



# Newsletter

Australasian Systematic Botany Society

No. 190, March 2022



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## From the President

*Mike Bayly*

I hope that our members had a safe and enjoyable holiday season. Another year is now well underway, with plenty of COVID still in the community but with the vaccines doing their job and allowing greater freedom for most of us to conduct activities in an almost normal fashion.

Things for our Council were fairly quiet over the summer months, with members variously doing fieldwork, travelling (who would have thought!!), teaching summer courses and having some down time. We have only recently commenced regular meetings again and our activities will ramp up from here. Having said that, things are now in full swing for our Vice President (Hervé Sauquet) and the Research Grants Committee in assessing the March round of Eichler grants, and our Treasurer (John Clarkson) has been managing the usual start of year membership payments – you will see a reminder from him just a little further on in this *ASBS Newsletter*. Another thing John has been driving is the drafting of proposed changes to the

society's Rules, as necessitated by changes to the Associations Incorporation Act and our registration with the Australian Charities and Not-for-profits Commission. I encourage all members to look at the latest set of proposals (see page 8 of this *Newsletter*) and provide any feedback now, before we proceed with the formal process of toward making changes.

I'm sure many of you will be wondering if anything is on the horizon in terms of a society conference or meeting this year. In conjunction with the Student and ECR Subcommittee we are formulating plans for a short conference-like event later in the year. We are still in preliminary discussions about this, but hope to solidify plans and make an announcement soon.

Having prepared this report after the rest of the *ASBS Newsletter* was assembled, I can say that this is another great edition and thank all the contributors and the Editors. Happy reading!

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## From the Editorial Team

*Lizzy Joyce ASBS Newsletter Editor*

We have a couple of changes to the *ASBS Newsletter* editorial team to share with members. Firstly, I'm happy to announce that Shelley James (PERTH) has joined the editorial team, assisting with copyediting. Shelley very kindly took the reins on last issue's layout, and the steep learning-curve of InDesign (and motley crew of editors) didn't seem to scare her off as she has agreed to stay on. I'm very grateful for Shelley's time and help!

Secondly, our Book Review Editor and ASBS Treasurer John Clarkson informs me that this is the first time *ASBS Newsletter* has had

an international editorial team! I have now finished my PhD, and am writing this from the Botanical Institute at Ludwig-Maximilian Universität in Munich, Germany. I have been fortunate to accept a four-year postdoc in the Kadereit group, where I will be continuing my research on the Sunda-Sahul Floristic Exchange and evolution in the angiosperm order Sapindales. After consulting with the editorial team and ASBS Council, I have decided to stay on as Editor of the *ASBS Newsletter* for as long as practical. We are optimistic that it will work well as we are all COVID-seasoned experts now in working

remotely. I'm very happy to have this opportunity to keep in touch with ASBS members and activities, and hopefully reading through all your reports of work in the warmth of Australasia will keep me going through the cold German winter (well that, and beer...).

To that end, I would like to extend a huge thank you to the editorial team and volunteers that supported me through a big year of change in 2021 as I was wrapping up my thesis. Particular thanks go to Book Editor John Clarkson and News Editor Todd McLay, as well as Alex George, Shelley James and Charmaine Cave, whose work ensured we didn't miss a single issue.

We look forward to another year of *ASBS Newsletter*, where we will continue our regular updates from ASBS Council, GAP and ABRS, as well as our spotlight on PhD candidates and ECRs, and our historical section "In the beginning" in the lead-up to the 50th anniversary of the society. As always, if any members would like to submit an article or notice for the *ASBS Newsletter*, or get in-

involved in the editorial team, feel free to get in touch at [editor.asbsnews@gmail.com](mailto:editor.asbsnews@gmail.com).



**Top** A frosty Botanical Institute in the Munich Botanical Gardens **Below** Making a new German friend in the Engischer Garten

## From the Treasurer

*John Clarkson (aka Bo-Peep)*

Members are reminded that annual membership fees fall due on January 1 each year. I thank those who have paid this year but, by the end of the second week in March, 151 members still had to pay. Rounding up the stragglers has been the task of treasurers since the very beginning of the Society. In the past 50 years, all sorts of attempts have been made to encourage early payment. When the Newsletter was only available as hard copy, there were threats to discontinue sending the newsletter to members in arrears (1982), sending empty envelopes (1992), placing stickers on the envelope (2002). There was also a zero-tolerance policy in the late 1980s.

"Members who are unfinancial are requested to pay their subscriptions. Those who have

not paid since 1984 have been automatically struck off. Those who have not paid since 1985 will be automatically struck off if their subscriptions are not paid up by the end of August."

In my many terms as treasurer I have tried to adopt a softer approach. Most members receive the newsletter electronically, so withholding it no longer provides the stick it once was — not that I am one who favours that approach. As more members were contactable by email it was easy to send gentle reminders—sometimes many reminders. But, if members change their email address and don't let the Society know, that connection is lost. Most of us live busy lives and, in my experience members mean to pay, but just forget and don't mind the odd reminder.

# ASBS Student and Early Career Researcher Subcommittee progress update

James Clugston, Tim Collins, Helen Kennedy & Maren Preuss

As previously reported, the ASBS Student and ECR Subcommittee formed in August 2021 after a call for expressions of interest by the ASBS Council. Four researchers currently form the Subcommittee, and we're working steadily towards the goals below:

1. Build an active ASBS student and ECR community in a safe, supporting, diverse and inclusive environment
2. Promote ASBS student and ECR research to the public
3. Create and share career, funding and research opportunities
4. Represent the student and ECR community at ASBS Council meetings and more broadly

James, Helen, Maren and Tim are meeting monthly to develop our plans, with every third meeting open to all students and ECRs. Please get in contact with one of us if you would like to contribute to the ASBS student and ECR group.

Meet the ASBS SECR representatives



**James Clugston** is a Postdoctoral Research Fellow based at the National Herbarium of NSW and the principal investigator studying the molecular and morphological diversity of the *Pultanea* alliance (tribe Mirbelieae, Fabaceae). [James.Clugston@botanicgardens.nsw.gov.au](mailto:James.Clugston@botanicgardens.nsw.gov.au)



**Tim Collins** completed his PhD in 2020 on the taxonomy, systematics and polyploidy in *Xerochrysum*, *Coronidium* and *Helichrysum leucopsidium* (Asteraceae; Gnaphalieae). Tim is now a Senior Scientist (Ecologist) mapping Threatened Ecological Communities for the Remote Sensing and Landscape Science Branch in the New South Wales Department of Planning and Environment in Queanbeyan in New South Wales. [tim.collins@environment.nsw.gov.au](mailto:tim.collins@environment.nsw.gov.au)



**Helen Kennedy** is a PhD candidate at the University of New England, Armidale NSW, working on an integrative taxonomic revision of *Melichrus* R.Br. (Ericaceae: Epacridoideae). [Hkenned6@myune.edu.au](mailto:Hkenned6@myune.edu.au)



**Maren Preuss** is a Postdoctoral Research Fellow and Principal Investigator working on plastid evolution in parasitic red algae at the Te Kura Mātauranga Koiora—School of Biological Sciences, Te Herenga Waka—Victoria University of Wellington, New Zealand. [Maren.Preuss@vuw.ac.nz](mailto:Maren.Preuss@vuw.ac.nz)

# Australian Biological Resources Study Report

ABRS Team [abrs@environment.gov.au](mailto:abrs@environment.gov.au)

Flora of Australia (FoA)

<https://profiles.ala.org.au/opus/foa>

Recent Flora treatments include Caryophyllaceae (various genera), *Ammothryon*, *Chaetospora*, *Mesomelaena*, *Morelotia*, *Netrostylis*, *Tricostularia* (Cyperaceae), *Inocarpus* (Fabaceae), *Laurus* (Lauraceae), Maundiaceae, *Morus* (Moraceae), *Calorophus*, *Catacolea*, *Coleocarya*, *Empodisma* (Restionaceae), and revised editions of *Angophora* (Myrtaceae), Austrobaileyaceae, Balanophoraceae, *Barringtonia* (Lecythidaceae), *Bolbitis* (Dryopteridaceae), Cabombaceae, *Calectasia* (Dasypogonaceae), Ceratophyllaceae, Combretaceae *p.p.*, Juncaginaceae, *Lechenaultia* (Goodeniaceae), Moraceae *p.p.*, Pandanaceae, *Pisonia* (Nyctaginaceae), Trimeniaceae, Winteraceae, *Wollastonia* (Asteraceae) and numerous miscellaneous taxa, including taxa from the Island Territories. We have started updating the eucalypts based on [EUCLID Eucalypts](#)

[of Australia Edition 4](#) (2020) and adding orchids based largely on *A Complete Guide to Native Orchids of Australia* Edition 3 (2021) by David Jones. Many thanks to all our Flora contributors.

Flora contributions

Please contact the ABRS Team ([abrs@environment.gov.au](mailto:abrs@environment.gov.au)) with any feedback on *Flora of Australia* and *Bryophytes of Australia* content or platform functionality. If you would like to contribute new taxon profiles or update existing descriptions, please get in touch. This could include anything from adding complete treatments to adding profiles for taxa from your research papers. There is also much opportunity for updating and editing treatments loaded from the hard copy floras, including reconciling information with currently accepted taxonomic concepts and updating keys.

# Genomics for Australian Plants update

*Lalita Simpson GAP Research Community Project Manager, Australian Tropical Herbarium and James Cook University*

*Mabel Lum GAP Project Manager, Bioplatforms Australia*

*Darren Crayn GAP Phylogenomics Lead, Australian Tropical Herbarium and James Cook University*



[www.genomicsforaustralianplants.com](http://www.genomicsforaustralianplants.com)



[@PlantsAus](https://twitter.com/PlantsAus)

The Genomics for Australian Plants (GAP) Initiative is developing genomic resources and expertise to enhance our understanding of the evolution of Australia's unique flora and support its management. GAP was initiated by Bioplatforms Australia in partnership with the Australian state and national herbaria and botanic gardens. GAP has three project streams: [Reference genomes](#), [Phylogenomics](#), and [Conservation genomics](#). Here, we present an update on progress since September 2021.

