

## Unit Name

Biodiversity and Biocomplexity Unit  
Adjunct Professor Evan P Economo

## Students Supervised:

- Shubham Gautam (PhD Student)
- Yazmin Hanani Zurita Gutierrez (PhD Student)
- Gaurav Ganesh Agavekar (PhD Student)
- Lazzat Aibekova (PhD Student)
- Julian Katzke (PhD Student)
- Jocelyn Wang (Research Intern)

## Scholarly Contributions and Creative Productions (by Faculty)

### Journal Article

1. Opher, M.; Giacalone, J.; Loeb, A.; Economo, E. P.; Cummings, A.; Middleton, J.; Zucker, C.; Miller, J. A.; Nica, A.; Hatzaki, M.  
Increased and Varied Radiation during the Sun's Encounters with Cold Clouds in the Last 10 Million Years. *Scientific Reports* 2026, 16, 8312.
2. Dias, R.; Guenard, B.; Akbar, S. A.; Economo, E. P.; Udayakantha, W. S.; Wachkoo, A. A.  
The Ants (Hymenoptera, Formicidae) of Sri Lanka: A Taxonomic Research Summary and Updated Checklist. *ZooKeys* 2020, 967, 1–142.
3. Richter, A.; Keller, R. A.; Hita, G., Francisco; Kamp, T.; Economo, E. P.  
The Evolution of Novel Mouthpart Interlocking Mechanisms in Ants (Hymenoptera: Formicidae). *Zoological Journal of the Linnean Society* 2025, 205, zlaf113.
4. Hamer, M. T.; Katzke, J.; Tang, K. L.; Weemaels, A. I.; Hita-Garcia, F.; Economo, E. P.; Benoit, G.  
A Revision of the Rare *Strumigenys Mnemosyne* (Formicidae; Myrmicinae) Group Using Micro-CT Scanning, with the Description of Three New Species, and the Virtual Repair of a Broken Paratype. *PLOS ONE* 2025, 20, e0331762.
5. Liu, C.; Sarnat, E.; Tan, J. A.; Janicki, J.; Deyrup, J.; Ogasawara, M.; Grau, M. L.; Qiu, L.; Hita, G., Francisco; Fischer, G.; Caginitoba, A.; Narula, N.; Darwell, C. T.; Kubota, Y.; Pierce, N. E.; Mikheyev, A. S.; Economo, E. P.  
Genomic Signatures Indicate Biodiversity Loss in an Endemic Island Ant Fauna. *Science* 2025, 389, 1133.
6. Vizueta, J.; Xiong, Z.; Ding, G.; Larsen, R. S.; Ran, H.; Gao, Q.; Stiller, J.; Dai, W.; Jiang, W.; Zhao, J.; Guo, C.; Zhang, X.; Zuo, D.; Zhong, W.; Morten, S.; Liu, C.; Zhang, H.; Dai, X.; Andreu, I.; Shi, Y.; Tretter, S.; He, D.; Gautam, S.; Li, Z.; Hickey, G.; Ivens, A. B. F.; Meurville, M.-P.; Hita-Garcia, F.; Kass, J. M.; Benoit, G.; Moreau, C.; Paten, B.; LeBoeuf, A. C.; Economo, E. P.; Chapuisat, M.; Shik, J. Z.; Ward, P. S.; Heinze, J.; Schultz, T. R.; Li, Q.; Dunn, R. R.; Sanders, N. J.; Liu, W.; Schrader, L.; Boomsma, J. J.; Zhang, G.  
Adaptive Radiation and Social Evolution of the Ants. *Cell* 2025, 188, 4828.

