

LINNEAN SOCIETY OF NEW SOUTH WALES

LINN S'O'C' NEWS

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Included with this newsletter:

Membership Renewal form
 Minutes of the 2017 AGM

NEW MEMBERS

We welcome our new members:

Mr Bradley Clarke-Wood, Melbourne University. Field of interests, fresh water ecology

Miss Sonia Geange, Australian National University

Mr Timothy Greville, Office of Environment and Heritage. Fields of interest, alpine areas, cold climates, conservation management, threatened species protection.

Ms Elizabeth Hindle, La Trobe University. Field of interest, alpine ecosystems.

Dr Bobbie Hitchcock. Field of interest, entomology.

A/Prof Scott Mooney, University of NSW. Fields of interest, palaeoecology, Quaternary science, fire, climate change, human impact.

Ms Aviya Naccarella, La Trobe University. Fields of interest, ecology, alpine ecology, geoecology.

Mr Dan Nicholls, National Parks and Wildlife. Field of interest, alpine ecosystems

Mrs Jodie Rutledge, Newcastle University. Fields of interest, speleology, geology, palaeontology

Ms Lauren Szmalko, La Trobe University. Fields of interest, Australian alpine ecology, alpine seed dispersal.

Dr Kate Umbers, Western Sydney University. Fields of interest, ecology, conservation.

Dr Susanna Venn, Australian National University/Deakin University. Fields of interest, plant ecology, alpine, botany

RENEWAL OF MEMBERSHIP

A form for renewal of membership is included with this newsletter. Please note: you get a discount if you pay before 31 March. If you send a bank transfer, make sure you tell us, or we will receive the money and not know who paid it.

A CD of the *Proceedings* is available to Members at no extra cost, on request. The form for renewal of membership has a box to tick if you want a CD, or you can contact the office at any time.

The *Proceedings* is published on line and may be accessed free of charge by anyone at the website <http://ojs-prod.library.usyd.edu.au/index.php/LIN>

If you have already renewed your membership for 2018 or are a life member, please disregard this notice

CONGRATULATIONS TO PAUL ADAM

Paul Adam has been awarded the 2017 Australian Natural History Medallion for his contribution to conservation, natural history and education.

The Natural History Medallion is awarded by the Field Naturalists Club of Victoria for the study and advancement of any branch of Natural History and the dissemination of the knowledge of Natural History. Our congratulations: the award well-deserved.

2018 SYMPOSIUM: VOLCANOES OF NORTHWEST NEW SOUTH WALES

The 2018 Symposium will be held in Coonabarabran on September Tuesday 25 and Wednesday 26. The Field Trip will be to the Warrumbungles National Park all day Thursday September 27.

Presentations are invited on any aspect of the natural history of the Warrumbungles National Park, Mount Kaputar National Park, and related areas of Miocene-age volcanic activity in NW NSW, focusing on (1) geology and geophysics, (2) geomorphology and soils, (3) floral and faunal species (particularly native plants and animals), distribution and ecology, and (4) the effects on the biota of the recent fires in 2013 and the subsequent recovery of plant and animal communities. Talks on the geoheritage and biodiversity significance of the volcanic features, and the geotourism potential of the region are also welcome.

The symposium is scheduled for the week prior to NSW school holidays with expected peak displays of wildflowers in the National Park. It will also be convenient for those wishing to extend their stay in Coonabarabran by a few days to take part in the annual Star Fest held at Siding Springs Observatory on the first weekend of October. Accommodation fills early for this event, so you are advised to book early.

For further information, visit the Society's website at : <http://linneansocietynewsw.org.au>

APPLICATIONS FOR GRANTS FROM THE SCIENTIFIC RESEARCH FUNDS

Application forms for all Research Funds may be obtained from the Secretary or the Home Page:

<http://linneansocietynewsw.org.au>

Intending applicants please read instructions carefully and submit your signed application by email to linnsoc@iinet.net.au

The date for submission of applications for all the funds is 1st March 2018.

WILLIAM MACLEAY MICROBIOLOGY RESEARCH FUND

Grants are available from the William Macleay Microbiology Research Fund to support original research in an Australian context within the field of Microbiology.

