





IMCG Bulletin: October 2015



Word from the Chair

www.imcg.net

Dear mire friends

Southern Africa is in the grip of an unusually hot and dry summer. By now seasonal streams would have been flowing and mires covered in green with flowers everywhere. Peat fires were previously reported in the eastern coastal and interior regions of South Africa (May 2015 issue) and unfortunately peat fires are now also burning in the winter rainfall area of southern Africa (Western Cape) where the endemic Palmiet peatlands occur. The peat fires and haze dilemma in Southeast Asia continues to persist. Read more about the formation of the Palmiet Peat Global Action Group (PPGAG) and updates on the peat fire problems and useful monitoring tools in Southeast Asia in this issue of the Bulletin.

Lastly, on 12 October 2015, one of Australia's eminent alpine ecologists and naturalists, Roger Good, passed away. Jennie Whinam and Bev Clarkson pay tribute to him in this Bulletin as the IMCG remembers the special time we shared with Roger on the 2013 visit to Australia

Please send your contribution by 30 November 2015 to Piet-Louis Grundling at peatland@mweb.co.za.

Have you registered yet?



Gone?! Going?

Join us and come see for yourself!

IMCG Field Symposium- Malaysia and Brunei (Peninsular Malaysia and Borneo) 19 to 28 August 2016

Registration forms and more information under: http://www.imcg.net/pages/events/imcg2016.php

Please block the date and make early registration to secure seats on internal flights and accommodation in small towns at: IMCG - Hans Joosten: joosten@uni-greifswald.de or GEC - Julia Lo: julialo@gec.org.my

Mires and Peat

Mires and Peat is the open-access peer reviewed journal of IMCG and the International Peat Society (IPS). Find it online at http://mires-and-peat.net/ and in the *Thomson Master Journal List* (Web of Science).

Articles published in October:

Physical and chemical properties of tropical peat under stabilised land uses

(M. Könönen, J. Jauhiainen, R. Laiho, K. Kusin and H. Vasander) [Volume 16 Article 08]

A mesocosm approach to study the response of *Sphagnum* peatlands to hydrological changes: setup, optimisation and performance

(M. Mulot, A. Villard, D. Varidel and E.A.D. Mitchell) [Volume 16, Article 09]

News about special volumes in preparation:

- Growing Sphagnum (both in-situ and ex-situ; for example, for peatland restoration and Sphagnum farming purposes): Manuscript offers are now in double figures and the volume editors (Line Rochefort and Stephan Glatzel) have set a window for submissions FROM NOW until JUNE 2016 (we expect to open the volume in January 2016). If you have not yet offered your manuscript, please send an email to the Editor-in-Chief (o.m.bragg@dundee.ac.uk) stating your proposed title, author list and expected submission date. Contact Stephan Glatzel (stephan.glatzel@univie.ac.at) or Line Rochefort (Line.Rochefort@fsaa.ulaval.ca) if you want to discuss first.
- Greenhouse Gas fluxes in degraded and restored peatlands: Global perspectives: Publish your work alongside invited papers from the Society for Ecological Restoration (SER) 6th World Conference, held in Manchester (UK) in August 2015 this volume is open to all.
 - The first article for this topic has now been accepted, so it is likely that this volume will also open early in 2016.
 - Scope of the volume: a global overview of our current knowledge of GreenHouse Gas (GHG) dynamics along a land use gradient from degraded to restored/rewetted peatlands; studies that describe aquatic carbon losses, the development of country-specific emissions factors (e.g. for CO₂, CH₄, N₂O, DOC) and improved methods for determining activity data are particularly encouraged. Opening 2016. Contact David Wilson (david.wilson@earthymatters.ie) to discuss.
- Peatland strategies and action plans: Again, we have several manuscript offers already, but more actual submissions as well as further offers will be welcome contact Peter Jones (peter.s.jones@cyfoethnaturiolcymru.gov.uk) to discuss.

For our continuing series of standard volumes, we are always happy to receive new manuscripts from **all disciplines** on **any topic** relating to mires, peatlands and peat.

Please send **ALL SUBMISSIONS**, whether for a special volume or a standard volume, to the Editor-in-Chief <u>o.m.bragg@dundee.ac.uk</u> in the first instance, for:

- friendly editorial management by eminent peatland specialists (O.M. Bragg, R.S. Clymo, S.N.P. Glatzel, A.P. Grootjans, P.M. Jones and J.O. Rieley);
- minimal publication delays (the average turnaround time from submission to publication is currently less than 230 days); and
- free global exposure of your work in an ISI journal.

