

**RESCUE ARCHEOLOGY OF THE INCA MUMMY  
ON MOUNT QUEHUAR, ARGENTINA**

**Johan Reinhard and Constanza Ceruti**

Dr. Johan Reinhard

6001 27th Road North

Arlington, VA 22207

Tel.: 703-536-0886

Email: [johanreinhard@hotmail.com](mailto:johanreinhard@hotmail.com)

Dr. Constanza Ceruti

25 de Mayo 391 (1° "A")

4400 Salta, Argentina

Tel.: 54-387-422-5035

Email: [constanza\\_ceruti@yahoo.com](mailto:constanza_ceruti@yahoo.com)

**KEYWORDS:** Inca, Mummy, Andes, Human Sacrifice

## **ABSTRACT**

Over five hundred years ago the Incas carried out dramatic ceremonies on mountain summits, many of which were over 6,000 meters high. The most important offerings made at these sites involved human sacrifices. On Mount Quehuar in northwestern Argentina, an Inca sacrificial victim was found on the summit, but the frozen remains had been severely damaged by dynamite used by looters. In this study we present the results of the rescue archaeology undertaken at the site. The structures excavated and the mummy and artifacts recovered are described.

## **INTRODUCTION**

At the time of the Spanish conquest in 1532 A.D., the Inca Empire included most of western South America. In less than a century, they had expanded out from their center in Cuzco, Peru until they had conquered lands extending from northern Ecuador to central Chile (**Figure 1**). The Inca state was the largest to arise in the pre-Columbian Americas. Although renowned for its stonework, roads, agricultural production, and political organization, one of its most unique achievements was the construction of ceremonial sites on the summits of many of the highest mountains in the Andes (Beorchia, 1985).

Mount Quehuar (Quewar, Queva) (6,130 m/20,111 feet) is located in the high-altitude plateau (*puna*) of northwest Argentina (24°19' S, 66°44' W). It is a dormant volcano that is seasonally snow-covered and contains a small glacier inside its crater. Near the highest point of its summit are two unusual Inca ceremonial structures, and one

of them represents what may be the only example of an Inca stepped platform (*ushnu*) at a high-altitude ceremonial site. Quehuar is also one of the few mountains on which the frozen remains of an Inca human sacrifice have been found. Unfortunately, the site has been partly destroyed by treasure hunters.

Ruins on Quehuar were first surveyed in 1974 during an expedition led by amateur archaeologist Antonio Beorchia (1975). An excavation was carried out in a circular structure (ca. 4 m diameter) about 20 m below the summit that had previously been dug into by treasure hunters, and nothing was found.

Beorchia (1975) also located two well-built structures east of the high point of the summit (**Figure 2**). In the interior of a large, oval structure with high walls, Beorchia found part of a mummy bundle completely encased in ice. He realized that the head and upper part of the mummy had been destroyed by looters, who had used dynamite to try and dislodge the mummy. Due to the frozen ground, Beorchia was unable to excavate and free the remainder of the bundle, but he did obtain a few fragments of textiles (Beorchia, 1975). These proved to employ textile techniques which have been typical of the area since the Inca period, but which could not be further identified (Rolandi de Perrot, 1975).

In 1981, an expedition was undertaken by Beorchia and one of the authors (J.R.) in an attempt to recover the mummy's remains (Beorchia, 1985). Unfortunately, a heavy snowfall before, and during, the expedition meant that the ruins were covered in snow to a depth of about 1.5 m, and the body could not be located.

A piece of flesh (possibly an earlobe) was found embedded in the wall near where the body had last been seen. In addition to this, a few other bone fragments including

those from a skull and two lumbar vertebrae were found along with small pieces of textiles. Beorchia (1985) concluded that these were most likely the result of the same explosion caused by looters' use of dynamite that he had observed in 1974. Based on a study of the bones, Beorchia estimated the age of the mummy to be 8-10 years (the physician Jose Vázquez later examined bones and estimated 14-18 years) (Beorchia, 1985).

A small piece of braided wool, some hair, and a grain of maize were located a few centimeters inside the wall near the same location (Beorchia, 1985). These were likely offerings made by the Incas, as the practice of making similar offerings in walls has been observed elsewhere (Reinhard, 1992).

In 1996, one of the authors (C.C.) conducted an inspection of the surface of the enclosures on the summit of Quehuar, and no artifacts were visible (Ceruti, 1998).

