

Marcos Vinicius Caiafa Sepúlveda

CURRICULUM VITAE

Postdoctoral Associate
Department of Plant Pathology
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RESEARCH INTERESTS

Mycology, fungal systematics, ecology and evolution, community ecology, molecular ecology

EDUCATION

- 2021 Ph.D. Plant Pathology. University of Florida, Gainesville, Florida, USA.
Dissertation title: “Fungal ecology and evolution: from mutualism to parasitism”
Advisor: Prof. Matthew E. Smith
- 2016 Master of Sciences. Instituto de Ecología, A.C. Xalapa, Veracruz, México.
- 2013 Bachelor in Environmental Science with a major in Biology, School of Science, University of Chile, Santiago de Chile.

ADDITIONAL TRAINING

2016 Tropical Ecology and Conservation Course. Organization for Tropical Studies, Costa Rica.

APPOINTMENTS

- 2023–present Postdoctoral Associate, Plant Pathology, University of Florida
- 2021–2023 Postdoctoral Scholar, Microbiology and Plant Pathology, UC Riverside
- 2018–2021 Student OPS, Plant Pathology, University of Florida

GRANTS

- 2018 Latin American Studies Field Research Grant, Tinker Foundation (USD \$2,000)
- 2019 Exploration Grant, National Geographic Society (as Project Co-leader) Exploring the symbiotic dispersal mutualism between endemic truffles and birds in Patagonia (USD \$29,845) **NGS-59603R-19**

AWARDS AND SCHOLARSHIPS

- 2021 Henry Pavelek Memorial Scholarship, North American Truffling Society (USD 2,500)
- 2019 Alexander Wetmore Memorial Research Award, American Ornithological Society (USD 2,500)
- 2019 Howard E. Bigelow Student Travel Award, Mycological Society of America (USD 750)
- 2019 Student & Postdoctoral Travel Awards, American Ornithological Society (USD 580)
- 2018 Forest Fungal Ecology Award, Mycological Society of America (USD 1,250)
- 2017-2020 Latin American-Caribbean Scholarship, Department of Plant Pathology, University of Florida (USD 5,500).
- 2017-2021 Doctoral Scholarship Grant BECAS CHILE N° 72180430 (USD 152,263)
- 2015 Graduate Student Travel Award, Instituto de Ecología A.C. (USD 600)

2014-2016 Master Scholarship, National Council of Science and Technology of Mexico (CONACYT) N° 632267 (USD 12,500)

2014 Scholarship CONACYT – Organization of American States – Mexican Agency for International Development Cooperation (AMEXID) (USD 1,200)

PEER-REVIEWED PUBLICATIONS (12 publications; 278 citations; h-index 6)

Healy, R., Truong, C., Castellano, M.A., Bonito, G., Trappe, J., **Caiafa, M.V.**, Mujic, A.B., Nouhra, E., Sánchez-Ramírez, S., Smith, M.E. Re-examination of the Southern Hemisphere truffle genus *Amylascus* (Pezizaceae, Ascomycota) and characterization of the sister genus *Nothoamyascus* gen. nov. *Persoonia-Molecular Phylogeny and Evolution of Fungi* 51: 125–151.

(<https://doi.org/10.3767/persoonia.2023.51.03>)

Caiafa, M.V., Nelson, A.R., Borch, T., Roth, H.K., Rhoades, C.C, Fegel, T.S., Wilkins, M.J. and Glassman, S.I. 2023. Distinct fungal and bacterial responses to fire severity and soil depth across a ten-year wildfire chronosequence in beetle-killed lodgepole pine forests. *Forest Ecology and Management* 544: 121160 (<https://doi.org/10.1016/j.foreco.2023.121160>)

Grupe II, A.C., Smith, M.E., Weier, A., Healy, R., **Caiafa, M.V.**, Pfister, D.H., Haelewaters, D. and Quandt, C.A. 2022. Two new species of *Phaeohelotium* (Leotiomyces: Helotiaceae) from Chile and their putative ectomycorrhizal status. *Fungal Systematics and Evolution* 10: 231–249

(<http://doi.org/10.3114/fuse.2022.10.10>)

Kuhar, F., Nouhra, E., Smith, M. E., **Caiafa, M. V.**, Greslebin, A. 2022. *Tomentellopsis rosannae* sp. nov. (Basidiomycota, Thelephorales), first species in the genus described from the Southern Hemisphere. *Lilloa* 59 (<https://doi.org/10.30550/j.lil/2022.59.S/2022.08.18>)

