

# Global warming wiped out the first rainforests

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Detail of a pteridosperm, an extinct seed-producing fern-like plant. Photo by Photo by Howard Falcon-Lang

(PhysOrg.com) -- Spectacular discoveries of fossil forests show that global warming wiped out the first rainforests to evolve on our planet.

The fossil forests were found in underground coalmines in Illinois by a team led by Dr Howard Falcon-Lang of the University of Bristol and scientists from the Smithsonian Institution and the Illinois Geological Survey.

The new research will be publicised at an event on Climate change in the past: the latest evidence from fossil plants and animals at the BA Festival of Science in Liverpool on Monday 8 September.

The talk by Bristol University scientist, Dr Falcon-Lang, and supported

by the Palaeontological Association, will discuss global warming and ancient rainforests and will build on the discovery of fossil rainforests found under Illinois since 2005.

These fossil forests are remains of the first tropical rainforests to evolve on our planet around 300 million years when the USA lay on the equator. An amazing feature of the forests is that they are preserved over a vast area. One example covers 10,000 hectares - the size of a city.

The fossil forests grew at a time when the Earth was experiencing an intense period of global warming. Some of the fossil forests pre-date the warming and others grew after the climate shift. Studies of successive forests show that the tropical rainforests underwent dramatic collapse following climate change. Weedy ferns abruptly replaced the towering club-moss rainforests that had formerly existed before warming began.

Dr Falcon-Lang in the Department of Earth Sciences said: ‘It was a truly amazing experience. We explored underground mines on foot and discovered spectacular fossils by the light of our lamps.’

He added, ‘In my talk I will discuss how global warming led to the demise of these rainforests 300 million years ago and what that might mean for the future of rainforests on our planet.’

Work funded by the Natural Environment Research Council over the next five years will further examine exactly how and why this rainforest extinction happened. Understanding how the first rainforests responded to global warming will doubtless shed light on how climate change will affect rainforests like the Amazon in the future.

Source: University of Bristol

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