

# LINN S. C NEWS



## Newsletter of the Linnean Society of NSW

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### IN THIS ISSUE

New member	1
Excursion to Australian Botanic Garden, Mount Annan	1
Proceedings of the Linnean Society of NSW	2
Preliminary Notice of 2024 Natural History Symposium, South Coast NSW	2
<i>Laetesia weburdi</i>	3
Linnean Society of NSW Facebook page	4
National edeposit	4
Honorary Members	4
Vale Michael Gray	4
Vale Carrick Chambers	6
Appeal for Donations and Bequests	8
Awards from the Scientific Research Funds 2023	8

### New Member

We welcome Rinchen Yangzom

### Excursion to Australian Botanic Garden, Mount Annan

Tuesday 31st October 2023

Join a behind-the-scenes tour of the new National Herbarium of New South Wales and the neighbouring PlantBank at the Australian Botanic Garden at Mount Annan.

- The National Herbarium of New South Wales is one of the largest herbaria in Australia, housing about 1.4 million plant specimens from all over the world. They are used to document plant diversity, identify plants, and provide morphological characteristics and other data for scientific research. Its new home at Mount Annan is architecturally unusual, having six collection vaults with rammed-earth walls and other energy-aware features. <https://www.botanicgardens.org.au/our-science/our-collections/herbarium-collection>

- PlantBank is the award-winning home of plant conservation research and native plant germplasm storage in NSW. The seed and tissue culture collections are an insurance policy against extinction of native plants in the wild. <https://www.botanicgardens.org.au/our-science/what-we-do/conservation-and-horticulture-australian-plantbank>

Members of the Society may bring an interested non-member with them. Access is easiest by car. The

alternative is to catch a train to Campbelltown (or some other station on the way there) and be met there by someone with a car.

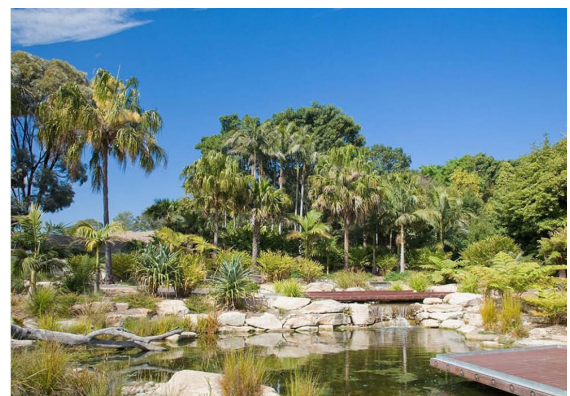
There is no charge but bookings are essential. Please email the Secretary ([secretary@linneansocietynsw.org.au](mailto:secretary@linneansocietynsw.org.au)) to make a booking and indicate:

(a) If you will be travelling by car, are you willing to collect other participants at Campbelltown Railway Station (or some other station)?

(b) If you will be travelling by public transport, do you want to be collected from Campbelltown Station (or some other station)?

Morning tea will be provided at 10.30 am before the tours. It is suggested that you bring your own lunch for a picnic or visit the café in the Garden near the main carpark and look at the native spring flowers, which should be in full bloom.

Further details of where and when to meet will be given when you book.



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## Proceedings of the Linnean Society of NSW

Electronic back issues from Volume 133 are available from <https://openjournals.library.sydney.edu.au/LIN/issue/archive>. Scanned back issues from Volume 1 are available free from <https://www.biodiversitylibrary.org/bibliography/6525>

A new paper for Volume 145 has been published. This can be accessed free from <https://openjournals.library.sydney.edu.au/index.php/LIN>

The title of this paper is *Late Ordovician Conodonts and Macrofossils from Subsurface Carbonates near Quandialla and Inferred Depositional Age of the Currumburrama Volcanics in South-Central NSW*. The authors are Yong Yi Zhen and Ian G. Percial.