7. Casadei-Ferreira, A.; Richter, A.; Economo, E. P.  
Evolutionary Simplification and Functional Shifts of the Ant Stinger. *Journal of Evolutionary Biology* 2025, 39.
8. Matte, A.; Guenard, B.; Gautam, S.; Azuma, F.; Katzke, J.; Garcia, F. H.; van de Kamp, T.; Economo, E. P.  
The Evolution of Cheaper Workers Facilitated Larger Societies and Accelerated Diversification in Ants. *Science Advances* 2025, 11, eadx8068.
9. Dong, M.; Park, J.; Cho, G.; Economo, E. P.; Guenard, B.  
The Ants (Hymenoptera: Formicidae) of South Korea: An Updated Checklist with Biological Notes. *Asian Myrmecology* 2025, 18.
10. Yoshimura, M.; Suwabe, M.; Tsuji, K.; Baba, Y.; Kakazu, H.; Miyagi, T.; Ogasawara, M.; Uematsu, J.; Economo, E. P.; Ono, K.  
Maximum Effect with Minimum Impact: A New Selective Control Strategy for the Browsing Ant *Lepisiota Frauenfeldii* (Formicidae: Formicinae) Minimize the Impact on Non-Target Species. *PLOS ONE* 2025, 20, e0337230.
11. Aibekova, L.; Richter, A.; Beutel, R. G.; van de Kamp, T.; Economo, E. P.; Griebenow, Z.; Boudinot, B. E.  
The Mesosoma of *Protanilla* (Leptanillinae) and the Groundplan of the Formicidae (Hymenoptera). *Journal of Morphology* 2025, 286, e70064.
12. Demetriou, J.; Borowiec, L.; Georgiadis, C.; Economo, E. P.; Roy, H. E.; Martinou, A. F.; Salata, S.  
Citizen-Science Supplements Species Inventories and Reveals the Invasion of *Monomorium Exiguum* and *Pheidole Parva* (Hymenoptera: Formicidae) in Cyprus. *Sociobiology* 2025, 72, e11594.
13. Tsang, T.; Wong, M.; Cadotte, M. W.; Economo, E. P.; Guenard, B.  
Climate Change Can Exacerbate Ant Invasion Impacts by Unleashing Indoor Populations Into Outdoor Environments. *Diversity and Distributions* 2026, 31, e70041.
14. Economo, E. P.  
Breakdown of Ant Community Seasonal Patterns over a Land Cover Gradient.. *Proceedings of the Royal Society B* 2023, 290.
15. Hita Garcia, F.; Gómez, K.; Keller, R. A.; Schurian, B.; Economo, E. P.  
A Never-Ending Story: An Updated 3D Cyber-Taxonomic Revision of the Ant Genus *Zasphinctus* Wheeler (Hymenoptera, Formicidae, Dorylinae) for the Afrotropical Region. *Zookeys* 2025, 1223, 1–55.
16. Demetriou, J.; Georgiadis, C.; Salata, S.; Borowiec, L.; Dillen, M.; Groom, Q.; Economo, E. P.; Roy, H. E.; Martinou, A. F.  
The “Ants of Cyprus” Website: A Dynamic, Online Awareness Raising and Conservation Tool. *Biodiversity Data Journal* 2025.
17. Casadei-Ferreira, A.; Procópio Camacho, G.; van de Kamp, T.; Lattke, J.; Machado Feitosa, R.; Economo, E.  
Evolution and Functional Implications of Stinger Shape in Ants. *Evolution; international journal of organic evolution* 2025, 79, 80–99.
18. Zurapiti, Y.; Kass, J. M.; Benoit, G.; Economo, E. P.  
Forecasting Alien Species Establishment and Source Regions: Quantitative Assessment of Potential Ant Invasions in Japan. *Ecological Applications* 2025, 35, e70071.
19. Agavekar, G.; Suzuki, Y.; Suenaga, M.; Pacheco-Leiva, M.; Hiller, M.; Pinto-Tomas, A. A.; Myers, E.; Economo, E. P.  
A Haplotype-Resolved Chromosome-Scale Genome Assembly and Annotation for the Leafcutter Ant, *Acromyrmex Octospinosus*. *Genome Biology and Evolution* 2025, 17, evaf047.
20. Fiorentino, G.; Probst, R.; Richter, A.; Economo, E. P.; Barden, P.  
A Fossil-Informed Pattern of Body Size Increase and Local Extinction in *Basicerus* Dirt Ants (Hymenoptera: Formicidae). *Proceedings of the Royal Society B: Biological Sciences* 2025, 292, 20242171.

21. Griebenow, Z. H.; Richter, A.; Economo, E. P.; Dang, A. V.; Yamada, A.  
Four New Species of Leptanillinae (Hymenoptera: Formicidae) from Northern Vietnam Described with Phylogenomics and Micro-Computed Tomography. *European Journal of Taxonomy* 2025, 987.
22. Jarzyna, M. A.; Ohyama, L.; Economo, E. P.; Gill, J. L.; Mascarenhas, R.; Okie, J. G.; Qin, C.; Rabosky, D. L.; Staniczenko, P.; Hickerson, M. J.; Gillespie, R. G.; McGill, B. J.  
Emergence and Dynamics of Regional Species Pools. *Global Ecology and Biogeography* 2025, 34, e70046.

