Chapter 3
BAMBERG: The Paleontological Collection at the Museum of Natural History in Bamberg (NKMB)

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3.1 History

The natural history collections of Bamberg's Museum of Natural History date back to the late eighteenth century. In 1791 the Prince Bishop to Bamberg and Würzburg, Franz Ludwig of Erthal, established a cabinet of natural history for his university in Bamberg (Mäuser 1995). Evidence of his efforts during the outgoing Age of Enlightenment can be found in the museum's Cabinet of Natural History, a museum within a museum, so to speak, and known today as the "Hall of Birds." While the design of the room has remained largely preserved in its original form, very few objects (among them fossils) remain from the original collections acquired by the prince regent.

In the nineteenth century, the special focus of the natural history collection efforts was the field of zoology. Nevertheless, a systematic fossil collection was also created, which, up until the beginning of the twentieth century, included about 7000 objects from all around the world. There is neither a specialization based on formations nor places of discovery. The main supplier of these purchased items was the famous mineral retailer *Mineralienhandlung Krantz*. Today, the museum's paleontological collection includes some 16,000 objects and thus remains one of the smaller collections in this field.

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L. A. Beck, U. Joger (eds.), *Paleontological Collections of Germany, Austria and Switzerland*, Natural History Collections,
https://doi.org/10.1007/978-3-319-77401-5_3

3.2 The Collection Takes on a Regional Focus

In the twentieth century, the endemic Jurassic area became increasingly prominent. Theodor Schneid, curator at the museum from 1917–1945, accumulated (among many other native fossils) a special collection of some 1000 ammonites from the Late Jurassic of the Northern Franconian Jura. These include numerous specimens discussed in his publications (bibliography at Dettner 2015). A valuable addition is a collection of 700 plant fossils from the Early Jurassic from Großbellhofen/Middle Franconia, which was donated to the museum in 2001 by A. Müller/Erlangen. The museum collection is constantly being enriched by fossils of the Franconian Jurassic thanks to the collections of Thomas Bechmann, the museum's geoscientific fossil preparator.

3.3 Current Focus: The Wattendorf Plattenkalk

Since 2004, the museum has been performing an annual excavation in a quarry near the village of Wattendorf in Upper Franconia, with each dig lasting several weeks (Mäuser 2014). Within the quarry, bedded carbonates crop out in vertical and horizontal contact to massive dolomitized bioherm. These carbonates filled up the relief of the bioherm-basins. In the lower part of these accumulations fossil-rich plattenkalks occure, similar to the "Solnhofen Limestone" (Mäuser 2015). With an age dating back to the early Upper Kimmeridgian, however, they are slightly older than any other known laminated plattenkalks of the Late Jurassic period.

In the course of these excavations we have been able to retrieve some 4000 specimens. All fossils, together with their corresponding data, are entered into an excavation log on-site at the quarry. Later, the records are transferred to Excel files. Unless the specimens are put on display in the museum, they are kept in the museum stacks, which are equipped with a compacting unit.

In addition to terrestrial plants and marine algae, there are representatives of different strains of invertebrates, namely molluscs, brachiopods, cephalopods, echinoderms and a very diverse crustacean fauna. The fish fauna is likewise extremely diverse and reflects a variety of different habitats. Coelacanths and angelsharks have been found relatively frequently. Especially impressive are the numerous reptile discoveries, among which turtles are the most frequent. Crocodiles, various Rhynchocephalians, as well as a pterosaur were also among the specimens found. The latter, due to its uniqueness, has recently been included in the FRG list of nationally valuable cultural assets. As the previous treatment of the fossils shows, a large part of these species are new taxa (Figs. 3.1 and 3.2).

The ownership status of the discovered fossils is not without issue. All of the invertebrates as well as the smaller fish remain the property of the museum. The spectacular reptile specimens are divided between the museum and the quarry company. Since the technically-accessible Wattendorf plattenkalk deposits are to be removed in the long term by operational measures, the excavations will continue to

Fig. 3.1 Rhynchocephalian NKMB-P-Watt 15/56 from the Wattendorf Plattenkalk under ultraviolet light. Total length 54 cm. Foto: H. Tischlinger

Fig. 3.2 Coelecanth Undina penicillata NKMB-P-Watt 08/212 from the Wattendorf Plattenkalk. Total length 97 cm. Foto: NKMB

be the focal point of the museum's palaeontological work in the future with the express purpose of saving as many of the unique fossils as possible. Due to staffing constraints at the museum, the excavations are being carried out with the participation of trained volunteers and interns, as well as graduate students and colleagues at associated institutions. The systematic processing of the individual taxa is being carried out by scientists both here in Germany and abroad.

References

Dettner K (2015) Dr. Theodor Schneid (1879–1958)—ein bayerischer Universalgelehrter. Ber Naturwiss Ges Bayreuth XXVII:321–350

Mäuser M (1995) Zur Gründung des Bamberger Naturalienkabinetts durch Fürstbischof Franz Ludwig von Erthal. In: Baumgärtel-Fleischmann R (ed) Franz Ludwig von Erthal Fürstbischof von Bamberg und Würzburg 1779–1795. Diözesanmuseum Bamberg, Bamberg

Mäuser M (2014) Frankenland am Jurastrand—Versteinerte Schätze aus der Wattendorfer Lagune. Verlag Dr. Friedrich Pfeil, München

Mäuser M (2015) Die laminierten Plattenkalke von Wattendorf in Oberfranken. In: Arratia G, Schultze H-P, Tischlinger H, Viohl G (eds) Solnhofen—Ein Fenster in die Jurazeit. Verlag Dr. Friedrich Pfeil, München