydney,
NSW 2006
Ph: +61 2 9351-2444 (office)
Fax: +61 2 9351-6880
Email:
gshea@mail.usyd.edu.au

Secretary:
Frank Lemckert
Forest Science Centre,
Science and Research Directorate, NSW
Department of Primary Industries.
PO Box 100, Beecroft, NSW, 2119, Australia.
Email:
frankl@sf.nsw.gov.au

A massive thank you to our regional reporters...

North Queensland	Rebecca Webb
South Queensland	Harry Hines
Northern Territory	Dane Trembath
Western Australia	Dale Roberts
New South Wales	Frank Lemckert
Australian Capital Territory	David Wong
South Australia	Aaron Fenner
Victoria	David Chapple
Tasmania	Geoff While

The 10th International Congress of Ecology, will be held in Brisbane 16-24th August, 2009. Stay tuned at http://www.intecol10.org/

10TH INTECOL 2009 BRISBANE
Ecology in a Changing Climate
Two Hemispheres - One Globe

Australian & New Zealand Society for Comparative Physiology & Biochemistry

ANZSCPB's next meeting will be at Deakin University in Geelong during the first or second week of December, 2009. Stay tuned at http://www.zoo.latrobe.edu.au/anzscpb/

Northern Territory

Northern Territory Regional Report

As the dry season is upon us we are finally granted a reprieve from the high humidity and temperatures of the wet season. Unfortunately for snake biologists this leads to a decrease in fieldwork, but also an increase in writing up their snaky exploits from the previous years. On the other hand the dry season becomes the main study time for turtle biologists as water remains calm and clear and turtles begin to nest or aestivate and some are exposed to high levels of feral pig predation.

Unfortunately the Northern Territory is still not occupied by vast amounts of herpetologists and the few that dwell here are either too busy to return their findings to the newsletter or belong to other out of state institutions. We do however have some news from the Northern Territory.

Museum and Art Gallery of the Northern Territory

The museum is glad to have **Paul Horner** back after a health scare that sent him on a plane down to Adelaide, luckily this was caught fast and after two months of his absence we are very happy to have him return to his position of Curator of Terrestrial Vertebrates. Much thanks must be extended to **Steve Donellan**, **Mark Hutchinson**, and **Mark Adams** who went out of their way in Adelaide to visit Paul and make him feel more comfortable during his stay there. Now that Paul Horner is back his work can continue on the revision of the Diporiphora complex and he is also in the process of databasing all his photos so that they can be amalgamated into the ever evolving Terrestrial Vertebrates Database at the Museum and Art Gallery of the Northern Territory. While Paul was away in Adelaide work at the museum continued with research associate **Dane Trembath** continuing his never ending dissections of tropical snakes and also writing up past research during his undergraduate time at James Cook University. Dane is also due to hand in his thesis on the Comparative Biology of the Australo-Papuan Python Radiation by the end of the year. The museum has also been able to hire a short term technician named **Tom Parkin** who has been helping to empty freezers and collect tissue vouchers and specimens from the surrounding area. The addition of Tom has allowed work at the museum to increase and a number of publications should be completed in the coming year.

Ben Corey, in collaboration with Damien Fordham has continued working with the Bawinanga Aboriginal Corporation on turtle conservation in Arnhem Land by managing pigs. They have finished the first part of the project, which involved wading around swamps, capturing and marking *Chelodina rugosa* at a series of eight ephemeral billabongs. Now they are onto the experimental management of feral pigs… The next few months will involve (i) fencing to exclude pigs, (ii) use of the target specific bait PIGOUT® and (iii) periodic culling. This will be followed up with another wet season of capture-mark-recapture, involving some spectacular helicopter drops to remote billabongs in the central Arnhem Land.

Queensland

Rob Puschendorf Just did his PhD exit seminar, focusing on the comparison of survival between high elevation dry sclerophyll and high elevation rainforest torrent frog populations threatened by *Batrachochytrium dendrobatidis* (Bd). He has also received a grant from National Geographic to look more closely at the recently rediscovered frog *Litoria lorica*, and investigate why the population still exists, despite being infected with Bd.

Jamie Voyles Finished her PhD and is now working for the DPIW in Tasmania. She is looking at the distribution and prevalence of Bd in Tasmanian frog populations. There are 11 frog species in Tasmania, 3 of which are endemic. Jamie is trying to work out which species are most susceptible to Bd infection, in order to identify where to focus efforts for effective conservation action.

Sara Bell Has started collecting microbial swabs from frogs at a variety of upland and lowland rainforest creeks in the wet tropics. She will be looking for inter-individual level variation and tracking microbial changes over time by comparing 16s bacterial rDNA sequences. Last year she discovered bacteria that enhanced the growth of the chytrid fungus in vitro and hopes to test this effect in vivo soon. She is on a steep learning curve as far as molecular techniques go!

Scott Cashins Is writing up his PhD, and is beginning a project in collaboration with Peter Harlow and Michael McFadden at Taronga zoo and Dave Hunter at NSW DECCW. He is researching the role of innate and acquired immunity in frog defenses against Bd and aims to incorporate these results into the captive breeding and release program for the booroolong frogs (*Litoria booroolongensis*) and corroboree frogs (*Pseudophryne corroboree*).

Mattias Hagman is expected to turn up soon, returning from Sweden (after a long wait for a visa) to commence his APD postdoc which is part of the large ARC Discovery project being carried out in the Alford lab. This project will focus on the host pathogen relationship between rainforest frogs and Bd, and how this relationship is affected by behavior, environment and skin microbiota. **Betsy Roznik** commenced a Ph.D. supervised by Ross Alford and Lin Schwarzkopf, working on the environmental aspects of the same ARC discovery project.

Angus McNab and **Sarah Sapsford** have completed their Graduate Certificate of Research Methods project write-ups, and hope to join us as Master's students. They are working on movement and habitat use in relation to disease (Bd) dynamics in lowland populations of *Litoria rheocola*. Gus track's 'em and Sarah marks 'em.

Nicole Kenyon graduated with a Ph.D. in December 2008! **Andrea Phillot** is busy analyzing three years of epidemiological field data. **Carryn Manicom** has left us to go live in Tasmania, but continues to write up her PhD while wearing wooly socks and a beanie. She has just submitted another chapter for publication. **Brett Goodman** is somewhere in Colorado doing a post-doc on lizards. **Mat Vucko** has totally gone over to the dark side and is working on methods to prevent fouling of surfaces in marine environments. He hopes to start a PhD on anti-fouling soon. He plans to actually get a job in his field when he finishes.

John Llewelyn continues his PhD studies assessing the effect of cane toads on native fauna. He has just had a paper accepted in Biological Invasions. **Andrea Phillot** is busy analyzing three years of epidemiological field data. **Mat Vickers** has returned from the wilds of Europe and is joining us to help improve methods for trapping the dreaded cane toad. He is planning to start a PhD on thermoregulation, soon. He is replacing Alex Howard, who worked with us for six months trapping toads, but now must return to Canadia to renew his visa and get back here as fast as possible…

Rick Abom is deep in the middle of his master's project trying to work out whether there are biodiversity effects of grader grass. His goal is to count every vertebrate at Undara National Park, and he may be gone for some time. **Scott Harte** has just finished a Graduate Certificate of Research Methods observing the behaviour of goannas and people in Bowling Green Bay National Park. The people like the goannas, and the goannas like sausages. **Kris Bell** is starting a minor project tracking keelback snakes around the Townsville Town Common. **Frances Alexander** has gone on a break after finishing honours with us on introduced and native geckos and their light environment preferences. **Deb Bower** claims to be writing her PhD thesis and is visiting us for the duration.

Patrick Couper and **Andrew Amey** have collaborative research projects with Arne Rasmussen (Royal Danish Academy of Arts) and Ewan Wolff (University of Wisconsin); the former project aims at resolving nomenclatural issues involving *Hydrophis pacificus*, the latter documenting an unusual dental abnormality in a wild caught adult *Crocodylus porosus*. The Queensland Museum hosted a two day freshwater turtle symposium and a one day IUCN Red List for Australian Freshwater Turtles Workshop which were held in conjunction with the 29th Symposium on Sea Turtle Conservation in February at the Brisbane Convention Centre. Patrick and Andrew have published the description of a new *Lerista* from a vine thicket in NEQ and submitted a paper to *Zootaxa* resolving nomenclatural issues with *Lerista karlschmidti*. Andrew submitted a paper on senescence in the Bearded Dragon to Herpetofauna. Patrick (with Conrad Hoskin published a paper discussing the importance of rock landscapes for the long-term persistence of rainforest lineages providing, reptile frog and invertebrate examples and submitted a paper (with Steve Donnellan) to *Zootaxa* revising the *Carlia longipes* group in northern Australia and the Torres Strait. Patrick and Andrew will be undertaking herpetological fieldwork in September at the Steve Irwin Wildlife Reserve on Cape York funded by Australia Zoo. Patrick and Andrew are facilitating work by Dr Danny Brown investigating population variation in the Golden-tailed gecko, *Strophurus taenicauda*.

New South Wales

Mike Thompson
School of Biological Sciences, University of Sydney

David Llewelyn has joined the lab for his honours project on cane toads, supervised jointly with Rick Shine. **Rhian Dyer** will begin an honours project on molecular aspects of the evolution of viviparity in second semester. Rhian will study a variety of species of skinks and will be jointly supervised by Kathy Belov in the Vet School.

Joanna Biazik submitted her PhD thesis in April on the junctional complexes in the uterine epithelium of lizards where she directly addressed the changes involved in the evolution of complex placentae in lizards. Jo has now taken up a postdoctoral position in the Electron Microscope Unit at the University. **Cameron Fong** submitted his honours thesis in June on the ultrastructure of the uterine epithelium of two species of the genus *Niveoscinsus*. **The lab group** was represented at SMASH in Auckland, where **Bridget Murphy** won the best presentation by a student for her paper on factors that trigger development of blood vessels in the uterus of pregnant lizards, including the discovery of the first occurrence of a potent angiogenic factor in a whole animal (*Saiphos equalis*). Bridget has studied aspects of angiogenesis and oxygen consumption in a variety of skinks, especially *Eulamprus quoyii*.

Mike Thompson completed his term as President of ASH at SMASH, but continues as Vice-president until the next ASH meeting. Mike also presented the Occasional Address at the Science graduation at the University of Sydney in May where he spoke about lizards, viviparity and the development of blood vessels in lizard uterus and human cancer tumours. **Shervin Aslanzadeh**, who started her PhD last year on the behavioural interactions between plague locusts and central-netted dragons now has a good sample of dragons and is discovering some interesting behaviours. **Nadav Pezaro**, who also began his PhD last year on TSD in water dragons, incubated lots of dragon and skink eggs last summer and is now busy looking after all the babies. **Scott van Barneveld**, doing a PhD from the Invasive Animals CRC on the invasive *Lampropholis delicata*, now has a variety of species of *Lampropholis* in the lab for comparative behavioural and physiological studies. **Qiong Wu** (aka Jasper) has almost completed her MSc thesis on junctional complex molecules in the uterus of two species of *Niveoscincus*. She has discovered that changes in the distribution of cadherin molecules in the uterus of pregnant skinks are very similar to those in the uterus of rats. Qiong also has had the results of her last Masters (M.Wild.Res) on the thermal physiology and metabolism of *Saiphos equalis* accepted for publication.

Scott Parker has perfected the method of visualising blood vessels in the uterus and embryonic membranes of lizards and is now investigating mechanisms of regulation of vessel growth. Unfortunately, he is leaving us at the end of this year to take up a position at Carolina Coastal University. He will be greatly missed but we wish him well and hope for future collaborations with him. **Jacquie Herbert** continues to manage all of these people, and more, while conducting research on calcium transport across the placenta of lizards. Two visitors, **Robin Andrews** from Virginia Tech and **Martha Ramírez Pinilla** from Universidad Industrial de Santander, will be visiting the lab for the next reproductive season for lizards. Robin will be working on eggs of geckos and Martha will be involved in the ongoing work on skinks.

David Chapple and Mike recently received a Hermon Slade Foundation Grant to study the lizard fauna of Lord Howe Island, the impact of *Lampropholis delicata* on Lord Howe Island, and the effect of the future removal of rats on the lizard fauna of the Island. **Mike Thompson** will present a paper at the combined meeting of US herpetological societies in Portland Oregon in July, visit Jim Stewart at East Tennessee State University to complete the description of the embryonic membranes of Lord Howe Island skinks, visit Yale to present a seminar on the evolution of viviparity in skinks and then return via the International Conference of the International Federation of Anatomical Associations where he has been invited to present a paper on viviparity in reptiles.

