

THE
AUSTRALIAN
MAMMAL SOCIETY
CONFERENCE SYDNEY 2019



**65th Meeting of the
Australian Mammal Society**

7-11 July 2019

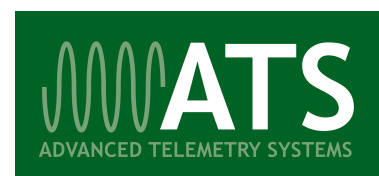
Veterinary Science Conference Centre, The University of Sydney



THE UNIVERSITY OF
SYDNEY



The
Australian
Mammal Society



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Program Overview

Sunday 7th July

REGISTRATION AND MIXER EVENT

5-7pm in The Refectory, Holme Building, Science Road

Monday 8th July

OPENING ADDRESS AND WELCOME

9am - Veterinary Science Conference Centre

PLENARIES AND SPOKEN PRESENTATIONS

9.30am start - Veterinary Science Conference Centre

POSTER SESSION

5:00pm - 7:00pm - Foyer of the Veterinary Science Conference Centre, followed by the student and old farts dinner in nearby pubs or restaurants in Glebe or Newtown

Tuesday 9th July

PLENARIES AND SPOKEN PRESENTATIONS

9am start - Veterinary Science Conference Centre

ANNUAL GENERAL MEETING OF THE AUSTRALIAN MAMMAL SOCIETY

3:45pm - 5:45pm - Veterinary Science Conference Centre

CONFERENCE DINNER

6:30pm - 10:30pm - AGM in the TAG Family Foundation Grandstand. An after-party will be held in Newtown, location TBA

