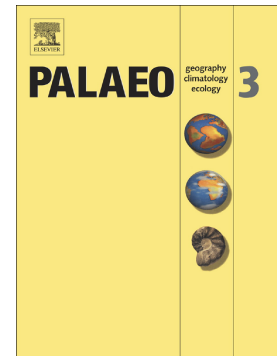


Accepted Manuscript

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PII: S0031-0182(16)30624-1
DOI: doi: [10.1016/j.palaeo.2016.12.015](https://doi.org/10.1016/j.palaeo.2016.12.015)
Reference: PALAEO 8103

To appear in: *Palaeogeography, Palaeoclimatology, Palaeoecology*

Received date: 20 October 2016
Revised date: 6 December 2016
Accepted date: 9 December 2016

Please cite this article as: Shannon Stacklyn, Yang Wang, Chang-zhu Jin, Yuan Wang, Fajun Sun, Chunfu Zhang, Shijun Jiang, Tao Deng , Carbon and oxygen isotopic evidence for diets, environments and niche differentiation of early Pleistocene pandas and associated mammals in South China. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. *Palaeo*(2016), doi: [10.1016/j.palaeo.2016.12.015](https://doi.org/10.1016/j.palaeo.2016.12.015)

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Carbon and oxygen isotopic evidence for diets, environments and niche differentiation of early Pleistocene pandas and associated mammals in South China

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Abstract

To better understand the dietary evolution and habitat change of pandas, this study analyzed the stable carbon and oxygen isotope compositions of tooth enamel samples from the early Pleistocene pandas *Ailuropoda microta* and *Ailuropoda wulingshanensis* and their associated mammals recovered from Yanliang Cave and Longgu Cave in South China. The enamel $\delta^{13}\text{C}$ values indicate that mammals living in these cave areas during the early Pleistocene had C_3 -based diets but some individuals consumed small amounts of C_4 grasses. This suggests that C_4 grasses were present in the

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