

**Maximilian Hanusch, M.Sc.**

Current position: PhD-student, Paris-Lodron-University Salzburg

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**Education:**

**PhD-student (prospective end: Summer/Autumn 2022)**, Department of Environment and Biodiversity, Paris-Lodron-University Salzburg, Austria

- Thesis topic: Deciphering multidiversity - Multitrophic interactions underlie multidiversity patterns in a developing high alpine ecosystem.
- Supervisor: Dr. Robert R. Junker

**M.Sc. with distinction**, Environmental Planning and Ecosystem Engineering, Technical University Munich, Germany, 2017

- Thesis topic: Biogeography and integrative taxonomy of Epipterygium (Mniaceae, Bryophyta).
- Supervisor: Dr. Hanno Schaefer

**B.Sc.**, Geography, Augsburg University, Germany, 2015

- Thesis topic: Successional development of calcareous grasslands along the river Lech.
- Supervisor: Dr. Arne Friedmann

**Professional experience:**

**Lecturer** (2021 – now)

Department of Environment and Biodiversity, Paris-Lodron-University Salzburg, Austria

- Part-time lecturer for the bachelor's program in Geography

**Associate Researcher** (2019 – now)

Evolutionary Ecology of Plants Research Group, Philipps-University Marburg, Germany

- Associate researcher in the research group of Dr. Robert R. Junker

**Researcher** (2018 – 2019)

Terrestrial Ecology Research Group, Technical University Munich, Germany

- Full-time researcher in the research group of Dr. Wolfgang W. Weisser, project Animal Aided Design

**Teaching Assistant** (2016 – 2018)

Plant Biodiversity Research Group, Technical University Munich, Germany

- Part-time teaching assistant in the research group of Dr. Hanno Schaefer

**Research Assistant** (2014 – 2018)

Terrestrial Ecology Research Group, Technical University Munich, Germany

Bavarian Natural History Collections, Munich, Germany

Department of Geography, Augsburg University, Germany

- Part-time graduate assistant in the research group of Dr. Wolfgang W. Weisser
- Part-time graduate assistant in the Herbarium of Botanische Staatssammlung München
- Part-time undergraduate assistant in the research group of Dr. Arne Friedmann

## **Publications**

### **Peer-reviewed publications**

**Hanusch, M.**, He, X., Ruiz-Hernández, V., & Junker, R. R. (2022) Succession comprises a sequence of threshold-induced community assembly processes towards multidiversity. *Commun Biol* 5, 424.

Sweet, F. S., Apfelbeck, B., **Hanusch, M.**, Garland Monteagudo, C., & Weisser, W. W. (2022). Data from public and governmental databases show that a large proportion of the regional animal species pool occur in cities in Germany. *Journal of Urban Ecology*, 8(1), juac002.

Junker, R. R., He, X., Otto, J. C., Ruiz-Hernández, V., & **Hanusch, M.** (2021). Divergent assembly processes? A comparison of the plant and soil microbiome with plant communities in a glacier forefield. *FEMS microbiology ecology*, 97(10), fiab135.

Junker, R. R., **Hanusch, M.**, He, X., Ruiz-Hernández, V., Otto, J. C., Kraushaar, S., ... & Trutschnig, W. (2020). Ödenwinkel: an Alpine platform for observational and experimental research on the emergence of multidiversity and ecosystem complexity. *Web Ecology*, 20(2), 95-106.

**Hanusch, M.**, Ortiz, E. M., Patiño, J., & Schaefer, H. (2020). Biogeography and integrative taxonomy of Epipterygium (Mniaceae, Bryophyta). *Taxon*, 69(6), 1150-1171.

Apfelbeck, B., Jakoby, C., **Hanusch, M.**, Steffani, E. B., Hauck, T. E., & Weisser, W. W. (2019). A conceptual framework for choosing target species for wildlife-inclusive urban design. *Sustainability*, 11(24), 6972.

Bretzel, J., Endriß, T., Halbinger, F., **Hanusch, M.**, Hege, R., Krömmüller, I., ... & Schaefer, H. (2018). Additions to the checklist of terrestrial biodiversity of Cabo Verde.

### **Preprints, submitted & in preparation**

He, X., **Hanusch, M.**, Ruiz-Hernández, V., & Junker, R. R. (under revision). Accuracy of mutual predictions of plant and microbe communities varies along a successional gradient in an alpine glacier forefield. *bioRxiv*. <https://doi.org/10.1101/2021.08.27.457913>

**Hanusch, M.**, He, X., Griessenberger F., Janssen, S., Selke, J., Trutschnig W. & Junker, R. R. (in prep.). Predictive networks reveal asymmetric associations between plants, bacteria, and fungi and identify indicator species

**Hanusch, M.** & Schaefer, H. (submitted). Bryophyte communities of natural and anthropo-zoogenically altered alpine grasslands in the Wetterstein mountains, German Alps

## **Talks & Posters**

- Talk at GfÖ Meeting, Braunschweig, Germany (2021)
- Poster at miCROPe Conference, Vienna, Austria (2019)
- Talk at FloraMac Conference, Funchal, Madeira (2018)
- Talk at iMoss Conference, St. Petersburg, USA (2018)
- Poster at BLAM-Jahrestreffen, Frankfurt, Germany (2018)

## **Teaching and Supervisory experience**

### **Courses taught:**

- Scientific Methods and Communication (Salzburg, 2022)

### **Courses assisted:**

- Ecology, Evolution and Systematics of Plants (Salzburg, 2021 + 2020 + 2019)
- Bryophyte Diversity and Evolution (Munich, 2018 + 2017)
- Plant Systematics and Identification (Munich, 2018 + 2017 + 2016)

### **Co-supervision of Students**

- Cynthia Garland Monteagudo (2018), Master-Thesis, Bird Species in German Cities: An assessment with publicly available data

## **Fieldwork experience**

### **European Alps:**

- LTER Ödenwinkel, Paris-Lodron-University Salzburg (2 weeks, 2021)
- LTER Ödenwinkel, Paris-Lodron-University Salzburg (4 weeks, 2020)
- LTER Ödenwinkel, Paris-Lodron-University Salzburg (13 weeks, 2019)
- Vegetation monitoring Zugspitze, Augsburg University (2 weeks each, 2014, 2015, 2016)

### **Macaronesia:**

- Bryophyte collection Madeira, Technical University Munich (2 weeks, 2018)
- Bryophyte collection Canary Islands, La Laguna University (8 weeks, 2017)
- Bryophyte collection Cape Verde Islands, Technical University Munich (4 weeks, 2017)

### **Miscellaneous:**

- Teaching assistant for several multiday fieldtrips in Germany and Austria (German Alps, Bavarian Forest, Lake Neusiedl, 2016 – now)

## **Academic and Professional Service**

- Reviewer for: *PeerJ*, *The Bryologist*, *Cryptogamie*
- Founding member of the University Club for Nature Conservation, Munich

## **Fellowships**

- iMoss Trainee Fellowship, National Science Foundation, 2018 (1,000 €)
- Erasmus+ Fellowship, European Commission, 2017 (2,000 €)

## **Additional Skills & Certificates**

### **Laboratory skills**

- Molecular analysis (Sanger and NGS sequencing)
- Microbiological work (culture of and treatment with bacterial and fungal isolates)

### **Software skills**

- Analysis of multivariate ecological datasets in R
- Database management with SQL
- Microbiome analysis in Qiime2 and R
- Spatial analysis in QGIS and R

### **Certificates**

- Driver's licence
- European Scientific Diver Certificate
- Bird ringing license