
GA FIELD TRIP TO FRANKFURT, 27-29 October 2006:

A BRIEF REPORT

Roger Southgate

Geology is such a broad subject that it takes a bit of exploring to discover which parts one finds really fascinating and which parts are, well, not so interesting. I am still finding out how far my interest in fossils extends and a visit listed in the GA Programme to a Natural History Museum caught my attention.

The GA announced a field trip to Frankfurt last year, which included a visit to the Senckenberg Natural History Museum in Frankfurt. As one of the two Society members who are also members of the Bath German Society, I have an interest in Germany and the GA Field Trip was a good excuse for me to combine geology with a trip to Frankfurt.

What I had not appreciated was that this GA Field Trip was the latest in a series of similar visits to natural history museums in major European cities. A number of the GA members taking part have a specialist interest in fossils and had participated in the earlier field trips in the series. The GA Secretary, John Crocker, was also a participant and his detailed and well-illustrated report is contained in the GA Magazine.

The Senckenberg Research Institute and Natural History Museum is located near the centre of Frankfurt and is one of the largest natural history museums in Germany. It has a number of excellent galleries explaining the geological evolution of the earth and displaying fossils for the different periods. The visit was hosted by departmental managers at the Institute, who were able to explain the highlights of the galleries as well as some of the areas normally out of bounds to visitors.

The visit coincided with a temporary exhibition on display at the museum showing the ten known specimens of *Archaeopteryx*, thought to be a transition species between reptiles and birds. Nine of the specimens were casts made from moulds of the originals and the tenth an original specimen on temporary loan. A silicone rubber mould recently made by the conservation department and taken from the on-loan specimen was shown to the group during a behind-the-scenes tour, *photo 1*. The level of detail captured by the mould is superb.

The Institute's collection of fossil specimens for research is housed in a separate, multi-storey, former factory building nearby and is vast. The quality of the specimens was impressive. Members of the group were able to indulge their specialist interests as drawer after drawer was opened by our hosts to show off the highlights of the collection.

One of the galleries at the museum displayed fossils from the black shales of the Messel Pit, located near Darmstadt,



Photo 1: Silicone rubber mould of Archaeopteryx

south of Frankfurt. The Messel Pit, which was visited on the second day, contains oil shale originally deposited in a freshwater lake during the Middle Eocene (about 49 Ma). Evidence from recent boreholes suggests that the pit is the remains of a filled-in caldera. The oil shale has yielded many complete fossils. The most famous is the primitive horse, *Propalaeotherium*, which is the symbol for the 'Grube Messel', as the site is known in German, *photo 2*.



Photo 2: Propalaeotherium, primitive horse

The oil shale at the pit is cut into large blocks, which are then laboriously examined after splitting them on-site layer-by-layer. Any interesting layers are kept damp and transferred to the laboratories at the Senckenberg Institute for closer examination and extraction of the fossils using specialist techniques.

The final visit was to the village of Nierstein, famous for its wine. A privately-run palaeontological museum houses a collection of fossils gathered by Arnulf Stapf and his son Harald from a number of areas in western Europe including the British Isles. It seems incredible that a private collection of such size and quality could be acquired by their own efforts.

For further information:

GA Magazine editions for December 2006, March 2007 and June 2007.

The Senckenberg Institute has an English language version of its website at www.senckenberg.de.

The Grube Messel is a UNESCO World Heritage site and a Google search will yield lots of references.

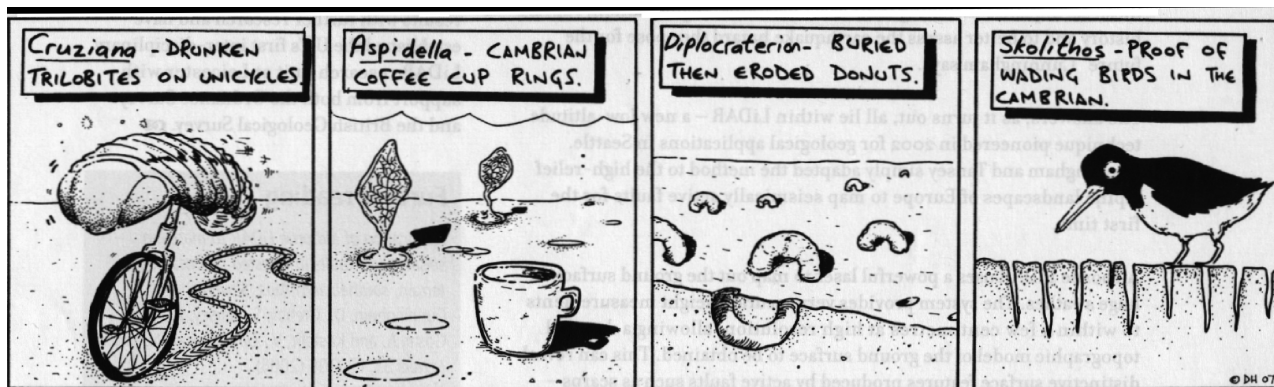
A virtual tour showing the collection in the museum at Nierstein can be seen at www.museum-nierstein.de



Polished stromatolite on the Basilica, Budapest

Photograph by Jenny Martin

TRACE FOSSILS REINTERPRETED - from *Sticks and Stones*, Geoscientist, Vol.17, No. 3, March 2007



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