

Curriculum Vitae

Piatã Marques, Dr.

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Google scholar: https://scholar.google.com/citations?hl=th&user=HawM2LgAAAAJ&view_op=list_works&sortby=pubdate

PROFESSIONAL APPOINTMENTS

- Jun 2023 - current. Researcher. Water Pathways research cluster. Department of Physical and Environmental Sciences. University of Toronto Scarborough, CA.
- Dec 2022 - Jun 2023. Assistant professor (tenure track). Department of Environment and Sustainability. State University of New York at Buffalo – SUNY Buffalo, USA.
- Aug 2021-Dec 2022. Postdoctoral research fellow. Centre for Environmental Research in the Anthropocene. Department of Biological Sciences. University of Toronto Scarborough, CA.
- Sep 2019-Aug 2021. Postdoctoral research fellow. Department of Ecology. State University of Rio de Janeiro, BR.

EDUCATION

- 2013-2019. PhD in Biology. University of Victoria, CA.
- 2012-2013. MSc. in Ecology and Evolution. State University of Rio de Janeiro, BR.
- 2005-2011. B.Sc. in Biology (with honor thesis). State University of Rio de Janeiro, BR.
- 2005-2011. B.Ed. in Secondary Education (with honor thesis). State University of Rio de Janeiro, BR.
- 2007-2008. Undergraduate exchange student. University of Winnipeg, CA.

RESEARCH INTERESTS

Urban ecology, coupled human-nature interactions, socio-eco-evolutionary dynamics, interdisciplinary research

TEACHING EXPERIENCE IN HIGHER EDUCATION

a. State University of New York at Buffalo, USA

- Jan- May 2023. Lecturer. First-year undergraduate course on Environmental and Sustainability Studies
- Jan- May 2023. Lecturer. Fourth-year undergraduate and graduate course on Ecological Statistics.

b. Federal University of Rio de Janeiro, BR

- Aug 2021. Invited guest lecturer. Graduate course on Urban Ecology (delivered online).

c. State University of Rio de Janeiro, BR

- Oct-Nov 2020. Lecturer. Graduate course on Urban Ecology and Evolution (delivered online).
- Aug 2011. Field instructor. Graduate course on Fish Ecology.
- Nov 2009. Field instructor. Graduate course on Fish Ecology.

d. University of Victoria, CA

- May-Jun 2019. Laboratory instructor. First-year undergraduate course on Physiology and Cell Bio.
- Jan-Apr 2019. Laboratory instructor. Third-year undergraduate course on Chordate Zoology.
- Sep-Dec 2018. Laboratory instructor. Third-year undergraduate course on Animal Behavior.

Jan-Apr 2018. Laboratory instructor. Third-year undergraduate course on Chordate Zoology.
Sep-Dec 2017. Laboratory instructor. Third-year undergraduate course on Animal Behavior.

STUDENTS SUPERVISED

a. State University of New York at Buffalo

Dec 2022-current. Supervisor. Master's program in Ecology Evolution and Behavior. Student: Candice Kasahara. Thesis title: Mechanisms driving the effect of wealth on the biodiversity of stream invertebrates.

b. State University of Rio de Janeiro

Nov 2019-Nov 2021. Supervisor. Undergraduate honors thesis. Student: Andrey Silva dos Santos. Thesis title: Understanding the relationship between local ecological knowledge and the discharge of sewage into urban streams to build virtual learning environments.

Nov 2019-current. Co-supervisor. Undergraduate honors thesis. Student: Yane Quaresma. Thesis title: Can urbanization affects the feeding efficiency of generalist species?

Sep 2019-current. Co-supervisor. Undergraduate honors thesis. Student: Fernando Itacolomy. Thesis title: How long guppies take to competitively exclude native, closely related species?

PEER-REVIEWED PUBLICATIONS

Note: The asterisk (*) indicates that the publication is available in Portuguese language only.

a. Forthcoming

Marques, P.; Chin, A.; Ruppert, J.; Mandrak, N. The luxury effect and urban aquatic biodiversity: exploring mechanisms of change. Under review at Anthropocene.

