NEW ZEALAND ECOLOGICAL SOCIETY

Newsletter

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From the Editor

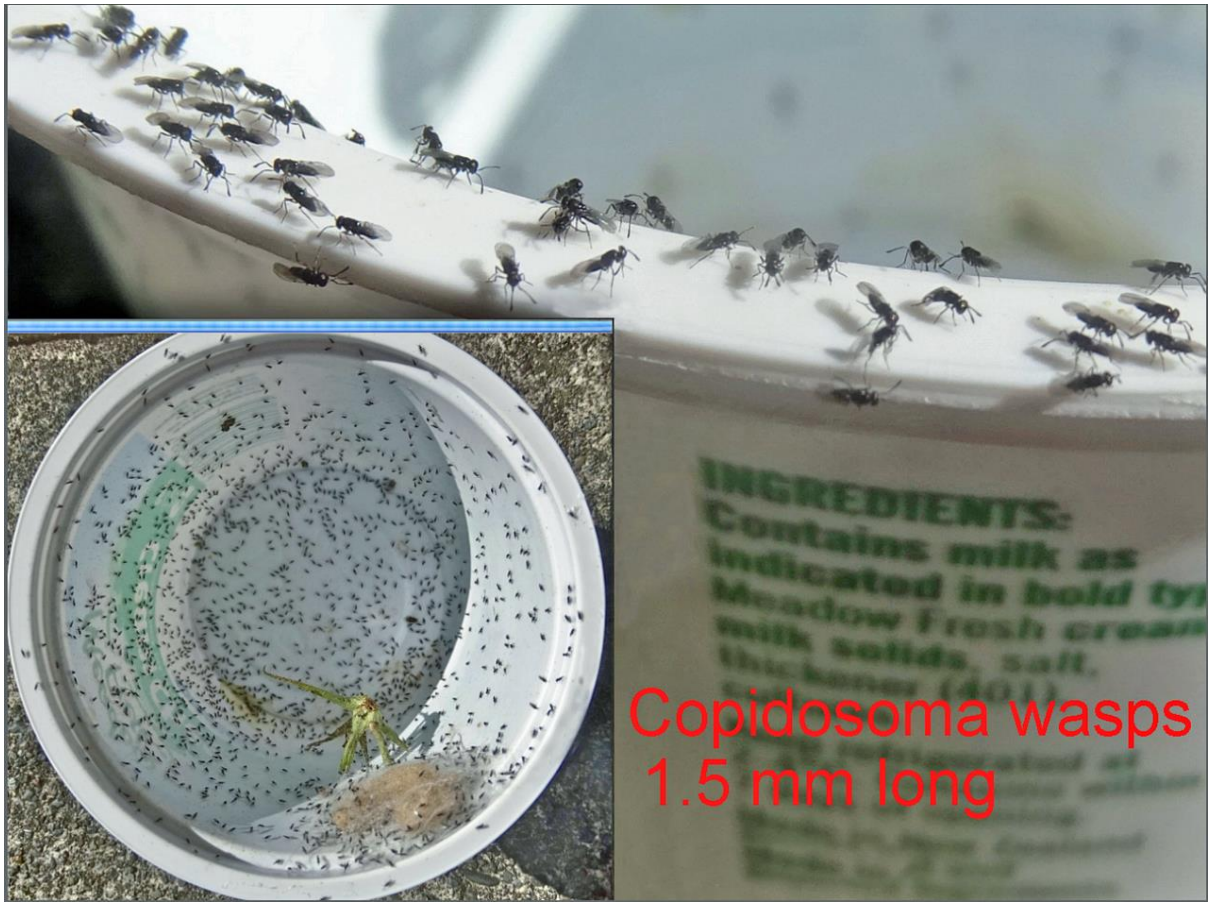
Kia ora koutou

Welcome to the July 2019 newsletter. This newsletter includes an update on the 2019 conference, details of the 2019 awards which are now open, an update from a Kauri Seed scholar, and two new projects on kanakana (lamprey) which you may be able help with. Thanks for all the contributions. Enjoy the read.

Ngā mihi
Angela Simpson

Newsletter Editor: Angela Simpson. Email: newsletter@nzes.org.nz
Deadline for submissions for the next issue of this newsletter is **Friday 20th September 2019**

Illustrate Ecology



An Un-Natural History

Photo and caption by: John Flux.

Having done Natural history at uni, I didn't expect this Silver Y (*Chrysodiexis eriosoma*) moth cocoon to hatch into 2500 wasps (*Copidosoma floridanum*). Each wasp lays one or two eggs in a moth's egg, which become 2500 larvae by polyembryony. A few hundred become soldiers, guard their caterpillar against intruders, and kill less related or opposite sex sibs; others manipulate the caterpillar to grow bigger than normal and make a cocoon, before eating it from the inside (and their sibling soldiers). Snug in their caterpillar-skin tent, the larvae pupate, and hatch out together a few weeks later.

Ecotones – New ecological research

Bruce Burns, University of Auckland

A selection of recently published research on or relevant to New Zealand ecology (except that published in the New Zealand Journal of Ecology). The list of other publications on New Zealand ecology can be found towards the end of the newsletter.

