

animal and plant remains are to be discovered in such shelters. These alcoves will prove to be very important paleoecological resources for reconstructing biotic communities of late Pleistocene age from the central Colorado Plateau.

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Biological and Archaeological Information in Coprolites from an Early Site in Patagonia

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Five dessicated coprolites were recovered among the organic remains at the site Cueva Las Buitreras (51°45' S. lat., 70°15' W. long.) in the southern tip of continental South America. They are associated with lithic artifacts and faunal remains of modern and extinct species which together form an interactive context (Caviglia *et al.* 1986). These materials are contained in the lower levels of the site which did not produce material suitable for radiocarbon dating. However, an overlying volcanic ash layer was correlated with Auefs Tephra I, thereby allowing a minimum date of 9,100 yr B.P. for the occupation (Sanguinetti and Borrero 1977).

The coprolites were rehydrated in a solution of trisodium phosphate (Na₃PO₄). External features were registered, chemical reactions during rehydration were noted, and contents separated and identified. Taking these together with known feeding habits and comparisons with a reference collection, we were able to identify the originators of the specimens. Of these only one was human and contained charcoal and as yet unidentified fragmentary plant remains (Figuerero Torres 1982a, 1982b). The other four belonged to an omnivorous carnivore and contained digested beetles, small rodent molars, and identifiable plant fragments.

Considering an arbitrary time period between 10,000 and 8,500 yr B.P., we studied the faunal contents of the coprolites to see if they reflected the available

paleoenvironmental information for this portion of South America (Figuerero Torres 1982a, 1982b). This evidence is of a varied nature (pollen, glaciology, plant macrofossils, mollusks, micromammals) differentially sensitive to temperature, precipitation, and local and regional variations. However, for the time period considered, there is a general consensus that temperature was lower than now and that rainfall, while higher, was increasing. Geographically, the site was farther from the sea than now due to lowered sea levels, and nearer to the eastern limits of the subantarctic forest.

The insects identified were *Taurocerastes patagonicus* (a coprophage) and *Caenorhynchus lineatus* (a herbivore). Not enough is known of their biology to say if they are particularly sensitive to temperature or rainfall, but they are to be found both in the rainforest and steppe of southern Patagonia. The two rodent molars belong to *Akodon xanthorhinus*, a field mouse common in Patagonia with two subspecies in rainforest and steppe. The molars were insufficient for taxonomic identification down to subspecies level.

The extinct fauna at the site includes two juvenile ground sloths (*Mylodon listai*), fox (*Dusicyon avus*), and horse (*Hippidion-Onohippidion*). Their habits are for the most part unknown (although see Moore 1978 on ground sloth), and cannot profitably be used in the present study. The association of coprolites pointing to an omnivorous-carnivore diet together with fox remains could be indicative of the latter's ecological niche. *D. avus* survived into late Holocene times in the Pampa region (Tonni and Politis 1981), and the causes for its extinction could be sought in competition with other successful present day foxes with similar diets.

The modern fauna consists of guanaco (*Lama guanicoe*), small rodents (*Reithrodon* and *Ctenomys*), and dolphin (Delphinidae). All these species are within their normal distribution, past and present.

As can be seen, the coprolite and faunal remains from Cueva Las Buitreras do not confirm nor contradict the broad environmental evidence for southern Patagonia 10,000 to 8,500 yr B.P. More information on the biology and habits of some of the species could aid in defining the local conditions surrounding the site.

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