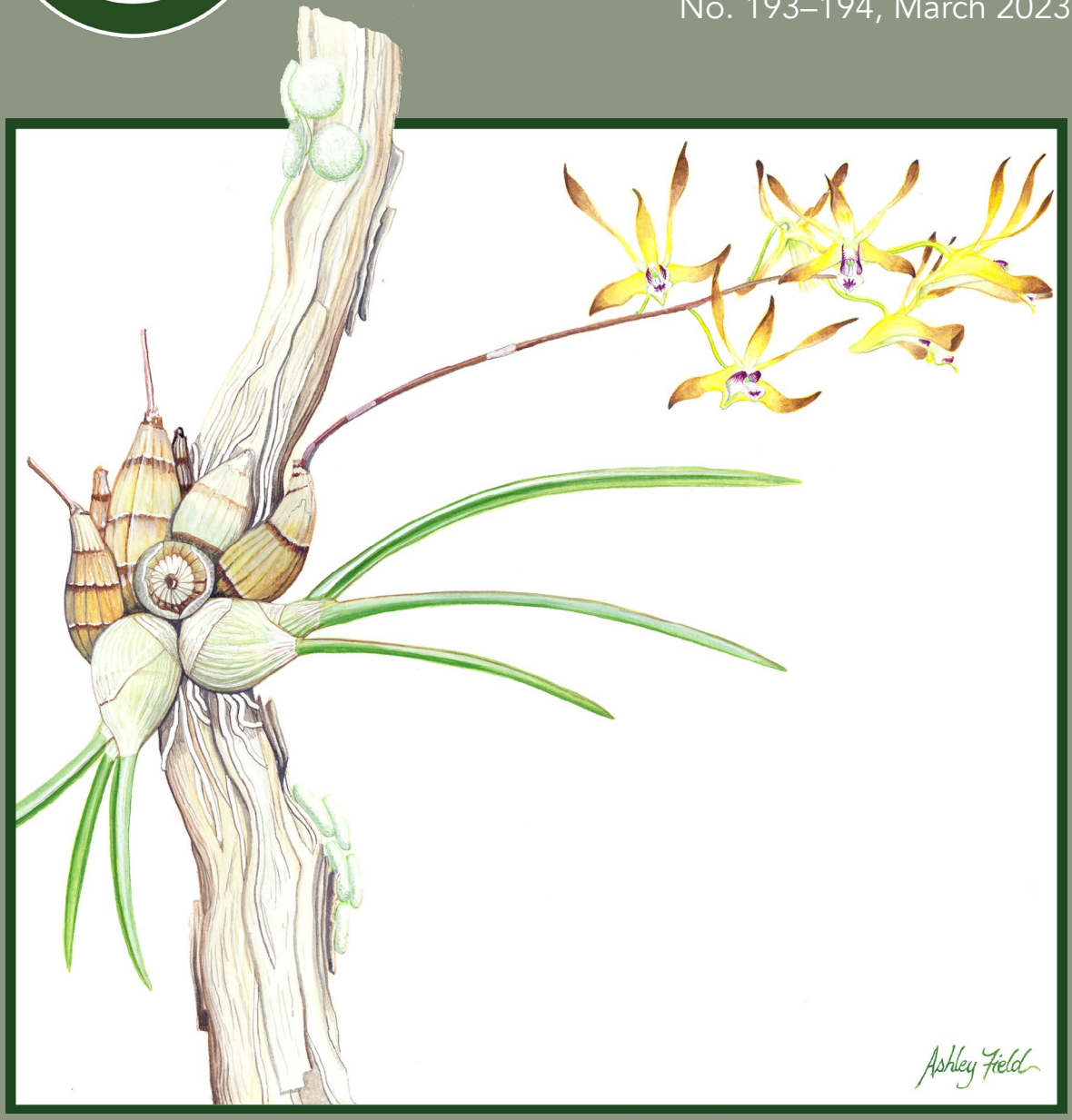
Newsletter

Australasian Systematic Botany Society

No. 193–194, March 2023



Previous issue No. 192 published:
9 Nov 2022 (digital), 9 Nov 2022 (print)

In this issue

From the President

Katharina Nargar ASBS President

This is going to be an exciting year marking the 50th anniversary year of our Society and I am already looking forward to our celebrations around this important milestone later this year. The 50th anniversary of the Society is a great occasion to reflect on the immense value of our ASBS community which grows and nurtures new talent, generously exchanges knowledge and know-how and which has fostered many life-long friendships. It is time to celebrate our achievements and successes and at the same time look to the challenges ahead and the opportunities for our community to continue to make a meaningful and impactful difference.

The plans for a joint conference with the Australian Biological Resources Study (ABRS), which also turns 50 this year, and the Society of Systematic Biology (SASB), are steadily shaping up to celebrate and showcase Australasian systematics and taxonomy jointly. The ASBS-ABRS-SABS conference will be held in Canberra from the 27th-29th of November at the Kambri Cultural Centre, Australian National University. Many thanks to our new Vice President, Mike Bayly, who generously offered to organise

Above Old and new Council and SERC representatives. Top row, L to R: Hervé Sauquet (outgoing Vice President), Mike Bayly (outgoing President, incoming Vice President), John Clarkson (Treasurer), James Clugston (SERC representative). Bottom row: Katharina Nargar (outgoing Councillor, incoming President), Lalita Simpson (incoming Councillor), Tim Collins (SERC representative), Kelly Sheppard (Councillor) and Heidi Meudt (Secretary).

the conference on behalf of our Society and who successfully negotiated the idea of a joint conference with ABRS and SASB.

I would like to take this opportunity to thank Mike for his past two terms as President, in which important new initiatives were brought underway, including the formation of the Society's first Student and Early Career Researcher (SERC) subcommittee and the establishment of the first PNG Chapter with Janet Gagul. I also want to extend my thanks to Hervé Sauquet, who served on Council since 2018 in various roles, including that of Vice President last year, and has stepped down from Council to focus on other endeavours. Thank you, Hervé, for your dedication and thoughtfulness and for transitioning Council's admin to the digital age through creating the first online archive of the Society. Many thanks to our Secretary, Heidi, for being Council's voice to membership and for keeping Council on track! And thank you, Kelly, for your creative spirit and persistence in transitioning our ASBS website to our new platform with more functionality. And last but not least, a big thank you to John for being the Society's corporate memory and for leading the update of the Society's Rules with such diligence. A heartfelt welcome to Lalita Simpson, post doc at the Australian Tropical Herbarium, as our incoming Councillor. Thank you, Lalita, for putting your hand up for this position.

The first ASBS Student and Early Career Researcher (SERC) Conference was held in at the Mt Annan Botanic Gardens in November and turned out to be a huge success. Many thanks to our SERC representatives, James Clugston, Helen Kennedy, and Tim Collins for organising and running the event, all participating students and ERCs for bringing the conference to life, and to the Australian Institute of Botanical Science and Royal Botanic Gardens and Domain Trust for supporting and hosting the conference.

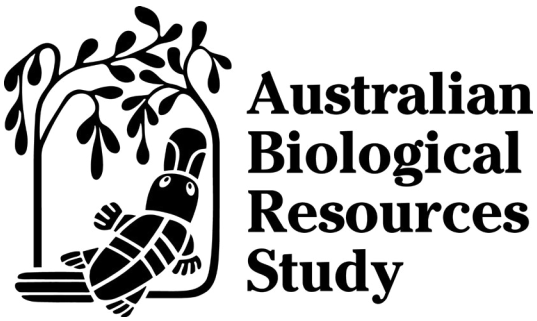
Congratulations are in order for two long-standing members of our ASBS community, Dr. Betsy Jackes, former Adjunct Professor at James Cook University, and John Thomson, Honorary Research Associate at the National Herbarium of New South Wales and Professor Emeritus at the University of Sydney herbarium. Betsy and John were awarded Member of the Order of Australia in the 2023 Honours for their significant service to botany, conservation, and tertiary education. Congratulations, Betsy and John, well deserved!

It is my great pleasure to present the new cover image for the newsletter, as it is one of the Societies' traditions that their incoming President has the privilege to choose a new image for the *ASBS Newsletter* cover. The image shows one of the many beautiful epiphytes of the tropical Australian flora, *Dendrobium canaliculatum* R.Br., and was painted by my ATH colleague Ashley Field. I chose this image because it reminds me of the connections that plants foster between humans and the joy of sharing plant knowledge. It reminds me of the time I started my postdoc position at the ATH over a decade ago, coming from another continent with little knowledge of the Australian orchid flora, and how my colleagues, collaborators and other plant enthusiasts took me under their wings and shared their knowledge with me so generously. Thank you all.

Best,
Katharina

Australian Biological Resources Study Report

ABRS Team *abrs@dcceew.gov.au*



Flora of Australia (FoA)

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

Recent Flora treatments include Amaranthaceae p.p., *Areca* (Arecaceae) - provisional, Bignoniaceae p.p. (introduced genera), *Buddleja* (Scrophulariaceae), Cephalotaceae, Corynocarpaceae, *Daphne* (Thymelaeaceae), *Dillenia* (Dilleniaceae), Euphorbiaceae p.p., *Glossocarya* (Lamiaceae), *Hibiscus* (Malvaceae), *Hovea* (Fabaceae), *Indigofera* (Fabaceae) p.p., *Lagunaria* (Malvaceae), Myrtaceae tribe Chamelaucieae p.p., Orchidaceae, *Pentas* (Rubiaceae), Phyllanthaceae p.p., *Pisum* (Fabaceae), Plumbaginaceae, *Psidium* (Myrtaceae), Picrodendraceae p.p., *Quercus* (Fagaceae), and Rhamnaceae p.p.. Major revisions have occurred in *Acer* (Sapindaceae), *Geniostoma* (Loganiaceae), *Korthalsella* (Santalaceae), Lycopodiaceae (tentative updates), *Murraya* (Rutaceae), *Neisosperma* (Apocynaceae), *Prosopis* (Fabaceae), *Romulea* (Iridaceae), *Zostera* (Zosteraceae); also, updates happening in ferns, aquatic plants and eucalypts, and the completion of adding the endemic flora of Norfolk and Lord Howe Islands. Many thanks to all our Flora contributors.

Bryophytes of Australia (BoA)

https://profiles.ala.org.au/opus/boa

A number of treatments were published over the last year, including profiles in the families Amphidiaceae, Dicranaceae, Hypnodendraceae, Pylaisiadelphaceae, Rhabdoweisiaceae and Sematophyllaceae. A special thank you to Helen Ramsay for working with ABRS on a number of recent contributions.

Flora contributions

Please contact the ABRS Team (abrs@dcceew.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.

Staffing

In February 2023 ABRS welcomed new team member Helen Kennedy as a Flora Officer. Many readers will already know Helen through her PhD research in *Melichrus* (Ericaceae: Epacridoideae) at the University of New England and her role as an ASBS Student and Early Career Researcher representative.

Phylogenomics of two Australian plant genera: *Isopogon* and *Petrophile* (Proteaceae)

Francis Nge *University of Adelaide; Institute of Research for Development, France*

Isopogon Knight and *Petrophile* Knight are species-rich, charismatic Australian plant genera (Proteaceae) that are found across southern temperate Australia (Fig. 1). Both *Isopogon* and *Petrophile* have the majority of their species diversity in southwest Western Australia (SWA), with 79% (30/38) and 88% (58/66) of species confined to SWA respectively. The Australian genera *Isopogon, Petrophile, Franklandia*, and *Adenanthos* comprise a clade along with several South African genera in the subfamily Proteoideae, and is sister to *Protea* (Sauquet *et al.* 2009). *Isopogon* is sister to *Adenanthos* and *Franklandia*, and *Petrophile* is sister to *Franklandia* and *Aulax* based on one nuclear (ITS) and seven plastid markers from Sauquet *et al.* (2009). While phylogenetic relationships of these genera are documented and well resolved, species-level phylogenies are lacking, with the exception of *Adenanthos* (Nge *et al.* 2021). Densely sampled phylogenies of *Isopogon* and *Petrophile* would allow us to not only better understand phylogenetic relationships of species within these two species-rich Australian genera, but also advance our understanding on the evolution and biogeography of the Australian flora more broadly. With the support from the Hansjörg Eichler Research Fund, I sought to construct a densely sampled phylogeny for these two genera (*Isopogon* and *Petrophile*), as part of my ongoing work on Proteaceae and understanding the diversification of the Australian temperate flora more generally.

This is a brief update on where things are at for this project. Sequencing has already been completed using the Angiosperm353 (Johnson *et al.* 2019) as well as OzBaits kits (Waycott *et al*. 2021), and subsequent analyses are currently ongoing. I used the HybPiper v1.2 pipeline (Johnson *et al.* 2016) to extract coding and non-coding nuclear loci for phylogenetic reconstructions. I present here a preliminary ASTRAL tree showing the phylogenetic relationships of species across the two genera (Fig. 2). You can see that there is quite good support for the topology, except for the backbone of the SWA *Isopogon* clade. It is also interesting to note that the terminal branch lengths are generally longer in *Petrophile* compared to *Isopogon*. Both genera are confirmed to be monophyletic, though interestingly, the generic relationships based on nuclear data from our study and others (Tree of Life, Kew) show that *Franklandia* is not sister to *Isopogon*. This finding is incongruent with those from previous studies such as Sauquet *et al.* (2009) and others, which had topologies based on primarily plastid data. In both genera, the eastern Australian lineages fall into clades that are separate to the SWA lineages (Fig. 2).

