

ENTOMOLOGICAL SOCIETY

NEWSLETTER



August 2019

Preparations are currently underway for the **69th annual conference of the New Zealand Entomological Society** to be held in Dunedin at the Otago Museum, 15th-17th April 2020. Jenny Jandt, Sheri Johnson and Priscilla Wehi are planning an exciting program for us. More details will be provided soon on our website and in our email updates.



Meanwhile, a lot has been happening behind the scenes. In particular, look out for an announcement about our new society website which will be launched in the coming weeks. Thanks go to website editor Aaron Harmer for all of his work on the new site.

The next edition of the Wētā is about to be sent to the printers. We recently asked members at the AGM whether an online only or print + online format was preferred with the response being that keeping both formats was best. Keep an eye out for it in your (e)mail soon.

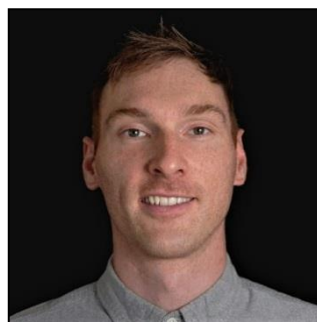
Anne Wignall (President)



Tūhura | Otago Museum, complete with tropical butterfly house, is the venue for the next Entomological Society Conference to be held 15-17 April 2020. Photos: Otago Museum

New Zealand Insect Data Inventory

In the April 2019 Newsletter we noted the increasing global interest in widespread insect decline. Dr. Barbara Barratt and others called for information to determine whether there is evidence for similar widespread insect decline here in New Zealand. Since then, Society members and others have been involved in a more detailed discussion around how to gather this evidence, particularly by accessing data on historic studies that could be repeated to assess changes in insect diversity and/or abundance over multiple decades. As part of this, MacDiarmid

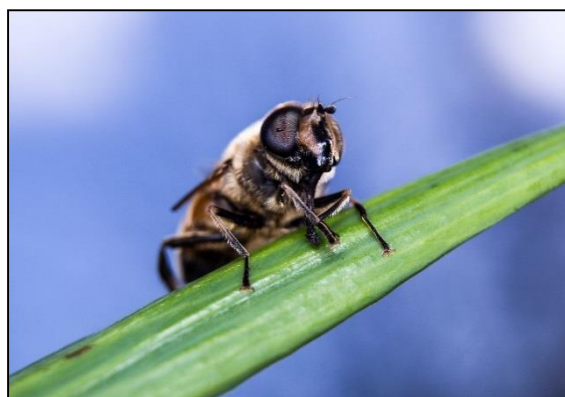


Institute post-doc Jonathon Barnsley has developed an online data submission form to help us build an inventory to form the basis of future follow-up studies. The New Zealand Insect Data Inventory (NZIDI) will be available soon via the Society website. Jonathan has done an amazing job so we asked him to share a bit about himself;

I am working as an intern for the Prime Ministers Chief Science Advisor, Prof. Juliet Gerrard, to scope insect decline in the New Zealand setting. I got on board with this project through a MacDiarmid Institute (materials science CoRE) intern initiative (<https://www.pmcsa.ac.nz/our-community/interns/>)

after doing a PhD in chemistry. I've spent the last two months talking with experts about the various issues surrounding 'insectageddon' and scoping out the opportunities on the horizon. I've had an interest in macro photography (https://www.instagram.com/jonathan_e_barnsley/?hl=en)

and have really enjoyed learning more about entomology and ecology in NZ. Setting up NZIDI came about through a need to understand the great work that has, and is, being done in entomology and ecology in New Zealand. I am excited to get the system going and to get it populated as it will be mentioned in my upcoming report. I hope NZIDI will shed light on the wealth of knowledge and expertise New Zealand has, whilst also highlighting the remarkable opportunities we have to better understand our unique insect fauna.



