



Newsletter of the Australasian Wildlife Management Society

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General Inquiries:

President

Terry Korn
tjkorn@bigpond.net.au

General Inquiries

Greg Baxter (Secretary)
gbaxter@uqg.uq.edu.au

Membership

Cathy Herbert
catherine.herbert@sydney.edu.au

Newsletter editor

Cheryl Krull
cherylkrull@xtra.co.nz

Membership payment inquiries:

On Q Conference Support
T: +00 61 2 6161 9024
E: awms@onqconferences.com.au

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This newsletter reflects the opinions of the author(s) but not necessarily those of the AWMS Committee or membership. AWMS makes no claim as to the accuracy of stated claims and any party using this information does so at their own risk.

Help the Northern Hairy-Nosed Wombat!

The northern hairy-nosed wombat (*Lasiorhinus krefftii*) is one of the world's most endangered species (listed as 'critically endangered' by the IUCN Red List), living in a single isolated population in Central Queensland, Australia. This species is endemic to Australia, where it formerly ranged from Deniliquin in south-central New South Wales, north to Mount Douglas in central Queensland. It is currently restricted to Epping Forest National Park, and occupies only 500ha (less than a sixth) of the park. The Wombat Foundation is a charitable organisation set up to support activities that aim to bring the northern hairy-nosed wombat back from the brink of extinction. The Wombat Foundation was incorporated in 2004 as a not-for-profit public company and is assisting with the wombat recovery program through its funding of research activities and management actions.

Fran McFadzen first travelled to Epping Forest National Park in Central Queensland ten years ago as the first volunteer caretaker for The Wombat Foundation and in pursuit of photos of the only remaining population of critically endangered northern hairy-nosed wombats. Photos of the species were almost non-existent when she started. So every night for a month she would set out with SLR camera, torch and binoculars in the middle of the night looking for the elusive beasties. Fran's first visit was in August-September 2001. Over the entire period, she saw only four wombats. And of course, no photos were forthcoming.

Fran visited the Epping Forest National Park again in December 2010 to January 2011. Many more wombats were seen the second time, which was attributed to the establishment of a predator-proof fence to keep dingoes away from the wombat burrows. The management of the park is now a success and the numbers of wombats have grown to an estimated 138. It is clear through the correct management of the park that wombats are now thriving, rather than just surviving. However these animals are still rare and endangered.



Picture courtesy of DERM, Queensland

Northern hairy-nosed wombat (*Lasiorhinus krefftii*).

The northern hairy-nosed wombats need more ambassadors like Fran McFadzen. Many people have never heard of this genetically distinct but endangered wombat living in Queensland. Everyone needs to know that they exist and that they need help to survive.

Help can take many forms, from joining The Wombat Foundation, fundraising, speaking at schools or service clubs or becoming a volunteer caretaker.

Get involved and help us to make a difference!

Jacqui Mills is Director of The Wombat Foundation. Further information is available at The Wombat Foundation's website:

www.wombatfoundation.com.au

Mark the dates in your diary!!!

AWMS Conference 2011

29 November - 1 December

Citigate Hotel

Bathurst, NSW

President's Report - July 2011

I would like to welcome our new newsletter editor Cheryl Krull who is a Doctoral student at the University of Auckland. Cheryl fills the gap left by Kathleen Davies who has been editor over the last twelve months. I would like to thank Kathleen for her contribution and for her advice on potential future electronic formats for the newsletter.

A challenge for the society is how best to formulate our newsletter so that it utilizes the electronic age to best advantage. Should we stay with the traditional format we currently use (articles including photographs), should we move to an e-bulletin format with short introductory paragraphs containing a link providing more detail on the issue or should we use some other format or a combination of formats? The committee will be making a decision on this matter over the next few months as it reviews the many different formats used by similar scientific organizations throughout the world. If you would like to make suggestions about preferred formats of electronic newsletters please do so by emailing ideas to me at tjkorn@bigpond.net.au

Members may recall the over subscribed and very successful Research-Policy symposium "Bridging the Gap", which the society organized in October 2010 in Sydney. The presentations made at this symposium were recorded on video and made available for three months through our website. This electronic link has now been terminated but the presentations are available on DVD and can be obtained by contacting me. Some people are using these presentations as training/instructional aids for staff or students, especially when wanting an insight on how politics influences policy development and policy implementation.

