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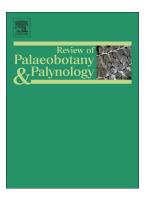
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New materials of Rhamnaceae from the middle Miocene rainforest of southeast China

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Abstract

Rhamnaceae was widespread over the Northern Hemisphere during most of the Cenozoic.

Abundant fossil materials play an important role in evaluating divergence times and biogeographic

histories within Rhamnaceae. Two new occurrences, namely Ventilago fujianensis sp. nov. and

Paliurus pubescencea sp. nov., presented here and reported from the middle Miocene of Zhangpu

County, south Fujian Province based on diagnostic winged fruits. Their occurrences suggest that

the diversity of Rhamnaceae had occurred in the middle Miocene of Southeast China. The

morphological and anatomical features of the two species are described in detail. The fossil

records of Ventilago are rare documentation, and our founding adds new elements to understand

the genus history. P. pubescencea sp. nov. is characterized by fruit pubescence which shows a

closer affinity to the P. ramosissimus group. As a result, we deduce that Paliurus probably had

differentiated into two groups in low latitude South Fujian during the middle Miocene.

Angiosperm macrofossils from numerous families presented in the Fotan flora indicate a diverse

rainforest flora surrounded a lake or wetland in Zhangpu county, Fujian Province during the

middle Miocene.

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