Analyses looking into the biogeographic history and evolution of these two genera are still ongoing. But I can give a teaser here on what we are currently doing with some interesting results. From dating analyses (using BEAST), it appears that *Isopogon* had a relatively recent radiation in the Miocene (c. 15 Ma) similar to *Hakea* (Cardillo *et al.* 2017), in contrast to other species-rich Proteaceae genera in Australia that had much older radiations of their extant diversity e.g., *Banksia* (c. 170 species, crown node of 42 Ma; Cardillo and Pratt 2013). The crown of *Petrophile* is estimated at c. 23.8 Ma based on our BEAST analyses (results not shown). Both genera have stem ages that are older than the Eocene–Oligocene boundary (c. 33 Ma) and crown ages that are younger, suggesting extinction and subsequent recent diversification after the extinction pulse event (Nge *et al.* 2020). I am looking at their biogeography at the moment, following on from that I will conduct some analyses to look at their diversification across different regions of Australia (e.g. SWA vs eastern Australia, and within

Figure 1 Representative floral and vegetative diversity of *Petrophile* and *Isopogon* (left to right from top): *Petrophile squamata, Petrophile teretifolia, Petrophile prostrata*, P*etrophile diversifolia, Petrophile fastigiata, Petrophile recurva* (Photo: Kevin Thiele), *Isopogon dubius* (Photo: Kevin Thiele), *Isopogon asper* (Photo: Kevin Thiele), *Isopogon pruinosus* subsp. *glabellus* (Photo: Kevin Thiele), *Isopogon teretifolius* subsp. *teretifolius* (Photo: Kevin Thiele), I*sopogon formosus, Isopogon sphaerocephalus* subsp. *Iesueurensis, Isopogon divergens, Isopogon ceratophyllus, Isopogon anemifolius, Isopogon baxteri*. Photos by Francis Nge unless specified.

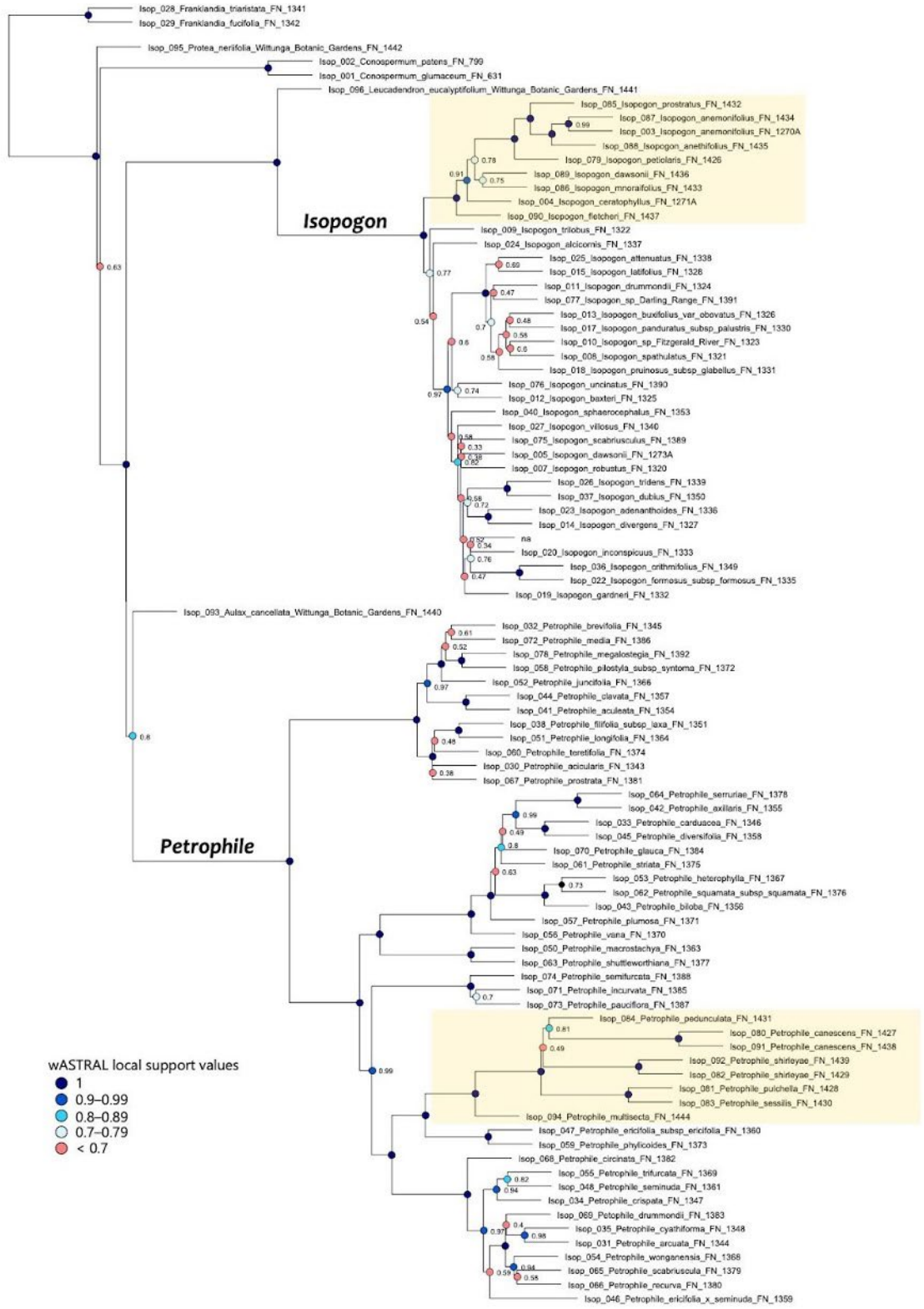


Figure 2 ASTRAL phylogeny of *Isopogon* and *Petrophile* based on 300+ nuclear loci from the Angio353 bait kit.

SWA). In addition to these analyses, I am working with Hans Lambers and his team at UWA and collaborators in NSW at collecting leaf traits relating to phosphorus use and acquisition. We are looking at how these traits evolve across deep timescales, by mapping traits onto our dated phylogeny as has been done previously in our other study looking at the whole of Proteaceae, at the genus level (Hayes *et al*. 2021). Another cool component that is in the works relates to fire-adaptive traits (potentially controversial though, see Bradshaw *et al*. 2011), namely resprouters vs reseeders. I have been in contact with the lovely people from the *Isopogon* and *Petrophile* Study Group (shout out to Catriona and Phill) whom have been providing observations of these traits for a wide range of *Petrophile* and *Isopogon* species. Interestingly, eastern Australian species of both genera seem to be primarily resprouters whereas there are more reseeder species compared to resprouters in SWA. I suspect this might have something to do with differences in fire frequency and intensity across these regions. Whether these differences in traits is a general feature across the flora is worth further investigation (and let me know if you think this is the case with your specific study groups!).

I hope to provide further updates in the form of a publication soon on this topic, and thanks again to the ASBS community for the Eichler grant which had made this work possible. Working on this project here and there while I carry out my postdoc in France at the moment has served as an important connection to home and a reminder of the Australian community and diverse flora that I miss dearly.

Acknowledgements

I would like to thank my PhD supervisors Michelle Waycott, Ed Biffin, and Kevin Thiele for their support and also the institutional support from the University of Adelaide which provided facilities for the lab work. Thanks goes to Kor for assistance in the lab. I also acknowledge the support from Australia herbaria that allowed for access to their collections and provided specimens on loan (BRI, NSW, CANB, AD, PERTH). I thank colleagues from Hans Lamber's lab that have helped collect and processed the leaf samples for the physiological component of this study, namely Li Yan, Patty Hayes, Kosala Ranathunge, Xue Meng Zhou and Sherry Xi Wang, among others.

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An update for 'Delineating the diversity of Dilleniaceae'

Tim Hammer University of Adelaide (AU)

In 2020, I was awarded an Australian Biological Resources Study (ABRS) Post-doctoral Fellowship to work on my project 'Delineating the diversity of Dilleniaceae: a revisionary synthesis of *Hibbertia* Andrews for the *Flora of Australia* and investigations into its taxonomy, systematics, evolution and biogeography'. The project is supervised by Michelle Waycott (AD, AU) and in collaboration with Kevin Thiele (PERTH, CANB), Hellmut Toelken (AD), Ed Biffin (AD), Kor-jent van Dijk (AU) and John Conran (AU). The primary goals of our project are to 1) complete the *Flora of Australia* online treatments for all Dilleniaceae (including all accepted *Hibbertia* species), 2) complete an Australia-wide key for *Hibbertia*, and 3) generate a near species-complete phylogeny of *Hibbertia* using hybrid capture DNA sequencing methods. The resulting phylogeny will be used in character evolution and biogeographic studies. A significant body of primary data collection was still to be completed on this genus, and I sought additional funding to help cover external expenses, i.e. genomic sequencing, and I was very honoured to have been awarded the ASBS Marlies Eichler Postdoctoral Fellowship in 2021 to help fund this aspect of the project.

Hibbertia is an interesting genus with considerable morphological and taxonomic diversity. However, due to the superficial similarity of flowers across the genus, most of which have five yellow petals, trait diversity in *Hibbertia* has been overlooked. Australian species predominate, 300 species currently accepted (APC 2023), where only a couple of tropical Australian species have distributions that extend to New Guinea. An additional 24 species are native to New Caledonia (one also in Fiji), one species is endemic to Madagascar. Besides *Hibbertia*, there are only two other genera of Dilleniaceae in Australia, *Dillenia* L. and *Tetracera* L., with one and two native species respectively (APC 2023).

Nearly half of all Australian *Hibbertia* species have been described by three prolific taxonomists: Hellmut Toelken (AD), Judy Wheeler (PERTH) and Kevin Thiele (PERTH, CANB). Toelken and Wheeler informally partitioned the taxonomic work between species groups recognised for southwestern Australia, which was the focus of Wheeler's work between 1984 and 2004 (e.g. Wheeler 1984, 2004), and eastern and northern Australia, which is what Toelken has concentrated on since 1995 and continues to work on now in his retirement (e.g. Toelken 1995, 2013). Since Wheeler's retirement, Thiele has subsequently undertaken revising species groups in southwestern Australia. (e.g. Thiele 2009, 2019). A few recent species papers have also been published by other researchers (e.g. Jackes 2018, McDougall *et al*. 2018, Wapstra 2021). Since commencing this project, I have begun describing additional new species in the genus (e.g. Hammer 2022), work that has included collaboration with both Thiele and Toelken (e.g. Hammer & Thiele 2022, Hammer et al. 2022). In addition, both Toelken and Thiele have ongoing revisions, which will result in approximately 200 more species being added to the genus. *Hibbertia* will then comprise over 500 species and be one of the largest plant genera in Australia.

In addition to the identification, circumscription and publication of new species, since the commencement of my ABRS post-doc (Nov. 2020), I have been working on the translating all available taxonomic knowledge to a comprehensive *Flora of Australia* treatment for *Hibbertia*. Indeed, this has been the focus of most of my time and included completing treatments to species that could be finalised rapidly. To date, all generic treatments for the Dilleniaceae have been completed and published on the *Flora of Australia* profiles platform, including all taxa in *Dillenia* and *Tetracera*. Flora treatments have been written for 210 *Hibbertia* species and 50 in-

fraspecific taxa which are pending publication on the profiles platform following editorial review. Therefore, of the c. 300 currently accepted species, two-thirds are complete. The remaining one-third of species are mostly from species groups that will be part of larger taxonomic revisions, with many new species under revision and as yet to be completely described. It is planned that the *Flora of Australia* treatments for species in these groups will be finalised alongside publication of these forthcoming taxonomic revisions.

A significant body of work has been the curation of specimens, of which there are a great many, both as part of the collection at AD (databased and un-databased) and on loan from every major Australian herbarium over a long period of time, for revisions being undertaken by Toelken. A significant additional task has been associated with finding, sorting, organising and labelling of these specimens for inclusion in the Flora treatments or to have their DNA sampled. My technical workflow now has been such that as I have finished preparing *Flora of Australia* content for a group, I curate the specimens (e.g. updating determinations based on Flora treatments) from the overall *Hibbertia* collection currently at AD and get loans ready to ship back to their home institutions with AD collections management staff. This workflow will continue as the revisions for the remaining species groups are completed.

