

# Gum trees fire up history revision

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The study suggests bushfires have been part of the Australian landscape for more than 60 million years.

(PhysOrg.com) -- Australian bushfires appeared 50 million years earlier than previously thought and probably contributed to transforming the landscape from rainforest into the country's dry eucalypt forests of today, according to the authors of a new study from The Australian National University.

The study, led by Professor Mike Crisp of the Research School of Biology at ANU, sheds new light on the history of the [landscape](#) of Australia and is a “smoking gun” that eucalypts and bushfires are inextricably linked in Australian history. The results of the study are published today in *Nature Communications*.

By studying pollen fossils, the researcher's were able to identify when

eucalypts developed their unique ability to recover from bushfires. They found that this time coincides with when the landscape of Australia started to change.

“In other parts of the world that have similar environmental conditions to Australia, such as California with its oak-dominated forests, a severe bushfire will kill everything above ground. Eucalypts, however, have developed a unique capacity to recover from [fire](#),” said Professor Crisp.

“Our work suggests the ancient ancestors of the eucalypt moved out of the [rainforest](#) and into the woodlands that you see today, at about the same time as this adaptation arose. It’s a smoking gun of evidence that the timing of both things originated at the same time as fire became a presence in Australian vegetation.”

Previous studies have indicated that bushfires have been a significant presence in the landscapes worldwide for less than 15 million years, but Professor Crisp says this study shows a much older relationship.

“We traced this adaptation skill of the eucalypt back more than 60 million years – soon after the asteroid that killed the dinosaurs. That’s a pretty significant jump from the current literature,” he said.

The researchers speculate that this adaptation by eucalypts was the reason Australia ended up with a dry forest landscape.

“It is possible that it was the change in eucalypts that changed the landscapes, pushing back the rainforests and causing the expansion of the dry forest landscape. We think that there was a feedback loop between the eucalypt surviving fire and creating an environment that favoured the eucalypt,” said Professor Crisp.

Provided by Australian National University

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