Prof Michael Mahony and John Clulow
Amphibian Research Laboratory, The University of Newcastle

Masters student **Paul Taylor** and Honours student **Lachlan Storrie** are investigating environmental inhibitors of the chytrid fungus. Honours students: **Tegan Hunter** is exploring novel ways of detecting the chytrid fungus in environmental samples; **Evan Pickett** studying the demography of *Litoria aurea* in the Brickpit at Sydney Olympic Park; **Carla Pollard** and **James Garnham** are investigating relationships between habitat and the distribution and density of *L. aurea* at Sydney Olympic Park.

John Clulow and **Michael Mahony** are continuing their work on IVF and gamete, embryo and somatic cell cryopreservation in native frogs for the development of gene banking technologies. They are currently writing up some work in this area previously completed with honours students and colleagues. One of those honours students (**Khim Wooi**) who did work on amphibian ovary cryopreservation won a prestigious traineeship in human IVF at Sydney IVF. So people who train on frogs do get good jobs in the real world! **Simon Clulow** is continuing his work on phenotypic plasticity and fitness in amphibian larvae; assessing the impact of inland fisheries on threatened stream frogs in the New England Tablelands; and dabbling in the morphology and biology of the Uperoleia complex in collaboration with Renee Catullo and the Keogh group at ANU. **Rachael Peak** is continuing her work on the calling behaviour of *Assa darlingtonii*. **Michelle Stockwell** is busy completing her thesis on the role of the chytrid fungus in the decline of *Litoria aurea* while transitioning into working life researching restoration strategies for endangered amphibians.

Researchers from the University of Newcastle, the University of Sydney and the South Australian Museum, in conjunction with industry partners SOPA, Strathfield Council, NSW Roads and Traffic Authority and NSW Department of Environment and Climate Change, received an Australian Research Council (ARC) Linkage Grant to conduct research towards building sound ecological restoration strategies for endangered amphibians.

Frank Lemckert and Trent Penman
Forest Ecology Section, NSW Department of Industry and Investment

Honours student **Lauren Harrison** from UNSW is starting a study of the distribution and relationships of frogs in the Macquarie Marshes and Frank has agreed to provide his froggy perspective on this work. **Rowena Hamer** completed her honours study of scent recognition in frogs, indicating that they have a highly developed set of responses to cues and opening up some really interesting ideas on further research. Again, Frank played a role in this work as supervisor and provider of equipment and jokes.

Frank Lemckert continues his monitoring of frog populations, marking lots of *Litoria peronii* and counting frogs around ponds to see if they will learn to recognise him. He will be drawn back into the shadowy world of reptiles when he undertakes some monitoring in the Pillliga in September, determining how well he can find them on transects and prove their worth as indicators of habitat quality. He promises that this will not last long though as reptiles are a bit scary. Frank also continues his fruitful collaboration with the Federal Government looking at the distribution of species within the reserve system, looking for holes in our information that need filling. **Trent Penman** has jumped on the band wagon and begun analysing the potential impact of climate change on reptiles (in collaboration with Rick Shine, Jonno Webb and David Pyke) and frogs (in collaboration with Frank Lemckert). Who knows, maybe he will return to the world of herpetology after all.

Rick Shine
University of Sydney

2009 has seen the arrival of four new Ph D students (yes, four …) and two new Honours students, as follows.

Ph D students: Much to his relief, **Ben Croak** has finished deploying artificial rocks for his experimental restoration of Hawkesbury sandstone outcrops. He now has artificial rock sites set up throughout the range of the Broad-headed Snake, and has recorded around 20 individuas of this endangered snake speciess using artificial rocks as retreat sites. Additionally, Ben has found some unexpected visitors using artificial rocks including; Tree snakes, Red-naped snakes and most recently, a Dwyer's snake. **Reid Tingley** recently joined Team Bufo to study various aspects of amphibian macroecology. He is currently examining geographic and taxonomic biases in amphibian introductions, and investigating niche conservatism in the cane toad. In an attempt to get away from the computer, Reid occasionally sneaks away to catch velvet geckos and broad-headed snakes around Sydney.

Edna Gonzalez-Bernal, a new Mexican student in the lab, is working on habitat use of cane toads in the Northern Territory. The aim of her project is to understand which traits have made toads such successful invaders in Northern Australia, with a specific emphasis on identifying and quantifying the "benefits" that humans have provided to help the invading toads. To achieve this, she will use surveys and experiments to assess differences among perturbed and preserved habitats and sex-biased habitat use during the colonization process. Our other new import from Mexico is **Elisa Cabrera Guzmán,** who will investigate interactions between cane toads and various native animal species in the Northern Territory. Initially, she is looking at competitive interactions between cane toad tadpoles and native frog tadpoles by studying coexistence and microhabitat use in natural ponds, and also investigating the outcome of interspecific competition. One of Elisa's primary research aims is to discover whether native tadpoles affect the success of cane toad tadpoles, and her initial results indicate that native frog tadpoles can have strong negative competitive effects on cane toad tadpoles. Another focus of her research is investigating predation by giant water bugs on cane toad tadpoles and by meat ants on cane toad metamorphs.

Honours students: Honours student **David Llewellyn** is investigating immunocompetence in cane toads as an example of the evolutionary pressures experienced by an invasive species. He will look at behavioural, thermal and metabolic responses to immune challenge by a common bacterial antigen. Preliminary results suggest that even at low doses, a bacterial infection can greatly reduce movement and feeding in cane toads, while thermal responses, that have been shown in American populations, are not as prominent. The next part of his investigation involves determining the metabolic cost of mounting an immune response for cane toads. This will be used to assess whether metabolic investment into immune defences varies in toads from different populations across Australia with different invasion histories. **Amanda Elzer** is undertaking her honours project as a part of the Animal and Veterinary Bioscience Degree. She is looking at the effects of fire frequency and temperature on the structure of habitat and microclimates that are available to reptiles, and determining responses of reptile assemblages to these changes. Her research will be conducted within the Sydney region, in Yengo, Popran and Brisbane Waters National Parks.

The Shine research group continues on its multifactorial path, with a strong central program on the biology, impact and control of invasive cane toads (mostly based up at Middle Point in the Northern Territory) but with several smaller projects also. The largest and longest-running of these (close to 20 years, in each case) involve (a) ecology and conservation biology of the endemic sandstone-outcrop fauna in southeastern NSW (i.e., how can we stop broadheaded snakes from going extinct?), and (b) developmental plasticity in reptiles (i.e., how does a baby lizard decide whether it will be a boy or a girl?). And of course, there are lots of other minor projects, many reflecting Rick's previous incarnation as a snake biologist in the pre-toad (larval) phase of his own life-history.

Rick Shine (Professor in Biology; and Federation Fellow of the Australian Research Council) continued his increasingly ineffective attempts to maintain a direct involvement in field research; his annual seasnake demography study (mark-recapture of *Emydocephalus annulatus*) in Noumea is probably his only real claim to field-biology credentials these days. He has also been surveying densities of edible fishes in the Sydney region (by casting a line from the ocean rocks), to obtain a long-term data set prior to toad invasion (and perhaps, to enjoy catching fish). Otherwise he divides his time between organising the group's activities, travelling frequently between Middle Point and Sydney to do so (especially in the late dry-season, soon after the local mango trees produce enough fruit to provide the raw materials for his beloved mango daiquiris), begging for money (i.e., writing grant applications), writing papers, and performing as a tame scientist in various media outlets.

Postdocs: **Jonno Webb** splits his time between running the broad-headed snake study, and running around the Kimberley organising work on cane toad impacts. **Sylvain Dubey** is a Swiss molecular biologist with a fondness for combining fieldwork and laboratory analyses. He has been working on the Plio-pleistocene diversification and multiple colonisations of Tasmania by snakes of the genus *Drysdalia* (Elapidae, Serpentes), and conservation biology of the endangered Blue Mountains water skink (*Eulamprus leuraensis*). **Lígia Pizzatto** received an ARC Discovery Fellowship in early 2009 to continue her research on host-parasite relationships between the lungworm *Rhabdias pseudosphaerocephala,* its original host (the cane toad) and possible new hosts (Australian frogs). In laboratory trials she discovered that the toad parasite can infect native frogs. While the lungworm has some negative effects on the toads, most frogs get rid of the parasite and no negative effects are apparent. However this issue is being further investigated. On-going experiments are also assessing the mechanisms of infection, especially related to cannibalism. As part of her project, Lígia is also investigating inter-populational variations in the worm's virulence and the toad's resistance to infection, and accessing the impacts of combining the use of alarm pheromones and lungworms on toad fitness. **Ben Phillips** has finished data collection for his project investigating the evolution of toad life-history during range expansion. Happily, the data show what he expected, so the write-up is progressing rapidly. He does, however, continue to be troubled by weird scenes inside the goldmine, and his response to such stimuli is likely to be unpredictable. He doesn't know what this last sentence means either. **Greg Brown** has spent the past year at Fogg Dam, counting and measuring colubrid snakes and their eggs. Additional activities included following and measuring cane toads as they continue the process of becoming an established part of the Top End ecosystem. Ecoimmunology of toads is leading him into new and strange directions. **Michael Crossland** has been investigating behavioural interactions between cane toad tadpoles and conspecific eggs. Cane toad tadpoles are known to be voracious predators of conspecific eggs, and Michael has discovered that cane toad tadpoles have a highly developed ability to locate cane toad eggs within waterbodies. However, the chemicals that tadpoles use as a cue to locate eggs are only released at specific stages during embryonic development. Work on this interaction is continuing, including identification of the specific attractant chemical(s) responsible. **François Brischoux** received an Endeavour Post-doctoral Research Fellowship (DEEWR, Australian government) to study the evolutionary invasion of marine and aquatic ecosystems by snakes. He is currently working on amphibious (Laticaudidae) and "true" (Hydrophiidae) sea snakes, with fieldwork in Noumea and laboratory trials in Sydney. **Weiguo Du** is investigating mechanisms that affect hatchling traits and fitness, by measuring embryonic heart rate non-invasively. Recently, he and a colleague found that (1) the total number of heartbeats during embryogenesis is relatively constant over a wide range of warm incubation conditions. However, incubation at low temperatures increases the total number of heartbeats required to complete embryogenesis, because the embryo spends much of its time at temperatures that require maintenance functions, but do not allow embryonic growth or differentiation (*Journal of experimental Biology, 212:1302-1306*). (2) embryonic cardiac output was increased more by a diel increase in temperature, than it was decreased by a diel fall in temperature in a scincid lizard. This explains why diel thermal fluctuations accelerate embryogenesis in this species. More results are coming soon. Another postdoc, **Fabien Aubret**, left at the end of 2008 to take up a research position with the CNRS in France. He complains that the fishing is nowhere near as good as in Australia.

And there are eight established postgraduate students: During the course of her PhD, **Christa Beckmann** has found that birds may be less affected by cane toads than other taxa. Results of a literature review suggest that Australia's native birds either have learned to avoid eating toads, or are possibly resistant to the toad's toxin. Other areas she is working on include responses of scavengers to road-killed toads and potential impacts of toads on ground nesting birds. Christa received the 2009 University of Sydney Postgraduate Research Award for Outstanding Academic Achievement in the Faculty of Science.

Matt Greenlees has completed his third and final field season for his PhD that, among other things, took him across northern Australia from Kununurra to Townsville examining behavioural interactions between native frogs and cane toads with differing histories of sympatry. He is now based in Sydney, currently wrestling with the concept of generalised mixed models, swearing at the statistical program R, and writing up his thesis as fast as his pudgy little fingers will type it. Having survived the first year of her PhD candidature, **Crystal Kelehear** is on her way to casting some light on the intricate interactions that take place between the invasive cane toad and a native range lungworm (*Rhabdias pseudosphaerocephala*). Mark-recapture data show a negative correlation between host growth and lungworm infection intensity. Her correlational dissection data show a negative relationship between toad ovary maturation stage and lungworm infection intensity. Experimental studies aim to tease cause from effect to clarify these findings. Her dissections have uncovered a parasite new to Australia – so far only identified to genus (*Raillietiella* sp.). The discovery of this lung parasite marks the first record of a pentastome in Australian anurans. Future work aims to identify this parasite to species and ascertain whether it is having any influence on its toad host.