## Reference genomes

The reference genome stream aims to sequence and assemble the genomes of representative Australian plant taxa. The publication of the [Telopea speciosissima](#) (waratah) genome by Stephanie Chen and colleagues from the University of NSW and the Royal Botanic Gardens and Domain Trust, Molecular Ecology Resources has received lots of well-deserved attention with articles in [RBGS stories](#), [UNSW newsroom](#), [The Conversation](#), [The Australian](#) and [GIZMODO](#). New research is also available from the [Acacia genome project](#) published in [GIGabyte](#) by Anna Syme and colleagues at the Royal Botanic Gardens Victoria, revealing structural diversity in genomes of organelles. Sample preparation, sequencing and data analysis for species in the 2nd and the 3rd phases are ongoing.

## Phylogenomics

In Stage 1, the GAP phylogenomics project aims to reconstruct a genus-level Australian

Angiosperm Tree of Life (AAToL), by sequencing more than 95% of the nearly 2,100 native Australian angiosperm genera for 353 low copy nuclear genes using the [Angiosperms353 target capture nuclear bait kit](#). Stage 1 of the project has been undertaken in partnership with the [Plant and Fungal Tree of Life project](#) (PAFTOL) that is working towards reconstructing a genus-level phylogeny of the world's angiosperms using the Angiosperms353 kit. Preliminary estimates of the AAToL have now been generated including over 1,919 samples representing 217 families and 1,826 genera (1,395 GAP stage 1 samples and 524 PAFTOL samples). A publication describing the workflow utilised to reconstruct the AAToL is currently available on the [bioRxiv preprint server](#). Further refined analyses and publication planning is ongoing. To document and celebrate our progress, a virtual GAP Phylogenomics Mini Symposium was held November 16<sup>th</sup> 2021 for the GAP consortium and key stakeholders including the ALA, AusTraits and ABRIS. The symposium recording is available for viewing on [Vimeo](#).

Our partners from the PAFTOL project have reached the culmination of the 6-year-long phase 1 of the [PAFTOL](#) project with the launch of data release 2.0 of the [Kew Tree of Life Explorer](#), including 762 samples provided by GAP. This important milestone has been highlighted in a [New Scientist](#) article. This incredible data release is based on Angiosperms353 genes and includes raw reads, assembled genes, alignments, gene trees and a species tree, as well as all associated

metadata for 9,823 angiosperm specimens, 412 families (99%), 7,514 genera (55%) and 9,404 species, made publicly available (under the [Toronto Guidelines](#)), along with a navigable tree derived from the very first global phylogenomic analysis. In further exciting news, PAFTOL has secured funding and commenced phase 2 of the PAFTOL project where they aim to sequence the remaining 5,500 angiosperm genera.

GAP stage 2 aims to fill the tips of the Australian Angiosperm Tree of Life through the production of datasets with denser sampling within genera to address questions of monophyly, evolution, and biogeography. The GAP website has been updated with details of the [GAP stage 2 projects](#) that are now underway. So far, samples have been submitted for the [Hibbertia](#), [Ericaceae](#), [Lasiopetaleae](#) (Malvaceae), [Stylidiaceae](#), [Teucrium](#), [Tecticornia & Salicornia](#) and [Persoonia](#) projects.

### Conservation genomics

The Conservation genomics stream aims to provide genomic information to support conservation of the Australian flora and focuses on the resolution of species complexes consisting of suspected conservation dependent species. Since September, data generation has been completed for the [Gompholobium project](#) and data analysis is now underway for seven conservation genomics projects: [Gompholobium](#), [Geleznovia verrucosa](#)

[species complex](#), [Wurmbea dioica subsp. alba complex](#), [Synaphea stenoloba complex](#), [Isopogon buxifolius complex](#), [Cassia species](#) and [Ziera species](#).

### GAP bioinformatics resources

The GAP website has been updated to include a range of [bioinformatics resources](#) generated by the GAP bioinformatics working group for the virtual webinar and workshop series on the analysis of target sequence capture data presented at last year's virtual ASBS conference.

### Acknowledgements

We would like to acknowledge the contribution of the [Genomics for Australian Plants Framework Initiative consortium](#). The Initiative is supported by funding from [Bioplatforms Australia](#) (enabled by [NCRIS](#)), the [Ian Potter Foundation](#), [Royal Botanic Gardens Victoria](#), [Royal Botanic Gardens Foundation \(Victoria\)](#), [Royal Botanic Gardens Sydney](#), [Department of Biodiversity, Conservation and Attractions, Western Australia](#), [CSIRO, Centre for Australian National Biodiversity Research](#) and [Council Heads of Australasian Herbaria](#).

# Discussion on Proposed Changes to the ASBS Rules

## Part 2 of 2

John Clarkson ASBS Treasurer

In this, the second article inviting comment on changes to the Society's Rules, the changes imposed on the Society by amendments to the [Associations Incorporation Act 1991](#) (Part E) and a number of minor changes triggered by the Society's registration as a charity with the Australian Charities and Not-for-profits Commission (ACNC) (Part F) are discussed. Part 1 was published in [Newsletter 189](#).

Members are invited to provide comments or feedback to the Secretary at [secretary.asbs@gmail.com](mailto:secretary.asbs@gmail.com) with a copy to John Clarkson at [treasurer.asbs@gmail.com](mailto:treasurer.asbs@gmail.com), or to speak directly to John.

Once any issues raised by this or the previous article have been resolved, the formal process for altering the Rules will be set in train. This will involve submission of the changes to the Secretary in writing which will trigger the procedure outlined in Rule 34.

In the discussions that follow, the *Associations Incorporation Act 1991* will be referred to simply as the Act, and parts of the Act as divisions, sections or sub-sections as appropriate. Parts of the current [Rules of the Australasian Systematic Botany Society Inc](#) (Version 8, October 2012) will be referred to as parts, rules or sub-rules. The [Australian Charities and Not-for-profits Commission Act 2012](#) will be abbreviated to the ACNC Act. The terms 'Associations, Society and Charity', and 'Council and Committee' are used interchangeably in the discussion that follows.

E. Changes imposed by amendments to the Associations Incorporation Act 1991

### Discussion

ASBS is incorporated as an association under the *Associations Incorporation Act 1991*. The *Red Tape Reduction Legislation Amendment Bill 2018* resulted in [amendments](#) to the Act and the Regulation affecting incorporated associations. These took effect in July 2019 and have implications for the following issues:

- i. financial accounts (Proposal 9);
- ii. the common seal (Proposal 10);
- iii. particulars the Public Officer may no longer need to notify (Recommendation 1 and Proposal 11);
- iv. the duties of officers (Proposal 12);
- v. requests for meeting minutes of the association (Recommendation 2);
- vi. the association's register of members (Proposal 13); and
- vii. procedures for dealing with disputes (Proposal 14).

E (i). Financial accounts

### Discussion

Changes to the Act outlining requirements for reviewing or auditing financial accounts now make annual revenue the sole criteria for determining the size of an organisation. Small associations, those with a total annual revenue of less than \$400,000, are no longer required to have their annual financial statement audited. However, Part 5 [V] of the Act that deals with such matters does not apply to incorporated associations, like ASBS, that are registered as charities with the Australian Charities and Not-for-profits Commission (ACNC). However, the ACNC also uses annual revenue to classify associations. Those with revenue less than \$250,000 are

considered small. By this definition, ASBS is a small entity and is registered as such with the ACNC.

Small charities can choose whether or not to include a financial report in the Annual Information Statement they are required to submit to ACNC, so, technically, there is no longer a requirement for ASBS to have its financial report reviewed or audited. However, the ACNC encourages small charities to submit a financial report as part of the Annual Information Statement and, with total ASBS assets exceeding \$1.4M, Council supports this recommendation and suggests that there be no change to the requirements for the annual audit mandated by the current Rules.

Two ASBS Rules, 11(5) and 15(1)(c), dealing with the appointment of an auditor or the requirement for an audit, make specific reference to part 5 of the Act. This reference should be deleted. A third Rule, 11(7)(b), dealing with the lodgement of annual returns with the Registrar General, also refers to Part 5 of the Act. This reference should also be deleted. It is suggested that these changes be dealt with as a single proposal (Proposal 9).

### Proposal 9

That Rule 11(5) be changed from:

'11(5) The Council, subject to the Act, the Regulation, these rules, and any resolution passed by the Society in general meeting or by postal or electronic vote - shall appoint Auditor(s) to audit the Society accounts as prescribed under Part V of the Act; such Auditor(s) cannot be members of the Society';

to:

'11(5) The Council, subject to the Act, the Regulation; the ACNC Act, the ACNC Regulation; these rules; and any resolution passed by the Society in general meeting or by postal or electronic vote - shall appoint Auditor(s) to audit the Society accounts; such Auditor(s) cannot be members of the Society';

and

That Rule 15(1)(c) be changed from:

'15(1)(c) The Treasurer of the Society shall ensure that the accounts and books relating to finances of the Society are audited and presented to the annual general meeting within the time and in the manner prescribed by part 5 of the Act;

to:

'15(1)(c) The Treasurer of the Society shall ensure that the accounts and books relating to finances of the Society are audited and presented to the annual general meeting within the time and in the manner prescribed by these rules';

and

That Rule 11(7)(b) be changed from:

'11(7)(b) The Council, subject to the Act, the Regulation, these rules, and any resolution passed by the Society in general meeting or by postal or electronic vote - shall perform all requirements relating to the responsibilities of a committee of an incorporated association under the Act, including - lodgement of annual returns with the Registrar-General as prescribed under Part V of the Act;

to:

'11(5) The Council, subject to the Act, the Regulation; the ACNC Act, the ACNC Regulation; these rules; and any resolution passed by the Society in general meeting or by postal or electronic vote - shall perform all requirements relating to the responsibilities of a committee of an incorporated association under the Act and a registered entity under the ACNC Act, including - lodgement of annual returns in accordance with Division 60 of the ACNC Act'.