Pfister, D.H., Healy, R., Furci, G., Mujic, A., Nouhra, E., Truong, C., **Caiafa, M.V.** and Smith, M.E. 2022. A reexamination and realignment of the species of *Peziza* sensu lato (Pezizomycetes) in southern South America. *Darwiniana* 10(1): 148–177 (<http://doi.org/10.14522/darwiniana.2022.101.1019>)

Stillman, A.N., **Caiafa, M.V.**, Lorenz, T.J., Jusino, M.A. Tingley, M.W. 2022. DNA metabarcoding reveals broad woodpecker diets in fire-maintained forests. *Ornithology* 139(2)

(<https://doi.org/10.1093/ornithology/ukac009>)

Caiafa, M.V. and Smith, M.E. 2022. Polyphyly, asexual reproduction and dual trophic mode in *Buchwaldoboletus*. *Fungal Ecology* 56: 101141 (<https://doi.org/10.1016/j.funeco.2022.101141>)

Caiafa, M.V., Jusino, M.A., Wilkie, A.C., Díaz, I.A and Smith, M.E. 2021. Discovering the role of Patagonian birds in the dispersal of truffles and other mycorrhizal fungi. *Current Biology* 31:5558–5570. (<https://doi.org/10.1016/j.cub.2021.10.024>) *selected for the cover (*Current Biology* 31:24)

Nouhra, E., Kuhar, F., Truong, C., Pastor, N., Crespo, E., A. Mujic, **M.V. Caiafa** and M.E. Smith. 2021. *Thaxterogaster* revisited: a phylogenetic and taxonomic overview of sequestrate and secotioid *Cortinarius* from Patagonia. *Mycologia* 113: 1022–1055. (<https://doi.org/10.1080/00275514.2021.1894535>)

Caiafa, M.V., Sandoval-Leiva, P., Matheny, P.B., Calle, A. and Smith, M.E. 2021. Four new species of sequestrate *Inocybe* from Chilean Nothofagaceae forests. *Mycologia* 113:629–642

(<http://doi.org/10.1080/00275514.2020.1859324>)

Crous, P. W., J. J. Luangsa-ard, M. J. Wingfield, A. J. Carnegie, M. Hernández-Restrepo, L. Lombard, ... **Caiafa, M.V.** ... and J.Z. Groenewald 2018. Fungal Planet description sheets: 785–867. *Persoonia-Molecular Phylogeny and Evolution of Fungi* 41: 238 – 417. ([10.3767/persoonia.2018.41.12](https://doi.org/10.3767/persoonia.2018.41.12))

Caiafa, M.V., Gómez-Hernández, M., Williams-Linera, G. and Ramírez-Cruz, V. 2017. Functional diversity of macromycete communities along an environmental gradient in a Mexican seasonally dry tropical forest. *Fungal Ecology* 28: 66 – 75. (<http://dx.doi.org/10.1016/j.funeco.2017.04.005>)

INVITED TALKS

2023 **Caiafa, M.V.**, Distinct fungal and bacterial responses to fire severity across a ten-year wildfire chronosequence in beetle-killed lodgepole pine forests. Departmental Seminar, Plant Pathology Department, University of Florida, 4 April 2023.

2022 **Caiafa, M.V.**, M.A. Jusino, A.C. Wilkie, I.A. Diaz, K.E. Sieving, M.E. Smith. Uncovering the micophagous behavior of Patagonian birds. Symposium: “Fungi as food: a myco-centric perspective on below-and above-ground food webs” Mycological Society of America Meeting, July 2022, Gainesville, FL, USA.

2021 **Caiafa, M.V.**, Discovering the role of Patagonian birds in the dispersal of truffles and other mycorrhizal fungi. Departmental Seminar, Microbiology and Plant Pathology Department, University of California Riverside, 30 September 2021.

2021 **Caiafa, M.V.**, “DNA metabarcoding and epifluorescence reveal the important role of birds in fungal dispersal. Universidad del Rosario, 15 March 2021 (in Spanish)

2019 **Caiafa, M.V.**, Jusino M.A., I.A. Díaz., M.E. Smith. Revealing unknown interactions: The role of Patagonian Tapaculos (Rhinocryptidae) on the dispersal of endemic truffles. Symposium: “Molecular ecology is for the birds: using molecular techniques to advance our understanding of avian ecology”. American Ornithological Meeting, June 2019, Anchorage, AK, USA.