Marques, P.; Illyes, E.; McCauley, S.; Jackson, D.; Michalakos, D.; Ferzoco, I.M.M.C.; Timms, L. Murray, R.L.; MacFarlane, Z.S.; Duval, T.P; Dolson, R.; Din, S.; Pebesma, D.; Kirkwood, A.E.; Turner, N.A.; Clayton, J.; Horton, K.; Boston, C.M.; Sapozhnikova, E.; Cadotte, M.; Mandrak, N.E. Ecosystem functions and services in urban stormwater ponds: co-producing knowledge for better management. Under review at Ecological Solutions and Evidence.

b. Published

Marques, P.; Cunico, A. Integrating the influence of untreated sewage into our understanding of the urban stream syndrome. 2023. Freshwater Science, 42, <https://doi.org/10.1086/724823000> (invited contribution).

Marques, P.; Zandonà, E., Amaral, J., Selhorst, Y., El-Sabaawi, R., Mazzoni, R., Castro, L., Pilastro, A. Using fish to understand how cities affect sexual selection before and after mating. 2022. Frontiers in Ecology and Evolution, 10:928277. <https://doi.org/10.3389/fevo.2022.928277>. (Invited contribution)

Marques, P.; Mazzoni, R.; Zandonà, E.; El-Sabaawi, R. Individual variation in feeding morphology, not diet, can facilitate the success of generalists in urban ecosystems. 2021. Ecology and Evolution, 00, 1–15. <https://doi.org/10.1002/ece3.8425>

Marques, P.; Silva, A. S.; Quaresma, Y.; Manna, L.; Neto, N.; Mazzoni, R. Home gardens can be more important than other urban green infrastructure for mental well-being during COVID-19 pandemics. Urban Forestry and Urban Greening. 2021. <https://doi.org/10.1016/j.ufug.2021.127268>

***Marques, P.;** Cunico, A. M. Ecologia de peixes em riachos urbanos (Translated title: The ecology of fish in urban streams). Oecologia Australis, 25(2), 604. 2021. <https://doi.org/10.4257/oeco.2021.2502.22>

***Mazzoni, R., Marques, P., & Lobón-Cervià, J.** Produção de peixes em riacho: revisitando princípios, métodos e perspectivas (Translated title: The productivity of fish in streams: revisiting principles, methods and perspectives). Oecologia Australis, 25(2), 474. 2021.

<https://doi.org/10.4257/oeco.2021.2502.15>

- Amaral, J.R.; Manna, L.R.; Mazzoni, R.; Neres-Lima, V.; **Marques, P.**; El-Sabaawi, R.; Zandonà, E. Testing the short-term effects of a fish invader on the trophic ecology of a closely related species. *Hydrobiologia*, 848. 2021. <https://doi.org/10.1007/s10750-020-04489-3>
- Marques, P.**; Manna, L.; Frauendorf, T.; Zandonà, E.; Mazzoni, R.; El-Sabaawi, R.W. Urbanization can increase the invasive potential of alien species. *Journal of Animal Ecology*, 89(10). 2020. <https://doi.org/10.1111/1365-2656.13293>
- Marques, P.**; Manna, L.R.; Mazzoni, R.; El-Sabaawi, R.W. Intraspecific trait variation in urban stream ecosystems: moving towards the mechanisms shaping urban stream biota. *Journal of Freshwater Science*, 38(1). 2019. <https://doi.org/10.1086/701652>
- Warbanski, M.; **Marques, P.**; Frauendorf, T.C.; Phillip, D.; El-Sabaawi, R.W. Implications of guppy (*Poecilia reticulata*) life-history phenotype for mosquito control. *Ecology and Evolution*, 7(10). 2017. <https://doi.org/10.1002/ece3.2666>
- El-Sabaawi, R.W.; Frauendorf, T. C.; **Marques, P.**; Mackenzie, R.A.; Manna, L.R.; Mazzoni, R.; Phillip, D.; Warbanski, M.; Zandonà, E. Biodiversity and ecosystem risks arising from using guppies to control mosquitoes. *Biology Letters*, 12(10). 2016. <https://doi.org/10.1098/rsbl.2016.0590>
- Kennedy, L.A., Fleury, A.G., Holden, J.J., Macnaughton, A.E., **Marques, P.**, Osgood, G.J. and Juanes, F. The Ecology of North American Freshwater Fishes by Ross, Stephen T. *Fish and Fisheries*, 16. 2015.
- Marques, P.**; Costa, M.F.; Corrêa, C.C.D.; Marinho, M.M. Grazing behaviour of a non-herbivorous characin: revisiting plasticity. *Journal of Fish Biology*, 85(2). 2014. <https://doi.org/10.1111/jfb.12410>
- Mazzoni, R.; **Marques, P.**; Resende, C.F.; Iglesias-Rios, R. Niche enlargement as a consequence of co-existence: a case study. *Brazilian Journal of Biology*, 72. 2012. <https://doi.org/10.1590/S1519-69842012000200006>
- ***Marques, P.** Saberes e fazeres locais na conservação dos recursos hídricos: bases para ações em Educação Ambiental em uma unidade de conservação (Translated title: Local knowledge and practices towards the conservation of water: developing the basis for environmental education actions within a nature reserve). *Ambiente & Educação*, 16(2). 2012. <https://periodicos.furg.br/ambeduc/article/view/1839/1400>
- ***Marques, P.**; Cristina, I; Aguiar, L. Alfabetização científica e os saberes locais: o caso da Vila do Abraão, Ilha Grande- RJ (Translated title: Scientific literacy and local knowledge: the case of Vila do Abraão, Ilha Grande- RJ). *Atos de Pesquisa em Educação*, 6(2). 2011. <http://dx.doi.org/10.7867/1809-0354.2011v6n2p521-534>