### E (ii). The Common Seal

#### Discussion

An incorporated association is no longer required to have a common seal and can now

conduct business without one. The common seal is nothing more than a rubber stamp (Clarkson & Barker 2011). It has rarely, if ever, been used by ASBS. The common seal is dealt with in Rule 35. The simple solution is to delete this Rule.

Clarkson J.R. & Barker, W.R. (2011). The Common Seal of the Society – a phantom no more. [Australas. Syst. Bot. Soc. Newslett. 149:45.](#)

### Proposal 10

That Rule 35 be deleted.

E (iii). Public Officer does not need to notify particulars in some circumstances

#### Discussion

The Registrar-General has an arrangement with the Commissioner of the ACNC for the provision of certain information to the Registrar-General about incorporated associations that are ACNC registered entities. This includes:

- changes to the charity's address or contact details;
- changes to the charity's responsible persons (Council members);
- annual information statement.

This does not change the requirement for an association that is a registered charity with the ACNC to have a Public Officer and that person be a permanent resident of the ACT. ACNC does not collect information about the Public Officer, so Access Canberra must still be notified of any changes related to the Public Officer. ASBS Rules relating to the appointment of a Public Officer (Rule 11(7)) and duties relevant to the position (Rule 40) are not inconsistent with the changes to the Act and Council recommends that they remain unaltered (Recommendation 1).

Rule 64A of the amended Act states that "A member of a committee of an incorporated association may resign by written notice to the Public Officer." ASBS Rule 17(1)(c) deals

with the resignation of a member of Council but does not state how this is done nor to whom the resignation is addressed. Changing this Rule to require the resignation to be addressed to the Public Officer would satisfy the changes to the Act.

#### Recommendation 1

ASBS Rules are not inconsistent with the changes to the Act. Rules 11(5) and 15(1)(c) remain unchanged.

### Proposal 11

That Rule 17(1)(c) be changed from:

'For the purposes of these rules, a vacancy in the office of a member of Council occurs if the member resigns from office';  
to:

'For the purposes of these rules, a vacancy in the office of a member of Council occurs if the member resigns in writing to the Public Officer'.

E (iv). The duties of officers

#### Discussion

Changes to Division 4.2 of the Act are intended to ensure that Officers cannot make improper use of their position or gain advantage for themselves or another person that is not in the best interest of the association. The Act defines an officer as: a member of the committee, the Public Officer or other office holder or another person responsible for the management of the association's affairs. An "officer" of the Society is so defined in Part I of the ASBS Rules. Part III of the Rules deals with matters related to the Council but does not include the specific clauses mandated by the changes to the Act. The simplest way to deal with this would be to adopt the wording included in Division 4.2 of the Act. An appropriate place for these would be between Section 13 and Section 14 of the Rules. For the purposes of this explanation this has been numbered Section 13A. It and subsequent Rules will be renumbered if the

proposal is adopted.

## Proposal 12

That the following clauses are inserted in Part III of the Rules:

'13A. Duties of officers

(1) An officer of the Society must exercise the officer's functions and discharge the officer's duties with the degree of care and diligence that a reasonable person would exercise if that person—

- (a) were an officer of the Society in the circumstances applying at the time of the exercise of the function or the discharge of the duty; and
- (b) occupied the office held by, and had the same responsibilities within the Society as, the officer.

(2) An officer of the Society must exercise the officer's functions and discharge the officer's duties—

- (a) in good faith in the best interests of the Society; and
- (b) for a proper purpose.

(3) An officer of the Society must not improperly use the officer's position to—

- (a) gain an advantage for the officer or another person; or
- (b) cause detriment to the Society.

(4) A person is, or has been, an officer of the Society must not improperly use the information to—

- (a) gain an advantage for the person or another person; or
- (b) cause detriment to the Society.'

E (v). An Association member can now request meeting minutes from the Association

### Discussion

The Act has been changed to ensure general members of an association can request copies of a variety of documents relating to the association. A member can request a current statement of objects of the association, a copy of the rules of the association that are in force, a copy of the deeds

of any trust relevant to the association or a summary or the minutes of a meeting of the committee. This change is designed to allow members easy access to share and source information for the association. The association has the discretion to charge a fee for this service.

Rule 37 already provides for inspection of records, financial books and other documents, so this matter is adequately dealt with. The Society has opted to provide these documents free of charge and has no provision to refuse access.

### Recommendation 2

Dealt with by Rule 37. No changes required.

## E (vi). The Association's Register of Members

The requirements for a register of members have been simplified. A register of members must now contain information about a person, their name and contact details, the class of their membership, the date the person became a member of the association or anything else required by the association's rules of regulation. While the register must contain the above particulars, a member of the association may request that the committee restrict access to the member's personal information.

### Discussion

Applicants for membership are asked to provide the following personal information:

- title,
- full name,
- postal address,
- email address,
- institution, and
- membership type applied for.

These data, together with the date of admission to the Society, added when the application is approved, satisfies Section 67(2) of the Act. Rule 40(c)(i) already allows members to inspect the register of members at any reasonable time. Council has a policy

of not providing this information to third parties, however there is no provision in the Rules to allow members to request that their contact details are not shared with others.

Probably the most effective way of dealing with these changes is to insert a new Rule modelled on the wording in Sections 67, 67A and 67B of the Act. An appropriate place for these would be between Section 7 and Section 8 in Part II of the Rules. For the purposes of this explanation, this has been numbered Section 7A, 7B and 7C. It and subsequent Rules will be renumbered if the proposal is adopted.

### Proposal 13

Insert the following Clauses between Section 7 and Section 8 in Part II of the Rules.

#### 7A. Register of members

- (1) The Society must keep and maintain a register of members pursuant to section 67 of the Act.
- (2) The register of members must contain the following information about each person who is a member of the Society:
  - (a) the person's name and contact details;
  - (b) the class of membership of the person;
  - (c) the date the person became a member of the Society;
  - (d) anything required by the these Rules;
  - (e) anything else prescribed by regulation.

#### 7B . Inspection of register of members

- (1) Pursuant to Rule 40(1)(d)(i) a member of the Society may apply to Council to allow the member to inspect the register of members.
- (2) Council may —
  - (a) allow the request; or
  - (b) refuse the request.
- (3) Council —
  - (a) must refuse the request to the extent that it would allow the member to access any personal information restricted under section

67B of the Act; and

(b) may refuse the request if satisfied that the member sought the inspection to use information on the register for a purpose that was—

- (i) not directly related to the management or the purposes of the Society or
  - (ii) prohibited by these Rules;
- or
- (iii) improper.

(4) If Council allows the request, the Public Officer must make the register of members available for inspection by the member—

- (a) at a reasonable time; and
- (b) at the address of the Public Officer of the Society or by electronic means.

(5) A regulation may provide for how the committee must deal with applications and make decisions under this Rule.

#### 7C. Restriction of access to personal information

- (1) A member of the Society may apply to Council to restrict access to personal information of the member recorded in the register of members.
- (2) The application may seek to restrict access so that the personal information is available only to—
  - (a) the Public Officer; and
  - (b) members of the Council other than a stated member or stated members of the Council.
- (3) Council must—
  - (a) if satisfied that there are special circumstances which justify doing so, agree to the request; or
  - (b) refuse the request.
- (4) If Council refuses the request, Council must notify the person who made the request, in writing, about the decision and give reasons for the decision.
- (5) If Council refuses the request, Council must not release the personal information without the consent of the person unless at least 28 days have passed since Council gave notice to the person under subsection (5).

(6) A regulation may provide for how the committee must deal with applications and make decisions under this section.

## E (vii). Procedures for Disputes to be Adopted

### Discussion

An association must have a dispute resolution procedure covering disputes between two members or between a member and the association. This is referred to as an 'internal dispute'. While the current Rules include a section on the disciplinary action that can be imposed on a member (Section 9) and the member's right of appeal (Section 10), it is important to recognise that disciplinary procedures are different from dispute resolution procedures. Sections 65B of the Act deals with dispute resolution but the ACT model rules for incorporated associations do not include a dispute resolution clause. However, Justice Connect, (2017) a not-for-profit social justice organisation, has produced a series of [fact sheets](#) on dealing with disputes and grievances specifically linked to state and territory legislation. The fact sheet for the ACT and model rules from other state jurisdictions were drawn upon in drafting these proposals.

The Act specifically entitles any member to resolve their own disputes either by calling a special/general meeting or through the courts system. The rights and liabilities of members of associations in relation to dispute resolution are set out in the Act.

Association members are encouraged to seek independent legal advice if they have concerns about the management of their association. Alternatively, issues may be resolved with the help of an independent mediator.

Access Canberra does not have any role in the resolution of internal disputes within incorporated associations under the Act.

The most effective way of dealing with these

changes is to insert a new Rule. An appropriate place for these would be between Section 8 and Section 9 in Part II of the Rules. For the purposes of this explanation this has been numbered Section 8A. It and subsequent Rules will be renumbered if the proposal is adopted.

For more information, visit: <https://www.legislation.act.gov.au/a/1991-46/>; or see: Justice Connect (2017), Dealing with disputes and grievances with members. Legal information for Australian Capital Territory incorporated associations. [https://www.nfplaw.org.au/sites/default/files/media/Dealing\\_with\\_disputes\\_and\\_grievances\\_with\\_members\\_ACT.pdf](https://www.nfplaw.org.au/sites/default/files/media/Dealing_with_disputes_and_grievances_with_members_ACT.pdf)

### Proposal 14

Insert the following Clauses between Section 8 and Section 9 in Part II of the Rules.

