UNIVERSITY OF HOHENHEIM

Kom Bio Ta

NATURAL HISTORY MUSEUM STUTTGART

KomBioTa's Research Group Directory for Students



KomBioTa Coordination Office
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Welcome to the KomBioTa Research Group Directory

Dear Reader,

KomBioTa, the Center for Biodiversity and Integrative Taxonomy, connects the University of Hohenheim and the Natural History Museum Stuttgart to promote biodiversity research, teaching, and collaboration across both institutions. As an interdisciplinary and transdisciplinary network, we bring together students, researchers, and practitioners across faculties and institutions, while also fostering exchange with policymakers, nature conservation organisations, NGOs, and other societal partners. Our work addresses biodiversity at every level, from genetic diversity to species and habitats, while supporting the training of future species experts for conservation, research, education, and related fields. By building these partnerships, we aim to help ensure that the knowledge needed to understand and protect biodiversity is developed, shared, and put into practice.

In this spirit, this directory provides an overview of the research groups affiliated with KomBioTa and is intended to help students discover the wide range of research opportunities available within our network.

Each group profile introduces the research topics, projects, and methods pursued by the respective team, while also outlining potential opportunities for student involvement. Where applicable, profiles include information on useful skills, academic background, and other prerequisites that may help students prepare for joining a group – whether through a student project, thesis, internship, student employment position, or future doctoral research.

The directory is not only intended for students currently looking for an opening. It is also a resource for exploring possible research paths early on, learning about the diversity of work within KomBioTa, and identifying areas of knowledge or experience that may be valuable to develop during your studies.

This directory will continue to grow as additional KomBioTa research groups contribute their information. To access the most recent version, please scan the QR code below or visit the KomBioTa homepage.

If you are not already a KomBioTa member, we warmly encourage you to join. Membership is free of charge, open to all, and offers exclusive benefits including access to our loanable field and microscopy equipment, invitations to our annual Spring Meeting and regular *Stammtisch* networking events, as well as newsletters featuring updates on research, publications, and job opportunities across the network. Members can also use these channels to share and promote their own research.

We hope this directory helps you find research topics that inspire you, connect with groups whose work matches your interests, and take the next steps toward becoming part of the KomBioTa research community.

All the best from,

The KomBioTa Coordination Team



How to get in touch:

Dr. Ann-Catrin Fender (manager)
Joanna Costello & Margaret Eppli (executive assistants)
kombiota@uni-hohenheim.de
0711 459 24930 (Fender) / 24934 (Costello) / 24935 (Eppli)

Download:

Plant Evolutionary Biology

(190b)

Where:

UNIVERSITY OF HOHENHEIM

What:

- ✓ Humboldt reloaded project
- ✓ Bachelor thesis
- ✓ Master thesis
- ✓ PhD
- ✓ HiWi / Student job

How:

- ✓ Field work, domestic
- ✓ Field work, international
- ✓ Lab work
- ✓ Data Analysis
- ✓ Literature review

Required skills / Prerequisites:

- ✓ Prerequisites: Depends on the project; generally motivation and appropriate skills/background for a given project.
- ✓ Selection: based on scientific excellence.

Frequency of openings:

- ✓ Every semester
- ✓ Year-round
- ✓ Occasionally (i.e. for new projects)



We are interested in the genetic and genomic basis of speciation and the origin of plant diversity; we aim to understand plant evolutionary development and the molecular basis of adaptation to biotic selection agents, as well as the phylogenetic, ecological and population genetic underpinnings of ecological interactions. This endeavour is focused upon the role of chemical and developmental floral traits in pollinator-driven evolution. Orchids, especially the bee orchids (Ophrys), are our favourite study plants.