Wednesday 10th July

PLENARIES AND SPOKEN PRESENTATIONS

9am start - Veterinary Science Conference Centre

IUCN MONOTREMES AND MARSUPIALS SPECIALISTS GROUP MEETING

12.50pm Lunch - Veterinary Science Conference Centre

AWARDS

4.50pm - We will wrap up the general sessions and present awards

Thursday 11th July

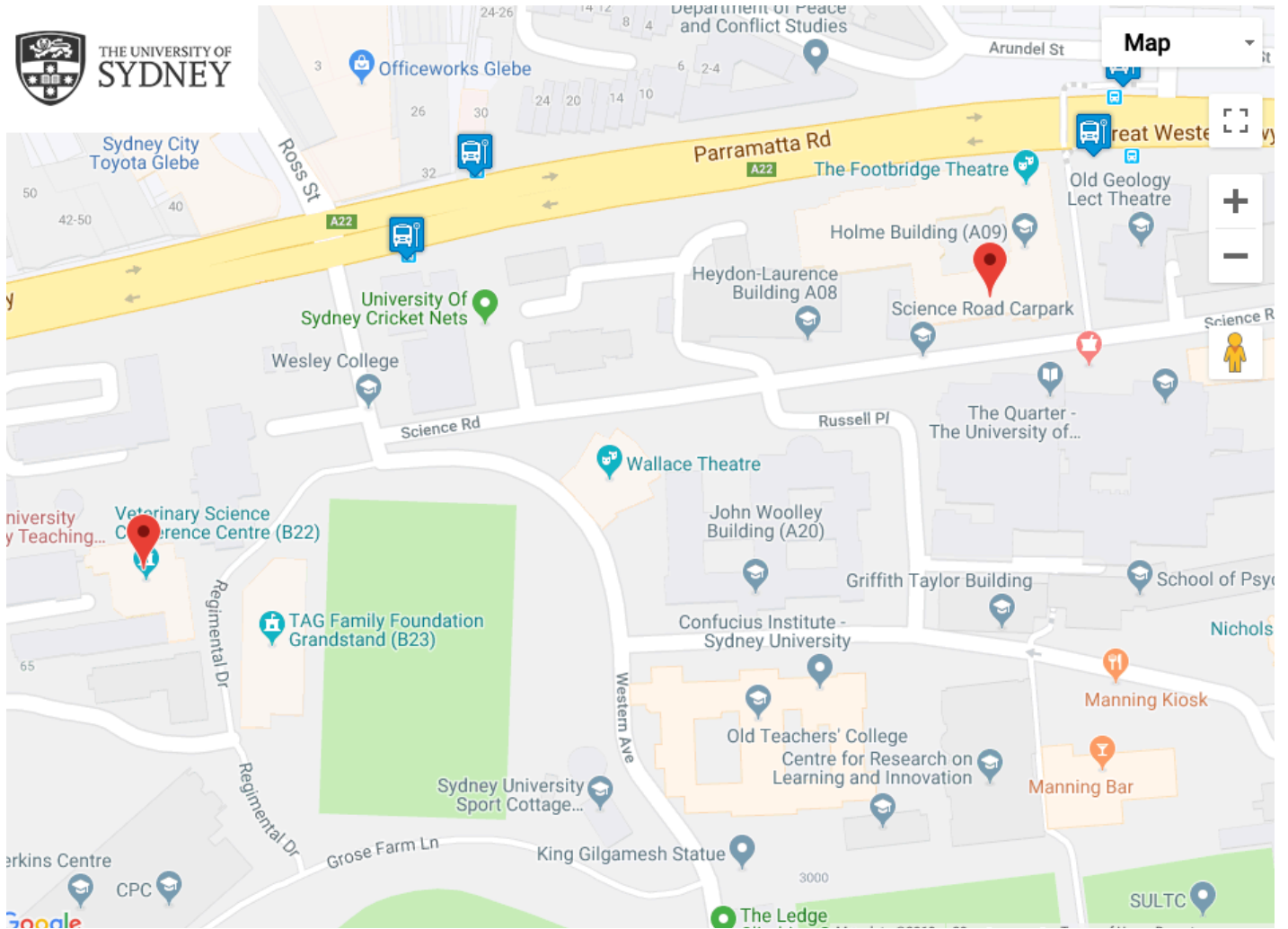
KOALA RESEARCH SYMPOSIUM DAY

9am start - Veterinary Science Conference Centre, hosted by Office of Environment and Heritage

Friday 12th July

CONFERENCE TOURS

Tours to North Head National Park, the site of a threatened long-nosed bandicoot population and a number of mammal reintroductions, and Ku-ring-gai Chase Nations Park for demonstrations of mammal research.



Location Links

Sydney Veterinary Conference Centre

<https://goo.gl/maps/KZ7C9prnHrwHTZBe8>

Holme Building

<https://goo.gl/maps/FpohTb9LeJ4nbje3A>

Monday 8 July

9:00 Welcome and Opening Remarks

Opening Address by Mathew Crowther

Welcome to Country by Craig Madden, Metropolitan Local Aboriginal Land Council

PLENARY

9:30 **Mike Letnic** Keystone effects of Australia's top predator

MAMMAL CONSERVATION: A BIG PICTURE VIEW

10:15 **John Woinarski** Reading the black book: Australian mammal extinctions in context

10:30 **Ayesha Tulloch** Developing a threatened species index for Australia

10:45 Morning Tea

NEW STRATEGIES IN MAMMAL CONSERVATION

11:15 **Marissa Parrott** How to deliver a wildlife conservation masterplan: successes, challenges and learnings to fight extinction

11:30 **Amy Coetsee** Winning over paradise: lessons learnt in community engagement

11:45 **Stephane Batista** Best-practice detection strategies for threatened mammal conservation: a case study using endangered antechinus

12:00 **Raphael Eisenhofer** Life beyond sight: how microorganisms could be harnessed to improve mammal conservation

12:15 **Euan Ritchie** Ecological and evolutionary considerations for progress in species translocations

12:30 **Jacqueline Mills** Crucial research gaps in securing a future for the critically endangered northern hairy nosed wombat

12:45 Lunch

MANAGING THE COSTS AND BENEFITS OF INVASIVE ALIEN SPECIES

13:45 **Vivianna Miritis** Understanding island cat ecology for pest management and threatened species recovery

14:00 **Stephen Frankenberg** Enhancing genome quoll-ity to combat toad

14:15 **Rebecca Wheatley** Could feral dromedaries reduce fuel loads for wildfire events?