2019 **Caiafa, M.V.**, Jusino M.A., I.A. Díaz., M.E. Smith. Looking for truffles: exploring symbiotic mycophagy in two birds endemic to Patagonia. Symposium: “Animal-associated fungi: from parasitism to mutualism” Mycological Society of America Meeting, August 2019, Minneapolis, MN, USA.

PARTICIPATION IN SCIENTIFIC MEETINGS

Contributed Oral Presentations

2022 **Caiafa, M.V.**, Amelia R. Nelson, Thomas Borch, Holly K. Roth, Charles C. Rhoades, Timothy S. Fegel, Michael J. Wilkins, Sydney I. Glassman. Response of fungal communities to fire severity and soil depth across a ten-year chronosequence wildfire in beetle-killed lodgepole pine forests. Mycological Society of America Meeting, August 2023, Flagstaff, AZ, USA

2022 **Caiafa, M.V.**, Amelia R. Nelson, Thomas Borch, Holly K. Roth, Charles C. Rhoades, Timothy S. Fegel, Michael J. Wilkins, Sydney I. Glassman. Recovery of microbial communities across a fire chronosequence. Ecological Society of America & Canadian Society for Ecology and Evolution Joint Meeting, August 2022, Montréal, Canada.

- 2021 **Caiafa, M.V.**, Smith, M.E. Disentangling the ecology and evolution of *Buchwaldoboletus* (Boletaceae). Virtual Botany Conference, July 2021 (delivered remotely).
- 2020 Jusino, M.A., Skelton, J., Johnson, A.J., **Caiafa, M.V.**, Li, Y., Palmer, J.M., Hulcr, J., Smith, M.E. Relationships in decay: Ambrosia beetles host phylogenetically diverse basidiomycete fungi. Mycological Society of America Meeting, July 2020 (Presented by M.A. Jusino)
- 2017 **Caiafa, M.V.**, Gómez-Hernández, M. Williams-Linera, G. Diversidad funcional en comunidades de macromicetos a través de un gradiente ambiental en la Sierra Madre del Sur, Oaxaca, México. VI Congreso Mexicano de Ecología, León, Guanajuato, México. (in Spanish)
- 2016 **Caiafa, M.V.**, Gómez-Hernández, M., Williams-Linera, G. Diversidad funcional en comunidades de macrohongos a través de un gradiente ambiental en el sur de Oaxaca, México. XX Congreso Mexicano de Botánica, Ciudad de México, México. (in Spanish)
- Posters*
- 2023 Grupe II, A.C., Perrotta, C., Healy, R., Weier, A., Haelewaters, D., **Caiafa, M.V.**, Smith, M.E., Quandt, C.A. A new family, *Pseudomitruaceae* nom. prov. And three new species help describe diversity of South American Leotiomycetes earth tongues. Mycological Society of America Meeting, August 2023, Flagstaff, AZ, USA
- 2023 Ordoñez, M.E., **Caiafa, M.V.**, Czapla, K.M., Hillary, L.S., Emerson, J.B., Homyak, P.M., Glassman, S.I. The use of pyrocosms as a tool to simulate soil heating during wildfires: A proof of concept. Mycological Society of America Meeting, August 2023, Flagstaff, AZ, USA
- 2022 **Caiafa, M.V.**, Amelia R. Nelson, Thomas Borch, Holly K. Roth, Charles C. Rhoades, Timothy S. Fegel, Michael J. Wilkins, Glassman, S.I. Recovery of microbial communities across a wildfire chrono-sequence in beetle-killed lodgepole pine forests. 8th Southern California Microbiome Symposium, 19 September 2022, Irvine, CA, USA
- 2020 **Caiafa, M.V.**, Sandoval-Leiva, P., Matheny, P.B., Calle, A., Smith, M.E. New species of sequestrate *Inocybe* from Chilean Nothofagaceae forests. Mycological Society of America Meeting, July 2020 (delivered remotely).
- 2018 **Caiafa, M.V.**, Smith, M.E. Mycoraparasitic ability and host range of *Buchwaldoboletus hemichrysus*. 11th International Mycological Congress. San Juan, Puerto Rico, July 2018.
- 2017 **Caiafa, M.V.**, Gómez-Hernández, M., Williams-Linera, G. Diversidad funcional en comunidades de macromicetos a través de un gradiente ambiental en la Sierra Madre del Sur, Oaxaca, México. IX Congreso Latinoamericano de Micología. Lima, Perú. (in Spanish)