Some of Jonathan Barnsley's insect photos

21st Anniversary Award Winner 2018 (Report from March 2019)

Rebecca Le Grice: The biogeography of New Zealand's coastal Diptera

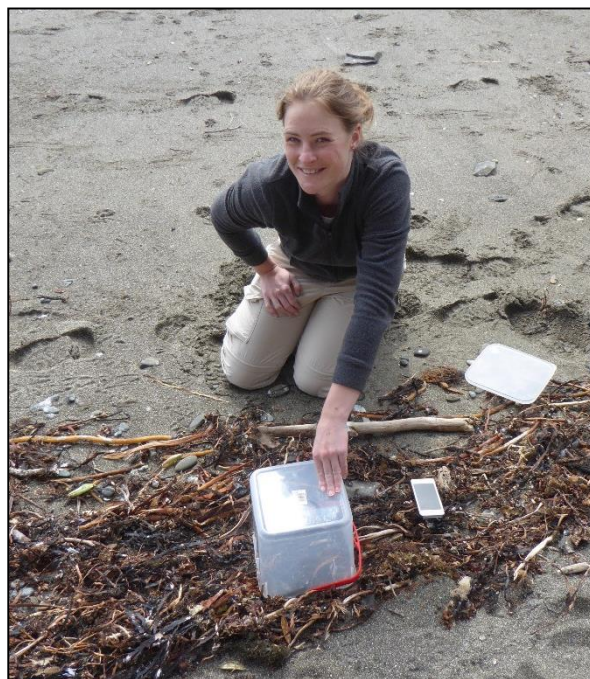
Te Kura Mātauranga Koiora | School of Biological Sciences, Uni. of Auckland

I am currently working on my PhD which includes research into both the ecology and behaviour of Diptera that live in coastal environments. In particular my research focuses on the kelp fly family, Coelopidae, within which New Zealand has a number of endemic species. Flies in this family complete their entire life cycle on wrack (marine debris washed up along a strandline). They utilise a variety of marine algae species, and can be found on almost any stretch of the coast provided that it receives some wrack.

One major component of my PhD involves surveying the coastline of New Zealand, collecting samples of flies and recording the environmental conditions. This research is an attempt to describe the patterns of distribution and diversity of Diptera with the surrounding environment.

I am interested in whether the species and species richness vary with changes in the coastline, such as the directional facing of the beach, the beach substrate, and the surrounding landscapes composition. Furthermore, I am interested to see whether change in latitude plays any role in species distributions and richness.

As part of these surveys I am also collecting standardised information on the kelp fly populations present. This data provides me with information on size variation, sex ratios, and species diversity. This is interesting because it will allow me to describe how kelp fly populations vary around the country, but also how they interact, and whether any of these interactions vary with the environmental conditions. For example, if a certain quantity of wrack of a certain type is

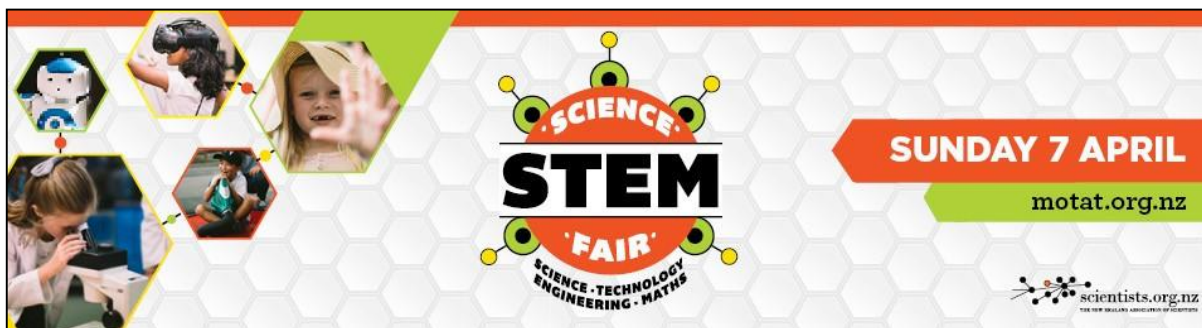


available, would we expect to find a dominance of one particular species of kelp fly, or not? I would like to thank The Entomological Society of New Zealand for providing me with a 21st Anniversary award. This funding was used to support some of my travel in the South Island where I surveyed a section of the east coast between Nelson and Christchurch, covering 13 sites.

At this stage of my research I have completed surveys in the South Island and Rakiura (Stewart Island), covering 49 independent sites. I have also partially covered the North Island, with a number of trips still to occur this year. All of the samples collected to date are awaiting identification, which will occur later this year. I am excited to begin analysing these samples, and to start work on answering some of these biogeographic questions above.