Group leader:
Prof. Dr. Philipp Schlüter
philipp.schlueter@uni-hohenheim.de

Homepage:

Functional Plant Ecology

Where:

NATURAL HISTORY MUSEUM STUTTGART

What:

- ✓ Humboldt reloaded project
- ✓ Bachelor thesis
- ✓ Master thesis
- ✓ PhD
- ✓ HiWi / Student job

How:

- ✓ Field work, domestic
- ✓ Field work, international
- ✓ Lab work
- ✓ Data Analysis
- ✓ Literature review

Required skills / Prerequisites:

- ✓ general interest in plant ecology
- ✓ general interest in plant biodiversity

Frequency of openings:

- ✓ Every semester
- ✓ Year-round
- ✓ Occasionally (i.e. for new projects)

The Functional Plant Ecology Group at the SMNS studies how plant species and communities respond to environmental changes. We combine fieldwork, experiments, and large-scale data analysis to investigate plant diversity at local to global scales.



Image © Schöllkopf

Our department aims to elucidate the genetic and genomic basis of speciation Our research includes studying grassland dynamics, tracking declining species and spreading neophytes, and collaborating internationally. Ultimately, we aim to understand biodiversity shifts to support nature conservation and sustainable ecosystem management.

Group leader:
Dr. Pierre Liancourt
pierre.liancourt@smns-bw.de

Homepage:

LUBW Fluginsektenmonitoring

Where:

NATURAL HISTORY MUSEUM STUTTGART





What:

- ✓ Humboldt reloaded project
- ✓ Bachelor thesis
- ✓ Master thesis
- ✓ PhD
- ✓ Volunteer work

How:

- ~~✓ Field work, domestic~~
- ~~✓ Field work, international~~
- ✓ Lab work
- ✓ Data Analysis
- ~~✓ Literature review~~

Required skills / Prerequisites:

- ✓ Basic knowledge of identifying arthropods
- ✓ careful handling of biological samples

Frequency of openings:

- ✓ Every semester
- ✓ Year-round
- ✓ Occasionally (i.e. for new projects)

The “Biomass-Air” sub-project aims to determine the biomass of flying insects, and other groups of Arthropods from Malaise traps that are set up in nature reserves, grassland and agricultural areas at 40 sites across Baden-Württemberg. Parameters that may influence the insects – such as temperature, precipitation and the use of surrounding land for, for example, arable farming or haymaking – are also recorded for each site. Upon request, the samples and the information gathered can be made available to cooperation partners for a wide range of analyses.



How to get in touch:

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0711 8936-223

Dipl.-Biol. Ingo Wendt
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0711 8936-228

Homepage:

Entomology:
Insect-Plant Interactions Group

- **Where:**

NATURAL HISTORY MUSEUM STUTTGART

- **What:**
  - ~~✓ Humboldt reloaded project~~
  - ~~✓ Bachelor thesis~~
  - ✓ Master thesis
  - ✓ PhD
  - ~~✓ HiWi / Student job~~
  - ✓ Volunteer work

- **How:**
  - ✓ Field work, domestic
  - ✓ Field work, international
  - ✓ Lab work
  - ✓ Data Analysis
  - ✓ Literature review

- **Required skills / Prerequisites:**
  - ✓ Interest in bees, especially their biodiversity and conservation
  - ✓ Knowledge of traditional taxonomy, phylogenomic reconstruction and macroecological analyses
  - ✓ Understanding of bee biology and life history

- **Frequency of openings:**
  - ✓ Occasionally (i.e. for new projects)

Michael Orr is an interdisciplinary taxonomist broadly interested in the biodiversity of bees. Michael's research group on Insect-Plant Interactions seeks to bridge traditional life history and taxonomic research with cutting-edge approaches aimed at exploring the interactive consequences of bee ecology and evolution. Current projects include the systematics and phylogenomics of solitary bees, bee distribution and conservation across scales, the evolution of mimicry, and several new directions in genomics related to these and other topics.
He and his lab have published over 130 articles on a wide range of topics, with leading roles on papers in journals including National Science Review, Current Biology, Nature Ecology & Evolution, Ecography, Bioscience, and Global Ecology and Biogeography.