### Abstract

Late Ordovician conodonts and macrofossils (corals, calcareous algae and bryozoans) were recovered from an unnamed limestone unit within the Currumburrama Volcanics, intersected in drill hole CBMD006 located in the vicinity of Quandialla and Caragabal in south-central New South Wales. The conodont assemblage from the lower part of the limestone unit is characterized by moderately common *Belodina compressa* elements and is assigned to the *B. compressa* Biozone of late Sandbian age, consistent with corals from the upper part of the limestone which suggest a latest Sandbian to earliest Katian age. These fossils support direct correlation with an unnamed carbonate unit within the Lake Cowal Volcanic Complex previously reported near Marsden, about 18 km to the WNW. Together these palaeontological and biostratigraphic studies provide crucial age constraints for the Upper Ordovician volcanic sequences distributed in the southern June-

Narromine Volcanic Belt (JNVB). Furthermore, they underpin precise correlation with the well-dated marine shelf successions and associated volcanic sequences exposed in the central and northern part of the JNVB, within the Ordovician Macquarie Volcanic Province in central New South Wales.

## Preliminary Notice of 2024 Natural History Symposium, South Coast NSW

Since 2010 the Linnean Society of New South Wales has organised field symposia highlighting aspects of natural history in the Port Macquarie area (2010), Royal National Park (2012), Jenolan Caves (2013), Belubula Valley (2015), Kosciuszko National Park (2017), Warrumbungles National Park (2018), Blue Mountains National Park (2019), and most recently the Northeastern Sydney Basin Symposium focusing on Ku-ring-gai Chase National Park (2022).

Our next Natural History Symposium will take place in spring of 2024 based at Batemans Bay on the South Coast of NSW.

**Tentative dates** (to be confirmed): Tuesday 17<sup>th</sup> Sept – Wednesday a.m. 18<sup>th</sup> Sept 2024 (talks), Thursday 19<sup>th</sup> Sept – Friday 20<sup>th</sup> Sept 2024 (field trips).

Note that this week has been chosen so as not to coincide with school holidays. The tides will be optimal for the field trips, many native plants should be in bloom and the weather should be favourable.

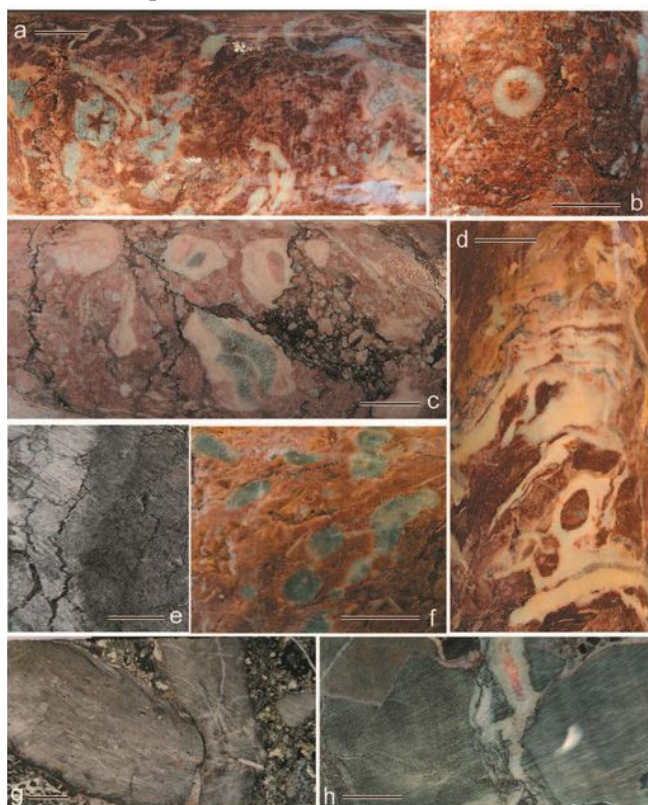
**Venue** (to be confirmed): Batemans Bay Soldiers Club (for talks 9.30 am – 4.30 pm). Accommodation arrangements are up to participants – there are plenty of options for all budgets, ranging from camping or cabins in caravan parks, to hotel/motels and B&Bs.

**Tentative schedule:** we are planning all day Tuesday and Wednesday morning to be occupied with presentations to be given in the function rooms at the Batemans Bay Soldiers Club. After lunch on Wednesday, we will visit the nearby Eurobodalla Botanic Gardens. Transport to the Gardens will be by private vehicles (with car-pooling where possible).

On Thursday a coach will take participants north from Batemans Bay, departing at 8.30 am to visit Murrumbidgee NP, Burrill Lake, and Ulladulla (where we hope to arrange a guided Gondwana Coast Fossil Walk). Return to Batemans Bay by 6 pm.