News from our regions

Australasia

Jennie Whinam and Bev Clarkson (whinambauer@icloud.com)

Vale Roger Good – a wetland stalwart moves on

Sadly, on 12 October 2015, one of Australia's eminent alpine ecologists and naturalists, Roger Good lost a battle with cancer. Roger loved nature and his contributions to national and international conservation efforts during his professional career contributed significantly to a better Australia and a better planet. Roger's early professional career began in the 1960s with the New South Wales (NSW) Soil Conservation Service where he helped manage the restoration of severely eroding catchments in the then Kosciuszko State Park.

In the 1970s Roger commenced work with the NSW National Parks and Wildlife Service and his professional contributions included early computer modelling work of fire in natural mountain environments; contributions to the establishment of the Victorian Alpine National Park; changes to the governance of fire management in Kosciuszko National Park (from the Hume Snowy Bushfire Prevention Scheme to the National Parks and Wildlife Service); and, the establishment of the Australian Alps Liaison Committee (AALC). Cohesive management for Australia's mountain catchments that span two states and a territory was made possible by a new Memorandum of Understanding (MOU) and Roger Good was one of four visionaries that helped establish this MOU (and the subsequent formation of the AALC).



Roger viewing the success of restoration work in some of the mires in Kosciuszko National Park

Roger's contributions in the Australian Alps national parks have been outstanding. He has achieved on-ground conservation restoration in alpine and wetland environments; facilitated improved science-based management, particularly for fire and wetlands and he facilitated enduring multi-government co-operation for looking after the Alps parks and the catchments they protect. His permanent legacy to all Australians is an alpine area that is recovering and an extant, rich, diverse and spectacular Alps flora and fauna that is National Heritage Listed. He will be greatly missed.

Roger had a particular interest in peatlands, bogs, fens and swamps and described these as 'water dependent ecosystems'. He established the Alpine Bogs Restoration Group after the 2003 Australian Alps bushfires and attracted significant funding for post-fire restoration of peatlands in Koscuiszko and Namadgi National Parks. Some of this work was the focus of the first field excursion to Australia by the International Mire Conservation Group in 2013 organised by Roger Good and Jennie Whinam.



The IMCG delegates at Koscuiszko National Parks in December 2013. Roger is standing in the middle of the back row (with the dark green jacket).

The restoration of these peatlands involved pioneering approaches to enable recovery of the hydrology, plant communities and peat-forming processes. These are now accepted as best practice for restoration of other damaged peatlands. On the IMCG field visit, a decade after the fires, the alpine bogs and fens were looking healed and healthy, a testament to a great ecologist having both a theoretical and a practical mind.



Roger and Jennie having a moment together at Penguilys mire

One thing that stood out for participants on this IMCG field symposium was the humble way in which Roger shared his vast knowledge and attributed the success of the project to the efforts of other members of the team. This is the mark of a great teacher, mentor and person, who sadly will not be around now to enrich our lives. From all around the world we will miss him.

IMCG was well represented at Roger's funeral and the commemoration of his life. Amongst the 350 people who attended were IMCG members (and participants of the 2013 field symposium) Jennie Whinam (who was MC for the commemoration), Geoff Hope, Scott Mooney and Lydia Guja.

South Africa

Franci Gresse (<u>franci.gresse@aurecongroup.com</u>)

Saving South Africa's Palmiet Peatlands

South Africa is generally arid and peatlands are uncommon and mostly restricted to the southern and eastern coastline, as well as the central plateau. These wetlands are very important ecosystems and often provide unique habitats with a high biodiversity value — especially palmiet (*Prionium serratum*) peatlands which are only found in restricted locations in South Africa. Specifically, palmiet wetlands generally occur in high energy systems in the Fynbos biome and along the southern KwaZulu-Natal coastline where they provide a range of important ecosystem services such as water attenuation, flood protection, improvement of water quality by acting as filters, and carbon sequestration. These systems are however highly vulnerable to disturbances, especially agricultural activities and alien invasive species. As much as 70% of these systems may have been

lost due to erosion according to Japie Buckle from the Natural Resource Management Programme of South Africa.