1. Giant New Zealand raptors evolved from smaller Australians

Prior to human arrival in New Zealand, the apex predators Haast's eagle and Eyles' harrier terrorized wildlife (and no doubt some of our Māori predecessors). These were remarkable examples of island gigantism, with Haast's eagle the largest eagle ever known (up to 15 kg body size) and Eyles' harrier the largest known harrier (up to 3.5 kg). In the absence of native mammals in New Zealand, they occupied ecological niches that in other ecosystems are often those of large cats or canines. Knapp *et al.* (2019) recently analysed the mitochondrial genomes of Haast's eagle, Eyles' harrier and their closest relatives to infer a phylogenetic tree and reconstruct their evolutionary history. They found that in both cases, the giant New Zealand taxa diverged from much smaller Australian open country species around 2.3 million years ago. This timing is significant, as it coincides with hypothesised changes in available habitat in New Zealand when open woodlands and grasslands were likely to have increased significantly at the onset of Pleistocene glaciations. Having established within this window of opportunity for open land adapted migrants, gigantism ensued to take advantage of the absence of mammal predators and presence of large avian herbivores.

Also recently, Te Papa has attempted to recreate what Haast's eagle (and other extinct birds) may have sounded like in the wild. Here is their attempt: https://www.rnz.co.nz/national/programmes/morningreport/audio/2018694407/aotearoa-s-extinct-bird-calls

Knapp M, Thomas JE, Haile J, Prost S, Ho SYW, Dussex N, Cameron-Christie S, Kardailsky O, Barnett R, Bunce M, Gilbert MTP, Scofield RP 2019. Mitogenomic evidence of close relationships between New Zealand's extinct giant raptors and small-sized Australian sister-taxa. Molecular Phylogenetics and Evolution 134: 122-128.

2. The fluxes of hare populations: lessons from sixty years of research

The stories of ecology include both those of the organisms and ecosystems we study, but also of the remarkable people that are ecologists. John and Meg Flux arrived in New Zealand in 1960 to study hares and contributed sixty years of observations and many ideas to our ecological heritage. Lately, John and Meg published a review of their experiences with rabbit and hare population research, and provocatively related their findings to human population growth (Flux & Flux 2018). The paper is a fascinating combination of ecology and a description of their exceptional ecological careers. One of their key observations was on the population growth rates of different rabbit and hare species. Of 53 species they observed, almost all had behavioural mechanisms that kept populations below the carrying capacity of the habitat; only the domesticated rabbit *Oryctolagus cuniculus*, when reverted to a feral condition, was observed to experience unrestrained population growth until it exceeded carrying capacity and crashed. John and Meg's sobering suggestion is that human populations have essentially become domesticated and have lost the behavioural checks on population growth that sustain many wild populations of other species (Flux & Flux 2018). The ultimate lesson here is that humans still have much to learn from the ecology of other species.

Flux JEC, Flux MM 2018. Deevey's Hare and Haruspex revisited: Why domestication dooms civilisation? European Journal of Ecology 4: 100-110.

3. Microplastic pollution in Auckland streams similar to concentrations found globally

Over the past *c.*65 years, humans have produced 6300 million metric tonnes of plastics, and about 60% of this total has been discarded and is now accumulating in the environment with unknown ecological effects. Direct manufacture and disintegration of larger pieces leads to microplastics (particles <5 mm in diameter), and these are being detected in a wide range of water bodies and sediments. Dikareva & Simons (2019) provide the first estimates of microplastic concentrations in Auckland freshwater streams, sampling 18 streams from a range of land uses. Disturbingly, the range of microplastic concentrations in Auckland streams were similar to those found in larger freshwater systems worldwide. Variability among streams was, however, high, and positively correlated with the proportion of residential land use in the catchment. The plastic particles discovered in Auckland were predominantly from breakdown of larger pieces rather than microbeads used in industrial processes. With this valuable data on the distribution of these microplastics, attention should be focussed on its ecosystem effects, strategies to reduce further inputs, and ways to remove such contaminants from our freshwater ecosystems.

Dikareva N, Simon KS 2019. Microplastic pollution in streams spanning an urbanisation gradient. Environmental Pollution 250: 292-299.

4. Deceiving predators into ignoring the smells of shorebirds

Mammalian predators use smell as a key means of searching for potential prey. Predators are exposed, however, to a wide array of olfactory stimuli, so that efficient foraging is enhanced by focussing on those smells that result in a satisfactory food outcome and ignoring those smells that do not. Developing such discrimination ability is a learned response, where predators habituate to rewarding and unrewarding cues. Latham *et al.* (2019) have started exploring whether such behaviour could be used to reduce predation on ground-nesting shorebirds within braided river systems of the South Island. If predators in these systems could be habituated to associating shorebird odour with unrewarding foraging activity prior to the birds arriving to these systems to nest, would this result in lower predation during the subsequent nesting season? Latham *et al.* (2019) created an individual-based model to explore this question, simulating 27 days of 'priming' predators with shorebird odour prior to the birds arriving in braided river ecosystems. Their model predicted significant gains in nest survival as a result of such activity and provided guidance on how odour might be deployed to optimise encounters during priming. They are now undertaking field trials to test the efficacy of such strategies in a real-world setting, and we can look forward to their results. As well, can this strategy of confusing the foraging behaviour of predators be applied to other conservation initiatives?