Anthophora hololeuca, © Michael Orr

How to get in touch
For volunteer work:
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Arnaud.faille@smns-bw.de

Group leader:
Dr. Michael Orr
michael.christopher.orr@gmail.com

Homepage:

Botany:
Lichens and other Fungi

Where:

NATURAL HISTORY MUSEUM STUTTGART

What:

- ✓ Humboldt reloaded project
- ✓ Bachelor thesis
- ✓ Master thesis
- ~~✓ PhD~~
- ~~✓ HiWi / Student job~~

How:

- ✓ Field work, domestic
- ~~✓ Field work, international~~
- ✓ Lab work
- ✓ Data Analysis
- ✓ Literature review

Required skills / Prerequisites:

- ✓ Knowledge of organism-centered and collection-based research on fungi and algae
- ✓ Knowledge of integrative taxonomy combining anatomical and molecular methods
- ✓ High level of manual dexterity for handling small, delicate specimens
- ✓ High level of attention to detail

Frequency of openings:

- ✓ Occasionally (i.e. for new projects)
- ✓ Limited number per semester / year



Dermatocarpon arnoldianum, a semi-aquatic lichen, © Holger Thüs

Focus: Taxonomy, ecology and evolution of lichen-forming fungi, and algae associated with lichens, their potential as bio-indicators, ecosystem functions and diversity change over time. I am particularly interested in the interactions of lichenised fungi with other organisms, the role of secondary metabolites and physical structures for the functionality of the lichen symbiosis.

As a model group, I mainly use the family of the Wart lichens (Verrucariaceae/Ascomycota), a species-rich and ecologically diverse group which is present in the driest parts of the world as well as in permanently submerged habitats, where the species of this family can cover large surface areas.

Group leader:
Dr. Holger Thüs
holger.thues@smns-bw.de
0711 8936 2816

Homepage:

Biostatistics Unit

- **Where:**

UNIVERSITY OF HOHENHEIM

- **What:**
  - ~~✓ Humboldt reloaded project~~
  - ~~✓ Bachelor thesis~~
  - ✓ Master thesis
  - ✓ PhD
  - ✓ HiWi / Student job

We mostly focus on experiments plant breeding and variety testing. However, we also have a line of research on wildlife abuncance dynamics in Kenya, mostly of ungulates, which is led by Dr. Ogutu.

- **How:**
  - ~~✓ Field work, domestic~~
  - ~~✓ Field work, international~~
  - ~~✓ Lab work~~
  - ✓ Data Analysis
  - ~~✓ Literature review~~


Image © Elmar Gubisch

- **Required skills / Prerequisites:**
  - ✓ Good quantitive (statistical) skills

- **Frequency of openings:**
  - ✓ Occasionally (i.e. for new projects)

How to get in touch:
Dr. Joseph Ogutu
jogutu2007@gmail.com

Group leader:
Prof. Dr. Hans-Peter Piepho

Homepage:

Biodiversity Monitoring

Where:

NATURAL HISTORY MUSEUM STUTTGART

What:

- ✓ Humboldt reloaded project
- ✓ Bachelor thesis
- ✓ Master thesis
- ✓ PhD
- ~~✓ HiWi / Student job~~

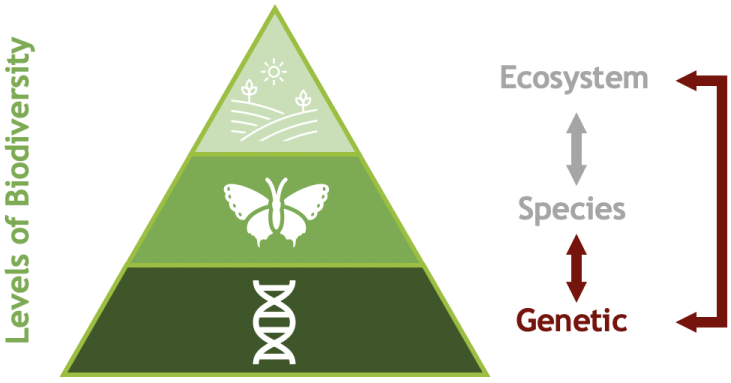


Image: Genomics diversity within species allows for species and ecosystem persistence, © Ricardo Pereira

