



The Royal Society of Victoria

Promoting science



PRESIDENT: Dr Bill Birch AM BSc (Hons) PhD

Headlines...

13th August: Weird Animals & Sex: The Evolution of a Science... and a Scientist
(Joint Evening Lecture with Royal Historical Society of Victoria)

27th August: Extinct Megafauna, Camels and the Australian Desert: the 2014 Simpson Desert Palaeontology Expedition
(Final 2015 Lunchtime Lecture)

Advance notice...

10th September: Fortifying for the Future: Micronutrient-Enriched Cereals to Improve Global Health

24th September: Young Scientist Research Prizes

8th-9th October Symposium: Managing Biodiversity under Climate Change to be held at the University of Melbourne.

August 2015 Newsletter

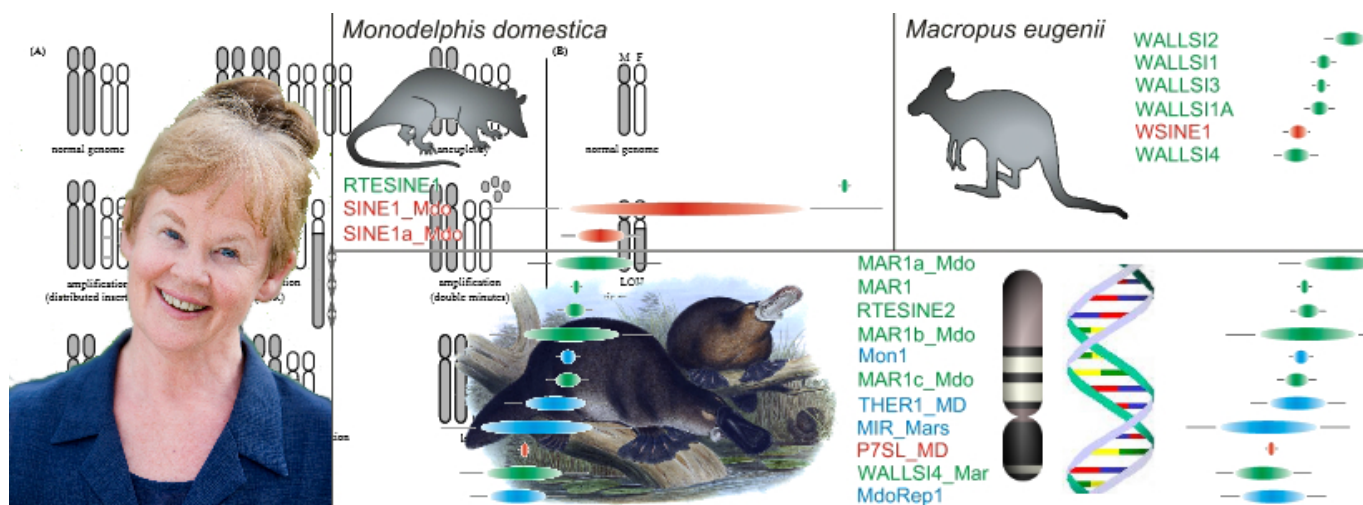
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August Meetings

WEIRD ANIMALS AND SEX: THE EVOLUTION OF A SCIENCE... AND A SCIENTIST



The first August meeting will be held on **Thursday, 13th August 2015 at 7.00 pm.**

Speaker: **Professor Jenny Marshall Graves AO FAA**
Genetics Department
La Trobe Institute for Molecular Science

Professor Jenny Graves' interest in sex and sex chromosomes started in the 1960s, when we could only look at sex chromosomes in the microscope. A big change came over the field with the fiercely competitive search for the gene on the Y that makes a baby male – enter molecular biology. In one shift after another, the field of sex determination embraced the molecular and physiological genetics of the day, then swept into clinical genetics, population and conservation genetics, even the history of human migrations, and inevitably into evolution.

How animals develop as male or female has been a subject of great interest and controversy for thousands of years, and how sex determination evolved has been the subject of intense theorizing for the last hundred. With the introduction of new molecular technology to identify genes that determine sex, trace the evolutionary origin of these genes and the sex chromosomes on which they lie, matters have changed dramatically.