#### '8A. Disputes and Grievances

The procedure set out in this Rule applies to disputes under these Rules between—

- (a) a member and another member;
  - (b) a member and the Council;
  - (c) a member and the Society.
- (2) A member may appoint any person to act on behalf of the member in the dispute resolution procedure.
- (3) A member must not initiate a grievance procedure in relation to a matter that is the subject of a disciplinary procedure until the disciplinary procedure has been completed.
- (4) If a member has initiated a dispute resolution procedure in relation to a dispute between the member and the Society, the Society must not take disciplinary action against any of the following people in relation to the matter which is the subject of the dispute resolution procedure until the dispute resolution procedure has been completed:

- (a) the member who initiated the dispute resolution procedure (complainant member);

- (b) a member of the Society appointed by the complainant member under subrule 8A(2) to act on behalf of the complainant member in the dispute resolution procedure.
- (5) The parties to a dispute must attempt to resolve the dispute between themselves within 14 days of the dispute coming to the attention of each party.
- (6) If the parties to a dispute are unable to resolve the dispute between themselves within the time required by rule 8A(5), the parties must within 10 days—
- (a) notify the Committee of the dispute; and
  - (b) agree to or request the appointment of a mediator; and
  - (c) attempt in good faith to settle the dispute by mediation.
- (7) The mediator must be—
- (a) a person chosen by agreement between the parties; or
  - (b) in the absence of agreement—
    - (i) if the dispute is between a member and another member—a person appointed by the Council; or
    - (ii) if the dispute is between a member and the Council or the Society—a person appointed or employed by the Conflict Resolution Service of the ACT or other suitably qualified mediation service.
- (8) A mediator appointed by the Council may be a member or former member of the Society but in any case must not be a person who—
- (a) has a personal interest in the dispute; or
  - (b) is biased in favour of or against any party.
- (9) The mediator to the dispute, in conducting the mediation, must—
- (a) give each party every opportunity to be heard; and
  - (b) allow due consideration by all parties of any written statement

- submitted by any party; and
- (c) ensure that natural justice is accorded to the parties throughout the mediation process.

(10) The mediator must not determine the dispute.

(11) If the mediation process does not resolve the dispute, the parties may seek to resolve the dispute in accordance with the Act or otherwise at law.'

F. Changes associated with registration as a charity with the Australian Charities and Not-for-profits Commission

Notwithstanding its obligations under the *Associations Incorporations Act*, as an incorporated association registered as a charity with the Australian Charities and Not-for-profits Commission (ACNC), ASBS is also subject to the [Australian Charities and Not-for-profits Commission Act 2012](#) and its [associated regulation](#). As these documents will be referred to in the Rules they should be mentioned in Rule 1 which deals with definitions and interpretation of the Rules.

### Proposal 15

Insert the following two new dot points in Rule 1:

'In these rules, unless a contrary intention appears —

- "the ACNC Act" means the *Australian Charities and Not-for-profits Commission Act 2012* (Commonwealth);
- "the ACNC Regulation" means the *Australian Charities and Not-for-profits Commission Regulation 2013* (Commonwealth);'

### Conclusion

In undertaking revisions of the rules, it is not unusual to come across minor spelling or punctuation errors. Where correcting these will not alter the meaning or intention of the rules, they will be attended to without reference to the membership.

# The Australian Grasslands Initiative

Brian Atwell *Scientific Lead, Macquarie University*

Mabel Lum *Project Manager, Bioplatforms Australia*

The [Australian Grasslands Initiative](#) aims to deepen our understanding of the functional and genetic diversity of Australia's native grasslands. It was set up by [Bioplatforms Australia](#) in partnership with research leaders from Macquarie University, The University of Adelaide, University of Western Australia, Western Sydney University, Royal Botanic Garden Sydney and National Herbaria. The project also connects heavily with the network for the [ARC Centre of Excellence for Plant Success in Nature and Agriculture](#). The outcomes and learnings from the Australian Grasslands Initiative will complement and benefit from the goals of the another Bioplatforms Australia project, the [Genomics for Australian Plants \(GAP\) Initiative](#), with the latter more focused on iconic species and the Australian Grasslands project investigating genetic and phenotypic diversity and questions of adaptation specifically within grasses.

The Australian Grasslands project objectives are to:

- Develop kangaroo grass as a model to study phenotypic plasticity by generating high quality reference genomes complemented with protein and transcript data for traits analyses to understand evolution, adaptation and the nature of stress tolerance in plants;
- Develop an understanding of C3/C4 photosynthesis biochemistry and related traits (e.g., drought tolerance/persistence) to inform new set of conservation aims and outcomes;
- Understand seed properties and related traits (persistence, nutritional value and survival) to develop new applications.

Activities will include the generation of data and development of workflows under three broad areas:

- Reference genomes and traits analyses
- Conservation genomics
- Seed properties and applications

With a primary focus of kangaroo grass (*Themeda triandra*), the project focus has broadened to other C3 and C4 grasses, including iconic genera such as the Weeping grass (*Microlaena* sp.), spinifex (*Triodia* sp.) and Mitchell grass (*Astrebla* sp.). The project goals are diverse, as are the consortium's areas of expertise, but the central approach is to use -omics technologies to develop a reference genome for kangaroo grass, and then expand into the sequencing of other kangaroo grass accessions selected from the extreme biomes of the Australian continent.

Key technologies will entail the use of short and long-read DNA sequencing, in combination with RNA preparation for Iso-Seq analyses and Hi-C sequencing to resolve the reference genome. Genome resequencing will then be used to identify genetic diversity in closely related populations as well as material selected from across Australia. Coupled with this, transcriptomics will be employed in the three core accessions from New South Wales (the reference plant and population), Tasmania and the Northern Territory to understand gene expression responses to abiotic stresses in these widely contrasting environments. Expertise in proteomics will also be brought to bear to corroborate and widen insights gained through the transcriptomic analyses.

Work will then expand to an investigation of more diverse populations of kangaroo grass and other species that co-occur with Kangaroo grass, most notably weeping grass. This initiative will enhance knowledge and training in the principles and technologies of biogeography, phenotyping, biochemistry, population biology, molecular genetics and evolutionary biology. We will develop new insights into the nature of adaptation to extreme environments and those traits and networks that can be applied to agriculture and conservation of natural ecosystems.

# In the beginning...

## Technology through the ASBS ages

John Clarkson

*These days we take many technologies for granted but it was not always so. In trawling back issues of the Newsletter in the lead up to the 50<sup>th</sup> anniversary, I came across the following.*

### Computing

In a report from the Melbourne Chapter by Stephen Forbes in the September 1985 Newsletter (Forbes 1985) is a note that reads; "The purchase of two Casio FP-6000S computers at last gives MEL some word processing ability although this is still limited to the office and the director." Imagine that making news now. This model Casio was only released in 1985 so it would have been state of the art for desk top computers at the time. It had 256KB of RAM which could be expanded to 768KB, a 10MB hard drive which could be expanded to 20MB and two 8" (1.2MB) floppy drives (Web Ref. 1). Compare this to most modern digital watches which have 512MB of RAM and 8GB storage.

Several years earlier, in one of his regular reports on the progress of the Flora of Australia program, Alex George (1981) outlined how the Flora was typeset and transferred to CSIRONET via a 1,200 bit per second Telecom datel line where the text was typeset on bromides which were submitted to the Government Publishing Service as camera-ready copy. Yes, that's right, 1,200 bps. That is 0.0012 Mbs. Who would tolerate that today? Unless you live in rural Australia, and are at the mercy of the telecom companies, speeds these days are measured in megabits or, if you are lucky, gigabits per second.

### Email

As an increasing number of ASBS members gained access to the electronic mail services provided by Australia's Academic and Research Network ([AARNET](#)) (Korporaal 2009),

David Morrison from the University of Technology, Sydney, editor of the Newsletter at the time and an early adopter of digital technology, compiled the first list of email addresses for ASBS members (Morrison 1994). The list, published in the June 1994 edition, contained 78 members, ca 22% of members at the time. Most of these members were attached to universities and commonwealth government departments although staff from the NSW National Herbarium with the familiar @rbgsyd.gov.au address were prominent. In his short article, David noted; "The main advantage of using email is that it provides almost instantaneous written communication world-wide. However, when using this form of communication, it is always necessary to remember that some members take full advantage of the capabilities of the electronic network, while others rarely, if ever, check their email repository for new messages. Furthermore, some members do not have a personal computer in their office but use an email repository located elsewhere (often in another building); these members may not check for incoming email every day." What has changed? It was not until the late 1980s that most members had access to the technology and only in March 2020 that all members were finally contactable by email.

### The World Wide Web

As the Society approaches its 50<sup>th</sup> anniversary, Kelly Shepherd and Anna Monro are working on a major re-design of the website before migrating it to a new platform (Monro & Shepherd 2021). The Society's presence on the World Wide Web (WWW) dates from 1995 when Jim Croft posted a 'page' on the WWW (Crisp 1995). The President at the time, Mike Crisp, suggested Jim was planning to provide an article for a future issue about the resources for botanists and systematists in a future issue of the ASBS



**Figure 1** The home page of the ASBS web site. The site was set up by Jim Croft in 1995

*Newsletter*. This did not appear, but Jim did deliver a talk to the Canberra chapter entitled 'Global information for botanists on the Internet' in July 1995. The following year, Andrew Lyne (1996) reported "that the ASBS WWW Home Page has been updated" and that he would endeavour to keep it up to date. Andrew acted as web master, although that title was not used, until Murray Fagg replaced him in 2001 (Conn 2001). Murray (pers comm.) seems to remember Jim Croft returning from an ASBS meeting and telling him he had "dobbled him in" for the job. The value of maintaining a web presence was acknowledged early in the piece by Tim Entwisle (1998) when he noted in his president's report in the December 1998 Newsletter; "Our website, thanks to Andrew Lyne, has become a wonderful public face for the society, reflecting our activities and professionalism." Having replaced Andrew, Murray was at first referred to as web-editor then, in June 2002, as web master. That moniker has stuck since. At the same time, the web address given on the inside page of the Newsletter changed to [www.anbg.gov.au/asbs](http://www.anbg.gov.au/asbs) and the Australian National Botanic Gardens' important role in

hosting the Society's web page was obvious to all. I'm not sure if Murray knew how long he would tend the web site when he took over from Anthony, but he was to serve the Society in that role on his own until Anna Monro joined him in 2013 and only stepped away from the role in 2021 when he retired (Bayly 2021) — although Anna tells me he is still there, behind the scenes, to help when required.