Amanda Lane has recently handed in her Ph D thesis on the phylogeography of laticaudine sea snakes. Among other results, Amanda demonstrated that laticaudine sea snakes exhibit a unique form of sex-biased dispersal - northerly islands show significant female-biased dispersal while southerly islands exhibit male-biased dispersal. This pattern may be due to differences in trophic ecology between the sexes. Since hand-in Amanda has been working as an RA in the lab for several months during the Sydney winter, feeding chameleons and dreaming wistfully of the golden sandy beaches of New Caledonia. **John Llewelyn** (based in Townsville) has continued his PhD research on the interaction between cane toads and anurophagous predators in northeastern Queensland. He has recently been studying how prey size and chemical cues influence the feeding responses of anurophagous snakes to toads and native frogs. Over the following year, John plans to include several varanid species in his research. The very recent arrival of a second child in his family may provide an interesting new challenge in that respect.

David Pike is in the final stages of his PhD on how vegetation structure affects rock-dwelling reptiles. In essence, chain-sawing down trees in a very precise, targeted manner improves habitat quality for reptiles, and the animals respond to these novel patches through rapid colonisation. In addition to continually lifting thousands of rocks and launching hundreds of ibuttons, he manages to keep busy by working on his thesis and contemplating ways to continue his research far into the future. In the last year, David received two "best student talk" awards, one from the Society for the Study of Amphibians and Reptiles (for a talk on rock-dwelling reptiles) and the other from the International Sea Turtle Society (for a talk on climate change and sea turtle nesting). His sea turtle work has also received considerable media attention lately, largely due to his conclusions that sea turtle nesting beaches that are "developed" (i.e., intensively used by people) produce fewer hatchlings than natural beaches, and that this can be linked to population growth and recovery.

Samantha Price-Rees is working on blue-tongue lizards. She aims to investigate three primary areas. First to assess the potential impact of cane toads on blue-tongue lizards by investigating spatial variation in tolerance to toad toxin as well as determining behavioral responses to toads. Secondly, she will evaluate the potential of conditioned taste aversion (CTA) to reduce the impact of cane toads on these iconic Aussie lizards, and lastly, Samantha will examine the general ecology and life history of the common blue-tongue (subspecies *Tiliqua scincoides intermedia*) in the wet-dry tropics, Northern Territory.

Ruchira Somaweera is nearly a year into his PhD and is studying the natural history and the impact of cane toads and commercial fishing bycatch on Australian freshwater crocodiles (*Crocodylus johnstoni*) at Lake Argyle in WA. In order to put the results of his work into a general and reliable context, he's spending most of his current field time on his tinny and a floating pontoon trying understanding the biology of the crocs at Lake Argyle– aspects such as their population structure, habitat use, diets, growth rates, reproductive biology and so forth by conducting surveys and dissecting dead crocodiles. To complement his work, more recently he (in collaboration with Mike Letnic) conducted lab-based experiments to clarify various factors (such as prey preference, resistance etc.) that may influence the impact of cane toads on crocodiles. He received a IUCN Crocodile Specialists Group Student Research Grant for his work towards teaching crocodiles to avoid toads! (through Conditioned Taste Aversion Learning). Apart from crocodile work Ruchira is also looking at the changes in snake populations in NT after the toad invasion and recently released a poster on the snakes of Darwin (NT). Outside Oz, Ruchira and his wife **Nilusha** (a research assistant at the Middle Point lab) just published a field guide of Lizards of Sri Lanka (http://www.chimaira.de/gp/products_new.php/language/en <http://www.chimaira.de/gp/products_new.php/language/en>).

And last year's Honours students …**Georgia Ward-Fear** (more generally known as "Ropehead") investigated the vulnerability of metamorph cane toads to native meat ants, and whether it might be feasible to exploit these nasty little locals to suppress toad recruitment. She got a University Medal for the work. **Stephanie O'Donnell** has just completed her Honours project on teaching northern quolls to avoid cane toads, using captive-raised quolls at the Territory Wildlife Park. The quolls proved to be quick learners, and trained animals survived much better after release into the field than did untrained siblings. So, it's rare glimmer of light at the end of the tunnel concerning our ability to mitigate toad impacts.

And research assistants: **Melanie Elphick** is continuing field studies on *Bassiana duperreyi* in the Brindabellas, and working hard at collating a massive dataset on the thermal properties of lizard nests over the past 7 years. She and Rick are pulling together some very extensive datasets on the impacts of the intense Brindabella Fires over the 2002-03 summer, looking at the years before and after the fire event to try to make sense of what has happened. Also based in Sydney, **Adele Haythornthwaite** continues to wrangle large quantities of paperwork, and is very keen to get back to investigating the history of the introduction of cane toads into Australia. Up in the tropical delights of the Northern Territory, **Nilu Soomaweera** is taking care of lots of snakes, lizards, frogs and toads for all the experimental work, while **Michelle Franklin** is mostly nursing her new baby on one knee while running computer-based analyses of video-footage with the other hand. In a lab in Darwin, **Christine Rioux** is doing respectable science (i.e., wearing a lab coat and disposable gloves) as she develops and runs an array of immunological tests on the cane toads.

The Australian Research Council provided a fellowship to **Ligia Pizzatto** (to look at toad-parasite interactions) and a large grant to **Rick Shine** and **Ben Phillips** (toad immunocompetence).
Many of our research highlights have had quite a bit of media attention. Anything associated with cane toads seems to attract journalists like a damp cowpat attracts a toad on a dry-season night, so there's no doubt that most of the media fuss has involved toads. The biggest splash was probably about **Georgia Ward-Fear**'s Honours results, suggesting that native meat ants may play a significant role in consuming metamorph cane toads. But we also got a lot of coverage for ideas about training predators to avoid eating toads, about arthritis in invasion-front toads, about toad impacts and the reasons why some snakes are in such trouble; and about the current spread of toads into the arid zone of southwestern Queensland. On the non-toad front, **Dan Warner**'s *Nature* paper on the adaptive significance of temperature-dependent sex determination also attracted lots of attention.

Australian Capital Territory

ACT Herpetological Association (ACTHA)

This year the **ACT Herpetological Association** has again provided grants to projects aimed at furthering herpetofauna protection and recovery, education, training, and research projects. The Association raises funds through its annual Snakes Alive Exhibition at the Australian National Botanic Gardens (ANBG). Snakes Alive is a major event on the ACT calendar with over 4000 attendees each year, made possible by the many dedicated volunteers in the Association. Its benefits are twofold; Snakes Alive significantly raises the profile of herpetofauna in a positive way while simultaneously raising funds that are returned to the herpetological community. Half of the funds raised go to the ANBG to support its education program, which is developing a strong herpetofauna focus, while part of the balance is used to provide financial assistance to students or others who are researching or promoting herpetofauna.
In addition, the Association has continued its financial support for Corroborree frog research and breeding this year by making a contribution of $1000 to the Corroboree Frog Conservation Fund. This year, two grants were awarded.

Renee Catullo – PhD Student of Assoc. Prof. Scott Keogh at the ANU: $500
Renee's project will explore the diversity of the *Uperoleia* genus of myobatrachid frogs by examining molecular phylogenetics and cryptic species. Renee will use molecular techniques on 1000 specimens to identify any cryptic lineages that may represent new species. Once that is completed Renee will complete a taxonomic revision of the genus based on the resulting phylogeny and morphological and calling characteristics. Understanding and documenting species diversity in this genus will assist conservation management of all species within the genus. ACTHA's grant will go towards funding the molecular lab-work associated with the project.

Martin Westgate – PhD Student at the ANU Fenner School: $1000
Martin's research project aims to quantify the range of habitats used by amphibians in Booderee National Park, Jervis Bay. It will provide information on poorly understood aspects of frog behaviour, including the use of the terrestrial habitats by frogs, and movements between breeding sites and the wider landscape. A greater understanding of these behaviours will assist in management of habitats for the conservation of frog species, all the more important given the potential impacts of altered fire regimes and climate change. ACTHA's grant will help to cover the costs associated with fieldwork.

University of Canberra- Institute for Applied Ecology
Some recent goings: **Erika Alacs** has finished her PhD on "Forensics, phylogeography and population genetics: a case study using the Australasian snake-necked turtle *Chelodina rugosa*" and has taken up a new position at the Department of Climate Change. **Christina Castellano** has taken up a new position as Threatened Species Curator at the Healesville Sanctuary in Victoria. We wish them both well in their new endeavours.

During April, **Kate Hodges** attended a workshop in Canberra on Fish Genetics in the Murray-Darling Basin. She represented the Basin's aquatic herpetofauna and mingled with internationally renowned population geneticists such as Fred Allendorf, Richard Frankham and Robin Waples. Issues such as adaptive plasticity, units of conservation, and the need for a centralised genetic resources database were discussed. **Deb Bower** had it with artic winds and desert rivers and returned to her tropical Northern palace to finish writing her thesis: she loves her honours supervisor for giving her a desk at James Cook and has been procrastinating with teaching and bush bashing. She cannot really believe she got paid to show students how to catch and race lizards but she likes it an awful lot.

Some recent comings: **Stewart Pittard** has recently commenced his honours on population genetics of the flatback sea turtle (*Natator depressus*) in Australia and the conservation implications for this endemic vulnerable species. **Anelise Torres-Hahn** has joined us from Brazil and will be spending 5 months at the IAE to conduct sea turtle genetic work. **David Wong** commenced his masters last year on the distribution and conservation of the Pink-tailed Worm Lizard *(Aprasia parapulchella)* in the ACT. He is looking forward to getting well acquainted with many of the rocks around Canberra this field season.

Action at the front: **Arthur Georges**, **Stephen Sarre** and **Tariq Ezaz** continue their work on Dragon sex determination. **Michael Jensen** is nearing completion of his PhD on conservation genetics and management of marine turtles in Australia. He is currently jumping out of boats to wrangle turtles with the help of volunteers in the 'turtle rodeo' near Bowen Island and no doubt missing the Canberra climate. **Carla Eisemberg** and **Kate Hodges** are about to head over to St Louis, Missouri at the start of August. They will be presenting their current research at the Turtle Survival Alliance Conference to be held at the famous St Louis Zoo. Both Kate and Carla won travel grants and accommodation grants from the Turtle Survival Alliance to help fund their trip.

Wendy Dimond, Will Osborne and **Stephen Sarre** continue to track and model the population dynamics of the grassland earless dragon (*Tympanocryptis pinguicolla*). Currently, they are establishing field experiments to test the impact of a simplified grassland structure on reproduction in this endangered and declining species. In April, Stephen Sarre, Wendy Dimond and Marion Hoehn travelled to Adelaide to swap notes and techniques with Mike Bull and his pygmy blue-tongue group at Flinders University. There are a number of important similarities between the two species and a return workshop in Canberra is mooted for 2010.

Marion Hoehn has successfully developed a microsatellite-enriched genomic library in order to have a number of polymorphic markers available for population genetic studies of the highly endangered Grassland Earless Dragon, *Tympanocryptis pinguicolla*. Habitat fragmentation has the potential to affect the genetic structure of this species, through its effects on gene flow, by restricting dispersal, reducing effective population size and increasing the effects of genetic drift in small habitat patches. The aim of the study is to use genetic approaches to identify the impact of habitat fragmentation on the genetic structure of the species. Microsatellite DNA has high levels of polymorphism and will enable population genetic analysis and detailed estimation of dispersal rates.

General news:
February 2009 was a huge month for the Institute for Applied Ecology's herpetologists:
Kate Hodges, Deb Bower, Carla Eisemberg, Ben Corey and Darren Fielder all attended and presented at the 1st Australasian Freshwater Turtle Mini-Symposium at the Queensland Museum. Kate Hodges co-organised the meeting with Arthur Georges (Uni of Canberra) and Chuck Schaffer (Turtle Survival Alliance, and Tortoise and Freshwater Turtle Specialist Group). The meeting brought together freshwater turtle specialists, researchers, and students from institutions all over Australia and was a great success with calls for the symposium to be held biennially. Darren Fielder and Kate Hodges shared the award for Best Student Talk. Darren presented "A phylogeny of Australia's threatened sawshelled turtles using mtDNA" and Kate presented "Maps and molecules: Comparative phylogeography of long-necked turtles in the Murray-Darling Basin". Carla Eisemberg won the award for Best Conservation Talk with "Achieving conservation objectives for pig-nosed turtles in the Kikori". After the mini-symposium; Arthur Georges, Kate Hodges, Deb Bower, Carla Eisemberg, Ben Corey and Darren Fielder attended the IUCN Red-Listing Meeting for Australian Freshwater Turtles where the status of all currently listed species were reviewed. After this the above crew also attended The 29th Symposium on Sea Turtle Biology and Conservation in Brisbane, however we all had to leave the conference early to catch the plane to Auckland for SMASH. We arrived at the Hippy Lodge around 3am and woke you all up – sorry about that and thanks for the good times.

Victoria

NEWSFLASH!! Five herpetologists appointed to lecturing positions at universities in Victoria. Read below for more details.