Latham MC, Anderson DP, Norbury G, Price CJ, Banks PB, Latham ADM 2019. Modeling habituation of introduced predators to unrewarding bird odors for conservation of ground-nesting shorebirds. Ecological Applications 29 (1): art. no. e01814.

5. Adapting to alpine life by eating lichen

Mountain building within New Zealand has led to a curious and unusual alpine biodiversity. This is particularly true of the rich invertebrate fauna present in these habitats, including an alpine weta *Hemideina maori* that can freeze and thaw unaffected, and the bat-wing fly *Exul singularis* that has dark-coloured oversized wings to maximise solar heat capture. Marris *et al.* (2019) have now added to this list of unusual invertebrates with their study of *Protodendrophagus antipodes*, a large flightless beetle that lives in rock outcrop crevices in alpine zones. This beetle is the only one of tribe Brontini of around 13 globally distributed genera that does not live in forests. The larvae of all other Brontini eat fungi growing

underneath bark, but this food source is obviously not available in the alpine zone. Marris *et al.* (2019) used stable isotope analysis to strongly infer that the larvae (and perhaps adults) of *P. antipodes* eat crustose and foliose lichens. As lichens contain a fungal symbiont, this is perhaps not unexpected, but beetles have only rarely been documented eating lichens and lichens are rich in secondary compounds that deter herbivory. *P. antipodes* therefore may provide a key link in a lichen-based alpine food chain as well as being another example of unusual alpine evolution.

Marris J, Hawke D, Glenny D 2019. Eating at high elevation: an herbivorous beetle from alpine rock outcrops relies on ammonia-absorbing lichens. Ecology 100 (5): art. no. e02598.

News from NZES council

Tēnā koutou,

Warm winter greetings from NZES Council. We have lots of news to share this quarter.

NZES 2019 Conference

Preparations for our annual conference are proceeding nicely, thanks to the organising committee and our conference organiser Kerry South. Thanks to our sponsors who are onboard already – it's not too late to be part of the fun. Symposia are now available on the website – check out the great sessions we have planned. Thanks to all who submitted symposium proposals. We will also have a Mātauranga Māori symposium to coincide with the launch of the special issue of the New Zealand Journal of Ecology on the same topic. The call for abstracts is now open, please get your submissions in by 25th August. Details on the conference website https://confer.eventsair.com/nzes2019/ (or click the link from the NZES website). The call for student travel grants will open shortly. Due date is often mid-September so look for further notifications coming soon.

People attending the NZES conference may also be interested in the mahinka kai conference that will be at Lincoln the following week (9-13 Dec: http://www.kawanateti.com/?fbclid=IwAR2VuWqutLXCzP4LkQ-y49H5hoEPHceK01Eulbch44kgSSEwJPIM24zrvqU).

ESA Conference

If you are going to the Ecological Society of America Conference in Louisville in August and would like to represent NZES at a function hosted by the ESA President, Laura Huenneke, please get in touch with me c.macinnis-ng@auckland.ac.nz. It would be nice to have someone fly the flag for NZES at this event but none of our council members are attending ESA this year.

Mentoring

We are excited to be launching the NZES mentoring scheme. See information about this elsewhere in this newsletter and watch out for an email in your inbox. We've been planning this for a while and hope we have created a scheme that

will be worthwhile for mentees and mentors. As this is the first year of the scheme, we will be keen to collect feedback from participants so we can make sure it is a valuable member benefit.

Equity, Diversity and Inclusion

We are making progress towards a number of our goals in the diversity action plan https://newzealandecology.org/diversity-statement. However, those of you at our annual conference in Wellington last year will recall Richelle Kahui McConnell asked members of the audience to raise their hands if they identified as Māori and sadly there weren't many hands raised. We acknowledge that we need to do more to improve inclusion in this space. One of the simplest things we should all be doing is pronouncing te reo Māori words correctly. For a brush up on correct pronunciation, this video is a great place to start https://www.youtube.com/watch?v=BI0ST3CtIkE. We have added some other relevant links to our website https://newzealandecology.org/links#Maori. Of course, this is a much bigger issue that is going to need a long-term plan with a number of layers of action if we are going to address the low numbers of Māori in our membership. We hope that initiatives like the special issue of the NZ Journal of Ecology sends a strong signal of our commitment to acting on Te Tiriti o Waitangi/Treaty of Waitangi but we know there is so much more we need to do. We are planning a workshop at the Lincoln conference in December to brainstorm strategies we can use over short, medium and longer terms to address this issue in a sustainable way. We will be inviting a number of people to attend this workshop, but it will be open to all so please get in touch if you would like to be part of this. Thanks to Riki Taylor for taking the time to talk to me about this earlier this year.

Future Council

At this time of year, we start to think about positions on council. Often we fill roles through a shoulder-tapping process but we are really keen to have people self-nominating for roles. We are in the process of writing position descriptions for each of the roles so people who are interested in getting involved will have a good understanding of the scope of each position. Look out for further details in the lead up to the AGM in December but in the meantime, if you are interested in contributing the NZES activities, please get in touch with me or a council member to find out more about what we do. Being part of council is a great way to meet ecologists, learn about the running of a professional society and gain some leadership experience.