How:

- ~~✓ Field work, domestic~~
- ~~✓ Field work, international~~
- ~~✓ Lab work~~
- ✓ Data Analysis
- ✓ Literature review

Required skills / Prerequisites:

- ✓ solid knowledge on evolution,
- ✓ basic knowledge on population genetics
- ✓ some background or strong interest in learning: genomics, conservation, speciation, hybridization, adaptation, population genomics, bioinformatics, computational languages

We focus on understanding biodiversity at the genomic level and its influence on species and ecosystem diversity.
By utilizing state-of-the-art genomic technologies, our research draws from museum and monitoring collections to understand the drivers of biodiversity change over time.
This provides valuable insights into evolutionary processes and conservation strategies.

Frequency of openings:

- ✓ Every semester

Group leader:
Prof. Dr. Ricardo Pereira
ricardo.pereira@smns-bw.de

Homepage:

Arachnology

Where:

NATURAL HISTORY MUSEUM STUTTGART

What:

- ✓ Humboldt reloaded project
- ✓ Bachelor thesis
- ✓ Master thesis
- ✓ PhD
- ✓ HiWi / Student job
- ✓ Volunteer work

The SMNS's arachnological collections focus on central European web-spinning spiders (Araneae). In addition, there are extensive and scientifically significant collections of pseudoscorpions and whip spiders. The collection of tarantulas (Theraphosidae) has been significantly expanded in recent years. The collections are available for taxonomic and faunistic studies.

How:

- ✓ Field work, domestic
- ~~✓ Field work, international~~
- ✓ Lab work
- ✓ Data Analysis
- ✓ Literature review

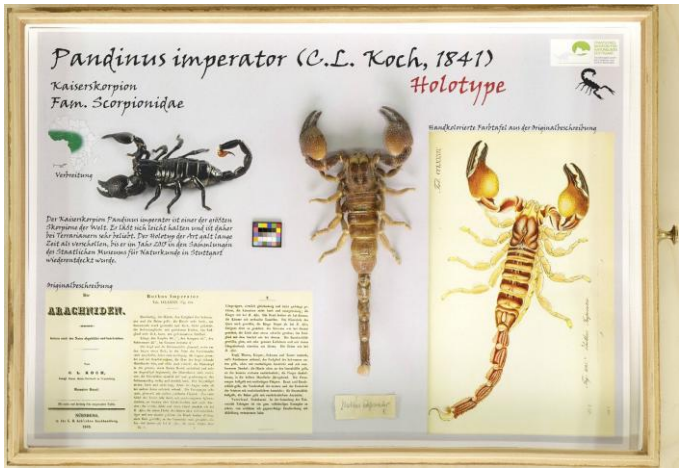


Image © Ingo Wendt

Required skills / Prerequisites:

- ✓ Basic knowledge of handling and identifying arachnids
- ✓ laboratory work (e.g. DNA barcoding)

Frequency of openings:

- ✓ Every semester
- ✓ Year-round
- ✓ Occasionally (i.e. for new projects)
- ✓ Limited number per semester

How to get in touch:

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ingo.wendt@smns-bw.de

Dr. Joachim Holstein
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0711 8936-234

Homepage:

Department of Molecular Genetics (190g)

Where:

UNIVERSITY OF HOHENHEIM



What:

- ✓ Humboldt reloaded project
- ✓ Bachelor thesis
- ✓ Master thesis
- ✓ PhD
- ✓ HiWi / Student job
- ✓ Volunteer work

Our focus on the intersection of evolution and ecology encompasses macroevolutionary timescales and gene/ genome evolution as well as the phenotypic outcomes of these changes. We focus especially on dietary breadth in the insect order Hemiptera (true bug species), conducting feeding experiments to explore the genetic basis of why some species are monophagous or specialist for plant feeding while others are generalist and potentially invasive. Computational work on gene structure, copy number, microbiome, and functional divergence for diet and other traits is experimentally tested for gene expression (e.g., RNA-seq) and for gene function (e.g., RNAi and feeding assays).

