



PARASITOLOGY

October 2023 Contents

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New Zealand Society for Parasitology October 2023 Newsletter

President's Post

Greetings NZSP members

A lot has happened since our March newsletter. Our 2023 conference was held in Dunedin at the end of May, and featured a range of presentations, from livestock to wildlife parasitology.

A special mention to the student presentations, which were a personal highlight of the conference, making it very hard to judge. Bridget Lamont won the student talk with her (currently very topical) presentation on "Tracking and Treating *Cryptosporidium* in Aotearoa", and Célia Koellsch won the student poster prize with "Parasitic manipulation and the role of the microbiome on phenotypic changes in amphipods *T. serrulata*".

Sponsors

A big thank you to our sponsors for their generous support of both NZSP and PAD;

Alleva Animal Health, Boehringer Ingelheim, Donaghys, Elanco, PGG Wrightson, Vetmed and Zoetis.

Thank you also to our keynote speakers – **Michelle Taylor** from Plant and Food Research, who spoke about Varroa control in bees, and **Emma Chen** from the Dunedin Wildlife Hospital who kept us entertained with stories about the challenges of parasites for our local wildlife.

Special thanks also to **Jerusha Bennett** and **Vic Chapman** who were on the local organising committee, and who put in a lot of work to make it the success it was.

Parasite Advisory Day (PAD)

Held at Invermay this was well attended, with around 50 in-person attendees, and another 20 attending online to hear practical parasitology advice.

World Conference Attendance

In August, Tania Waghorn and I both attended the 29th International Conference of the World Association for the Advancement of Veterinary Parasitology in Chennai, India. While the conference was smaller than in previous years, it was a great chance to have in-person conversations once again and talk to fellow parasitologists from throughout the world. The theme of the conference was "Parasites; Global Impacts, Local Solutions".

As you will see below, we have our AGM online on Friday the 27th of October, so please put it in your calendars! We are looking for more members to join the Committee, so if you would like to join us, now is your chance. We are more than happy to answer any questions about what it involves, so if you are thinking of joining, please get in touch.

Kathryn McRae, NZSP President

AGM

This is to let you know that the NZSP AGM is scheduled on Friday 27th of October at 2 pm via Teams ([Click here to join the meeting](#)). If you would like a calendar invitation sent through, please contact Kathryn (Kathryn.mcrae@agresearch.co.nz).

The minutes of last year's AGM, the latest audited accounts and the agenda will be circulated closer to the time. The un-audited accounts are included below. If you like to add an item to the AGM agenda or nominate someone for any executive committee position, please get back to Remy by Friday 20th of October.

Student Conference Grant winners

This year the NZSP Student Conference Grant was awarded to Bridget Lamont and Laura Saywell. Both Bridget (PhD candidate) and Laura (Master of Science student) are in the [Parasitology Lab](#) in the Department of Microbiology and Immunology at the University of Otago, and their research focusses on the biology of the intestinal parasite *Cryptosporidium parvum*.

Next year's conference

Date: 26-29 August 2024
Location: University of Auckland.
Faculty of Engineering bldg. 401,
20 Symonds Street, Auckland

Dear fellow Parasitologists,

We would like to share with you the members of the scientific organisation committee for the 2024 ASP/NZSP-ICAP conference, which will bring together the Australian and New Zealand Societies for Parasitology and the 7th International Conference on Anaerobic Protists.

The **Scientific Committee** embraces the various themes on parasitology, including NZ and Australian Parasitologists in addition to Anaerobic Protozoologists from other countries:

Chair:- Augusto Simoes-Barbosa (University of Auckland, NZ): Trichomonas

ASP Executive Officer and Conference Coordinator. Lisa Jones: Conference organiser

ASP Research Network Convenor. Nick Smith (University of Technology Sydney, Australia): Parasite immunology

NZSP President. Kathryn McRae (AgResearch, NZ): Genetics livestock parasitology

ASP President. Danny Wilson (University of Adelaide, Australia): Malaria

NZSP Representative. Stephanie Godfrey (University of Otago, NZ): Wild-life parasitology

ASP Representative. Una Ryan (Murdoch University, Australia): Cryptosporidium

ICAP scientific committee member. Carmen Faso (University of Bern, Switzerland): Giardia

ICAP scientific committee member. Upinder Singh (Stanford University, USA): Entamoeba

You can always keep yourself updated by visiting our website <https://icap2024.org/>. You are welcome to contact me here: a.barbosa@auckland.ac.nz. I am looking forward to welcoming you all to our 2024 conference in Auckland.