Palmiet (left photo) characteristically form peat 2-4 m in thickness, often with a high sand content from steep catchment, and therefore susceptible to erosion (right photo) if disturbed.

Recently, the South African wetlands rehabilitation programme, Working for Wetlands, undertook their annual planning in the Agulhas area and came across a massive erosion gully in a palmiet peatland in Pietersieliekloof about 30 km north of Cape L'Agullas, the southern tip of Africa. On average the gully is 4m deep with multiple headcuts eroding into the remainder of the peatland. Due to the scale of the erosion and nature of the site, traditional hard structures used for rehabilitation by the Programme (for example weirs) would not be feasible and it was decided to have a workshop at the 2015 Wetlands Indaba to discuss alternative options.



A massive gully with multiple headcuts are eroding the palmiet peatland at Pietersieliekloof.

The workshop took place on 22 October 2015 and was well attended by national and international experts who provided valuable insights. It was agreed that an inventory of the country's palmiet wetlands needs to be undertaken urgently to assist with the prioritisation of the wetlands. For this, academic support from tertiary

institutions would be key, especially since research on these systems has been limited to date. It was also agreed that a pilot study should be undertaken as soon as possible to test the solutions identified at the workshop. In response, a site was offered by Working for Wetlands in the Kromme River (Eastern Cape Province) and construction will commence within the next few weeks.

It was further noted that detailed planning would be essential to ensure the success of the proposed initiative. This planning process would require an assessment of the relevant wetland's catchment to address land use problems, the level of alien vegetation infestation, water use practices, etc. It will therefore be vital for governmental programmes such as Working for Wetlands, Working for Water and LandCare (to name a few) to work together on this prioritisation process and the implementation thereof.

In order to ensure the success of this initiative, an action group would be required and it was agreed to establish the *Palmiet Peat Global Action Group (PPGAG)* which will be facilitated by the South African Wetland Society and the International Mire Conservation Group. Should anyone be interested in joining PPGAG to learn more about palmiet or get involved with saving these unique wetlands, please contact Franci Gresse (franci.gresse@aurecongroup.com) or Piet-Louis Grundling (peatland@mweb.co.za).

Southeast Asia

Noor Azura Ahmad (azura@gec.org.my) and Hans Joosten (joosten@uni-greifswald.de)

Peatland Fire and Haze Situation in Southeast Asia

Since August 2015, fires have begun to burn in peatland areas in Sumatra and Kalimantan of Indonesia – mainly south of the equator, much of it in remote locations not accessible by road. The culprits are believed to be medium sized plantation developers and smallholders who clear land using fire during the dry season. Due to El Nino conditions, excessive drought caused fires to run out of control, destroying vast tracts of peatlands with little water supply to control the flames. The resulting haze has engulfed much of Southeast Asia, badly affecting Indonesia itself, and neighbours Malaysia, Singapore, Philippines and Thailand.

The Air quality index has risen above 2000 compared to good air quality below 50 and hazardous above 400. This haze episode is likely the second worse after the 1997/1998 El Nino fire event. Many are suffering respiratory problems, schools and airports/flights have been disrupted in the worst hit countries Indonesia, Malaysia and Singapore. Discussion is under way between ASEAN Member States. Assistance has been offered by various parties, and Indonesia has agreed to accept some international assistance to address this disaster.



Conditions in Central Kalimantan, Indonesia in the last few months of 2015.

Sustainable Management of Peatland Ecosystems in Indonesia

From 21-30 September 2015, the team from Indonesia's Ministry of Environment and Forestry, IFAD and GEC had been finalising details for the implementation of a US\$33million project for Sustainable Management of Peatland Ecosystems in Indonesia, an initial project to support the implementation of the ASEAN programme on Sustainable management of Peatland Ecosystems (APSMPE 2014-2020). This is scheduled to commence by early 2016. The project will focus on enhancing sustainable peatland management, preventing fire, reducing GHG emissions from peatlands and enhancing sustainable peatland management and community livelihoods; in line with the national pledge on emission reduction and National Peatland Strategy.

The project will support implementation of the National Regulations on Protection and Management of Peatland Ecosystem (PP71/2014) adopted in September 2014 and its related regulations, enhance capacity and awareness of multi-stakeholders in managing peatlands, as well as demonstration of integrated management practices at the 850,000ha Sungai Kampar-Indragiri Peatland Hydrological Unit in Riau Province, Sumatra.

