# Marília Palumbo Gaiarsa

Contact Information

Department of Entomology 282 Entomology Building University of California Riverside, California

E-mail: gaiarsa.mp@gmail.com  $Google\ scholar$ Website / Github

Research Interests How changes in species interactions and community composition affect the persistence, robustness, and stability of the remaining community, and the provision of ecosystem services? Community structure and organization, plantanimal interactions, cascading effects, ecosystem function, climate change, community assembly and disassembly, restoration ecology, network theory, ecological network structure, multiple interaction type networks.

Current POSITION

Postodoctoral fellow (Ponisio lab) University of California Riverside

November 2017—October 2018

Peer Reviewed Publications

- [1] Ponisio, L.C., Gaiarsa, M.P. & Kremen, C. 2017. Major interaction reorganizations punctuate the assembly of pollination networks. Ecology Letters, 20:1261-1272.
- [2] Ruggeri, J., Longo, A., Gaiarsa, M.P., Alencar, L.R.V., Lambertini, C., Leite, D.S., Carvalho-e-Silva, S.P., Zamudio, K.R., Toledo, L.F., & Martins, M. 2015. Seasonal variation in population abundance and chytrid infection in stream-dwelling frogs of the Brazilian Atlantic Forest. PlosOne, 10.7 (2015): e0130554.
- [3] Gaiarsa, M.P., Alencar, L.R.V., Valdujo, P.H., Tambosi, L.R. & Martins, M. 2015. Setting conservation priorities within monophyletic groups: an integrative approach. Journal for Nature Conservation, 24:49-55.
- [4] Gaiarsa, M.P., Alencar, L.R.V. & Martins, M. 2013. Natural History of Pseudoboini snakes. Papéis Avulsos de Zoologia, 53(19):261-283.
- [5] Guimarães, M., Gaiarsa, M.P. & Cavalhieri, H.B. 2013. Morphological adaptations to arboreal habitats and heart position in species of the Neotropical Whipsnakes genus Chironius. Acta Zoologica, online. DOI: 10.1111/azo.12031.
- [6] Alencar, L.R.V., Gaiarsa, M.P. & Martins, M. 2013. The evolution of diet and microhabitat use in pseudoboine snakes. South American Journal of Herpetology, 8: 60-66.

Notes

- NATURAL HISTORY [7] Gaiarsa, M.P., Alencar, L.R.V. & Martins, M. 2012. Predator or prey? Predatory interactions between the frog Cycloramphus boraceiensis and the spider Trechaleoides biocellata in the Atlantic Forest of southeastern Brazil. Herpetology notes, 5:67-68.
  - [8] Alencar, L.R.V, Gaiarsa, M.P., Gennari, D.T. and Martins, M. 2012. Hylodes phyllodes (Amphibia, Anura, Hylodidae): nocturnal calling behavior. Herpetologia brasileira, 1(2): 82-83.

Manuscripts SUBMITTED

- [1] Hutchinson, M.C., Gaiarsa, M.P. & Stouffer, D. Contemporary ecological interactions improve models of past trait evolution. Systematic Biology (Accepted pending major revisions).
- [2] Cirtwill, A.R., Dalla-Riva, G.V.D., Gaiarsa, M.P., Dehling, M., Bimler, M., Cágua, E.F., & Coux, C. Species' roles in food webs (Under review in *Food Webs*).
- [3] Gaiarsa, M.P. & Guimarães, P.R. Interaction strength promotes robustness in mutualistic communities against cascading effects (Submitted).
- [4] Gaiarsa, M.P., Guimarães, P.R. & Tylianakis, J. Robustness of ecological networks to multiple extinction drivers (Submitted).

# Manuscripts in PREPARATION

- Gaiarsa, M.P., Vidal, M.M. & Guimarães, P.R. Perspectives on cascading effects in mutualistic networks: implications and current knowledge.
- Martins, M\*., Gaiarsa, M.P.\*, Alencar, L.R.V. & Mortara, S. Do pitvipers track their prey? (\*co-first authorship).
- Sasso, T., Gaiarsa, M.P., Alencar, L.R.V. & Martins, M. Microhabitat description and spatial-temporal abundance of torrent frogs in the Brazilian Atlantic forest: a long-term assessment.