### Electronic Newsletters

When Bill and Robyn Barker took over as editors from Bob Hill in the second half of 2001, they sent electronic copies of two Newsletters, numbers 106 and 107, to Murray Fagg who uploaded them to the Society's web site as downloadable .pdf files (Barker 2001). This immediately sparked a discussion whether members might be willing to take the Newsletter in this fashion, thus saving the costs of producing a hardcopy (George 2002, Conn 2002). The debate surfaces in Council from time to time but the Newsletter continues to be produced in hardcopy for those who prefer to read it that way. Of the 309 current members, 83 receive hardcopy, 19 of



**Figure 2** ASBS launched its Facebook Group in 2013. It now has over 1.6K members.

these are institutional members. The on-line version has a couple of advantages. From Number 138 (March 2009), images in the online version have been in colour, whereas the hardcopy continues to be printed in black and white. The electronic version generally goes on-line about the same time as the hardcopy is sent to the printer, so is available a week or so before the hardcopy. Back copies of Newsletters continued to be uploaded to the web site and, by the AGM held in September 2002, President Barry Conn (2002) was able to report that all issues from number 61 (December 1989) were available. In 2018, Russell Barrett single-handedly scanned the missing issues, leading Darren Crayn (2018) to point out that “perhaps an enthusiastic archivist-type or historian of science might scour this digital gold mine and share the shiniest nuggets with the membership”. As the Society approaches its golden anniversary, Darren was right on the money. It is indeed a gold mine.

### Facebook

In March 2013, Mike Bayly and Todd McLay set up a Facebook Group for the Society (Barker 2013), providing the Society with yet another platform to facilitate communication among members and other interested parties. It was set up as an open

group meaning it is visible to all Facebook users but only members of the group can post. Mike and Todd continue to administer the group and assess all requests to join the group. It has grown steadily since 2013 and now has over 1,600 members.

### Twitter

The Society’s communication strategy was further enhanced with the setting up of an official Twitter account @ASBS\_botany on 24 November 2019 (Sauquet 2019). This was the first day of a conference, jointly hosted with the New Zealand Plant Conservation Network, held in Wellington. The account quickly amassed 196 followers and has grown steadily to 395 followers (March 2022). It is particularly active during the annual conferences. The account was set up with the intention that it would be managed by the Secretary and moderated by the President and the Secretary.

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# Not always so serious

John Clarkson

The *ASBS Newsletter* has covered a lot of topics over the past 50 years. Not all of these have been serious botanical stuff. As a Society, whose members generally know each other well, Newsletter editors have occasionally allowed a bit of humour. In the 1990s, when the Newsletter was being produced in Darwin by Greg Leach, Ian Cowie, Clyde Dunlop and Philip Short, a flyer advertising a field press and plant drier appeared as an insertion in Newsletter no. 80. At \$65 the press, made of Australian plywood, quick release velcro webbing and complete with carry handles, was a bit costly for a tight Scot like me, but luckily the design was easily pirated (by others too I bet). Figure 1 shows David Maberley carrying one of the knock off copies at Pennefather River.

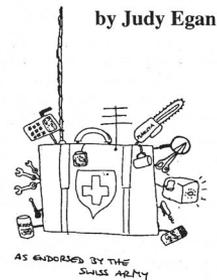


**Figure 1** David Maberley unknowingly carries a pirated copy of the plant press in question as he speaks to a group of students from the Western Cape York High School at Pennefather River in November 2002. David was there as part of the Robert Brown bicentenary celebrations (Clarkson 2002). Photo: J. Clarkson

I don't know if DNA was getting a share of the profits, but in [Newsletter 83](#) Judy Egan, a Darwin-based PhD student working on externally funded contracts who did some time with the veg survey group there, posted the first of series of cartoons (Figure 2) suggesting uses for the plant press other than the obvious. Judy did not quite make it to 101 cartoons, but a number of cartoons appeared in the following three issues of the Newsletter. Some of them had a distinctively NT flavour, although I can think of better ways of escaping feral buffaloes ([Newsletter 85:5](#)).

## Introducing 101 uses for your Plant Press

by Judy Egan.



More to follow in other issues.

**Figure 2** The first of a series of cartoons by Judy Egan suggesting alternative uses for the plant press.

# Wondrous Wonder

S.D. Hopper

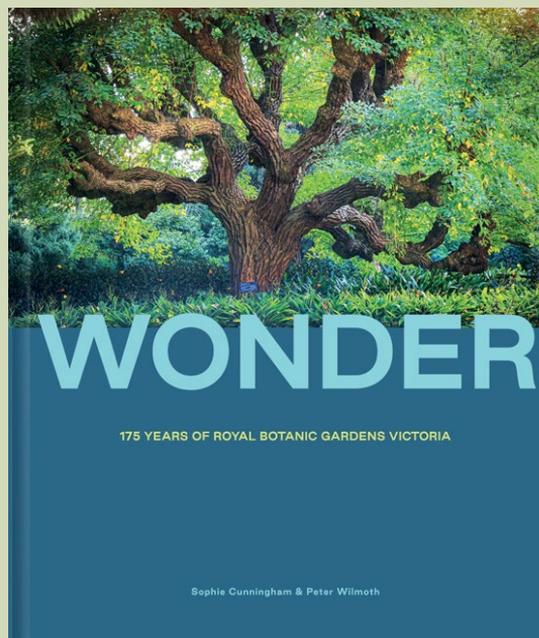
*Wonder: 175 years of Royal Botanic Gardens Victoria*

Sophie Cunningham and Peter Wilmoth

ISBN: 9781743798058 (hardback)

Hardie Grant Books, Richmond Vic. 2021, pp. 246 pp.

RRP AU\$80



This richly illustrated work is beautifully designed, produced and edited. The photographs (mainly by Leigh Henningham) are excellent, and the text clearly written. It is a surprising work, conforming to its main title 'Wonder'.

Apart from learning (on page 245) that the authors aimed 'to make this book a very special read', there is no clear statement from the authors about the intent, scope and approach adopted. It is, by no means, a typical work on a historical topic, as the subtitle might imply. The reader will find little in the way of a chronological account of major

achievements and challenges – they are there but buried in text. There appears to be little meticulous attention to detail backed up by extensive footnotes and references, as one might expect in a conventional history of a scientific institution. Indeed, there are no references at all in the work save for 11 brief footnotes in one column on the penultimate page.

Professor Tim Entwisle, the current Director and Chief Executive, provides an illuminating and thoughtful introductory chapter and there makes the book's purpose clear. It is 'about the people of our Gardens, the places and plants they love, and their moving memories'. This explains the rather obscure back matter at the rear of the book, more about personal impressions than anything too historical. Thus, the book is a collection of short biographies and edited thoughts about the Gardens obtained through interview. The major events, scientific achievements, strategies and politics featured in the Gardens' 175 years are, in the main, superficially treated to make way for extensive personal accounts.

I found the personal anecdotes and impressions from interviews with 45 individuals a little wearing towards the end. An attempt at synthesis was lacking, save for grouping the interviewees under broad headings of 'Sentinels', 'Knowledge Keepers', 'Storytellers' and 'Visionaries'. Short essays on topics such as Trees, Water, Climate Change and the Coronavirus Pandemic 2020 also were interspersed. The book concludes with a piece on a small selection of special objects and specimens from the National Herbarium of Victoria. This selection, however, was introduced with the briefest of text rather than analytical material highlighting global context and significance. To that extent the reader was, indeed, left wondering.

Only one interviewee, musician Tim Rogers, and Professor Entwisle in the introduction,

wrote their own summary of ideas for the book. All others were edited by the authors. This may achieve a degree of consistency, but possibly reduces the originality of thought and expression where people write in their own words. The reader has to search hard to find acknowledgements of historical colonial hubris, cultural suppression, 'such a European landscape' and similar.

Tim Entwisle compares and contrasts the primarily scientific approach underpinning the Gardens' development of the first Director Baron von Mueller, with the views of his successor William R. Guilfoyle who argued that scientific objectives 'need not clash with the picturesque'. Entwisle himself concurred, proposing that botanic gardens should celebrate and advance understanding of nature, culture and science.

I share this view, but I'm not sure that the book has achieved the right balance. Science seems to be seriously underplayed and much more airtime goes to the lay views of people from a range of walks of life. Even the Aboriginal content remains edited by the authors. A more cross-cultural approach would have been to invite Elders to write, in their own words, what their moving memories were of the Gardens and the places and plants they loved. We are in an era where genuinely equal voices for Aboriginal and non-aboriginal people are sought by many readers.

ASBS readers will recognize a couple of names among the many interviewed. Apart from Tim, Neville Walsh features. I loved Neville's wry comment of being 'blissfully unaware' that a new species *Eucalyptus gregoriensis* had been collected on the 150<sup>th</sup> anniversary expedition to the Gregory River. It highlights the serendipity of field collections, and the need for continuing research in the Herbarium to resolve taxonomic boundaries.

I would have enjoyed reading about others involved in science at the Gardens over the 175 years. This may have already been covered, at least for the earlier workers

such as von Mueller, in material previously published. But there are many other contemporary and 20<sup>th</sup> Century scientists involved materially with the Gardens whose contributions have yet to be summarized and analysed critically. Arguably, the same could be said for horticulturists and workers from other disciplines who have influenced the Gardens' history. Roger and Gwen Elliott, for example, feature in my mind as staunch supporters of the Australia Garden and organisers of symposia covering science and horticulture.

