

Matthias Grenié

Postdoctoral Researcher

Curriculum Vitae
August 2022

📍 German Centre for Integrative Biodiversity Research (iDiv), Halle-Jena-Leipzig
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Scientific Education

| | | |
|-----------|--|----------------------------------|
| 2016-2020 | PhD in Ecology Montpellier, France <ul style="list-style-type: none">➤ Supervised by Dr. Cyrille Violle and Pr. François Munoz.➤ PhD title: 'Outside the norm: deviation from ecological optimality and functional originality' | CEFE / Montpellier University |
| 2013-2015 | MSc. in General Biology Lyon, France | École Normale Supérieure de Lyon |
| 2012-2013 | Bsc. in General Biology Lyon, France | École Normale Supérieure de Lyon |

Academic Experience

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| Oct. 2020-now | Postdoctoral Researcher Leipzig, Germany <ul style="list-style-type: none">➤ Working with Dr. Marten Winter on the functional biogeography of alien plants | German Center for Integrative Biodiversity Research (iDiv) / Leipzig University |
| 2016-2020 | PhD Student Montpellier, France | Montpellier University |
| Feb. 2015-June 2015 | Master Intern Kourou, French Guiana, France <ul style="list-style-type: none">➤ Supervised by Dr. Bruno Hérault on intraspecific variability in tropical trees growth in function of functional traits | EcoFOG |
| Sept. 2014-Dec. 2014 | Master Intern Montpellier, France <ul style="list-style-type: none">➤ Supervised by Dr. Ophélie Ronce on matrix population models | ISEM, University of Montpellier |
| Feb. 2014-July 2014 | Master Intern Bloomington, IN, USA <ul style="list-style-type: none">➤ Supervised by Dr. Jean-François Goût in Michael Lynch's lab on trait motifs in the *Paramecium* complex | Indiana University |

Scientific Supervision

Master students supervision. Charlotte & Nathan.

Scientific Service

Elected Lab council, peer reviews for XX and YY journals, reviewer for rOpenSci, conference organization (MEE), half-day workshop on Open Science CEFE R User Group. Organize sDiv lab meetings. PhD Advisory Committee.

Scientific Projects

Active member of FREE CESAB group, GloNAF, Impacts CESAB group.

Scientific Contributions

📄 10 published articles. 🗨 323 citations (Google Scholar). 📊 h-index 10 (Google Scholar). 📦 6 R packages

Publications

1. Grenié, M., Berti, E., Carvajal-Quintero, J., Dädlow, G. M. L., Sagouis, A., & Winter, M. (2022). Harmonizing Taxon Names in Biodiversity Data: A Review of Tools, Databases and Best Practices. *Methods in Ecology and Evolution*, n/a(n/a). <https://doi.org/10.1111/2041-210X.13802>

2. Mouillot, D., Loiseau, N., **Grenié, M.**, Algar, A. C., Allegra, M., Cadotte, M. W., Casajus, N., Denelle, P., Guéguen, M., Maire, A., Maitner, B., ... Auber, A. (2021). The Dimensionality and Structure of Species Trait Spaces. *Ecology Letters*, 24(9), 1988–2009. <https://doi.org/10.1111/ele.13778>
3. **Grenié, M.**, Violle, C., & Munoz, F. (2020). Is Prediction of Species Richness from Stacked Species Distribution Models Biased by Habitat Saturation? *Ecological Indicators*, 111, 105970. <https://doi.org/10.1016/j.ecolind.2019.105970>
4. Loiseau, N., Mouquet, N., Casajus, N., **Grenié, M.**, Guéguen, M., Maitner, B., Mouillot, D., Ostling, A., Renaud, J., Tucker, C., Velez, L., ... Violle, C. (2020). Global Distribution and Conservation Status of Ecologically Rare Mammal and Bird Species. *Nature Communications*, 11(1), 5071. <https://doi.org/10.1038/s41467-020-18779-w>
5. Barnagaud, J.-Y., Mazet, N., Munoz, F., **Grenié, M.**, Denelle, P., Sobral, M., Kissling, W. D., Şekercioğlu, Ç. H., & Violle, C. (2019). Functional Biogeography of Dietary Strategies in Birds. *Global Ecology and Biogeography*, 28(7), 1004–1017. <https://doi.org/10.1111/geb.12910>
6. Joffard, N., Massol, F., **Grenié, M.**, Montgelard, C., & Schatz, B. (2019). Effect of Pollination Strategy, Phylogeny and Distribution on Pollination Niches of Euro-Mediterranean Orchids. *Journal of Ecology*, 107(1), 478–490. <https://doi.org/10.1111/1365-2745.13013>
7. **Grenié, M.**, Mouillot, D., Villéger, S., Denelle, P., Tucker, C. M., Munoz, F., & Violle, C. (2018). Functional Rarity of Coral Reef Fishes at the Global Scale: Hotspots and Challenges for Conservation. *Biological Conservation*, 226, 288–299. <https://doi.org/10.1016/j.biocon.2018.08.011>
8. Munoz, F., **Grenié, M.**, Denelle, P., Taudière, A., Laroche, F., Tucker, C., & Violle, C. (2018). Ecolottery: Simulating and Assessing Community Assembly with Environmental Filtering and Neutral Dynamics in R. *Methods in Ecology and Evolution*, 9(3), 693–703. <https://doi.org/10.1111/2041-210X.12918>
9. **Grenié, M.**, Denelle, P., Tucker, C. M., Munoz, F., & Violle, C. (2017). Funrar: An R Package to Characterize Functional Rarity. *Diversity and Distributions*, 23(12), 1365–1371. <https://doi.org/10.1111/ddi.12629>
10. Violle, C., Thuiller, W., Mouquet, N., Munoz, F., Kraft, N. J. B., Cadotte, M. W., Livingstone, S. W., **Grenié, M.**, & Mouillot, D. (2017). A Common Toolbox to Understand, Monitor or Manage Rarity? A Response to Carmona et Al. *Trends in Ecology & Evolution*, 32(12), 891–893. <https://doi.org/10.1016/j.tree.2017.10.001>

