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Mammoth Cave Research Symposia

10th Research Symposium 2013

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Feb 15th, 2:50 PM

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## Recommended Citation

Chris Widga and Mona Colburn, "Paleontology and Paleoecology of Interglacial Guano Deposits in Mammoth Cave, KY" (February 15, 2013). *Mammoth Cave Research Symposia*. Paper 35.  
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# Paleontology and Paleoecology of Interglacial Guano Deposits in Mammoth Cave, KY

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## Abstract

Mammoth Cave guano deposits contain a rich record of troglafauna spanning the last 125,000 years. In particular, chiropteran remains from Chief City provide insight into ecosystem dynamics of the cave area during the last interglacial. This paper presents results of paleontological excavations undertaken in 2008.

Sub-fossil remains (N=1134) in Chief City guano deposits are dominated by chiropteran taxa. Although all identified taxa are extant, the combination of *Myotis leibii* and *Tadarida brasiliensis* is an association without modern analogue. Stable isotope analyses of guano indicate a C3 prey signature characteristic of forested habitat. This was unexpected given the prevalence of *T. brasiliensis*, a species that is typically associated with open environments.

Ecomorphological consideration of wing shape trends in these assemblages indicate that interglacial faunas are dominated by fast-flying, open-space taxa (*T. brasiliensis*) while late Holocene and Historic assemblages contain more taxa that utilized closed forest or forest gaps.