We will be farewelling our student representative Rachel Nepia very soon as she heads off on parental leave. Rachel was been a valued member of Council over the last two years as she has provided very thoughtful input on a range of activities. Her enduring contribution has been her leadership on the 2019-2023 strategic plan. Rachel developed much of the content and drove the structure of the document. This will help us better direct our efforts and attention towards the core purposes of the society and also keep track of achievements and activities. Congratulations Rachel, all the best for this new 'project' and thanks so much for all you have done in your time with NZES Council.

Awards

Our awards are now open for nominations (see details elsewhere in this newsletter). We received very few nominations for the Outstanding Publication on New Zealand Ecology Award last year. We encourage everyone to start thinking now about their best published work from the last three years. Self-nominations are allowed. Please also think about suitable nominees for the Ecology in Action and Te Tohu Taiao Awards. Producing nominations for these awards is a substantial amount of work so we are grateful for all the nominations we receive. There is detailed guidance on the NZES website about putting together nominations. Please consider nominating under-represented minorities for all of our awards.

Journal

In addition to the standard two issues, this year we have our special issue on Mātauranga Māori and shaping ecological futures, which is in preparation. Thanks to the guest editorial team and all who submitted papers for this initiative. We hope the end result will be as well-received as the special issue of the New Zealand Journal of Marine and Freshwater Research on Mātauranga Māori - shaping marine and freshwater futures.

Katherine Russell is moving on from her role as technical editor of the NZ Journal of Ecology. On behalf of NZES Council, I would like to thank Katherine for her outstanding contribution to the running of the journal. We are seeking a new technical editor to fill the role. If you are interested, please email the journal editor, George Perry (nzjecol.editor@gmail.com) listing your relevant experience and your hourly rate by 20th July.

If you haven't already seen them, check out the first two of our hot topics on our website. https://newzealandecology.org/nzes-hot-topics Our intention here is to provide expert summaries of important ecological issues in Aotearoa. See the website for details on how to submit a hot topic.

Finally in journal news, the 2018 impact factors are out and we have risen from 1.309 to 1.447. We like to think this improvement is thanks to the excellent work of our editorial team and reviewers and the high quality of manuscripts in the journal. Thanks to all who read and cite papers from the journal and thanks to George for his leadership on all things journal-related.

Foulden Maar

Many of you will have been following the story of the proposed mine at Foulden Maar. NZES made a submission to the Overseas Investment Office strongly opposing the mine because of the extraordinary ecological significance of the fossils at the site. Thanks to Chris Lusk and Matt McGlone for preparing the submission on behalf of the society. For more information about Foulden Maar, see the excellent Wikipedia page https://en.wikipedia.org/wiki/Foulden_Maar.

Climate change

With our strategic plan for 2019-2023 now in place, we will be shifting some of our focus to developing a strategy around climate change action. We will share details as the strategy takes shape. In the meantime, we are seeing a growing

number of councils declaring climate emergencies. Some of our members may wish to sign this call for the NZ House of Representatives to declare a climate emergency http://claxon.nz/.

Noho ora mai,

Cate Macinnis-Ng, President

NZES Hot Topics

Following hot on the heels of the success of the Hot Topics programme run by the Ecological Society of Australia, the NZES aims to improve communication of science from the conservation and ecological community within Aotearoa New Zealand to the people of NZ. The NZES Hot Topic reports will likewise provide a robust source of ecological and conservation science to counter misinformation and evidence complacency. The programme was established in 2018 as an initiative of the Kauri Fund.

NZES Hot Topic reports are evidence-based communiqués on conservation, environmental and predominantly ecological issues that are currently either in the media, or of interest to a broad cross-section of people from policy makers, land managers, conservation volunteers. NZES Hot Topics aim to provide clear, concise, evidence-based statements that aspire to enhance the nature of scientific debate in New Zealand and objectively inform public discourse on topics of national and regional importance.

NZES Hot Topics is governed by an editorial team consisting of New Zealand-based ecologists George Perry and James Brock. More information about Hot Topics can be found here https://newzealandecology.org/nzes-hot-topics

The first Hot Topic is "Cats and biodiversity" and can be read here, on the NZ Ecological Society website https://newzealandecology.org/cats-and-biodiversity-nz

The second Hot Topic is "Threats to New Zealand's dryland ecosystems", a synthesis by Dr Susan Walker, Manaaki Whenua–Landcare Research. It can be found here https://newzealandecology.org/threats-new-zealand%E2%80%99s-dryland-ecosystems

Barlow Scholarship call for applications

Applications for the Barlow Scholarship are now open. The scholarship provides support to international (including Australian) postgraduate students studying ecology in New Zealand. Funds may be used for direct costs associated with research such as, but not limited to, field costs and analytical expenses, but excluding fees, living expenses and conference costs. Applicants must be enrolled in a New Zealand university for postgraduate study (MSc, PhD or equivalent) in ecology and can apply for up to $2,500.

The Barlow Scholarship was made possible by a generous bequest from Nigel Barlow. As a quantitative ecologist, Nigel Barlow made significant contributions

to our understanding of the dynamics of New Zealand's ecosystems, especially in the context of understanding animal population dynamics. He won the NZ Ecological Society Award (now the Te Tohu Taiao award) in 1986 for his sustained contributions to applied ecology in NZ.

