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## Aznalcollar disaster compared with 65 mln yr old mass extinction event

By ANI

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WASHINGTON - A team of scientists from the University of Granada (UGR) has compared the disaster caused by the Aznalcollar spillage in the Donana National Park in Andalusia 11 years ago with the biggest species extinction known to date.

According to the scientists, carrying out comparisons of this kind will make it possible to

find out how ecosystems recover following mass extinctions.

Until now, scientists used to study the fossil record in order to analyse how organisms responded to major environmental changes in the past, such as the mass extinction of species during the Cretaceous period (65 million years ago) and their subsequent recovery.

Now, a team of scientists from the UGR has proposed a different methodology.

"Another way of looking at this issue is to compare present day disasters that have also caused an abrupt ecological change, and which have therefore also had a major impact on organisms", said Francisco Javier Rodriguez-Tovar, lead author of the study.

The study was based on "one of the worst environmental disasters to have happened in Spain over recent decades".

The pyrite mine at Aznalcollar, in the Donana National Park, burst on 25 April 1988, spilling four million cubic metres of acidic water and one million cubic metres of waste material containing high levels of toxic compounds, which affected more than 4,500 hectares of the rivers Agrio and Guadimar and the land around them.

The researchers carried out a detailed analysis of how the pollution from Aznalcollar evolved, and how the local plant and animal communities responded following the event, by studying the affected soil.

"Comparing this with what happened 65 million years ago could help to better interpret this past event," explained Rodriguez-Tovar.

The similarities are obvious - sudden impact, high levels of toxic compounds, and the existence of a polluted layer covering the affected area.

However, the scientist also points out some of the most significant differences, such as recovery following the impact, which was "much faster after the disaster at Aznalcollar", and in terms of the area affected, which was "global for the Cretaceous-Tertiary boundary event", said Rodriguez-Tovar.

Less than 10 years after the disaster, the scientists could identify trails and nests made by *Tapinoma nigerrima*, an aggressive and opportunistic species of ant.


This ant's opportunism, aggressiveness and high levels of independence were compared with the organism that created Chondrites, a trace fossil that scientists have recorded near the red layer associated with the Chixulub crater in Mexico, generated by the impact of the meteorite that caused the Cretaceous-Tertiary extinction. (ANI)

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