Prehispanic (Guanches) mummies and natrium salts in burial caves of Las Cañadas del Teide (Tenerife)

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With 7 figures and 2 tables

Abstract: The prehispanic population of Tenerife (Guanches) buried their dead in caves. Many corpses are totally or partially mummified. Embalming procedures are largely unknown, besides some information recorded by chroniclers and the general idea that environmental conditions in some areas may favour natural mummification. Detailed observation of burial caves containing mummified corpses revealed the presence of a white mineral in form of crusts or powder that was not present in the vast majority of non-burial caves, especially in basaltic and trachybasaltic lava flows. We analysed these crusts and they consist of natrium carbonate salts. Therefore, we conducted a search visiting 30 caves, 3 of them harbouring mummified corpses, and made analyses if there were natrium salts in these caves and their amount. One burial cave was located in trachyphonolitic lava flow, and two further caves in trachybasaltic and basaltic lava flows. There was a significant association between presence of natrium salts and use of the cave as a burial site ($\chi^2 = 9.37; p = 0.0259$). The semiquantitatively assessed amount of natrium salts was also by far higher in burial caves than in non-burial ones ($Z = 2.58, p = 0.01$). There are no reports that support the use of natrium salts in the embalming process among the Guanches, but we found a clear-cut relationship between the presence and/or amount of natrium salts in caves and their use as burial sites by the prehispanic population buried in the central highlands, suggesting an intentional use of caves containing this mineral as burial caves, based perhaps on the observation of the ability of natrium salts to preserve corpses.

Keywords: Tenerife; Guanches; Prehispanic population; mummification; natron; burial caves

Introduction

Tenerife is the largest island of the volcanic Canary Archipelago, located at the north-western coast of Africa, at latitude 28° north. With an area of approximately 2000 km², its shape is roughly triangular. Climate is strongly influenced by altitude and trade winds, passing from a warm subtropical climate in the coastal areas to more rigorous conditions in the highlands. The central plateau of Tenerife, named Las Cañadas, situated over the trade winds, at an altitude of 2200 m with a central volcano (Teide peak) reaching 3700 m above sea level, has a dry, cold climate.

Before the Spanish conquest the island was inhabited by a North African population, probably related to ancient Berbers, who arrived at the Archipelago during the first millennium BC (Maca-Meyer et al. 2004). Their economy was based on goat herding and agriculture, complemented with some fishing and shellfish collecting (Arnay-de-la Rosa et al. 2010). Goat herding probably conditioned a seasonal movement from coast to mountains, explaining (in part) the abundant archaeological remains identified in the highlands. Prehispanic people buried their dead in caves (Diego Cuscoy 2008). In many cases, corpses were mummified, something which was especially marked among those buried in the highlands, possibly in relation to the dry and cold conditions that surely favoured natural mummification.

In some caves of the highlands there are small amounts of natrium carbonate salts. Mineralogically, natron means the sodium carbonate decahydrate (Taga 1969). Closely related are the following minerals: natrite, an uncommon dehydrated sodium carbonate, thermonatrite, a monohydrated sodium carbonate compound; nahcolite, a sodium dicarbonate salt; trona, a hydrated mixture of sodium carbonate and dicarbonate; and wegscheiderite, a mixture of sodium carbonate and dicarbonate (Appleman 1963). The main natural occurrences of these minerals are the saline lake beds which often exist...