## **DESCRIPTION OF THE ARCHAEOLOGICAL EVIDENCE**

In February 1999, the authors and the Peruvian archaeologist José Antonio Chávez directed an expedition to Quehuar (Ceruti, 2001; Reinhard, 2005). The team remained at an altitude of above 6000 meters during ten days, despite snowfall totaling nearly a meter in a single night. Research included a survey of ruins at the foot and on the summit of the volcano, test pits excavated on the summit of the peak, and excavations in the nearby Inca complex of the platform and circular structure.

A small group of Inca ruins (previously located by Beorchia in 1981) was surveyed at an altitude of 5,000 m at the southern base of Quehuar. The site comprised a

habitational structure (3.9 x 4.2 m) with an artificially cleared area (5 x 10 m), and it likely served as a refuge or way station for men climbing to the summit.

The Inca funerary site (6,100 m) is located at 24°18'48" S and 66°43'88" W, about 150 m distant and 30 m lower in elevation from the highest point of the summit. The complex includes an oval enclosure and an adjacent raised platform (**Figure 2**). The oval enclosure, with a maximum internal diameter of 4.5 m, has walls as much as 1.8 m thick and 2.2 m high. The funerary bundle and many of the associated offerings were found in the interior of this structure. There is no entranceway to the enclosure, only a niche in the outer wall.

Close to the oval ruin, there is a rectangular raised platform that reaches 9.4 m long and 3.4 m wide, with walls as high as 1.7 m in the southeast corner. The longest walls are oriented 114°, i.e. in alignment with the rising sun at the December solstice, an important event in the Inca religious calendar. The platform has a ramp or stairway 3.2 m x 2.5 m leading up to it from the south (Beorchia, 2001). The platform begins level with the surrounding terrain on its western side, to a wall that reaches its greatest height on its eastern side.

It is unusual for such platforms to be divided into five sections with different levels. Unfortunately, part of the main section of the platform had been destroyed. We found part of a dynamite stick's wrapping, confirming that this was due to explosions caused by looters (**Figure 2**).

We excavated sections of the platform and recovered a female figurine made of spondylus seashell, dressed with miniature textiles and a feathered headdress—all in a poor state of preservation. We also found a load of firewood tied with leather cords.

Beorchia (1975) had previously found a damaged tunic in connection with the platform (Rolandi de Perrot, 1975).

Due to the looters' use of dynamite, only scattered pieces of the offerings could be recovered from the oval enclosure. These included textiles, fragmented Inca pottery, corn seeds, and pieces of meat and bone from a sacrificed camelid.

A funerary bundle was located on the southeastern section of the enclosure, at a depth of 1.4 meters from the top of the wall. The frozen textile bundle was roughly 60 cm x 40 cm x 30 cm. The human remains inside it, as could be later established through CT scan analysis, included the lower limbs and pelvic cavity of a young individual. The rest of the body--upper torso, arms, and head--is missing, due to the use of dynamite by treasure hunters. The only parts of the body that could be identified during field work were the lumbar vertebrae, which protruded from the damaged textile wrapping. DNA analysis later revealed that the individual was a female (Castañeda, 2000). Conventional X-rays are planned to gain a more accurate estimate of the victim's age, based on the length and calcification of the leg bones.

A bundle of offerings wrapped in a light brown, woolen textile was found directly adjacent to the mummy bundle on its northern side. It was later opened in the laboratory and was found to contain offerings, including two pairs of sandals, two small textile bags, a pedestal pot, one small jar, a pair of ceramic plates, one wooden plate, a spoon, a comb, food items (maize and chili), and charcoal.

## DISCUSSION

According to the historical sources, young women and children had been selected by the Incas to be sacrificed during ceremonies called *capacocha*. They would become messengers or representatives of their communities in the presence of their gods (Gutierrez, 1963; Hernández Principe, 1986). The Inca Empire institutionalized a system of selection and redistribution of chosen women or *acllas*, who were taken from their homes at a young age and kept in seclusion at special institutions, where they were taught to weave and to prepare ritual beverages (Murúa, 1946). At around the age of fourteen, the chosen women might be given by the Inca as wives to local nobles or consecrated as priestesses. Some of them, however, would be sacrificed during state *capacocha* ceremonies (Betanzos, 1996; Acosta, 1962). The mummy recovered from Mount Quehuar, being a young female, may have been part of the Inca system of chosen women.