The AWMS committee continues its efforts to raise the profile of the society. In June, I was asked as president to facilitate a one day forum on crocodile management in Queensland, which was interesting and very worthwhile. I was able to catch up with Professor Gordon Grigg, long time AWMS member who advises the Queensland Government on crocodile management, while promoting the society during the day's proceedings.

Another promotion occurred at the 15th Australasian Vertebrate Pest Conference in Sydney where we organised a stand and included promotional material including membership forms in the conference satchels. Doreen Culliver, Peter Fleming, Wendy Ruscoe, Lucy Bridgeman and Cathy Herbert contributed to this promotion. Lucy produced an excellent flyer which can be obtained in electronic form from Peter Fleming (peter.fleming@dpi.nsw.gov.au). We hope to post the flyer on the website where it can be downloaded by members who want to promote the society.

Politics is in an interesting state in Australia as the federal government continues to grapple with the difficulties of relying on independents to govern.

From the Editor

July is suddenly upon us and so it seems is the winter weather, the perfect time to take a break from the ever-present workload to read the following articles. Firstly, Dr Kellie Leigh from the Cape Otway Center introduces their conservation project for the endangered tiger quoll. She also invites applications for their conservation ecology fellowship and volunteer research assistant positions. Jacqui Mills from The Wombat Foundation fills us in on the little known northern hairy-nosed wombat. Lastly, Keryn Lapidge talks about the new PestSmart Toolkit available online to provide information on pest animals and their management. It is my pleasure to bring you these interesting articles from some highly dedicated researchers and volunteers, in my first issue as editor.

I am a student at the University of Auckland, studying the ecological impacts of the feral pigs for my PhD thesis. It is a real treat to be in contact with people from such varied research, conservation and management fields and I'm really looking forward to corresponding with you in the coming months. If you would like to contribute to the newsletter, please contact me, it would be great to hear from fellow members.

I would like to thank Kathleen Davies for her hard work as editor for the past year and also for helping my transition into this role. Thanks to President Terry Korn and committee members for the appointment and also to Doreen Culliver who is invaluable in preparing these newsletters.

Cheryl Krull

cherylkrull@xtra.co.nz

Tel: +64 9 373 7599 x83137

Mob: +64 211546314

President's Report continued.....

From July the balance of power in the Senate will shift with the Greens having a major role, further complicating government. New South Wales has a new coalition government but has to rely on minor parties in the Upper House for support. Queensland is heading for an election which will probably see a change in government. Many of the major issues facing these governments revolve around environment and natural resource management such as mining, climate change and water management all of which ultimately impact on wildlife management in Australia. A scientific society such as ours will have a role to play in the relevant debates arising from this fragile political situation.

Terry Korn PSM
President

Quolls are going to the dogs

2011 is the Year of the Forest – a perfect year to focus on forest dwelling species like the endangered tiger quoll (*Dasyurus maculatus*). The Otway Ranges is one of Victoria's last stronghold areas for our largest remaining marsupial predator, also known as the spotted-tailed quoll. The Conservation Ecology Centre at Cape Otway (CEC) is undertaking an innovative new project aimed at conserving this increasingly rare and elusive animal. Tiger quolls used to be common in the Otways; however annual remote camera surveys carried out by Parks Victoria and the Department of Sustainability and Environment have not detected any quoll presence for several years now, which indicates a substantial population decline. However, recent sightings on private land suggest that the tiger quoll is not yet locally extinct and there is an urgent need for an assessment of the remaining population, and an evaluation of the threats to its persistence.

