Supplemental Text 1

*Environmental, Ethnographic and Archaeological Context*

Southern Patagonia is geographically and ecologically diverse. The Andes Mountain Range constitutes the west margin of the area, bordered by forests. The weather is cold in this region, with annual precipitation between 500 and 1000 mm (McCulloc et al. 2005). In contrast, extra-mountain regions in the continent and in the north-center of Tierra del Fuego Island, near the Atlantic Ocean, are characterized by desert steppes with precipitations below 400 mm per year that are crossed by a few major rivers. These climatic and environmental characteristics have remained relatively stable during the last 5000 years, although some local specific changes in temperature and humidity were identified during late Holocene (e.g*.*, Borromei et al. 2007).

The archaeological data offer evidence of human occupation since at least the Late Pleistocene (ca. 11.000 years BP) in the continent and the north of Tierra del Fuego and since the middle Holocene (ca. 8000 years PB) in southern Tierra del Fuego (see Steele and Politis 2009 for a review). According to ethnographic and ethnohistoric data (e.g., Gusinde 1982, 1986; Saletta 2014), two main lifestyles were developed by the indigenous populations: terrestrial hunter-gatherers (Aonikenk in the south of the continent and Selk´nak in the north of Tierra del Fuego), and maritime hunter-gatherers (Kaweshkar in the southwest of Southern Patagonia and Yámanas in the south of Tierra del Fuego). The dichotomy between these two subsistence strategies has been under consideration since the 1990s, based on the abundant zooarchaeological data and stable isotopes of carbon and nitrogen. These results indicate that hunter-gatherers with polarized subsistence patterns could be recognized in a macro-regional scale, but also suggested the existence of intermediate economies, exploiting terrestrial and marine resources in variable amounts (e.g., Barberena 2008; Borrero and Charlin 2010; Borrero et al. 2009; Orquera and Piana 2009; San Román et al. 2016; Tivoli and Zangrando 2011; Zangrando 2009).

Differences in physical appearance between terrestrial and marine hunter-gatherers were mentioned in ethnographic accounts. The former were described as tall and strong individuals, contrasting with the short stature of marine hunter-gatherers from southern Tierra del Fuego (e.g., Gusinde 1982). These differences between continental and Fuegian populations were identified through morphological studies from skeletal remains (Alfonso-Durruty et al. 2015, 2017; Cocilovo and Guichón 1986; Varela et al. 1993-1994), and mainly attributed to morphological divergences as a result of the biogeographical isolation produced by the formation of the Magellan Strait ca. 8000 years BP and the development of terrestrial and marine economies (González-José et al. 2002; Pérez et al. 2007). This isolation does not appear to have been complete, given that researchers have provided evidence for the active interchange of people, tools, and information between groups from the continent and the north of Tierra del Fuego for at least the last 2000 years BP (Borrero and Charlin 2010; Morello et al. 2012). Analyses of mitochondrial DNA also indicate that continental and Fuegian populations were ancestrally related, as well as northern and southern groups from Tierra del Fuego (Lalueza et al. 1997) and Kaweshkar and Yámanas in southern Tierra del Fuego (De la Fuente et al. 2015).

No cemeteries from pre-Hispanic periods were found in Southern Patagonia. Instead, most of the burials are isolated and include just one individual, with the exception of a few multiple burials (e.g., L´Heureux and Amorosi 2009, 2010; L´Heureux and Barberena 2008; Santiago et al. 2011). No evidence of secondary mortuary practices have been reported and bodies were not commonly moved after being interred (Barberena 2008; Tessone 2014). Probably related to these characteristics of the burials, much paleopathological and bioarchaeological research is focused on commingling skeletons from several archaeological sites grouped under ethnographic, geographical or paleodietary criteria in order to analyze larger samples.

Considering the dated skeletons, the bioarcheological record covers only the last ca. 6000 years BP. Taphonomical and archaeological biases are the most probable causes for the lack of most ancient remains from the Pleistocene and the early Holocene (Dillehay 1997). The higher frequency of chronological data from the last 1500 years BP has been suggested to be evidence of demographic increase in human populations, although taphonomic biases (i.e., more and better preservation of recent skeletons) could influence this proposal (e.g., Barberena 2008; Pallo and Ozán 2014; Suby et al. 2017; Tívoli and Zangrando 2011). Nevertheless, only a small number of skeletons have chronological data (see Suby et al. 2017 for a detail) and it is unknown where and how many skeletons were found, because they were not recovered by archaeologists. Thus, these features of the samples considerably limit paleodemographic and bioarchaeological research. During the last three decades, new burials were excavated with rigorous archaeological controls. At the same time, some recent research offered new information based on studies of skeletons recovered decades ago, all of which partially improved the characteristics of the available skeletal samples.

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