The mummy appears to have deliberately placed inside the oval. It was positioned opposite a niche, which was open to the east at the base of the outer wall. It is unlikely that the body was left unburied, as otherwise the clothing would have badly deteriorated. Treasure hunters presumably excavated to where the mummy was located and then used dynamite to try and dislodge it. Alternatively, they may have set off the explosion before seeing the mummy, while trying to remove the artificial fill above it in the structure.

The niche in the wall recalls those made in *chullpas* (funerary towers) found not far distant, such as at Toconce in the Atacama Desert of northern Chile. A study of these *chullpas* led to the conclusion that offerings had been placed in front of their openings

(Aldunate & Castro, 1981). We did not find remains of offerings in, or outside, the niche on Quehuar, although these may have been lost due to exposure over time. Whatever use was made of this niche, its association with a human sacrifice at such an altitude is unique.

Inca sacrificial victims were usually buried with offering assemblages in accordance to their sex and age. Often one figurine made of each precious metal (gold and silver) and one of the valuable spondylus shell were placed close to the body (Reinhard and Ceruti 2000 and n.d.). The figurines would represent human beings of the same sex of the sacrificial victim they were buried with. The fact that only a female seashell statuette could be recovered from the summit ruins of Quehuar is most likely due to the intervention of treasure hunters, who would have focused on stealing the metal figurines.

Pottery offerings are commonly found in Inca burials, with the greatest number and variety occurring with females. For example, sets of pottery items were recorded in the burials of the two females from Mount Lullllaillaco (Ceruti, 2003; Reinhard and Ceruti, 2000 and n.d.), as well as in the bundle of offerings buried close to the Quehuar maiden. According to historical accounts, miniature pots in the tombs of female sacrificial victims symbolically represented the house ware of married women in the afterlife (Betanzos, 1996). Certain objects, especially plates and wooden vases (*keros*), have been found in pairs. It is likely that the pairing of the plates and vessels was related to the Andean etiquette of ritually sharing food and drink (Randall, 1992).

The raised platform with an access ramp or stairway is a type of structure similar to the *ushnu* platform, which was part of a ritual complex and has been noted for a



number of Inca sites (Hyslop, 1990). With the possible exception of the peak shrine at 5,600 meters on Pichu Pichu (Reinhard, 1998), the *ushnu* platform on Quehuar is the only example we are aware of such a raised platform with a ramp/stairway leading to it at a high altitude site. On the other hand, numerous raised platforms have been found on mountain summits, and these may well have been considered as representing *ushnu* platforms in the context in which they were situated (Ceruti, 1999). Such *ushnu* platforms may themselves have represented symbolic mountains (Reinhard, 2002; Ceruti, 2003).

We are unaware of any historical or ethnographic documents that refer specifically to beliefs about Mount Quehuar. Its ecological situation is such that no rivers of any note flow out from it to any great distance, although a small stream does provide water to the relatively fertile region near the settlement of Santa Rosa de Pastos Grandes. Throughout the region, mountains are worshipped as controllers of water and fertility (cf. Nardi, 1967; Reinhard, 1985 and 1993), and this would likely have been a major reason for the worship of Quehuar. An east-west Inca road ran near the volcano, and Quehuar's location along this road—and thus the trade which took place—was probably another factor that led to its worship. This is similar to the case of Mount Lullaillo, not far distant to the southwest, where three nearly perfectly preserved frozen mummies of Inca children were found (Reinhard and Ceruti, 2000 and n.d.).

Quehuar has the same name of a group (the Quehuare), which was located south of Cuzco and was designated as Inca-by-Privilege (Bauer, 1992;; Rowe, 1946). The Quivar-guaros (Quehuar-huaros) were noted as having been sent as colonists (*mitimaes*) by the Incas to Copacabana at Lake Titicaca (Ramos, 1976). The possibility exists that

the Incas sent them to places more distant and that they could have served as colonists in the region of Quehuar. For example, Lorandi (1991) noted an historical reference from the 1600's stating that the Incas sent colonists from the Chicoana (Sicuani) valley near Cuzco to northwest Argentina. They then named the place they were relocated to with the same name as this valley.

It is also suggestive that Albornoz (Duviols, 1986), writing in the late 1500's, described how some colonists would perform worship on mountains near their new settlements, using sacred objects associated with the places (often mountains) (*pacariscas*) from which their ancestors were believed to have originated. He noted that this also occurred with colonists sent to the south into Chile. Although not proving that Quehuare colonists gave rise to the name of the volcano and built the site on its summit, these references at least demonstrate that such a possibility should be considered.