Complementing the development of Flora treatments and a major output for the project is the development of a comprehensive key to all *Hibbertia* taxa in Australia. I have prepared a key for currently circumscribed taxa, written for KeyBase with Thiele. The key is publicly available for use, but it should be noted that the key is being continuously refined and updated as new species are described and taxonomic revisions are complete. It is expected that there will be regular updates to the key going forward and feedback on the effectiveness of the national *Hibbertia* key is very much appreciated. This is a significant practical resource for the identification of *Hibbertia* species nationally.

The molecular phylogenetic diversity of this genus has been of considerable interest, especially given the diversity of the genus throughout Australia. Prior to this study, a limited phylogeny for *Hibbertia* was available as part of James Horn's PhD thesis (Horn 2005), of which he published only as subset of his data (Horn 2009). Horn (2009) analysed direct PCR single locus (Sanger) DNA sequences to construct his phylogeny for Dilleniaceae, including *Hibbertia*. His study identified paraphyly of *Hibbertia* with respect to the genera *Adrastaea* DC. and *Pachynema* R.Br. ex DC., which were subsequently synonymised under *Hibbertia*. While an important step, the phylogeny was based on just four chloroplast markers and lacked substantial sampling within clades, many of which were poorly resolved (Horn 2005).

Our current project aims to expand on this by producing a near-complete phylogeny for *Hibbertia* using hybrid capture DNA sequencing methods and two bait kits, the widely used Angiosperm353 kit and the baits developed by the Waycott Lab, Ozbaits (Waycott *et al*. 2021). At the end of 2021, a plate of 96 samples of *Hibbertia* were included in the Phylogenomics Phase 2 of the Genomics for Australian Plants (GAP) initiative, which were sequenced using both bait sets. The samples sequenced as part of GAP were taxa that represent the main morphological species groups (in some cases multiple taxa per group), with the primary goal of providing a backbone for the generic phylogeny. Utilising this multilocus genomic data I have explored different methods for assembling and analysing the sequences for comparative purposes, especially in relation to the overall robustness of the results. The phylogenetic analyses have produced a topology that is largely congruent with the major clades found by Horn (2009) but resolve higher resolution for the fine-scale relationships and revealed new relationships between taxa not previously sequenced. The results of the GAP part of the project are currently being prepared for publication.

While the samples included as part of GAP were selected to provide a backbone for the

genus, I am currently focused on filling in the phylogeny with as many species and infraspecific taxa as possible, including putative taxa. The funding that I have received from the Marlies Eichler Postdoctoral Fellowship has helped to fund the lab work and sequencing of these additional taxa. In 2022, I sequenced an additional 192 samples using the bait sets and completed the subsequent bioinformatic analyses. The analysis of these additional taxa included has yielded new insights into the relationships between and within morphological species groups, some of which are clearly monophyletic, while others are clearly not. There have also been surprising relationships that have led to interesting biogeographic questions, such as species that occur in eastern Queensland that are clearly nested in clades that are otherwise made up of species endemic to southwestern Australia.

In 2023 I have accumulated the resources to sequence an additional 398 samples, which will enable us to have a near-complete phylogeny for the 500+ *Hibbertia* species (current and putative). In this final year of the ABRS postdoctoral fellowship, I will be focused on completing the lab work, bioinformatics, and starting to write up the paper that will present this phylogeny of *Hibbertia*. This will enable me to finish generating and analysing the phylogenomics data while forthcoming revisions by Toelken and Thiele are completed. With such a large genus, not all the planned taxonomic revisions will be published by the end of the year, which will practically mean that work on *Flora of Australia* and the identification key will continue after the life of my ABRS Postdoctoral Fellowship. Follow-up work once additional revisions have been published will include incorporating new taxa into keys and the *Flora of Australia*. However, I have achieved the targets established in setting up the project, and through the support of the ASBS Marlies Eichler Postdoctoral Fellowship I have been able to extend phylogenomic analysis to include the total diversity of *Hibbertia* in Australia.

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2022 Student and Early Career Researcher Conference Report

14-17 November 2022, Mount Annan NSW

Tim Collins ASBS SECR Representative

In partnership with the Australian Institute of Botanical Science and Royal Botanic Gardens and Domain Trust (AIBS RGBDT) the ASBS Student and Early Career Researcher subcommittee (SECR) held a conference at the Australian Botanic Garden (ABG), Mount Annan. Conference registration was available at no cost thanks to the generous support of the Australian Institute of Botanical Science and Royal Botanic Gardens and Domain Trust and our society (ASBS). The conference was held in a hybrid manner, with both in-person and virtual participation, over the 14th to the 17th of November, starting with a preconference social mixer in Woolloomooloo. A shuttle bus was available to bring conference attendees from Sydney's inner-west to Mount Annan.

On day one, conference attendees were treated to a tour of the impressive new National Herbarium of NSW and a behind the scenes look at the nursery facilities of the Australian Botanic Garden, Mount Annan. Presentations and speed talks were grouped into four themes: 1. Population Genetics and Ethnobotany; 2. Ecology and Diversity; 3. Genomics; 4. Taxonomy. Thirty-three students and early career researchers took the opportunity to talk about their research directly to their peers in what was a more intimate forum than a regular ASBS confer-

Above Participants of the 2022 ASBS Student and Early Career Researcher Conference after enjoying an evening barbeque at the new National Herbarium of NSW

Above Presenter Harvey Orel presented his preliminary results on subfamily Zanthoxyloideae (Rutaceae).

ence. Congratulations go to Patricia Chan (Delving into the diversification of *Darwinia* (Myrtaceae): Phylogenomics, historical biogeography, pollination ecology, and gene flow of the southwestern Australian clade) and Thomas Mesaglio (Say 'cheese tree'! Photographs as an essential biodiversity resource: drivers of gaps in the vascular plant photographic record) for their prize-winning speed talk and presentation respectively. There were four keynote speakers over the course of the program and the conference culminated in Nancy Burbidge Medallist Barbara Rye's Nancy Burbidge Lecture. The ASBS Annual General Meeting was held directly after the conference.

It was fantastic to be able to meet in person with ASBS members again after the restrictions imposed due to the COVID-19 pandemic. The generosity of the venue hosts and the ASBS, combined with ABRS travel grants, ensured that students and early career researchers were freed from most costs associated with attending a conference.

The SECR subcommittee of James Clugston, Helen Kennedy and I were lucky to have the technical assistance of Julian Herting as there were some unforeseen technical hurdles in delivering a 'hybrid' conference. Overall it was a massive learning experience in organising an event. James did a sterling job as the 'organiser-in-chief'. The SECR subcommittee have used this experience to identify and document how we might avoid or overcome the challenges of organising an event like a conference and this will be a great resource for the future. A couple of points that a future event would need to address include the technical points of a hybrid event such as a webcam to show the online audience the speaker and the room, and we could have publicised the event more effectively to the broader ASBS membership so that they could join online.

The SECR subcommittee is hoping to organise and facilitate a workshop and social events for students and early career researchers at the ASBS conference later this year.

Australasian Systematic Botany Society Inc.

MINUTES

44th Annual General Meeting

In person meeting and Zoom videoconference held from the National Herbarium of New South Wales, Mt Annan at 14:00 Australian Eastern Daylight Time, 17 November 2021.

Council present: Mike Bayly (President), Heidi Meudt (Secretary), John Clarkson (Treasurer), Hervé Sauquet (Vice President), Katharina Nargar (Councillor), Kelly Shepherd (Councillor).

A total of 61 participants attended the meeting.

Meeting opened at 13.03 AEDT [with 20 in person participants and 41 online participants].

Welcome and apologies: MB welcomed everyone to the 44th AGM of our Society. Apologies: Kirsten Cowley. MB thanked current council members, SECR subcommittee members (including previous member Maren Preuss), and organizers of the recent SECR conference (James Clugston, Helen Kennedy, Tim Collins). MB is stepping down as ASBS President.

Minutes of the previous AGM were published in *ASBS Newsletter* 189:4-5. No objections. The minutes were approved as reported in the newsletter.

Reports:

- President's report (presented by Mike Bayly): see p. 15 of this Newsletter.
- Treasurer's report (presented by John Clarkson): see p. 19 of this Newsletter. No questions were asked. John Clarkson moved, Karen Wilson seconded.
- Facebook report (presented by Mike Bayly): see p. 18 of this Newsletter.
- Website report (compiled by Anna Monro, presented by Mike Bayly)
- Research Committee report (pre sented by Hervé Sauquet): see p. 16 of this Newsletter.
- Student/ECR Subcommittee report (presented by Tim Collins)

Update on proposed changes to the Rules: JC outlined the 15 proposed changes to the Society's rules proposed by Council. No feedback was received to proposed rules changes based on Newsletter articles. The 15 proposals can be classified into six groups: 1) meeting electronically; 2) logo design; 3) gender pronouns; 4) meeting notice times; 5) amendments to the Act; 6) registration as a charity. Two motions were presented and carried: Motion 1: Agree that we will address rules in six groups (not individually), and Motion 2: Agree that we will proceed to a ballot. Motion 1 carried with 32 online and 19 in person voting YES (no one voted NO) and Motion 2 carried with 32 online and 19 in person voting YES (no one voted NO). Therefore, the ballot paper will be sent out within 4 weeks (by 15 Dec 2022). Ballots must be returned within 4-6 weeks after distribution (Jan 2022). Votes will be counted on 1 Feb 2022. See pp. XX-YY of this newsletter for all details.

Update on next ASBS Conference: The next ASBS conference will be at the University of Melbourne and held during the week of 25 Sept 2023, and MB (Uni Melbourne) and David Cantrill (RBG) will help organise. The conference will be held in person but talks will

also be streamed where possible.

Update on 50th anniversary of ASBS: We will be celebrating the Society's 50th anniversary in 2023. We may have a range of celebrations over the course of the year as well as at the conference. Other ideas include possible joint events with ABRS, a special issue of *Aust. Syst. Bot.* with CSIRO Publishing, and special invited conference speakers. Members should contact John Clarkson or Katharina Nargar if they are keen to volunteer or have ideas.

Update on new ASBS website and logo: KS reported that Council is working behind the scenes to update and create new content for the website. We are still looking for images from membership. This is an opportunity to rebrand because the logo is out of date and does not reflect the Australasian membership. If new rule changes are ratified, Council will begin the logo design process, to start on 1 Feb 2023, and culminating in a new logo and website in mid-2023 in time to support the Melbourne conference.

Life Membership Award: MB reported on our Life Membership. ASBS can have ten Life Members at any one moment. Life membership for Barbara Briggs has been awarded, who thanked Council and our vibrant Society for putting her in this prestigious group of colleagues.

Nancy T. Burbidge Medal. MB reported that the 2023 recipient of the Nancy T. Burbidge Medal is Barbara Rye (PERTH), who received the medal yesterday from John Huisman in Perth, and gave a pre-recorded lecture to the conference.

General business: no general business was discussed.

New ASBS Council: Mike Bayly presented the new ASBS Council for 2021-2022. Each position was filled by a single nomination. Katharina Nargar is moving from Councillor to President, Hervé Sauquet is leaving Council, Mike Bayly is moving from President to Vice-President, and we welcome Lalita Simpson onto the Council as Councillor. All others remain in the same positions as last year:

Katharina Nargar – President
Mike Bayly – Vice-President
John Clarkson – Treasurer
Heidi Meudt – Secretary
Lalita Simpson – Councillor
Kelly Shepherd – Councillor

Meeting closed at 15.10 AEDT [with 61 participants].

Minutes: Heidi Meudt (Secretary).

President's Report 2022

Mike Bayly ASBS President

This is my second and final AGM report to ASBS membership as President of the Society.

Thank you to a great Council

I'd like to start, as I did last year, by acknowledging that it has been fantastic to work with the current council, who are a great team doing a sterling job on behalf of the society. They have each made a substantial contribution to running of the society and I'd like to thank them individually as follows.

Heidi Meudt (Secretary): for doing a great job in organising our regular meetings, agendas, minutes, and handling most email communication with members.

Hervé Sauquet (Vice President): for constantly being full of good ideas and for managing the grants process and the Research Committee (including a major change in composition this year), which are central parts of our business.

John Clarkson (Treasurer): not only doing the most demanding job on council, managing our accounts and membership records, but also finding time to work on proposed rule changes that will benefit the society, and thinking ahead to plans for our 50th anniversary year in 2023.

Katharina Nargar (Councillor): who has been full of sage advice this year.

Kelly Shepherd (Councillor): who has led the charge on the large undertaking of moving toward a new website for the society (details to come).

Great SECR conference!

As I've said previously, the Student and Early Career (SECR) subcommittee has invigorated many council and society activities. The highlight this year was the fantastic SECR conference at the Australian Botanic Garden, Mt Annan, during which this AGM was held. As reported elsewhere in this Newsletter, there was a great program of talks and social events, and great participation both in-person and online, as a result of thoughtful organisation from the subcommittee. I'd especially like to thank James Clugston, Helen Kennedy and Tim Collins for all their hard work in making it happen. The society is also very grateful to the Australian Institute of Botanical Science, our partners in the conference, who provided financial support, great facilities and staff time to run the meeting, and with no registration costs for participants.