14:30 **Emma Spencer** Animal carcasses attract foxes and threaten native ground nesting birds in arid Australia

14:45 **Amelia Saul** We all have our limits: the relationship between population density and the positive effects of aliens

15:00 Afternoon Tea

CASE STUDIES IN MAMMAL CONSERVATION

15:30 **Diana Fisher** The Ontong Java flying fox- status of a threatened endemic mammal on a remote and disappearing pacific atoll

15:35 **Jo Haddock** Experimentally introduced red and white lights at wetlands cause diverse effects on insectivorous bats

15:50 **Emmanuelle Leroy** Passive acoustics identifies a new blue whale population in the Indian Ocean.

16:05 **Jenny Nelson** The decline of the spotted-tailed quoll in Victoria

16:20 **Christopher Pocknee** Saving an endangered bettong with fire

16:25 **Elsbeth McLennan** Successful genetic integration of supplemented Tasmanian devils into a wild population

16:40 **Simone Langodar** The breeding trap: how whole genome sequencing can overcome breeding blocks in the new holland mouse (*Pseudomys novaehollandiae*).

16:45 **Sarah Garnick** Population persistence, breeding seasonality and sexual dimorphism in the red-necked wallaby (*Notamacropus rufogriseus*)

17:00 **Louise Durkin** Estimating relative abundance and densities of the greater glider in Victoria

17:15- POSTER SESSION

POSTERS

Tom Newsome Project oz scav

Danielle Beard Identifying the presence of tick-borne pathogens in ticks from bare-nosed wombats (*Vombatus ursinus*)

Kate Dutton-Regester Using dual-energy x-ray absorptiometry to measure body fat

William La Marca The rise (or demise?) Of a marsupial micro-carnivore, *Dasyuroides byrnei*

Bronwyn Mcallan Torpor during reproduction in birds and mammals

Anita Nahuysen Population ecology of the squirrel glider (*Petaurus norfolcensis*) in managed habitat

William Terry Are cars a threat to brush-tailed phascogales?

Rowen Thorley The diversity of the major histocompatibility complex class ii (mhci) in wombats

Ryuji Ueno A morphometric study of the maxillary molars and skulls in the three potoroids

Stephanie Yip Comparing foraging and seed selection of rodents under different levels of predation risk

Gabriel Orlando Odour-directed search for food by a generalist mammalian herbivore, the swamp wallaby

Tuesday 9 July

BEHAVIOUR OF MAMMALIAN PREDATORS AND BEYOND

- 9:00 **Peter Fleming** Re-visiting free-roaming dogs in space: home ranges in the Australian alps and south east highlands
- 9:15 **Dan Lunney** Interactions between spotted-tailed quolls and foxes, feral cats and wild dogs as revealed by cameras
- 9:30 **Cameron Radford** Eyespots on cattle deter mammalian ambush predators
- 9:45 **Catherine Price** Understanding the role of experience and learning in foraging behaviours
- 10:00 **Skye Cameron** Boom and bust of an endangered dasyurid: fluctuations in density of northern quolls on an island refuge
- 10:15 **Helen P. Waudby** Evaluation of the ethical, scientific, and financial performances of Elliott and pitfall traps for sampling small desert-dwelling mammals

10:30 MORNING TEA

BEHAVIOUR CONTINUED

- 11:00 **Katie Wat** Links between personality and problem-solving performance by an urban adaption, the common brushtail possum
- 11:15 **Nicole Lynch** Personality and problem-solving in the invasive black rat (*Rattus rattus*)
- 11:30 **Kyla Johnstone** The influence of personality on trapability of a trap happy species, the mountain pygmy possum
- 11:35 **Stephane Todd** Better understanding the niche and distribution of an endangered habitat specialist, the northern bettong
- 11:40 **Grace Nugi** Indigenous use of mammals of the Bismarck forest corridor in Papua New Guinea
- 11:45 **Terry Coates** Diel activity of a suite of ground-dwelling mammals in northern western port Victoria
- 12:00 **Melissa Jensen** Reintroduction of western quolls to arid recovery and their role in controlling overabundant herbivores
- 12:15 **Casey Taylor** What drives urban mammal and tick occurrence in Sydney's northern beaches?
- 12:20 **Gary Truong** Modelling long term Antarctic blue whale call detections with large scale environmental variables across the southern hemisphere