Augusto Simoes-Barbosa,
2024 ASP/NZSP-ICAP conference Chair

The 2023 Primary Industries New Zealand Awards

Dr Dave Leathwick, was presented with the Primary Industries Champion Award in July for his knowledge sharing and effective communication, and for championing parasite control and anthelmintic drug resistance management.

<https://primaryindustries.co.nz/awards/winners-2023>

2023 Young Farmer of the Year

Congratulations to Society Committee member Emma Poole on winning this years contest. As the first female winner in 55 years she really did "knock the grass ceiling off the roof".

Recent Publications

Please feel free to forward on any recent articles by NZSP members for inclusion in the next newsletter.

The following extensive list has Parasitology Society members names in the list of authors in **bold type**.

Artuyants, A., Hong, J., Dauros-Singorenko, P., Phillips, A., & **Simoes-Barbosa, A.** (2023, Jul 24).

Lactobacillus gasseri and Gardnerella vaginalis produce extracellular vesicles that contribute to the function of the vaginal microbiome and modulate host-Trichomonas vaginalis interactions. *Mol Microbiol.* <https://doi.org/10.1111/mmi.15130>

Barnett, M. J., Pinheiro, J., Keown, J. R., Biboy, J., Gray, J., Lucinescu, I. W., Vollmer, W., Hirt, R. P., **Simoes-Barbosa, A.**, & Goldstone, D. C. (2023, Aug).

NlpC/P60 peptidoglycan hydrolases of Trichomonas vaginalis have complementary activities that empower the protozoan to control host-protective lactobacilli. *PLoS Pathog*, 19(8), e1011563. <https://doi.org/10.1371/journal.ppat.1011563>

Basilico, N., Parapini, S., D'Alessandro, S., Misiano, P., Romeo, S., Dondio, G., Yardley, V., Vivas, L., Nasser, S., Rénia, L., **Russell, B. M.**, Suwanarusk, R., Nosten, F., Sparatore, A., & Taramelli, D. (2023, May 14).

Favorable Preclinical Pharmacological Profile of a Novel Antimalarial Pyrrolizidinylmethyl Derivative of 4-amino-7-chloroquinoline with Potent In Vitro

and In Vivo Activities. *Biomolecules*, 13(5). <https://doi.org/10.3390/biom13050836>

Bennett, J., Poulin, R., & Presswell, B. (2023, May). Acanthocephalan diversity and host associations revealed from a large-scale biodiversity survey. *Diversity*, 15(5), 665. <https://doi.org/10.3390/d15050665>

Bennett, J., Presswell, B., & Poulin, R. (2023, May). Tracking life cycles of parasites across a broad taxonomic scale in a marine ecosystem. *Int J Parasitol*, 53(5-6), 285-303. <https://doi.org/10.1016/j.ijpara.2023.02.004>

Coker, S. M., McInnes, K., Vallee, E., Biggs, P., Pomroy, W. E., Howe, L., & Morgan, K. J. (2023, Jun). Molecular characterisation and additional morphological descriptions of *Eimeria* spp. (Apicomplexa: Eimeriidae) from brown kiwi (*Apteryx mantelli* Bartlett). *Syst Parasitol*, 100(3), 269-281. <https://doi.org/10.1007/s11230-023-10086-4>

de Angeli Dutra, D., Salloum, P. M., & **Poulin, R.** (2023, Jan). Vector microbiome: will global climate change affect vector competence and pathogen transmission? *Parasitol Res*, 122(1), 11-17. <https://doi.org/10.1007/s00436-022-07734-x>

