Supplement 1. Extended Descriptions of the Quilcapampa Site Related to Faunal and Macrobotanical Findings.

Middle Horizon agropastoralists in *yungas* lived on/near the valley bottoms where agriculture was possible (Linares Màlaga 1990; Neira Avendaño 1998) and travelled along a network of inter-piedmont trails (Bikoulis et al. 2018; Cardona Rosas 2008; Yépez Álvarez et al. 2018). In the mid-ninth century AD, Quilcapampa’s founders crossed the piedmont on one of these trails to establish a 2-ha site overlooking the Sihuas River and its thin band of arable land (Jennings et al. 2018). Survey and excavations from 2014 through 2016 identified a plaza and two domestic areas at Quilcapampa (Jennings et al. 2021a). A core area of three extended family compounds, located adjacent to the plaza, contained food refuse and material culture suggesting residents were closely affiliated with the Wari state (Alaica et al. 2021; Biwer and Melton 2021; González La Rosa et al. 2021; Huamán López et al. 2021). An outlying area of single-family residences with external patios ringed the core compounds. Residents of this area appear to have migrated into the region, and our data suggest their possible origins in/around the Nazca Valley (González La Rosa et al. 2021; Huamán López et al. 2021).

The impetus for Quilcapampa’s founding remains unclear. The ninth century was a period of conflict and reorganization in the Wari heartland (Menzel 1964; Schreiber 2001), perhaps driving some families towards the coast. Quilcapampa’s founders brought oversized ceramic urns, feathered textiles, obsidian nodules, and other items with them, seeking to both retain their Wari identities and maintain long-distance contacts with the state by continuing interregional interactions after their arrival (Jennings et al. 2021b). Residents therefore likely arrived with camelids; the animals are well-represented in the assemblage throughout the site’s short occupation (%NISP = 20.0, %MNI = 21.1) with osteometric analysis indicating that both llama-sized (*Lama glama*) and alpaca-sized (*Vicugna pacos*) individuals were present (Alaica et al. 2021).

            Cut marks and burning in the faunal assemblage reveal that most camelids were exploited for shoulder, upper and lower limb meat. Grade 3 (>500oC) burning is evident on more than half of the assemblage, suggesting that this meat was cooked commonly throughout the site, but concentrated near the site’s core. Camelid dental fragments were not common, so long bone epiphyseal fusions are primarily used for age estimation (De Nigris 2004). Sub-adults (1-3 years old) and adults (≥3 years old) were most common, with juvenile remains (<1 year old) less often recovered. Based on modern camelid mortality profiles, Yacobaccio (2007) suggests that fiber is the primary motivation to keep animals beyond three years, while a mixed pattern of sub-adult and adult animals corresponds with a focus on meat exploitation. Thus, the mixture of sub-adult and adult animals at Quilcapampa suggests that site inhabitants mainly used camelids for their meat (Alaica et al. 2021).

The arid environment of the piedmont meant that locally available fodder for Quilcapampa’s camelids could only be accessed at the river bottom. Our understanding of the foods available around Quilcapampa is based largely on 1,400,361 recovered macrobotanical specimens (see Biwer and Melton 2021 for a detailed discussion of methodology). The most abundant remains were molle tree drupes (*Schinus molle*), followed by quinoa (*Chenopodium quinoa*), and maize (Supplement 1). Chili pepper (*Capsicum* sp.), pacay (*Inga feuillei*), peanut (*Arachis hypogaea*), and common bean (*Phaseolus vulgaris*) were also relatively abundant. Notably, potato macroremains (n = 369), not often preserved in even the most arid conditions, were recovered. Potato starch granules modified by a freeze-drying process only possible in the highlands (*chuño*)were also identified in microbotanical residues from cooking vessels, groundstone, and a Wari Viñaque-style face effigy cup (Biwer and Melton 2021).

Macrobotanical data indicate some of the resources that camelids could have eaten at Quilcapampa. Molle was an unlikely fodder (the drupes have scant edible material), and instead served as a key ingredient in making *chicha de molle,* an alcoholic beverage (Biwer and VanDerwarker 2015; Goldstein et al. 2009). However, other recovered plants were palatable to llamas and alpacas; maize, lucuma (*Pouteria lucuma*), pacay, and cactus fruits (*Cactaceae* sp.), represent potential food sources. Algarrobo was not identified in the macrobotanical assemblage but is common in the *yungas*, producing edible fruits (Román Godines 2013).Quinoa and potatoes, both highland-associated foods, were identified, although access to potatoes was greater in the core area. The recovery of vilca (*Anadenanthera colubrina*), which likely came from the dry tropical forests of the Ayacucho or Urubamba regions, and the identification of *chuño* suggests that core area residents maintained access to distant communities, potentially allowing for fodder importation. Wild plant resources identified from soil samples were limited to small amounts of unidentified grass seeds (Poaceae) and river sedges (Cyperaceae).

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