Professor Graves counts herself lucky to be a part of this field as it transitioned from “mathematics and arm-waving” into a breathtaking journey through every kind of genetics. There have been surprises at every turn, and many of these have come from comparing the way genes and chromosomes control sex in Australian animals such as kangaroos and platypuses – and now dragon lizards show us that while sex can be remarkably flexible, it may yet be at the mercy of global warming.



Book online now at <http://ow.ly/Q1oO6>, call or email the RSV office to secure your place: 9663 5259, rsv@sciencevictoria.org.au. Our lectures are free with an optional gold coin donation to our science programs.

EXTINCT MEGAFAUNA, CAMELS AND THE AUSTRALIAN DESERT: THE 2014 SIMPSON DESERT PALAEOLOGY EXPEDITION



The second August meeting will be held on **Thursday, 27th August at 12.15 pm.** as a **lunch-time meeting**. Members and guests are welcome to join us for a lunch in the Burke & Wills Room after the lecture at 1.15 pm (**bookings essential**). Please see details below.

Speaker: Dr Jillian Garvey

ARC DECRA Fellow Faculty of Humanities & Social Sciences
Latrobe University

The story of camels being used for inland exploration in Australia began when the Royal Society of Victoria imported camels for the Victorian Exploring Expedition (later titled the Burke and Wills Expedition).

This tradition of camel expeditions has been revived in recent years by Australian Desert Expeditions (ADE). During their inaugural Arid River Expeditions in 2007 several extinct megafauna fossil sites were recorded. One of these localities in the southern Simpson Desert, on the Kalakooopah River, was believed to represent an articulated skeleton of *Genyornis newtoni*, the last of the large, flightless mihirungs or 'thunder birds' which were very large heavily built birds that grew to more than two metres.

This fossil was potentially very important, as it was thought to represent the most complete skeleton known. However, due to major floods in 2009 and 2010 ADE were unable to access this part of the desert. In July 2014, a special two week Simpson Desert Palaeontology Expedition was planned to walk back to the fossil site along the Kalakooopah River to try and excavate and retrieve as much of the skeleton as possible. Whilst the fossil did not represent *Genyornis newtoni* it was found to be far more significant and rare. This talk will highlight this expedition: the first camel expedition to transport palaeontological material from the inland deserts of Australia in more than a century.



Book online now at <http://ow.ly/Q1pU0>, call or email the RSV office to secure your place: 9663 5259, rsv@sciencevictoria.org.au. Our lectures are free with an optional gold coin donation to our science programs.

Pre and Post-Lecture Gatherings

If you plan to join us for refreshments prior to the lecture on 13th August (6:15pm) or post lecture on 27th August (1.15pm), please register your attendance so we can arrange appropriate catering.

Register for any of our events at <http://ow.ly/OEY92>, or phone 9663 5259, or email rsv@sciencevictoria.org.au

From the President



It's fair to state that the Society is currently going through a period of change on all fronts. Some had been set in train by the previous Council, but the arrival of Mike Flattley as our Executive Director has given them more impetus, as well as opening up a number of exciting new frontiers. Foremost in our

minds in all these new directions has been the need to broaden the reach of the Society in the scientific community and to bolster our financial foundations by diversifying our revenue sources. It's so important that the talents and life experiences of our members are harnessed in order to achieve these goals.

On the communication and outreach fronts, the CoderDojo project at Wooranna Park Primary School is not only flourishing, but is also providing the Society with a tantalising opportunity to coordinate related programmes aimed at budding young computer scientists across the state. We will also be exploring the possibility of more regular contact with Victoria's Lead Scientist in order to assist the work of that office. A contract to extend fibre-optics throughout the building is close to being signed, a significant advance that will greatly enhance the attractiveness of our facilities for external hirers. The *Proceedings* is now being published online by CSIRO in open access format, thereby achieving greater penetration into a highly competitive space and hopefully increasing the status and allure of the journal.

