



Vitor Hugo Freitas Gomes (Gomes, V.H.F.)

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Brazilian environmental scientist passionate about Amazonia, with special emphasis on the patterns and processes related to its structure and diversity. His main research interests include species distribution modelling; diversity, distribution and conservation of tree species; global change impacts; and tropical forests biodiversity.

Education

2014–2018 Doctorate in Environmental Science, Universidade Federal do Pará (UFPA), Belém, Brazil (Obtained with honor, including a Sandwich no Naturalis Biodiversity Center)

2010–2012 Masters in Local Development, Universidade Federal do Pará (UFPA), Belém, Brazil.

2002–2006 Degree in Data Processing, Centro Universitário do Pará (CESUPA), Belém, Brazil.

Current and previous positions

2020–Present Post-Doctorate fellow, working on climate change effects over Amazonian tree flora according to the Paris Agreement. Institute of Geosciences, Universidade de Federal do Pará (UFPA), Belém, Brazil. Field: Environmental Science. Supervisors: Ima Célia Guimarães Vieira and Hans ter Steege.

2020–Present Strategy and Institutional Relations Advisor. Economic Development Company of Pará (CODEC), Belém, Pará, Brazil.

2019–Present Professor in Computer Science, teaching program languages paradigms, statistical modelling, digital logic and image processing (undergraduate discipline), Centro Universitário do Pará, Belém, Brazil.

2018–2019 Development Manager. Economic Development Company of Pará (CODEC), Belém, Pará, Brazil.

2014–2018 Professor. National School of Insurance, teaching Informatics and Rural Insurance, Belém, Pará, Brazil.

Teaching activities

2019–Present Teacher, Digital Logic (undergraduate discipline), CESUPA, Belém, Brazil

2019–Present Teacher, Program Languages Paradigms (undergraduate discipline), CESUPA, Belém, Brazil

2019–Present Teacher, Statistical Modelling (undergraduate discipline), CESUPA, Belém, Brazil

2019–Present Teacher, Image Processing (undergraduate discipline), CESUPA, Belém, Brazil

2016 Teaching assistant, Tropical Ecology (field course), Caxiuanã, Brazil.

2014–2018 Teacher, Informatics (short-term course; × 4), FUNENSEG, Belém, Brazil

Languages

Portuguese (native), English (advanced), Spanish and Dutch (basic)

Publications (peer reviewed)

Six articles published in peer-reviewed journals that together have attracted 66 citations in Scopus (Google Scholar: H-index: 5, Citations: 134). Three publications as first author date back to the Doctorate, and all chapters of the thesis were published in high-impact journals: *Nature Climate Change*, *Journal of Biogeography*, *Scientific Reports* and *Ecology*, showing the capacity of scientific production and dissemination. The track records include the publication of new scientific method, and others analysing and discussing field data of various nature. The production directly related to scientific collaborations with ATDN (Amazon Tree Diversity Network), and there are manuscripts in preparation to be submitted to scientific journals (see details in the 'Manuscripts in preparation' section). The list of publications is in decreasing data of publication, their context and the contribution are presented below. When cited as 'Lead author', it means that there were main responsibilities regarding the conception of the idea, data analysis and writing of the manuscript.

Ter Steege, H.; Prado, P. I.; de Lima, R. A.; Pos, E.; de Souza Coelho, L.; **Gomes, V. H. F.**; ... & Phillips, O. L. (2020). Biased-corrected richness estimates for the Amazonian tree flora. *Scientific Reports*, 10(1), 1-13.

Gomes, V. H. F.; Mayle, F. E.; Gosling, W. D.; Vieira, I. C. G.; Salomão, R. P.; ter Steege, H. Modelling the distribution of Amazonian tree species in response to long-term climate change during the Mid-Late Holocene. *Journal of Biogeography*. 2020; 47: 1530– 1540

Salomão, R. P.; Hage, A. L. F.; Brienza Júnior, S.; Salomão, G. N.; **Gomes, V. H. F.** Espécies estruturantes para a restauração florestal de áreas mineradas. *Brazilian Journal of Development*, v. 5, p. 876-886, 2019.

Salomão, R. P.; **Gomes, V. H. F.**; Brienza Júnior, S.; Salomão G. N.; Hage, A. L. F. Indicadores de sustentabilidade da restauração florestal em áreas mineradas na Amazônia. *Brazilian Journal of Development*; v. 5, p. 1251-1259, 2019.

Ter Steege, H.; Henkel, T. W.; Helal, N.; Marimon, B. S.; Marimon-Junior, B. H.; **Gomes, V. H. F.**; ... & Salomão, R. P. (2019). Rarity of monodominance in hyperdiverse Amazonian forests. *Scientific reports*, 9(1), 1-15.

Gomes, V. H. F.; Vieira, I. C.; Salomão, R. P.; & ter Steege, H. (2019). Amazonian tree species threatened by deforestation and climate change. *Nature Climate Change*, 9(7), 547-553.

Gomes, V. H. F.; IJff, S. D.; Raes, N.; Amaral, I. L.; Salomão, R. P.; de Souza Coelho, L.; ... & Guevara, J. E. (2018). Species Distribution Modelling: Contrasting presence-only models with plot abundance data. *Scientific reports*, 8(1), 1-12.

Ter Steege, H.; Sabatier, D.; Mota de Oliveira, S.; Magnusson, W. E.; Molino, J. F.; **Gomes, V. H. F.**; ... & Salomão, R. P. (2017). Estimating species richness in hyper-diverse large tree communities. *Ecology*, 98(5), 1444-1454.

Salomão, R. P.; Santana, A. C.; Brienza Júnior, S.; **Gomes, V. H. F.** Análise fitossociológica de floresta tropical primária densa da Amazônia e determinação de espécies-chave através de análise multivariada. *Boletim do Museu Paraense Emilio Goeldi - Ciências Naturais*, v. 07, p. 57-102, 2012.

