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Dr. Ryo Yamaguchi

Current Position: Assistant Professor
Mathematical Biology Laboratory,
Department of Advanced Transdisciplinary Science,
Hokkaido University
Kita 10, Nishi 8, Sapporo 060-0810, Japan

Education

2012. B.Sc. Biology. Kyushu University, Japan.
2014. M.Sc. Biology. Kyushu University, Japan.
2014-2017. Ph.D. Science. Kyushu University, Japan (advisor Dr. Yoh Iwasa).

Past academic positions

2017-2020. Post-doctoral Research Fellow, Tokyo Metropolitan University, Japan
(advisor Dr. Koichiro Tamura).

Academic Awards Received

Japan Society for the Promotion of Science Postgraduate Scholarship DC1 (2014-2017)
Japan Society for the Promotion of Science Post-Doctoral Fellowship PD (2017-2020)
The Ecological Society of Japan Suzuki Award (awarded annually by the Ecological Society of Japan to three/four young ecology/evolutionary biologist)

Grant Support

Kyushu University Foundation (2013) - ¥ 500000
Grant-in-Aid for JSPS Research Fellow DC1, (2014-2016) - ¥ 3200000
Grant-in-Aid for JSPS Research Fellow PD, (2017-2019) - ¥ 4420000
Grant-in-Aid for Young Scientists, (2018-2020) - ¥ 4030000
Grant-in-Aid for Young Scientists, (2021-2023) - ¥ 4680000

Peer-Reviewed Publications (*: corresponding author)

1. *MacPherson, A., Wang, S., Yamaguchi, R., Rieseberg, L. H., and Otto, S. P. 2022. Parental population range expansion before secondary contact promotes heterosis. *American Naturalist* (accepted)
2. *Yamaguchi, R. and Matsubayashi, K. W. 2022. Reply to Kagawa's comment: Quantifying mixture modes of evolutionary radiations. *Population Ecology* (accepted)
3. *Matsubayashi, K. W., and Yamaguchi, R. 2022. The speciation view: Disentangling multiple causes of adaptive and nonadaptive radiation in terms of speciation. *Population Ecology* (in press)
4. *Yamaguchi, R., Iwasa, Y. and Tachiki Y. 2021. Recurrent speciation rates on islands decline with species number. *Proceedings of the Royal Society B* 288: 20210255.
5. *Yamaguchi, R. and Otto, S.P. 2020. Insights from Fisher's geometric model on the likelihood of speciation under different histories of environmental change. *Evolution* 74: 1603-1609.