12:35 LUNCH & CAT BOOK LAUNCH

AUSTRALIAN MAMMALS IN SPACE

- 13:30 **Jemma Cripps** Broad-scale surveys for Leadbeater's possum reveal widespread occurrence across the central highlands of Victoria
- 13:45 **Cara Penton** Tree hollow requirements of three arboreal mammals on the Tiwi islands, northern Australia
- 14:00 **Alyson Stobo-Wilson** Illuminating den-tree selection by an arboreal mammal using terrestrial laser scanning in northern Australia.
- 14:15 **Michael Swinbourne** Southern hairy-nosed wombats: why are they 'there', but not 'there'?
- 14:30 **Georgie Custance** Habitat use by microbats in the Murray Darling depression bioregion
- 14:45 **Aaron Greenville** Dynamics, habitat use and extinction risk of the kowari are revealed by long-term monitoring
- 15:00 **Leroy Gonsalves** Tracking occupancy trends for Hastings river mouse in northern NSW

15:15 AFTERNOON TEA

15:45 AGM

17:45 END

18:30-22:00 CONFERENCE DINNER

Wednesday 10 July

PLENARY

9:00 **Christine Cooper** Regulation of insensible evaporative water loss by endotherms

ADVANCES IN PHYSIOLOGY

9:45 **James Turner** Physiological responses of the common ringtail possum to heat wave exposure

10:00 **Freya Russell** Evaluating the relationship between stress and reproduction in the captive southern hairy nosed wombat using urinary metabolites.

10:15 **Emily Scicluna** Establishing the effects of captivity on the morphology and brain size of fat-tailed dunnarts (*Sminthopsis crassicaudata*)

10:30 **Catharina Vendl** Respiratory microbiota of humpback whales is depleted the longer they fast

10:45 **Kate Moffatt** The comparative utility of three-dimensional geometric versus traditional morphometrics in species-level taxonomy of cryptic small mammals: a case study using the carnivorous marsupial genus *Pseudantechinus*

10:50 MORNING TEA

ADVANCES IN REPRODUCTION

11:20 **Wendy J. King** The meaning of weaning and extended lactation in eastern grey kangaroos

11:35 **Julie Old** Immunosenescence in a captive semelparous marsupial, the red-tailed phascogale (*Phascogale calura*)

11:50 **Holly Cope** Efficacy and dose response effects of a gnRH agonist contraceptive implant in Tasmanian devils (*Sarcophilus harrisii*)

12:05 **Amy Edwards** Seminiferous tubule area is related to sperm sex ratio in the tammar wallaby, *Notamacropus eugenii*

12:20 **Hayley Stannard** Sarcoptic mange incidence in bare-nosed wombats (*Vombatus ursinus*)

12:35 **Carolyn Hogg** The value of non-model species genomes

12:50 LUNCH AND IUCN MONTREMES AND MARSUPIALS SPECIALISTS GROUP MEETING

FORM FUNCTION AND ECOLOGY

13:50 **Graeme Coulson** A grey area: the eastern and western grey kangaroo sympatric zone in south-eastern south Australia and western Victoria

14:05 **Stewart Nicol** How special are Tasmanians?

14:20 **Jonathan Cramb** A tale of two mice: *Pogonomys* and *Leggadina* (Rodentia: Murinae) from pleistocene cave deposits at Mt Etna, eastern Queensland.

14:35 **Meg Martin** Who is best built for digging? Functional forelimb musculature in Australian marsupials

14:50 AFTERNOON TEA

ANATOMY, PHYSIOLOGY AND PHYLOGENY

15:20 **Melissa Taylor** Size relationship of the tympanic bullae and pinnae in bandicoots and bilbies (Marsupialia: Peramelemorphia)

15:35 **Kenny Travouillon** The case of the 3 bandicoot skulls: a new species to add to the extinction list

15:50 **Vera Weisbecker** Is the 3d topology of the marsupial basicranium conserved enough for phylogenetic signal?

