

EARTH SCIENCES DEPARTMENT SEMINAR

Mineralogy Seminar Room

Tuesday 19th February

4.00 pm

Popocatepetl – Curatorial notes from an active volcano

David Smith, Department of Earth Sciences, NHM

4.30 pm

A new primitive ornithischian dinosaur from the Venezuelan Andes

Paul Barrett, Department of Earth Sciences, NHM

Followed by wine and cheese

Abstracts

Popocatepetl – Curatorial notes from an active volcano

David Smith, Department of Earth Sciences, NHM

Popocatepetl volcano in Mexico, is the 2nd highest volcano in North America and one of the most currently active in the world. It last erupted in April 2010 and has since been discharging small ash clouds and an average 7 tonnes of gas per day.

A successfully funded collections enhancement bid permitted Dave Smith and Chiara Petrone to collect fresh, well documented pyroclastic and lava samples from known, dated eruptions and fill a void in the petrology collection that will permit future geochemical research into the evolution of the magmatic processes occurring beneath this dynamic volcano.

In addition to field sampling, this exciting project was the first Earth Science trip to involve the Nature Live team. Following the successes of biodiversity trips to Borneo, Costa Rica and the Bahamas this Earth Science trip, although a much smaller venture, included a number of live videoconferences with schools, Nature Live link-ups and live web-chats.

Fresh back from the dizzy heights of 4600m, Dave Smith will give a visual presentation of his experience of working on the side of this intimidating volcano, and will discuss the merits of contextualising field samples with good documentation and images.

A new primitive ornithischian dinosaur from the Venezuelan Andes

Paul Barrett, Department of Earth Sciences, NHM

Relatively little is known about the early evolution of ornithischian (bird-hipped) dinosaurs, due to a dearth of specimens from the Late Triassic–Early Jurassic. New material from a bonebed in the Venezuelan Andes, from the La Quinta Formation, is helping to shed light on their diversification in the wake of the end-Triassic extinction (ETE). The new animal is represented by abundant, but disarticulated material, representing at least four (and probably more) juveniles and subadults. New dating of the formation, based on detrital zircons, places the material at 200.9 Ma, just 0.5 million years after the ETE. Phylogenetic analysis recovers the new dinosaur close to the base of the group, providing some insights into the initial evolution of ornithischian biology. This material shows that ornithischians recovered quickly after the ETE and also increased their geographical distribution at this time.