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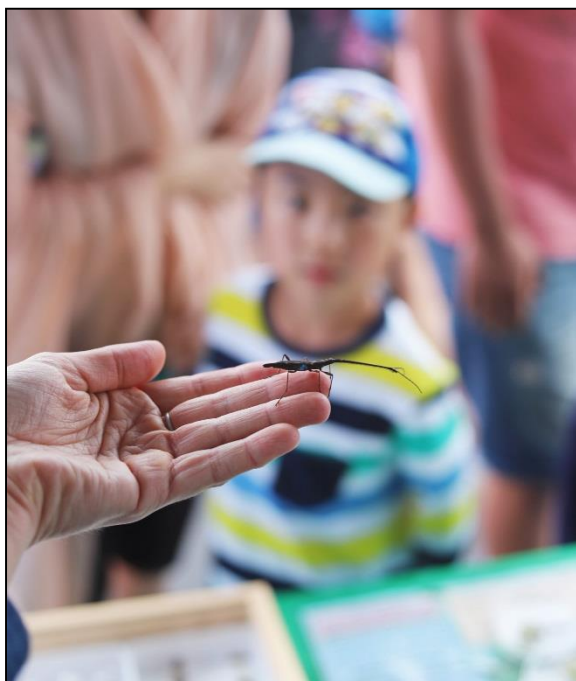
It's a Bugs' Lab – The Holwell Lab at the MOTAT STEM Fair



On Sunday the 7th of April, the Holwell Lab at the University of Auckland organised to take part in the Museum of Transport and Technology (MOTAT)'s Annual STEM Fair.

MOTAT describes their annual STEM Fair as “the perfect opportunity to introduce and engage kids with STEM subjects and inspire young minds to get excited about industry and learning”. The fair had a huge line-up of different stalls, each showing a diverse facet of what STEM currently represents, but is also developing into. This year, the STEM Fair attracted 2038 attendees.

The main aim of the Bugs' Lab stall was to have a fear-reduction focus on insects, with emphasis on the importance of ecosystem services that insects and spiders provide, as well as myth-busting, conservation, and in the end to hopefully improve the public perception of, and appreciation for, our focal groups.



It's a Bugs' Lab Continued:

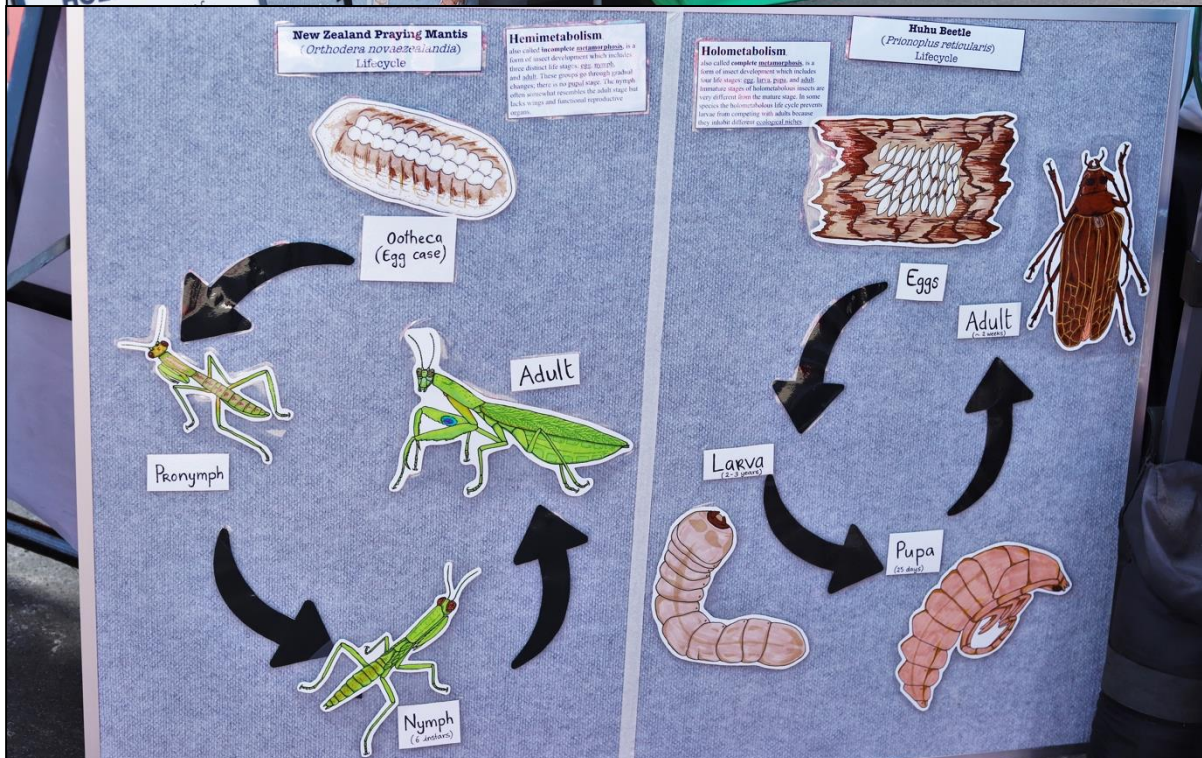
We felt that the day was a huge success, and we all had a lot of fun making people appreciate insects. We look forward to making it even better next year!