Preprints

Submitted Manuscripts

R packages

- **funrar** (main creator and maintainer)
computes functional originality indices central for CESAB FREE group analyses
[published paper](#) - [CRAN](#) - [GitHub](#)
- **ecolottery** (co-creator)
simulates community assembly processes cleverly with both niche and neutral processes
[published paper](#) - [CRAN](#) - [GitHub](#)
- **rtaxref** (main creator and maintainer)
accesses the French Taxonomic Referential (TAXREF) API
[GitHub](#)
- **rromeo** (co-creator and maintainer)
accesses the Sherpa/RoMEO API Open Access journals
[published by rOpenSci](#) - [CRAN](#) - [GitHub](#)
- **fundiversity** (co-creator and maintainer)
a fast and modular package to compute functional diversity indices
[online preprint](#) - [CRAN](#) - [GitHub](#)
- **funbiogeo** (co-creator and maintainer)
helps create functional biogeography workflows, developed in the context of the FREE CESAB group
[GitHub](#)
- Significant contributions to other packages: **taxize**, **ggfortify**, and **traitdataform**

Conference Proceedings

1. **Grenié, M.**, Berti, E., Carvajal-Quintero, J., Winter, M., & Sagouis, A. (2021). Matching Species Names Across Biodiversity Databases: Sources, Tools, Pitfalls and Best Practices for Taxonomic Harmonization. *Biodiversity Information Science and Standards*, 5, e75359. <https://doi.org/10.3897/biss.5.75359>

Invited Talks

Göttingen lab seminar, D2KAB workshop.

Talks

Blogposts

1. **Grenié, M.**, Berti, E., Carvajal-Quintero, J., Dädlow, G. M. L., Sagouis, A., & Winter, M. (2022). Best Practices for Taxonomic Harmonization, an Overlooked yet Crucial Step in Biodiversity Analyses [Data set]. *Methods Blog*. Retrieved from

<https://methodsblog.com/2022/03/02/best-practices-for-taxonomic-harmonization-an-overlooked-yet-crucial-step-in-biodiversity-analyses/>

2. **Grenié, M.**, & Gruson, H. (2020). Community Captioning of rOpenSci Community Calls [Data set]. *rOpenSci Blog*. Retrieved from <https://ropensci.org/blog/2020/07/15/subtitles/>

3. **Grenié, M.**, & Gruson, H. (2019). Access Publisher Copyright & Self-Archiving Policies via the 'SHERPA/RoMEO' API [Data set]. *rOpenSci Blog*. Retrieved from <https://ropensci.org/blog/2019/06/04/rromeo/>

Teaching Experience

Summary table. Year, Institution, Name of course, role, number of students.

Skills

Languages

French, English, Spanish, German, Chinese, Japanese

Programming languages

R practices, data visualization, spatial data, SQL, HPC, git + GitHub collaborative development.