


A Group of Geoglyphs in the Lower Carabamba Valley, Northern Peru

Amedeo Sghinolfi , Jean-François Millaire, Jeisen Navarro Vega, and Estuardo La Torre Calvera

In 2019, while conducting a survey of the Carabamba River valley (ca. 150–3,325 m asl) in northern Peru, we identified and surveyed a group of five unreported geoglyphs. Their location and iconography suggest that they date from the Formative period (1800–200 BC) and that they were possibly associated with a form of fertility ritual.

Keywords: northern Peru, geoglyphs, Formative period, fertility

En 2019, mientras realizamos un estudio del valle del Río Carabamba (ca. 150-3,325 m.s.n.m.) en el norte de Perú, identificamos y estudiamos un grupo de cinco geoglifos no reportados previamente. Su ubicación e iconografía sugieren que datan del Período Formativo (1800-200 aC) y que posiblemente estaban asociados con una forma de ritual de fertilidad.

Palabras claves: norte del Perú, geoglifos, Período Formativo, fertilidad

Peru is replete with geoglyphs produced over the last 4,000 years (Guffroy 1999; Hostnig 2003) depicting anthropomorphic, zoomorphic, and geometric figures created either through subtractive or additive techniques or by combining both methods. The subtractive technique produces the desired motif by clearing the ground of rocks and exposing the underlying lighter-colored soil. The additive technique rearranges rocks to outline the motif and highlight specific features (Gálvez Mora et al. 2012). The Nasca Lines in southern Peru are some of the best known and most studied prehispanic geoglyphs. They have been linked to ritual practices, water resources, and celestial bodies (Masini et al. 2016). Fewer geoglyphs are known from other parts of the Andean region, and relatively little is known about this art form in northern Peru (Alva and Meneses de Alva 1982; Corcuera Cueva and Echevarría López 2010, 2011; Gálvez Mora et al. 2012; Hostnig 2003:195–216; Wilson 1988). This report focuses on a group of five geoglyphs

identified as part of an archaeological survey in the Carabamba Valley in northern Peru.

The Carabamba Valley

The Carabamba Valley originates near the modern town of Carabamba (3,325 m asl, province of Julcán in the department of La Libertad) and eventually merges with the Huacapongo Valley near the village of Tomaval (150 m asl, province of Virú in the department of La Libertad) to form the Virú Valley (Figure 1). The area located between 150 and 1,000 m asl is arid, and rainwater flows intermittently on the riverbed during the austral summer (December to March). Between 1,000 and 3,000 m asl, the climate is slightly more humid, sustaining bushes and trees. Above this zone extends the extensively farmed Carabamba Plateau (Oficina Nacional de Evaluación de Recursos Naturales 1973). The Carabamba Valley is a natural corridor that has connected the coast to the highlands and the people who inhabited these lands for millennia.

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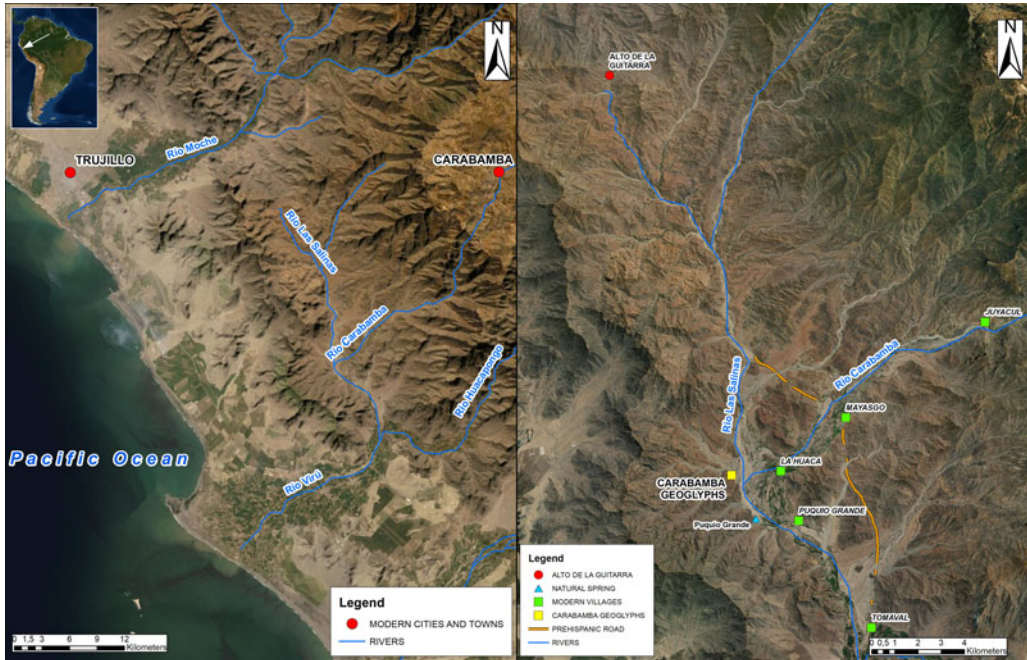


