

William Jia-Ang Ou

PhD Student

Department of Zoology | Biodiversity Research Centre | University of British Columbia

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Education

PhD student in Zoology

2021-present

Department of Zoology, University of British Columbia

- Advisor: Dr. Rachel Germain

Master of Science in Ecology

2021

Institute of Ecology and Evolutionary Biology, National Taiwan University

- Thesis title: *Effects of local and landscape factors on paddy field arthropod diversity: from species to communities*
- Advisor: Dr. Chuan-Kai Ho

Bachelor of Science in Biology

2017

Biology Program, University of British Columbia

Awards and Honours

NSERC BIOS² Fellow (10500CAD x3) 2021

International Tuition Award (1066CAD) 2021

President's Academic Excellence Initiative PhD Award (325CAD) 2021

Zoology Graduate Fellowship (16000CAD) 2021

Research abroad travel grant (7000NTD) 2019

NTU-NTNU Joint Symposium on Ecology and Evolutionary Biology (Outstanding poster) 2019

Faculty of Science International Student Scholarship (5000CAD) 2017

Congress of Animal Behavior and Ecology, plant-animal interactions section (1st prize) 2017

Go Global International Learning Award (2000CAD) 2016

Research Experience

Working group co-lead

2021

University of British Columbia, Vancouver, BC

Advisor: Drs. Rachel Germain, Tess Grainger, Dept. Zoology and Biodiversity Research Centre

- Developed a guideline for writing accessible theoretical papers based on cognitive load theory

Research assistant

2020

National Taiwan University, Taipei, Taiwan

Advisor: Dr. David Zeleny, Institute of Ecology and Evolutionary Biology

- Developed a software for quantifying species niche width from co-occurrence data

Research Assistant

2017 - 2020

National Taiwan University, Taipei, Taiwan

Advisor: Dr. Chuan-Kai Ho, Institute of Ecology and Evolutionary Biology

- Examined arthropod trophic interactions using stable isotopes

Visiting Researcher

2019

Kanazawa University, Kanazawa, Japan

Advisor: Dr. Nisikawa Usio, Institute of Nature and Environmental Technology

- Tested biogeographical hypotheses of biodiversity in agroecosystems

Undergraduate Assistant

2016 - 2017

University of British Columbia, Vancouver, Canada

Advisors: Drs. Jennifer Sunday, Joey Bernhardt, Mary O'Connor, Dept. Zoology and Biodiversity Research Centre

- Examined the temperature dependence of resource competition

Directed Studies Student

2016

University of British Columbia, Vancouver, Canada

Advisors: Drs. Daniel Karp, Alejandra Echeverri, Kai Chan, Institute for Resources, Environment and Sustainability

- Quantified the impacts of land use change on avian populations

Publications

*- equal contribution † - shared senior authorship

* **Ou, WJ-A**, * Henriques, GJB, Senthilnathan, A, Ke, P-J, †Grainger, T, †Germain, R. Writing Accessible Theory in Ecology and Evolution: Insights from Cognitive Load Theory. *BioScience*. [link]

* Lin, P-A, * Liu, C-M, * **Ou, J-A**, Sun, C.-H., Chuang, W.-P., Ho, C.-K., Kinoshita, N., & Felton, G. W. (2021). Changes in arthropod community but not plant quality benefit a specialist herbivore on plants under reduced water availability. *Oecologia*. [link]

Hsu, G-C, **Ou, J-A**, Ho, C-K. 2021. Pest consumption by generalist arthropod predators increases with crop stage in both organic and conventional farms. *Ecosphere* [link]

In advanced preparation

Ou, J-A, Huang, C-L, Chen, H-J, Tsai, C-W, Ho, C-K. Effects of local and landscape factors on paddy field arthropod diversity: from species to communities.

