

Curriculum Vitae

João P. M. Araújo
Assistant Curator in Mycology
Institute of Systematic Botany
The New York Botanical Garden
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Education

- 2013-2017 **PhD in Biology**
Pennsylvania State University (USA)
Title: Diversity, Ecology and Evolution of myrmecophilous *Ophiocordyceps*
- 2010-2012 **MSc in Biodiversity**
Federal University of Amazonas (Brazil)
Title: *Ophiocordyceps* diversity and the influence of environment on insect infection by entomopathogens in Reserva Ducke (Central Amazon)
- 2005-2009 **BSc in Biology**
Centro de Ensino Superior de Juiz de Fora (Brazil)

Professional Experience

- 2021 – Present** *Assistant Curator in Mycology* – NYBG
- 2021 – Present** *Adjunct Professor* – City University of New York (CUNY)
- 2020 – 2021** *Postdoctoral Researcher* (Forest Resources and Conservation)
> (06/2020 – 08/2021) University of Florida – USA
- 2019–2020** *Visiting Researcher*
>(06/2019–04/2020) The University of the Ryukyus - Okinawa, Japan
- 2017–2019** *Postdoctoral Researcher* (Entomology Department)
>(08/2017–04/2019) The Pennsylvania State University - USA
- 2017–2020** *Collaborator Researcher* (Plant Pathology Department)
(10/2017–12/2020) Universidade Federal de Viçosa (UFV) - Brazil
- 2013–2017** *Research Assistant* (Entomology Department)
>(01/2013–06/2017) The Pennsylvania State University - USA

2015-2016 >(2015-2016)	Teaching Assistant (Department of Biology) The Pennsylvania State University - USA
2014 >(02/2014)	Scientific Consultant National Geographic Magazine (cover story Nov. 2014)

Grants

2010-2012 - CAPES Masters Fellowship (2 years – U\$15,650)
 2013-2016 - CNPq Brazilian Government PhD full Scholarship (4 years – U\$210,000)
 2017 - PhD Assistantship Entomology Department PSU (10 months – U\$21,500)
 2019–2020 - Visiting Researcher at University of the Ryukyus (10 months – U\$50,400)
 2021* - Visiting Researcher at Kew Gardens – UK (2 months, £3,000)
2022 – PurSUiT/NSF: Unravelling the Hidden Diversity and Evolution of *Cordyceps*-like Fungi and their Hosts (U\$1,400,000)

Total - U\$318,200

Projected for 2023: + U\$1,205,000

Publications (5 most relevant papers with link*)

1. Antonelli A., Farooq H., Colli-Silva M., **Araújo J.P.M.**, Gardner E.M., Grace O., Gu S., Marline L., Niskanen T., Onana J.M., Pérez-Escobar O., Taylor C & Knapp S. (2023). People-inspired names remain valuable. *Nature Ecology and Evolution* <https://doi.org/10.1038/s41559-023-02108-7>
2. Mendes-Pereira T., **Araújo J.P.M.**, Kloss T.G., Costa-Rezende D.H., Carvalho D.S. & Góes-Neto A. (2023). Disentangling the Taxonomy, Systematics, and Life History of the Spider-Parasitic Fungus *Gibellula* (Cordycipitaceae, Hypocreales). *Journal of Fungi* 9: 457. (IF = 5.724).
3. ***Araújo J.P.M.**, Lebert B.M., Vermeulen S., Brachmann A., Ohm R.A., Evans H. C., de Bekker, C. (2022). Masters of the manipulator: two new hypocrealean genera, *Niveomyces* (Cordycipitaceae) and *Torrubiellomyces* (Ophiocordycipitaceae), parasitic on the zombie ant fungus *Ophiocordyceps camponoti-floridani*. *Persoonia* 49: 171–194. (IF = 11.256).
4. Mendes-Pereira T., **Araújo J.P.M.**, Mendes F.C., Fonseca E.O., Alves J.E.R., Sobczak J.F. & Góes-Neto, A. (2022). *Gibellula aurea* sp. nov. (Ascomycota, Cordycipitaceae): a new golden spider-devouring fungus from a Brazilian Atlantic Rainforest. *Phytotaxa*. (IF = 1.171).

