



Editorial

In this issue, we announce the launch of the Australian natural history recording website **BowerBird**. This website is intended to allow people to share and deliver biological sightings to a broad audience. Similar projects exist in New Zealand (**NatureWatch NZ**), Sweden (**Artportalen**), North America (**iNaturalist**) and the UK (**iRecord**), where they all appear to be successfully engaging the public and stimulating increased recording of occurrence data. Australia’s large and diverse biota, which remains largely understudied, will provide challenges to the Citizen Science model, which will need to be overcome by scientist engagement with the project.

Another recent announcement was the description of the **Olinguito (*Bassaricyon neblina*)** (Carnivora: Procyonidae), a delightful creature from montane South America. This discovery has generated a lot of publicity, which is always nice to see. However, details of its discovery is a case study in the importance of collections and taxonomists. The first specimens were collected in 1898, specimens are held by six different museums, and molecular data has been available for the species since 1996. However, it took an experienced taxonomist for the true significance of these finds to be appreciated.

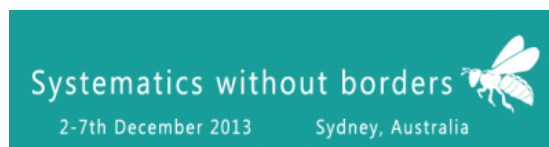
Samuel Brown

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President’s message

With the combined SASB/IBC/ASBS “Systematics without Borders” conference being held this December in Sydney, 2013 is shaping up as an exciting year for our society. The conference organising committee, co-chaired by Nerida Wilson and Peter Weston, have been doing a terrific job putting the program together, and along with Sally Brown’s Conference Connection team the organisation is sure to run very smoothly. I was recently told that it was not too late to put in a symposium suggestion, so if you



have any ideas for symposia please put in your application as soon as possible (go to the web site: <http://www.systematics2013.org>) . We, with the Invertebrate Biodiversity and Conservation group, also recently offered five \$200 bursaries for students to attend the conference and present some of their research, and I am pleased to announce that the following students have been awarded bursaries: Ben Anderson (University of WA), Rebecca Dew (Flinders University), Megan Hirst (Melbourne University), Penny Mills (University of Queensland) and Victoria Smith (Lincoln University, Christchurch). Congratulations, and I look forward to seeing your talks/posters later this year.

At the conference SASB will also hold a general meeting to determine the make-up of the committee for the next two years and who will host the next SASB conference in 2015. It would be terrific if we could receive nominations from new members to become delegates on the committee. It is not an onerous task, but it is essential to have a committee to maintain the overall functions of the society, with our main function being to run interesting and informative conferences and promote the field of systematics in Australia. If there are issues that you would like the society to discuss then also please get in touch with me (Steve.Cooper@samuseum.sa.gov.au).

In closing, I would sincerely like to thank Samuel Brown for doing a terrific job putting the society's newsletter *Banksia* together over many years now, and for showing a lot of patience with late contributions!

Steve Cooper

Systematics without Borders

The Society of Australian Systematic Biologists, Australasian Systematic Botany Society and the Invertebrate Biodiversity and Conservation group welcome participants for their joint conference, *Systematics without Borders*.

1–6 December 2013, University of Sydney, New South Wales, Australia

Please check out the updated program and website <http://www.systematics2013.org/>

Important dates

Registration and **abstract submission** are currently open. Please note that the deadline for abstract submission and discounted registration is *30 August 2013*.

Symposia and field trips

We are proud to present a diverse and exciting range of symposia, which will include addresses by excellent keynote speakers, including Craig Moritz, Phil Garnock-Jones and Lyn Cook. As well as general contributions, highlighted symposia include:

- Understanding the Australasian biota in the age of Next Generation Sequencing
- Evolution in the arid zone, monsoonal tropics and Great Barrier Reef and under the influence of the Southern Ocean

- Population genetics meets alpha taxonomy: taxonomic applications of population genetic data
- The shape of things to come: methods of morphometric analysis and their application
- Biota on the move: dispersal and invasive organisms
- Systematics, evolution and conservation
- Mind the gap: disjunctions in Australasian biogeography
- Evolution of the plant family Proteaceae
- DNA barcoding 2.0—The Australian Barcode of Life Network
- Plant–Animal co-evolution and interactions

In addition to the conference talks, four excursions have been proposed. Please **express your interest** in any of these excursions by 30 August 2013. Excursions which attract little interest will not be run.

- Mount Annan, Sunday 1 December 2013
- Royal National Park, Thursday 5 December 2013
- Bells Line of Road, Thursday 6 December 2013
- Blue Mountains, Thursday–Friday 5–6 December 2013

The deadline for abstract submission, discounted registration and expression of interest in excursions is *30 August 2013*. To register, please visit the conference website: <http://www.systematics2013.org/>.