### **Presentation at Conference**

1. Economo, E. P.; Gautam, S.; Katzke, J.  
The Evolution of Cheaper Workers Facilitated Larger Societies and Accelerated Diversification in Ants. 2025 Entomological Society of America Annual Meeting 2025.
2. Economo, E. P.  
Biodiversity in the Era of Big Data: Treasure Maps, Trap Jaws, and the Metaverse. 14th ANeT-meeting 2025.

### **Seminars**

1. Economo, E. P.  
Biodiversity in the Era of Big Data: Treasure Maps, Trap Jaws, and the Metaverse. 2025.
2. Economo, E. P.  
Biodiversity in the Era of Big Data: Treasure Maps, Trap Jaws, and the Metaverse. 2025.
3. Economo, E. P.  
Biodiversity in the Era of Big Data: Treasure Maps, Trap Jaws, and the Metaverse. 2025.

### **Scholarly Contributions (by Unit Members)**

Name of Unit Member	Type	Title	Outlet	Publisher	Year Pub
Adrian Richter	Book Chapter	Ecomorphology of ants	Insect Ecomorphology	Elsevier	2025
Alexandre Casadei-Ferreira	Book Chapter	Ecomorphology of ants	Insect Ecomorphology	Elsevier	2025
Adrian Richter	Book Chapter	Chapter 16 - Ecomorphology of ants	Insect Ecomorphology	Academic Press	2025
Alexandre Casadei-Ferreira	Book Chapter	Chapter 16 - Ecomorphology of ants	Insect Ecomorphology	Academic Press	2025
Adrian Richter	Journal Article	The larval morphology of the clonal raider ant, <i>Ooceraea biroi</i> (Forel, 1907) (Dorylinae), with broader implications for the Formicidae and Hymenoptera	Myrmecological News	Myrmecological News	2025
Adrian Richter	Journal Article	Ant systematics: past, present, and future	Insect Systematics and Diversity	Oxford University Press	2025
Alexandre Casadei-Ferreira	Journal Article	Ant systematics: past, present, and future	Insect Systematics and Diversity	Oxford University Press	2025

Name of Unit Member	Type	Title	Outlet	Publisher	Year Pub
Nicholas R. Friedman	Journal Article	Worldwide Soundscapes: A Synthesis of Passive Acoustic Monitoring Across Realms	Global Ecology and Biogeography	John Wiley and Sons Inc	2025-05-06
Riou Mizuno	Journal Article	Temporary social parasitism in the ant <i>Strumigenys mutica</i> : colony composition and behavioral interactions with host species <i>Strumigenys solifontis</i> and <i>Strumigenys lewisi</i>	Myrmecological News	The Austrian Society of Entomofaunistics	2025
Adrian Richter	Poster Presentation at Conference	Evolution of the ant (Hymenoptera; Formicidae) feeding system	6th Morphology Meeting – 20.-22. February 2025 Kiel University, Kiel, Germany		2025
Julian Katzke	Presentation at Conference	Predation and multifunctionality in the macroevolution of ant mandibles	SICB 2025, The Society for Integrative and Comparative Biology, Atlanta, USA		2025
Riou Mizuno	Presentation at Conference	Comparative study on hunting tactics of trap-jaw <i>Strumigenys</i> ants.	14th ANeT meeting	Asian Myrmecology	2025
Riou Mizuno	Presentation at Conference	Comparative study on hunting tactics of trap-jaw <i>Strumigenys</i> ants.	The 66th Annual Meeting of the Japanese Society for Myrmecology	Japanese Ant Society	2025
Riou Mizuno	Seminars	Evolution of extreme social complexity: from the natural history of army ant relatives	The 54th Ecology Komaba seminar, University of Tokyo	Dobata Lab, The University of Tokyo	2025

### **Honors, Awards & Fellowships**

Term 2 2016 - Ongoing      Biodiversity Action Award, 2016, Japan Committee for the United Nations Decade on Biodiversity

### **Honors, Awards & Fellowships [By Unit Members Only]**

Term 2 2025 - Term 2 2025      Julian Katzke, Mary Rice Award for best talk (Division of Invertebrate Zoology), メアリー・ライス最優秀講演賞（無脊椎動物学部門）, 2025, The Society for Integrative and Comparative Biology (SICB), 大学院生のユリアン・カーツクは、アリの大顎の巨大進化における捕食と多機能性に関する研究により、The Society for Integrative and Comparative Biology（SICB 2025, Atlanta, USA）の年次大会で最優秀講演賞であるメアリー・ライス賞を受賞した。 [Fiscal Year: 2025-01-03]