On Friday the coach will travel south from Batemans Bay, visiting coastal rock exposures and plant communities in the vicinity of Bodalla and Narooma. Return to Batemans Bay by 6 pm.

**Scope:** the natural history (including geology, geomorphology, palaeontology, botany, zoology and related disciplines) of the region. Presentations on these aspects of the South Coast in its broadest





Pebbly Beach

sense, extending from Wollongong to Eden and from the tidal zone to the inland coastal ranges, are sought from professional scientists (active and retired), citizen scientists, and students.

Although not mandatory, we welcome manuscripts subsequently submitted for publication (subject to satisfactory peer review) in the Society's *Proceedings* which is one of the oldest continuously published scientific journals (since 1874) in Australia. There are no publication charges, even for colour illustrations and images. All papers are published online and freely available for distribution – see <https://linneansocietynsw.org.au/journal-proceedings/>

**Costs:** unknown at this stage but, as for previous symposia, these will be kept to a minimum, sufficient to cover charges by the venue and coach hire. Members of the Society will enjoy discounted registration fees. Student rates will also apply. Indicative costs will be in the First Circular, scheduled for December this year.

**Call for papers, volunteers, comments and suggestions:** contact [secretary@linneansocietynsw.org.au](mailto:secretary@linneansocietynsw.org.au)



## Laetesia weburdi

Linnean Society council member and Australian Museum arachnologist Helen Smith has been studying cave spiders at Jenolan. Helen featured in the Jenolan Science week line up on Facebook: [ <https://fb.watch/mTHzOfAjwX/> ].



Helen Smith photographing a cave arachnid in Lucas Cave, December 2021. Photo credit: Anne Musser.



*Laetesia weburdi* in Orient Cave. Photo credit: Helen Smith

This species was named after the collector, cave guide James Carvosso Wiburd, in 1890. This and another troglophile in the same paper by Urquhart, a New Zealand arachnologist, were the first spider species to be described from a cave environment in NSW.

236

*Transactions.—Zoology.*

ART. XXVII.—*On Two Species of Aranea new to Science, from the Jenolan Caves, New South Wales.*

By A. T. URQUHART.

[*Read before the Auckland Institute, 11th November, 1889.*]

Plate XVI.

Fam. THERIDIIDÆ.

Gen. **Linyphia**, Latr.

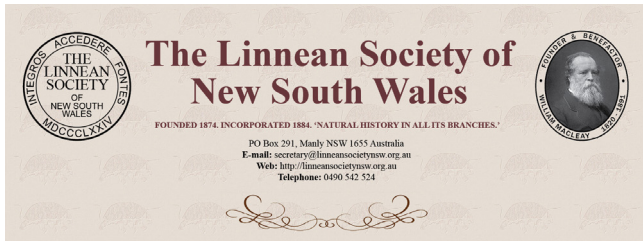
*Linyphia weburdi*, sp. nov. Plate XVI., fig. 2.

*Female*.—Ceph.-th., long, 1. Abd., long, 1·2. Legs, 1, 4-2, 3.

*Cephalothorax fulvipes. radii faint black: few black bristles.*

Copy of part of page 236 from Urquhart, A. T. (1890). On two species of Araneae new to science, from the Jenolan Caves, New South Wales. *Transactions and Proceedings of the New Zealand Institute* 22: 236-239.

Note: Name has been changed from *Linyphia weburdi* to *Laetesia weburdi*



The Linnean Society of NSW now has a Facebook page!



Here we will be posting up-to-date news from the Society and items of interest. Please feel free to contribute items of interest too. Don't forget to join and to invite your friends to join our Facebook page. The link is:- <https://www.facebook.com/groups/linneansocietynsw>

There will be no change to the way the Council communicates with members. If you are not a Facebook user don't worry, you will still receive the same information by email or via the Newsletter.

We considered that using Facebook would perhaps encourage a younger generation to join the society and also for members to post small items of interest. Naturally we encourage members to submit articles for inclusion in the quarterly Newsletter and to offer scientific papers to our editor for consideration to be published in our Proceedings.



## National edeposit

Publishers have a legal obligation to lodge their works with certain national, state and territory libraries. The National edeposit service allows publishers to reach a wider audience through discovery services including Google, Trove and national, state and territory library catalogues. The edeposit scheme ensures content will be digitally preserved for the community and future generations to become an important part of Australia's memory.