How:

- ~~✓ Field work, domestic~~
- ~~✓ Field work, international~~
- ✓ Lab work
- ✓ Data Analysis
- ~~✓ Literature review~~

Required skills / Prerequisites:

- ✓ (1) a background in fundamental molecular biology, genetics and/or evolution
- ✓ (2) an enthusiasm for our lab's research interests are essential.
- ✓ Training is of course provided for new topics and methods.



Image: Milkweed bugs, © Panfilio

Frequency of openings:

- ✓ Year-round

Group leader:
Prof. Dr. Kristen Panfilio
k.panfilio@uni-hohenheim.de

Homepage:

Eco-Evolutionary Modelling

(190m)

Where:

UNIVERSITY OF HOHENHEIM

What:

- ~~✓ Humboldt reloaded project~~
- ✓ Bachelor thesis
- ✓ Master thesis
- ✓ PhD
- ~~✓ HiWi / Student job~~

How:

- ~~✓ Field work, domestic~~
- ~~✓ Field work, international~~
- ~~✓ Lab work~~
- ~~✓ Data Analysis~~
- ~~✓ Literature review~~

Required skills / Prerequisites:

- ✓ Successful participation (grade 2,0 or better) in one of the courses that we teach. Summer semester: "Computational Ecology: Modelling Systems Across Scales", Winter semester: "Theoretical Ecology: From chaos to Coexistence".

Frequency of openings:

- ✓ Year-round
- ✓ Occasionally (i.e. for new projects)

Our research projects are diverse and rooted in various sub-disciplines of ecology. All of them have the common goal to understand how complex ecosystems are structured and how this structure affects their functioning and stability.

We are particularly interested in questions related to the eco-evolutionary emergence of complex interaction networks, as well as their long-term responses to disturbances and changing environmental conditions. We address our research questions from a theoretical perspective using a mix of tools, including individual-based modelling, dynamical systems theory and adaptive dynamics.



Image © David Baillot

Group leader:
Dr. Korinna T. Allhoff
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Homepage:

Integrative Taxonomy of Insects (190o)

Where:

UNIVERSITY OF HOHENHEIM

What:

- ✓ Humboldt reloaded project
- ✓ Bachelor thesis
- ✓ Master thesis
- ✓ PhD
- ✓ HiWi / Student job

How:

- ✓ Field work, domestic
- ✓ Field work, international
- ✓ Lab work
- ✓ Data Analysis
- ✓ Literature review

Required skills / Prerequisites:

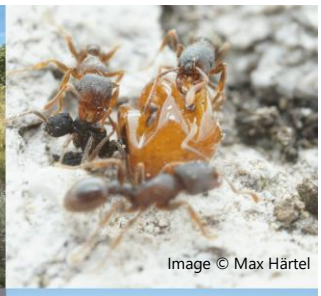
- ✓ strong interest in systematics, ecology, and evolution
- ✓ Completion of at least one of our courses, Methods for Monitoring Insect Biodiversity or Integrative Taxonomy of Insects, will strenghten your application.
- ✓ Proficiency in laboratory and field sampling techniques is welcome but not required.