#### **EDUCATION**

### Universidade de São Paulo, São Paulo, Brazil

2013–2017 – Doctorate of Philosophy, Department of Ecology

2011–2013 – Teaching and mentoring fellowship

2008–2010 - Masters of Science, Department of Ecology

# Universidade Estadual Paulista UNESP, Botucatu, Brazil

2006-2007 - Bachelor of Science, Biology, Honors in Ecology

2002-2005 – Licentiate's degree in Biology

# AWARDS

- FELLOWSHIPS AND 2014-2017 FAPESP; PhD Scholarship (~US\$46,000; full salary for four years);
  - 2015-2016 FAPESP; PhD Scholarship to study abroad (US\$30,000; full tuition and salary for one year to be a visiting scholar at Tylianakis and Stouffer labs, in New Zealand):
  - 2010-2012 FUSP; USP teaching and mentoring fellowship (~US\$20,000; full salary for two years);
  - 2008-2010 FAPESP; M.Sc. Scholarship (~US\$10,000; full salary for two years).
  - 2006-2008 FAPESP; Undergraduate research Assistant fellowship (~US\$1,600; full salary for one year)
  - 2004-2005 PROEX; Undergraduate research Assistant fellowship (~US\$600; full salary for one year).

- RESEARCH GRANTS 2017 ATBC registration grant (US\$180);
  - 2017 FAPESP Travel grant—Annual Meeting of the Ecological Society of America (ESA). Portland, OR, USA (US\$700);
  - 2017 FAPESP Travel grant—54<sup>nd</sup> Association for Tropical Biology and Conservation Conference. Merida, Mexico (US\$700);
  - 2015 FAPESP grant to attend the Santa Fe Complex Systems Summer School (US\$4,000).
  - 2015 FAPESP Travel grant— 52<sup>nd</sup> Association for Tropical Biology and Conservation Conference. Honolulu, HI, USA (US\$3,000);
  - 2014 FAPESP Travel grant—99<sup>th</sup> Annual Meeting of the Ecological Society of America (ESA). Sacramento, CA, USA (US\$700);
  - 2009 FAPESP Travel grant—Brazilian Herpetological Meeting. Pirenopolis (GO), Brazil (US\$400):
  - 2007 FAPESP Travel grant—Brazilian Herpetological Meeting. Belem (PA), Brazil (US\$300):
  - 2007 São Paulo University Travel grant—3<sup>rd</sup> Biology of the Vipers Symposia. Calci (Pisa), Italy (US\$100).

### INVITED TALKS

- 2017 Symposium "Tropical Biotic Interactions in the Anthropocene". 54<sup>nd</sup> Association for Tropical Biology and Conservation Conference. Merida, Mexico.
- 2017 Santa Fe Institute, Santa Fe (USA).
- 2016 III Eco Escola. Universidade de São Paulo (Brazil).
- 2016 Winfree lab, Rutgers University (USA).

SELECTED CONFERENCE TALKS (PRESENTING AUTHOR)

- 2017 102<sup>nd</sup> Annual Meeting of the Ecological Society of America (ESA). Portland, OR, USA.
- 2017 54<sup>nd</sup> Association for Tropical Biology and Conservation Conference (ATBC). Merida, Mexico.
- 2015 New Zealand Ecological Society Conference. University of Canterbury, Christchurch, New Zealand.
- 2015 Annual Biology Conference. University of Canterbury, Christchurch, New Zealand.
- 2015 52<sup>nd</sup> Association for Tropical Biology and Conservation Conference (ATBC). Honolulu, HI, USA.
- 2014 99<sup>th</sup> Annual Meeting of the Ecological Society of America (ESA). Sacramento, CA, USA.
- 2007 3<sup>rd</sup> Biology of the Vipers Symposia. Calci (Pisa), Italy.

# Professional experience

**Reviewer** for Oikos (2017), Journal for Nature Conservation (2017), Phyllomedusa (2015), ALYTES: International Journal of Batrachology (2013).

### Teaching Experience

- 2015, Organizer and teacher of the workshop *Introduction to the Study of Ecological Networks* during the New Zealand Ecological Society Conference. Christchurch, New Zealand;
- 2013, 2014, Teaching assistant, *R programing language for ecology* (graduate course). University of São Paulo, Brazil;
- 2009, Teaching assistant, *Conservation Biology* (undergraduate course). University of São Paulo, Brazil;
- 2005, Organized and presented on a High School Science fair (Experimentando Ciência—"Experimenting with Sciences"), in which we created over 50 scientific experiments for the children to see how fun Science can be. Botucatu, Brazil.
- 2005, developed and conducted hands-on classroom activities on environmental education in Primary and Secondary schools. Botucatu, Brazil;
- 2005, developed and conducted hands-on classroom activities in High School Biology classes in Botucatu, Brazil.
- 2004-2005, voluntary teacher of history and biology for underprivileged people (preparatory classes to enroll in University), Botucatu, Brazil.