ASEAN Fire Alert Tool –application for smart phones



ASEAN Fire Alert Tool

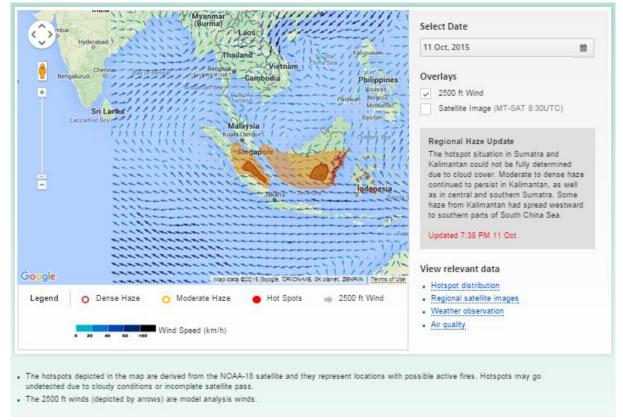
The ASEAN Fire Alert Tool is an Android and i-Phone Phone App developed by Global Environment Centre to alert land managers as soon as a hotspot appears on their land. Locations are automatically sent to their phone. They can then immediately verify and take necessary action.

Information on hotspots in ASEAN is collected through analysis of daily satellite images. Using data collated by the ASEAN Specialised Meteorological Centre (<u>ASMC</u>), online databases and mapping technologies, the App is able to alert relevant land managers in real time. GEC has recently integrated Fire Danger rating system alerts into the system. For more details, visit the website at: http://www.aseanfirealert.org

Read also:

http://news.mongabay.com/2015/10/indonesias-massive-haze-problem-is-jokowis-big-opportunity/ http://www.nature.com/news/indonesia-blazes-threaten-endangered-orangutans-1.18714?WT.ec_id=NEWS-20151105&spMailingID=49946851&spUserID=MTc2Njc4MTMxNwS2&spJobID=800685800&spReportId=ODAwNjg1ODAwS0

New website of ASEAN Specialised Meteorological Centre



For those working on fire and haze issues in Southeast Asia, please note that the AMSC website has moved to http://asmc.asean.org.

News snippets

Hans Joosten (joosten@uni-greifswald.de)

United Kingdom

€16 Million Support for Moorland Partnership

The Moors for the Future Partnership, which works to protect priority international habitats in the Peak District and South Pennines, UK, has received 16 million euros to deliver the MoorLIFE 2020 project. This includes €12 million from the EU's LIFE fund - which supports environmental, nature conservation and climate action projects throughout Europe - the largest award ever given to a UK-based project. The Partnership, hosted by the Peak District National Park Authority, is supported by partners including three major utility companies Severn Trent Water, United Utilities and Yorkshire Water, who have each made significant contributions to the project's €16 million total. The money will enable the team to continue the progress that has been made over the past 12 years, protecting huge areas of the internationally important South Pennine Moors. For more details on the the Moors for the Future Partnership, go to www.moorsforthefuture.org.uk and the EU LIFE programme: https://ec.europa.eu/environment/life.

Belarus

Closing Conference of Wetland Energy Project

The Closing Conference of the international project "Implementation of new concepts for wet peatland management for the sustainable production of biomass-based energy (wetland-energy) in Belarus" will be held between 17 - 18 November in Minsk. On the first day the guests will hear the presentations of the key members of the project as well as the representatives of state and international organizations who supported the project during its implementation. During the second day the project and its final results will be presented to the public. You can register or ask for the programme via e-mail to the Belarusian Project Manager Larisa Ushkova, loraushkova (at) gmail.com.

Germany

High award for Michael Succow



The German Federal Environmental Foundation (DBU) has bestowed IMCG honorary member Prof. Michael Succow (left) with its "Honorary Lifetime Achievement Award". The German Federal President Joachim Gauck (right) presented the award at the award ceremony in Essen at 8th November. Michael Succow received the award for his lifetime achievement. As Deputy Minister for Environment, Nature Protection and Water Management of the GDR at the time of great political change in Germany Succow did grasp the historical chance for nature protection.

At that time Michael Succow and his fellows managed to have the "Programme of National Parks" adopted in the very last concluding session of the GDR-Council of Ministers. Thus, 12.1 % of the former GDR were put under temporary and 5.5 % under permanent protection. For this coup Michael Succow received the Right Livelihood Award and used the endowment as a basis for his foundation.