NON-PEER REVIEWED PUBLICATIONS (MAGAZINES AND BLOGS) FOR SCIENCE OUTREACH AND ADVOCATING DIVERSITY

Note: The asterisk (*) indicates that the publication is available in Portuguese language only.

Marques, P. It is time for efficient diversity actions in academia. 2022. In this blog post I argue that many academics have been promoting diversity actions that focus on individuals of racialized groups rather than tackling systemic issues. Published in the Functional Ecologists, the official blog of Functional Ecology, a British Ecological Society Journal. <https://functionalecologists.com/2022/11/10/piata-marques-it-is-time-for-efficient-diversity-actions-in-academia/>

Oliveira, W.; Soares, B.E.; **Marques, P.**; Souza, C.; Dias, A.; Bello, M.; Custódio, L.; Advancing racial equity in Brazil's academia. *Science* 376.6594 (2022): 707-707. <https://www.science.org/doi/10.1126/science.abq5212>

Marques, P. Navigating biological invasion and structural racism in urban systems. 2020. In this blog post I expose how systemic racism affects research inside and outside of academia. Published in *Animal Ecology in Focus*, the official blog for *Journal of Animal Ecology*. Access:

<https://animalecologyinfocus.com/2020/10/15/navigating-biological-invasion-and-structural-racism-in-urban-systems/>

* **Marques, P.** Consciência Negra e a Ciência. 2020.

In this blog post I discuss the barriers systemic racism impose for Black students in STEM. Published on the LimnoNews blog that is produced by the Limnology laboratory at the Federal University of Rio de Janeiro. Access: <https://limnonews.wordpress.com/2020/11/26/mes-da-consciencia-negra-consciencia-negra-e-a-ciencia/>

*Miranda, J. C.; **Marques, P.** Peixe da vez: *Spintherobolus broccae*.

In this magazine publication we present a characin species and its conservation status using accessible language for the general public. Published at the Boletim da Sociedade Brasileira de Ictiologia, v.111, p. 24, 2014.

*Miranda, J. C.; **Marques, P.**; Mazzoni, R. Galeria de bichos ameaçados-Sarapó.

In this magazine publication we provide information about the conservation of a native knifefish in Brazil for elementary school kids. Published at Ciência Hoje das Crianças. 2011.

*Miranda, J. C.; **Marques, P.**; Mazzoni, R. Galeria de bichos ameaçados-Bagrinho.

In this magazine publication we provide information about the conservation of a native stream catfish for elementary school kids. Published at Ciência Hoje das Crianças. 2010.