Presentations

Ou, W. 2021 Changes in arthropod community but not resource quality benefits a specialist herbivore under plant water stress. BotZoo Spring Symposium. Vancouver, BC. (Oral)

Ou, J-A, Huang, C-L, Chen, H-J, Tsai, C-W, Ho, C-K. 2020 Multi-scale analysis reveals the importance of landscape for arthropod biodiversity in a rice agro-ecosystem. Taiwan Entomological Society Annual Meeting. Taipei, Taiwan. (Oral & Poster)

Hsu, G-C, Ou, **Ou, J-A**, Ho, C-K. 2020 Pest consumption by arthropod generalist predators increases with crop stage in organic and conventional rice farms. ESA Annual Meeting. Virtual. (Poster)

Ou, J-A, Huang, C-L, Chen, H-J, Tsai, C-W, Ho, C-K. 2019 Spatial and temporal partitioning of arthropod beta-diversity in rice agro-ecosystems. NTU-NTNU Joint Symposium for Ecology and Evolutionary Biology. Taipei, Taiwan. (Oral & Poster)

Ou, J-A, Lin, P-A, Liu, C-M, Sun, C-H, Kinoshita, N., Ho, C-K, Felton, G. W. 2019 Plant drought stress randomizes arthropod community assembly. Congress for Animal Behavior and Ecology. Taipei, Taiwan. (Oral)

Ou, J-A 2019 Taxonomic and functional insect herbivore diversity across latitude in rice agro-ecosystems. Congress for Animal Behavior and Ecology. Taipei, Taiwan. (Poster)

Ou, J-A, Hsu, G-C, Ho, C-K. 2018 Drivers of arthropod food web dynamics in rice paddy agroecosystem - a stable isotope approach. Ecological Society of Japan. Sapporo, Japan. (*Oral*)

Ou, W. 2017. A test for the habitat-filtering hypothesis: Modeling avian population responses to land-use change in Guanacaste, Costa Rica. Multidisciplinary Undergraduate Research Conference. Vancouver, Canada. (*Oral*)

Teaching

Teaching Assistant, Numerical Methods in Community Ecology, NTU 2019

Teaching Assistant, Animal Biology Lab, NTU 2019

Teaching Assistant, Introduction to R for Ecologists, NTU 2018

Guest Lecture, Community Ecology, NTU 2018

Teaching Assistant, Community Ecology, NTU 2018

Work experience

Research scientist, Melio Inc. 2020

- Developing metrics and synthesizing data for quantifying environmental impacts of food

Intern, RENato Lab 2018

- Synthesized a circular economy handbook and visualized corporate material flow

Outreach and Service

Journal reviewer

- Ecology Letters, Evolutionary Applications, New Phytologist, Proceedings of the Royal Society B, Oikos

Invited speaker, National Taiwan Science Education Center 2019

- Talk title: *Biodiversity beyond taxonomic nomenclature* ([link](#); 50:55-1:15)

Editor, Green News Taiwan 2018-2019

Founder, NTU Biodiversity Discussion Group 2018-2020

Teaching Assistant, Biodiversity summer camp, Kinmen National Park 2017

Gallery Educator, Vancouver Aquarium 2015-2017

Technical skills

- Quantitative and analytical: univariate and multivariate statistics, Bayesian statistics, likelihood statistics, mixed-effect models, resampling methods, model averaging, clustering, null models, network analysis, scientific writing
- Computational: R, Python (working knowledge), Julia (novice), ArcGIS
- Languages: English (native), Mandarin Chinese (native), Taiwanese (proficient)

Software

- PalCreatoR - an R package for creating your own color palettes [[link](#)]

References

Dr. Rachel Germain

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Biodiversity Research Centre
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Vancouver, BC, V6T 1Z4, Canada
Tel: +1 (604) 785-5965
Email: rgermain@zoology.ubc.ca

Dr. Chuan-Kai Ho

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National Taiwan University
No.1, Sec. 4, Roosevelt Rd.
Taipei 106, Taiwan
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Dr. David Zelený

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National Taiwan University
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