

17.青藏高原大地形演化与资源环境效应

High paleoelevation, climate and plant diversity in the Nangqian Basin of the southeastern Tibetan Plateau

王雪莲、苗运法、张涛、张伟林、杨永恒、孟庆泉、汪亘

中国科学院西北生态环境资源研究院、兰州大学、中国科学院青藏高原研究所

摘要: The paleoelevation history of the southeastern Tibetan Plateau is crucial to the knowledge of paleoenvironment, paleoclimate and processes driving the tectonic evolution of the Tibetan Plateau. However, the detailed paleoelevation, paleoenvironmental and plant diversity researches on the southeastern Tibetan Plateau are quite insufficient. Here, we analyze sporopollen (named Yingxiasi flora) record from the Nangqian Basin to understand the paleoelevation and paleoenvironment in the eastern Tibetan Plateau. The pollen results and U-Pb dating suggest that the Yingxiasi flora may represent the early Oligocene (~34 Ma), and the fossil data, revealed a vegetation succession from deciduous broad-leaves to coniferous broad-leaved mixed forest. The sporopollen results infers Using the Climate Leaf Analysis Multivariate Program (CLAMP) and 20 morphotypes of woody dicot fossil leaves, we find that the Yingxiasi flora experienced a mild and humid warm temperate climate, being consistent with the sporopollen results. The moisture enthalpy yields a paleoelevation of $\sim 3,400 \pm 500$ m a.s.l., which is roughly matched with the mid-range paleoelevation according to the TP/TPAP method. It is considerable that the eastern Tibetan Plateau increased by ~ 600 m and almost reached its present-day elevation ($\sim 4,100$ m) after the early Oligocene.

关键词: Palynology; Leaf architecture; Vegetation change; Paleoenvironment; Paleoelevation