Nerida Wilson

3rd National Postgraduate Training Workshop in Systematics

The 3rd National Postgraduate Training workshop in Systematics was held at the University of Adelaide on 16–21 June 2013 and was sponsored by the Australian Biological Resources Study (ABRS), as part of their 40th anniversary celebrations, and the Australian Centre for Evolutionary Biology & Biodiversity (ACEBB) at Adelaide University. As for the previous workshops held in 2008 and 2011, it was designed for PhD students in their first and second years that have a systematic component to their projects. The workshop also provided an opportunity to meet with other PhD students undertaking a huge range of projects. 30 participants from 12 institutions from across Australia and New Zealand attended the weeklong workshop. Throughout the week, the program comprised a range of specific and general topics, including training in phylogenetic methods, imaging techniques, DNA barcoding, systematics theory, nomenclature and the taxonomic process, collection management, databases, publishing results, grant funding and job opportunities.



The welcome dinner at the Red Rock Noodle Bar on the Sunday night. Photo: Andy Austin.

The workshop proved to be an invaluable source of knowledge for all of the participants. Many found the phylogenetic methods and DNA barcoding to be an extremely helpful and relevant part to their projects. The practical sections of the workshop by Drs Michelle Guzik (University of Adelaide) and Mike Lee (South Australian Museum) also allowed many students to get a feel for the molecular and phylogenetic software being used, as well as the opportunity to ask and discuss issues with more experienced users. A few participants who were in the very early stages of their projects felt a little bit daunted by the vast amount of information given (and a little bit silly for asking what they felt were trivial questions) but were reassured when others happily helped with their queries. The workshop also provided students the opportunity to learn about each other's research, through the 5 minute project presentations, as well as to network with each other during and after the workshop. The discussions on each other's research continued during dinner and drinks, particularly about molecular sequencing and phylogenetic analysis, cementing the fact that we students are (very cool) nerds.

Undoubtedly, the highlight lectures of the week were by Dr Mark Harvey (Western Australian Museum) on Interactive keys and the taxonomic process; while Dr Judy West (Australian National Botanic Gardens) and Professor Andy Austin (ACEBB—University of Adelaide) gave the students food for thought for grant funding and plans after the PhD, as well as insight into getting manuscripts publication-ready. Trips to the South Australian Museum and the State Herbarium of South Australia were a nice change of pace to the workshop; allowing participants the opportunity to see behind-the-scenes of collection management and the work that goes into curation and databas-



The ultimate morning coffees—our own personal barista for the week! Photo: Andy Austin.



Dr. Mark Harvey, one of the workshop presenters, in his element at the Tivoli Hotel dinner!
Photo: Andy Austin.

ing the collections. It was also helpful seeing the collections and talking to the collection managers about the importance of type material.

Overall, the week-long workshop proved to be a successful event. I believe each participant returned home, feeling re-energized and eager to put into practice what they had learnt from the workshop, or at least, away from the muffins forced upon everyone involved with the workshop during lunch and tea breaks.

Huge thanks to Michelle Guzik, Andy Austin and Mike Rix for organising an invaluable workshop, and many thanks to Mike Lee, Mike Gardner, Mark Harvey, Judy West, Steve Donnellan, Andy Lowe, John Jennings, Kym Abrams, Jürgen Kellermann and Michelle Waycott, for finding time in their busy schedules to contribute to the workshop.

Marina Cheng

Taxonomist awarded national honour

Scientists do not frequently gain substantial recognition beyond the relatively confined circle of one's peers. It is a cause for celebration when a scientist—a systematist, no less—gets awarded a national honour.

In this year's Queen's Birthday Honours, Dr David Rentz was awarded the Member of the Order of Australia for significant service to science, particularly in the field of entomology, and to the community. David was a senior research scientist at the Australian National Insect Collection in Canberra from 1977 until his retirement in 2001. Focusing on the Orthoptera, he has been a major contributor of knowledge on Australian Orthoptera, most substantially expressed in his authorship of the excellent 1996 book *Grasshopper Country*. In 1980, he described the family Cooloolidae—colloquially known as Cooloola monsters—that were the first orthopteran family to be described in over half a century.

Since retirement, he's continued to be involved in active research as an adjunct research professor at James Cook University in Cairns, as well as sharing his nature observations on his blog [BunyipCo](#).

An interview with David on his receipt of this honour is available on the [ABC website](#).