Your application needs to include a statement outlining how the funding will assist your research and a supporting statement from your academic supervisor. An application form and further details are available on the website at http://newzealandecology.org/barlow-scholarship. Applications must be emailed to the Awards Convenor awards@newzealandecology.org by 4 June 2017.

NZES award nominations 2019

The following New Zealand Ecological Society awards are now open for nominations:

- Te Tohu Taiao - Award for Ecological Excellence
- Ecology in Action
- Outstanding Publication on New Zealand Ecology
- Honorary Life Membership

Details of the awards and nomination requirements are available on the website at http://newzealandecology.org/awards-grants. The awards are an opportunity to recognise New Zealand ecologists who have made an outstanding contribution to academic or applied ecology, transfer of ecological knowledge and service to the New Zealand Ecological Society. Nominations close Friday 30 August 2019. Please email all nominations to Bruce Burns at b.burns@auckland.ac.nz or awards@newzealandecology.org.

NZES student travel grants 2019

Applications are also open for student travel grants to attend the 2019 NZ Ecological Society conference at Lincoln University, Canterbury. Applications are due by Friday 13 September 2019. Details about the grants are available on the website at https://newzealandecology.org/awards-grants/student-travel-grants. Please email your application form and accompanying documentation to Bruce Burns at b.burns@auckland.ac.nz or travelawards@newzealandecology.org.

NZES Mentoring Scheme

We are pleased to announce the launch of the NZES mentoring scheme for 2019 as an opportunity for members to build their networks and develop their careers. We are seeking participants to act as mentors and mentees. We are hoping it will be a fun way to connect with and learn from ecologists across the country.

What does the scheme look like?

The mentoring scheme will run from August to November 2019. During this time, we expect mentoring pairs to meet once a month (4 meetings) for about an hour via Skype (or a similar video conferencing app) to discuss a particular issue or topic identified by the mentee. We have a list of suggested topics including combining work and family, returning to work, changing career paths, writing a manuscript and developing a career outside academia (please see the sign-up form for full list of topics). The first session will be focused around setting goals and expectations and planning for the remaining three sessions. We hope many of the pairs will then be able to meet at our annual conference in Lincoln (although participants are not required to attend the conference). We will ask for feedback because this is the first time we have run the programme. Many societies choose to have mentoring programmes for underrepresented minorities but we hope to provide this opportunity for all member early career ecologists (see definition below) as a way of fostering a culture of mentoring amongst ecologists.

The core values of effective mentoring relationships are:

Manaakitanga – cherishing and enhancing the mana of others.

Whanaungatanga – acknowledging and building relationships.

Kotahitanga – a shared understanding of the purpose and/or vision for the mentoring arrangement and a commitment to learning together.

For further information refer to https://royalsociety.org.nz/what-we-do/research-practice/mentoring-guidelines/he-waka-eke-noa-mentoring-in-the-aotearoa-new-zealand-research-community/

What do mentors look like?

Anyone with some experience in ecology can act as a mentor but we would expect mentors to have some experience relevant to some of the topics listed on the sign-up form. Good mentors are good listeners who take an interest in their mentee. Mentors should read this list of Top 10 Tips for Mentors https://www.sciencemag.org/careers/2010/10/top-10-tips-mentors before deciding to take on the role. We expect mentors to range from senior scientists and professionals to recently graduated PhDs. For early career researchers, this is a great way to build some leadership skills and we hope our more experienced members will enjoy interacting with people at earlier career stages. We will provide some training materials to mentors (with thanks to the British Ecological Society for sharing their mentoring documents). We welcome professional ecologists, people working in government, research scientists, self-employed ecologists, academics and postdocs as mentors. Mentors and mentees must negotiate a confidentiality agreement amongst themselves but as a general rule, mentoring sessions should remain confidential.

What do mentees look like?

We expect mentees to be students and recently graduated early career ecologists (within seven years of highest degree, excluding career gaps). We will also try to accommodate people who are changing career paths. Please

provide details of your eligibility for the scheme in the application form (link below). Ecologists who are in the work force (or looking for work) but are still in the early stages of their careers could apply to be both a mentor and a mentee. Mentees will be in charge of arranging meetings and planning the agenda. Mentees must be aware that mentoring and counselling are not the same. A mentee can choose to pull out of the scheme at any point but if a mentor cannot continue sessions for any reason, the mentee should get in touch with the scheme coordinator so we can try and make alternative arrangements. The most fruitful mentoring relationships happen when mentees are actively engaged in the process so those mentees who put more into the meetings will get more out of the scheme. Please make sure you can commit to four sessions (one each in August, September, October and November) before applying for the scheme.

What will be provided?

Mentors and mentees will be provided with some reading material prior to their first meeting to get everyone prepared for the sessions. We encourage everyone to read *He waka eke noa: Mentoring in the Aotearoa New Zealand research community* on the Royal Society Te Apārangi website https://royalsociety.org.nz/what-we-do/research-practice/mentoring-guidelines/he-waka-eke-noa-mentoring-in-the-aotearoa-new-zealand-research-community/ If there is interest, we may provide electronic certificates for participants at the end of the scheme.