AWARDS, GRANTS AND FELLOWSHIPS (grand total= ~\$248,760 USD)

2021. Postdoctoral research fellowship. Centre for Environmental Research in the Anthropocene. University of Toronto Scarborough. \$88,000 USD

2019. Postdoctoral research fellowship. Institutional Program for Internationalization of the Coordination for Higher Education of Brazil. State University of Rio de Janeiro. \$32,000 USD

2018. Graduate fellowship. Dr. Arne H. Lane fellowship. University of Victoria. \$8,000 USD

2018. Graduate fellowship. VNHS Alice M. Hay fellowship. University of Victoria. \$760 USD

2018. Best oral presentation. Aquatrop Conference, Quito, Ecuador.

2017. Graduate Fellowship. King-Platt fellowship. University of Victoria. \$10,000 USD

2013. Fully funded PhD fellowship. Science Without Borders Program, Coordination for Higher Education of Brazil. \$100,000 USD

2011. Fully funded MSc fellowship. Coordination for Higher Education of Brazil. State University of Rio de Janeiro. 7,000 USD

2010. Undergraduate research fellow. National Council for Scientific and Technological Development of Brazil. State University of Rio de Janeiro. \$1,000 USD

2008. Undergraduate research fellow. Foundation for Supporting Research in the State of Rio de Janeiro. State University of Rio de Janeiro. \$1,000 USD

2006. Undergraduate research fellow. State University of Rio de Janeiro. \$1,000 USD

VOLUNTEERING - DIVERSITY ADVOCACY

Dec 2020-ongoing. Founder and mentor at the Odu initiative (oduinitiative.wixsite.com/my-site). In this position I provide emotional and academic support for BIPOC students in STEM.

Dec 2020. Diversity panel discussion. I organized a virtual panel discussing structural racism in post-secondary education, with special focus on graduate students. Access: https://www.youtube.com/watch?v=16vNAbZtc_E (English subtitles available).

Jan 2011-Jan 2012. Science teacher – in this position I taught and prepared marginalized adult students for the Brazilian university entrance exams.

SERVICE AND PROFESSIONAL ACTIVITIES

a. Departmental committees and responsibilities

State University of New York at Buffalo, USA

Faculty search committee

Nov 2022. Department of Environment and Sustainability. Duties included reviewing applicant material, virtual interview of candidates and making final decisions about campus visits.

University of Toronto Scarborough, CA

Advisory committee

Nov 2021- Nov 2022. Centre for Environmental Research in the Anthropocene-CERA. Duties included reviewing grant proposals and making decisions about funding.

State University of Rio de Janeiro, BR

Graduate student search committee

Mar 2019. Ecology and Evolution graduate program. Duties included developing questions for the written exam, interview candidates and evaluate research proposals.

Defense examiner

Mar 2020. Master's thesis. Student: Yasmin Selhorst. Thesis title: Urban influence on the sexual characteristics of a poecilid invader. Advisor: Dr. Rosana Mazzoni.

Mar 2020. Master's thesis. Student: Jefferson Ribeiro Amaral. Thesis title: Experimental analysis of resource use competition between native and invasive species of omnivorous fish. Advisor: Dr. Eugenia Zandonà.

b. External committees and responsibilities

Federal University of Lavras, BR

Comprehensive exam examiner

Mar 2021. Master's thesis. Student: Jonathan Wilson de Almeida. Thesis title: The effect of urbanization on the dispersion syndrome of spontaneous plants: filter or evolutionary pressure? Advisor: Rafael Dudeque Zenni.

British Ecological Society, UK

Advisory committee

Aug 2020-ongoing. Review College of the British Ecological Society. Duties include reviewing and scoring grant proposals for later funding.

c. Invited guest speaker

Nov 2023. Cornell University, New York, USA. Fish and the city: understanding the effects of urbanization on the ecology and evolution of aquatic biota.

Nov 2023. City College of New York, New York, USA. Fish and the city: understanding the effects of urbanization on the ecology and evolution of aquatic biota.

Feb 2023. Middlebury College, Vermont, USA. Fish and the city: understanding the effects of urbanization on the ecology and evolution of aquatic biota.