Since the quolls have become so hard to find, the CEC is developing some new detection methods, including training a quoll detection dog in partnership with Australian Canine Services Pty Ltd. Sniffer dogs are being increasingly utilised for Search and Destroy missions, for the control of invasive species such as foxes, cats and rabbits. Using the same principles, Badger, a canine member of the CEC team, is undergoing training to locate the scats of endangered tiger quolls to help conserve them, so he is more of a Search and Rescue dog. The CEC has recently acquired three captive bred tiger quolls, who live on-site in their state of the art sanctuary, affectionately known as the "Quolloseum". These three quolls are providing fresh scats, from a varied diet, for Badger's training program.

This approach will not only help confirm the quolls presence and facilitate studies of the extant population, but it also offers a potential stand-alone population survey method. Tiger quolls use communal latrine sites. So if Badger helps to locate these latrines, this will allow for regular sampling of DNA to ascertain how many quolls are using each site, along with other important information.

The CEC also profiles the endangered tiger quoll as a flagship species for habitat conservation. Flagship species are furry, charismatic animals that unite public support for a conservation cause. However in this case there is also a strong ecological rationale for redistributing the resources that are raised under this flagship species, to broader biodiversity conservation. Predators are a critical part of any ecosystem and by focussing on a carnivore flagship species the CEC's work has implications for many other species. For example tiger quolls have large home ranges and prefer structurally complex forests. Therefore, a sustainable population of quolls requires extensive intact habitat.



Badger, the Tiger Quoll Detection Dog

In addition, as a predator species, tiger quolls depend on a healthy prey base of small native mammals and on reduced competition from introduced sympatric predators like foxes and feral cats. Habitat loss and competition from introduced predators are threats that are common to a wide range of native mammals; therefore actions taken to conserve the tiger quoll carry benefits across the landscape.

It's an ambitious project that includes research from the ground up, from vegetation surveys to small mammals and sympatric predators, and covers a huge area crossing both public and private land boundaries. However it's based on a successful model that the CEC team has a lot of experience with. The organisation has a long history of solid working relationships with Government agencies, NGOs, private landholders and the local community which will help to achieve these broad outcomes, and has been recognised through the Prime Minister's Environmentalist of the Year and the Australian Geographic Conservation Award.

As far as flagship species go, Research and Conservation Program Leader, Dr Kellie Leigh, founded the Zambian Carnivore Program over more than a decade in Africa, which utilises the endangered African wild dog as a flagship for protected area conservation. With expertise and guidance from Martin Dominick from Australian Canine Services, Leigh is also transferring her knowledge from countless hours of studying wild canid behaviour into training domestic dogs for carnivore conservation here in Australia.

You can stay up to date with this project and Badger's progress with his training by contacting the CEC and subscribing at info@capeotwaycentre.org

There are also two exciting opportunities for students, recent graduates and volunteers to become involved in the Centre's work...

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The first is through their **Conservation Ecology Fellowship**, running in August this year. Australian Geographic has sponsored a position at the course so applicants are encouraged to apply soon to be considered for this award.

The Conservation Ecology Fellowship is specifically designed for people considering or embarking upon a career in conservation or having a love for the environment. GAP year students, undergraduates and recent graduates, as well as people considering a career change will particularly benefit from the hands on skills they will gain (these are practical skills which are required and expected in the conservation workplace but are rarely taught in traditional courses). Learning will be enhanced through hands on field sessions and excursions and delivery by keenly committed conservationists.

What makes this Fellowship particularly special is the willingness of these experts to share the secrets they have learned through experiences, trial and error, lengthy observation and dedication.

Subjects covered include:

- Wildlife Ecology
- Wildlife Research Field Techniques
- Wildlife Rescue, First Aid and Rehabilitation
- Volunteering and Engaging the Community in Conservation
- Endangered Species Conservation
- Field trip – Understanding and Conserving Australian Ecosystems

Living sustainability

Cost is \$1400pp and includes accommodation at the Great Ocean Ecolodge from Sunday 14th August to Friday 19th August 2011, plus all meals, field trip transport, course notes, materials and most field equipment, and Conservation Ecology Fellowship Certificate on completion. (NB Air travel and transport to and from Apollo Bay are arranged by the participant and are at the participants' own expense.)