Members will be aware of the publicity we attracted, through Mike's initiative, for the Society's own 'grassy triangle', the vacated Bureau of Meteorology measuring site. Community suggestions for its future use are still being assessed but there are some very interesting ideas in the mix. At this stage all I can advise is 'watch this space!' Encouragingly, the loss of the annual rental income from that site has now been largely compensated by the hiring out of the Nancy Millis Room to the Dahl Trust and the allocation of spaces in the carpark to the GoGet franchise. Clearly though, we need to develop more sources of ongoing income.

Inherent in all these developments will be some adjustments to the Society's administration. We are planning for the very welcome return of James Macarthur in September in a much reduced role, commensurate with his recovery, but it will be wonderful to have him back. In the

meantime, Malourie Crawford is doing a great job in coordinating our events and we look forward to her continuing role with the Society.

But back to you, the members! Council currently has five committees, chaired by a council member but open to any interested member to join. These committees deal with Membership matters; Science Policy and Communication; Publications and Records; Science Outreach; and Science Programme and Awards. If you would like more information on the work of any of these committees with a view to offering your talents and experience, then feel free to contact Mike Flattley directly. Mike can then refer your interest to the relevant committee chair.

- Bill Birch

ADVANCE NOTICE

Symposium: Managing Biodiversity under Climate Change

8th- 9th October, 2015 to be held at the University of Melbourne.

In conjunction with the Victorian National Parks Association and the University of Melbourne, the RSV will be contributing to this Symposium which will examine the anticipated problems under a defined climate change scenario and how these might be managed. The Symposium will be co-sponsored by the Department of Environment, Land, Water and Planning, the Victorian National Parks Association and Parks Victoria.

Further details will be provided in subsequent newsletters. Members are encouraged to attend.

Professor Lynne Selwood

National Science Week Briefing



National Science Week will be upon us very soon, running from 15 – 24 August. There are an array of exciting events planned and our friends from Science in Public will be holding a briefing session for the science communication and events community at the Royal Society's Hall this Thursday night, 30th July.

This year's highlights include:

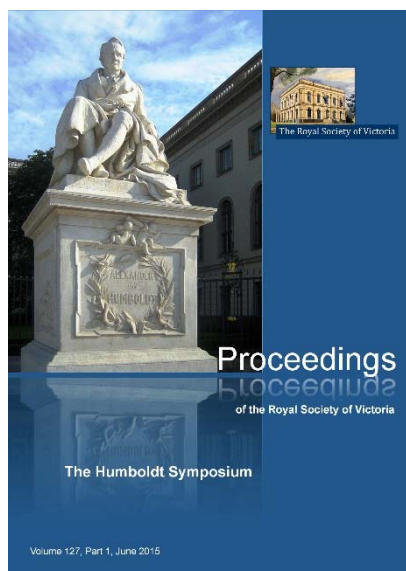
- astronaut Chris Hadfield and astrophysicist, author and presenter of Cosmos Neil deGrasse Tyson
- a live ice-sculpture and inside-out people at Market of the Mind; actors and musicians improvise in response to an expert climate change panel; and make your own fizzy lollies and extract DNA from strawberries at Living Science at the Queen Victoria Market
- hundreds of science events around the country, including knitting neurons in Echuca and wonderful waterbugs at Lake Wendouree
- 'Galaxy Explorer' – the national experiment inviting ordinary Australians to do real science
- classifying galaxies to understand how they grow and evolve.

The briefing will:

- Reveal some highlights of the 2015 program
- Introduce some interesting and useful local contacts
- Share ideas on growing Science Week in the years ahead.

Bookings are online at <http://ow.ly/Qa4Ke> and you can learn more about Science Week in 2015 from <http://www.scienceweek.net.au/>.

Proceedings of the Royal Society of Victoria



We are delighted to announce the online launch of our flagship journal, the Proceedings of the Royal Society of Victoria through our new publishers, CSIRO Publishing. All papers are peer reviewed and available through open access to the world, a wonderful platform for distributing the work of Victorian scientists, securing recognition and future citations through keyword-searchable articles and reviews.

The latest edition is online now at <http://www.publish.csiro.au/nid/308.htm> featuring papers from the 2014 Humboldt Symposium focussed on German contributions to Australian science.