Newsletter

The high standard of the Newsletter has continued this year. I'd like to thank the editorial team of Lizzy Joyce, Shelley, Todd McLay and John Clarkson for their ongoing efforts. The task of sourcing content, corresponding with contributors and managing the layout and distribution is substantial. The team could always do with additional support and, if you are interested in helping in future, you can always talk to council or the current editors.

Student travel grants

With support from ABRS, we offered two rounds of student travel grants this year, including support for students attending the SECR conference in November. We still have some unspent funds from the original grant provided to us by ABRS and we plan to offer another round of grants soon. We will notify members by email when applications are open.

Conference in 2023

[At the time of the AGM, I announced/reiterated plans for holding our 50th anniversary conference in Melbourne in September 2023. Between that meeting and publication of this Newsletter, plans have shifted substantially and the conference will now be held in Canberra in November 2023 – see details elsewhere in the Newsletter.]

2023 ASBS Council

After our annual call for nominations for council positions we received just a single nomination for each position, so we did not need to run elections. The council will, after this AGM, will include Katharina Nargar as President, Mike Bayly (me) as Vice President, Heidi Meudt continuing as Secretary, John Clarkson continuing as Treasurer, Kelly Shepherd continuing as Councillor and Lalita Simpson newly joining as a Councillor. That means we are saying farewell Hervé Sauquet, who has been on council since 2018, variously as councillor, Secretary and Vice President. Hervé has been an enthusiastic contributor to council and we are sad to see him go, but we are sure he'll make very good use of all the spare time he'll now have!!

I look forward to continuing to work with the (partly) new council and maintaining momentum on some of the initiatives already underway.

Vice President's Report 2022

Hervé Sauquet *ASBS Vice President*

Grants and Reporting

This was my first year as ASBS Vice President and *ex officio* Chair of the ASBS Research Committee. Unfortunately, this was also my last year serving on the ASBS Council, as wisdom convinced me to step down due to new commitments with my current role.

Following up on the efforts of our previous Vice President, Heidi Meudt, part of my role has been to ensure that due reports are published in our Newsletter. Three Hansjörg Eichler Scientific Research Fund and

one Marlies Eichler Postdoctoral Fellowship reports were published this year in the June 2022 issue (191) of the *ASBS Newsletter*:

Aiden Webb, The University of Melbourne: "Phylogenetic inference of Australian *Caesia* and *Corynotheca* (Asphodelaceae subf. Hemerocallidoideae)"

Duncan Nicol, The University of Otago: "Field sampling for a phylogeny of the subtribe Celmisiinae (Asteraceae)"

Sophie Newmarch, Massey University Manawatu: "The origin and diversification of *Libertia* (Iridaceae)"

Trevor Wilson, ABRS Fellow, Australian Institute of Botanical Science, Royal Botanic Gardens and Domain Trust, Sydney: "Progress report on the systematics of Australian Ajugoideae"

In collaboration with the rest of the ASBS Council, several updates to the ASBS Research Fund webpages were undertaken, including a difficult but necessary clarification on the geographic scope of eligibility criteria.

ASBS Research Committee

As outlined in the June 2022 issue (191) of the ASBS Newsletter, the ASBS Research Committee was renewed over the last year with five new members and three previous members stepping down. At the time of our AGM, the ASBS Research Committee was as follows:

Hervé Sauquet (Chair *ex officio*), Royal Botanic Gardens and Domain Trust, Sydney, Australia

Benjamin Anderson, Department of Biodiversity, Conservation and Attractions, Perth, Australia

Janet Gagul, University of Papua New Guinea, Port Moresby, Papua New Guinea

Peter Heenan, Manaaki Whenua – Landcare Research, Lincoln, New Zealand

Murray Henwood, University of Sydney, Australia

Sarah Mathews, Louisiana State University, Baton Rouge, USA

Jennifer Tate, Massey University, Palmerston North, New Zealand

On behalf of Council and the Society, I would like to thank all members of the Research Committee for their service and all the time taken reviewing the grant applications and formulating constructive comments to support the applicants.

Hansjörg Eichler Scientific Research Fund

As every year, there were two rounds of Hansjörg Eichler Scientific Research Fund applications in the past year, targeted primarily at students, recent graduates, newly-established botanists and non-salaried researchers with a maximum of $5000 per project. Both rounds were particularly competitive, with six and four high-quality applications received in the March and September rounds, respectively.

The two projects funded in the March 2022 round were announced in the June 2022 issue (191) of the *ASBS Newsletter* as follows:

Grace Boxshall, PhD student, University of Melbourne, for the project: "The application of diversity arrays technology (DArT) for species complex resolution in *Agaricus*". Supervisors: Dr Joanne Birch and Dr Teresa Lebel

Paulo Baleeiro, PhD student, University of Queensland, for the project: "Systematics of *Eriocaulon* L. in Australia: Phylogenomics and Population Genetics". Supervisors: Dr Roderick Fensham, Dr Lyn Cook, Dr Richard Jobson

The two successful applicants for the September 2022 round are:

Rachel Atkins, PhD student, University of

Adelaide, for the project: "The taphonomy and reconstruction of palaeovegetation and palaeoecosystems around Robertson Cave, Naracoorte, South Australia". Supervisors: Prof. R.S. Hill, Dr S.E.M. Munroe, Dr K.E. Hill

Ryan O'Donnell, PhD student, Australian National University, for the project: "An integrative taxonomic study of the *Pterostylis macrosepala* (D.L.Jones) G.N.Backh. complex (Orchidaceae; Pterostylidinae)". Supervisors: Prof. Celeste Linde, Prof. Rod Peakall, Dr Ryan Phillips

Marlies Eichler Postdoctoral Fellowship

No applications were received this year (July 2022) round for the Marlies Eichler Postdoctoral Fellowship, which provides a top-up fund of $10,000 per year for two years to ongoing postdoctoral Early-Career Researchers.

On a final note, from my observations as ASBS Vice President and *ex officio* Chair of the ASBS Research Committee over the past year, I would encourage all eligible members in need of additional funds to support their research to never hesitate to apply for these two attractive schemes. As with all grants, there is always a dose of chance, depending on who else applies, but I believe the success rate is unusually high compared with similar grants awarded by other comparable societies worldwide, such as the IAPT, ASPT, or SSB. I would also encourage all applicants to read guidelines carefully (key information is often omitted) and be both specific and realistic in what they aim to achieve with these grants. Lastly, and again as with all grants (and most things in our scientific careers), rejection need not be a negative experience. Unsuccessful applicants in one round are always encouraged to embrace critical comments from the reviewers, revise, and try their chance again in the next round!

I will now leave these responsibilities in the highly skilled hands of our new Vice President, Mike Bayly, and wish him and the Research Committee all the best luck in running these grants.

ASBS Facebook Report

Mike Bayly ASBS Facebook page administrator

The ASBS Facebook group, now about nine and half years old, has grown from 1,554 members in October 2021 to 1,727 members in November 2022. The group is "public", which means anyone can see the group, its members and posts, but only people in the group can post to the page.

There were 131 posts to the group in the year from 16 Nov 2021, soliciting 1686 'reactions' and 123 comments from group members. We thank all regular contributors for keeping the group lively. Some particularly active members this year were Karen Wilson, Tanya Scharaschkin, Marco Duretto and Jeremy Bruhl.

With changes to Facebook rules in 2022, membership to the group is now totally unvetted. Previously Mike Bayly and Todd McLay vetted all membership requests, to check that all requests were from 'real' people with some interest in botany. As a result of the rule changes, we had a minor upsurge in spammers joining the group and posting irrelevant content. We try to be quick to remove the most egregious or irrelevant posts and a appreciate the help of members who report problematic content to us. Jim Croft and Peter Wilson have been es-

pecially quick and helpful in this regard. No doubt we will continue to receive unsolicited and inappropriate content, so please flag anything you notice that we should review/remove.

Despite many promises, we still haven't revamped the tired cover image for the group …. but we will … we promise!

The Facebook group is a great way for the dispersed members of our society to keep in touch and discuss our common interests. If you are on Facebook and haven't yet joined our group, you should!

Treasurer's Report 2021/22

John Clarkson ASBS Treasurer

1. Introduction

I am pleased to present the financial statement of the Australasian Systematic Botany Society Inc. (ASBS) for the year ended 30 June 2022 (Appendix 1). The finances of the Society are run on a financial year basis with data reported on a full cash basis.

Philippa E. Whitting of McKinnon & Co. Atherton audited the accounts once again. Her report to members is attached as Appendix 2.

2. Membership

Table 1 summarises the number of members at the end of October 2022. Membership numbers remain stable with new members balancing resignations and deaths.

Table 1 Membership of ASBS as of 31st October 2022 (non-financial members in brackets)

Fee	Full	Concessional	Gratis	Total
Ordinary	184 (15)	n/a	0	184 (15)
Student	n/a	48 (12)	0	48 (12)
Retiree	n/a	63 (0)	0	63 (0)
Unemployed	n/a	5 (0)	0	5 (0)
Institutional	4 (0)	n/a	14	18 (0)
Life	n/a	n/a	3	3
Total	**188 (15)**	**116 (12)**	**17**	**321 (27)**

The following new members have been admitted to the Society since the last AGM:

Nanjappa Ashwath	Central Queensland University	Ordinary
Barbara Azevedo de Oliveira	Queensland University	Student
Declan Blackburn	University of Melbourne	Student
Molly Bloomfield	University of Melbourne	Student
Richard Dimon	University of Queensland	Student
Julian Herting	Royal Botanic Garden Domain Trust	Ordinary
Karina Knight	Western Australian Herbarium	Retired
Trish McLenachan	Massey University	Ordinary
Tareg Shaldoom	University of New England	Student
Lindsay Shelton	Western Australia	Ordinary
Nikola Streiber	State Herbarium of South Australia	Ordinary
Anže Žerdoner Čalazan	Ludwig Maximilian University of Munich	Ordinary

3. Management of Funds

3.1. General Fund

The General Fund finished the financial year with a surplus of $3,672. This is considerably lower than the surplus reported for the 2020/21 financial year. Subscriptions remain the major source of regular income for the General Fund. A number of members paid their membership fees a few years in advance in the 2021 financial year. This, and the greater number members who remain in arrears (27 outstanding at the end of October owing total of $975), explains the slight decrease in income from subscriptions. However, the decrease in the surplus can largely be attributed to the fact that while most of the income associated with the 2020 virtual conference was received in the 2021 financial year, most of the expenditure was incurred in this reporting period. The conference returned a $7,000 profit. This was transferred to the Research Fund.

Assets in the General Fund are held as cash at call or in reasonably short (6-9 months) term deposits. Interest rates remained at record lows for all of the reporting period meaning investment income from money held in the General Fund remained well below the long-term average. Hopefully, the recent increases in the cash rate might help improve this situation. Interest rates have begun to rise.

$15,200 remains of a $16,500 devolved grant from the Australian Biological Resources Study (ABRS). With the relaxation of COVID travel restrictions, the Society is now able to offer grants to postgraduate student members to attend Australian or international conferences and workshops relevant to the field of taxonomy and systematics.

The Society is financially well placed to celebrate its upcoming 50th anniversary. Notwithstanding the operating result reported for the past financial year, while the financial position of the General Fund remains strong, my recommendation is to leave membership

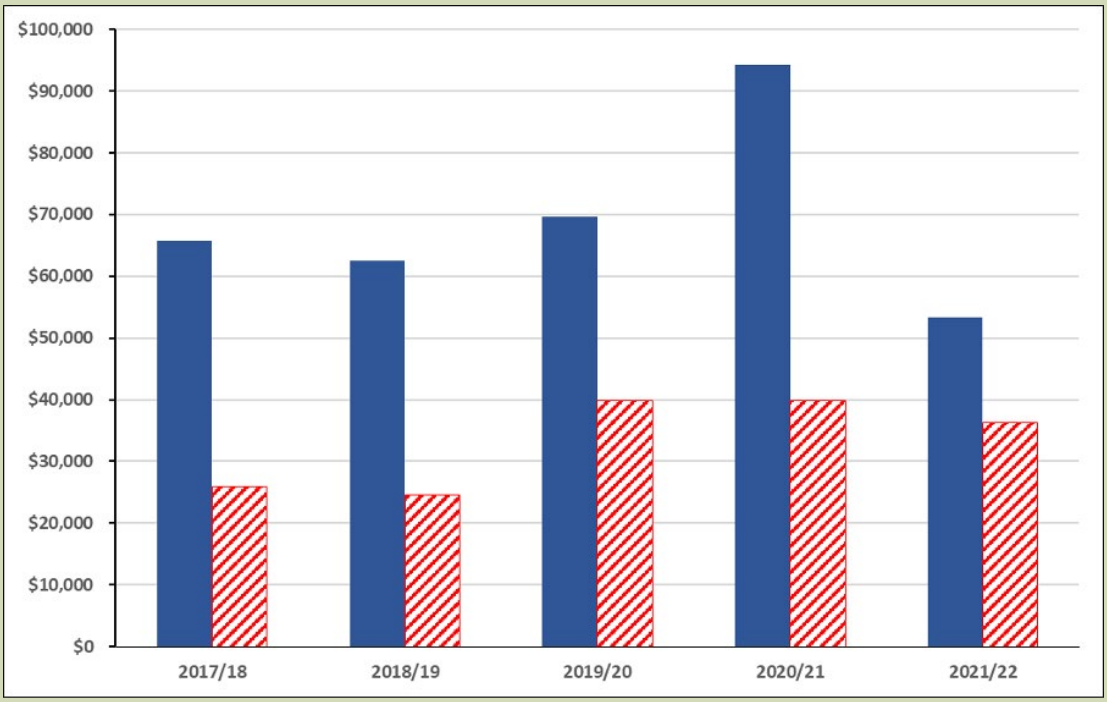

Figure 1 Income from distributions and rebates (solid bars) in the Colonial managed fund for the financial years 2017 to 2022 compared to total grants awarded (cross hatched bars). To date, grants have been paid from cash reserves and all income from the managed fund has been reinvested in the fund.