Ceramic evidence also supports that the Incas sent colonists from the distant Lake Titicaca region to northwest Argentina. Pacajes pottery has been found in the Inca ruins at the way station (*tambo*) of Chañi, a volcano not far from Quehuar. This pottery is of a style typically found near Lake Titicaca, and it has been interpreted as a sign of the incorporation of Pacajes people as colonists brought by the Incas to serve the ceremonial center there (Ceruti 1997; Fernández, 1975; D'Altroy et al, 2000). Unfortunately, little archaeological work has been done in the region, and any interpretation of the ceremonial site on the summit of Quehuar must remain tentative.

## **ACKNOWLEDGEMENTS**

Johan Reinhard is currently (2005) an Explorer-in-Residence of the National Geographic Society, and is also affiliated as a Visiting Professor at Catholic University (Salta, Argentina). Constanza Ceruti is currently (2005) conducting research with a postdoctoral fellowship from CONICET (the National Council of Scientific and Technical Investigations, Argentina) and is a Professor of Inca Archaeology at Catholic University of Salta.

The authors would like to thank the Expeditions Council of the National Geographic Society for the grant provided to Reinhard to undertake research in Argentina in 1999-2000. The research directed by the authors and José Antonio Chávez on the summit of Quehuar in 1999 was made possible thanks to the following participants: Jimmy Bouroncle, Orlando Jaen, Alejandro Lewis, Arcadio Mamani, Edgar Mamani, Ignacio Mamani, Antonio Mercado, Ruddy Perea, and Federico Viveros.

Our gratitude goes out to those who initially collaborated in the conservation and study of the Quehuar mummy: Carlos Previgliano, Arnaldo Arroyo, Facundo Arias, Josefina González, Marcelina Matos, and Jorge Pastrana. Clara Abal de Russo and Luis Mazza kindly collaborated in the laboratory study and preservation of the textile bundle with offerings from Quehuar. We would also like to acknowledge the pioneering work in high-altitude archaeology undertaken by Antonio Beorchia and Juan Schobinger and the unfailing support they have provided the authors over the years. Special thanks are owed to Nicolas Morales, Constanzo and Savino Chaparro, and to the community of Santa Rosa de Pastos Grandes.

## **FIGURES**

1. Map showing the extent of the Inca Empire in 1532 A.D., with selected Inca high-altitude sites noted. Quehuar is located near the city of Salta in northwestern Argentina (National Geographic Society in Reinhard, 2005).
2. Plan of the principal structures on Quehuar (Beorchia, 1975).

## **LITERATURE CITED**

Acosta, José de. 1962. [1590] *Historia Natural y Moral de las Indias*. México D.F.: Fondo de Cultura Económica.

Aldunate, Carlos and Victoria Castro. 1981. *Las Chullpa de Toconce y su Relación con el Poblamiento Altiplánico en el Loa Superior Periodo Tardío*. Ph.D. thesis. Santiago: Universidad de Chile.

Bauer, Brian and David Dearborn. 1992. *The Development of the Inca State*. Austin: Univ. of Texas Press.

Beorchia, Antonio. 1975. El Nevado Quehuar. *Revista del Centro de Investigaciones Arqueológicas de Alta Montaña* 2:29-35.

Beorchia, Antonio. (compiler) 1985. *El Enigma de los Santuarios Indígenas de Alta Montaña*. San Juan: Centro de Investigaciones Arqueológicas de Alta Montaña. Vol. 5.

Betanzos, Juan de. 1996. [1557] *Narratives of the Incas*. Austin: University of Texas Press.

Castañeda, Juana. 2000. Molecular Genetic Analysis of Ancient Human Remains. MS thesis. Washington, D.C.: George Washington University.

Ceruti, Constanza. 1997. Sitios Rituales de Altura y Estrategias Sociales de Dominación: Caso de Estudio en el Nevado de Chañi (5.896 m., límite provincial Jujuy-Salta, Argentina). *Revista de Estudios Sociales del N.O.A.* 1(1):127-154.

Ceruti, Constanza. 1998. Prospecciones en sitios de alta montaña en el Noroeste andino argentino: informe preliminar. *Tawantinsuyu* 5:37-43.

Ceruti, Constanza. 1999. *Cumbres Sagradas del Noroeste Argentino. Avances en arqueología de alta montaña y etnoarqueología de santuarios andinos*. Buenos Aires: EUDEBA.

