

A petrified forest in the Mwaluganje Elephant Sanctuary

Many 'stones' are more than 200 million years old plant remains and among the oldest fossil forests in East Africa



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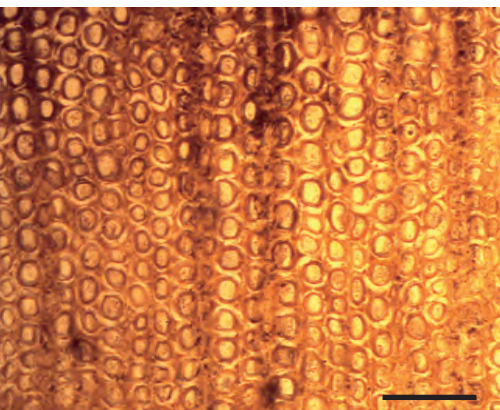
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Mwaluganje Elephant Sanctuary

The Mwaluganje Elephant Sanctuary is a community owned and managed ecotourism venture close to Kenya's South Coast that provides a corridor for movements of elephants between the Mwaluganje Forest Reserve and the Shimba Hills National Reserve.



The area houses large amounts of petrified wood. This was first reported more than a century ago but no further attention has been given since; indeed, the original reports seem forgotten. Apparently, many permineralized large trees have been removed in the past decades; however, there still are plenty of small fossils of unrecognized value. Local stones used for road construction include parts of fossil gymnosperm trees!



Finding *Primoginkgoxylon*

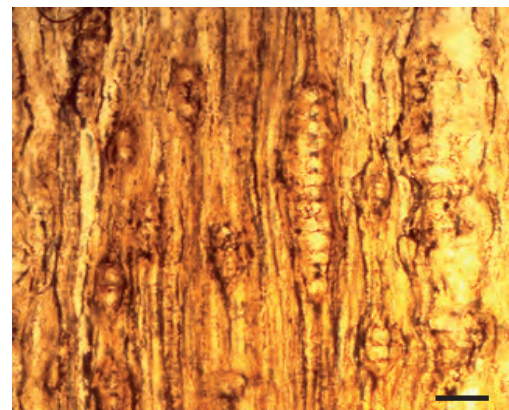
From a small sample of permineralized wood we have identified a new genus with three new species of gymnosperms: *Primoginkgoxylon crystallophorum*, *P. muthamii* and *P. shimbaense*. They are from the Late Triassic (ca 220 million years old).

Prospects

We can strongly suggest that others pay close attention to the petrified forest. For those able to take study of the site forward, we offer assistance (e-mail contact: boppre@fzi.uni-freiburg.de). Main actions, coordinated and documented by the Warden, should include:

- detailed mapping of the areas where petrified wood occurs (where fossils cover the surface)
- photo / video documentation
- collection of samples and storing them at a sheltered place to protect them from rain and sunshine to avoid further degradation
- exhibit samples at the Gate and at the Lodge, accompanied with informative posters.

Following basic inventorying and protection, a thorough professional



palaeontological study is required, ideally including excavations – very likely such studies will lead to exciting news on the evolutionary history of fauna and flora of the region.

Fossils in Kenya

Petrified wood is an important element of the heritage of Kenya (cf. websites of the National Museum in Nairobi [<http://www.museums.or.ke/content/view/118/83/>] and the Kenya Wildlife Service). Another Kenyan petrified forest has been found in the Sibiloi National Park in the far North of the country, near Lake Turkana, but these fossils are 'only' about 7 million years old.

To our knowledge, the fossil wood at Mwaluganje is the oldest ever found in the country, dating back more than 200 million years. They help to understand the history of vegetation, climate and palaeoenvironment of the area. It is also very likely that fossilized remains of animals will be found in the course of a more detailed study, in particular because the quality of the fossilization seems to be exceptionally high.

Not only for scientific reasons but also for sustainable development of Mwaluganje for wildlife conservation, as a tourist attraction, and as a source of income for the local population, the 'petrified forest' of MES needs to be studied, protected and properly preserved for future generations.

Reference

Süß H, Rößler R, Boppré, Fischer OW (2009) Drei neue fossile Hölzer der Morphotattung *Primoginkgoxylon* gen. nov. aus der Trias von Kenia. (Three new fossilized woods of the morphogenus *Primoginkgoxylon* gen. nov. from the Triassic of Kenya.) Feddes Repertorium 120: 273–292

< Transparent cuts demonstrate excellent state of preservation; single cells are clearly visible and their structures and arrangement allow for identification. Scale bars: 200 µm