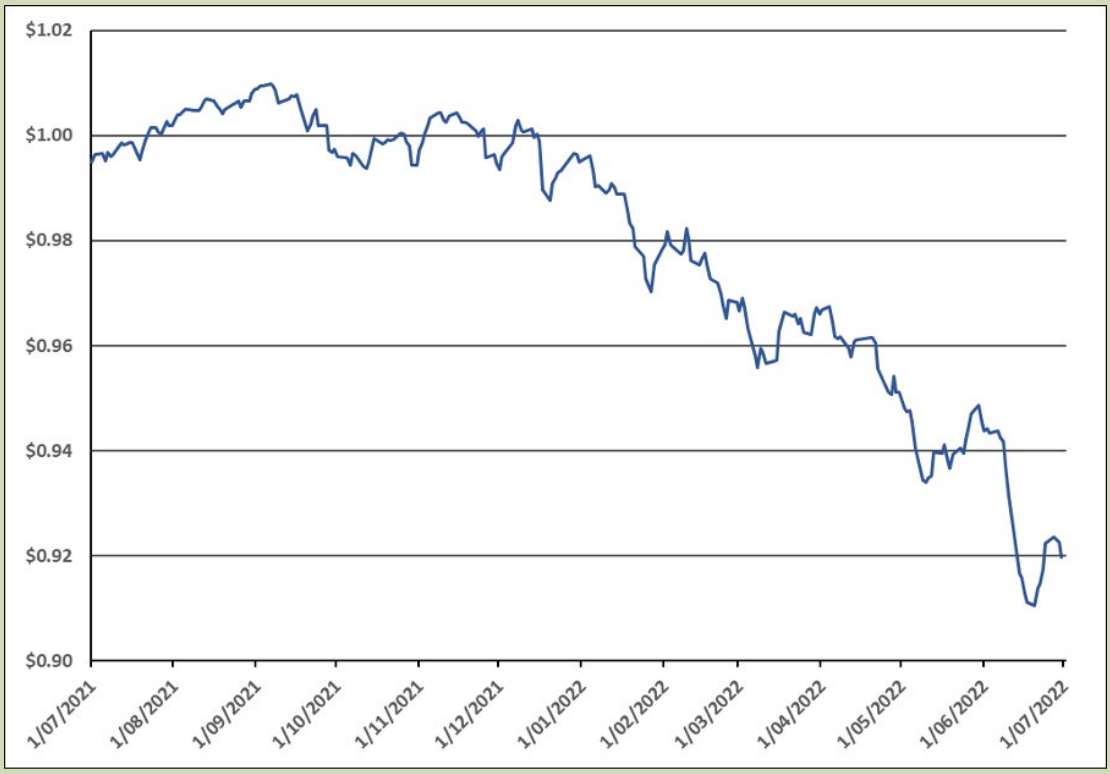

Figure 2 Change in the value of a unit in the Colonial First State managed fund over the course of the 2021/22 financial year.

fees unchanged for 2023.

3.2. Research Fund

The Research Fund derives its income primarily from donations, investment income, and profits from conferences. As a not-for-profit organisation with tax exempt status, the Society is also able to claim a refund of franking credits paid on its Colonial First State investment. The Society continues to offer up to $40,000 each financial year to support research projects in plant systematics. Projects supported include the Hansjörg Eichler Research Grants ($20,000) and the Marlies Eichler Postdoctoral Fellowships ($20,000). Grants for the 2021/22 financial year totalled $36,187.

This financial year, 49 members made donations to the Hansjörg Eichler Research Fund totalling $13,970. All donors, including the following members who agreed to having their names recorded publicly, are thanked for their generous support.

Mike Bayly
Chris Betteridge
Barbara Briggs
Margaret Brookes
Jeremy Bruhl
Kerri Clarke
John Clarkson
Mike Crisp
Laurie Haegi
Frank Hemmings
Alison Hewitt
Gareth Holmes
John Hosking
Betsy Jackes
Laurie Jessup
Pauline Ladiges
Rob Lamont
Greg Leach
Teresa Lebel
Simone Louwhoff
Merran Matthews
Bill McDonald
Heather Merrylees
Peter Michael

Pina Milne
Andrew Mitchell
Katharina Nargar
Maggie Nightingale
Andrew Orme
Jo Palmer
Ruth Palsson
Caroline Pannell
Rosemary Purdie
Tanya Scharaschkin
Kelly Shepherd
Philip Short
Paulo Baleeiro Souza
Ian Telford
Stephen van Leeuwen
Helen Vonow
Barbara Waterhouse
Juliet Wege
Peter Weston
Molly Whalen
Annabel Wheeler
Karen Wilson
Peter Wilson
Nicholas Yee

The Research Fund ended the financial year with a surplus of $29,036, considerably less than the previous financial year but still meeting the goal set in 2017. Since it was set up in 2017, the managed fund has consistently delivered annual returns from distributions and rebates well in excess of the $40,000 budgeted for research grants (Fig.1). It is particularly pleasing to report a surplus this year given global markets were struggling to recover from the COVID pandemic and were facing global economic pressures brought on from rising inflation and the fallout from the war in Ukraine.

Having reported an unrealised capital gain for the 2021 financial year, the Society made an unrealised capital loss of $117,366 for this reporting period. While many members would be aware what this means, some may not, so a brief explanation is warranted. It's not as worrying as it might sound. The money invested in a managed fund is used to purchase units. The price of these units moves up and down each day as the market rises and falls. The purchase price is always slightly higher than the sell price (about $0.003). ASBS funds are invested in the Colonial First State FirstChoice Wholesale Investment Fund. Hopefully, when funds are withdrawn, units will be worth more than they were bought for. Since buying into the fund in 2017 units have been purchased between $0.8936 and $1.1130 per unit – the average price being $1.0268 per unit. The sell price of a unit in this fund began the 2021/22 financial year at $0.9949, rose to $1.0099 by early September then plunged to $0.9106 in mid-June 2022 before finishing the financial year at $0.9197 (Fig. 2). At just a tad over nine cents, the differences in these numbers may sound small, but when this difference is multiplied by the number of units held, the swing can be quite significant. The Society currently holds just over 1.3 million units, so a change of just one cent in the unit price means a rise or fall in the value of the investment of over $13,000. However, this loss or gain will only be realised if money is withdrawn from the fund. Since the Society bought into the fund in 2017 with an initial investment of $1,055,356, all income from distributions and rebates has been reinvested and the value at the end of the 2021/22 financial year was $1,177,927. When initially set up, it was envisaged that the first withdrawal from the managed fund would occur in October 2019 but, by careful management of cash reserves, it has not yet been necessary to draw on the fund. The first withdrawal will probably occur in the second half of the 2022 calendar year by which time it is hoped global markets may have improved and the unit price will much higher than it currently is.

4. Summary

The Society remains in a sound financial position and I recommend that:

- membership fees remain unchanged;
- McKinnon & Co. Atherton be retained to undertake the 2022/23 annual audit;
- the managed fund remain unchanged at least until the current financial markets stabilise.

Appendix 1
Financial Report for the year ended 30 June 2022

Financial Report for the year ended 30 June 2022

Australasian Systematic Botany Society Incorporated

ABN 22092454279

Council's Report

Your Council members submit the financial statement of the Australasian Systematic Botany Society Incorporated for the year ended 30 June 2022.

Council Members
The names of the Council members who held office throughout the reporting period and at the date of this report are:

President	Michael Bayly	Elected November 2020
Vice President	Hervé Sanquet	Elected October 2021
Secretary	Heidi Meudt	Elected October 2021
Treasurer	John Clarkson	Elected March 2019
Councillor	Kelly Shepherd	Elected November 2020
Councillor	Katharina Nargar	Elected November 2019

Principal Activities
The principal activities of the society during the reporting period were to promote systematic botany in Australasia.

Significant Changes
No significant change in the nature of these activities occurred during the reporting period.

Operating Results
The operating results are as set out here under:

	Year ending June 2022	Year ending June 2021
General Fund	$3,672.91	$17,856.21
Research Fund	$29,036.64	$75,861.31
Total	**$32,709.55**	**$93,717.52**

Signed in accordance with a resolution of the Members of the Council on:

M.Bayly

Michael Bayly (President)

17th November 2022

J.C.Clarke

John Clarkson (Treasurer)

17th November 2022

McKINNON & CO. ACCOUNTANTS PTY LTD CPA AUSTRALIA

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Income and Expenditure Statement
Australasian Systematic Botany Society Incorporated
For the year ended 30 June 2022

	2022	2021
General Fund Income		
Cheque Account		
Conference	–	3,400.00
Copyright Agency	172.67	452.76
Donation to Eichler Fund	13,165.00	9,795.00
Subscriptions	9,968.28	10,215.31
ABRS Student Travel Grant	–	8,250.00
Refund from Conference Fund	11,000.00	–
Sundry income	–	400.00
Conference Account		
Transfer from General Fund	50.00	8,000.00
GAP Workshop fees	240.00	740.00
Sponsorship	3,700.00	3,000.00
Registrations	2,251.18	16,035.21
Refund of deposits paid for ASBS 2020	–	250.00
Miscellaneous	5.00	–
Rabobank Accounts		
Investment income	1,114.25	1,642.98
Total General Fund Income	**41,666.38**	**62,181.26**
General Fund Expenses		
Cheque Account		
Council expenses	–	99.00
Auditor's remuneration	1,419.00	1,595.00
Bank charges, credit card fees	260.80	271.92
Student travel assistance	750.00	–
Miscellaneous expenses	305.98	45.00
Newsletter costs	2,333.98	3,585.64
Burbidge Medal	–	33.49
Transfer to Conference Account	–	3,400.00
Transfers to Research Fund	13,570.00	9,795.00
Transfer to Conference Account		8,000.00
Conference Account		
Conference platform hosting	571.12	17,050.00
Miscellaneous	307.70	–
Social Evening	424.89	–
Transfer to General Account	11,000.00	–
Transfer to Research Account	7,000.00	–
Bank charges, credit card fees	–	275.00
Refunds	50.00	175.00
Total General Fund Expenses	**37,993.47**	**44,325.05**
General Fund Surplus/(Deficit)	**3,672.91**	**17,856.21**

Research Fund Income		
Donations to Research Fund	13,970.00	9,795.00
Profit from ASBS2021	7,000.00	–
Investment Income – Colonial Wholesale Investment		
Distributions	52,073.40	94,217.59
Management Cost Rebates	1,210.07	1,045.46
Investment Income – Term Deposit	–	67.67
Franking Credits	1,107.00	17,676.92
Miscellaneous Income	3,895.93	3,005.06
Total Research Fund Income	**79,256.40**	**125,807.70**
Research Fund Expenses		
Bank Charges	–	2.50
Management Fees	14,032.76	10,143.89
Hj. Eichler Research Grants	16,187.00	19,800.00
Marlies Eichler Fellowships	20,000.00	20,000.00
Total Research Fund Expenses	**50,219.76**	**49,946.39**
Research Fund Surplus/Deficit	**29,036.64**	**75,861.31**
Current Year Surplus	**32,709.55**	**93,717.52**

McKINNON & CO. ACCOUNTANTS PTY LTD
CPA AUSTRALIA
16-10-22

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Balance Sheet
Australasian Systematic Botany Society Incorporated
As at 30 June 2022

	2022	2021
Assets		
General Fund		
Cash and Cash Equivalents		
General Fund: Cheque Account	40,191.64	24,525.45
General Fund: Rabobank HISA	10,170.65	10,169.27
Conference cheque account	64.62	13,172.15
Total Cash and Cash Equivalents	**50,426.91**	**47,866.87**
Investments		
Rabobank Term Deposit 1	64,658.02	64,192.04
Rabobank Term Deposit 2	54,328.39	53,681.50
Total Investments	**118,986.41**	**117,873.54**
Total General Fund	**169,413.32**	**165,740.41**
Research Fund		
Cash and Cash Equivalents		
Research Fund: Cheque Account	2,802.53	13,016.60
Total Cash and Cash Equivalents	**2,802.53**	**13.016.60**
Investments		
Colonial Wholesale Investment	1,177,926.92	1,256,042.16
Total Investments	**1,177,926.92**	**1,256,042.16**
Total Research Fund	**1,180,729.45**	**1,269,058.76**
Total Assets	**1,350,142.77**	**1,434,799.17**
Member's Funds		
Accumulated Surplus	1,434,799.17	1,326,011.92
Current Year Earnings	32,709.55	93,717.52
Unrealised Capital Gain/Loss	(117,365.95)	15,069.73
Total Member's Funds	**1,350,142.77**	**1,434,799.17**

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Notes to the Financial Statements
Australasian Systematic Botany Society Incorporated
For the year ended 30 June 2022

1. Summary of Significant Accounting Policies

The financial report is a special purpose financial report prepared in order to satisfy the financial reporting requirements of the members. The Council has determined that the Society is not a reporting entity.

