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Chapter · January 2018

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Paleontological Collections of Germany, Austria and Switzerland

The History of Life of Fossil Organisms
at Museums and Universities

 Springer

Natural History Collections

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ISSN 2510-1862

ISSN 2510-1870 (electronic)

Natural History Collections

ISBN 978-3-319-77400-8

ISBN 978-3-319-77401-5 (eBook)

<https://doi.org/10.1007/978-3-319-77401-5>

Library of Congress Control Number: 2018945919

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Cover pictures: “fossil leaf” “beetles” “ammonites” © Lothar A. Beck

Cover pictures: “mollusk shells” “lion” “Ichthyosaurs” © Staatliches Naturhistorisches Museum Braunschweig, Germany

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The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Chapter 57

State Museum of Natural History Karlsruhe: Institute of Life and Earth Sciences



Eberhard Frey and H. Dieter Schreiber

57.1 History

The history of the State Museum of Natural History Karlsruhe (Staatliches Museum für Naturkunde Karlsruhe; Fig. 57.1), formerly the County Collections of Natural History (Badische Landessammlungen für Naturkunde), is tightly linked to the history of the City of Karlsruhe. Margrave Wilhelm von Baden founded Karlsruhe in the year 1715 as a planned, fan-shaped city and started a small natural history collection, which was housed in a small room of the castle. Already in 1760 the “cabinet of curiosities” of margrave Wilhelm had grown into a remarkable scientific collection and continued growing. Soon the collection required more space and was moved into the castle’s drugstore.

The first person to scientifically promote the Karlsruhe natural history collections out of her own interest for minerals and fossils was margravine Karoline Luise (1723–1783). Together with her husband margrave Carl Friedrich von Baden-Durlach she expanded the collections to the recognised “Cabinet of Natural things” (“Naturalienkabinett”). Only a few items from these early days of the collection survived until today. Probably the most remarkable of them is a tusk fragment of the Efringen Mammoth that was first mentioned 3rd of February 1751 in the collection journal. The fragment was donated to the margraves by a Strasbourg pharmacist as “unicornu fossile”, a fossil unicorn (Fig. 57.2).

The first official scientific curator of the “Naturalienkabinett” was the medical doctor and naturalist Carl Christian Gmelin (1762–1837). Under his curation the collections massively increased and consequently ran out of storage space again. Finally, in 1872, the collections moved into a new building, which was created as a

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Fig. 57.1 State Museum of Natural History Karlsruhe seen from Friedrichsplatz. The museum is at a five minutes foot walking distance from the city centre (photo Volker Griener)



Fig. 57.2 *Unicornu fossile*, tusk fragment of the Efringen Mammoth; this is the first specimen that was donated to Margravine Karoline Luise in the year 1751 (photo Volker Griener)

natural history museum, one of oldest worldwide. After having been destroyed during World War II, the building has rapidly achieved its former dimensions again. Its gates re-opened already in 1950. Today the State Museum of Natural history is one of the large natural history museums in Germany. The name “Staatliches Museum für Naturkunde Karlsruhe” (“State Museum of Natural History Karlsruhe”) was established as late as 1989.

57.2 Exhibitions

With a few exceptions the palaeontology exhibition hall recapitulates evolution through time mostly based on fossils from regional localities such as the Triassic Muschelkalk and Buntsandstein, the Oligocene of Rauenberg and the Miocene of



Fig. 57.3 *Hatzegopteryx thambema* with a wing span of 11 m, the largest pterosaur model in the world (photo Volker Griener)

Höwenegg and Öhningen as well as from the Pleistocene of the Upper Rhine Valley. Fossils from other famous German localities fill the gaps: the Devonian of Central Germany, the Carboniferous deposits from Saarland and the famous Eocene Grube Messel at Darmstadt. All these localities are also well represented in the scientific collections, which however only form part of the entire scientific collections. An exception is the fossils from the Miocene of central Peru. The centre point of this exhibition part is the holotype of *Balaeonoptera siberi*, an about 8 m long mysticete.

A second hall with numerous fossils is the atrium in the central wing of the museum. Vertebrates, ammonites, crinoids and molluscs from the Holzmaden oil shale, numerous pterosaur fossils from Brazil and France and birds from the Eocene of Messel and the Oligocene of Rauenberg are on display but under scientific access at any time. Amongst precious original bird and pterosaur fossils an outstanding highlight of the museum is the largest pterosaur model in the world with a wingspan of eleven meters, which is suspended from the ceiling (Fig. 57.3). The main objectives of this hall are the evolution of birds and the life of pterosaurs.

57.3 Collections

The bulk of invertebrate collections are organised according to the stratigraphy. Dominating taxa are ammonites, especially ceratites, echinoderms, trilobites and corals. Worth to be mentioned is a small but precious collection of Cambrian fossils from China and the Canadian Burgess Shale. Insects from the laminated limestone

of the Franconian Jura, chelicerates and chilopods and insects from the early Late Cretaceous Crato Formation (NE Brazil), as well as insects from the Palaeogene localities Céreste (France, Fig. 57.4) and Randeck Maar (Germany) form a separate collection complex that contains numerous holotypes. The Tertiary invertebrates also form a separate part of the invertebrate collections. Most of these were collected during a project that was carried out end 1980s, early 1990s.