- Applications will be accepted from postgraduate and Honours degree students at recognised Australian Universities who are undertaking full-time or part-time studies with a microbiological emphasis.
- Applications are also encouraged from amateur or professional microbiologists, whether in employment as such or not, who can demonstrate a level of achievement in original research in Microbiology.

In awarding grants, the Council of the Society will assess:

- The quality of the project
- The applicant's ability to carry it out
- A realistic costing and timetable.
- The likelihood that successful completion of the research will lead to publication.

A grant of up to \$2,300 is available to members of the Linnean Society of New South Wales and \$1,200 is available to non-members of the Society.

The Society envisages that grants would normally be used for items such as travel within Australia, equipment, photographic and other expenses, but not for subsistence, travel to conferences, or thesis preparation.

Applications are not restricted to members, but other things being equal, members of the Society will be given preference.

As a rule, the deadline for applications will be 1st March in any year; however, in exceptional circumstances, applications for emergency support will be received at any time.

Grantees will be required to make a report at the end of the project and no later than 12 months after the receipt of the grant, and to justify their expenditure.

Any publication arising from work supported by the William Macleay Microbiology Scientific Research Fund should include an acknowledgement to that effect.

Any type material generated by studies supported by these grants should be lodged in the collections of an appropriate scientific institution.

Closing date is **1 March 2018**. Submit your signed application by email to linnsoc@iinet.net.au

BETTY MAYNE SCIENTIFIC RESEARCH FUND FOR EARTH SCIENCES

The Betty Mayne Scientific Research Fund for Earth Sciences provides financial assistance to support short term original research projects in all aspects of the earth sciences.

Applications will be accepted from postgraduate and honours students, amateur or professional geologists who can demonstrate a level of achievement in original research in Earth Sciences.

Projects proposed for support do not have to be restricted to Australian locations or specimens, but, given the Society's interests in the natural history of Australia, they must demonstrate a strong Australian context.

In awarding grants, the Council of the Society will assess: the quality of the project; the applicant's ability to carry it out; a realistic costing and timetable and the likelihood that the successful completion of the research will lead to publication.

Applicants need not be members of the Society, although all other things being equal, members will be given preference.

Individual grants will not normally exceed the level of equivalent awards from the Joyce W. Vickery Scientific Research Fund, i.e. \$2,500 for Members and \$1,500 for non-members. Money awarded must be used for research purposes, and field work or travel within Australasia. Requests for subsistence, travel to conferences, or thesis preparation expenses, will not be supported.

The Council will take into account other sources of research funds currently held or applied for by the applicant. While financial support from other sources will not ordinarily exclude award of a grant from the Betty Mayne Scientific Research Fund for Earth Sciences, a grant from this Fund cannot be held concurrently with one from the Joyce W. Vickery Scientific Research Fund.

Applications must be made on the form specific to the Betty Mayne Scientific Research Fund for Earth Sciences. Intending applicants are strongly urged to seek assistance from their supervisor or an appropriate colleague with experience in writing research proposals, and further, to have their application reviewed before submission.

Successful applicants are required to make a written report to the Society no later than 12 months from receipt of their grant, detailing progress of the project, briefly outlining research results, and justifying expenditure of the award money. Any publication arising from studies supported by the Betty Mayne Scientific Research Fund for Earth Sciences must acknowledge that support. Type material, representative sample collections, relevant analytical data, and figured or mentioned thin sections, must be lodged in a state or national museum or university collection.

The Council's decision in regard to the award or non-award of grants from the Betty Mayne Scientific Research Fund for Earth Sciences is final, and no correspondence will be entered into.

Closing date is **1 March 2018**. Submit your signed application by email to linnsoc@inet.net.au

THE JOYCE W. VICKERY SCIENTIFIC RESEARCH FUND

Grants from the Joyce W. Vickery Scientific Research Fund are intended to support worthy research in those fields of the Biological Sciences that fall within the range of interests of the Society, especially natural history research within Australia.

- Applications will be accepted from postgraduate and Honours degree students at recognised Australian Universities who are undertaking full-time or part-time studies with a biological emphasis.
- Applications are also encouraged from amateur or professional biologists, whether in employment as such or not, who can demonstrate a level of achievement in original research in Biological Sciences.