Museum Victoria

There are two new additions to **Jane Melville's** research group. In July, **Sumitha Hunjan** started as a Research Assistant on an ARC Discovery grant investigating agamid limb development. She will be investigating gene expression during embryonic development of the bearded dragon, *Pogona vitticeps*. **Rebecca Bray** has also joined us as a Research Assistant working on an ARC Linkage funded project looking at human-induced changes to the population genetics of frogs north of Melbourne. This project is in its final year, however, most of the field sites were burnt during the Victorian bushfires. Rebecca will be assisting two PhD students in the lab, **Josh Hale** and **Katie Smith**, to survey all the study ponds to determine the impacts of the fires on the local frog populations. **Stephanie Chapple** (research assistant) continues to work on a variety of projects including agamid limb development and agamid molecular systematics. **Jo Sumner** continues to investigate the phylogenetics and phylogeography of *Eulamprus* skinks, and a range of other reptile species.

Felicity McLean, who completed her Honours year at University of Melbourne in 2008, recently received the Deans Prize for her honours project. **Susi Maldonado** completed her Honours year in April 2009, for which she was awarded First Class, investigating the phylogeography and population genetics of the endangered striped legless lizard *Delma impar.*

Joshua Hale and **Katie Smith**, two PhD students working on human-induced changes to the population genetics of frogs north of Melbourne have attended and presented research at the North American Herpetology Meetings and the Evolution meetings, respectively. They have also successfully been using ancient DNA techniques to sequence mtDNA from historical museum specimens, allowing them to investigate population genetic changes over time.
Jane Melville, along with a team of investigators at the University of Melbourne and Melbourne Botanic Gardens, including **Kirsten Parris**, **Michael Mccarthy** and **Andrew Hamer**, has been award an ARC Linkage Grant to investigate 'Optimal management of threatened amphibian metapopulations in urbanising landscapes' (LP0990161).

David Chapple has recently published a molecular phylogeny for the entire New Zealand skink fauna, and he continues to write-up papers for publication from his NZ postdoc. He continues to examine the invasion dynamics of the delicate skink (*Lampropholis delicata*), and has recently developed polymorphic microsatellite markers for the species. Dave and **Mike Thompson** recently received a grant from the Hermon Slade Foundation to assess the response of the lizard fauna of Lord Howe Island to the eradication of rats, and to examine the morphological and genetic differentiation among LHI skinks (*Oligosoma lichenigerum*) and LHI geckos (*Christinus guentheri*) on different islands within the Lord Howe Group of islands. In July, Dave moved across to Monash University to commence a permanent lecturing position in the School of Biological Sciences.

University of Melbourne

Stuart-Fox Lab

New students abound in **Devi Stuart-Fox's** research group, although only two have a herpetological focus. **Jenny Goode** (Science Masters) is examining the evolution of female ornamentation in Lake Eyre dragons, *Ctenophorus maculosus*. **I-Ping Chen** (Research Masters) is working on a comparative study of the evolution of ornamentation in lizards.

Claire McLean and **Peter Lancaster** were both awarded First Class honours. Claire's research generated an unexpected and interesting result. Female Lake Eyre dragon lizards show a unique courtship rejection behaviour. To avoid unwanted copulation attempts, they flip onto their backs, exposing bright orange ventro-lateral colouration. This behaviour has been widely cited as a vertebrate example of the evolution of costly female resistance due to sexual conflict. It was assumed to be costly because it could attract the attention of aerial predators. Claire's large scale field experiments showed that models of flipped over females were attacked less often by predators, despite being much more conspicuous. This is likely to be due to avoidance of novel prey (apostatic selection), challenging the assumption that this behaviour carries a high predation cost. This research (Jessop et al. 2009) was featured on ABC Science Online (http://www.abc.net.au/science/articles/2009/04/29/2555087.htm?site=science&topic=enviro) and attracted some international media attention. **Devi** was featured in the Melbourne Age's 'Top 100' Magazine as one of the 10 most influential people in health and science in Melbourne for 2008.

Kearney Lab

Mike Kearney's Lab continues its work on the impact of climate on animals, and the evolution of parthenogenesis. Mike's research on the response of reptiles to predicted climate change was recently featured on ABC Science Online (http://www.abc.net.au/science/articles/2009/02/17/2492706.htm?)

Introducing the Jessop Lab

Tim Jessop has been appointed to a lecturing position in the Department of Zoology (in conjunction with Zoos Victoria), and will start in late 2009.

Monash University

Byrne Lab

Tim Blackburn (Honours student) has recently started in the Byrne Lab and is investigating the foraging behaviour of a terrestrial frog. **Kristina Ficken** recently completed her honours project examining the impact of heavy metals and water chemistry on frog abundance and species diversity in the Melbourne area. **Phil Byrne** is continuing his research on the benefits of polyandry in Australian frogs, and frog conservation biology.

Reina Lab

Brian Kearney (PhD student) has recently started in the Reina Lab examining the impacts of salinity on the diversity, life history and reproductive success of southeast Australian anurans. **Anthony Rafferty** (PhD student) has commenced a project investigating the reproductive success and developmental biology of leatherback turtles. **Michelle Fineberg** completed her honours project on the acclimation of *Litoria ewingii* tadpoles to intermittent salinity stress. **Diego Amorocho** has been awarded a PhD for his research on the foraging ecology and population structure of green turtles on the east Pacific cost of Colombia.

Introducing the Chapple Lab

In July, **David Chapple** commenced a permanent lecturing position in the School of Biological Sciences at Monash University. He is in the process of establishing an Evolutionary and Invasion Biology research group. Dave's research group will focus on squamate reptiles and amphibians, and explore a diverse range of topics in the areas of evolutionary biology, invasion biology, behavioural & evolutionary ecology, population & conservation genetics, and phylogenetics & phylogeography. The Chapple Lab will be taking on students next year, so get in touch with Dave (David.Chapple@sci.monash.edu.au) if you're interested in developing an honours or PhD project for 2010.

Sarah Simmons has recently started her honours project (co-supervised by **Bob Wong**) in the Chapple Lab on the behavioural ecology of the garden skink (*Lampropholis guichenoti*) and the invasive delicate skink (*Lampropholis delicata*).

Introducing the Doody Lab...

Sean Doody will be commencing a lecturing position in the School of Biological Sciences at Monash University in January 2010.

La Trobe University

More new appointments!!! Richard Peters and **Kylie Robert** have recently been appointed to lecturing positions in the Department of Zoology at La Trobe University. Both will be starting later this year or in early 2010.

Brian Malone continues his research on *Eulamprus* and a range of other lizard species. **David DeAngelis** has completed his honours project on the spatial ecology of *Liopholis inornata* in the Gluepot Reserve in South Australia. **Jose Ramos Avila** has recently completed an honours project on the daily and seasonally activity patterns, thermal ecology and habitat and microhabitat use of *Ctenophorus fordi* and *Ctenophorus pictus*. **Geoff Heard** continues to write-up his PhD research on the growling grass frog, *Litoria raniformis*.

University of Ballarat

There is lots of activity in **Simon Cook's** research group. **Eleanor Fox** has started her honours project on the effects of avian predation on reptile community structure in semi-arid habitats. **Jon Starks** is writing up his Masters on retaining frog populations in the Wimmera following channel decommissioning. Jon has had a good response from landholders for his artificial frog ponds, and those installed have all recorded frogs, five species so far and some breeding activity. **Erica Dalle-Nogare** is finishing honours on reptile communities in different aged mallee woodland communities at the UB research station, Nanya, in SW NSW. Erica found some interesting successionally patterns in community composition in areas of mall ranging from 10 to 90 years post-fire. **Chris Cooper** is finishing honours on gecko thermoregulation, also carried out at Nanya. Chris's work on thermal retreat sites in Belah woodland yielded interesting results in combination with a lab study of thermal inertia with body size. **Katie Corbett** is finishing honours on long-term effectiveness of revegetation efforts in restoring the herp and mammal fauna of Organ Pipes National Park, and is preparing a management plan for future work in the park. **Ash Olson** has finished his honours project on the relative effects of forest thinning treatments on the reptile fauna in Box-Ironbark forests, as part of the Parks Victoria Box-Ironbark thinning project. He will be presenting his results at INTERCOL in Brisbane in August.

Department of Sustainability and Environment
Arthur Rylah Institute for Environmental Research

Nick Clemann is continuing his research on a wide variety of herps, including alpine reptiles. **Geoff Heard** has taken on contract work at ARI on the endangered Growling Grass frog while he writes up his PhD through La Trobe University. **Geoff Brown** is currently dabbling in a variety of areas, not all of which have a herpetological focus. However, he has been working up sundry documents relating to the management of the Pink-tailed Worm-Lizard *Aprasia parapulchella*, including the draft National Recovery Plan. **Michael Scroggie** was awarded 11th Place in the Pale Ale Class, Victorian Amateur Brewing Championships, 2008.

Zoos Victoria

Tim Jessop has been appointed to a lecturing position in the Department of Zoology (in conjunction with Zoos Victoria), and will start in late 2009.

South Australia

Bull Lab
Flinders University

Mike Bull has been leading the team focusing on sleepy lizards and pygmy bluetongue lizards. The sleepy lizard project is concentrating on social behaviour and social networks among the lizards living in an area, and how that influences the transmission of parasites. The pygmy bluetongue project continues with new insights into social interactions and the impact of grazing (by sheep) on lizard behaviour and conservation strategies including photographic identification of individuals, movement of individuals through the population and the feasibility of translocation and relocation of this species.

Stephanie Godfrey is in the final stages of writing up her PhD thesis on the host-parasite ecology of tuatara, and has completed her first field season of field work investigating social networks and parasite transmission in sleepy lizards, with PhD student **Caroline Wohlfeil**.

Aaron Fenner has hopefully finished his PhD thesis by the time you read this and continues to work on the social structuring of pygmy bluetongue lizards. Aaron will also be investigating social networks of nematode (*Pharyngodon wandillahensis*) transmission in pygmy bluetongues in the up coming field season.

Julie Schofiled and **Leili Shamimi** have started their PhD's on pygmy bluetongue lizards. **Julie Hagen's** study of phylogeography and behaviour of the Solomon Islands Tree Skink (Corucia) is nearing completion. **Annabel Smith** is a guest in our research group from ANU, and she is looking at the influence of fire on Eyre Peninsula lizard communities. **Mel Pettigrew** is also nearing the end of her PhD project on the impact of grazing on pygmy bluetongue lizards. **Dale Burzacott** is still here surveying sleepy lizard and tick distributions, as well as coordinating all aspects of the field research. **Jaro Guzinsky** was awarded his PhD on the population genetics of reptile ticks.

Jana Bradley is a new Masters student who has joined the Bull lab with a project that will contribute to the knowledge we have regarding the ecology of reptile ticks. Jana is specifically aiming to determine the time and locations that engorged ticks fall off their reptilian hosts, as this has previously only ever been assumed to occur during times when reptiles are occupying their refuge sites at night. This may also contribute to studies of the parapatric boundary formed between the two species of ticks occurring at the Mt Mary study site. The Bull lab has also been joined by PhD student **Mehregan Ebrahimi**, Masters student **Pradip Gyawali** and Honours student **Kelly Pelgrim**.

University of Adelaide
Team Tyler

Mike Tyler continues his collaboration with CSIRO and a medical group in the Dept of Orthopaedics at St George Hospital, Sydney, working on the adhesive secretions of *Notaden*. The glue is stronger than fibrin and similar in efficiency to polyacrylates, which are toxic. Frog glue is non-toxic and biodegradable.

James Menzies is working on various projects. He and Mike Tyler completed their study of the *L. bicolor* group in the NT and New Guinea, with the description of four new species. Currently they are examining material from the Kimberley, WA. James continues to make progress with his study of ranid muscles.

Micheal Maclean is writing up his PhD and is working with Mike Tyler on pheromones in the Cane Toad and temporal issues in the electrical release of dermal secretions.

Tasmania

University of Tasmania
Behavioural and Evolutionary Ecology Research Group

BEER group leader **Erik Wapstra's** snow skink system is just warming up for another very busy year. In addition to overseeing all the student projects and managing a busy teaching schedule, Erik will continue to coordinate fieldwork in his two natural populations as well as develop key infrastructure components which will allow us to expand our research programs in up coming years. This work is based on an ARC funded project, in collaboration with **Tobias Uller** (University of Oxford) and **Ido Pen** (University of Groningen), aimed at combining field, laboratory, and theoretical techniques to examine the evolution of maternal effects and sex allocation in the spotted snow skink (*Niveoscincus ocellatus*). As part of this collaboration **Anna Harts** recently returned to the University of Groningen after completing her master's project, examining variation in maternal effects and life history traits along an altitudinal cline, within the BEER group. In addition to this major line of research, Erik continues to collaborate with **Mats Olsson** on additional herpetological projects. Specifically, Mats and Erik are interested in examining the influence of metabolic processes in constraining life history evolution using snow skinks and agamids as model organisms. To assist in their project, **Laura Parsley** spent the summer developing some of the methodological aspects of this project (blood resistance to oxidative stress, age and temperature dependent DNA degradation).