Publish in The Proceedings: Invitation to Members

To broaden the scope of our journal, we are inviting members to submit papers as sole author or in collaboration with colleagues. In addition, we urge you to encourage your research students to submit a research article or review. Contributions are sought in all areas of science.

From the Executive Director: Car Sharing at RSV - and in Melbourne



As reported in earlier newsletters, car share firm GoGet have now established three of the six cars they will be running from our car park. Members may have noticed some press activity around car sharing and the Royal Society in recent weeks. As we welcome new tenants GoGet on site, we have entered the debate regarding the Council's proposed charging regime for this sustainable enterprise.

Our position is that car sharing in the CBD greatly assists the Melbourne City Council in meeting its stated aim to reduce car journeys into and through the area. With a reduction in cars comes a reduction in car parking, meaning there should be every expectation that revenues from on-street parking will reduce as an indicator of the initiative's success. Obviously the MCC is feeling the pinch and has not successfully anticipated a natural consequence of diminished car usage in the city; thus they now face a 'disruptive change.'

Regardless, the hefty congestion levy Council has imposed on commercial carpark operators (including local universities and other institutions) should surely be justified as the main avenue to mitigate diminishing on-street revenue.

As a small science NGO that must minimise its overheads, the use of car share as a virtual 'corporate fleet' allows the Royal Society of Victoria to significantly constrain its running costs, particularly where we engage in outreach to metropolitan and regional Victoria. The location of share cars on site means staff are not required to bring their own vehicles into the city to complete offsite duties during the working day. Further, as costs are neatly encapsulated through external invoicing, there are reduced administrative overheads for the office in preparing and maintaining travel diaries and other mechanisms for compliance in cost-recovery.

Importantly, the on-site location of a car share facility invites the broader community to our site to engage in purposeful activity. Car share firms have opened their books to the Council and it is clear they are all running very close to the wire indeed – my reasonable estimate is that it will be another decade before these enterprises have secured enough market share to be stable, profit-making concerns. As such, we are calling on the MCC to maintain its existing charging regime to continue their welcome support of an enterprise ushering in much-needed behavioural change to metropolitan Australia for the challenging century ahead.

- **Mike Flattley**

Nominations for RSV Membership

- Nominations for membership of the Society have been received on behalf of:
- **David Mark BUDDEN**, PhD Student
- **Ms Catherine de BURGH-DAY**, PhD Student
- **Paddy Carrick DEMPSEY**, PhD Student
- **Mrs Divya ERATTE**, PhD Student
- **Mr Shane HICKEY**, PhD Student
- **Ryan HOULT**, PhD Student
- **Manoj KAMALANATHAN**, PhD Student
- **Mrs Pratibha KAUSHIK**, PhD Student
- **Ms Lisa LEE**, PhD Student
- **Ms Yu-Chen LING**, PhD Student
- **Kerrie Anne McNICOL**, Manager Corporate Integrity (Public Service)
- **Christina Deborah Anna MARTH**, PhD Student
- **Dr Vimukthi Appeksha Prasanna PATHIRAJA**, PhD Student

- **Mrs Piyumali Kanchana PERERA**, PhD Student
- **Xin REN**, PhD Student
- **Nguok Ngie SU**, PhD Student
- **Ms Catherine Jane WHELLER**, PhD Student
- **Dr Ivan Michael WILLIAMS**, Medical Physicist
- **Miss Amy Louise WINSHIP**, PhD Student
- **Ms Jennifer Louise WILTSHIRE**, PhD Student

Unless Members request a ballot, they will be considered for election by Council and if elected, will be announced at the Ordinary Meeting of the Royal Society of Victoria held on 13th August.

Recently elected members who have not yet signed the Society's membership book nor received their certificate are invited to attend the 13th August meeting to be formally welcomed as members.

Donations & Bequests

Council thanks all Members who have continued to support the Society. Members are reminded that donations made to the Royal Society of Victoria are tax deductible and we are particularly grateful to Members who have already donated to support the annual Young Scientist Research Prizes and to renew facilities in our heritage building.