2013 **Caiafa, M.V.**, Renderos, L., Zepeda P., Leiva, D., Farías, F, Carú, M. y Orlando, J. Diversidad genética de Líquenes Antárticos: un estudio a pequeña escala. VII Congreso Latinoamericano de Ciencia Antártica, La Serena, Chile. (in Spanish)

OUTREACH ACTIVITIES

2022 Birds with a gourmet taste: the role of Patagonian birds in the dispersal of truffles. NightSchool California Academy of Sciences, 3 February 2022.

2021 What we're Reading. South American Mycorrhizal Research Network, 18 November 2021

2021 South American truffles and their feathered fellows: exploring the mycophagy of two native birds from southern South America. North American Truffling Society, 9 March 2021.

2021 Hablemos de Micofagia ("Let's talk about mycophagy). Instagram streaming organized by the Chilean NGO Micofilios. 11 February 2021 (in Spanish)

2020 Trufas del Sur y sus amigos emplumados ("Southern truffles and their feathered friends"). FungiFest, Festival de los Hongos, Chile, June 2020 (in Spanish).

2015 Hongos de Oaxaca, Taught lesson on fungal diversity to middle school students at rural school in Barra de la Cruz, Oaxaca, Mexico (in Spanish).

TEACHING EXPERIENCE

Teaching Assistant

2020 Teaching Assistant. Fungal Biology, Fall Semester (PLP4653C and PLP6656C). Department of Plant Pathology. University of Florida. Attendance: 5 undergraduate and 9 graduate students. (Class delivered in hybrid format with remote lectures and in person laboratory)

2014 Undergraduate Teaching Assistant, Microbial Ecology, Fall Semester, School of Sciences, University of Chile

2013 Undergraduate Teaching Assistant, Introduction to Environmental Sciences, Fall Semester, School of Sciences, University of Chile

2013 Undergraduate Teaching Assistant, Environmental Impact Assessment, Fall Semester, School of Sciences, University of Chile

2012 Undergraduate Teaching Assistant, Botany, Spring Semester, School of Sciences, University of Chile

Guest Lecturer

2020 Guest Lecturer. Fungal-Animal interactions. In: Fungal Biology, Fall Semester (PLP4653C and PLP6656C). Department of Plant Pathology. University of Florida.

2017 Guest Lecturer. Diversity analysis and distribution of tropical macromycetes (16A7384). CIIDIR-IPN Unidad Oaxaca, Mexico (12 hrs, in Spanish).

STUDENT MENTORING

General mentoring

2021–2022 **Basubi Binti Zhilik (UCR graduate student)** – Bioinformatics and downstream statistical analysis for amplicon sequencing data

2020 **Kaori Hall (UF undergraduate)** – Fungal culturing

2018-2019 **Esteban Gallardo Pillancari (Universidad Austral de Chile, undergraduate volunteer)** –
Diversity of truffle-like fungi in southern Chile

MS committee member

2022-present **Esteban Gallardo Pillancari (Universidad Austral de Chile, Chile)**

2023-present **Luis Eder Dorantes Marion (Benemérita Universidad Autónoma de Puebla, Mexico)**

SCIENTIFIC SOCIETIES MEMBERSHIP

2018-present Mycological Society of America

2018-2020 American Ornithological Society

2018 Society for Integrative and Comparative Biology

PROFESSIONAL EXPERIENCE

2013 Empresa Asemafor Ltda., Environmental Consulting, Av. Consistorial 2660, Peñalolen, Santiago,
Chile.

- Elaboration of company's protocols for wildlife baselines.

PEER REVIEWS

Acta Botanica Mexicana, Botanical Sciences, FEMS Microbiology Ecology, Forest Ecology and
Management, Fungal Ecology, Global Ecology and Conservation, Journal of Environmental
Management, PeerJ, Phytotaxa, Truffology

LANGUAGES

Spanish (native)

Portuguese (fluent)

English (fluent)