What are the ongoing expectations?

As mentors will be busy, we ask mentees not to continue contacting the mentor once the scheme is complete. If mentees need further support, we hope to run the scheme annually so mentees may be able to seek advice from a new mentor each year they remain a member of NZES. We will ask all participants to follow the professional code of conduct of the Royal Society Te Apārangi https://royalsociety.org.nz/who-we-are/our-rules-and-codes/code-of-professional-standards-and-ethics/

Why are we running the scheme?

This is one way we can provide an additional benefit for members. In our 2017 member survey, many ecologists said they would like more networking opportunities and benefits for members. This is a cost-effective and low carbon approach to creating links across the ecology community of Aotearoa.

Any other mentoring opportunities with NZES?

We also have the reviewer mentoring scheme with the New Zealand Journal of Ecology. https://newzealandecology.org/nzje/nzje-reviewer-mentoring-scheme This scheme is specifically for early career researchers looking to learn more about the review process. Feel free to sign up to this scheme as well!

Any questions?

Please email Cate Macinnis-Ng c.macinnis-ng@auckland.ac.nz or reach out on Twitter @LoraxCate

To participate in the NZES mentoring scheme, please fill out the form by Tuesday 23rd July 2019 https://forms.gle/FbtQrWuGxJecCDiB6

As this is the first year we will be running the scheme, we are unable to guarantee that we can accommodate everyone but we will do our best to support all applicants. If the scheme is over-subscribed, we may arrange some peer-to-peer mentoring groups around particular topics.

Where am I now? The story of an NZES Kauri Seed Scholar three years later

Sarah Busbridge
MSc Researcher | People, Cities & Nature Programme

During my second year of undergraduate study at AUT, the NZES Kauri Seeds Scholarship allowed me to attend the 2016 joint NZES and SERA (Society for Ecological Restoration Australasia) conference. At the time, I knew I wanted to carry on to postgraduate study, but I wasn't too sure what subject I wanted to focus on. The diverse range of talks definitely helped broaden my knowledge, as well as open my eyes to how science communication worked outside of university. Specifically though, it was the presentations on urban ecology that I found the most interesting.

In my final year of undergrad study, this conference experience inspired my research project investigating the distribution, diversity and abundance of native and non-native moths in New Zealand cities. Urban ecology definitely stuck!

It was this newly-kindled interest that lead me to my current masters position, studying urban forest restoration as part of the People, Cities and Nature research programme at the University of Waikato. I'm currently in the second year of my masters under the supervision of Dr. Kiri Joy Wallace and Professor Bruce Clarkson. My research combines a social and ecological approach to explore the link between research and implementation in urban restoration projects, and factors influencing the regeneration of native trees.

Thank you to NZES for getting me started on my urban ecology journey! I hope in the future I will find employment that allows me to continue similar work, helping to return our indigenous flora and fauna to Aotearoa's cities.

Announcing Two New Kanakana (Lamprey) Citizen Science Projects

Allison Miller
PhD Student, University of Otago, Dunedin

Do you, or others you know, spend time near rivers or streams? If yes, please consider these two kanakana citizen science projects!

FISHYbites: A site for collecting much-needed information about Southern Hemisphere lamprey feeding preferences. What do Southern Hemisphere lamprey eat? In order to help answer this question, FISHYbites citizen scientists are asked to keep a look out for bite marks on prey fish and "log the bite" if they see them. Check it out here: https://a3miller.wixsite.com/fishybites

iNaturalist Lamps_for_champs: A site for collecting vital Southern Hemisphere lamprey distribution data. Where are lamprey found in the Southern Hemisphere? iNaturalist Lamps_for_champs citizen scientists are asked to "Add an Observation" about a lamprey they find in the wild to help answer this question.

Check it out here: https://www.inaturalist.org/projects/lamps_for_champs-9d14be44-0fd6-4f57-8774-4be2451c16be

Information from these projects will be used by natural resource managers to improve their management strategies and better protect the species. This protection is particularly important now since lamprey numbers are decreasing due to habitat alteration, disease, and climate change.

News from across the ditch

The Ecological Society of Australia June bulletin includes articles about environmental legislation, engagement of members of ecological societies in the political process and communicating ecological challenges to children through books. You can read more online here: https://www.ecolsoc.org.au/files/bulletins/bulletin_june2019_0.pdf

Publications in the current issue of NZ Journal of Ecology (Volume 43, Issue 1)

Research Article

Invertebrates of an urban old growth forest are different from forest restoration and garden communities : 3350
Richard J. Toft, Denise E. Ford, Jon J. Sullivan, Glenn H. Stewart

Identification of potential invertebrate bioindicators of restoration trajectory at a quarry site in Hunua, Auckland, New Zealand : 3360
Mike H. Bowie, Erica Stokvis, Keith Barber, John Marris, Simon Hodge

Loss of wetlands since 1990 in Southland, New Zealand : 3355
Hugh A. Robertson, Anne-Gaelle Ausseil, Brian Rance, Harley Betts, Eva Pomeroy