The financial report has been prepared in accordance with the requirements of Australian Accounting Standard AASB 1031: Materiality. No other applicable Accounting Standards, Australian Accounting Interpretations or other authoritative pronouncements of the Australian Accounting Standards Board have been applied.

The financial report has been prepared on a cash basis.

The following specific accounting policies, which are consistent with the previous period unless otherwise stated, have been adopted in the preparation of this financial report.

(a) Membership
Membership fees are recorded on a cash basis.

(b) Income Tax
Under present legislation the Society is exempt from income tax and accordingly no provision has been made in the accounts.

(c) Comparative Figures
Where required by Accounting Standards comparative figures have been adjusted to conform with the changes in presentation for the current year.

(d) Members Funds
In accordance with the rules of the Society, accumulated funds are not available for distribution to its members.

Research Committee

The Australasian Systematic Botany Society is an approved research institute and is registered as a charity by the Australian Charities and Not-for-profits Commission.

The approved membership of the Research Committee comprises:

Heidi Meudt (Chair)	*Ex officio*
Sarah Matthews	Appointed March 2015
Joanne Birch	Appointed March 2016
Katharina Schulte	Appointed March 2016
Murray Henwood	Appointed March 2016

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Statement by the Members of the Council
Australasian Systematic Botany Society Incorporated
For the year ended 30 June 2022

The Council has determined that the Society is not a reporting entity and that this special purpose financial report should be prepared in accordance with the accounting policies outlined in Note 1 to the financial statements.

In the opinion of the Council:

1. The financial report as set out on pages 1 to 6 presents a true and fair view of the Society's financial position as at 30 June 2022 and its performance for the year ended on that date.

2. At the date of this statement, there are reasonable grounds to believe that the Society will be able to pay its debts as and when they fall due.

This statement is made in accordance with the resolution of the Council and is signed for and on behalf of the Council by:

President .....
Michael Bayly – President

Treasurer .....
John Clarkson – Treasurer

Dated this 17th day of November 2022

McKINNON & CO. ACCOUNTANTS PTY. LTD
CPA AUSTRALIA
P. [illegible]
[illegible]-10-22

Appendix 2
Auditor's report

McKINNON & Co

CERTIFIED PRACTISING ACCOUNTANTS
ABN 65 010 329 576

McKinnon & Co Accountants Pty Ltd
1/11 Vernon Street, Atherton
PO Box 279, ATHERTON QLD 4883
Telephone (07) 4091 1244
Fax: (07) 4091 3202

Email. accountant@mckinnonandco.com.au
Web: www.mckinnonandco.com.au

INDEPENDENT AUDIT REPORT
TO THE MEMBERS OF AUSTRALASIAN SYSTEMATIC BOTANY SOCIETY INC.

Report on the audit of the financial report

Qualified Opinion

We have audited the accompanying financial report, being a special purpose financial report, of the **Australasian Systematic Botany Society Inc.** (the Association), which comprises the balance sheet as at **30 June 2022**, the income statement, and notes to the financial statements, including a summary of significant accounting policies and management's assertion statement.

In our opinion, except for the possible effects of the matters described in the Basis for Qualified Opinion paragraph, the financial report of the Association presents fairly in all material respects in accordance with the *Associations Incorporation Act 1981* (as amended by the Associations Incorporation and Other Legislation Amendment Act 2007)

Basis for qualified opinion

Qualification- Segregation of duties

Such is the scope of the Association, it is not practical that internal controls can be constantly in place to provide a high degree of assurance that cash monies are fully accounted for. This qualification is not unusual for a small Incorporated Association.

We conducted our audit in accordance with Australian Auditing Standards. Our responsibilities under those standards are further described in the auditor's responsibilities for the audit of the financial report section of our report. We are independent of the Association in accordance with the auditor independence requirements of the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 Code of Ethics for Professional Accountants (the code) that are relevant to our audit of the financial report in Australia. We have also fulfilled our other ethical responsibilities in accordance with the code.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis of matter - basis of accounting

We draw attention to note 1 of the financial report, which describes the basis of accounting. The financial report is prepared to assist the Association to meet the requirements of the applicable legislation. As a result, the financial report may not be suitable for another purpose. Our report is intended solely for the Association and should not be distributed to or used by parties other than the association. Our opinion is not modified in respect of this matter.

Responsibility of management and those charged with governance

Management is responsible for the preparation and fair presentation of the financial report in accordance with the applicable legislation and for such internal control as management determines is necessary to enable the preparation of the financial report is free from material misstatement, whether due to fraud or error.
In preparing the financial report, management is responsible for assessing the association's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the association or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the association's financial reporting process.

Independence

In conducting our audit, we have complied with the independence requirements of Australian professional ethical pronouncements.

Auditor's responsibilities for the audit of the financial report

Our objectives are to obtain reasonable assurance about whether the financial report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this financial report.

P. Whitting

Philippa Whitting
Director

1, 11 Vernon Street, Atherton Q 4883

Dated this 19th day of October 2022

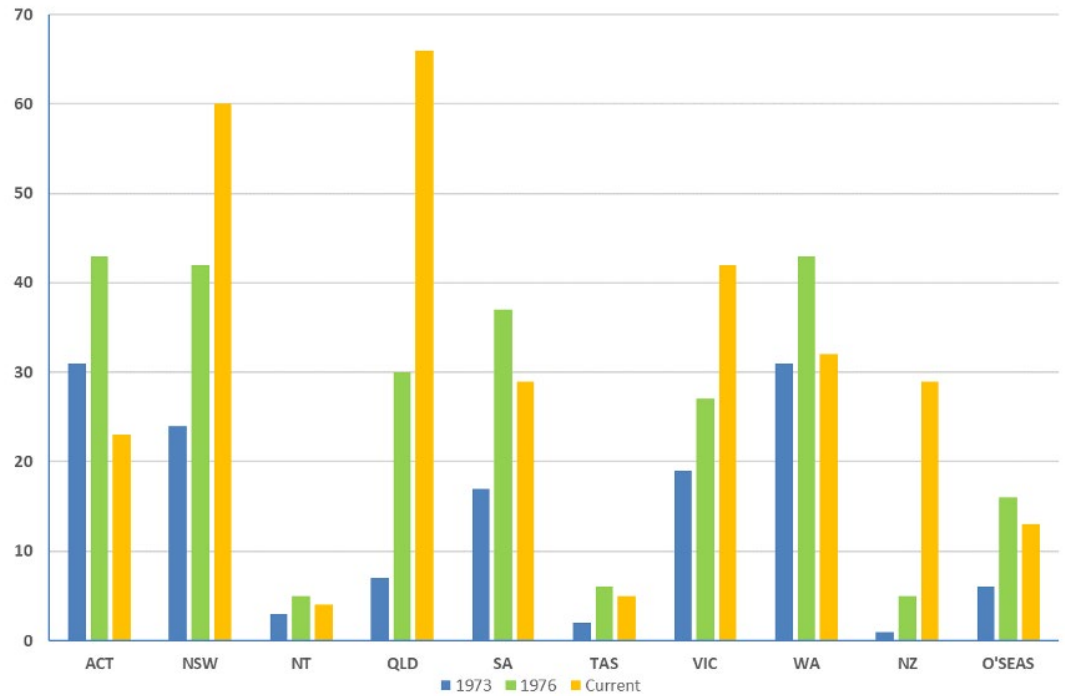
In the beginning...

ASBS Membership

John Clarkson

The Society maintains its register of members in a Microsoft Access database. This has a field that records when a person first applied for membership. However, members who joined prior to 1999 are recorded as having joined that year. I have never been able to work out with any certainty why that should be so, in this anniversary year, I have been keen to identify the members who have been with the Society from its inception in 1973.

Last year, Alex George was tidying up his office and came across ASBS papers that include correspondence going back to the start of the Society as well as records from the two symposia that he helped to organise. Alex was a foundation member. His card indicates that he paid his first subs on 8 April 1973. Alex was a member of the inaugural Council, serving as a Councillor from 1973 to 1979. He drew to my attention a set of membership cards kept by the Society's first secretary, Don McGillivray, that was amongst this material. Don served as Secretary from 1973 to 1975. This was many years before even basic computers became available. Older members would probably have held lots of data on such cards. The cards measure 150 x 105 mm. The name and address of the member is handwritten or typed on the front of each card and, for most, the year of joining and payment details recorded on the back. Although Don McGillivray stood down as Secretary in 1975, notes on the cards suggest the index was maintained until 1979 when Alex George, the last of the inaugural Council members, stood down. Alex boxed up his papers and photographs and sent



Above Geographic spread of members 1973, 1976 and 2023.

them to MEL where the Society's archives are held in the library. He sent the card index to me and I will, in time, make sure it reaches the archive. In the meantime, I have been seeing what information I can glean for the Society's history.

- There are 347 people listed in the card index.
- Thirty-four people (27 men and seven women), whose names appear in the card index, are still active members of the Society.
- One hundred and forty-one people joined the Society in its inaugural year.
- Fifteen (11 men & four women) of these are still active members.
- Membership rose to 186 by the end of 1974 as local chapters began to form.
- A further three members currently active members can trace their membership back to then.

The first list of members was published in the Newsletter in 1976. ACT members appeared in the July issue (#8) and the rest in the November issue (#9). There have been interesting changes in the geographic spread of members since (Fig. 1).

- In 1973, 3 states, the ACT (22%), WA (22%) and NSW (20%) accounted for over 60% of the membership.
- The membership grew significantly over the first few years from 141 in 1973 to 254 in 1976.
- The current membership (February 2023) is 303 and has been stable around this number for many years.
- Currently, Queensland (22%), NSW (20%) and VIC (14%) account for over 50% of the membership.
- Since 1973, membership has grown in all states except for the ACT where numbers have fallen.
- The significant increase in New Zealand members coincided with the expansion of the geographic focus of the Society to Australasian in 2011.

Discovery of a new fringed lily in mulga land of Queensland

Jian Wang *Queensland Herbarium*

Above *Thysanotus admirabilis* Photos: Jian Wang

Researchers from the Department of Environment and Science, Queensland Government and the University of Queensland have discovered and described a beautiful new fringed lily species from the Mulga Lands of Queensland.

There are 55 described species of fringed lily, and all but two are restricted to Australia. The majority occur in Western Australia, while Queensland has three species and one subspecies previously. The new species was uncovered during ecological research field work. Although species diversity in the outback is not as high as in the rainforests, many areas are poorly explored botanically.

Scientists from the Queensland Herbarium & Biodiversity Science have a long history of discovering and naming species unknown to science. Now this new "little beauty" has been described. It is only the fourth species

of fringed lily described from Queensland.

"This new species is very distinctive. The plants range from 20 cm to 40 cm tall, and are relatively common over a small area," says University of Queensland researcher Dr Jenny Silcock.

The species occurs in patches that extended for at least kilometre along the boundary of Mariala National Park and the neighbouring grazing property 'Varna'.

Field trips to remote areas often trigger botanic surprises

The botany of inland Queensland remains relatively poorly known. According to the researchers, every field trip to a new area has a high chance of finding something unusual.

"Understanding how to identify the different species and where each of them grows is important for ecological and other research. Information is also needed for setting conservation priorities to prevent biodiversity loss, it is important to protect areas that have special habitats and unique species," says Jenny.

When researchers collect plant specimens and store them in herbaria, they often assume that the specimens represent an already known species. Proper comparison of the specimens may reveal there are new species hiding in plain sight in the existing collections.

Most of the specimens and literature referenced to describe the new species of *Thysanotus* were from as early as the 1800s, when Robert Brown first published the genus. For all these years the specimens have been curated in herbaria. But it was not until now that we could combine that accumulated information with fresh insights from our field studies.

The fringed lily specimen that triggered the description of the new species of *Thysanotus* was collected in June 2019 by Chris Pennay and Shannon Hudson, Senior Botanists from the Queensland Herbarium & Biodiversity Science.

"I was checking ground cover and taking pictures in the mulga land to produce Queensland special vegetation map when I saw an unfamiliar plant. I had not seen anything like it before, so I made an extra effort and collected it," recalls Chris.

Now the species has been formally named and published as new to science by Queensland Government researcher Dr Jian Wang, who is sorting out the species limits and names of all Queensland fringed lilies.