Equally, the tantalizing new initiative of the Gardens called Climate Change Alliance of Botanic Gardens, with 270 member gardens signed up worldwide, was exciting to read about but lacking in detail. A chapter devoted to that initiative would not have been unreasonable given the promise of a historical review. Also, it would support claims made about the Gardens being among the best in the world. Such hubris, without evidence, is a difficult swallow for readers used to evidence-based claims from scientific organisations.

That said, I cannot fault the high quality of the book, and accept that any collection of biographical pieces is a matter of difficult choice as to inclusion vs. exclusion. Overall, for a predominantly lay interpretation of a complex and fascinating history, I would commend this book.

# Secretive Slime Moulds of Australia

Tom May

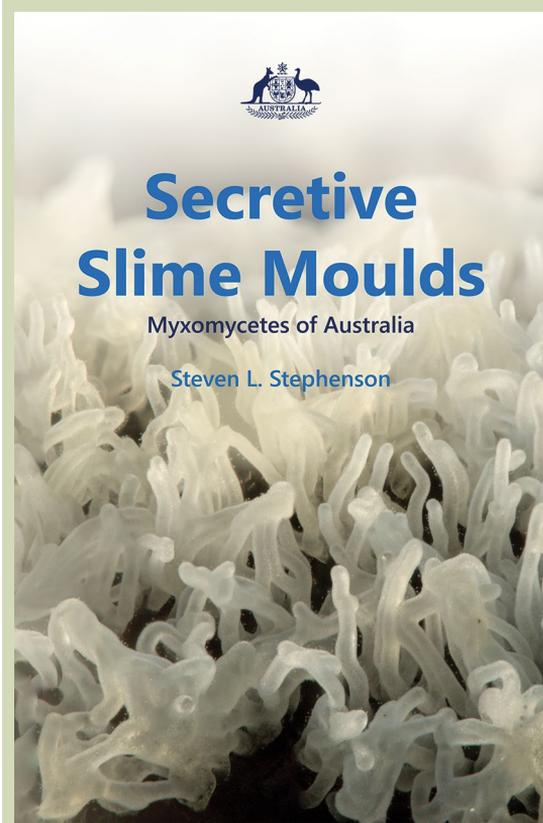
*Secretive Slime Moulds. Myxomycetes of Australia*

Steven L. Stephenson

ISBN: 9781486314133 (hardback) 245 x 170 mm

CSIRO Publishing, 2021, pp. 382

RRP AU\$180.00



Plasmodial slime-moulds (Myxomycetes) are intriguing organisms, at various times thought to be animals, fungi or plants, but now regarded as a distinct lineage of the Protista. They have an amoeba-like plasmodial stage and a spore-producing stage. The spore cases are usually tiny, mostly no more than a millimetre or so in diameter. Once magnified, they are spectacular con-

structions, including outer layers that can be iridescent or like finely spun wire jewellery.

*Secretive Slime Moulds* is the first guide to the Myxomycetes of Australia that includes keys at all levels from class to species. It is clearly laid out and provides descriptions of more than 330 species. Introductory sections contain useful background information on life cycles, structure, distribution and ecology as well as on collecting and studying myxomycetes. As such, it is a welcome addition for the myxomycetologist and the naturalist.

The work sits somewhat awkwardly between a monograph or flora treatment, and a field guide. Elements of a traditional monograph that are provided include: citation of authorities and publication details for names; use of an up-to-date classification; listing of “type species” for genera and type localities for species; and citation of synonyms as applied to Australian material. There are also descriptions of the macroscopic and microscopic features of each species, and of higher taxa such as genera. However, a critical omission for a work that claims to be a “monograph” is that there is no list of cited specimens.

The basis for the recording of species from Australia is indicated and the compilation of species seems quite comprehensive. However, to support the selection of species there are only citations to literature or occasional references to determinations on herbarium specimens (the latter without details of specific collections). The descriptions under each species are comprehensive but because many slime moulds do appear to have wide distributions globally, whether or not descriptions are based on Australian material is not clear. While the author states that at least some specimens were examined for the “vast majority” of species included — the “very oldest records” and “an appreciable number of the more recent finds” were not confirmed in this way. Given the

potential for novel species, as exemplified by the recent recognition of several Australian endemic species in *Tubifera*, it would be useful to know if the characters shown by Australian collections are consistent with those of the species originally described from elsewhere under which they are placed.

Entries for each species include a section on *Ecology and distribution* that summarises geographic distribution at state and territory level, but there are no maps. Due to increased digitisation of herbarium specimens, maps available through the Atlas of Living Australia ([www.ala.org.au/](http://www.ala.org.au/)) may well provide an acceptable picture of distribution of individual species, and indeed amplify the distribution as currently known from literature records. However, it is difficult to know how accurate such maps are without an indication of which existing herbarium specimens were examined. Each species entry ends with a *Comments* section, which is particularly useful in pointing out key features and making comparisons to similar species, as well as mentioning rarity.

There are numerous colour illustrations, a mix of high-quality drawings and photographs, but less than half the included species are illustrated — which is where the work does not fully deliver as a field guide. Cross references to illustrations do assist, especially for species not illustrated. However, the major gap, as far as illustrations, is for microscopic features. It is apparent from the keys that micro-characters are vital for species identification, and indeed to distinguish many genera. For example, in the key to the 13 species of *Badhamia*, five couplets use only microscopic characters, and a further two rely on a mix of macroscopic and microscopic features. Characters of the spores and capillitium are included in the descriptions under each species and genus, but there are no illustrations of micro-features of individual species.

*Secretive Slime Moulds* is a significant contribution to the knowledge of Australian slime moulds, bringing together for the first time

since Cooke's *Handbook of Australian fungi* (1892) descriptions of all species of Myxomycetes known from Australia along with keys. There is enough detail to assist with identification but not enough to facilitate ready identification of all species. The book has the overall look of a volume from the ABRS *Flora of Australia* or *Fungi of Australia* series, but there is some way to go before a treatment of Australia's slime moulds comparable to the most recent *Fungi of Australia* volume (on Inocybaceae) is available, especially as far as critical examination of series of collections and integration of DNA sequence information.

Once you have your eye in, slime moulds can be detected in the field, particularly in wetter forests — although often in drier microhabitats such as under logs. Complementing field observations, the moist chamber technique, as described in the section on *Collecting and Studying Myxomycetes*, readily generates fruiting bodies of slime moulds from samples of dead plant materials (a common substrate) utilising simple materials. Recent finds by primary school students of species newly recorded for Victoria (<https://www.abc.net.au/radionational/programs/scienceshow/slime-moulds-fascinate-the-young-and-old/13495912>) demonstrate the potential for exciting discoveries!

*Secretive Slime Moulds* opens a door for anyone with an interest in slime moulds. Hopefully some readers will step through and go on to make the collections and carry out the morphological and sequence-based analyses that will eventually form the basis of a comprehensive documentation of Australia's slime moulds.

# New guide to the rich orchid diversity of NSW and ACT

Katharina Nargar

*Guide to native orchids of NSW and ACT*

Lachlan M. Copeland and Gary N. Backhouse

ISBN: 9781 4863 13686 (paperback),  
9781486313709 (ebook)

215 x 148 mm

CSIRO Publishing, 2022, pp 456

RRP AU\$49.99



## GUIDE TO NATIVE ORCHIDS OF NSW AND ACT

LACHLAN M. COPELAND AND GARY N. BACKHOUSE



Over the past two decades, Australian orchid systematics and taxonomy were extremely dynamic and fast-paced, with frequent taxonomic changes and hundreds of new species added to the Australian flora. Native plant enthusiasts and fellow botanists will be relieved to finally be able to hold a comprehensive, up-to-date field guide to one of Australia's

most diverse regions for wild orchids in their hands. *The Field Guide to Native Orchids of NSW and ACT* by Lachlan Copeland and Gary Backhouse, which features 582 orchid species as well as dozens of potentially new species of the region with their respective phrase or manuscript names, fills this role admirably. A highlight of this field guide is that almost every species is illustrated by a photo, which are of great quality and detail. Anyone who may have tried to identify native orchids via comparison of photos on the internet or social networks will be grateful for these expertly identified reference photos, the assembly of which is the result of the tremendous effort by the two authors over many years, aided by a dedicated network of orchid enthusiasts and professionals.

The introduction to the book is kept brief and includes general notes on the orchid diversity of NSW and ACT plus the general structure of the book, as well as a short section on diversity, biology and ecology of orchids. The book would have benefited from an introduction to morphological terms with some drawings, in particular of special features of the orchid flower. This would assist any "new starters" to ease their way into understanding unfamiliar botanical terms and making the best use of the details provided throughout the book.

For each orchid genus, a brief profile is given with scientific and common name, details on number of species, general distribution, a short description of diagnostic features, and ecological information of interest, such as on habitats and pollinators. As the field guide does not provide a key to the genera, it requires users to find their potential matches by browsing through the book. As the genera are arranged in alphabetical order, closely related orchid genera are found

in different parts of the book. This could have been avoided by grouping genera by their alliances, thus grouping similar genera together, to achieve a more user-friendly navigation. However, a great plus of this field guide is that species within each genus are arranged by similarity which allows for easy comparison among closely related species. I found this arrangement very helpful as it enables the user to readily compare closely related species based on their key diagnostic features, photos and distributions.

Each species profile comprises the scientific and common name, a morphological description with key diagnostic characters, details on distribution and habitat, and a notes section. The latter presents interesting facts, such as on the species' discovery or ecology, and very useful comments on similar species and how to discriminate between them. The notes are a valuable added feature of the book. The profiles end with alternative scientific names the species may also be known under, thus avoiding overloading the reader with a com-

prehensive list of synonyms.