Geoff While spent last season as a post-doc on Erik, Tobias, and Ido's snow skink ARC project following the completion of a highly successful PhD project examining the causes and consequences of social structuring in *Egernia whitii*. Geoff is currently gearing up for another busy *Niveoscincus ocellatus* season in which he will continue run the field component of the system in addition to establishing semi-natural enclosures which we will use to experimentally examine key patterns observed in the field. Geoff has recently returned from his second trip to Oxford in the UK where he collaborates with Tobias Uller on Tobias' wall lizard (*Podarcis muralis*) project.

Chloe Cadby is putting the finishing touches on her PhD investigating maternal effects in *Niveoscincus ocellatus*. The first phase of her work focused on context-dependent maternal effects and more specifically the effects of maternal basking behaviour, maternal chronic stress and maternal nutrition on offspring phenotype and growth rate. Over the past year Chloe has continued to contribute to long-term monitoring of female reproductive decisions and offspring phenotypes at our two *ocellatus* populations. Chloe is currently using the data set derived from this monitoring to measure the effect of climate (mainly temperature) on offspring size and date of birth. In addition, and in collaboration with the CSIRO, Chloe is also hoping to model the potential impact of climate change in this species.

Jo McEvoy is now in the 2nd season of her PhD examining "population and evolutionary dynamics in a free living *Egernia whitii* population with respect to behavioural variation". Last season was a busy one for Jo, combining continued monitoring of the natural population of *Egernia whitii*, which formed the basis of Geoff's PhD, with a number of detailed experiments. Specifically, Jo examined the role of an individual's aggressive phenotype and body size on competitive interactions within adult male *Egernia whitii* as well as developed and carried out detailed behavioural tests to explore additional axes of behaviour within the population. Jo will use this data to examine how behaviours co-vary within our population and the causes and consequences of this for individual fitness. In recognition of Jo's work, she was recently nominated for the Young Tasmanian of the Year award in the environment category.

Keisuke Itonaga recently completed his final field and laboratory season for his PhD (supervised by Sue and Erik) examining the determinants of offspring quality in *Pseudomoia entrecasteauxii*. Over the past year Keisuke has examined maternal corticosterone transfer, manipulated maternal plasma corticosterone levels and food availability during gestation and examined its effect on offspring phenotype and offspring fitness, and finally, manipulated beta-carotene availability during gestation to look at offspring immune response. Keisuke aims to spend the next 12 months writing up the results of these tests as part of his thesis but will take some time off to head home to Japan and attend the Herpetological Society of Japan's annual conference.

Mat Russell joined the BEER group a year ago and has since been busy assimilating himself into the research group. Mat's PhD is aimed at examining the mating tactics of *Niveoscincus ocellatus*. To achieve this Mat has spent the past season examining copulation frequency and its consequences within our two natural populations of *Niveoscincus ocellatus*. He has combined this with detailed laboratory based mating experiments, examining the role of mating order in predicting paternity within this system. Mat will continue this integrated approach over the next 12 months. To assist with this, Mat was recently awarded a Holsworth Wildlife Research Fund grant. Joining Chloe, Jo, Keisuke, and Mat as PhD students in BEER Group is **Yuni Eswaryanti** who recently begun her PhD examining Niche partitioning in snow skink guilds, specifically how climate change may influence competitive interactions at species boundaries.

The BEER group has also been fortunate enough to gain a number of new Honours students in the last intake. **Tanaz Jungalwalla** is (unfortunately) the only new honours student working on a herpetological related project. Tanaz is using bioclimatic models to examine the effects of climate change on lizard distribution within Tasmania. Specifically, Tanaz is interested in the consequences of increasing temperatures on the distribution of Tasmania's endemic snow skinks (*Niveoscincus* sp.). Our other honours students, **Tom Fabian** and **Jo Duggan,** are carrying out non-herpetological projects on sensory ecology in native marsupials and population dynamics in commercially harvested cockles respectively. **Jo Randall** joins our group in August looking at effects of climate change on Southern blue-fin tuna migration phenology. Another non-herpetological honours student, **Amanda Smith**, recently completed a successful project examining the predator-prey interactions between native and introduced predators.

Comparative Endocrinology and Eco-physiology Research Group

Sue Jones enjoyed the 2008 World Congress of Herpetology in Brazil, where she contributed (no prizes for guessing this!) to the symposium on the evolution of viviparity organized by **Mike Thompson**, presenting her most recent work on hormonal production by embryonic and maternal tissues in viviparous lizards. In addition to this, Sue has completed writing a major review of the *Hormonal regulation of ovarian function in reptile*s for "Hormones and Reproduction of Vertebrates" (D. O. Norris, K. H. Lopez, Eds.). The rest of Sue's time has been spent writing papers on Tasmanian devils and/or quolls, and on improving tertiary education. In addition, **Cynthia Awruch** has been working in her lab on stress hormones in sharks.

Ashley Edwards continues her ongoing investigations into regulation of sexual receptivity via HPG axis activity, onset of sexual maturation, discrepancies between physiological and morphological indicators of maturation, and the roles of thyroid hormones in breeding decisions in a multiennial breeder. Joining Sue and Ashley as a PhD student in Comparative Endocrinology and Eco-physiology is **Laura Parsley**. Laura is about to commence her PhD research investigating the endocrinology of reptilian gestation, specifically, the mechanisms of embryonic hormone acquisition, modulation, production and potential for disruption by environmental contaminants. **Lara Collins** recently completed a 1st Class Honours degree supervised by Sue and Ashley. Lara examined the ways in which embryos of viviparous lizards may be exposed to hormones during gestation, and explored how maternal adrenal hormones may interact with the reproductive hormone axis. **Rosemary Hohnen**, honours with Ashley, investigated social hierachy systems in male blue tongued lizards, *Tiliqua nigrolutea*, and **Claire Gardner**, will start honours with AE, in August, investigating kin recognition in blue tongued lizards.

Western Australia

Nicki Mitchell
University of Western Australia

Nicki Mitchell's research group includes two new members. **Tara Jones** (honours student) is attempting to simulate climate change by warming the growing ponds of western swamp tortoises (*Pseudemydura umbrina*) at Perth Zoo, and **Tegan Box** (honours student) will be spending her summer measuring and modelling the sex ratios of Flatback turtles (*Natator depressus*) hatching in the Pilbara. **Nicki** has completed four field seasons of research on signalling behaviours in crawling toadlets (*Pseudophryne guentheri*) and the obscure sex life of turtle frogs (*Myobatrachus gouldii*) and is currently writing up the results for publication. She has a new ARC Linkage grant (with fellow CI **Michael Kearney** and PI **Gerald Kuchling**) to develop physiologically-based models to direct the selection of translocation sites for the critically endangered western swamp tortoise. **Nicki** and **Mike's** 2008 paper predicting the impact of climate change on the Brother's Island tuatara (*Sphenodon guntheri*) in New Zealand featured widely in the media, including TV news, in the journal *Nature Reports Climate Change* and in several rather vitriolic blogs!

Rob David
Edith Cowan University

Rob Davis recently took up a position as a lecturer at Edith Cowan University and is enjoying the opportunity to be able to get back into herpetological research himself. He enjoys telling his student's that herps are the only animals worth studying and that mammals are really not that interesting.
Rob Davis has received an early career research grant to investigate developmental plasticity in south-west WA frogs as an adaptive mechanism for coping with environmental uncertainty. Rob will focus on *Crinia pseudinsignifera* as a model system. He looks forward to re-living the good times of his PhD by spending many cold and wet nights on lonely windswept granite outcrops.
Rob currently has an opportunity for an honour's student who might be interested in looking at the impact of fire on the reptile fauna of King's Park, a large urban remnant in Perth. This will be jointly supported by Edith Cowan University and the Botanic Gardens and Parks Authority with guidance form the WA Museum and Department of Environment and Conservation. The student can start immediately or in 2010. Please contact Rob for more details.

Dr Helen Robertson
Perth Zoo

Goad and **Emily Trainer** have joined the Frog Team at Perth Zoo. They have bred *Geocrinia rosea* to F2 in captivity. This species was found to be able to breed successfully within their first year of life (at about 9 months of age). The growth of the young frogs levelled out during the breeding season until breeding activity ceased, where it recommenced until they reached mature adult size. Another interesting outcome, they found there to be a statistically significant difference in the growth rates of emerged metamorphs which appears to be related to the substrate the egg nest of this direct developer was laid in. Paper will be submitted soon.

They are in the process of rearing *Geocrinia alba* metamorphs from two egg nests collected from the wild last year. This species appears to be growing at a significantly slower rate, although under the same rearing conditions as those used for *Geocrinia rosea*. Last November they bred *Spicospina flammocaerulea* in captivity and successfully reared the tadpoles through to metamorphs. Staff are currently monitoring their growth and development through to adulthood.
They are working with DEWHA and Parks Australia North staff to develop new captive insurance and breeding programs for threatened Christmas Island skinks; Blue-tailed Skink (*Cryptoblephanus egeriae*) and Forest Skink (*Emoia nativitatis*).

Dale Roberts
School of Animal Biology, University of Western Australia

At the Australian Society of Herpetologists joint herp meeting at Massey University **Sharron Perks** won the prize for best student talk. The Roberts lab has some people working on frogs – again – change from spiders, birds, pseudoscorpions and mammals! **Jen Francis** is steaming forward with her analyses of tadpole positions in food webs in Kimberley ponds and contemplating field experiments in the summer of 2009-2010 and who she can recruit to dig in fences. **Sharron Perks** has returned from her world tour looking at sperm storage organs in frogs – lots of frogs have them! **Aimee Silla** has just about finished her lab work on sperm and egg production in captive breeding programs with frogs and will write up in Victoria. **Dale Roberts** visited Tunghai University in Taichung Taiwan for a week in May, survived the stinky tofu food test and was given 10 bird DVD's at the Endemic Species Research Institute – they figured he was an ornithologist from his publication record! Not strictly in my lab but **Frances Leng** is moving forward with her Ph D on reptiles in sandalwood plantations in co-operation with the CRC.

Tripping…

Photos and report by Gill Briant

Slightly bleary-eyed and with three eager New Zealanders in tow, in the early morning following the SMASH conference dinner, we drove to the NZ DOC office in Warkworth (North East of Auckland) for a very rigorous biosecurity quarantine check. I am talking, all socks were unrolled, pockets emptied and velcro was fine-tooth picked for any lurking hideaways keen to make a new home on one of New Zealand's pristine off-shore treasures, Little Barrier Island Nature Reserve. The 2,817 hectare island was discovered in the 12th Century by Toi te Huatahi and was named 'Hauturu' by the Maori people, meaning 'resting place of the wind'.

Blessed with fine weather, my fellow islanders-to be, Jo Hoare, Melinda Habgood and Chris Clay, and I were able to see heaps of fairy penguins and a pod of dolphins swim by during our hour boat long journey to Hauturu, without anyone of us holding our heads over the side of the small boat in disgrace! Met by the two rangers, Shane and Liz that live on the island and manage a captive breeding program for tuatara (*Sphenodon sp.*), we set out the plan of attack to catch some New Zealand herps for the next four days.

Hauturu was eradicated of feral cats beginning in 1977 and was aerial baited for all other rodents and pest species over five years ago. Our visit was really the first following this wide-scale eradication to assess what herps had persisted. There are several transect lines resulting from the cat eradication that are still well-maintained, which have pit-fall bucket trap lines dotted over the island. We monitored some of these, with the most successful transect line being on the beautiful large pebbled stone beach shore – shore skinks (*Oligosoma smithii*) and Moco or Northern brown skinks (*O. moco*) finding the pear and cat-food combination too good to refuse!

Being a West Aussie and unaccustomed to traversing anything more than a small hill, the island's main mountain ridge, or "The Thumb" (named as from a far it looks like a thumbs-up sign) caught my fitness level by surprise. We trekked up the 600m elevation transect passing through the drier forest of kauri trees that mingle with beech trees and then into the much colder cloud forest, a journey my body didn't appreciate, but one which immersed my 'inner-body' in what felt like a completely different world. Our team's adept tree climber and mountaineer, Jo, charged ahead, only stopping to precariously place G-Minno traps (wire funnel-like traps) into the epiphytes growing from the kauri trees, in the hope of trapping the elusive striped skink (*O. striatum*)…but our efforts were not rewarded this time.