Frequency of openings:

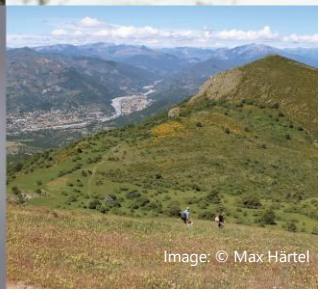
- ✓ Year-round

Our research combines evolutionary biology, biogeography and ecology to study biodiversity and and biological speciation. Discovering and describing new species, as well as understanding how new species originate and how biodiversity is maintained in our ecosystems is important for developing strategies against the global biodiversity crisis.
Our studies focus on ants (Hymenoptera: Formicidae), because their high diversity, ecological dominance, complex social behaviors, and diverse symbiotic interactions make them ideal study systems for exploring long-standing questions in ecology, evolutionary biology, and biodiversity research.









Group leader:
Prof. Dr. Christian Rabeling
christian.rabeling@uni-hohenheim.de
+49 711 459 22525

Homepage:

Chemical Ecology

(190t)

Where:

UNIVERSITY OF HOHENHEIM

What:

- ✓ Humboldt reloaded project
- ✓ Bachelor thesis
- ✓ Master thesis
- ~~✓ PhD~~
- ✓ HiWi / Student job

How:

- ✓ Field work, domestic
- ~~✓ Field work, international~~
- ✓ Lab work
- ✓ Data Analysis
- ✓ Literature review

Required skills / Prerequisites:

- ✓ None

Frequency of openings:

- ✓ Every semester
- ✓ Occasionally (i.e. for new projects)
- ✓ Limited number per semester

In our department, we address two questions: How have new species evolved, and how can we stop species extinction? To answer these questions, we draw upon the insights and methods of chemical ecology. This branch of research focuses on the chemical signals that govern interactions between organisms, such as sex pheromones. For instance, the emergence of new species is often accompanied by the evolution of new sex pheromones, and the use of these pheromones in traps aids in the detection and conservation of rare and endangered insect species. In addition, we are studying how to reduce losses in biodiversity and biomass of insects in grasslands caused by mowing using scaring devices and modified mowing equipment. This aim is to provide insect-friendly mowing technology, to make a substantial contribution to protect biodiversity and preserve grassland ecosystem functions while incurring only minor losses in economic productivity.



Image © Steidle

Group leader:
Prof. Dr. Johannes Steidle
jsteidle@uni-hohenheim.de

Homepage:

Ecology of Tropical Agricultural Systems (490f)

Where:

UNIVERSITY OF HOHENHEIM

What:

- ~~✓ Humboldt reloaded project~~
- ✓ Bachelor thesis
- ✓ Master thesis
- ~~✓ PhD~~
- ~~✓ HiWi / Student~~ job

Our group does research on aboveground biodiversity and ecosystem services in tropical and temperate agricultural landscapes. Thesis projects are usually tied to ongoing PhD activities. See our homepage for more information

How:

- ✓ Field work, domestic
- ✓ Field work, international
- ✓ Lab work
- ✓ Data Analysis
- ✓ Literature review



Image © Kathy Lopez

Required skills / Prerequisites:

- ✓ See our homepage for more information

Frequency of openings:

- ✓ Year-round
- ✓ Limited number per semester

How to get in touch:
Please see our team members and their projects on the homepage

Group leader:
Prof. Dr. Ingo Grass
Ingo.grass@uni-Hohenheim.de

Homepage:

Diversity, Change and Evolution of Bryophytes

Where:

NATURAL HISTORY MUSEUM STUTTGART

What:

- ✓ Humboldt reloaded project
- ✓ Bachelor thesis
- ✓ Master thesis
- ✓ PhD
- ~~✓ HiWi / Student job~~
- ✓ Volunteer work



How:

- ✓ Field work, domestic
- ✓ Field work, international
- ✓ Lab work
- ✓ Data Analysis
- ✓ Literature review

Required skills / Prerequisites:

- ✓ None

Frequency of openings:

- ✓ Every semester
- ✓ Occasionally (i.e. for new projects)
- ✓ Limited number per semester

Our research group investigates bryophyte biodiversity and its evolution across time and space. We are deeply interested in how climate change, habitat fragmentation, and land-use shifts impact both natural and human-modified ecosystems, with a special focus on mountain habitats and epiphytic communities.