The Linnean Society of NSW has now uploaded all our newsletters published to date and will continue to upload them as they are published. The link via Trove is <https://nla.gov.au/nla.obj-3198265750>

## Honorary Members

The society currently has 13 Honorary Members. These are: Prof Donald Thomas Anderson AO, Dr Michael Augee, Dr Barbara G Briggs AM, Prof Roger C Carolin, Mrs Gwen J Harden OAM, Mr W B K Holmes, Prof Betsy R Jackes AM, Dr Helene A Martin, Dr David K McAlpine, Dr John W McGarity, Dr Lynette A Moffat, Dr Helen Ramsay AM, Mr John F Rigby.

## Vale Michael R.B. Gray 25 August 1941 – 28 July 2023

Dr Mike Gray, Senior Fellow in Arachnology at the Australian Museum in Sydney died on Friday 28<sup>th</sup> July, aged 81 years.

Mike grew up in Perth, Western Australia, and came to Sydney after completing an MSc with the Zoology Department of the University of Western Australia on the ecophysiological adaptations of Trapdoor Spiders to aridity — work which was subsequently cited in a number of publications.



Mike photographing specimens during a Nullarbor caving trip, Roe Plain, Madura, 1987

In late 1967, just prior to starting at the Australian Museum, Mike was involved with fieldwork in caves on the Nullarbor. During that trip he collected specimens that he would later describe as new species. From then, cave spiders remained an active research interest throughout Mike's career.

Mike started at the Australian Museum as an Assistant Curator (Arachnology) in 1968 when the Arachnology collection was separated from Entomology. The large number of spider enquiries was one catalyst for this split, with considerable public interest in spiders such as the Sydney Funnel-web.

Once in Sydney, Mike commenced an active field collecting program to grow the Museum collections and sample habitats throughout the state and further afield. He also set up a network of volunteers who would periodically maintain long term pitfall traps in strategic habitats. Later, Mike was involved with many significant surveys such as World Heritage Rainforests (with the Queensland Museum), Lord Howe Island, and the North East Forests Biodiversity Survey (with NSW National Parks and Wildlife Service). Today, almost 11,000 specimen lots are registered in the AM database with Mike listed as collector.

At the Museum, Mike met his wife-to-be, Greta Jensen, who was at that time employed in the Marine Invertebrates section. Greta also helped Mike as a technical assistant for a while and produced most of the

illustrations in Mike's first taxonomic paper in 1973. Mike and Greta went on to have two children, Emma and Anna.

The Arachnology collection needed considerable curatorial attention after many years with no dedicated arachnologist on site and there was no database. Mike introduced modern curatorial techniques and standards and with aid of an assistant, started databasing specimens in 1977. By 1990, the number of databased specimens was up to 28,000 (and today we have over 131,000).

An important part of Mike's role as a public service employee was always public engagement. Public interest in spiders has always been high, and there was a heavy load of public enquiries, talks, magazine articles and a very successful in-house production of the *Spiders!* Exhibition in 1997.



Public engagement, late 1990s

Alongside all this were Mike's research interests. Cave spiders have already been mentioned, and some of these taxa overlapped with Mike's research focus in the cribellate groups Austrochiloidea, Filistatoidea and what are now referred to as the "marronoid clade". Mike often collaborated with other researchers and was generous in attributing co-authorship to technical assistants who contributed substantially to his papers.

Funnel-web spiders (Atracidae) were also a research focus, and Mike studied these for a PhD part time through Macquarie University. His thesis "A Systematic Study of the Funnel Web Spiders (Mygalomorphae: Hexathelidae: Atracinae)" was awarded in 1986. In the acknowledgements, Mike thanked (the then late) Museum Associate Vera Levitt-Gregg for awakening his interest in this group.

Around these core themes were many smaller research projects on a variety of topics. Along with a scattering of miscellaneous taxonomic papers were reports of faunal surveys, chapters on venoms, and reviews adding up to about 80 publications in all. Of particular social importance (along with Mike's funnel-web work) was a series of five papers co-authored with physician Geoff Isbister, who compiled a database of

confirmed spider bite cases who were able to supply a spider specimen, later identified by Mike.

Through this, the pervasive myth of the flesh-eating necrosis supposedly caused by the bite of Australian White-tailed spiders (*Lampona* spp.) was laid to rest (although some proportion of people who show up at talks and open days still seem to believe in it). This White-tailed Spider bite paper saw Isbister and Gray nominated as Eureka Finalists in 2004 for the Australian Skeptics Eureka Prize for Critical Thinking.