At night the island came alive with strange kiwi creatures– meandering through a dry riverbed, the steep banks were romantically lit up by glow worms until we stumbled across an enormous wetapunga, a species of cricket that reaches 90mm and 71g! With the calls of kiwi birds in the near background ("keeee weeeee, keeeee weeeee") we spotlighted and measured two species of gecko; forest gecko (*Hoplodactylus granulates*) and pacific geckos (*H. pacificus*) - a highlight of the trip for me.

This fantastic volunteer experience on Hauturu was funded by New Zealand's Department of Conservation and SRARNZ and a big "thank you" is in order. I would also like to thank the rangers Shane and Liz who made us feel most welcome and safe on the island and in particular my fellow islanders who put up with my Aussie accent and short legs for a few days, Melinda, Jo and Chris.

Where are they now?

Dick Barwick

Former ASH president (1987-88)

Current Affiliation:

Department of Earth and Marine Sciences
The Australian National University

I still live in Canberra and attend my office in the Research School of Earth Sciences on a daily basis where I am a Visiting Fellow. Many years ago I shifted my focus to paleontology (at least I can't be blamed for knocking the animals off!)

Currently, I am trying to complete the 27 plates for a paper on the neurocranium of a 375 million-year-old fish from Gogo in the Kimberleys of WA. I have been working with my colleague Professor Ken Campbell since my 'retirement' from the ANU Zoology Department (about 15 years ago). We study the paleontology and evolution of fossil fish with my odd excursion into fossil mammals, forensic osteology and history (see publication list). To keep me away from unproductive exercises such as lawn bowls I have been quietly exploring these fabulous fish fossils from the limestones reefs of Gogo.

Our recent papers have used 3-dimensional X-ray tomography techniques developed in the ANU by Professor Tim Senden which allow us to literally 'see through rock' which opens new exciting fields in paleontology.

After a 50-year absence from McMurdo Sound I was able to return twice to Antarctica as a 'history lecturer' on two 26-day voyages aboard a cruise vessel in January and February 2009. As an 80-year-old, I have had excellent health and since I retain good sea-legs it was not too strenuous. I returned to Australia still overwhelmed by the beauty of the Antarctica and convinced of the way wind, weather and ice conditions still rule our puny efforts.

Four of us, Colin Bull, Barrie Mckelvey, Peter Webb and myself, have just published an account of our Victoria University of Wellington Expedition to the Dry Valley's of Antarctica in 1958/59 - which must be a great example of slow publication. This year, I complete my 50th year occupying an office in the ANU which probably reflects some capacity to keep my head below the parapet and avoid being an easy target for administrators.

John A. Moore and Australian Frogs

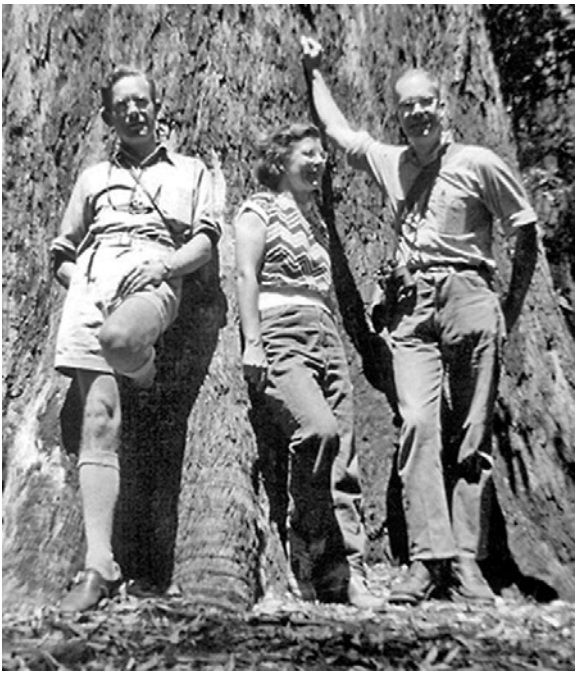
By Murray Littlejohn
Department of Zoology, University of Melbourne, Victoria 3010
email: murray@unimelb.edu.au

John Alexander Moore died in Riverside California on 26 May 2002 at the age of 86 years. He is remembered in Australia for his contributions to the taxonomy, systematics and biology of the frogs of southern Australia, and of eastern New South Wales in particular – which provided a thorough review of the literature and influenced subsequent research on Australian amphibians. These achievements arose from a sabbatical year spent in Sydney during 1952 and 1953, and the subsequent examination of preserved material in the British Museum of Natural History, the National Museum of Natural History in Paris, and the Museum of Comparative Zoology at Harvard University. He was recognised for these contributions in 1969 by the award of the first honorary membership of the Australian Society of Herpetologists (ASH 2009).

At the time of his visit to Australia, Moore was a full professor and chairman of the Department of Zoology at Columbia University, New York. By then, he had established an excellent, internationally recognised, scientific reputation through his work on experimental embryology of anuran amphibians, especially North American species of *Rana* (now placed in *Lithobates*; Frost 2009). Moore concentrated on the application of artificial (*in vitro*) cross-fertilisation experiments to the assessment of geographical variation in genetic compatibility in the North American representatives of the *R. pipiens* complex (Moore 1949, 1975). The results of these studies were widely cited as an example of the significance of patterns of genetic incompatibility as a measure of incipient stages in the process of geographic speciation. Subsequently he devoted much of his time to improving the standards of biological education, and later to countering attempts to re-introduce “creationism” and “intelligent design” into science curricula as an alternative hypothesis to Darwinism. His well-structured and balanced approach to this controversial topic is evident in his last publication “From Genesis to Genetics: The Case of Evolution and Creationism” (Moore 2002). For detailed biographical accounts of J. A. Moore see Ruibal et al. (2001), Cardullo et al. (2002) and Elders (2002).

Moore arrived in Sydney, New South Wales, in July 1952, accompanied by his wife Betty (who was also an embryologist/biologist) and their daughter Sally, aged 10 years. Why Moore chose to spend a sabbatical year in Australia is based on the recollections of Betty and Sally (Dr S. M. Gall, in lit.) and Professor L. C. Birch (in lit.). Birch first met Moore in New York in 1946, when Birch was on his way to spend a year as a Research Fellow at the University of Chicago, and he was interested in Moore’s work on the *Rana pipiens* complex. In 1948, Birch, was appointed as a Senior Lecturer in Zoology at the University of Sydney. They later met again at Columbia University, when Birch was visiting T. G. Dobzhansky to discuss their research on *Drosophila*, and on these occasions Moore presumably expressed the interest in visiting Australia. With Birch’s encouragement, Moore applied for, and received, a Fulbright Grant to spend a sabbatical year at the University of Sydney. Birch had suggested that he might work on anything of interest to him, and Moore chose frogs - for there had been very little research on the biology of this group of Australian amphibians at that stage. The few noteworthy earlier scientific studies of living frogs were those of Fletcher (1889), English (1910), Harrison (1922) and Blanchard (1929). Moore also noted that eastern New South Wales had historical significance as a centre of activity for Australian herpetology, and that the main collections of preserved amphibian material were located in the Australian Museum in Sydney (see Moore 1961). Moore also received financial support from the Faculty Research Fund of Barnard College, Columbia University.

During his visit to Australia, Moore was based in the Department of Zoology at the University of Sydney, New South Wales, with Professor P. D. F. Murray as his host. Most of the sabbatical year was spent working in the Department of Zoology and on field trips in New South Wales, mainly in the Killara area, a north-western suburb of Sydney, where he made observations on the biology of anurans. He also made short visits to the Australian Capital Territory, the Northern Territory, Queensland, Tasmania, Victoria and Western Australia. Research in the laboratory was mainly directed towards describing embryonic and larval development and carrying out inter-specific hybridisation experiments. In addition, two months were spent at the Australian Museum, Sydney, where he studied the preserved amphibian collection. His time at the Museum was facilitated by two members of the curatorial staff: J. R. Kinghorn and J. A. Keast, both providing advice on local herpetological matters; Keast and Murray also assisted with the field work in the Sydney region.



Left to right: Charles Birch, Betty Moore and John Moore at Sherbrooke, Victoria, 17 January 1953. Photograph by Sally Moore.

In the spring of 1952, at the invitation of Professor H. Waring, Moore gave a series of lectures in the Department of Zoology at the University of Western Australia on his research with the *R. pipiens* complex, which I was fortunate to attend as an undergraduate student (Littlejohn 1993). I subsequently also worked on the *R. pipiens* complex, when at the University of Texas at Austin while on sabbatical leave from the University of Melbourne (Littlejohn and Oldham 1968). Moore also took the opportunity to carry out field work in the Perth region and the southwest. This field program was facilitated by A. R. Main of the Department of Zoology, who suggested suitable sites for Moore to visit, and accompanied him on these field trips. The timing of Moore's visit was fortunate because Main had only just returned from postgraduate studies at the University of Chicago to take up a Lectureship in Zoology at the University of Western Australia, and had independently started his comprehensive research program on Australian frogs (Littlejohn 1993, Main 1995). Main's research was initially concentrated on southern taxa, paralleling but expanding on Moore's studies, and also involved ecological, taxonomic and systematic investigations, artificial hybridization experiments, and extensive field work (e.g., Main 1954, 1957; Main et al. 1958). Thus 1952 can be seen as a very significant year for the initiation of a modern and dynamic evolutionary approach to research on the Australian Amphibia.

The field work, hybridisation experiments, and examination of museum specimens led Moore to describe a new genus *Kyarranus* (Moore 1958) and four new species: *Pseudophryne corroboree* (Moore 1953), *Crinia insignifera* (Moore 1954), *Kyarranus sphagicolus* (Moore 1958) and *Hyla booroolongensis* (Moore 1961). Western and eastern populations of *Hyla aurea raniformis* were raised to specific status as *Hyla raniformis* (Moore 1954). The western populations of this taxon were later described as a new species *Hyla moorei* by Copland (1957), based on Moore's (1954) evidence for hybrid incompatibility between disjunct populations and in recognition of the significant contribution of Moore to knowledge on the Australian Amphibia. *Kyarranus* was subsequently synonymised with *Philoria* (Cogger, et al. 1983; see Cogger 2000 for reasons); and Australian species of *Hyla* were placed in the genus *Litoria* (Tyler 1971). Moore also wrote a general account of the biology of frogs of the Sydney region, based on his field work there (Moore 1957).

By far Moore's most substantial and significant contribution to the biology of the Australian Amphibia is the monograph on "The frogs of eastern New South Wales" (Moore 1961). The subsequent writing of this monograph was facilitated by the assistance of a Guggenheim Fellowship and a grant from the National Science Foundation. This work has become a benchmark study in the history of research on Australian anurans - for it incorporates detailed treatments of the taxonomy and biology of the 38 taxa then known to occur in the region, and critical overviews of their systematics and zoogeography, much of which is generally applicable to the Australian region. In a review of this monograph, I concluded that the work "... may be seen as one of the most valuable, and certainly the most substantial, contributions so far made to Australian herpetology" (Littlejohn 1963). It is clear from the number of subsequent and recent citations that this opinion of the monograph has been upheld.

Acknowledgements
Betty Moore, her daughter Sally, and Charles Birch kindly provided background information on the planning of the 1952-3 visit to Australia. Sally also provided a copy of her photograph of the group for inclusion in this account. The comments and suggestions on the manuscript by Glenn Shea are also greatly appreciated. Patsy Littlejohn read a later draft and assisted with checking the final version.

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Minutes from the 34th AGM held on 21 February 2008 at Massey University, Albany, New Zealand.

1. Members Present: Kate Hodges, Dan Edwards, Suzi Morrison, Renee Catullo, Conrad Hoskin, Scott Keogh, Peter Harlow, Jean-Marc Hero, Eridani Mulder, Chris Gregory, Rick Shine, David Pike, Evelyn Nicholson, Dale Roberts, Simon Clulow, Reid Tingley, Josh Hale, David Wong, Mark Hutchinson, Keisuke Itonaga, Geoff While, Mike Brown, Steve Reynolds, David Chapple, Chloe Cadby, Katie Smith, Erik Wapstra, Julie Schofield, Murray Littlejohn, Darren Fielder, Carla Eisemberg, Arthur Georges, Mike Bull, John Clulow, Deborah Bower, Mike Thompson, Glenn Shea.

   Apologies: Frank Lemckert.

2. Minutes of last meeting were given. No objections were heard and Deborah Bower put forward a motion to accept. Seconded by Renee Catullo. Motion carried unanimously.

