

Rodent middens, a new method for Quaternary research in arid zones of South America Paleomadrigueras de roedores, un nuevo método para el estudio del Cuaternario en zonas áridas de Sudamérica

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In arid and semi-arid regions of South America, historical evidence for climate and vegetation change is scarce despite its importance for determining reference conditions and rates of natural variability in areas susceptible to modern desertification. Normal lines of evidence, such as pollen stratigraphies from lakes, are either rare or unobtainable in deserts; studies of late Quaternary vegetation history are few and generally inconclusive. This gap in knowledge may be corrected with discovery and development of fossil rodent middens in rocky environments throughout arid South America. These middens, mostly the work of *Lagidium*, *Phyllotis*, *Abrocoma* and *Octodontomys*, are rich in readily identifiable plant macrofossils, cuticles and pollen, as well as vertebrate and insect remains. In the North American deserts, more than 2,500 woodrat (*Neotoma*) middens analyzed since 1960 have yielded a detailed history of environmental change during the past 40,000 years. Preliminary work in the pre-