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Pollen record of the penultimate glacial period in Yuchi Basin, Central Taiwan

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Pollen records of the penultimate glacial period are scare not only in Taiwan, but also in East Asia area. Hence, this study intends to provide a new pollen record from a site, Yuchi Basin, in central Taiwan, which may improve our knowledge of the penultimate glacial period. The sediment core, CTN6, was drilled in the northern part of Yuchi Basin. The core is 29.4 m in length and the sampling interval is 10 cm. In total, 86 samples are processed for pollen analysis. Three pollen zones (I,II and III) are determined according to the ratio of arboreal pollens (AP) and non-arboreal pollens (NAP).

Because of the scarcity of dating data, pollen assemblages compared with previous pollen records at peripheral areas is utilized to estimate the ages of each pollen zone. AP dominate (60%) Zone I and III, which consist mainly of Cyclobalanopsis-Castanopsis. Thus, Zone I may mark the MIS 5 because of a Cyclobalanopsis-Castanopsis dominant condition. In Zone II, the increase in NAP and pollen of Taxodiaceae and decrease in pollens of Cyclobalanopsis-Castanopsis indicates the penultimate glacial period, i.e. MIS 6.

In contrast to the evergreen broadleaved forest found there today, the herbs occupied the basin in Zone II, indicating a relatively dry climate condition than present. Furthermore, during the penultimate glacial period, the climate condition of early part is wetter, evidenced by a higher AP/NAP in Zone IIb. Finally, comparing with the last glacial period in Toushe, we suggest that the penultimate glacial period is drier due to the lower AP/NAP.