Here is a link to the video MOTAT created of the day. See if you can spot our wondrous critters!

<https://www.youtube.com/watch?v=tiju4cLTki4&feature=youtu.be>

Participants: Morgane Merien, Jaimi Gray, Bay Ryan, Tom Saunders, Erin Powell & Cass Mark-Chan.

Photos: Erin Powell.





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Entomologists sharing their science with the wider community

Tom Saunders, PhD candidate at the University of Auckland talks about how he is sharing his passion for entomology with the public through Science Hub.

The [Science Learning Hub – Pokapū Akoranga Pūtaiao](#) makes quality science more accessible for teachers, students, and the wider community. It hosts teaching and learning resources on hundreds of different subjects ranging from marine ecosystems to the latest drone technology. Images, videos, and animations are paired with articles explaining these concepts and showing how they can add context and impact to science teaching. Resources are designed to meet the needs of teachers and satisfy the requirements of the NZ curriculum.

The hub is managed by the [Wilf Malcolm Institute of Educational Research](#), Te Kura Toi Tangata, School of Education, The University of Waikato | Te Whare Wānanga o Waikato, and receives funding through the New Zealand Government's Curious Minds initiative. I've collaborated with the hub to publish two resources so far: [How insects smell](#) and An introduction to [native New Zealand wasps](#).

Now I'm encouraging other students and researchers to get involved with The Hub. I think it's important for students and researchers to communicate their science for a variety of reasons:

- Sharpen your writing by trying out different styles and tones.
- Make a name for yourself as an expert in your chosen area.
- Create opportunities for yourself after you finish study / your current work role.
- Give back to the community and inspire the next generation of scientists.

Putting your work out there may lead to all sorts of future collaborations or opportunities, it's a lot of fun, and it feels satisfying to give back.

Getting involved with Science Learning Hub is easy:

- Have a browse through some of the existing content on the hub to familiarise yourself with the different types of content they produce.
- Introduce yourself by emailing enquiries@sciencelearn.org.nz. Describe your career stage, your areas of expertise, and any ideas you might already have for a resource.
- Work with The Hub to focus on an idea and bring it to life.

Articles are a great way to start. They're usually around 500-600 words and they focus on explaining a concept. I would recommend working with The Hub to settle on an idea for an article, and then get a good first draft down. Rewrite it and tweak it before sending it in for feedback. The Hub will supply you with a style guide to help you polish your drafts and cut down on the amount of editing that needs to be done, so remember to do your best before sending a draft in. You may also be asked to put your work into a Hub-supplied document template which makes the process faster for the editor. If you have any great images, video, or sound recordings you can add those too. Just check with The Hub regarding copyright. I like to use openly licensed images, for example images from [Wikimedia Commons](#) or [iNaturalist](#) released under a Creative Commons License.

Share your knowledge and inspire the next generation of scientists by working with Science Learning Hub to create awesome teaching resources.