#### Relevant positions

- 2012, consultant for the Brazilian red list of endangered species;
- 2010-2012, laboratory manager (Guimarães lab), USP;
- 2010-2012, distance learning tutor and author of disciplines ("Ecology" and "Biodiversity");
- 2011-2012, technical collaborator on books for junior high school, Leya publishing group;
- 2006-2010, laboratory manager (Martins lab), USP.

# Mentoring

- Full advisor: Cynthia Murakami; Lilian F. dos Santos; Heulieda Macedo; Clara F. G. Oliveira; Helena M. O. Souza; Severina A. de Araujo; Ines R. Vieira; Zélia A. Hernandes.
- Undergraduate co-advisor: Lucas Camacho.
- Master's co-advisor: Irina B. Barros, Hamanda B. Cavalhieri.

# Field expeditions

- 2006-2010, Atlantic Forest of Southeastern Brazil. Organized and participated in monthly field trips to collect data on habitat use in reptiles and amphibians:
- 2007-2011 Serra do Mar State Park, São Paulo, Brazil. Study the population dynamics and chytric infection in three anuran species;
- 2007-2011, Atlantic Forest of Southeastern Brazil. Organized and participated in eight, seven-day, field trips to collect data and specimens on the an endemic snake species (*Bothrops insularis*) in an Island Southeast of Brazil (Queimada Grande), processing animals in the field;

- 2009, Pantanal. Worked with natural history of the Brazilian Tapir (*Tapirus terrestris*; one month);
- 2010-2011, participated in three (one month each) trips to the Brazilian Amazon working for a power-plant implementation company. Collected specimens of amphibians and reptiles, processing animals in the field and in the laboratory.

### $Organizational\ work$

- 2015, Workshop: introduction to the study of ecological networks. New Zealand Ecological Society Conference, Christchurch, New Zealand (graduate level);
- 2013, 2014, Fritz Muller Seminar Series, University of São Paulo, São Paulo, Brazil;
- 2012, Game theory. University of São Paulo, São Paulo, Brazil (graduate level);
- 2012, Association for Tropical Biology and Conservation (ATBC). Bonito, Brazil (conference);
- 2010, 3<sup>rd</sup> Biology of the Vipers, Calci (Pisa), Italy (conference);
- 2005, I Encontro de Educação Ambiental de Botucatu ("1st Encounter on Environmental Education of Botucatu"), Botucatu, Brazil (conference);
- 2005, Experimentando Ciência ("Experimenting with Sciences"—High School Science fair), Botucatu, Brazil.

# Professional courses

- 2016, Complex Systems Summer School, Santa Fe Institute, Santa Fe, USA;
- 2014, Software Carpentry Bootcamp, USP, São Paulo, Brazil;
- 2014, III Southern-Summer School on Mathematical Biology, International Centre for Theoretical Physics, São Paulo, Brazil;
- 2013, Energetic Approach to Food Webs. International Centre for Theoretical Physics, São Paulo, Brazil;
- 2012, Structure and Dynamic of Ecological Networks. USP, São Paulo, Brazil;
- 2012, Game Theory. USP, São Paulo, Brazil;
- 2009, Ecology of the Amazon Forest, field course. Smithsonian & National Institute of Amazon Researches (INPA), Manaus, Brazil;

#### Academic Visits

- 2017 University of California, Berkeley. One week:
- 2017 Santa Fe Institute, Santa Fe. One week;
- 2016 Princeton University. Six weeks;
- 2016 Winfree Lab, Rutgers University. Talk given: Cascading effects in mutualistic networks (December 9th 2017);
- 2015 Tylianakis and Stouffer Labs. University of Canterbury, Christchurch, New Zealand. 13 months. Talk given: Ecological and evolutionary cascades in mutualistic networks;
- 2014 Ramirez lab. Two days. UC Davis, CA, USA;
- 2012 Dirzo lab. Three weeks. Stanford, CA, USA. Talk given: Setting conservation priorities within monophyletic groups: a case study with a Neotropical snake lineage;
- 2012 Pimm lab. One week. Duke University, NC, USA.

Computational Skills Inkscape, QGIS, ArcGis. Languages: TEX, R, Git. Limited exposure to bash.

OMILLO

Professional

Ecological Society of America (ESA), 2014, 2017.

Memberships

Association for Tropical Biology and Conservation (ATBC), 2011, 2016, 2017.

Brazilian Herpetological Society, 2010-2012.

LANGUAGES

Portuguese (native), English (proficient), Italian (proficient), Spanish (intermediate).