In the 20 year long history of the German Environmental Award the Honorary Lifetime Achievement Award was granted only five times. It was for example bestowed upon Michail Gorbatschow and Prof. Heinz Sielmann.

Symposium announcement

Finnish Peatland Society to organize the First National Peatland Day in Finland

Peatlands in the Bioeconomy World

Tuesday 2 February 2016, World Wetland Day, 8 am-8pm

Venue: The House of Science and Letters, Helsinki

Finland has the highest relative peatland cover of the countries in the world. However, we need to ask ourselves:

How do we use and manage our peatlands, their products, services and intangible value sustainably in the world of Bioeconomy?

How do we balance the demands of bioeconomy, biodiversity conservation and climate change mitigation on peatlands?

We welcome abstract submissions intended for talks under three themes:

- Peatlands and Bioeconomy
- Peatlands and Climate
- Peatlands and Diversity

Poster presentations may cover any peatland, peat, or wetland related topic. Finnish will be the primary language of the talks, and English if needed. Poster contributions in other languages are also accepted. **Please submit your abstract by 15 November 2015** by emailing suoseura49@gmail.com. Please indicate in the cover email which of the three themes your submission possibly belongs to and attach your abstract as a word

document. There will also be an opportunity to publish your contribution as an extended abstract in Mires and Peat (Suolehti) afterwards. Abstract Guidelines. http://www.suoseura.fi/fin/abstraktipohja.pdf

The scientific program will be finalized by 15 December 2015 and registration will close on 10 January 2016. The event is targeted to researchers and students at universities and research institutes, peatland professionals, authorities, enterprises, anyone interested in peatlands. Registration fees students (incl. PhD students) 30 €, members of the Finnish Peatland Society 60 €, other participants 90 €. Morning and afternoon coffee and evening refreshments included.

The Finnish Peatland Society is a scientific society, established in 1949 whose aim is to encourage the study and research of peat and peatlands in all aspects, and to promote their sustainable and socio-economic use. Join now! Membership fee only 40 €.

Peatland conservation relevant papers

Collected by Hans Joosten: joosten@uni-greifswald.de

- 1. Regurgitation by waterfowl: An overlooked mechanism for long-distance dispersal of wetland plant seeds: http://www.sciencedirect.com/science/article/pii/S030437701530005X
- 2. Herbivore damage increases methane emission from emergent aquatic macrophytes: http://www.sciencedirect.com/science/article/pii/S0304377015300085
- 3. Nutrient-enhanced decomposition of plant biomass in a freshwater wetland: http://www.sciencedirect.com/science/article/pii/S0304377015300127
- 4. Sediment iron content does not play a significant suppressive role on methane emissions from boreal littoral sedge (*Carex*) vegetation: http://www.sciencedirect.com/science/article/pii/S0304377015300164

- 5. Decomposition patterns, nutrient availability, species identities and vegetation changes in central-European summit bogs: http://www.borenv.net/BER/pdfs/ber20/ber20-571.pdf
- 6. Effects of temperature rise and water-table-level drawdown on greenhouse gas fluxes of boreal sedge fens: http://www.borenv.net/BER/pdfs/ber20/ber20-489.pdf
- 7. Tracking the impacts of recent warming and thaw of permafrost peatlands on aquatic ecosystems: a multi-proxy approach using remote sensing and lake sediments: http://www.borenv.net/BER/pdfs/ber20/ber20-363.pdf
- 8. Late-Holocene climate dynamics recorded in the peat bogs of Tierra del Fuego, South America: http://hol.sagepub.com/content/early/2015/10/07/0959683615609756.full.pdf+html
- A multi-proxy record of Holocene environmental change, peatland development and carbon accumulation from Staroselsky Moch peatland, Russia: http://hol.sagepub.com/content/early/2015/10/07/0959683615608692.abstract
- 10. Can we infer vegetation change from peat carbon and nitrogen content? A palaeoecological test from Tasmania, Australia: http://hol.sagepub.com/content/early/2015/08/26/0959683615591354.abstract
- 11. Rich-fen bryophytes in past and recent mire vegetation in a successional land uplift area: http://hol.sagepub.com/content/early/2015/08/04/0959683615596831.abstract
- 12. Enhanced winter soil frost reduces methane emission during the subsequent growing season in a boreal peatland: http://onlinelibrary.wiley.com/doi/10.1111/gcb.13119/abstract?campaign=wolacceptedarticle
- 13. The effects of hydrologic fluctuation and sulfate regeneration on mercury cycling in an experimental peatland: http://onlinelibrary.wiley.com/doi/10.1002/2015JG002993/full
- 14. Late Holocene swamp transition in the Torres Strait, northern tropical Australia: http://www.sciencedirect.com/science/article/pii/S1040618214004534#
- 15. Salinization of coastal freshwater wetlands; effects of constant versus fluctuating salinity on sediment biogeochemistry: http://link.springer.com/article/10.1007%2Fs10533-015-0140-1
- 16. Peat stratigraphy and changes in peat formation during the Holocene in Latvia: http://www.sciencedirect.com/science/article/pii/S1040618214007678
- 17. Fen ecosystem responses to water-level fluctuations during the early and middle Holocene in central Europe: a case study from Wilczków, Poland:

 http://onlinelibrary.wiley.com/doi/10.1111/bor.12129/abstract?campaign=woletoc
- 18. The Lateglacial and Holocene in Central Europe: a multi-proxy environmental record from the Bohemian Forest, Czech Republic: http://onlinelibrary.wiley.com/doi/10.1111/bor.12126/abstract?campaign=woletoc
- 19. How to sustain meadow passerine populations in Europe through alternative mowing management: http://www.sciencedirect.com/science/article/pii/S0167880915300852
- 20. A 5000-year pollen and plant macrofossil record from the Osogovo Mountain, Southwestern Bulgaria: Vegetation history and human impact: http://www.sciencedirect.com/science/article/pii/S003466671500158X
- 21. Updated site compilation of the Latin American Pollen Database: http://www.sciencedirect.com/science/article/pii/S0034666715001773
- 22. A global perspective on wetland salinization: ecological consequences of a growing threat to freshwater wetlands: https://t.e2ma.net/click/18eaj/x551ik/tmgiid
- 23. National versus global modelling the 3D distribution of soil organic carbon in mainland France: http://www.sciencedirect.com/science/article/pii/S001670611530063X
- 24. Deriving World Reference Base Reference Soil Groups from the prospective Global Soil Map product A case study on major soil types of Africa:
 - http://www.sciencedirect.com/science/article/pii/S0016706115300161
- 25. Early Holocene environmental change and the presence of Mesolithic people in the Tungelroyse Beek valley near Mildert, the Netherlands: http://paperity.org/p/73820196/early-holocene-environmental-change-and-the-presence-of-mesolithic-people-in-the

- 26. Vegetation classification and biogeography of European floodplain forests and alder cars: http://onlinelibrary.wiley.com/doi/10.1111/avsc.12201/abstract?campaign=wolearlyview
- 27. Europe's Mars rover to target ancient wetland:
 http://click.aaas.sciencepubs.org/?qs=b4424a8be6e5e33b858440dc72d3415f596f75ec253f8d91bb3b04bc
 e16671bc
- 28. Comment on "Donders, T.H. 2014. Middle Holocene humidity increase in Florida: Climate or sea-level? Quaternary Science Reviews 103: 170–174": http://www.sciencedirect.com/science/article/pii/S027737911500284X
- 29. Reply to comment by Paul H. Glaser et al. on "Donders, T.H. 2014. Middle Holocene humidity increase in Florida: Climate or sea-level. Quaternary Science Reviews 103: 170–174": http://www.sciencedirect.com/science/article/pii/S027737911500298X
- 30. Impact of aeolian processes on peat accumulation: Late Glacial–Holocene history of the Hamernia peat bog (Roztocze region, south-eastern Poland):
- 31. Carbon accumulation and sequestration of lakes in China during the Holocene: http://onlinelibrary.wiley.com/doi/10.1111/gcb.13055/abstract?campaign=woletoc

http://www.sciencedirect.com/science/article/pii/S1040618215006928

- 32. Litter-trapping plants: filter-feeders of the plant kingdom: http://onlinelibrary.wiley.com/doi/10.1111/boj.12346/abstract?campaign=woletoc
- 33. Female flower and fruit anatomy of *Tetroncium magellanicum*: implications for gynoecium evolution in the early divergent monocot order Alismatales: http://onlinelibrary.wiley.com/doi/10.1111/boj.12347/abstract?campaign=woletoc