5. **Araújo J.P.M.**, Li Y., Duong T.A., Smith M. E., Adams S. & Hulcr J. (2022). Four New Species of *Harringtonia*: Unravelling the Laurel Wilt Fungal Genus. *Journal of Fungi*. 8: 613 (IF = 5.816).
6. **Araújo J.P.M.**, Li Y., Six D., Rajchenberg M., Smith M.E., Johnson A.J., Klepzig K.D., Adans S., Crous P.W., Leal-Dutra C., Skelton J., Adans S. & Hulcr J. (2022). Diversity and Evolution of *Entomocorticium*, a genus of bark beetle fungal symbionts derived from free-living, wood rotting *Peniophora*. *Journal of Fungi* 7: 1–26. (IF = 5.816).
7. **Araújo J.P.M.**, Moriguchi M.G., Uchiyama S., Matsuura Y. (2021). Insights into the Ecology and Evolution of Blattodea-associated *Ophiocordyceps*. *IMA Fungus* 12: 1–17. <https://doi.org/10.1186/s43008-020-00053-9>. (IF = 8.044)
8. Crous, P.W., Lombard, L., Sandoval-Denis, M., ..., **Araújo, J.P.M.**, et al. (2021) *Fusarium*: more than a node or a foot-shaped basal cell. *Studies in Mycology*. 98: 100116. (IF = 25.73)
9. Imirzian, N., **Araújo J.P.M.**, Hughes D.P. (2020). A new Zombie-ant Behavior Unravalled: Using Tree Trunk as Transmission Hubs. *Journal of Insect Pathology* 177: 1– 7. (IF = 2.511)
10. ***Araújo J.P.M.**, Evans H.C., Hughes, D.P. (2020). Zombie-ant fungi across continents: five new species within *Ophiocordyceps*. II. Myrmecophilous hymenostilboid species, a novel zombie lineage. *Mycologia* 112: 1138–1170. <https://doi.org/10.1080/00275514.2020.1822093>. (IF = 2.471)
11. Lisboa D.O., Evans H.C., **Araújo J.P.M.**, Elias S.G., Barreto, R.W. (2020). *Moniliophthora perniciosa*, the mushroom causing witches' broom disease of cacao: insights into its taxonomy, ecology and host range in Brazil. *Fungal Biology* 124: 983–1003. (IF = 2.789)
12. Li Y., Yu H., **Araújo J.P.M.**, Zhang X., Ji Y., Hulcr J. (2020). *Esteya floridanum* sp. nov.: An Ophiostomatalean Nematophagous Fungus and its Potential to Control the Pine Wood Nematode. *Phytopathology*. (IF = 12.623).
13. Saltamachia S.J. & **Araújo J.P.M.** (2020). *Ophiocordyceps desmidiospora*, a basal lineage within “Zombie-Ant Fungi” clade. *Mycologia*. 112: 1171–1183. (IF = 2.471)
14. ***Araújo J.P.M.** & Hughes D.P. (2019). Zombie-ant Fungi Emerged from Non-Manipulating, Beetle-Infecting Ancestors. *Current Biology*. 29: 1–4. (IF = 9.601) <https://www.sciencedirect.com/science/article/pii/S0960982219311649>
15. ***Araújo J.P.M.**, Evans H.C., Kepler R., Hughes D.P. (2018). Zombie-ants across

continents: 15 new species and new combinations within *Ophiocordyceps*. I. Myrmecophilous hirsutelloid species. *Studies in Mycology*. 90: 1–42. (IF = 25.73)
<https://www.sciencedirect.com/science/article/pii/S0166061617300593>