The Conservation Ecology Fellowship program is generously subsidised by The Great Ocean Ecolodge.

Closing date for applications is the 14th July 2011.

For more information contact the CEC at info@capeotwaycentre.org Ph: 61 (0)3 5237 9297 www.capeotwaycentre.org



Tiger quolls (photos by Lucia Griggi)



**Conservation
Ecology Centre**
Cape Otway

..... Continued on Page 5

Continued from Page 4

The second opportunity is for a **volunteer Research Assistant**. An internship position well suited to students studying in the environmental field who need to complete an industry placement as part of their degree. These positions are available for 3 months, based at Cape Otway on the stunning Great Ocean Rd in Victoria with abundant wildlife including kangaroos, wallabies, koalas and echidnas. Duties are varied and include fieldwork (surveys of vegetation, small mammals, koalas, carnivores, and birds), wildlife tracking by telemetry, feeding and looking after the resident wildlife in the CEC's sanctuary (koalas, tiger quolls, and sugar gliders), data entry, analysis, and GIS. Volunteers will gain extensive experience in field logistics, plus assist with the community education and engagement program. Fieldwork can be arduous over steep terrain so a reasonable level of fitness is required. Accommodation is either; camping (for free), or Aus\$20 per night for a caravan with koalas overhead (normally \$65 per night). All food and non-alcoholic drinks provided. Transport to and from Apollo Bay, including international airfares, is at volunteers own cost.

To apply please send cover letter and CV with referee details to info@capeotwaycentre.org addressed to Dr Kellie Leigh, Program Leader Research and Conservation. Please include the dates you are available, this position is available 4 times per year with flexible start date. Closing date for this round, July 5th.

More information on the CEC's work at www.capeotwaycentre.org

For more information contact Dr Kellie Leigh, Program Leader Research and Conservation.

Conservation Ecology Centre Cape Otway
 2005 Prime Minister's Environmentalist of the Year
 2007 Australian Geographic Society Conservation Award

Patron – The Honorable Steve Bracks
635 Lighthouse Rd, Cape Otway
PO Box 296, Apollo Bay
Victoria 3233
Australia

ph: (03) 5237 9297

fax: (03) 5237 9299

www.capeotwaycentre.org

info@capeotwaycentre.org



Climbing Quoll



Badger taking time out on the beach watching seagulls

PestSmart Toolkit - Tools for pest management



The *PestSmart* Toolkit was recently highlighted at the 15th Australasian Vertebrate Pest Management Conference, as an innovative single information resource tool for policy makers, managers, implementers and farmers to provide information and guidance on best-practice invasive animal management in Australia and New Zealand.

This end-user centered suite of products is being developed by the Invasive Animals Cooperative Research Centre (IA CRC), as the culmination of seven years of research and development over a diverse range of projects.

PestSmart provides comprehensive management information packages on several key vertebrate pest species including rabbits, wild dogs, foxes, feral pigs, feral cats, carp, and tilapia. Information on other pest species such as; mice, cane toads and Camels, will also be available. The *PestSmart* Toolkit also has a section on new and emerging pests such as; red-eared slider turtles, Indian mynas and Asian house geckos. The toolkits will contain information in various forms such as 'how-to' guides, fact sheets, case-studies, technical manuals and scientific reports.

All PestSmart Toolkit publications are available online at www.feral.org.au/pestsmart. Users may browse for information based on the pest species of interest, information that is relevant to particular groups of people (land managers etc.), or search for a specific article of interest. Using the PestSmart foxes page as an example, the user will find a general information factsheet, management and control case studies and links to scientific research papers.