Regional Updates

Wellington Branch:

George Vernon Hudson, natural historian & moth scientist, recorded, curated and painted moths from the Karori Reservoir area from 1891 until at least the 1930's. The 100-year moth project, a collaboration between the Wellington branch of the Entomological Society and Te Māra a Tāne | Zealandia Eco-sanctuary, aims to re-record moths from the same place observing and reporting changes over 100 years in this important indigenous-forest dominated valley within Wellington city. The first survey of the project was conducted at Zealandia on 3 August and attended by J. Kasper, R. Salvador, E. Edwards, W. Brockelsby, C. Hornabrook, and U. Schneehagen. Not surprisingly, few insects were active in the winter conditions (8-10°C). Approximately 14 commonly occurring species of moth were found including *Tmetolophota steropastis*, *Graphania plena*, *G. mutans*, *Diarsia intermixta*, *Bityla defigurata*, *Rhapa scotosialis*, '*Cnephasia*' *jactatana*, *Planotortrix excessana*, another Tortricidae sp. leafroller, *Cleora scriptaria* (larvae), *Liothula omnivore* and two micro-moth spp. tentatively Tineidae.

Several species of small flies (Chironomidae, Mycetophilidae, Tipulidae, and Sciaridae), the lacewing *Micromus tasmaniae*, 3 species of caddis and *Zealandobius* sp. stonefly were also observed. The next survey is planned for the 31st of August near the upper reservoir.



The light form of *Rhapa scotosialis* resting on a leaf in situ. Photo: U. Schneehagen

Auckland Branch:

The Auckland Branch Annual Dinner was held on the 25th of July in the large meeting room in the Tamaki Campus of Landcare Research. As last year we enjoyed a large selection of pizzas that were ordered after most people had arrived. This year's competition was 'the best Christmas Bug'. The first prize went to Bill Goldstone for the fine effort depicted below.

Nicholas Martin, *Branch Secretary*
martin999na@gmail.com.



Bill Goldstone's winning entry for the Auckland Branch annual dinner 'Best Christmas bug'.

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Otago Branch:

On 1 August, Otago branch members joined Anthony Stumbo, Living Environments Coordinator for the Otago museum, on an exciting and hugely informative guided tour of the museums tropical butterfly garden. Functionally, he explained, the garden is considered a zoo, housing exotic animals not naturalised in New Zealand. The museum has permission to house ~125 species in the facility.

The garden can hold upwards of 1,000 butterflies (on average 20 species), which are imported to New Zealand as chrysalises and hatched in a quarantine room before being released into the garden.

The museum sources their butterflies from the Philippines and rarely from Costa Rica. It was explained that these places both engaged actively in community building and restoration projects with endangered butterfly species. Some other communities can engage in butterfly “sweatshops”, making purchases unethical.

In addition to the butterflies there are three tarantulas with their own penthouse suites. Their recent moults bought much delight to branch members. Attendees agreed it was an excellent tour well worth a visit during the 2020 conference which will be hosted at the museum.



Otago branch members enjoying the Otago Museum Tropical Butterfly Garden complete with tarantula moults! Photos provide by Emma Curtin (Otago Branch President).

Recent Publications by Entomological Society Members:

El-Sayed AM, Sporle A, Gemenio C, Jósvali JK, Simmons GS, Suckling DM (2019). Leafroller-induced phenylacetonitrile and acetic acid attract adult *Lobesia botrana* in European vineyards. *Zeitschrift für Naturforschung C* 74: 161-165.

DOI: [10.1515/znc-2018-0163](https://doi.org/10.1515/znc-2018-0163)

El-Sayed AM, Venkatesham U, Unelius CR, Sporle A, Pérez J, Taylor PW, Suckling DM (2019). Chemical composition of the rectal gland and volatiles released by female Queensland fruit fly, *Bactrocera tryoni* (Diptera: Tephritidae). *Environmental Entomology* 48: 807-814.

DOI: [10.1093/ee/nvz061](https://doi.org/10.1093/ee/nvz061)

Gardiner T, Kuramoto N, Matsuba M (2019). Big in Japan: importance of riparian corridors for Orthoptera. *Journal of Orthoptera Research* 28(1):27-35. DOI: [10.3897/jor.28.31380](https://doi.org/10.3897/jor.28.31380)

Mansfield S, McNeill MR, Aalders LT, Bell NL, Kean JM, Barratt BIP, Boyd-Wilson K, Teulon DAJ (2019) The value of sentinel plants for risk assessment and surveillance to support biosecurity. *NeoBiota* 48: 1-24.