Samuel Brown

The VII Southern Connections Congress, Dunedin

Kath Dickinson (Department of Botany, University of Otago) and Bill Lee (Landcare Research, Dunedin) co-convened the VII Southern Connection Congress in February 2013. This eclectic group's meetings were inaugurated in Hobart, Tasmania, in January 1993, when austral biologists from New Zealand, South Africa and the 'Cono Sur' of South America met, together with northern hemisphere-based students of austral biological issues. From the outset, although very outnumbered by those studying the shared pests of southern forests, systematics featured, especially in relation to the growing importance of biodiversity and phylogenetic studies. When the 2nd meeting



was held in Chile in January 1997, organisers Mary Arroyo and Antonio Lara reported that the ‘response ... far exceeded our expectations ... with a program fuller than expected’. From my well-thumbed and pisco sour-stained notes I see that austral systematists were present in Valdivia, including several entomologists other than myself.

At the Dunedin meeting there were over 300 attendees from all over the world, who attended four days of presentations and plenaries, participated in a range of conference field trips and, as is usual, sampled local viticultural products. Although systematics again had a presence, it was modest and seemingly almost an afterthought in the program.

Aside from botanical presentations, biogeography-systematics sessions, in the home of the New Zealand of Oligocene ‘drowning’ notoriety, largely disappointed in lacking connection to fascinating presentations elsewhere on the actual geology of the islands at the critical time in the Oligocene. By this I mean Daphne Lee and Liz Kennedy’s symposium on ‘Cenozoic island biogeography: integrating geology, paleontology and phylogeny’. Notable was Nick Mortimer’s presentation, based on research specifically on contemporary Eocene-Miocene sandstones and limestones that definitively showed presence of above-ocean Oligocene exposures, surely killed ‘total drowning’.

The session purported to concern New Caledonia (‘understanding our enigmatic biota’) was bereft of invited speakers, including major absentee Philippe Grandcolas, and notwithstanding rambling Trewickian hand-waving, had to be resuscitated by George Gibbs’ entertaining and dashing iconoclastic presentation. In contrast, the botanical presentations (especially from Stephan Nylinder and Ulf Svenson) on the plants of this enigmatic island used data analyses to clarify the recency of emergence of a colonisable body of land, and the very high rates of radiation of studied taxa, and little or no evidence of ancient survivorship. Elsewhere data particularly from Nylinder (‘the Stephan Nylinder show’, four papers, all ‘fun’) and Ulf Svenson (1.5 billion years old asters?) enlivened contributed paper sessions on phylogenetics and biogeography.

As an organiser of a systematics/biogeography symposium at the Bariloche meeting, which sought to include a diversity of views, it was a major disappointment to encounter a thin program prepared by a small cadre of local systematists. If the ‘one-eyed total immersionists’ could not muster enough support for their views, delegation to more rigorous voices in our community, such as Matt Krosch, would have allowed biotic ‘southern connections’ to be explored more rigorously, and not solely dispersed in scattered ‘contributed papers’ in variably inappropriate and concurrent sessions.

Organisers of the next meeting, the 8th, in southernmost Chile in 2016, must recognise that systematics and biogeography are core, not peripheral disciplines, otherwise attendance of austral systematists, even to such an intriguing location, may be a low priority.

Peter Cranston

Launch of BowerBird to encourage Australian Citizen Science

Almost two years ago, the Atlas of Living Australia (ALA) funded Museum Victoria to develop Australia's first social science website and iPhone App dedicated to the globally growing workforce of Citizen Scientists. The result is **BowerBird** (<http://www.bowerbird.org.au>), an online natural history database for use by both professional scientists as well as citizen scientists. We see BowerBird as an effective interface between these two communities.

Despite being populated by a large amount of natural history data; sites like Flickr, Facebook and YouTube are not effective Citizen Science interfaces. BowerBird differs from these sites in that uploaded data are immediately incorporated into a public database that are readily accessible for aggregators and scientists.

Basic structure

The core of BowerBird is its Projects. These are user generated sites which encourage the formation of interactive communities where people can upload georeferenced observations, images, provide identifications, add comments, write descriptions, and more. Any member of a Project can contribute to any observation uploaded to that Project. Members can also contribute by voting for image quality, identification accuracy, effectiveness of descriptive text, and more. However only the original uploader of an Observation can modify the Observation itself (e.g. by adding more images, changing the title etc).

The five most popular **active projects** on BowerBird currently are Insects & Inverts, Bird-life, Arachnids, Fungi and Australian Bees.

BowerBird has got extensive media support. Media in most common image formats (PNG, JPEG, BMP, TIF) and a number of audio formats (.wav and iPhone .aac sound files) can be handled by this version of BowerBird. Videos cannot be uploaded directly into Bowerbird, however links can be provided to videos hosted on YouTube or Vimeo. Future development of BowerBird will focus on extended media acceptance plus a range of more integrated features, especially with ALA.