The user may then navigate to distribution maps, fox images, frequently asked questions, monitoring techniques and links to information about foxes in their native range. The PestSmart Toolkit also provides information and links to specific resources in the feral.org.au database on themes such as animal welfare, vertebrate pest policy, social issues and risk assessment.

The toolkit not only provides comprehensive information on a number of serious pest species, in a central database, but forms a cohesive suite of information and tools that can be used as a 'one-stop-shop'.

A national roadshow will promote the new *PestSmart* Toolkit and the pest animal control products developed by the Invasive Animals Cooperative Research Centre. This roadshow will directly demonstrate the use and benefits of new products to farmers and other land managers. The roadshow will visit every state and territory in Australia during the first half of 2012. Confirmed details of dates and times will be advertised in the November issue of the AWMS newsletter, or log onto www.feral.org.au/pestsmart to stay updated.

Keryn Lapidge, Science Communicator
Invasive Animals Cooperative Research Centre
An Australian Government Cooperative Research Centre
Oxford House, 48 Oxford Terrace, Unley SA 5061
T: +61 8 8357 1222 F: +61 8 8357 1238 M: 0414 600 878
E: keryn.lapidge@invasiveanimals.com

W: <http://invasiveanimals.com> and <http://www.feral.org.au>
Subscribe to Feral Flyer at <http://www.invasiveanimals.com/media-centre/subscribe/>

Applications for the Graeme Caughley Travelling Fellowship are now open

The Fellowship commemorates the work of Dr G.J. Caughley, FAA in ecology and wildlife management.

The purpose of the Fellowship is to enable ecologists resident in Australia or New Zealand to share their expertise by visiting scientific centers and giving lectures in countries other than Australia or New Zealand. Up to \$5000 (GST exempt) is offered.

The closing date for applications is 31 August 2011 for travel in 2012.

For more information and to apply visit:
<http://www.science.org.au/awards/awards/caughley.htm>

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the AWMS website

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Queries?

Contact the AWMS Secretariat by email:

awms@onqconferences.com.au

or call +61 (2) 6161 9024

When is a black rat NOT a black rat? When it is an Asiatic black rat - *Rattus tanezumi*!

Professor Steve Donnellan¹, Dr Terry Bertozzi¹,
Dr Dave Peacock², Dr Ken Aplin³

¹South Australian Museum, North Terrace Adelaide SA 5000

²NRM Biosecurity Unit, Biosecurity SA, GPO Box 1671
Adelaide SA 5001

³Ken Aplin Pty Ltd, Pappinbarra NSW

Black rats (*Rattus rattus*) spread out of Asia during prehistory to become the most ubiquitous and destructive of all commensal animals, significant hosts or intermediaries in numerous zoonotic disease cycles with inestimable impacts on human and livestock health, and aggressive ecological invaders.

Despite the myriad of impacts and global significance of black rats, remarkably little is known about their evolutionary history, the origin of commensal populations, and the timing and directions of global dispersal.

Researchers from the South Australian Museum and the University of Adelaide have carried out a global survey of mitochondrial DNA (mtDNA) of black rats to develop a historical genetic perspective on these important issues.

Their global survey of black rat mitochondrial DNA identified a total of four principal evolutionary lineages among typical black rats. These black rat lineages are each derived from a separate region of South to Southeast Asia. All four lineages independently developed commensal habits and three underwent geographic range expansions that track prehistoric patterns of human migration and trade.

Their genetic framework provides a powerful means for the identification of black rats around the globe to aid in a re-examination of host-pathogen associations among black rats, and for bio-security monitoring of contemporary dispersals.

Black rats have likely been in Australia since the days of the First Fleet and have been thought to be the "ship rat", introduced from Europe to where it had spread from southern Asia via land or ship routes. The ship rat (*Rattus rattus*) is the most widespread of the three black rat lineages that have expanded their ranges in association with man's activities.

The Adelaide research group's mtDNA survey has confirmed that black rats in Australia are indeed ship rats BUT has also identified the presence of a second lineage in south-eastern Australia, the Asiatic black rat, provisionally named *Rattus tanezumi*.