Doherty, J. F., Bhattarai, U. R., Ferreira, S., Poulin, R., Gemmell, N. J., & Dowle, E. J. (2023, Jul). The proof is in the poo: Non-invasive method to detect endoparasitic infection. *Mol Ecol Resour*, 23(5), 990-1001. <https://doi.org/10.1111/1755-0998.13763>

Eriksson, A., Filion, A., Labruna, M. B., Muñoz-Leal, S., **Poulin, R.**, Fischer, E., & Graciolli, G. (2023, Jun). Effects of forest loss and fragmentation on bat-ectoparasite interactions. *Parasitol Res*, 122(6), 1391-1402. <https://doi.org/10.1007/s00436-023-07839-x>

Hasik, A. Z., de Angeli Dutra, D., **Doherty, J. F.**, Duffy, M. A., **Poulin, R.**, & Siepielski, A. M. (2023, Jan). Resetting our expectations for parasites and their effects on species interactions: a meta-analysis. *Ecol Lett*, 26(1), 184-199. <https://doi.org/10.1111/ele.14139>

Henriksen, E.H., Frainer, A., **Poulin, R.**, Knudsen, R.,

& Amundsen, P-A. (2023). Ectoparasites population dynamics are affected by host body size but not host density or water temperature in a 32-year long time series. *Okios*, e09328. <https://doi.org/10.1111/oik.09328>

Hutson, K. S., Davidson, I. C., **Bennett, J., Poulin, R., & Cahill, P. L.** (2023, Jul). Assigning cause for emerging diseases of aquatic organisms. *Trends Microbiol*, 31(7), 681-691. <https://doi.org/10.1016/j.tim.2023.01.012>

Nazarizadeh, M., Nováková, M., Loot, G., Gabagambi, N. P., Fatemizadeh, F., Osano, O., **Presswell, B., Poulin, R.**, Vitál, Z., Scholz, T., Halajian, A., Trucchi, E., Kočová, P., & Štefka, J. (2023, Mar). Historical dispersal and host-switching formed the evolutionary history of a globally distributed multi-host parasite - The *Ligula intestinalis* species complex. *Mol Phylogenet Evol*, 180, 107677. <https://doi.org/10.1016/j.ympev.2022.107677>

Nielsen, M. K., **Leathwick, D. M., & Sauermaann, C. W.** (2023, Aug). Shortened strongylid egg reappearance periods in horses following macrocyclic lactone administration - The impact on parasite dynamics. *Vet Parasitol*, 320, 109977. <https://doi.org/10.1016/j.vetpar.2023.109977>

Ong, J. J. Y., Oh, J., Yong Ang, X., Naidu, R., Chu, T. T. T., Hyoung Im, J., Manzoor, U., Kha Nguyen, T., Na, S. W., Han, E. T., Davis, C., Sun Park, W., Chun, W., Jun, H., Jin Lee, S., Na, S., Chan, J. K. Y., Park, Y., **Russell, B.**, Chandramohanadas, R., & Han, J. H. (2023, Feb 5). Optical diffraction tomography and image reconstruction to measure host cell alterations caused by divergent *Plasmodium* species. *Spectrochim Acta A Mol Biomol Spectrosc*, 286, 122026. <https://doi.org/10.1016/j.saa.2022.122026>

Paterson, R. A., **Poulin, R.**, & Selbach, C. (2023, Jun 26). Global analysis of seasonal changes in trematode infection levels reveals weak and variable link to temperature. *Oecologia*. <https://doi.org/10.1007/s00442-023-05408-8>

Poulin, R. (2023, Sep 16). Light pollution may alter host-parasite interactions in aquatic ecosystems. *Trends Parasitol*. <https://doi.org/10.1016/j.pt.2023.08.013>