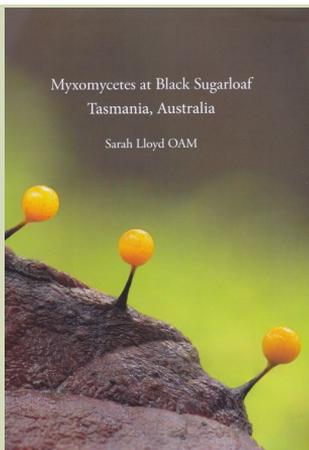
Each profile comes not only with a photo to help identification but also with a distribution map. This is of great value for the user to assess how likely it is that they would come across that particular species in the area in which they found their plant of interest. Given the difficulty obtaining reliable maps for orchids due to manifold conceptual changes at species level, I would have appreciated a comment by the authors on how the maps were assembled and vetted and potential biases identified.

All in all, I greatly enjoyed reading and using this book, which with its slender weight of only 860 grams is indeed a guide that can be taken out into the field. And for those who wish to travel even lighter, there are also an e-book and a pdf version available. I am sure this orchid field guide will be very well received by the ever-growing community of native plant enthusiasts and professionals alike.

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## Myxomycetes in Tasmania

Tom May



*Myxomycetes at Black Sugarloaf, Tasmania.*

Sarah Lloyd

No ISBN

Tympanocryptis Press,  
Birrilee, Tasmania. pp. 160

RRP \$65 (available from  
Fungimap <https://shop.fungimap.org.au/>)

This spiral-bound A4 book contains brief, standardised descriptions of around 125 taxa of Myxomycetes (plasmodial slime moulds), all accompanied by superb images of macroscopic and microscopic features. Some of the sporothecae (spore containers) are like tiny bejewelled objects, with that of *Cribraria rufa* a gold-speckled and veined orb reminis-

cent of a Fabergé egg. Voucher collections are indicated, many lodged at MEL. There is a short glossary and keys to orders and families and genera. Most taxa are identified to species, but some identifications are tentative, or to genus only. It is remarkable that all the species are from just one 50 hectare patch of high-quality vegetation at Black Sugarloaf in the central north of Tasmania, which has a diversity of habitats, providing various substrates for slime moulds. In combination with Lloyd's very readable introduction to the biology and natural history of slime moulds, *Where the Slime Mould Creeps*, this new publication will be valuable for anyone interested in the ecology and identification of Australian slime moulds.

[Disclosure: I first met Sarah Lloyd back in the 2000s during the early days of Fungimap and she has remained a friend since, so this review is provided as a notice rather than a full review.]

# Simple. Surprising. Concrete.

Ryan P. O'Donnell

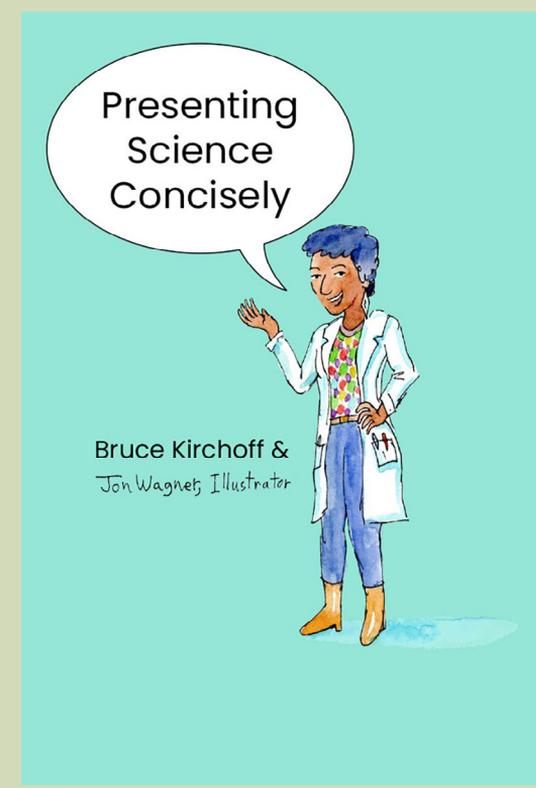
*Presenting Science Concisely*

Bruce Kirchoff

ISBN: 9781486314683 (paperback) 234 x 156 mm

CSIRO Publishing, 2021, pp. 134

RRP AU\$44.99



As someone passionate about the craft of storytelling and communicating science with non-technical audiences, I was delighted when asked to review Bruce Kirchoff's new publication *Presenting Science Concisely*. At a mere 134 pages, Kirchoff's book largely rings true to the title. The book itself is simple, unassuming, and easily digestible.

The book is pitched at a broad scientific audience, and researchers at any stage of their

career would have something to gain from reading it. Readers who would benefit most from Kirchoff's book, however, would be advanced students and early career researchers who are starting to dip their toes into presenting their work to public audiences.

The book begins with a respectable primer to narrative structure and the craft of storytelling, using the tried-and-true example of *Star Wars IV: A New Hope* as a case study. Through Luke Skywalker, Kirchoff translates the scientific process and methodology to The Hero's Journey and other narrative structures. It is in this chapter that Kirchoff provides enduring and straightforward advice on storytelling: "By framing the scientific process in this way, we tell stories that are simple, surprising, concrete, and emotional."

As the title suggests, the book focuses heavily on best practice for short-to-medium length presentations in the vein of the Three Minute Thesis (3MT), elevator pitches, or lightning talks. This area of focus is the real strength of Kirchoff's publication. Kirchoff closely critiques several recorded presentations and uses QR codes to provide easily accessible links to the presentations referenced. Their placement is unobtrusive, and their adoption is highly complementary to Kirchoff's line of argument. Kirchoff offers a minute-by-minute recap of these presentations, clearly outlining what works and what would improve these presentations further. Perhaps most informative and fascinating are the ensuing chapters dealing with Poster Presentations. Kirchoff provides empirical evidence (complete with eye tracking data) to demonstrate how we can improve our graphic design and visual communication skills.

The book concludes with two brief chapters dealing with knowing your audience and basic public speaking skills. Here, Kirchoff elaborates on different categories of audi-

ence that we as scientists may encounter and how best to address them. I believe that these areas are of paramount importance when participating in science communication, and I would have appreciated a more comprehensive discussion of these topics. Nonetheless, Kirchoff provides sound public speaking advice that will aid even the most timid of presenters.

I have written this review ostensibly for an audience of biologists, and thankfully for us, Kirchoff's choice of examples are taken largely from biological papers and presentations. One would be very much within their comfort zone reading this text as a biologist; however, one must spare a thought for non-biologists who will have to contend with examples laden with biological jargon. Of the examples, few were from outside of the biological sciences. As the book is entitled *Presenting Science Concisely*, I worry that the lack of non-biological examples may alienate some scientific readers who would otherwise benefit enormously from

this book.

My remaining (small) bug bear pertains to the inconsistent use of pronouns throughout. Kirchoff strives to use 'she' pronouns whenever a scientist is mentioned, and while noble in its intent, is unpredictable. There are sizable paragraphs which switch to the more gender-neutral 'they', before reverting to the explicitly gendered 'she'. When these paragraphs are placed next to each other, it begs the question why the gender-neutral 'they' was not just used throughout.

Small criticisms aside, *Presenting Science Concisely* has much to offer to any scientist wanting to improve the quality of their scientific communication. As Kirchoff notes in the book's introduction, "If we want our work to be taken seriously, we need to learn to be better communicators." We should strive to be better communicators, and Kirchoff's book certainly provides a strong starting point.



## In the News

The new National Herbarium of NSW  
Photo: Architectus

Please send me anything that you think is of interest for the ASBS community, otherwise the news is just what I see on Twitter - Todd McLay [todd.mclay@rbg.vic.gov.au](mailto:todd.mclay@rbg.vic.gov.au).

## Online and in the media

### Herbarium specimens cool off

Sitting outside the newly built and opened NSW herbarium at Mt Annan are four freezer-storage shipping containers, dutifully ensuring any nasties picked up in transit are dealt with. Also a bit of insight into the digitisation process (about 4,000 specimens per day). Will be great to visit.

**Link to story:** <https://www.theguardian.com/australia-news/2022/jan/12/heavy-lifting-at-sydneys-herbarium-the-quest-to-move-and-catalogue-more-than-1m-plant-specimens>

### Ghosts in RBGS

Now that the herbarium specimens have moved, the only undescribed entities at the Botanic Gardens in Sydney are of the supernatural kind. Do a ghost tour if you dare.

**Link to story:** <https://www.news.com.au/travel/australian-holidays/nsw-act/royal-botanical-garden-unexplained-incidents-at-one-of-sydneys-most-famous-landmarks/news-story/5aea691eb1f9b0398d00b3f31cedb555>

**Book it here:** <https://www.rbg Syd.nsw.gov.au/What-s-on/Ghostly-Garden-Tour>

### The role of citizen science in plant systematics

With funding and positions for taxonomy harder to come by, interested and dedicated citizen scientists are more important than ever. Rachael Fowler (University of Melbourne) profiles some of her so-called 'grey army', that have been essential for her work on *Eremophila* and *Eucalyptus*.

**Link to story:** <https://theconversation.com/time-is-their-secret-weapon-the-hidden-grey-army-quietly-advancing-species-discovery-in-australia-175189>

Heidi Zimmer (CANB) provides a five-step outline for the citizen orchid hunter, includ-

ing incorporating findings into iNaturalist and the Atlas of Living Australia.

**Link to story:** <https://theconversation.com/orchid-hunting-has-come-a-long-way-in-5-steps-you-can-join-a-national-research-effort-172383>

## New species are everywhere

A new species of *Endiandra* (Lauraceae) was recently described from the Gold Coast in Queensland after a backyard discovery. *Endiandra wongawallanensis* was stumbled upon by Lui Weber during a physiotherapy appointment, with the new species occurring in a narrow range in a densely populated part of the state. This story made quite a bit of noise on social media when it was picked up, which is always nice to see.

