

## ZFMK-COLLECTION CONCEPT

### 1. The Basis

The scientific collections of the Zoological Research Museum Alexander Koenig (ZFMK) provide the material foundation upon which the research and collection mandates are carried out. They serve as a constantly growing repository of essential biological evidence for the regional and chronological documentation of global biodiversity change, as well as a depository of systematic and taxonomic samples and the information associated with them.

The ZFMK recognizes the international consensus regarding the free exchange of scientific information and, in principal, allows access to its collections for both internal and external use. The platform for the development and care of the collections is laid out in this Collection Concept. It will support the preservation and enhancement of the scientific value of the collections and guarantee accessibility, while conforming to legal standards throughout the expansion of the collection.

### 2. Collection Description and Collection Profile

The collections of the ZFMK include older specimens that have gained historical importance, a constantly expanding number of epicontinental vertebrates and arthropods, as well as tissue and DNA samples. They are divided into dry-preserved collections (mounted vertebrates, skins, and skeletons as well as pinned arthropods and microsamples), collections preserved in ethanol (vertebrates, arthropods, tissue samples) and Biobank (deep-frozen tissues and DNA collections). Added to these, are extensively networked collections of digital photo databanks, as well as collections of historical papers and documents (Biohistoricum). The collections are predominantly divided into the large taxonomic groups and then subdivided within each section. Specimens from all over the world are included in the collections, with an historical geographic emphasis on Palearctic and Afro-Tropical regions.

The collection profiles are each defined by their historical development, the research and collection practices of the various curators and through the selective acquisition of segments of other collections. The section supervisors influence the development and direction of the collections through acquisitions that expand and/or complement the existing collections. In addition, there is a fundamental responsibility to document the regional fauna of the Rhineland as well as integrate data gathered through German-wide and European monitoring programs (including genetic samples of all species).

### 3. Purpose and Goals of the Collection/Perspectives on Collection Development

The development of the collections at the ZFMK will be guided by the integration of results obtained through the research endeavors at the museum, through voluntary commitment to document global biodiversity changes and through selective collection practices. Specialized personnel, standardized protocols, and optimized storage conditions increase collection management reliability and efficiency for all of the species. The criteria for integrating newly acquired objects into a collection are scientific relevance, the existence and scope of supporting documentation, the quality and condition of the specimens, the suitability to expand existing collections or complement incomplete collections, historical value, and usefulness as a teaching aid. Regulations permitting, molecular sampling (DNA, RNA, tissue etc.) of specimens will be archived centrally in a Biobank, cross-referenced in a databank, and, as long as the requirements of the department responsible for storing the specimens are met, be made accessible to third parties.

It is especially important to have the flexibility to safeguard and store abandoned or neglected items received from public institutions or private individuals, often through unforeseen circumstances; it is the duty of the ZFMK, as a museum, to preserve these items. Included in the development of the Collection Plan is the donation of smaller items not relevant to the taxonomic groups being studied at the ZFMK, to other scientific collections where they may be useful. The decision to accept or donate any given object will be made on a case-by-case basis by the curator.

For the purpose of simplifying internal procedures related to the collections (including loaned materials), a museum-wide, integrated collection management system should be developed.

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#### **4. Creating Inventories and Digitalizing**

All supporting documentation (primary data) will be appropriately recorded (metadata), integrated as part of the collection and be easily retrievable and accessible. This documentation will subsequently be digitalized in the museum's standardized collection data bank, DiversityWork-Bench, as well as cross-referenced with various forms of analogue labeling of the specimens. Collection items that have been inventoried by hand but not yet entered digitally will be retro-digitalized using the associated inventory tables. The digital documentation of the collection inventories allows the subsequent archiving of substantial metadata (including photographic documentation), complementing the scientific value of the material collection. A separate strategy for the further development of the digitalization at the ZFMK, including public access of collection data, will be laid out.

#### **5. Collection Protection and Care**

The care and protection through the use of appropriate and established practices will guarantee the preservation of scientific collections. These practices will vary according to the taxonomic group and preservation or storage method. Safety measures with respect to the storage and handling of the specimens are to be observed as well. These safety measures have been defined appropriately for each collection and are displayed in written form. Regular inspections are to be carried out by the supervisor within each department.

#### **6. Legal Framework**

The Zoological Research Museum Alexander Koenig supports the existence and further development of its collections according to national and international legal norms. This includes adherence to the legal guidelines with respect to the acquisition, transport and integration of procured specimens, delivery of donated items, and providing verifiable, supporting, documentation. Compulsory internal guidelines regarding procedures exist through the regulations of the Access & Benefit-Sharing (ABS). Adherence to the legal guidelines regarding occupational health and safety will be monitored regularly. These guidelines are permanently and visibly posted in written format in every collection area.