To uncover these dynamics, our analyses integrate genetic, genomic, morphological, and ecological data within and between species, including comparative approaches and interactions with other organismal groups.

Group leader:
Dr. Thomas Kiebacher
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Homepage:

Bunte Wiese Stuttgart

Volunteer opportunity!

- **Where:**

NATURAL HISTORY MUSEUM STUTTGART

- **How:**
  - ✓ Field work, domestic
  - ~~✓ Field work, international~~
  - ~~✓ Lab work~~
  - ~~✓ Data Analysis~~
  - ~~✓ Literature review~~
- **Required skills / Prerequisites:**
  - ✓ Interest in the conservation, taxonomy, and ecology of native insects and plants; no prior subject knowledge is required.
  - ✓ Interest in science communication and public outreach, including running information stands, workshops, and short field excursions.
  - ✓ Activities are conducted primarily in German, with English used less frequently.
- **Time commitment:**
  - ~~✓ Daily~~
  - ~~✓ Weekly~~
  - ✓ Monthly
  - ~~✓ Seasonally~~
  - ✓ Occasionally

As a student-led initiative, we are committed to protecting local biodiversity and conserving native species. Through a variety of outreach stands and sustainability events, we engage with the public on topics such as creating more sustainable gardens, the importance of insects, and ways to protect them.

We develop our own educational materials and create engaging, hands-on concepts for audiences of all ages. Our activities include giving talks, running workshops, and designing creative outreach resources. In addition, we publish regular species profiles featuring a selected species or group of species as part of our "Wiesenbewohner des Monats" series.



Image: Tag der Artenvielfalt Wilhelma, 2025, © Bunte Wiese Stuttgart

Group leader:
Bunte Wiese Stuttgart
kontakt@buntewiese-stuttgart.de

Homepage:

Floristic Mapping of Baden-Württemberg

Volunteer opportunity!

- **Where:**

NATURAL HISTORY MUSEUM STUTTGART

- **How:**
  - ✓ Field work, domestic
  - ~~✓ Field work, international~~
  - ~~✓ Lab work~~
  - ~~✓ Data Analysis~~
  - ~~✓ Literature review~~
- **Required skills / Prerequisites:**
  - ✓ Basic plant identification skills and the motivation and record plant species independently in the field are desirable
- **Time commitment:**
  - ✓ Daily
  - ✓ Weekly
  - ✓ Monthly
  - ✓ Seasonally
  - ✓ Occasionally

The Floristic Mapping of Baden-Württemberg is a long-term citizen-science initiative coordinated by the Natural History Museum since 1970. Volunteers record the occurrence of wild plant species across the region, helping to document one of Germany`s most diverse floras and the change it is undergoing.

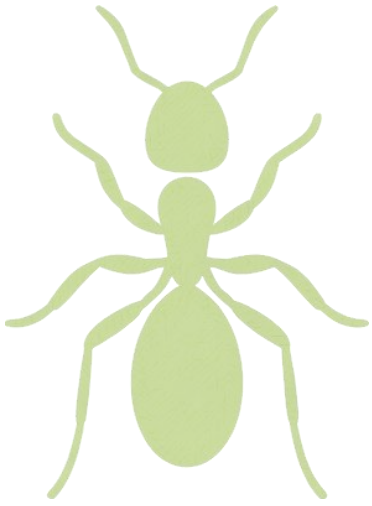
These observations provide an important basis for distribution maps, Red Lists, scientific research, and conservation planning.
We welcome interested students and volunteers who would like to contribute to field surveys, learn more about plant identification, and support the monitoring of biodiversity in Baden-Württemberg.



Image: Calcareous grassland, © Ferenc

How to get in touch:
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Homepage:



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