Studying the spider silk suspending a Rock Warbler nest from a cave roof, mid 1990s

Mike was active on a number of scientific committees and societies through the years, including the Jenolan Caves Scientific Advisory Committee, the Australian Venoms Research Council, and the Linnean Society of New South Wales. In particular, he played an active role in the latter, after being accepted as a member in 1981, he was elected to council in 1988, and was President in 2012–2013. Mike also served as the Chair of the Joyce Vickery Scientific Research Fund grants committee for the Linnean Society for many years.

At the Australian Museum, as Mike's career progressed, increasing amounts of time needed to be spent on administration. A lengthy stint as the Head of Division of Invertebrate Zoology starting in 1989 slowed down research efforts for a few years. Despite this, Mike moved on to become a Research Scientist, with later promotions through the grades to become a Principal Research Scientist in 2003.

Over the years, Mike supervised a number of Honours, Masters, and PhD students and was an Honorary Associate in the Faculty of Science and the Faculty of Agriculture Food and Natural Resources at Sydney University from around 2000 until 2006. He was also mentor to Graham 'Wishy' Wishart, a retired pharmacist who took an interest in the Trapdoor spiders and other wandering mygalomorphs that fell in his swimming pool. With Mike's encouragement and guidance, Wishy published several papers on the trapdoor spider fauna of New South Wales.

Mike retired in 2009 and finally found time in 2010, as a Retired Fellow, to publish his PhD thesis

findings – his revision of the Australian Funnel-web spiders. He continued to work on marronoids and, to a lesser extent, filistatids, for several years until a move to the Blue Mountains made the trip to the city a less attractive proposition. Mike's final publication was as a co-author in 2022.

Mike leaves behind him a substantial legacy of work across many unique southern taxa and was a pioneer of cave spider research in Australia. Through his unpublished notes and through the training, mentorship and encouragement of others, his contributions to Australian arachnology will continue for many years.

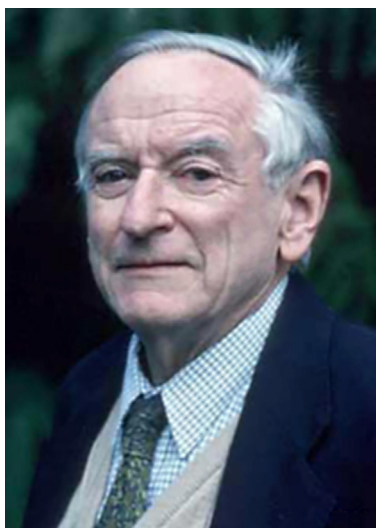
*Helen Smith*

(With thanks and apologies to unknown photographers).

### **Vale Professor Carrick Chambers AM (5 September 1930 – 31 July 2023)**

We recently lost a prominent Life Member, Professor Carrick Chambers, who joined the Society in 1956 and was a Council member 1988-1992. He was an eminent university academic, science administrator and conservationist.

Thomas Carrick Chambers was born in Auckland in 1930 and became interested in growing plants and keeping bees in childhood. After completing a BSc with a major in Botany at Auckland University College, he did experimental studies there on the cosmopolitan fern genus *Blechnum* (family



Blechnaceae), which resulted in an MSc with First Class Honours in 1954. This was the start of a lifelong research interest in ferns, particularly in *Blechnum* and *Cheilanthes* (in family Pteridaceae).

After a year as a Junior Lecturer at Auckland University, he moved to the University of Sydney to undertake a PhD. It was there he met Margaret Davis, daughter of the eminent plant embryologist Dr Gwenda Davis. They married in 1959, and later had three sons and a daughter.

A CSIRO postdoctoral scholarship took Carrick to Cambridge in 1960, which enabled him to build skills in the then new field of electron microscopy and in plant physiology and genetics.

He moved to the University of Melbourne in 1961 as a lecturer, becoming a Senior Lecturer in 1964. In 1967, the university created an additional Chair of

Botany for him (making him one of the university's youngest professors), a position he held until 1986. During this period he continued his research on Blechnaceae, but diversified into palaeobotany and studying plant and virus structures using electron microscopy. He supervised many postgraduate students who have become eminent in their fields.

