HOLIDAY GEOLOGY

Update on Lesbos Petrified Forest

Since the Petrified Forest on the Greek island of Lesbos was described in the *Mercian Geologist* of 2013, there have been significant developments at the site. Road improvements that are still in progress between the museum and the main site 14 km away have revealed over a hundred more fossil trees. These are being encased in plaster for protection during the roadworks. Those in the line of the carriageway are then being moved to the Museum of Natural History, whereas those exposed in and around the road cuts are being left in place and prepared for display.

The trees were originally described as being buried by lahars and mudflows of pyroclastic material, but the new presentation at the museum indicates burial by cold airfall tephra. There is evidence for both concepts. The initial burial is certainly by cold material, as there is no sign of burning of the wood. Much of this was fine-grained airfall tephra, which buried and preserved the lower parts of many trees in standing positions. The subsequent debris flows of mud and pyroclastic material include large rounded boulders; these came over the airfall deposits and broke off the upper parts of many of the standing trees. Exposures within the new road cuts record many such events.

The volcano was within the confines of the Anatolian microplate, on a poorly defined boundary between the Anatolian block and the Aegean extensional basin. Its eruptions date back 21-16 Ma, and preceded Greece's major volcanoes along the southern plate boundary, which were active on Nisyros around 5 Ma BP, on Milos since 3 Ma BP, and at Santorini around 1600 BC.

Alan Filmer

One of the largest trees, nearly 1.4 metres in diameter.

Fossil trees encased in protective plaster and awaiting removal to the Museum.

Fresh exposures along a new road cut about 5 metres high; the left is dominated by the large blocks within a debris flow, and the right reveals several airfall tuff events including bands of white fine-grained ash.