"The place where I collected this species is described as 'soft mulga' on sandy red earth. The habitat is in good condition and has never been cleared. No weeds were present at the site. Cattle were present on the grazing property in December 2021, but no *Thysanotus admirabilis* plants were grazed," Jenny adds.

Different soil conditions create a mosaic of habitats in mulga land, which has a big impact on how species establish and evolve.

Mulga forests and woodlands contain a unique part of Australia biodiversity. It also stores enormous amounts of carbon and regulates both regional and global rainfall patterns and temperature.

The official scientific description of this *Thysanothus* species was published in the journal Austrobaileya. *Thysanotus admirabilis* Jian Wang (Laxmanniaceae), a remarkable new species from western Queensland, Australia. Austrobaileya 12: 14–18.

The Good Book

Robyn and Bill Barker State Herbarium of South Australia

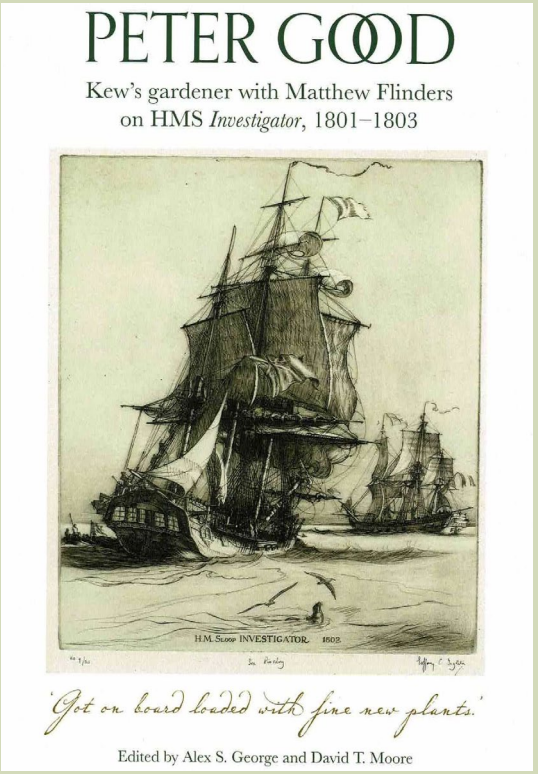
Peter Good: Kew's gardener with Matthew Flinders on HMS Investigator, 1801-1803

Edited by Alex S. George and David T. Moore

ISBN 9780645629507, 17.8 cm x 25 cm soft bound with French flaps (full colour plates)

Four Gables Press 2022, pp. 280

RRP AU$50.00 + postage



The scientific gentlemen associated with Matthew Flinders's *Investigator* and its voyage around Australia in 1801-1803 left a lot of unpublished materials, primarily in the British Museum, but also elsewhere. For the last 40 years or so, these have been a veritable treasure trove for publications about the participants, the collections and illustrations which resulted, and the outcomes of the voyage. Chief amongst the participants were "Jupiter Botanicus" himself, Robert Brown, and the botanical artist, Ferdinand Bauer, both the subject of a several books and papers with which most of you will be familiar. And Australian ASBS members were of course heavily involved with the celebrations of the bicentenary of the voyage in the early 2000s that mapped the course of the voyage (see *ASBS Newsletter* nos. 107-114).

Unlike Brown and Bauer, who made a successful return to Britain laden with their spoils from Australia, Peter Good, gardener of the *Investigator* voyage and answerable to botanist Robert Brown, died on board the ship on 12th June 1803, only a few days after it reached its destination at Sydney Cove. In his diary, Good recorded that many of the crew were complaining of dysentery as soon as two weeks after leaving Timor on 8th April. When the voyagers landed for a second time on Goose Island Bay in the Recherche Archipelago on 17th May he noted the first death from dysentery, indicating that he and others of the crew were fellow sufferers.

Good's possessions, including his diary, seed collections and various lists, became the responsibility of Robert Brown, eventually becoming part of the documents of Brown and the voyage held by the Natural History Museum, London (BM); they are listed in Appendix 1 of the book.

This publication by Alex George and the late David Moore is the second public airing of Good's diary of the Flinders voyage. The first was edited four decades ago by Phyllis Edwards, then Botany Librarian of the British Museum (Natural History) (BM), and published in the institution's journal (Edwards 1981). Access to that first edition was previously somewhat limited. However, it is now freely available on-line through Biodiversity Heritage Library (see Edwards 1981), where, sadly, the reproduction is somewhat faint and needs to be magnified. For the biblio-

philes amongst you there are copies of this earlier reproduction of Good's diary available for around $100 AUD in the antiquarian market and from Amazon.

It was David Moore (1936-2018) who proposed this revisit to Good's diary. Parts of the diary had been reproduced, where appropriate, in Vallance *et al.*'s (2001) reproduction of Robert Brown's diary, *Nature's Investigator*, but there was a need to reproduce a new edition with some transpositions in the earlier edition corrected and inclusion of some more of Good's unpublished lists. David was a member of the British Museum staff and a much-published expert on the manuscripts and scientific outcomes of the *Investigator* voyage (e.g. Vallance *et al.*, 2001; Mabberley & Moore 2022), as well as a series of journal articles and book chapters (Moore 2005). With access to a database of Robert Brown collections (now inaccessible - see below) and the benefit of other taxonomic works, such as *Nature's Investigator,* the authors were also able to make further suggestions as to the present day identity of names used in Good's seed lists.

The new edition of Good's diary takes up almost the first half of the book. Daily entries are dated in bold, making a particular date easy to find. Good's text is in italics and any footnotes are indented and in a smaller font. Interspersed amongst the text is a mixture of reproductions of Westall's landscapes from the voyage and current-day photos of collecting sites. Captions might usefully have included the relevant date of visitation, and the name later applied to sites by Flinders and Brown. The chronologically named and numbered Bays/Anchorages later used by Brown on specimens were presumably not available to Good and so there are very few place names in Good's account. Indeed, addition to the included map of a spaced set of dated landings at the numbered Bays/Anchorages and the rare place names mentioned in the diary and landscape figure captions would have been a great help. Like us, most readers will need to access other books on the voyage to know or be sure of where Good was on a particular day.

Good's text tends to make more interesting reading than that of Brown. But having the two accounts together, as often provided in *Nature's Investigator,* can be even more informative. For instance, Good's account of their first stay in Sydney from 10th May 1802 until their departure again on 21st July 1802 to circumnavigate the continent is particularly valuable as this period is not covered in Brown's diary. Good lists where and when he and others collected in the Port Jackson region. He also mentions residing ashore to be better able to botanise on a day when it was not raining and to preserve and pack specimens when it was. Considerable time was taken up with the latter activity enabling both his seed collections and the herbarium specimens, now referred to as the Dryander duplicates, to be dispatched to England in 1802. Instead of writing in his diary, Brown was engaged in writing letters to Banks, Dryander and Greville, summarising the plant findings until that time as well as bemoaning the lack of brown paper and the on-board perils that threatened the specimens (Barker 2003).

Amongst other comparisons to be made are the differing accounts of the two cycad poisonings. Of the first, at Lucky Bay in southwest Western Australia on 10th January 1802, both Brown and Good describe the after effects on the 20 or so people who ate "a species of *Cycas*", Brown apparently being one of two who was unaffected. Of the second occasion, on 4th Dec 1802 at Bountiful Island, north Queensland, involving a different cycad, Brown makes no mention, but Good records (p. 107):

> *I eat some as also Mr Brown and Mr Bawer [sic]. Mr Bawer and I were taken with violent reaching [and] it had an unpleasant effect with Mr Brown…*

The names in Good's seed lists relate to identifications and manuscript names provided by Brown on board the ship. Brown's manuscript names can often still be found on some of the multiple duplicates of the

specimens collected by Brown and others. Notably, Mabberley, Moore & Wajer record them in the typifications of Brown's names in their Robert Brown handbook. Manuscript names can be vital evidence in such decision making. From recollection, they also appeared in the Robert Brown Database of his Australian botanical specimens in the BM, previously available through the *Florabase* site of the Western Australian Herbarium, but sadly this database is no longer accessible. The manuscript names have been invaluable for associating specimens and names in the list of Good's seed in the Inward Book, Royal Botanic Gardens, Kew between 1805 and 1809, leading to the identification of many of the species listed in Appendix 17. Why our nomenclatural bible (ICN Recommendation 50G) continues to discourage the inclusion of manuscript names in taxonomic publications when, as we have discussed, they are so demonstrably useful, despite their lack of legal nomenclatural status, which can be concisely indicated with ined., ms., etc., remains unclear.

There can be no doubt that Peter Good was heavily involved in the collection of plant specimens throughout the voyage and that he was probably sole or joint collector of some of the plants attributed to Robert Brown. But crediting assistance by names on collections and in authorship or acknowledgement in publications was poorly rendered in those times by today's standards (Clarkson 1988, Barker & Barker 1990). Good's and Brown's diaries have apparently been compared by the editors to decide that certain specimens can only have been collected by Good on the days on which it has been recorded that Brown did not leave the ship. Appendix 15 comprises a list of names of such collections.

The information in Appendix 15 relating to the majority of species checked for this review is correct, but it is not true in the case of the collection of *Goodia medicaginea* F.Muell. from Memory Cove, South Australia. Good's diary indicates that both men went ashore on two of the days on which they were based there and both were involved in the collection of plants either during or subsequent to the search for the missing cutter and the eight seamen on board. It seems likely that *Goodia lotifolia* Salisb. is the species that should have been listed here as its collection was attributed to Good by Salisbury when he named the genus after him (Salisbury 1806).

The large remainder of George & Moore's book is taken up with appendices. Appendix 1 is a list of the documents in the BM from which the subsequent appendices are drawn. Appendices 2 through 11 are seed lists from the various parts of Australia and Timor; Appendix 12 is a list of living plants on board the *Investigator* on 22nd April 1803, not long after the ship's departure from Timor; Appendix 13, a list of seeds sown on Kangaroo Island; Appendix 14, a list of surviving fern specimens from King Island; Appendix 15, list of herbarium specimens collected by Peter Good; Appendix 16, Good's eponymy; Appendix 17, Good's seed listed in the Inward Book, Royal Botanic Gardens, Kew between 1805 and 1809; Appendix 18, a list of Australian plants introduced to English horticulture by Good. The identity of many of the plants in these lists is not known but some, highlighted in bold, have been surmised.

Indices make a work of this nature, being as much a source of data as a narrative, doubly valuable. The single index provided contains people, place names, and published botanical and zoological names, the last of these mostly derived from the footnotes. Some published botanical names, such as *Conchium, Embothrium, Festuca, Metrosideros* and *Sida asiatica*, have been missed. For us a greater concern is the lack of those unpublished names which appear in so many of the appended seed lists. The inclusion of manuscript names in the index would have made the book so much more easy to use as a tool for researchers. Because these names take a number of forms there may be some difficulty in indexing them but this should not be an insurmountable problem.

We fear we may have laboured our few criticisms in this review. They should not

undermine the great value we ascribe to this work. Alex is to be congratulated for putting in the hard yards to complete this new edition of Peter Good's diary with its valuable additional material and corrections. David Moore, co-editor of this work, would have been well pleased.

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Postscript

With thanks to Alex George for his alternative title to the book - The Good Book.

Of further interest to those who seek more knowledge about the *HMS Investigator* voyage and its outcomes is the news that books used and annotated by Matthew Flinders during the circumnavigation of Australia were bought at auction in London in December 2021 and have been donated to the National Archives of Australia by their purchaser.

National Archives of Australia (2023). The Captain's treasures: Flinders' letters and books join archival collection. Viewed on 30 March 2023 at https://www.naa.gov.au/about-us/media-and-publications/media-releases/captains-treasures-flinders-letters-and-books-join-archival-collection

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Brian Stannard & Gren Lucas

by Alex George

Two former members of the staff of the Herbarium at the Royal Botanic Gardens, Kew, known to many Australasian botanists, have passed away recently.

Brian Stannard (1944–2022) worked at Kew from 1974 to 2004 (with an extension for a few years to help supervise the construction of Wing E). He progressed to the position of Senior Scientific Officer in 1995. His botanical interests, focused on Africa and South America, covered several families, including Nyctaginaceae, Simaroubaceae and Loranthaceae.

Gren Lucas (1935–2022), joined the staff in 1959 and became Keeper in 1984, retiring in 1995. His interests, in the African flora, included the Malvaceae. He became heavily involved in conservation work. Among several awards were an OBE received in 1980 and the Sir Peter Scott Merit Award Medal from the Species Survival Commission in Australia in 1991. For 20 years he was treasurer of the Linnean Society.

Above Heads of Department at Kew, 1989, including Gren Lucas (front row, left). Photo: *The Journal of the Kew Guild*, 1989.

Philip William Moore

27 February 1939 - 26 June 2022

by Peter M. Olde O.A.M.