16. Evans H.C., **Araújo J.P.M.**, Halfeld V.R., Hughes D.P. (2018). “Epitypification and redescription of the zombie-ant fungus, *Ophiocordyceps unilateralis* (Ophiocordycipitaceae).” *Fungal Systematics and Evolution*. 1: 13-22. (IF = 3.47)
17. Loreto RG, **Araújo J.P.M.**, Kepler R., et al. (2018). Evidences for convergent evolution of host parasitic manipulation in response to environmental conditions. *Evolution*. 72: 2144. (IF = 3.573)
18. **Araújo J.P.M.**, Hughes, D.P. (2017). The Fungal Spore: Myrmecophilous *Ophiocordyceps* as a case study. In: *The Fungal Community: Its Organization and Role in the Ecosystem* (Dighton J, White JM, eds). CRC Press, USA. (Book chapter)
19. ***Araújo J.P.M.**, Hughes DP (2016). Diversity of Entomopathogenic Fungi: Which Groups Conquered the Insect Body? *Advances in Genetics*. 94: 1-39. (IF = 5.431)
<https://www.sciencedirect.com/science/article/abs/pii/S0065266016300013>
20. Crous, P.W, Wingfield, M.J., Burgess, T. I., et al. (2016) Molecular phylogeny and Evolution of Fungi – *Persoonia*. 37: 218-403. (IF = 6.860)
21. Hughes DP, **Araújo J.P.M.**, Loreto RG, et al. (2016) From so Simple a Beginning: The Evolution of Behavioral Manipulation by Fungi – *Advances in Genetics*. 94: 437-469. (IF = 5.431)
22. Barbosa B.C., Halfeld V.R., **Araújo J.P.M.**, et al. (2015). Record of *Ophiocordyceps unilateralis sensu lato*, the zombie-ant fungus, parasitizing *Camponotus* in an urban fragment of Atlantic Rainforest in southeastern Brazil. *Studies on Neotropical Fauna and Environment*. 50: 1-3. (IF = 1.04)
23. **Araújo J.P.M.**, Evans H.C., Geiser, D.M. et al. (2015). Unravelling the diversity behind the *Ophiocordyceps unilateralis* (Ophiocordycipitaceae) complex: Three new species of zombie-ant fungi from the Brazilian Amazon. *Phytotaxa*. 220: 224-238. (IF = 1.185)
24. Quandt A.C., Kepler R.M., Gams W., **Araújo J.P.M.**, et al. (2014). Phylogenetic-based nomenclatural proposals for *Ophiocordycipitaceae* (Hypocreales) with new combinations in *Tolypocladium*. *IMA Fungus*. 5: 121-134. (IF = 8.044)
25. **Araújo J.P.M.**, Coimbra V.R.M., Wartchow F. (2011). *Leucopaxillus gracillimus* (Tricholomataceae, Basidiomycota): new record from Northeast Brazil and notes on its distribution. *Kurtziana*. 36: 5-9.

26. Albuquerque H.R., **Araújo J.P.M.**, Putzke J. (2007). *Chromocyphella muscicola* (Fr.) Donk. (Basidiomycota, Agaricales): primeira citação para o Brasil. *Revista Brasileira de Biociências*. 5: 999-1001.

Professional activities

- Reviewer for *Studies in Mycology*, *Fungal Biology*, *Fungal Ecology*, *Phytotaxa*, *MycoKeys*, *Nature Scientific Reports*, *Persoonia*, *Fungal Systematics and Evolution*, *PLos One*, *Journal of Invertebrate Pathology*;
- Research Consultant for National Geographic Magazine (cover story) 11/2014
- Scientific Consultant for “She who brings gifts” movie 2016
- Scientific Consultant for National Geography of China 2017-2018

Invited Speaker

- VIII Latin American Congress of Mycology – Medellín, **Colombia** (11/2014)
- Entomology Seminar – Penn State University – University Park, **USA** (10/2015)
- VIII Brazilian Congress of Mycology – **Brazil** (10/2016)
- Cordyceps Forum 2017 – ShenYang, **China** (08/2017)
- 30th Asilomar Fungal Genetics Conference - California, **USA** (03/2019)*
- IX Brazilian Congress of Mycology - Manaus, **Brazil** (07/2019)*
- 64th Annual Meeting of the Japanese Society of Applied Entomology and Zoology – **Japan** (03/2020)*
- Gordon Research Conference: Cellular and Molecular Fungal Biology – Holderness (NH) 06/2022) (Discussion Leader).
- Seminar Series of Ecology and Evolutionary Biology, University of Copenhagen, **Denmark** – 10/2022
- Seminar series of the Royal Botanical Gardens, KEW, **United Kingdom** – 10/2022

Conferences Attended

- Asian Mycological Congress 2022, Pathum Thani, Thailand – Jul. 2022*
- Cordyceps Forum 2017, China 2017
- VIII Latinamerican Congress of Mycology, Colombia 2014
- VII Latinamerican Congress of Mycology, Costa Rica 2012
- VI Latinamerican Congress of Mycology, Argentina 2008
- V Brazilian Congress of Mycology, Brazil 2007
- 57° National Congress of Botany, Brazil 2006

*Invitation received, but not attended due to COVID-19.