DOI: [10.3897/neobiota.48.34205](https://doi.org/10.3897/neobiota.48.34205)

Marinov M, Ashbee M (2019). [Dragonflies and Damselflies of New Zealand](#). Auckland University Press, Auckland, New Zealand. 168p.

Nakano M, Morgan-Richards M, Godfrey AJR, Clavijo McCormick, A (2019). Parthenogenetic females of the stick insect *Clitarchus hookeri* maintain sexual traits. *Insects* 10(7), 202.

DOI: [10.3390/insects10070202](https://doi.org/10.3390/insects10070202)

O'Brien DM, Boisseau RP, Duell M, McCullough E, Powell EC, Somjee U, Solie S, Hickey AJ, Holwell GI, Painting CJ, Emlen DJ (2019). Muscle mass drives cost in sexually selected arthropod weapons. *Proceedings of the Royal Society B*, 286 (1905). DOI: [10.1098/rspb.2019.1063](https://doi.org/10.1098/rspb.2019.1063)

Prezoto F, Maciel TT, Detoni M, Angie Zuleidi Mayorquin AZ, Barbosa BC (2019). Pest control potential of social wasps in small farms and urban gardens. *Insects* 10(7): 192.

DOI: [10.3390/insects10070192](https://doi.org/10.3390/insects10070192)



Seldon DS, Buckley TR (2019). The genus *Mecodema* Blanchard 1853 (Coleoptera: Carabidae: Broscini) from the North Island, New Zealand. *Zootaxa* 4598, 1-148.

DOI: [10.11646/zootaxa.4598.1](https://doi.org/10.11646/zootaxa.4598.1)

Stringer LD, Soopaya R, Butler RC, Vargas RI, Souder SK, Jessup AJ, Woods B, Cook PJ, Suckling DM (2019). Effect of lure combination on fruit fly surveillance sensitivity. *Scientific Reports* 9: 2653.

DOI: [10.1038/s41598-018-37487-6](https://doi.org/10.1038/s41598-018-37487-6)

Suckling DM, Stringer LD, Kean JK, Baird D (In press). Will growing invasive arthropod biodiversity outpace our ability for eradication? *Ecological Applications*:

DOI: [10.1002/eap.1992](https://doi.org/10.1002/eap.1992)

Walton, A, Jandt, JM, Dornhaus, A (2019). Guard bees are more likely to act as undertakers: variation in corpse removal in the bumble bee *Bombus impatiens*. *Insectes Sociaux* (online).

DOI: [10.1007/s00040-019-00718-8](https://doi.org/10.1007/s00040-019-00718-8)

Knit-a-critter challenge!

Since October 2015 RNZs Jesse Mulligan and DOC Threatened Species Ambassador Nicola Toki have presented Critter of the Week. Their 15 minute Friday afternoon chat highlights the 'uncharismatic but lovable members of NZ's wildlife community'. Over the years it has featured many insects, spiders, and other invertebrates, starting with the New Zealand Bat Fly in the very first episode. Many members of the NZ Entomological Society have contributed their professional expertise to the show over the years and some of you may even have purchased one of the famous Critter of the Week T-shirts. This year a new challenge has been posted, namely KNIT-A-CRITTER.

Given the relative lack of invertebrate activity in the middle of winter, I would like to challenge you to show-off your entomological creativity and get knitting!

Go to <https://www.rnz.co.nz/knitacritter> for rules and entry details. We'd love to share your amazing entries in the next Society Newsletter so please send a picture to secretary@ento.org.nz.

BOOK & POSTER SALE

Due to the closure of our book distributor, Touchwood Books, the Society is looking to reduce our book stock before moving to a new storage facility. We will be offering a limited-time sale on books and posters listed below, and giving away some older and outdated items. Look out for the link on the Society website soon:

- The Monarch Butterfly in New Zealand
- Butterflies of New Zealand Poster
- Spiders of New Zealand Poster
- The Wētā volumes 29 – 49
- Guide to Aquatic Insects of New Zealand



 **RNZ** AFTERNOONS WITH
JESSE MULLIGAN



Check out Max Alexander Woolly Moth Creations for some inspiration:
<http://www.theyarnloop.com/article/max-alexander-s-woolly-moths>

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