Not content with his lecturing and research activities, Carrick's keen interest in horticulture and garden design led to him becoming chair of the new Grounds Committee, which revitalised the landscaping of the university grounds from 'a listless and slovenly campus into the environment of native precinct and spreading lawn that the university enjoys today' (Chambers & Chambers 2022 p. 85). Outside the university, Carrick was involved in the conservation, management and rehabilitation of significant Melbourne gardens such as Rippon Lea, Cook's Cottage and the Victorian Government House. Foreshadowing his later career move, he chaired two committees of the (Victorian) Botanic Gardens Trust for 16 years. He also helped establish the 'Potter Farmland Plan' to restore over-cleared farmland, which later became 'Landcare'.

In 1986 Carrick moved back to Sydney as Director of the Royal Botanic Gardens and Domain Trust, a position that he held for 10 years. As in Melbourne, Carrick took a keen interest in horticultural activities as well as the botanical research activities of the Gardens. The two satellite botanic gardens at Mount Tomah and Mount Annan were opened as part of the Australian Bicentenary celebrations. The main Sydney site saw many developments including the Tropical Centre, a new Herb Garden, a new Rose Garden and the Fernery. Another key achievement was improving the career pathway for horticulturalists and expanding school education activities.

The discovery in 1994 of the Wollemi Pine (*Wollemia nobilis*) in an isolated canyon in the Wollemi National Park generated great scientific and public interest. As Carrick wrote at the time, it was 'the equivalent of finding a small dinosaur still alive on earth'. He recognised that the living species was very similar to fossil materials that he and graduate student Andrew Drinnan had documented from Cretaceous sediments in the Gippsland Basin in the 1970s.

In retirement, Carrick continued his research on the fern genus *Blechnum* as an Honorary Research Associate at the Gardens. His last scientific paper was published jointly with colleague Peter Wilson in 2019. He is commemorated in the fern species *Blechnum chambersii* M.D.Tindale (Dr Mary Tindale was another Society member who was an expert on ferns).

One of Carrick's relaxations was painting, mainly landscapes. Professionally, he encouraged botanical artists and botanical art exhibitions in Melbourne and later Sydney.



*Blechnum chambersii* Tindale : Blechnaceae  
Photo L. Woods ©The Royal Botanic Gardens & Domain Trust



*Blechnum chambersii*

Carrick was a keen conservationist, supporting many conservation initiatives locally, such as protecting the Castlecrag bushland (the suburb in which he lived for many years, and where he was the Patron of the Walter Burley Griffin Society), and farther afield, such as the Australian Wildlife Conservancy. He was an active bushwalker from early days ‘tramping’ with the Auckland University College Field Club and continued well into his 80s.

In 1998, Carrick was appointed a Member of the Order of Australia for ‘service to botany and its application to horticulture as Director of Royal Botanic

Gardens and Domain, Sydney, and as a teacher and researcher on conservation issues and botanical concepts’. His distinguished career was recognised with other awards, including Doctor of Laws (*honoris causa*; University of Melbourne, 1987), Doctor of Science (University of New South Wales, 1996) and the Distinguished Alumni Award (University of Auckland, 2008).



Medal, Professor Carrick Chambers AM 1985. Michael Meszaros. Cast bronze medallion on wood plaque (support: 24.0 cm x 19.0 cm depth 3.5 cm, diameter 13.1 cm)

Family and friends celebrated with Carrick in March 2023 the publication of his memoirs. Put together by his daughter Claudia, this is a very readable account reflecting on a life well lived as a botanist, teacher, administrator and family man.



Carrick Chambers and his daughter Claudia holding the book

### Sources

Chambers, Thomas Carrick (2023) *Biography at Carrick Chambers with Claudia Chambers* (2022)

*Becoming a botanist – reflections by Carrick Chambers.* (Limited edition, privately published) – Available from the Foundation & Friends of the Gardens for \$50 + postage, all proceeds going to plant research. To buy a copy, email [development@botanicgardens.nsw.gov.au](mailto:development@botanicgardens.nsw.gov.au), using subject ‘botanist book order’.

Carrick Chambers (2023) Obituary in *Sydney Morning Herald* <https://www.smh.com.au/national/botanist-identified-wollemi-pine-as-jurassic-park-brought-to-life-20230815-p5dwkf.html>

You can listen to the ABC Science Show where botanist Peter Bernhardt tells the story of Carrick Chambers and discusses the book. <https://www.abc.net.au/listen/programs/scienceshow/becoming-a-botanist/102421210>

Karen Wilson



## Appeal for Donations and Bequests

The Council of the Linnean Society of NSW is keen to increase this form of direct financial support to the scientific community – to professionals, students and amateur researchers alike.