Teaching Experience

- Biol 110 Introductory Biology (2 semesters/100 students) - Pennsylvania State University
- Co-Advising 2 MSc thesis at the Royal Botanical Garden, KEW (starting at 03/2023)
- Advising undergraduate student (Zoe Perloff) – Columbia University (2022–Present)
- Co-advising PhD Student (Thairine Mendes) – UFMG – Brazil – (2020–Present)
- Co-advising MSc student (Fernando Freire) - Universidade Federal de Santa Catarina (2014-2016).
- Co-advising MSc Student (Wesley Nardes) – Universidade Federal de Santa Catarina (2019–2022).
- =Mentor undergraduate Student (Benjamin Fowler) - Pennsylvania State University - 2015

Field-work experience (Field surveys, logistics and permits)

- Brazil (Amazon and Atlantic Rainforests) - continuously from 2010 to Present (12/2022);
- UK - 2022;
- Japan (Mainland and Southern islands) - 2019–2020;
- USA - 2013–2020;
- Ethiopia - 2018;
- China (East Coast) - 2017;
- Ghana - 2015;
- Colombia - 2014;
- Costa Rica - 2012;

Fieldwork planned for 2023/2025

- Japan
- Borneo
- Madagascar
- Brazil
- USA (Mississippi, Maine, North Carolina, Pennsylvania)

Selection of Media Coverage

- <https://www.youtube.com/watch?v=IRMSyuk1Rdw> (333.000 views on March 21st 2023)
- <https://www.nationalgeographic.com/science/article/parasitic-fungus-evolve-to-control-humans>
- <https://www.cnn.com/2023/01/25/world/zombie-fungus-ophiocordyceps-the-last-of-us-sc/index.html>
- <https://www.nbcboston.com/news/national-international/sweet-16-set-for-2023-ncaa-womens-tournament/3119300/>
- <https://www.forbes.com/sites/roberthart/2023/01/16/the-last-of-us-zombie-infection-is-real->

- [heres-what-scientists-say-about-the-threat-to-humans/](#)
- <https://nypost.com/2023/01/23/last-of-us-zombie-fungus-is-real-and-just-one-of-many/>
- <https://www.smithsonianmag.com/smart-news/the-real-zombie-fungus-that-inspired-hbos-the-last-of-us-180981514/>
- <https://www.cbsnews.com/atlanta/news/what-scientists-say-about-the-real-life-zombie-fungi-that-inspired-hbos-the-last-of-us/>
- <https://futurism.com/neoscope/zombie-fungus-the-last-of-us>
- <https://www.dailymail.co.uk/sciencetech/article-11711123/How-zombie-fungus-three-steps-away-infecting-HUMANS-like-Us.html>
- <https://www.wionews.com/science/wait-what-zombie-fungus-portrayed-in-show-last-of-us-could-become-a-reality-561499>
- <https://www.climatealityproject.org/blog/climate-change-zombies-and-fungi-how-realistic-last-us>
- **[Could a parasitic fungus evolve to control humans?](#)** (National Geographic - 01/2023).
- **[‘The Last Of Us’ Zombie Infection Is Real—Here’s What Scientists Say About The Threat To Humans](#)** (Forbes magazine - 01/2023).
- **Where Mycology and Climate Apocalypse collide.** <https://atmos.earth/last-of-us-mycology-zombies-climate-change/> (Atmos - 01/2023)
- ***Mistery parasites on zombie ant fungus identified by scientists*** (CNN - 2022). <https://www.cnn.com/2022/11/18/world/zombie-ant-fungus-parasite-mystery-scn/index.html>
- ***The Fungi That Turned Ants Into Zombies*** (PBS - 2022). <https://www.youtube.com/watch?v=mXlyKwpLbSw>
- ***The Girl with All the Gifts: Why the kids are infected*** (Screenrant - 2020). <https://screenrant.com/girl-all-gifts-infected-kids-reason-explained/>
- ***After This Fungus Turns Ants Into Zombies, Their Bodies Explode*** (The New York Times - 2019): <https://www.nytimes.com/2019/10/24/science/ant-zombies-fungus.html>
- ***How the Zombie Fungus Takes Over Ant’s Bodies to Control Their Minds*** (The Atlantic - 2017). <https://www.theatlantic.com/science/archive/2017/11/how-the-zombie-fungus-takes-over-ants-bodies-to-control-their-minds/545864/>
- ***The Girl with all the Gifts: The REAL science behind the new zombie apocalypse film everyone’s talking about*** (The Mirror - 2016). <https://www.mirror.co.uk/science/girl-gifts-real-science-behind-8918179>