Time isn't always a factor: Isotopic evaluations of recently extinct and threatened Hispaniolan rodents suggest ecological niche partitioning and little temporal isotopic change prior to species loss.

Authors:

Andrew K. Hensley, Department of Geosciences, University of Cincinnati
500 Geology/Physics Building, University of Cincinnati, Cincinnati OH, 45221
henslak@mail.uc.edu

Brooke E. Crowley, Department of Geosciences, Department of Anthropology, University of Cincinnati
500 Geology/Physics Building, University of Cincinnati, Cincinnati OH, 45221
brooke.crowley@uc.edu

Lazaro W. Viñola-López, Florida Museum of Natural History
University of Florida, P.O. Box 117800, Gainesville FL, 32611
lwvl94@gmail.com

Siobhán B. Cooke, Center for Functional Anatomy and Evolution, Johns Hopkins University School of Medicine
1830 E Monument Street, Room 305, Baltimore MD, 21205
scooke5@jhmi.edu

Until recently, the island of Hispaniola boasted at least ten endemic rodent species. Today, just one, the threatened *Plagiodontia aedium* persists and introduced rodents (primarily murids) are prevalent. We know surprisingly little about the ecology of *P. aedium* and even less about the extinct rodent taxa. Stable carbon (C) and nitrogen (N) isotopes from bone collagen can help shed light on how these extinct rodents coexisted, the environments they inhabited, and why they went extinct. We measured C and N isotopes for over 200 subfossil specimens of seven endemic species (*P. aedium, P. ipnaeum, Rhizoplagiodontia lemkei, Isolonodon portoricensis, I. montanus, Hexolobodon phenax, Brotomys* sp.) as well as introduced *Rattus* from two sites on the Tiburon Peninsula in SW Haiti: Trouing Jéremie 5 (TJ5), and Trouing Marassa (TM). Radiocarbon dates suggest specimens have been accumulating at both sites since the terminal Pleistocene. There are minimal temporal isotopic shifts for any species at either site, suggesting foraging niches were stable through time. Isotopic differences between sites for some taxa (*H. phenax*, *I. portoricensis, P. ipnaeum*) may indicate regionally variable foraging ecologies or geographically variable vegetation cover. Isotopic data are highly variable for some taxa within sites. N isotope values range by 4 -5.5‰ for *Brotomys* sp. at TJ5. *Plagiodontia ipnaeum* and *H. phenax* also demonstrate a 4 -5.5‰ N range at TM, and *I. portoricensis* shows the same N value range at both sites. C isotopes range by 4‰ for *P. ipnaeum* at TM. This variability is not a temporal artifact and may indicate local environmental heterogeneity or broad dietary niches for certain taxa. Significant isotopic differences among endemic taxa within sites indicate niche

partitioning. Isotopic overlap between *Rattus*, P. ipnaeum, I. portoricensis, and Brotomys sp. could indicate competition, or that *Rattus* filled niches that were left vacant by extinct taxa. The extant P. aedium, has significantly lower C isotopes than other endemic species at TM, but there are no other notable isotopic differences between this species and the extinct taxa. These results suggest there is nothing particularly unique about the foraging ecology of *P. aedium* that can help explain why it persisted while other rodent species went extinct. Isotopic data for modern *P. aedium* will clarify if this species has shifted its foraging niche in response to extensive recent anthropogenic activity. Morphologic data will also illuminate if *P. aedium* has unusual physical characteristics that helped it survive.

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