The only way it can do this is by increasing the capital of the **BETTY MAYNE SCIENTIFIC RESEARCH FUND** for **EARTH SCIENCES** and the **JOYCE W. VICKERY SCIENTIFIC RESEARCH FUND** and thus augmenting the interest used for direct support of scientific research.

The Linnean Society seeks donations from individuals, institutions or organisations sympathetic to the purposes for which the fund is being used. All such donations, which are tax-deductible, will be gratefully received by the Linnean Society of New South Wales and used to support original scientific research in Australasia. Give yourself a tax break and help a struggling research student, as most of the funds go to students.

A PDF of the Donation Form can be downloaded from [https://linneansocietynsw.org.au/wp-content/uploads/2022/12/Tax-deduction\\_Donation.pdf](https://linneansocietynsw.org.au/wp-content/uploads/2022/12/Tax-deduction_Donation.pdf)

### Bequests

We would also like you to consider leaving a bequest to one (or both) of these Research Funds in your will. If you require additional information on leaving a Bequest, please contact the Secretary.

## Awards from the Scientific Research Funds for 2023

Applications are assessed by a Committee of specialists whose qualifications are approved by CSIRO. Awards are made on assessment of the merits of the research project and the quality of the application, which must strictly accord with the rules for each award. In particular, we are unable to fund requests for subsistence (which includes accommodation and food).

The Society derives the amount of money available for disbursement to successful applicants from a substantial proportion of interest income received the previous year from term deposits. As rates increase more funding should be available, but grants may vary in size depending also on the number of applications.

For 2022, interest income for half the year was reliant on lower interest rates before these rolled over to higher rates. ***In 2023 the Society was unable to fund as many applications as it would like or to provide the full amount requested by successful applicants.*** Decisions on where to make the cuts have been very

difficult and we wish to make it clear that any shortfall from the amount requested does not reflect negatively on the applications.

The listing below was published in more detail in LinnSoc News 188, however it is included here in an abbreviated form to illustrate how donations are used for the benefit of post graduate students.

### ***William Macleay Fund for Microbiology Research***

**Dr Laurene Leclerc (Sydney University).** Title of project: *Gene transfer from bacterial symbionts to their tick hosts.* **Awarded \$1,200**

**Ms Pamela Tsoumbris (Macquarie University).** Title of project: *Proteomic profile of L-form bacteria from various environments.* **Awarded \$900**

### ***Betty Mayne Fund for Scientific Research in Earth Sciences***

**Dr Diana Fusco (Flinders University).** Title of Project: *Using the fossil record to understand how Australian mammal assemblages respond to environmental change.* **Awarded \$1,000**

**Mr Liam C Kruger (Monash University).** Title of Project: *Extending tide-gauge records with Late Holocene saltmarsh sediments: new data from southern Victoria, Australia.* **Awarded \$400**

### ***Joyce W Vickery Fund for Research in Biological Sciences***

**Ms Beth Flaxman (Sydney University).** Title of project: *Unveiling molecular and morphological diversity of *Laetmonice* species complex (Aphroditidae, Annelida) from the Australian abyss.* **Awarded \$1200**

**Ms Ellen M Martin (Adelaide University).** Title of Project: *Evolutionary Constraints and Trade-Offs in the Locomotor Morphology of Birds and Mammals.* **Awarded \$800**

**Ms Shanaz Masani (Sydney University).** Title of Project: *Improving non-lethal predator management by understanding their use of prey odours in hunting.* **Awarded \$1,200**

**Ms Kimberley H Michael (Flinders University).** Title of Project: *Assessing the suitability of habitat for the endangered pygmy bluetongue (*Tiliqua adelaidensis*).* **Awarded \$500**

**Mr Dineth M Pathirana (Sydney University).** Title of Project: *Cracking the case on potential reversals to oviparity: a phylogenetic analysis of the scincid lizard *Saiphos equalis*.* **Awarded \$900**

**Ms Duyi Zhong (Macquarie University).** Title of Project: *The role of macrofauna in shaping microphytobenthic communities.* **Awarded \$900**