Predator control on farmland for biodiversity conservation: a case study from Hawke's Bay, New Zealand : 3358
Alistair S. Glen, Mike Perry, Ivor Yockney, Sam Cave, Andrew M. Gormley, Campbell Leckie, Rod Dickson, Wendy Rakete-Stones, Pouri Rakete-Stones, Grant L. Norbury, Wendy A. Ruscoe

Costs and benefits of aerial 1080 operations to Western weka (*Gallirallus australis australis*) : 3353
Joris S.J. Tinnemans, Graeme P. Elliott, Tristan E. Rawlence, Anja McDonald, Mara A. Nydegger Bell, Christopher W. Bell, Kirsty J. Moran

Kea survival during aerial poisoning for rat and possum control : 3351
Joshua R. Kemp, Corey C. Mosen, Graeme P. Elliott, Christine M. Hunter, Paul van Klink

Using paired acoustic sampling to enhance population monitoring of New Zealand's forest birds : 3356
Sara P. Bombaci, Liba Pejchar

The role of pine plantations in source-sink dynamics of North Island robins : 3362
Nikki McArthur, Rebecca L. Boulton, Yvan Richard, Doug P. Armstrong

Ecology of scree skinks (*Oligosoma waimatense*) in O Tu Wharekai Wetland, mid-Canterbury high country, New Zealand : 3354
Marieke Lettink, Joanne M. Monks

Does evolution in isolation from mammalian predators have behavioural and chemosensory consequences for New Zealand lizards? : 3359
Joanne M. Monks, Nicola J. Nelson, Charles H. Daugherty, Dianne H. Brunton, Richard Shine

Early Holocene plant remains from the Cromwell Gorge, Central Otago, New Zealand : 3363
Matt S. McGlone, Jamie R. Wood

Short Communication

The first recorded interaction between two species separated for centuries suggests they were ecological competitors : 3361
Helen R. Taylor, Nicola J. Nelson, Kristina M. Ramstad

Forum Article

Apomixis in indigenous New Zealand woody seed plants and its ecological and wider significance: a working hypothesis : 3357
Brian P.J. Molloy

Other recent publications on New Zealand ecology

Bruce Burns

Apologies if I have missed your publication in my search. If I have, please send a citation to b.burns@auckland.ac.nz so I can include it in the next Ecotones.

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Noticeboard and upcoming conferences

New Zealand Ecological Society Conference 2019
1 - 5 December
Lincoln University, Lincoln, New Zealand

Call for Abstract Submissions Now Open!

The NZES 2019 Conference Committee welcome submissions across all ecological topics. Click here for more information

Key Dates

Abstract Submissions Close: 25 August

Presenters Notified by: 4 September

Programme Highlights

We are excited to announce 4 of our invited speakers as well as the confirmed symposia for this year's conference. Scroll down to view.

Invited Speakers

David Bowman

Professor David Bowman holds a research chair in Pyrogeography and Fire Science in the School of Natural Sciences and is the Director of the transdisciplinary Fire Centre at the University of Tasmania. Read more

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Angela Moles

Professor Angela Moles leads the Big Ecology Lab, in the School of Biological, Earth and Environmental Sciences at UNSW Sydney. Read more

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George Perry

Professor at the School of Environment at the University of Auckland, where he teaches the broad areas of terrestrial ecology, environmental change and associated quantitative methods. Read more

Susan Walker

A conservation ecologist, researcher, and research programme leader in Manaaki Whenua - Landcare Research. Dr Susan Walker has often worked at the interface of conservation ecology research with resource management policy, the law, agencies, and bureaucrats. Read more

Confirmed Symposia

- Myrtles for Tomorrow: Myrtle Rust Research Updates - *Sponsored by Beyond myrtle rust: Towards ecosystem resilience*
- Enhancing Functional Biodiversity in Agroecosystems - *Sponsored by AUT*
- Mast seeding
- Contemporary Evolution in Response to Environmental Change
- Enhancing and protecting biodiversity of New Zealand's productive and conservation grasslands
- Ecology of dispersal, from species to landscapes
- Next generation on next-generation sequencing
- Invasive species and their ecological impacts
- Species interaction networks - Bridging the gap from theory to the field
- Ecology and management of fire
- Mātauranga Māori

Find Out More

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11th INTECOL International Wetlands Conference, Christchurch, 2020

The INTECOL Wetland Working Group (WWG) will hold the 11th INTECOL International Wetlands Conference in Christchurch, New Zealand, in Spring 2020. The Chair of the organizing committee is Philippe Gerbeaux, and the Co-Chairs are Deirdre Hart, Clive Howard-Williams, Di Lucas, Aroha Mead and Shona Myers. The tentative conference theme is: Traditional knowledge and innovative science in wetland research and management. A strong Maori and Oceania cultural presence is guaranteed within and around the conference.

Stay tuned for more information! http://intecol.org/node/37

Botanic Gardens Australia New Zealand 9th Congress

Te Papa (Wellington) 20-23 October, 2019

Plants from the past – plants for the future

https://www.confer.nz/bganz2019/

This conference will explore the role of Botanic Gardens in science communication & story-telling, plant conservation, managing collections and displaying plants. Join us – or submit an abstract to contribute your ideas. There are keynote speakers on biosecurity, climate change, plant blindness, cultural use and more. Key note speakers include Dr Kath Dickinson (Otago University) and Dr Cate Macinnis-Ng (Auckland University). Botanic Gardens Australia and New Zealand (BGANZ) is the peak body representing all botanic gardens in Australia and New Zealand. BGANZ promotes the interests and activities of all Australian and New Zealand botanic gardens through its 140 member gardens, enhancing the state of botanic gardens internationally.

