

BEFORE AND AFTER OF THE HUDSON VOLCANO ERUPTION: PALEOECOLOGICAL APPROACH BY MULTIDISCIPLINARY ANALYSIS OF CAMELID COPROLITES

María Laura Benvenuto^{1,2}, Lidia Susana Burry^{1,2}, Nadia Velázquez^{1,2}, Ana Cecilia Martínez Tosto^{1,2}, Romina Petrigh^{1,2}, Ivana Camiolo¹, Damián Bozzuto^{3,4}, Natalia Fernández⁵, Nicolás Maveroff^{3,4}, Ricardo Guichón^{6,7}

¹ *IIPROSAM, CONICET-UNMdP. Centro de Asociación Simple CIC PBA*

² *Facultad de Ciencias Exactas y Naturales, UNMdP, Argentina*

³ *INAPL-CONICET, 3 de Febrero 1370/78, Buenos Aires, Argentina*

⁴ *Facultad de Filosofía y Letras, Universidad Nacional de Buenos Aires, Buenos Aires, Argentina*

⁵ *IMHICIHU-CONICET, Saavedra 15, Buenos Aires Argentina*

⁶ *Laboratorio de Ecología Evolutiva Humana y Núcleo de Estudios Interdisciplinarios sobre Poblaciones Humanas de Patagonia Austral*

⁷ *Facultad de Ciencias Sociales, Universidad Nacional del Centro de la Provincia de Buenos Aires, Quequén, Buenos Aires, Argentina*

The earliest human occupation evidence in the Pueyrredón-Posadas lake basin (Santa Cruz, Argentina) is dated to ca. 8,600 cal BP. However, there are no archaeological records between ca. 8,100-7,700 cal BP. This hiatus coincides with the H1 Hudson volcano eruption about 7,900 cal BP, as indicated by the presence of tephra in the stratigraphy of two archaeological sites in the area. This eruption was recorded as the largest in the southern of the Andes during the post glacial period. The proposed hypothesis is that this event influenced the permanence of camelids and the human population in this region. Camelids were the main resource of hunter-gatherer populations of Patagonia during the Holocene. At regional scale, archaeological studies showed variations in lithic technology, styles of projectile points, instrument size and rock art among the sets recorded before and after the H1 eruption. The hypothesis will be tested in part through a multiproxy analysis of camelid coprolites collected from layers immediately below and above the Hudson ash level at the Cueva Milodón Norte 1 site (47.30°S 71.89°W). Silicophytoliths, pollen, plant remains, stable isotopes (C and N) and aDNA of coprolites will be analyzed to evaluate changes in the frequency and abundance of these proxies that may be associated with paleodiet, seasonality in the use of the site before and after the H1 eruption. In the present work, results of silicophytoliths, pollen and plant remains in current guanaco faeces collected near the site are presented as a reference model for the coprolites analyses. Forest taxa such as, *Nothofagus* spp. (*Nothofagaceae*) and steppe taxa such as, *Caryophyllaceae*, *Cyperaceae*, *Poa ligularis* (*Poaceae* subf. *Pooideae*), *Empetrum rubrum* (*Empetraceae*), *Mulinum spinosum* (*Apiaceae*), among others, were identified. These results will contribute to interpreting the changes and interactions in pre- and post-eruption scenarios.

Keywords

Camelid coprolites, Multiproxy analysis, Human occupation, Argentine Patagonia

Note/comment