6. *Lee, J. H., Yamaguchi, R., Yokomizo, H., and *Nakamaru, M. 2020. Preservation of the value of rice paddy fields: Investigating how to prevent farmers from abandoning the fields by means of evolutionary game theory. *Journal of Theoretical Biology* 110247.
7. *Nakahara, T., Horita, J., Booton, R. D., and Yamaguchi, R. 2020. Extra molting, cannibalism and pupal diapause under unfavorable growth conditions in *Atrophaneura alcinous* (Lepidoptera: Papilionidae). *Entomological Science* 23: 57-65.
8. *Yamaguchi, R., Yamanaka, T. and Liebhold, A. M. 2019. Consequences of hybridization during invasion on establishment success. *Theoretical Ecology* 12: 197-205.
9. *Yamaguchi, R., Suefuji, S., Odagiri, K., Peggie, D. and Yata, O. 2018. A color pattern difference in the fifth instar larva of two subspecies of *Faunis menado* Hewitson (Lepidoptera, Nymphalidae). *Lepidoptera Science* 69: 67-73.
10. *Booton, R. D., Yamaguchi, R. and Iwasa, Y. 2018. A population model for diapausing multivoltine insects under asymmetric cannibalism. *Population Ecology* 61: 35-44.
11. *Booton, R. D., Yamaguchi, R., Marshall, J. A. R., Childs, D. Z. and Iwasa, Y. 2018. Interactions between immunotoxicants and parasite stress: implications for host health. *Journal of Theoretical Biology* 445: 120-127.
12. *Yamaguchi, R. and Iwasa, Y. 2017. A tipping point in parapatric speciation. *Journal of Theoretical Biology* 421: 81-92.
13. *Yamaguchi, R. and Iwasa, Y. 2017. Parapatric speciation in three islands: dynamics of Geographic configuration of allele sharing. *Royal Society Open Science* 4: 160819.
14. *Yamaguchi, R., Suefuji, S., Odagiri, K. and Yata, O. 2016. The endemic Sulawesi amathusiine *Faunis menado* Hewitson (Lepidoptera, Nymphalidae) is divisible into two morphospecies. *Lepidoptera Science* 67: 12-21.
15. *Yamaguchi, R. and Iwasa, Y. 2016. Smallness of the number of incompatibility loci can facilitate parapatric speciation. *Journal of Theoretical Biology* 405: 36-45.
16. Yamaguchi, R. and *Iwasa, Y. 2015. Reproductive interference can promote recurrent parapatric speciation. *Population Ecology* 57: 343-346.
17. *Yamaguchi, R. and Iwasa, Y. 2013. Reproductive character displacement by the evolution of female mate choice. *Evolutionary Ecology Research* 15: 25-41.
18. *Yamaguchi, R. and Iwasa, Y. 2013. First passage time to allopatric speciation. *Interface Focus* 3: 20130026.

Talks and Presentations at Scientific Meetings (international only)

1. First passage time to allopatric speciation: diffusion theory. 1st Joint Congress on Evolutionary Biology. Ottawa, Canada (July 2012).
2. First passage time to allopatric speciation and species creation rate. Evolution 2014. Raleigh, North Carolina (June 2014).
3. Waiting time to allopatric speciation, estimated from the stochastic dynamics of geographic configurations. JSMB/SMB 2014. Osaka, Japan (July 2014).

4. Point of no return in parapatric speciation: incompatibility-distance relation and time to speciation. 5th China-Japan-Korea Colloquium on Mathematical Biology. Kyoto, Japan (August 2015).
5. A tipping point in parapatric speciation. ECMTB. Nottingham, UK (July 2016).
6. Fisher's geometric model on the likelihood of speciation under different adaptation scenarios. Gordon Research Seminar (Speciation 2019). Ventura, US (March 2019).
7. Recurrent speciation rates on islands decline with species number. *Evolution* 2021 (Online).

Invited Seminars and Symposium Talks (international only)

1. Reproductive character displacement by the evolution of female mate choice. Population Ecology Conference. Shiga, Japan (October 2015).
2. An increase in gene flow by urbanization: predictions on population structure of *Aedes aegypti*. ISEM. Jeju, Korea (May, 2017).
3. Gene flow by human-mediated dispersal: population structure of *Aedes aegypti* in the Philippines. IWOMB. Cebu, Philippines (January 2018).

Teaching Experience

As graduate student served as teaching assistant and guest lecturer in courses including Computational Biology (2), Mathematical Biology (5) and Theoretical Biology Laboratory (2012-2013) in Kyushu University.

As post-doctoral fellow served as guest lecturer in courses including Special Lecture of Biology (1) and Special Lecture of Genetics (1) in Tokyo Metropolitan University.

As assistant professor served as lecturer in courses including Mathematical Biology (1) and SDGs & Biological Sciences (1) in Hokkaido University.

Reviewer for

American Naturalist (2), *Bulletin of Mathematical Biology* (2), *Chaos, Solitons & Fractals* (1), *Ecology and Evolution* (1), *Evolution* (2), *Journal of Asia-Pacific Entomology* (1), *Journal of Theoretical Biology* (8), *Nature* (1), *Population Ecology* (4), *Zootaxa* (1). Chapter of the Japanese book (2).