BowerBird has a fully interactive Australian Master Names Species Checklist consisting of almost 210,000 individual species names across 7 Kingdoms. It can be searched by text for common or scientific name or searched by classification (phylum to species). Plant names have their full synonymies provided. All species have associated common names, whether generic or individual.

Smartphone app

In addition to the website, we have also developed a fully functional iPhone App to run as a standalone product. The App does almost everything offered on the website: View and Open Projects, Organisations and Create and View Observations and has full access to the BowerBird Master Names Checklist. It also can use the iPhone's GPS chip to provide accurate GPS coordinates. You can take a photo from within the app and use that photo or you can pull in an image from the photo library. This functionality allows you to take photos on your iPhone when you are out of range of your phone carrier and then upload them as soon as you connect to your phone carrier.

Engagement

There are many ways that you can use BowerBird to suit your needs.

- It can be used to simply upload a range of images of different animals or plants or fungi as you find them
- It can be used to create a checklist of animals or plants or fungi in a particular area (for example, your backyard, local park suburb etc)
- It can be used to facilitate a particular targeted survey—the iPhone app is especially useful for this activity
- It can be used to assist with a scientific survey where volunteers are sent out to image capture some kind of taxon and specialist around Australia and overseas will login to provide accurate identifications

Data download

Where BowerBird differs from other media hosting websites, such as Flickr or YouTube, is that the data is gathered and stored in such a way that it is readily usable for aggregation or interrogation. We are now doing nightly full BowerBird data dumps as a pipe delimited text file that can be uploaded by an aggregator or interrogated by anyone. The data can be obtained from BowerBird (<http://www.bowerbird.org.au/export/data.txt>), or it can be accessed through ALA where data from BowerBird can be viewed and analysed using the ALA suite of biodiversity tools.

Support

We have created a Help and Feedback Blog (<http://bower-news.blogspot.com.au/>), that provides help on getting started with BowerBird, and has articles on various activities within the site.

Feedback should be supplied to support@ala.org.au with the subject line “BowerBird”.

A [BowerBird User Guide](#) is available online, or can be obtained as a PDF on request.

Pre-release testing of BowerBird by over 50 people has shown most problems were associated with old web browsers. We suggest using the latest versions of Chrome or FireFox and if you must use Microsoft Internet Explorer, then get version 9.

Ken Walker

New virtual issue on Arachnology from *Invertebrate Systematics*

CSIRO PUBLISHING is pleased to announce the launch of a new virtual issue on arachnology in *Invertebrate Systematics*.

“In recent years, significant advances have been made in understanding the systematics and evolution of arachnids,” explained Professor Andy Austin, the journal’s Editor-in-Chief. “*Invertebrate Systematics* has published many important studies in this field, and we’re excited to be able to highlight some of them in a virtual issue.”

Professor Austin selected the publications for the issue with one of the journal’s editors, Dr Mark Harvey, a renowned arachnologist from the Western Australian Museum in Perth.

Among the publications in the issue are a description of a new family of harvestmen, studies on several spider species, and even an analysis of a group of small, soft-bodied arachnids that live underground. The research was done across the world, on almost every continent, and relied on a broad range of molecular and morphological methods.

“*Invertebrate Systematics* has a considerable archive of arachnology publications, so the virtual issue represents the very best from the journal,” said Caroline Hadley, Journal Publisher. To ensure that all readers can access the material, the publications will be freely available until the end of this year.

The virtual issue is timed to coincide with the 19th International Congress of Arachnology in Taiwan in June 2013, which Dr Harvey attended along with another of the journal’s editors, Prof. Gonzalo Giribet from Harvard.

You can view the 12 articles that make up this special issue at [Virtual Issues—Arachnology](#), or find out more about *Invertebrate Systematics* on the [journal’s homepage](#).

Caroline Hadley

About the Society

SASB Officers:

Steve Cooper (President)
Steve.Cooper@samuseum.sa.gov.au
Penny Mills (Vice-President)
Andrew Thornhill (Secretary)
andrew.thornhill@gmail.com
Andy Austin
Catherine Byrne
Lyn Cook
Laxmikant Dama
Bob Mesibov
Andrew Mitchell
Kevin Thiele

Samuel Brown (Newsletter Editor,
non-executive position)
sam.brown@lincoln.ac.nz

The Society:

The Society of Australian Systematic Biologists is open to all people who utilise the science of biological systematics as a basis for the study and understanding of nature. The Society is a non-profit inter-disciplinary organisation whose purposes are to promote the scientific study of biological systematics and to disseminate scientific and educational information related to its fields of interests.

Membership:

Membership is free. Details are available on the society website (<http://www.sasb.org.au/contacts.html>) and from the secretary.