3. Correspondence. There was no correspondence not dealt with elsewhere on the agenda.

4. Glenn Shea gave the auditors report and auditors statement.

   Members discussed the value of the second account held by the society and, on advice from the auditors, Mike Thompson moved to close the conference account. Jean-Marc Hero seconded this and the motion was unanimously carried.

   Members discussed raising the cost of student memberships. Dan Edwards put forward a motion to increase memberships to $15 for students and $35 for non-students; Eridani Mulder seconded this and it was accepted unanimously.

   Glenn Shea moved to accept the auditors reports and statements separately for each of the years 2004-05, 2005-06 and 2006-07. These motions were seconded by Dale Roberts and carried unanimously.

5. Deborah Bower gave a report from the newsletters produced in 2008 and 2009. ASH members expressed their wish to have a newsletter in August and annually following this. The meeting thanked Deborah Bower for her efforts in compiling the Newsletter.

6. Ash members confirmed that student travel grants would only be available to students enrolled at an Australian university.

7. Marc Hero discussed the bid from Australia for the 8th (2016) World Congress of Herpetology and the need for a Director. He asked people interested in taking on the role as Director to contact him. Arthur Georges and Scott Keogh expressed their interest in being on the scientific committee for the 2016 World Congress of Herpetology.

8. Correspondence had been received from a past member about making a bequest to ASH. Mike Thompson and Glenn Shea explored the procedure for making bequests to ASH. Mike Thompson would produce some guidelines for inclusion on our website.

9. Mike Thompson announced the winners of the travel grant and research grants awarded by ASH. He announced his congratulations to the winners and gave out certificates and cheques to the members that were present.

10/11. North Queensland and Adelaide were the two venues raised at the 2008 AGM for the location of the next meeting. Mark Hutchison put forward a bid to host the next ASH conference in Whyalla in September 2010 and this bid was accepted.

Mike Thompson nominated Mark Hutchinson to become president, Scott Keogh seconded the motion and the vote was passed unanimously.

Mike Thompson nominated Glenn Shea to stay on as treasurer and Frank Lemckert to continue as secretary. Dan Edwards move to accept the nominations and Mark Hutchinson seconded the motion. This was unanimous.

Dale Roberts nominated Dan Edwards as an ordinary member, Marc Hero seconded him and the motion was passed unanimously.

Scott Keogh nominated Eridani Mulder to ordinary member; Kate Hodges seconded this and it was passed unanimously.

Positions for public officer (Scott Keogh) and editor (Debbie Bower) were confirmed unchanged.

Treasurer's Report 2008-09

This financial year has had a slow start, due to a number of significant changes:

a. An entirely new ASH committee
b. Signatories to both main and conference accounts not changed for several years
c. The bank lost the paperwork for change of signatories on main account on the first occasion
d. Problems in registering our new public officer with the ACT Office of Regulatory Services (new paperwork required due to changes in the Act)
e. A lack of formal bookkeeping associated with one conference
f. No auditing of the accounts for past four financial years due to dispersal of previous committees, retirement of the previous public officer, and death of the previous auditor in ACT
g. Absence of the president overseas for an extended period between the first and second attempt to change signatories
h. One month required by new auditor to audit four years of records, some without any clear paperwork.

Despite these constraints, the treasury finances have now been sorted out, and the Society is currently in a healthy position, largely due to a significant surplus by the past conference, although there will be some large expenses next financial year (particularly payment for four years of auditing, together with ASH prizes for this SMASH conference) not balanced by income to the Society from an annual conference in 2008-09.

The auditor's report for the financial years 2004-05, 2005-06, 2006-07 and 2007-08 will be published elsewhere in the newsletter, but were tabled at the meeting. In addition to the annual audits, the new auditor provided a general review of the Society's financial operations, and made several recommendations. These were mostly internal recommendations for clearer bookkeeping (which will be implemented). One major recommendation that required consideration by the ASH AGM is closure of the separate conference account, which requires separate auditing, increasing the auditing costs.

The ACT Incorporation Act has also been modified. Under the new Act, we are required to have an AGM within 5 months of the end of each financial year. Hence, the current system of running an irregular AGM in association with the ASH conferences will rarely be appropriate in the future. The incoming ASH committee, and future committees, will need to keep this in mind.

While we currently have a significant surplus, there are a number of issues that ASH needs to consider for the future.

1. The committee decided in 2008 to provide an honorarium to entice an editor to produce a regular newsletter, and to provide some hard copies of that newsletter. If maintained in the future, both of these activities will require increased expenditure.

2. The cost of auditing has gone up. Partly due to the complexity of running two accounts, one without any clear bookkeeping, partly due to the imposition of GST, partly due to general inflation, and partly due to the requirements of the new ACT Incorporations Act for both an audited statement of the ASH accounts and an auditor's report to ASH, the cost of auditing the accounts professionally has risen from $330 in 2004 to an average of $1000 per annum for the last four years. Without a second account and better bookkeeping, this is likely to be about $700 per annum in the future.

3. The filing fees for the auditor's report are about $60 per annum

4. The costs of maintaining the ASH website are not clear: in 2004-05, we paid $1560, the following year we paid $1000, there were apparently no payments for the next two years, and then this year we paid about $1000 again.

On top of that, we provided about $3500 in research grants and travel grants in 2005, the same in 2006, nothing in 2007, and $4600 this year. We also provide $600 per conference in prizes.

We can probably work on the principle that research and travel grants, and meeting prizes, can be budgeted for from conference profits. But as conferences aren't annual, and we presumably wish to run an annual disbursal of research grants, there will be some years, such as this one, when there will be a drain on general society resources. Further, even taking these out, our annual expenses are likely to be of the order of $2500.

Our income from subscriptions is about $1000 per annum. Hence, we will be losing about $1500 per annum if we don't increase our membership income. By the end of the next financial year, given existing commitments, the ASH finances will be about $18,000, not the $27,787 at the end of the last financial year.

Hence, within the next decade, we will need to increase either number of memberships or price of memberships.

Glenn Shea
Treasurer for the Australian Society of Herpetologist

INDEPENDENT AUDIT REPORT
TO THE MEMBERS OF THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

Scope

The Financial Report and Committee's Responsibility

The financial report comprises the statement of financial position, income and expenditure statement, accompanying notes to the financial statements, and the statement by members of the committee for The Australian Society of Herpetologists Incorporated (the association), for the year ended 30 June 2005.

The committee of the association is responsible for the preparation and true and fair presentation of the financial report and have determined that the accounting policies used and described in Note 1 to the financial statements which form part of the financial report are consistent with the financial reporting requirements of the Associations Incorporations Act ACT and are appropriate to meet the needs of the members. This includes responsibility for the maintenance of adequate accounting records and internal controls that are designed to prevent and detect fraud and error, and for the accounting policies and accounting estimates inherent in the financial report.

The financial report has been prepared for distribution to members for the purpose of fulfilling the committee's financial reporting requirements under the Associations Incorporations Act ACT. We disclaim any assumption of responsibility for any reliance on this report or on the financial report to which it relates to any person other than the members, or for any purpose other than that for which it was prepared.

Audit Approach

We conducted an independent audit in order to express an opinion to the members of the association. Our audit was conducted in accordance with Australian Auditing Standards, in order to provide reasonable assurance as to whether the financial report is free of material misstatement. The nature of an audit is influenced by factors such as the use of professional judgement, selective testing, the inherent limitations of internal control, and the availability of persuasive rather than conclusive evidence. Therefore, an audit cannot guarantee that all material misstatements have been detected.

We performed procedures to assess whether in all material respects the financial report presents fairly, in accordance with the accounting policies as described in Note 1, so as to present a view which is consistent with our understanding of the company's financial position. These policies do not require the application of all Accounting Standards and other mandatory professional reporting requirements in Australia. No opinion is expressed as to whether the accounting policies used, and described in Note 1, are appropriate for the needs of the members.

We formed our audit opinion on the basis of these procedures, which included:

- examining, on a test basis, information to provide evidence supporting the amounts and disclosures in the financial report, and
- assessing the appropriateness of the accounting policies and disclosures used and the reasonableness of significant accounting estimates made by the committee.

While we considered the effectiveness of management's internal controls over financial reporting when determining the nature and extent of our procedures, our audit was not designed to provide assurance on internal controls.

Independence

INDEPENDENT AUDIT REPORT
TO THE MEMBERS OF THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

In conducting our audit, we followed applicable independence requirements of Australian professiona ethical pronouncements.

Qualified Audit Opinion

No payments could be vertified to original documentation. On this basis, the accounts are qualified.

Name of Firm: Woinarski Pty Limited
Chartered Accountants

Name of Director: _____
Denis Hamill

Address: Suite 2601 Level 26 100 Miller Street NORTH SYDNEY NSW 2060

Dated this 9th **day of** February 2009

THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

CERTIFICATE BY MEMBERS OF THE COMMITTEE

I, Michael Thompson of School of Biological Sciences University of Sydney NSW 2006 and I, Glenn Shea of Faculty of veterinary Science University of Sydney NSW 2006 certify that:

(a) We are members of the committee of The Australian Society of Herpetologists Incorporated.

(b) We attended the annual general meeting of the association held on ~~18~~ 21st February 2009.

(c) We are authorised by the attached resolution of the committee to sign this certificate.

(d) This annual statement was submitted to the members of the association at its annual general meeting.

Committee Member: _____
Michael Thompson

Committee Member: _____
Glenn Shea

Dated this 21st **day of** February 2009.

THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

PROFIT AND LOSS STATEMENT FOR THE YEAR ENDED 30 JUNE 2005

	2005 $	2004 $
INCOME		
Subscription Fees	2,610.00	8,925.00
OTHER INCOME		
Interest Received	86.50	70.10
Other Revenue	-	81.42
	86.50	151.52
	2,696.50	9,076.52
EXPENSES		
ASH Research Grants	2,500.00	2,400.00
Auditor's Remuneration	330.00	330.00
Bank Charges	16.80	25.25
Filing Fees	55.00	106.00
Meeting Expenses	2,000.00	2,500.00
Post Graduate Prizes	600.00	600.00
Printing & Stationery	25.95	18.95
Travel Grants	1,560.00	-
Website Maintenance	-	200.00
	7,087.75	6,180.20
(Loss) Profit from ordinary activities before income tax	(4,391.25)	2,896.32

INDEPENDENT AUDIT REPORT
TO THE MEMBERS OF THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

Scope

The Special Purpose Financial Report and Committee's Responsibility

The financial report comprises the balance sheet, profit and loss statement, accompanying notes to the financial statements, and the statement by members of the committee for The Australian Society of Herpetologists Incorporated (the association), for the year ended 30 June 2006.

The committee of the association is responsible for the preparation and true and fair presentation of the financial report and have determined that the accounting policies used and described in Note 1 to the financial statements which form part of the financial report are consistent with the financial reporting requirements of the Associations Incorporations Act ACT and are appropriate to meet the needs of the members. This includes responsibility for the maintenance of adequate accounting records and internal controls that are designed to prevent and detect fraud and error, and for the accounting policies and accounting estimates inherent in the financial report.

The financial report has been prepared for distribution to members for the purpose of fulfilling the committee's financial reporting requirements under the Associations Incorporations Act ACT. We disclaim any assumption of responsibility for any reliance on this report or on the financial report to which it relates to any person other than the members, or for any purpose other than that for which it was prepared.

Audit Approach

We conducted an independent audit in order to express an opinion to the members of the association. Our audit was conducted in accordance with Australian Auditing Standards, in order to provide reasonable assurance as to whether the financial report is free of material misstatement. The nature of an audit is influenced by factors such as the use of professional judgment, selective testing, the inherent limitations of internal control, and the availability of persuasive rather than conclusive evidence. Therefore, an audit cannot guarantee that all material misstatements have been detected.

We performed procedures to assess whether in all material respects the financial report presents fairly, in accordance with the accounting policies as described in Note 1, so as to present a view which is consistent with our understanding of the company's financial position. These policies do not require the application of all Australian Accounting Standards and other mandatory professional reporting requirements in Australia. No opinion is expressed as to whether the accounting policies used, and described in Note 1, are appropriate for the needs of the members.

We formed our audit opinion on the basis of these procedures, which included:

- examining, on a test basis, information to provide evidence supporting the amounts and disclosures in the financial report, and
- assessing the appropriateness of the accounting policies and disclosures used and the reasonableness of significant accounting estimates made by the committee.

While we considered the effectiveness of management's internal controls over financial reporting when determining the nature and extent of our procedures, our audit was not designed to provide assurance on internal controls.

Independence

INDEPENDENT AUDIT REPORT
TO THE MEMBERS OF THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

In conducting our audit, we followed applicable independence requirements of Australian professional ethical pronouncements.