The vertebrate collections are arranged in a taxonomical order and according to the localities. Much of the material has been collected during projects, some was obtained from the fossil market.

Some taxa are excellently represented from various localities, most importantly Actinopterygia, Sarcopterygia, Testudines, Crocodyliforms, Pterosauria, Aves and Mammalia. Most specimens come from the following localities, some of which are now closed: Devonian of Bundenbach and Odenspiel (Germany), Carboniferous of Bear Gulch (USA), Late Permian of Korbach and the Copper Shale of the Eder, Richelsdorf and Mansfeld regions (Germany, Fig. 57.7), Triassic of Kappel (Germany), late Early Cretaceous of Crato and Santana (NE Brazil), Eocene of Messel (Germany), Eocene of the Brule Formation (USA), Early Oligocene of Rauenberg (Germany, e.g. Fig. 57.5), Miocene of Höwenegg and Öhningen (Germany) and of Pisco (Peru) as well as from Pleistocene deposits of the Upper Rhine Valley (e.g. Fig. 57.6).

The State Museum of Natural history has a large palaeobotany collection ranging from Precambrian Stromatolites to Pleistocene wood and leaf samples. Highlights here are plant fossils from the Carboniferous of Saarland (Germany), Permian of Germany, namely the Copper Shale from the Eder, Richelsdorf and Mansfeld regions and especially the Geismar layers, the Eocene of Messel (Germany), and the



Fig. 57.4 Ceratite slabs, fossil seafloors from the Triassic of the Upper Muschelkalk, Eichelberg near Bruchsal (Germany; photo Volker Griener)



Fig. 57.5 Skull of the Merck Rhino (*Stephanorhinus kirchbergensis*); the skull was found in the year 1802 in the Rhine near Daxlanden and brought to the museum. The specimen represents one of the best preserved skulls of this species worldwide (Photo Volker Griener)

Fig. 57.6 Slab with *Pseudovoltzia* twigs from the Late Permian Geismar layers (Germany; photo Volker Griener)



Early Oligocene of Germany, namely the quarry field around Wiesloch and Rauenberg (Germany). The samples not only comprise wood samples, but also leaves and fructifications.

A small collection refers to life fossils such as ichnotaxa, especially from the Late Permian from Cornberg (Germany) and coprolites with a focus on the Eocene of Messel.

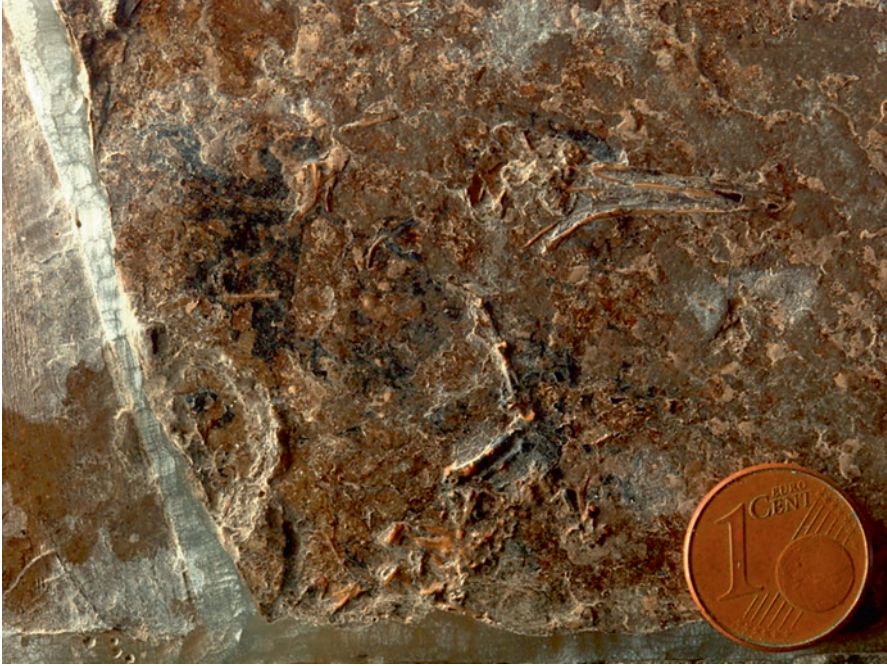


Fig. 57.7 One of the earliest known hummingbirds, *Eurotrochilus inexpectatus*, from the Early Oligocene Clay Pit “Unterfeld” at Rauenberg (Germany; photo Volker Griener)

57.3.1 Collection in Numbers

The collections of the State Museum of natural History Karlsruhe comprise approximately 55,000 invertebrates, 42,000 vertebrates, and 9200 palaeobotanical remains. However, the systematic evaluation of the collections is still under work. Final data are expected by end of 2019.

Suggested Further Reading

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