Donations are very welcome and can be made at any time. As we continue to build our Science Foundation in support of science activity and promotion in Victoria, we would be grateful if you could consider a contribution to this future fund as a component of your enduring legacy. To discuss **making a bequest** to the RSV Science Foundation, please contact Mike Flattley in the office.

Open House Melbourne

Open House Melbourne reported record crowds across all venues last weekend and the Royal Society's Hall was no exception, with 450 visitors receiving one of 30 guided tours from our volunteer members on Saturday, 25th July.

Enormous thanks are due to Nick and Mike Williams, Bill Birch, Norman Kennedy, Leon Costermans, Judith Scurfield, Lisa Nink, Sandra Rees and Martin Harris for giving so generously of their time and insights to make Melbourne welcome at the Royal Society of Victoria.



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Following Burke and Wills Across Australia

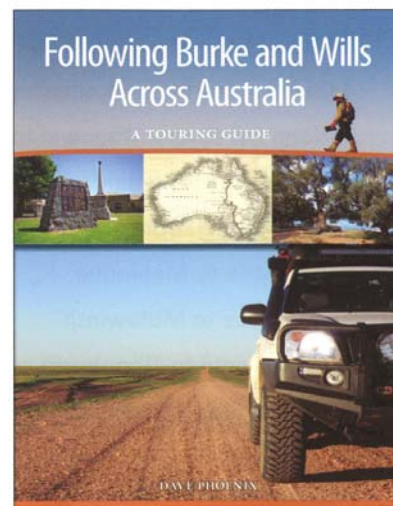
A Touring Guide

Dave Phoenix

Every Australian has heard of Burke and Wills but few have travelled in their footsteps. In 2008, historian Dave Phoenix decided to walk across Australia from Melbourne to the Gulf of Carpentaria, following the track taken by the ill-fated Burke and Wills Expedition. Now you can follow them too.

Following Burke and Wills Across Australia guides you on a road trip that follows one of history's great transcontinental journeys, sharing the explorers' experiences on the way. Maps lay out a route that takes you as close as possible to the Expedition's track. As you travel the outback roads, you can learn all the details of the day to day journey of the Expedition from the explorers' own words, and compare what you see with their descriptions of the country in 1860–61. Each chapter provides information about what to see now: the location and descriptions of the markers and memorials placed along the route over the 150 years since the Expedition, and places where you can stand where the explorers stood and look out over prospects they drew and described.

The book is a perfect companion for those wanting to see outback Australia, and at the same time understand a journey that has attained mythic status in the history of Australian exploration. Even if you want to follow only part of the track, this is the book for you.



June 2015

416 pages, Paperback

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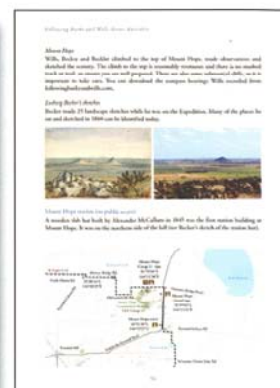
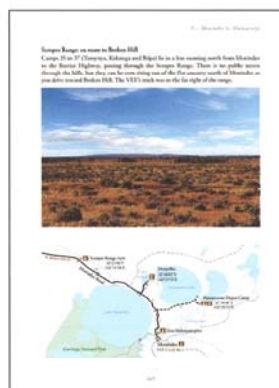
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- A comprehensive travel guide with maps.
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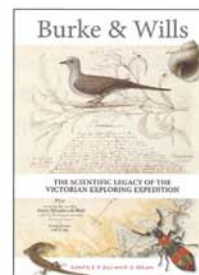
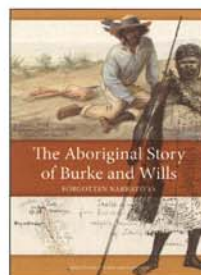
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ABOUT THE AUTHOR

Dave Phoenix is a recognised expert on the history of the Burke and Wills Expedition and is currently the President of the Burke & Wills Historical Society. He has done extensive research into the experiences of the various parties and to determine the route taken by the Expedition.

In 2008 Dave walked 3750 km from Melbourne to the Gulf of Carpentaria, following this route.

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