16:05 **Philip Withers** Assessing the efficacy of three approaches to phylogenetic analysis

16:20 **Pietro Viacava** Fragmented populations of the marsupial northern quoll reveal cranial shape divergence

16:35 **Kathrin Dausmann** The giant slumber party among dwarfs – hibernation in primates

16:50 CLOSING COMMENTS AND AWARDS

Thursday 11 July

Koala Research Symposium

PLENARY

9:00 **Kath Handasyde** What do we know about the koala? A long-term view of its ecology for management

OPEN SESSION

9:45 **Mike Roache** Prioritisation of koala conservation actions in NSW

9:50 **Penny Vella** The NSW koala strategy: securing the future of koalas in the wild

9:55 **Kita Ashman** The influence of plantations on habitat use and ranging behaviour of the koala

10:10 **Adrian Rus** Habitat fragmentation affects movement and space use of a specialist herbivore

10:25 **Valentina Mella** Pushing the limit: koalas close to the edge

10:40 **Allen McIlwee** A full set of regionally focused, niche-based habitat suitability models for koalas across NSW

10:55 **Jillian Thonell** Mapping koala tree suitability across NSW

11:10 MORNING TEA

11:40 **Greta Frankham** Genetic biobanking for conservation management: establishment of the Australian museum koala biobank.

11:55 **Tamara Keeley** Establishing a living koala genome bank: management tools for breeding koalas in captivity

12:00 **Cristina Maria Fernandez** Genetic differences in chlamydia pecorum between neighbouring sub-populations of koalas (*Phascolarctos cinereus*)

12:15 **Lyndal Hulse** Genetic capture technology in the conservation of the koala in south-east Queensland

12:20 **Jenny Seddon** Loss of genetic diversity leading to a reduction in fitness in koalas

12:35 **Chad Beranek** Koala population surveys: comparing the efficiency of drone surveys to traditional methods

12:50 **Grant Brearley** A Bird in the Hand....coming to grips with The concept & components of koala source populations

13:05 LUNCH & POSTERS

14:05 **Brad Law** Passive acoustics provide a novel approach to assess and monitor the status of koalas in NSW's north-east forests

14:20 **Kylie Madden** A way to calculate koala densities based on plant community type

14:25 **Enhua Lee** Application of the koala spotlighting survey method in the Campbelltown area for estimates of koala densities and total population size

14:30 **Kirsten Wallis** Mitigating koala threats from the desk: a quantitative approach to identifying and monitoring vehicle-strike hotspots

14:45 **Amanda Lane** Making tracks: new approaches to modelling dispersal pathways and koala habitat connectivity

15:00 **Josh Gasnick** The evolutionary extent of marsupial arborealism: quantifying koala locomotion strategies

15:15 **Edward Narayan** Assessing the emotion of wild koalas to environmental trauma and disease using non-invasive glucocorticoid monitoring

15:30 **Steve Phillips** Killing them softly with our song ... negative outcomes arising from the management of disease in peri-urban koalas.

15:45 AFTERNOON TEA

16:15 **Vera Weisbecker** Cranio-mandibular shape in captive versus wild koalas

16:20 **Lachlan Wilmott** Koala home range size and chlamydial disease expression vary with soil fertility in South-west Sydney and the Southern Highlands, NSW

16:25 **Mathew Crowther** What is the fate of the iconic Liverpool Plains koala population?

16:40 **Amy Hockings** Interactions between wild dogs and koalas in north-east new south wales

16:55 **Clive McAlpine** Conserving and recovering the koala populations on the NSW far north coast

17:10 **Kellie Leigh** It's not all doom and gloom for koalas: a protected area case study

17:25 **Dan Lunney** The impact of the severe 2013 fire on the koala population of Warrumbungle national park.

POSTERS

Penny Vella The NSW koala strategy: securing the future of koalas in the wild

Renae Hockey The koala likelihood map: a useful conservation management tool

Billie Roberts Saving our species iconic koala project, key achievements July 2016 – June 2019

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