Manuscripts submitted and in preparation

Correa, D. F.; Stevenson, P. R.; Umaña, M. N.; Coelho, L. S.; Lima, D. A.; **Gomes, V. H. F.**; ... & ter Steege, H. Dispersal agents and niche differentiation shape the structure of plant dispersal systems in Amazonian forests. Role: Co-author. Context: Publication related to an independent collaboration of the ER in the ATDN. Manuscript with co-authors for final review. To be submitted until October.

Gomes, V. H. F.; Vieira, I. C. G.; Gianinni, T. C.; ter Steege, H. Climate change effects over Amazonian tree flora according to the Paris Agreement. Manuscript in preparation. To be submitted to *Science*.

Book chapters

Gomes, V. H. F.; Salomão, R. P.; Amaral, D. D.; Hage, A. L. F. 2018. A megadiversidade arbórea da Amazônia e a domesticação das espécies. In: O Jornal. (Org.). Anuário do Pará 2019-2020, v. 9, p. 1048-1053.

Gomes, V. H. F.; Salomão, R. P.; ter Steege, H.; Lage, A. L. F. 2016. Biodiversidade invisível: o desafio da descoberta de milhares de novas espécies arbóreas da Amazônia. Anuário do Pará 2016-2017, v. 7, p. 807-810.

Salomão, R. P.; **Gomes, V. H. F.;** Rosa, N. A.; Precinato, R. S. 2015. Evolução da dinâmica do reflorestamento e da regeneração natural em área de restauração florestal. In: Salomão, R. P. (Org.). Restauração florestal de precisão: dinâmica e espécies estruturantes. 1ed. Saarbücken, Deutschland: Novas Edições Acadêmicas, v. 1, p. 186-220.

Translations

ter Steege, H.; Vaessen, R. W.; Cárdenas-López, D.; Sabatier, D.; Antonelli, A.; Oliveira, S. M. Pitman, N.; Jørgensen, P. M.; Salomão, R. P. & **Gomes, V. H. F.** 2017. A descoberta da flora arbórea da Amazônia com uma lista atualizada de todos os taxa arbóreos conhecidos. *Boletim do Museu Paraense Emílio Goeldi. Ciências Naturais* 11(2): 231-261. Translated from *Scientific Reports* 6: 29549. DOI: <http://dx.doi.org/10.1038/srep29549>, under Creative Commons Attribution 4.0.

Reviews activities

2020 MSc jury member, Tropical Botany Program, Rural Federal University of Amazonia, Belém, Brazil.

2019 MSc jury member, Environmental Sciences Program, University of the State of Pará, Belém, Brazil.

2019 MSc jury member, Tropical Botany Program, Rural Federal University of Amazonia, Belém, Brazil.

2019-2020 Reviewer of 5 manuscripts in the following peer reviewed journals: Nature Climate Change, Annals of Forest Science, Biodiversity and Conservation, Environmental Conservation and Plant Ecology and Diversity.

Inter-disciplinary activities

2015-2017 Invited expert, Development and availability of free software access for restoration of degraded legal reserve (arl) and permanent preservation (app) areas in Amazonia.

2010-2015 Invited expert, Monitoring of environmental programs in the biotic environment of Alcoa, Juruti, Brazil.

2010 Invited expert, Ecological-economic Zoning of the State of Pará, Belém, Brazil. Role: Responsible for data of the expansion and recovery of ecological-economic macrozoning in the State of Pará.

Invited presentations

Gomes, V. H. F. 2020. What pollen can tell us about Amazonian tree species distribution? In: Palynology Talks - The Palynological Society, Online event in attention to COVID-19 Pandemic.

Gomes, V. H. F. 2019. Global changes and their impact on Amazonian biodiversity. In: I Seminário PPGBE - 2019 of the Emilio Goeldi Museum, Belém, Brazil.

Prizes and awards

2019 CAPES 2019 Thesis Award, Winner of the 2019 Capes Thesis Prize for the best thesis in Environmental Science, Federal University of Pará, Belém, Brazil.

Funding

2020 Coordination for the Improvement of Higher Education Personnel (CAPES), “Quantification of the climate change effects over Amazonian tree flora according the Paris Agreement”. Grant number 88887.509407/2020-00, Post-doctorate research (R\$ 49.200,00).

2015–2016 National Council for Scientific and Technological Development (CNPq), ‘Amazonian tree species barcode (Barcoding Caxiuanã)’. Grant no. 203102/2015-0, Doctorate research developed abroad (R\$ 135.870,00)

2014–2018 National Council for Scientific and Technological Development (CNPq), ‘Impacts of climate change and deforestation on Amazonian tree flora’. Grand by Social Demand Program, Doctorate research (R\$ 79.200,00).

Supervisions

2020 Alvaro Somensi Magnenti. “MonumApp” - Application for recognition of historical monuments in Belém. Undergraduate project, University Centre of Pará (supervisor).

2020 Anne Beatriz Martins Goncalves. “Weebooks” - Library and social network for reading lovers. Undergraduate project, University Centre of Pará (supervisor).

2020 Camila Fernandes Barra. Arborian floristic composition of the national forest of saracá-taquera. MSc in Tropical Ecology, Rural Federal University of Amazonia (co-supervisor).

2018 Letícia Porto Picanço. Cervical cancer tracking in the Eastern Amazonia. Undergraduate project, University of the State of Pará (co-supervisor).

2017 - André Luis Ferreira Hage. Selection of structuring species for forest restoration of passive environmental areas in Northeast Pará. Undergraduate project, University of the State of Pará (co-supervisor).