Audit Opinion

In our opinion, the financial report of The Australian Society of Herpetologists Incorporated presents a true and fair view in accordance with the accounting policies described in Note 1 to the financial statements, the financial position of The Australian Society of Herpetologists Incorporated as at 30 June 2006 and the results of its operations for the year then ended.

Name of Firm: Woinarski Pty Limited
Chartered Accountants

Name of Director: _____
Denis Hamill

Address: Suite 2601 Level 26 100 Miller Street NORTH SYDNEY NSW 2060

Dated this day of 9th February 2009

THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

CERTIFICATE BY MEMBERS OF THE COMMITTEE

I, Michael Thompson of School of Biological Sciences University of Sydney NSW 2006 and I, Glenn Shea of Faculty of veterinary Science University of Sydney NSW 2006 certify that:

(a) We are members of the committee of The Australian Society of Herpetologists Incorporated.

(b) We attended the annual general meeting of the association held on . 21 February 2009

(c) We are authorised by the attached resolution of the committee to sign this certificate.

(d) This annual statement was submitted to the members of the association at its annual general meeting.

Committee Member: _____
Michael Thompson

Committee Member: _____
Glenn Shea

Dated this day of 21 Feb 2009

THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

PROFIT AND LOSS STATEMENT FOR THE YEAR ENDED 30 JUNE 2006

	2006 $	2005 $
INCOME		
Subscription Fees	1,385.00	2,610.00
Conference Registrations	40,588.95	-
Accommodation Fees Collected	10,740.00	-
	52,713.95	2,610.00
OTHER INCOME		
Interest Received	61.53	86.50
Other Revenue	4,755.00	-
	4,816.53	86.50
	57,530.48	2,696.50
EXPENSES		
ASH Research Grants	3,000.00	2,500.00
Auditor's Remuneration	-	330.00
Bank Charges	91.96	16.80
Conference Cost	38,084.50	-
Entertainment Expenses	715.00	-
Filing Fees	-	55.00
Insurance	1,218.97	-
Meeting Expenses	-	2,000.00
Post Graduate Prizes	-	600.00
Printing & Stationery	1,073.87	25.95
Promotional Supplies	3,733.57	-
Refunds of Registration	895.00	-
Travel Costs	990.00	-
Travel Grants	495.00	1,560.00
Website Maintenance	1,000.00	-
	51,297.87	7,087.75
Profit (Loss) before income tax	6,232.61	(4,391.25)

THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

DEPARTMENTAL TRADING, PROFIT AND LOSS STATEMENT FOR THE YEAR ENDED 30 JUNE 2006

	2006 $	2005 $
Main Account		
OTHER INCOME		
Subscription Fees	1,385.00	2,610.00
Related Corporations	61.53	86.50
Refund of Start up Fund - Griffith University	2,000.00	-
	3,446.53	2,696.50
EXPENSES		
ASH Grants	3,000.00	2,500.00
Accounting Standards	-	330.00
Bank Charges	1.50	16.80
Filing Fees	-	55.00
Meeting Expenses	-	2,000.00
Post Graduate Prizes	-	600.00
Printing & Stationery	-	25.95
Travelling Grants	495.00	1,560.00
Website Maintenance	1,000.00	-
	4,496.50	7,087.75
NET LOSS	(1,049.97)	(4,391.25)

THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

DEPARTMENTAL TRADING, PROFIT AND LOSS STATEMENT FOR THE YEAR ENDED 30 JUNE 2006

	2006 $	2005 $
Conference Account		
OTHER INCOME		
Conference Registrations	40,588.95	-
Accommodation Fees Collected	10,740.00	-
Other Deposits Received	2,755.00	-
	54,083.95	-
EXPENSES		
Bank Charges - Conference	90.46	-
Conference Cost	38,084.50	-
Entertainment Expenses	715.00	-
Insurance	1,218.97	-
Printing & Stationery - Conference	1,073.87	-
Promotional Supplies	3,733.57	-
Refunds of Registration	895.00	-
Travel Costs	990.00	-
	46,801.37	-
NET PROFIT	7,282.58	-

INDEPENDENT AUDITOR'S REPORT
TO THE MEMBERS OF THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

Report on the Financial Report

We have audited the accompanying financial report, being a special purpose financial report, of The Australian Society of Herpetologists Incorporated (the association) which comprises the balance sheet as at 30 June 2007, and the income statement, a summary of significant accounting policies and other explanatory notes and the statement by members of the committee.

Committee's Responsibility for the Financial Report

The committee of the association is responsible for the preparation and fair presentation of the financial report and have determined that the accounting policies described in Note 1 to the financial statements, which form part of the financial report, are consistent with the financial reporting requirements of the Associations Incorporations Act ACT 1991 and are appropriate to meet the needs of the members. The committee's responsibility also includes establishing and maintaining internal control relevant to the preparation and fair presentation of the financial report that is free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditors' Responsibility

Our responsibility is to express an opinion on the financial report based on our audit. No opinion is expressed as to whether the accounting policies used, as described in Note 1, are appropriate to meet the needs of the members. We conducted our audit in accordance with Australian Auditing Standards. These Auditing Standards require that we comply with relevant ethical requirements relating to audit engagements and plan and perform the audit to obtain reasonable assurance whether the financial report is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial report. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial report, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the financial report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the committee, as well as evaluating the overall presentation of the financial report.

The financial report has been prepared for distribution to members for the purpose of fulfilling the committee's financial reporting under the Associations Incorporation Act ACT. We disclaim any assumption of responsibility for any reliance on this report or on the financial report to which it relates to any person other than the members, or for any purpose other than that for which it was prepared.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Independence

In conducting our audit, we have complied with the independence requirements of Australian professional ethical pronouncements.

INDEPENDENT AUDITOR'S REPORT
TO THE MEMBERS OF THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

Auditors' Opinion

In our opinion, the financial report of The Australian Society of Herpetologists Incorporated presents fairly, in all material respects the financial position of The Australian Society of Herpetologists Incorporated as of 30 June 2007 and of its financial performance for the year then ended in accordance with the accounting policies described in Note 1 to the financial statements.

Name of Firm: Woinarski Pty Limited
Chartered Accountants

Name of Director: _____
Denis Hamill

Address: Suite 2601 Level 26 100 Miller Street NORTH SYDNEY NSW 2060

Dated this 9th **day of** February 2008

THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

CERTIFICATE BY MEMBERS OF THE COMMITTEE

I, Michael Thompson of School of Biological Sciences University of Sydney NSW 2006 and I, Glenn Shea of Faculty of veterinary Science University of Sydney NSW 2006 certify that:

(a) We are members of the committee of The Australian Society of Herpetologists Incorporated.

(b) We attended the annual general meeting of the association held on . 21 Feb 2009

(c) We are authorised by the attached resolution of the committee to sign this certificate.

(d) This annual statement was submitted to the members of the association at its annual general meeting.

Committee Member: _____
Michael Thompson

Committee Member: _____
Glenn Shea

Dated this 21 **day of** February 2009

THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

PROFIT AND LOSS STATEMENT FOR THE YEAR ENDED 30 JUNE 2007

	2007 $	2006 $
INCOME		
Interest Received	47.37	61.53
Subscription Fees	-	1,385.00
Conference Registrations	-	40,588.95
Accommodation Fees Collected	-	10,740.00
Other Revenue	-	4,755.00
	47.37	57,530.48
EXPENSES		
ASH Research Grants	500.00	3,000.00
Bank Charges	15.00	91.96
Conference Cost	-	38,084.50
Entertainment Expenses	-	715.00
Insurance	-	1,218.97
Printing & Stationery	-	1,073.87
Promotional Supplies	-	3,733.57
Refunds of Registration	-	895.00
Travel Costs	-	990.00
Travel Grants	-	495.00
Website Maintenance	-	1,000.00
	515.00	51,297.87
(Loss) Profit before income tax	(467.63)	6,232.61

INDEPENDENT AUDITOR'S REPORT
TO THE MEMBERS OF THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

Report on the Financial Report

We have audited the accompanying financial report, being a special purpose financial report, of The Australian Society of Herpetologists Incorporated (the association) which comprises the balance sheet as at 30 June 2008, and the income statement, a summary of significant accounting policies and other explanatory notes and the statement by members of the committee.

Committee's Responsibility for the Financial Report

The committee of the association is responsible for the preparation and fair presentation of the financial report and have determined that the accounting policies described in Note 1 to the financial statements, which form part of the financial report, are consistent with the financial reporting requirements of the Associations Incorporations Act ACT 1991 and are appropriate to meet the needs of the members. The committee's responsibility also includes establishing and maintaining internal control relevant to the preparation and fair presentation of the financial report that is free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditors' Responsibility

Our responsibility is to express an opinion on the financial report based on our audit. No opinion is expressed as to whether the accounting policies used, as described in Note 1, are appropriate to meet the needs of the members. We conducted our audit in accordance with Australian Auditing Standards. These Auditing Standards require that we comply with relevant ethical requirements relating to audit engagements and plan and perform the audit to obtain reasonable assurance whether the financial report is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial report. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial report, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the financial report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the committee, as well as evaluating the overall presentation of the financial report.

The financial report has been prepared for distribution to members for the purpose of fulfilling the committee's financial reporting under the Associations Incorporation Act ACT. We disclaim any assumption of responsibility for any reliance on this report or on the financial report to which it relates to any person other than the members, or for any purpose other than that for which it was prepared.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Independence

In conducting our audit, we have complied with the independence requirements of Australian professional ethical pronouncements.

INDEPENDENT AUDITOR'S REPORT
TO THE MEMBERS OF THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

Qualified Auditors' Opinion

No conference receipts or payments available for the 2007 Conference. The accounts are qualified.

Name of Firm: Woinarski Pty Limited
Chartered Accountants

Name of Director: _____
Denis Hamill

Address: Suite 2601 Level 26 100 Miller Street NORTH SYDNEY NSW 2060

Dated this 9th **day of** February 2009

THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

CERTIFICATE BY MEMBERS OF THE COMMITTEE

I, Michael Thompson of School of Biological Sciences University of Sydney NSW 2006 and I, Glenn Shea of Faculty of veterinary Science University of Sydney NSW 2006 certify that:

(a) We are members of the committee of The Australian Society of Herpetologists Incorporated.

(b) We attended the annual general meeting of the association held on 21st Feb 2009.

(c) We are authorised by the attached resolution of the committee to sign this certificate.

(d) This annual statement was submitted to the members of the association at its annual general meeting.

Committee Member: _____
Michael Thompson

Committee Member: _____
Glenn Shea

Dated this 21st **day of** February 2009.

THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

PROFIT AND LOSS STATEMENT FOR THE YEAR ENDED 30 JUNE 2008

	2008 $	2007 $
INCOME		
Subscription Fees	425.00	-
Conference Registrations	56,558.50	-
	56,983.50	-
OTHER INCOME		
Interest Received	29.60	47.37
Other Revenue	500.00	-
	529.60	47.37
	57,513.10	47.37
EXPENSES		
ASH Research Grants	2,942.00	500.00
Bank Charges	180.60	15.00
Conference Cost	35,835.00	-
Printing & Stationery	1,002.10	-
Promotional Supplies	4,509.37	-
Refunds of Registration	500.00	-
Travel Grants	1,600.00	-
	46,569.07	515.00
Profit (Loss) before income tax	10,944.03	(467.63)

THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

DEPARTMENTAL TRADING, PROFIT AND LOSS STATEMENT FOR THE YEAR ENDED 30 JUNE 2008

	2008 $	2007 $
Main Account		
OTHER INCOME		
Subscription Fees	425.00	-
Related Corporations	29.60	47.37
Cancelled Research Grant - Stephanie Godrey Ch 177	500.00	-
	954.60	47.37
EXPENSES		
ASH Grants	2,942.00	500.00
Bank Charges	180.60	15.00
Travelling Grants	1,600.00	-
	4,722.60	515.00
NET LOSS	(3,768.00)	(467.63)

THE AUSTRALIAN SOCIETY OF HERPETOLOGISTS INCORPORATED

DEPARTMENTAL TRADING, PROFIT AND LOSS STATEMENT FOR THE YEAR ENDED 30 JUNE 2008

	2008 $	2007 $
Conference Account		
OTHER INCOME		
Conference Registrations	56,558.50	-
EXPENSES		
Conference Cost	35,835.00	-
Printing & Stationery - Conference	1,002.10	-
Promotional Supplies	4,509.37	-
Refunds of Registration	500.00	-
	41,846.47	-
NET PROFIT	14,712.03	-