**Link to story:** <https://www.abc.net.au/news/2022-02-10/new-tree-species-discovery-on-gold-coast/100812328>



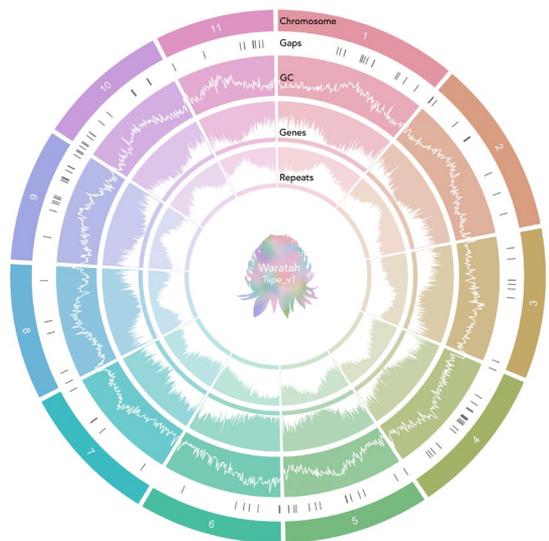
Flowers of *Endiandra wongawallanensis*.  
Photo: L. Weber

## The waratah genome

The first published genome from the Genomics for Australian Plants project (GAP) was recently published - congratulations Team *Teloepa*! The chromosome-scale assembly will be a valuable resource for research in *Teloepa* and related genera.

**Link to story:** <https://theconversation.com/weve-unveiled-the-waratahs-genetic-secrets-helping-preserve-this-australian-icon-for-the-future-174772>

**Link to paper:** Chromosome-level *de novo* genome assembly of *Teloepa speciosissima* (New South Wales waratah) using long-reads, linked-reads and Hi-C, Chen et al. 2021, Molecular Ecology Resources. <https://onlinelibrary.wiley.com/doi/10.1111/1755-0998.13574>



**Above** Visual representation of the Waratah genome from Chen et al. 2021

## Bad people and their bad eponyms

There are many scientific names that honour bad people in history. Unfortunately, there is nothing under the current rules of the code that allow current taxonomists to fix this. Tim Hammer (AD) and Kevin Thiele (Taxonomy Australia) seek to rectify this by proposing a change to the code, allowing for name changes to taxa that honour inappropriate people or use inappropriate words.

**Link to story:** <https://theconversation.com/hibberts-flowers-and-hitlers-beetle-what-do-we-do-when-species-are-named-after-histories-monsters-172602>

**Link to paper:** Hammer and Thiele (2021). Proposals to amend Articles 51 and 56 and Division III, to allow the rejection of culturally offensive and inappropriate names. *Taxon*. <https://onlinelibrary.wiley.com/doi/epdf/10.1002/tax.12620>



*Anophthalmus hitleri*: one of the examples given by Thiele in *The Conversation* of a species with a problematic name

## Newly found old plants

A Miocene ecosystem in NSW found by chance by a farmer has yielded some extremely well-preserved fossils. As well as a range of plants, including podocarps, banksias, Malvaceae, and *Nothofagus*, there are some beautiful fish, spiders, and fungi.

**Link to paper:** A Lagerstätte from Australia provides insight into the nature of Miocene mesic ecosystems. McMurry *et al.* 2022. *Science Advances* <https://www.science.org/doi/10.1126/sciadv.abm1406>

**Link to story:** [https://www.theage.com.au/national/gulgong-farmer-s-fantastic-fossil-find-un-covers-unknown-ancient-species-20220105-p59m2b.html?utm\\_medium=Social&utm\\_source=Twitter#Echobox=1641590744-1](https://www.theage.com.au/national/gulgong-farmer-s-fantastic-fossil-find-un-covers-unknown-ancient-species-20220105-p59m2b.html?utm_medium=Social&utm_source=Twitter#Echobox=1641590744-1)

## Papers and publications

Articles can be provided by request to Todd at [mclay@rbg.vic.gov.au](mailto:mclay@rbg.vic.gov.au).

### Genomics initiative for threatened species in Australia

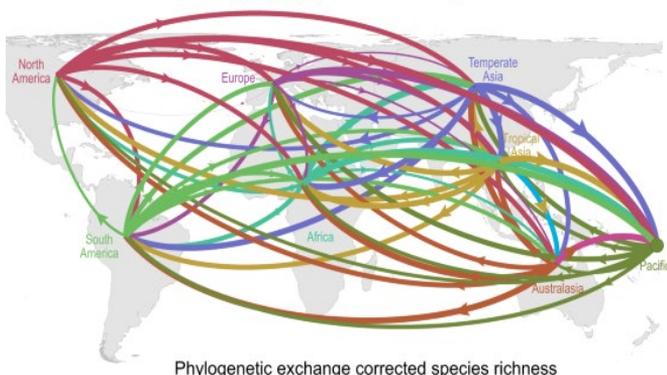
The Threatened Species Initiative (TSI) aims to generate a foundation of genomic data to enhance conservation of key Australian threatened species. TSI features a consortium of experts including genome scientists, population geneticists, and conservation practitioners, with the goal of working on a range of species from across Australia

**Link to paper:** Hogg *et al.* (2021) PNAS <https://www.pnas.org/content/119/4/e2115643118>

### We're making everything the same

The Anthropocene has seen a great homogenization of biomes across the globe, caused by naturalisation associated with human movement of plants in the last 500 years. This study used some large phylogenies and locality databases to identify shifts in plant distributions between the Holocene and Anthropocene epochs.

**Link to paper:** Daru *et al.* (2022) Nature Communications <https://www.nature.com/articles/s41467-021-27186-8>



**Above** Movement of plant species in the Anthropocene corrected for phylogenetic distance from Daru *et al.* 2022

## Can field botany be taught remotely?

The pandemic has meant new strategies are required for all components of teaching. In this paper, the authors present their experiences in teaching field botany, both fully online and as a hybrid approach.

**Link to paper:** Auffret et al. (2022) *Annals of Botany* PLANTS <https://academic.oup.com/aobpla/article/14/1/plab079/6480856>

**News article:** <https://www.botany.one/2022/02/can-field-botany-be-effectively-taught-as-a-distance-course/>

## PAFTOL Tree of Life viewer release

PAFTOL had arguably the loftiest of lofty goals in plant systematics, a genus-level phylogeny for all land plants using a few hundred nuclear genes. They have generated a massive dataset of over 9,000 species, which is an incredible effort, with help from the Australian systematics community (GAP provided over 500 samples). Explore the tree, read the paper, drink in the diversity.

**Link to paper:** Baker et al. (2022) *Systematic Biology*. <https://academic.oup.com/sysbio/article/71/2/301/6275244>

**Link to story:** <https://www.newscientist.com/article/2306608-huge-genetic-database-includes-over-9000-species-of-flowering-plants/>

**Big tree here:** <https://treeoflife.kew.org/>



**Above** One of the two native flowering plants in Antarctica, *Deschampsia antarctica*. Photo: Getty Images.

## The two vascular plants in Antarctica are having a great time

*Deschampsia antarctica* and *Colobanthus quitensis* are famously the only two native flowering plants on Antarctica, and long-term studies have found their growth rates are increasing. *Deschampsia* grew as much in the 10-year period as it had in the 50 years from 1960 to 2009, and *Colobanthus* has grown five times more over the same periods.

**Link to paper:** Cannone et al. (2022) *Current Biology*. <https://doi.org/10.1016/j.cub.2022.01.074>

**News article:** <https://www.newscientist.com/article/2308214-flower-growth-in-antarctica-is-accelerating-due-to-warming-climate/#:~:text=Flower%20growth%20in%20Antarctica%20is%20accelerating%20due%20to%20warming%20climate,-There%20are%20only&text=Scientists%20have%20already%20observed%20increased,change%20in%20the%20southern%20Antarctic>

# ASBS student and ECR register

In order to promote the connectivity and visibility of our students and early career researchers (ECRs) in ASBS, ASBS Newsletter publishes a student and ECR register. If you're a student or ECR and would like to opt-in to this register follow this link: <https://forms.gle/wxSzGA9F-pBTNXB6j8>. For any questions or to change your details, contact Lizzy at [editor.asbsnews@gmail.com](mailto:editor.asbsnews@gmail.com)

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## The newsletter

The ASBS newsletter keeps members informed of society events and news, and provides a platform for debate and discussion. The newsletter is published quarterly on the ASBS website and in print. Original articles, notes and letters (not exceeding ten published pages in length) are encouraged for submission by ASBS members.

*Have an article or an idea for the newsletter?*  
Send it to Lizzy at  
editor.asbsnews@gmail.com

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*Advertising* Advertising space is available for products or services of interest to ASBS members at the following rates (AUD):

Full page: \$200  
Half page: \$100  
Flyers: \$250

A 20% discount applies for regular advertisements. ASBS members are exempt from advertisement fees but not insertion costs for flyers (\$50). For advertising enquiries please contact the editor.

*Printing* Printed by Create Print & Design, Cairns.

## The society

The Australasian Systematic Botany Society is an incorporated association of over 300 people with professional or amateur interest in botany. The aim of the society is to promote the study of plant systematics.

Membership is open to all interested in plant systematics. Members are entitled to attend general and chapter meetings, and to receive the *ASBS Newsletter*. Any person may apply for membership by filling in a membership application form available at <http://www.asbs.org.au/membership.html>, and forwarding it to the Treasurer. Subscriptions become due on 1 January each year.

The ASBS annual membership subscription is AUD \$45, and a concessional rate of AUD \$25 is offered to full-time students, retirees and unemployed people. Payment may be by credit card or by cheque made out to Australasian Systematic Botany Society Inc., and remitted to the Treasurer. All changes of address should be sent directly to the Treasurer as well.

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