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Cheating belowground interactions : diversity, ecology and distribution of mycoheterotrophy

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CURRICULUM VITAE



Sofia Gomes was born on April 18th, 1988, in Lisbon, Portugal. In 2006, she finished her high school education in Liceu Camões in Lisbon. She obtained her BSc degree in Biology in 2009, in the branch of molecular biology and genetics at the Faculty of Sciences of the University of Lisbon, Portugal. There, she pursued her Master's degree in Applied Microbiology (2009-2011), where she obtained a scholarship from a local funding agency (Amadeus Dias) to participate in the project SEAVENTzymes with particular focus on the screening for chitinase enzymatic activity from extremophile microbes. Her MSc thesis focused on the morphological and genetic classification of the edible mushroom within the species-complex of *Tricholoma equestre* (a.k.a. yellow knight). Simultaneously, Sofia worked at Parques de Sintra – Monte da Lua, S.A., a nature management company, where she undertook a two years inventory (2010-2012) of the mushrooms growing in the managed natural area. After that, she obtained a Leonardo da Vinci scholarship (European Commission) to learn electron microscopy for the identification of *Russula* fungi with Dr. Jaume Llistosella at the Instituto de Recerca de la Biodiversidad (IRCBio), University of Barcelona, Spain. In 2013, she worked as a researcher in a project that captured her curiosity to pursue the topic of her PhD thesis (2014-2018), funded by Naturalis Biodiversity Center and the Institute of Environmental Sciences (CML) at Leiden University, the Netherlands. She obtained a KNAW grant from the Koninklijke Nederlandse Akademie van Wetenschappen to conduct field work for her thesis. After completing her PhD, Sofia will start a postdoc at CML to study the potential of mycorrhizal inoculation for pest protection in bulb plants, and to understand the impact of agricultural practices on the microbiota of dairy farms.

List of Publications

In peer reviewed journals

Gomes SIF, Merckx VSFT, Hynson NA (2018) Biological invasions increase the richness of arbuscular mycorrhizal fungi from a Hawaiian subtropical ecosystem. *Biological Invasions* 20: 2421-2437.

Gomes SIF, Merckx VSFT, Saavedra S (2017) Fungal-host diversity among mycoheterotrophic plants increases proportionally to their fungal-host overlap. *Ecology and Evolution* 7: 3623-3630.

Gomes SIF, Aguirre-Gutiérrez J, Bidartondo MI, Merckx VSFT (2017) Arbuscular mycorrhizal interactions of mycoheterotrophic *Thismia* are more specialized than in autotrophic plants. *New Phytologist* 213: 1418–1427.

Merckx VSFT, **Gomes SIF**, Wapstra M, Hunt C, Steenbeeke G, Mennes CB, Walsh N, Smissen R, Hsieh T-H, Smets E, Bidartondo MI (2017) The biogeographic history of the interaction between mycoheterotrophic *Thismia* (Thismiaceae) plants and mycorrhizal Rhizophagus (Glomeraceae) fungi. *Journal of Biogeography* 44: 1869-1879 [cover feature].

Carvalho LG, Biesmeijer JC, Benadi G, Fründ J, Stang M, Bartomeus I, CN Kaiser-Bunbury, Baude M, **Gomes SIF**, Merckx V, Baldock KCR, Bennett ATD, Boada R, Bommarco R, Cartar R, Chacoff N, Dänhardt J, Dicks LV, Dormann CF, Ekroos J, Henson KSE, Holzschuh A, Junker RR, Lopezaraiza-Mikel M, Memmott J, Montero-Castaño A, Nelson IL, Petanidou T, Power EF, Rundlöf, Smith HG, Stout JC, Temitope K, Tscharntke T, Tscheulin T, Vilà M, Kunin WE (2014) The potential for indirect effects between co-flowering plants via shared pollinators depends on resource abundance, accessibility and relatedness. *Ecology Letters* 17: 1389-1399.

Book

Baptista-Ferreira JL, **Gomes S** (2012) *Mushrooms of Sintra Parks*. Lisboa. Parques de Sintra editor – Monte da Lua, SA. ISBN: 978-989-97678-8-1.

Abstracts

Gomes SIF, Soudzilovskaia N, van Bodegom P, Merckx VSFT (2017) Global distribution of mycoheterotrophic plants. XIX International Botanical Conference. Shenzhen, China, 23-29 July 2017. (Oral presentation)

Gomes SIF (2017) Cheating belowground interactions. European Conference of Tropical Ecology. Brussels, Belgium, 6-10 Feb 2017. (Oral presentation)

Gomes SIF, Merckx VSFT, Saavedra S (2016) Host diversity increases proportionally to host overlap among mycoheterotrophic plants. Mycological Society of America Annual Meeting, Berkeley, CA, USA, 7-11 Aug 2016. (Oral presentation)

Gomes SIF, Merckx VSFT, Saavedra S (2015) Evolution of cheating network interactions: the breakdown of the mutualistic arbuscular mycorrhizal association. XVII Congress of European Mycologists. Madeira, Portugal, 20-25 Sept 2015. (Oral presentation)

Merckx VSFT, **Gomes SIF**, Mennes CB, Wapstra M, Hunt C, Smets EF (2014) Mycorrhizal specificity in space and time: the *Thismia rodwayi* species-complex and its associated AM fungi. 33rd New Phytologist Symposium. Networks of Power and Influence: ecology & evolution of symbioses between plants & mycorrhizal fungi. Zurich, Switzerland, 14-16 May 2014. (Poster)

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