Ceruti, Constanza. 2001. Recientes hallazgos en los volcanes Quehuar (6.130 m.) y Llullaillaco (6.739 m.). In *Actas del XIII Congreso Nacional de Arqueología Argentina*. Edited by Cristina Diaz, 1: 313-322. Córdoba.

Ceruti, Constanza. 2003. *Llullaillaco: Sacrificios y Ofrendas en un Santuario Inca de Alta Montaña*. Salta: Catholic University of Salta.

D'Altroy, Terence et al. 2000. Inka Rule in the Northern Calchaquí Valley, Argentina. *Journal of Field Archaeology* 27:1-26.

Duviols, Pierre. 1984. Albornoz y el espacio ritual andino prehispánico: Instrucción para descubrir todas las guacos del Pirú y sus camayos y haciendas. *Revista Andina* 2 (1): 169-222.

Fernández, Jorge. 1975. Arqueología del Nevado Chañi. *Revista del CIADAM* 2: 8-13.

Gutiérrez de Santa Clara, Pedro. 1963. [ca.1603] *Quinquenarios o Historia de las Guerras Civiles del Perú*. Biblioteca de Autores Españoles, Volumen 166. Madrid: Ediciones Atlas.

Hernández Príncipe, Rodrigo. 1986. [1621] Idolatría del Pueblo de Ocros, cabeza desta comunidad. In *Cultura Andina y Represión*. Edited by Pierre Duviols, pp. 442-448. Cuzco: Centro de Estudios Rurales Andinos Bartolomé de las Casas.

Hyslop, John. 1990. *Inka Settlement Planning*. Austin: Univ. of Texas Press.

Lorandi, Ana María. 1991. Evidencias en Torno a los Mitmaqkuna en el N.O. Argentino. *Antropológica* 9:211-236.

Murúa, Fray Martín de. 1946. [1590] *Historia del Origen y Genealogía Real de los Reyes Incas del Perú*. Madrid: Biblioteca Missionalia Hispanica. Volumen 2.

Nardi, Ricardo. 1967. Documenta: Materiales de la Colección de Folklore. *Cuadernos del Instituto Nacional de Antropología* 5(1964-65):245-265.

Ramos, Alonso. 1976. [1621] *Historia de Nuestra Señora de Copacabana*. La Paz: Editorial Universo.

Randall, Robert. 1992. Los dos vasos: cosmovisión y política de la embriaguez desde el inkánato hasta la colonia. In *Borrachera y Memoria, la experiencia de lo Sagrado en los Andes*. Compiled by Thierry Saignes. La Paz: Hisbol.

Reinhard, Johan. 1985. Sacred Mountains: An Ethno-Archaeological Study of High Andean Ruins. *Mountain Research and Development* 5(4):299-317.

Reinhard, Johan. 1992. An Archaeological Investigation of Inca Ceremonial Platforms on the Volcano Copiapo, Central Chile. In *Contributions to New World Archaeology*, N. Saunders (ed.), Oxford: Oxbow Books. pp. 145-172.

Reinhard, Johan. 1993. Llullaillaco: An Investigation of the World's Highest Archaeological Site. *Latin American Indian Languages Journal* 9(1):31-54.

Reinhard, Johan. 1998. New Inca Mummies. *National Geographic* 194 (1) (July):128-135.

Reinhard, Johan. 1999. Frozen in Time. *National Geographic* 196 (5) (November):36-55.

Reinhard, Johan. 2002. *Machu Picchu: The Sacred Center*. (2nd edition). Lima: Instituto Machu Picchu.

Reinhard, Johan. 2005. *The Ice Maiden: Inca Mummies, Mountain Gods, and Sacred Sites in the Andes*. Washington, D.C.: National Geographic.

Reinhard, Johan and Constanza Ceruti. 2000. *Investigaciones Arqueológicas en el Volcán Llullaillaco*. Salta: Ediciones Universidad Católica de Salta.

Reinhard, Johan and Constanza Ceruti. n.d. *The Archaeology of Mount Llullaillaco*. Los Angeles: The Cotsen Institute, University of California. (in press)

Rolandi de Perrot, Diana. 1975. Análisis de materiales provenientes del Volcán Llullaillaco y del Nevado de Quehuar (Prov. de Salta). *Revista del CIADAM* 2: 43-44.



Rowe, John. 1946. Inca Culture at the Time of the Spanish Conquest. *Handbook of South American Indians* 2:183-330. Washington, D.C.: Smithsonian Institution.