37th annual John Child Bryophyte and Lichen Workshop Camp Taringatura, Southland -- 14 - 19 November 2019

We are pleased to announce that the 2019 John Child Bryophyte and Lichen Workshop will be based at Camp Taringatura from the evening of **Thursday, 14 November**, to the morning of **Tuesday, 19 November**. The Camp sits beside the Taringatura Reserve, situated between Dipton and Winton. Nearby are all sorts of rare and interesting remnants of the original wetlands, tussock grasslands, shrublands, rock outcrops, and diverse forests that once covered the Southland plains and Hokonui Hills, most of them carefully preserved by QEII Covenants or DOC Reserves. The covenant owners especially will be pleased to have bryophytes and lichens added to their species lists.

The workshop is open to anyone and everyone with an interest in the mosses, liverworts, and lichens of New Zealand, from beginner to expert. We have booked exclusive use of Camp Taringatura for the workshop and accommodation is available on site (bunks in 5 separate cabins for $25/night or campsites for $15/night). Evening meals will be catered and breakfast/lunch foods will be provided as well. We anticipate total cost for the workshop will be around $350; we will be requesting a deposit of $150 to confirm your place by 14 October.

Tom Moss Award: This award is open to any student studying any aspect of Australasian bryophytes and/or lichens. See the Wellington Botanical Society page for details.

Botanical Society of Otago Grants: This year the Botanical Society of Otago is offering two grants of $100 each to assist two people who might otherwise not be able to attend the workshop. If you would like to apply for one of these grants, please email bso@otago.ac.nz by 1 September with a paragraph summary, including:

1) Your background and why you would benefit from the grant

2) What you can do to benefit the Workshop (e.g., give a talk, help set up a display table)

Estimate of numbers: We would appreciate your indication of interest in attending the workshop. Please email angela.j.brandt@gmail.com as soon as possible with one of the following responses:

1. Yes, I will be attending the workshop and I'll stay at Camp Taringatura
2. Yes, I will be attending the workshop but I will find my own accommodation
3. I do not know if I can attend yet but will let you know as soon as possible
4. No, I will not be attending this year
5. Please take me off your mailing list a) for this year or b) forever

Please spread the word! Feel free to pass this information on to any other interested parties, who can request to be added to the mailing list for further updates on the workshop. We will send out the next circular with more details by early May.

We look forward to seeing you in Southland this November!

Organisers: Angela Brandt, Allison Knight, Maia Mistral, John Steel, David Glenny, Kelly Frogley, and Penelope Gillette

ASBS-NZPCN 2019 Conference in Wellington

The 2019 New Zealand Plant Conservation Network conference will be held in Wellington on 24–28 November 2019. This is a joint conference with the Australian Systematic Botany Society. The conference title is "Taxonomy for Plant Conservation – Ruia mai i Rangiātea". The venue is the Museum of New Zealand Te Papa Tongarewa, Wellington, New Zealand. 5 full days including presentations, workshops, field trips, and public events. Get more details and subscribe to updates on the conference website https://systematics.ourplants.org/information/

Workshop on Ecological and Evolutionary Genomics

Where: Katoomba, Blue Mountains (NSW, Australia)
When: August 4th-9th 2019
Website: https://www.weeg2019.com/

Overview: The Workshop on Ecological and Evolutionary Genomics will be held in the stunning Blue Mountains of New South Wales, within the heart of the historical town of Katoomba 1.5hrs from Sydney, Australia. Topics covered will include landscape genomics, detecting selection, genomic structural variants, and DNA metabarcoding. Each day of the workshop is dedicated to a particular topic, with international and national academic presenters.

Participants will gain theoretical knowledge combined with analytical skills to produce results that are relevant for conservation biology and understanding evolutionary processes. The workshop is open to PhD and Masters students, post-docs, and all levels of faculty. The workshop assumes a basic understanding and working knowledge of population and evolutionary genetics and modern sequencing technologies.

Keynote presenters:

- Ary Hoffman (University of Melbourne, VIC)
- Brenna Forester (Colorado State University, USA)
- Niko Balkenhol (University of Goettingen, Germany)
- Maren Wellenreuther (University of Auckland/ Plant and Food Research, New Zealand)
- Anthony Chariton (Macquarie University)

Registration is via application only. A statement of interest and a brief 1-page CV is required (details: www.weeg2019.com).

Applications are to be sent to weeg2019@mq.edu.au by the CLOSING DATE APRIL 26th. Successful applicants will be invited to register within 1-2 weeks of the closing date. This workshop is funded by the NSW Chief Scientist Conference Sponsorship Grant, The Centre for Biodiversity Analysis (ANU/CSIRO), evomics.org and supported by Macquarie University Workshop director: Dr Rachael Dudaniec (Macquarie University);
Contact: weeg2019@mq.edu.au

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(Effective from December 2018)

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