In awarding grants, the Council of the Society will assess:

- Realistic costing and timetable
- The quality of the project
- The applicant's ability to carry it out
- The likelihood that successful completion of the research will lead to publication.

Individual grants will not normally exceed \$2,500 for Members of the Linnean Society of New South Wales and \$1,500 for non-members.

The Society envisages that grants would normally be used for items such as travel within Australia, equipment, photographic and other expenses, but not for subsistence, travel to conferences, or thesis preparation.

Applications are not restricted to members, but other things being equal, members of the Society will be given preference.

As a rule, the deadline for applications will be 1st March in any year; however, in exceptional circumstances, applications for emergency support will be received at any time.

Grantees will be required to make a report at the end of the project, and no later than 12 months after the receipt of the grant, and to justify their expenditure.

Any publication arising from work supported by the Joyce W. Vickery Scientific Research Fund should include an acknowledgement to that effect.

Any type material generated by studies supported by these grants should be lodged in the collections of an appropriate scientific institution.

An application form may be obtained from the website or from the Secretary of the Society. The application may contain no more than three (3) pages of additional information plus references.

The Society's decisions are final and no correspondence will be entered into about the results.

Closing date is **1 March, 2018**. Submit your signed application by email to linnsoc@iinet.net.au

A FLOCK OF FOSSILS: THE EVOLUTIONARY HISTORY OF AUSTRALIAN BIRDS: a talk given by Dr Jacqueline Nguyen

The Passeriformes, with more than 6,000 species is the largest of the bird groups, with over 60% of all living birds. More than 80% of the passerines are songbirds, small to medium-sized birds that include lyrebirds, bowerbirds, fairy wrens, honeyeaters, pardalotes, magpies and relatives, thornbills, logrunners and many more. The songbirds are a particularly uniform group and diagnosis based on the skeleton are impossible. They are equivalent to one family.

It was thought that as the skeletons were so uniform, it was pointless trying to study fossils, but there are sufficient differences if you know where to look for them. Dr Nguyen studied the top of the leg bone, just below the knee-joint and found sufficient differences to identify many birds. This character may be very similar in other unrelated birds: for example, songbird treecreepers and treecreepers that are not songbirds. It is a character influenced by the use of the leg. These leg bones may be small, comparable to a matchstick.

Murgon in southern Queensland has the oldest songbird fossils, at about 55 million years ago (mya). The Riversleigh World Heritage area in north Queensland has yielded many fossils: logrunners in the late Oligocene (28-23 mya) to late Miocene (10-5 mya); magpies, currawongs and kin, early Miocene (23-16 mya); sittellas, middle Miocene (16-10 mya); quail thrushes, early to middle Miocene (23-10 mya). Lyrebirds, oriolids, honeyeaters, crow-like songbirds, magpie relatives, logrunners, treecreepers, sittellas and more were present before 2.5 mya.

Birds can be indicators of past environments, for example, log runners need dense forest and sittellas are birds of the understorey. The Rackhams Roost site at Riversleigh (at least 2.7-1.1 mya) has a rich bird fauna, but they are all small to medium-sized birds: there are no large birds and they are all birds of the open plains. The bones also had puncture marks on them. This site was a bat colony and the bats were preying on the birds.

Nuclear DNA and the fossil record indicate that the origin of the passerines was in the late Cretaceous, some 71 mya and the songbirds originated in Australia. It had long been thought that song originated in the northern hemisphere and this revision of their origin was rejected or ignored in the northern hemisphere for a long time. It was unthinkable that the ancestors of their cherished songsters like the nightingale may be descended from Australian ancestors, especially as many of the Australian songbirds have harsh songs that may not be melodious to our ears.

The DNA evidence shows relatedness and the evidence is overwhelming that northern hemisphere songbirds had evolved from ancestors that were in Asia, but had migrated there from Australia. Fossils of songbirds in Australia are older than any European fossil songbirds. A southern origin for northern hemisphere songbirds is now becoming accepted. Dr Nguyen accompanied her talk with many pictures of birds and it was a visual delight.

Editor's note. The book *Where Song Began*, by Tim Low (2014 Penguin Group Australia) covers this topic in detail and more. It is very easy to read, even for people who do not know anything about birds. I found it most enjoyable.