

A world geological Heritage revealed in the Permian successions of Oman

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This presentation focuses on the pivotal Permian Period and the many outstanding outcrops of that age in Oman which together constitute an Omani geological Heritage, and which also be considered as a world geological Heritage. Important Permian events are spectacularly recorded in Oman, starting with a glacial climate and ending with a catastrophic warming. This record is associated with the opening of the Neo-Tethys passive margin during the Middle Permian. On the Hawasina side, in the Oman Mountains, precise stratigraphic and sedimentological data acquired in the various tectonic units have made it possible to reconstruct each element of the passive margin. The diversity of depositional environments along this paleo-margin provides distinct fossil sites of great scientific interest, worthy of geo-protection. Some of these sites help paleontologists understand the end-Permian greatest mass extinction and biodiversity change at the dawn of the Mesozoic.

The Huqf central part of Oman preserves unique deposits of the late Paleozoic Ice Age followed by an Early Permian marine transgression with well-studied fossil accumulations. The top of the terrigenous deposits at the end of the Early Permian contains abundant silicified trunks up to 25 m long, representing a flooded conifer forest and a world Heritage site.

The allochthonous sequence of the Oman Batain side is distinguished by the incredible fossil richness of some Permian and post-extinction Triassic outcrops. Some of them have been studied in detail and need to be geo-protected. All belong to Oman's geological Heritage and are also a world Heritage.