

Bavarian State Collection for Zoology

Zoologische Staatssammlung München (ZSM)



Homepage: www.zsm.mwn.de

Governance

Director: Prof. Dr. Gerhard Haszprunar

Deputy director: Dr. Andreas Segerer

Research

Research at the Bavarian State Collection for Zoology (ZSM) can be described as leading in Germany and internationally respected. At the center of the scientific questions is the comprehensive understanding of animal diversity, the discipline relevant to this is called zoosystematics: how are the units (animal species) best defined and identified? How did this diversity arise in space (biogeography) and time (phylogenesis), and how do new species actually arise? And last but not least, what are the current dynamics of diversity in terms of loss (species extinction) and gain (neozoa)? In this context, the huge zoological collections are both the result of research (evidence) and the starting point for new questions and investigations.

Methodologically, the ZSM represents an “integrative systematics and taxonomy”, a wide variety of information (morphology, physiology, ecology, cytogenetic and molecular data) is included in the analyses. This requires, in part, sophisticated imaging techniques (e.g., electron microscopy, 3D morphology, μ CT, and digital X-ray) and genetic analyses using molecular biology methods. At the same time, the scientists integrate taxonomic-systematic findings into general questions of evolutionary research, phylogeography and nature and species conservation.

DNA-Barcoding-Projects at the ZSM

In total, almost 50% of all Bavarian animal species (approx. 35.000) have been recorded so far within the framework of the [Barcoding Fauna Bavarica](#) project. Catalogs for many subgroups such as butterflies, beetles, grasshoppers, vertebrates, etc. are already in use. Worldwide, the ZSM is the second largest data provider for the International Barcode of Life Project ([iBOL](#)) after the “headquarters” in Guelph (Canada).

The third phase of the German Barcode of Life (GBOL) project has been running since 2020 and aims to discover previously unknown species, so-called “dark

taxa," in our native fauna. It uses an integrative taxonomic approach based on DNA barcodes, i.e. genetic identification sequences (DNA barcodes). The taxonomic target groups include the diptera and parasitoid hymenoptera.

Further information on DNA-Barcoding of the ZSM: <http://barcoding-zsm.de>

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