Photos from the Dunedin Conference follow on the next four pages

Poulin, R., Jorge, F., & Salloum, P. M. (2023, Apr). Inter-individual variation in parasite manipulation of host phenotype: A role for parasite microbiomes? *J Anim Ecol*, 92(4), 807-812. <https://doi.org/10.1111/1365-2656.13764>

Poulin, R., Presswell, B., Bennett, J., de Angeli Dutra, D., & Salloum, P. M. (2023, Aug). Biases in parasite biodiversity research: why some helminth species attract more research than others. *Int J Parasitol Parasites Wildl*, 21, 89-98. <https://doi.org/10.1016/j.ijppaw.2023.04.010>

Poulin, R., Presswell, B., Filion, A., Salloum, P. M., Chai, X., Bennett, J., & de Angeli Dutra, D. (2023, Jun). Battle of the sexes: analysis of sex bias in host use and reporting practices in parasitological experiments. *Int J Parasitol*, 53(7), 381-389. <https://doi.org/10.1016/j.ijpara.2023.03.002>

Presswell, B., Bennett, J., Chai, X., & **Poulin, R.** (2023, Aug). Physical evidence of direct antagonistic interactions between trematodes in the host gut: the kiss of death? *Parasitol Res*, 122(8), 1953-1957. <https://doi.org/10.1007/s00436-023-07883-7>

Salloum, P. M., Jorge, F., Dheilily, N. M., & **Poulin, R.** (2023, Jun). Adoption of alternative life cycles in a parasitic trematode is linked to microbiome differences. *Biol Lett*, 19(6), 20230091. <https://doi.org/10.1098/rsbl.2023.0091>

Salloum, P. M., Jorge, F., & **Poulin, R.** (2023, Oct). Different trematode parasites in the same snail host: Species-specific or shared microbiota? *Mol Ecol*, 32(19), 5414-5428. <https://doi.org/10.1111/mec.17111>

Ward, K. E., Christensen, P., Racklyeft, A., Dhingra, S. K., Chua, A. C. Y., Remmert, C., Suwanarusk, R., Matheson, J., Blackman, M. J., Kaneko, O., Kyle, D. E., Lee, M. C. S., Moon, R. W., Snounou, G., Rénia, L., Fidock, D. A., **Russell, B.,** & Bifani, P. (2023, May 12).

Integrative Genetic Manipulation of Plasmodium cynomolgi Reveals Multidrug Resistance-1 Y976F Associated With Increased In Vitro Susceptibility to Mefloquine. *J Infect Dis*, 227(10), 1121-1126. <https://doi.org/10.1093/infdis/jiac469>

50th NZ Parasitology Society Conference Attendees



Waiting for dinner at Otago University Staff Club with (left to right): Colin McKay, Simão Coreia, others from the Otago Parasitology lab, Célia Koellsch and Victoria Chapman.



Quiz participants trying to decipher the enjoyable, interactive quiz.



Jerusha Bennett and Priscila Salloum hosting a parasitology themed quiz.



Left to right, top to bottom: Colin McKay, Simão Correia, Daniela de Angeli Dutra, Xuhong Chai, Jerusha Bennett, Emma Chen, Robert Poulin, Priscila Salloum, Kyle Shanebeck, Bronwen Presswell.



Kathryn McRae (on right) with student award winners Célia Koellsch (left) and Bridget Lamont (centre).



Paul Mason extolling the virtues of the Whiskey he chose for the conference dinner.



Left to right: Sean Daley, Paul Mason and David Heath.



Left to right: Bronwen Presswell, Kyle Shanebeck, Priscila Salloum and Robert Poulin.



Left to right: Danielle Hawkins , Bill Pomroy, Augusto Simoes-Barbosa, Bridget Lamont



Selfie with (left to right): Bridget Lamont, Augusto Simoes-Barbosa, Bill Pomroy, Danielle Hawkins , David Seifert, Kathryn McRae, Meg Moffat, Laura Saywell and Remy Muhsin.



Kathryn McRae (left) and David Seifert (right).