Philip W. Moore, a self-educated botanist and author has died. I first met him when he was president of the Sutherland Group, Society for Growing Australian Plants, which I joined in 1978. Philip's passion for Australian plants, especially local indigenous flora, did not really extend to their cultivation, and he was relieved to hand over the presidency after only a few years in the job, which, of course, was unpaid. Philip obtained a degree in Science at the University of New South Wales, while working as a lab technician, ultimately graduating with honours and then going to complete a PhD in 1978. From 1964 to 1994 Philip worked at ANSTO, Lucas Heights, in a variety of fields. From 1987 to 1990, he was appointed Counsellor for Atomic Energy at the Australian High Commission in London, a career highlight. It was during this time that the first edition of Native Plants of the Sydney district, which he co-authored with Alan Fairley (1941–), appeared. It was largely a photographic version of the Plants of the Sydney Region by Beadle, Evans and Carolin but it was also notably different, the authors incorporating their own knowledge, experience and photographs. Philip was a passionate flora photographer, to which his two children attest (with good humour). After he retired he bought a 4WD and, by taking driving courses, learnt how to drive and handle it properly, intent on obtaining first-hand knowledge of the plants of inland Australia on unaccompanied excursions. These were conducted over several years and culminated in the publication of his *Guide to plants of inland Australia* in 2005. Ultimately Fairley and Moore expanded their first book into a new publication that hit the stands in 2010.

Philip lived in the Menai area of Sydney and the flora of this part of the country was his greatest passion. He often gave talks on how to identify the eucalypts and the pea flowers, among other genera. Then a few years ago he developed dementia, which took hold gradually but inexorably. It was painful to watch his frustration and the decline in a person whose thirst for knowledge was unbounded. 'I just cannot remember anything now' he was heard to complain, some time before he passed away.

Alan Fairley & Philip Moore *Native plants of the Sydney district: an identification guide.* 432 pages. Published 1989. Kangaroo Press and Society for Growing Australian Plants. 2 editions

Alan Fairley & Philip Moore *Native plants of the Sydney region, from Newcastle to Nowra and west to the Dividing Range.* Fully revised and expanded. 624 pages. 1400 photos. September 2010, Allen & Unwin. 3 editions.

Philip Moore *A guide to plants of inland Australia.* 504 pages. 2005. Reed New Holland

Gill Brown in the Queensland Herbarium
Photo: ABC News

In the News

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.

Online and in the media

Queensland Herbarium's first female director

Meet the new boss at the Queensland Herbarium, Gillian Brown. A nice article just in time for International Women's Day, celebrating Gill becoming the first woman to take on the role of Director at the herbarium since its establishment in 1859. Congrats Gill!

Link to story: https://www.abc.net.au/news/2023-03-09/queensland-herbarium-first-female-director-gillian-brown/102067152

World Pride 2023 - Love Your Nature

This episode of Science Friction explores the queer history of botany, revealing how LGBTQIA+ scientists have made significant contributions to the field, featuring interviews with Hervé Sauquet and Ryan O'Donnell. The episode explores how botany was considered an acceptable scientific pursuit for women in the 19th century, which allowed queer women to participate in scientific work, the cultural significance of plants and how they have been used to communicate messages of love and desire among queer communities, and the connection between queerness and botany.

Link to story: https://www.abc.net.au/radionational/programs/sciencefriction/world-pride-queer-science-botany-plants/101948162

Gum Tree Guardians launched on iNaturalist

Help identify the spread of myrtle rust on eucalyptus trees in Australia using the The Gum Tree Guardians project on iNaturalist.

Link to story: https://inaturalist.ala.org.au/projects/gum-tree-guardians?tab=stats

The the hallucinogenic weed that ended up in supermarket spinach

In late 2022, hundreds of poisoning cases were reported and linked to contaminated supermarket spinach in Australia. The cause


Datura stramonium
Photo: Wikimedia commons

of the poisonings was eventually revealed as accidental inclusion of *Datura stramonium* (thornapple, jimsonweed), a hallucinogenic plant with a long history of medicinal and recreational use. This article discusses the history of *D. stramonium*, including the risks of consuming thornapple and highlights the importance of being able to identify wild plants.

Link to story: https://www.canberratimes.com.au/story/8030577/the-history-of-thornapple-the-hallucinogenic-weed-that-ended-up-in-supermarket-spinach/

EPBC Act 'more or less worthless'

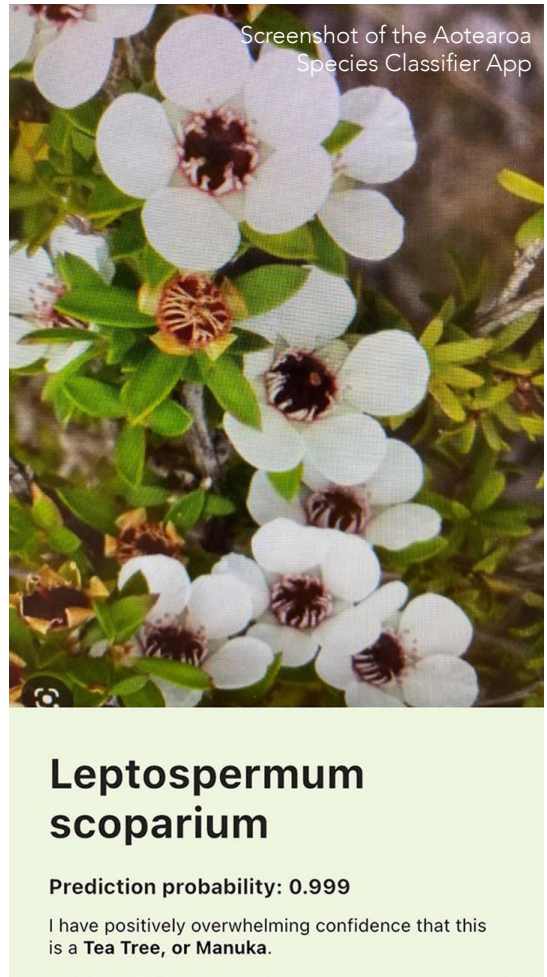
A University of Queensland study has found that Australia's system for protecting threatened species from development is 'more or less worthless', and that the federal government's Environmental Protection and Biodiversity Conservation Act (EPBC Act) failed to protect most species from development. The researchers say that the act lacks teeth and needs to be strengthened to protect Australia's biodiversity.

Link to story: https://www.theguardian.com/australia-news/2023/jan/24/system-to-protect-threatened-species-from-development-more-or-less-worthless-study-finds

App for IDing NZ flora and fauna

Researchers in New Zealand have developed an app that uses AI to identify and classify plants and birds in the country. The app, called *Aotearoa Species Classifier App* aims to make it easier for people to engage with and learn about the country's unique wildlife (currently iOS only). The researchers hope that the app will also be useful for conservation efforts, as it will allow for better monitoring of species populations and habitats.

Link to story: https://www.nzherald.co.nz/travel/ai-researchers-create-app-for-identifying-new-zealand-plants-and-birds/KSHFUHBYU5EZRP3AQ3BXC3A7GE/



Screenshot of the Aotearoa Species Classifier App

Nine hundred rare orchids stolen from Kings Park in brazen thefts

Thieves have stolen more than 200 rare spider orchids from the Western Australian Botanic Garden in Kings Park, with fears the orchids could die without proper care. The orchids were taken from a locked facility, leading authorities to suspect that the thieves had expert knowledge of the location and access to the gardens. Their theft is a significant blow to conservation efforts.

Link to story: https://www.abc.net.au/news/2023-02-08/rare-orchids-stolen-kings-park-wa-collie-spider/101945274

Eight metres of threatened plants

Australian botanical artist Sharon Field has completed a series of three large botanical scrolls, each measuring eight metres long, depicting more than 100 threatened or endangered plant species. The detailed drawings were created over a period of three years and aim to raise awareness of the importance of conserving threatened plant species. The scrolls will be exhibited at the Australian National Botanic Gardens in Canberra before being gifted to the National Library of Australia.

Link to story: https://www.abc.net.au/news/2023-01-19/botanical-artist-sharon-field-8-metre-scrolls-species-drawing/101818170

NZ fungi in the spotlight

New Zealand is considered a 'fungal hotspot' due to its high diversity of fungi. Dr Jerry Cooper (Manaaki Whenua - Landcare Research) is working to uncover the diversity of fungi in New Zealand and understand their threat ecological roles, including their potential uses in biotechnology and conservation. The research also aims to raise awareness of the importance of fungi in ecosystems and highlight the need for their conservation. One rare species, *Deconica baylisiana*, has

Drawing in progress. Photo: Sharon Field

only been found five times in the past 80 years.

Link to story: https://www.stuff.co.nz/environment/130556868/meet-one-of-our-most-endangered-mushrooms-and-the-man-solving-mycological-mysteries

AI in scientific research

The use of AI in scientific research has led to at least four published papers listing the OpenAI chatbot, ChatGPT, as a co-author, prompting debate about the role and responsibility of AI in academic literature. Some publishers argue that although AI is not able to take responsibility for the content and integrity of scientific papers, its contribution to the writing of papers can be acknowledged in other sections. However, some researchers and publishers have raised concerns that AI should not be listed as an author, and that its use without proper citation could be considered plagiarism*

*this was written by ChatGPT with the link to the paper used as input. It got it quite wrong a couple of times.

Link to story: https://www.nature.com/articles/d41586-023-00107-z

The struggle to save the tropical plants of Kyiv's Botanical Garden

Kyiv's Botanical Garden in Ukraine is struggling to save its tropical plants amid the country's cold winter temperatures. The garden boasts a large collection of exotic and rare plant species and relies on greenhouses to maintain a suitable temperature for tropical plants. Power outages, rising energy prices and a shortage of skilled workers have made it increasingly difficult to keep the greenhouses running. As a result, many of the plants are in danger of dying, posing a significant challenge to the conservation of the garden's unique plant collection.

Link to story: https://www.reuters.com/world/europe/struggle-save-tropical-plants-kyivs-botanical-garden-2022-12-26/

Papers and publications

Articles can be provided by request to Todd at mclay@rbg.vic.gov.au.

The 'grey zone' of taxonomic uncertainty in kānuka

New Zealand Kunzea features a remarkable amount of phenotypic and ecotypic variation throughout its range, creating conflict between species concepts and genetic dif-

Kunzea ericoides
Photo: Wikimedia Commons

ferentiation. This study found that despite this ecotypic variation, only a single species should be recognised.

Read the paper: Heenan *et al.* 2023. Genotypic variation, phylogeography, unified species concept, and the 'grey zone' of taxonomic uncertainty in kānuka: recognition of *Kunzea ericoides* (A.Rich.) Joy Thomps. *sens. lat.* (Myrtaceae). *New Zealand Journal of Botany.* https://doi.org/10.1080/0028825X.2022.2162427

Who will name new plant species?

While there has been a lot of recent focus on where new species may occur, there hasn't been the same attention on who will actually discover and describe them. Using plant species distributed and described in China, this study found that there has been an increasing proportion of species descriptions by Chinese taxonomists over time. This highlights the need to support resident taxonomists in countries with a high potential for species discovery.

Read the paper: Liu *et al.* 2023. Who will name new plant species? Temporal change in the origins of taxonomists in China. *Proceedings of the Royal Society B.* https://doi.org/10.1098/rspb.2022.1954

Photographs as an essential biodiversity resource

By searching through 33 sources for Australian plant photographs, these authors discovered that 3715 species did not have a verified photograph, and that most of the missing species occured in distinct geographic areas. Check the list of gaps here (https://docs.google.com/spreadsheets/d/1msDm3P-K5ALVr526LXY8ss27n4-8by4-rQIZhOsdZIv4/edit), and then check your photos!

Read the paper: Mesaglio *et al.* 2023. Photographs as an essential biodiversity resource: drivers of gaps in the vascular plant photographic record. *New Phytologist.* https://doi.org/10.1111/nph.18813

The Conversation **article:** https://theconversation.com/thousands-of-our-native-plants-have-no-public-photographs-available-heres-why-that-matters-199100

One hundred important questions facing plant science

From a total of 616 questions submitted, panellists from around the world whittled the list down to 100 questions in four major categories (Plants and Society, Plants, Climate Change and Food Production, Plant–Environment Interactions, and Molecular Approaches to Fundamental Plant Biology). Several key questions relating to the society include '4. Biodiversity: how does species diversity develop in novel ecosystems such as restored agricultural land, forests, grasslands and gardens?', '27. What more can we do to raise public awareness of plant extinction?', and '25. How can we harness the power of plant collections (Arboreta, Botanic Gardens and Herbaria) for research, education and public engagement?'.

Read the paper: Armstrong *et al.* 2023. One hundred important questions facing plant science: an international perspective. *New Phytologist.* https://nph.onlinelibrary.wiley.com/doi/10.1111/nph.18771

ASBS student and ECR register

In order to promote the connectivity and visilbility 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

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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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ISSN 2204-910X (Digital)
ISSN 1034-1218 (Paper)
$5.00

Cover image: *Dendrobium canaliculatum* R.Br. by Ashley Field