The Asiatic black rat is very similar to the ship rat; *Rattus rattus* (see the accompanying figure comparing dorsal and ventral views of museum skins). So much so that only a close examination of their skulls, DNA or chromosomes, can distinguish them. This of course has major implications for rat control/bait registration, and possible disease transmission.

In South Australia, the Adelaide research group found the Asiatic black rat mainly in moister areas such as the Mt Lofty Ranges, along the Murray River and in the south-east, whereas the ship rat occurs more widely. Both types of black rat occur in conservation reserves and anthropogenic landscapes.

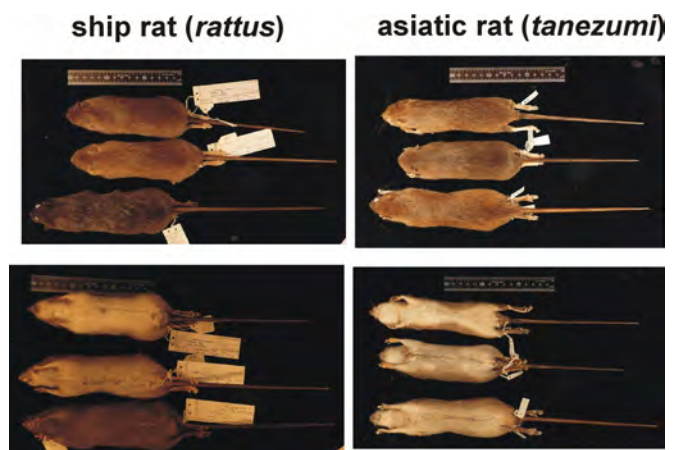
The detailed distributions, ecological associations, disease suites, and genetic interactions of the two black rat types are yet to be established with any certainty. In particular, it is not certain that the two types of black rat have remained genetically separate since their introduction into Australia, with potential implications for all aspects of their biology.

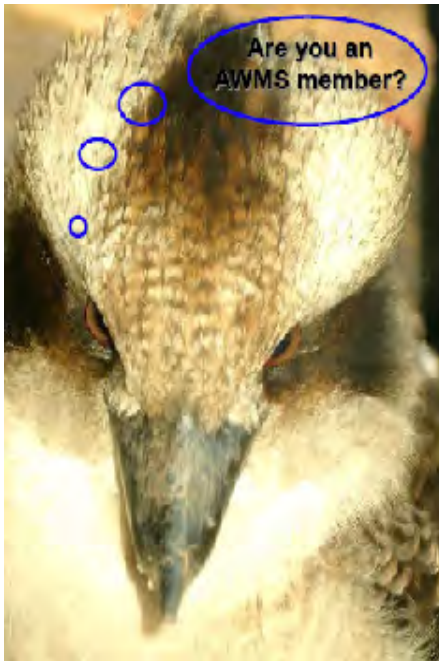
To achieve an Australia wide perspective for each of these issues, the Adelaide research group has expanded the mtDNA survey across Australia. The **Adelaide research group need black rat tissue samples**. If you, or a person or group you know, are trapping or baiting rats, we will send you a pre-paid postage pack containing some vials with a DNA preserving solution, and all we ask is for you to snip off the tip of the tail and stick it in the vial. When the vials are used, simply seal the pack and put it in the post. Sampling a dead black rat is fine if you think it's fairly fresh, i.e. doesn't stink (and hence the DNA is still largely intact). More detailed instructions are included in the collection kit

Please contact:

Professor Steve Donnellan (08-8303 4855; steve.donnellan@samuseum.sa.gov.au) or Dr Terry Bertozzi (08-8303 3925; terry.bertozzi@samuseum.sa.gov.au) at the SA Museum, if you have any questions, or to **request a postage-paid collection kit**.

Many thanks in anticipation, and *please distribute this request to anyone you think could assist*.





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We look forward to seeing you there.....