Sep 2022. Colgate University, New York, USA. Fish and the city: understanding the effects of urbanization on the ecology and evolution of aquatic biota

Apr 2021. Federal University of Rio de Janeiro, Rio de Janeiro, BR (delivered online). Talk title: How urbanization can affect the ecology and evolution of stream biota? Lessons

from a globally spread invasive species.

Feb 2021. Odum School of Ecology. University of Georgia, USA (delivered online).

Talk title: How urbanization can affect the ecology and evolution of stream biota? Lessons from a globally spread invasive species.

Nov 2020. St. Cloud State University, USA (pre-recorded).

Talk title: How studying a widespread invasive species can help us understand the effects of urbanization.

d. Invited keynote speaker at scientific meetings

Apr 2021. Symposium of Ecology and Conservation. Federal University of the State of Rio de Janeiro, BR. (delivered online). Talk title: Noticing nature through the concrete of our cities: urban ecology for the integration of science and society.

e. Visiting scholar

Aug-Oct 2015. Visiting Short Term Scholar. Pacific Southwest's Research Station's Institute of Pacific Islands Forestry in Hilo, Hawaii. US Forest Service.

f. Reviewer for scientific journals

Environmental Reviews, Journal of Fish Biology, Marine and Freshwater Behaviour and Physiology, Neotropical Ichthyology, Hydrobiologia, Aquatic Ecology.

SCIENTIFIC EVENT ORGANIZATION

a. Conferences

Society for Freshwater Sciences, USA

Program committee

Nov 2022. Freshwater Sciences meeting. Duties included reviewing special sessions and abstract submissions.

b. Interdisciplinary workshops

University of Toronto Scarborough, CA

Organizer and Mediator

Sept 2022. I Ontario's Urban Stormwater Pond Workshop. Duties included organizing the agenda and mediating discussions during the event.

University of Toronto Scarborough, CA

Organizer and Mediator

Oct 2023. III Ontario's Urban Stormwater Pond Workshop. Duties included organizing the event, inviting speakers, defining agenda and mediating discussions.

CONFERENCE PRESENTATIONS

Note: Only first author presentations are shown.

2022 - Joint Aquatic Sciences Meeting. Grand Rapids. Michigan. Talk title: Fishes across the cityscape: are trait responses to urbanization similar within the city?

2018 - Aquatrop conference. Quito, Ecuador. Talk title: How urbanization facilitate the success of invasive species in tropical streams?

2018 - Association for the Sciences of Limnology and Oceanography meeting. Victoria, Canada. Talk title: How predators affect intraspecific variation in diet and gut morphology?

2017 - Canadian Society for Ecology and Evolution meeting. Victoria, Canada. Talk title: Effects of urbanization on fish life history traits: lessons from guppies.

2017 - XXII meeting of the Brazilian Ichthyological Society. Porto Seguro, Brazil. Talk title: Urbanization effects on the life history traits of guppies.

- 2015 - Society for Freshwater Sciences meeting. Milwaukee, USA. Talk title: Population and individual intraspecific variation in Trinidadian guppies.
- 2015 - XXI meeting of the Brazilian Ichthyological Society. Recife, Brazil. Talk title: The anatomy of a vegetarian: intraspecific variation on the morphology and diet of guppies.
- 2014 - Joint Aquatic Sciences Meeting. Portland, USA. Poster title: Behavioral change under reduced spatial scale: does it matters?
- 2013 - XX meeting of the Brazilian Ichthyological Society. Maringá, Brazil. Poster title: The effect of riparian canopy on the diet of *Bryconamericus microcephalus*.
- 2012 - Ecology and Conservation of Freshwater Fish meeting. Vila Nova de Cerveira, Portugal. Poster title: The role of grazing behavior for the diet of a neotropical characin.
- 2011 - XIX meeting of the Brazilian Ichthyological Society. Manaus, Brazil. Poster title: The importance of the periphyton for the diet of *Bryconamericus microcephalus*.
- 2009 - XVIII meeting of the Brazilian Ichthyological Society. Cuiabá, Brazil. Poster title: Spatial and temporal variation of the diet of two closely related species of characin.
- 2007 - XVII meeting of the Brazilian Ichthyological Society. Itajaí, Brazil. Poster title: Characterizing the diet of *Characidium interruptum* from a small Atlantic Forest stream.