Figure 1. Left, location of the Carabamba River valley; right, location of the geoglyphs (Province of Virú) and of the other features mentioned in the text (maps made by Amedeo Sghinolfi on ESRI ArcGIS). (Color online)

Despite its key role during prehispanic times, very little research has been carried out in this area (Briceño and Fuchs 2009; Topic and Topic 1982; but see studies of petroglyphs near the *caseríos* of Mayasgo and Juyacul: Castillo Benitez and Barrau 2016; Van Hoek 2017, 2018). A survey of the area was carried out by the authors between April and December 2019 to identify and map archaeological sites, reconstruct settlement patterns, and document interactions between ancient human groups. We identified five unreported geoglyphs near the villages of La Huaca, Puquio Grande, and Mayasgo that shed light on the Formative period occupation of the area.

The Five New Geoglyphs

This group of geoglyphs extends over an area of 0.1 km² at the confluence of the Carabamba and Las Salinas Rivers (290 m asl) on the eastern slope of Cerro Misia (Figure 2a). Las Salinas is a seasonal river that connects this part of the Virú basin to the middle Moche Valley through a stretch of land known as Alto de la Guitarra,

where several petroglyphs have been identified (Castillo Benitez and Barrau 2014; Disselhoff 1955). The geoglyphs were mapped using a lightweight drone (DJI Mavic Pro Platinum) that captured high-resolution pictures (12.35 megapixels; 26 mm focal length) from a range of altitudes (15–90 m). Vertical (90°) photographs were taken at regular time intervals (2 seconds) to ensure enough overlap (75% forward, 60% side overlap). High-quality georeferenced orthophotos and 3D models were subsequently created using Agisoft Metashape and MeshLab software.

Geoglyph 1 is located on an eastern-facing slope, 150 m from the confluence of the Las Salinas and Carabamba Rivers, and faces the highlands (Figure 3). The geoglyph (52 × 58 m) includes different motifs made with additive and subtractive techniques. The main figure is a warrior who faces a spotted cat, perhaps a jaguar (*Panthera onca*). Outlined with rocks, the warrior wears a long braid and holds a sacrificial knife (*tumi*) and a war mace (*porra*) or spear. Two ornaments hang from a waistband, one of which possibly represents a snake (right). Two

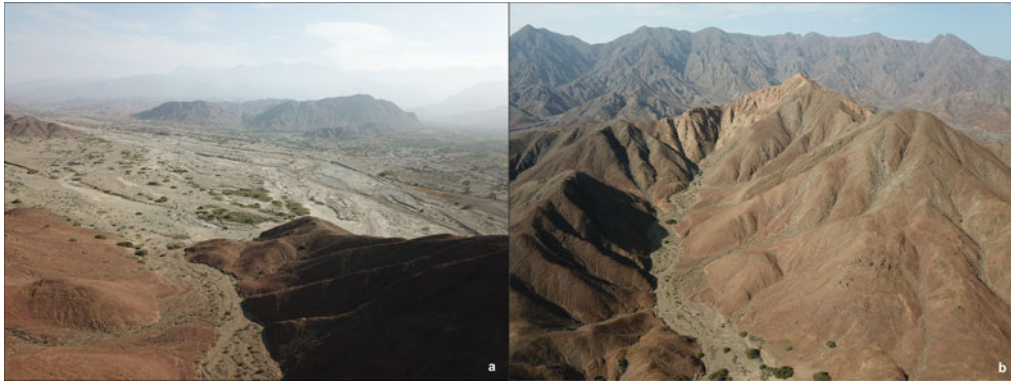


Figure 2. (a) Place where the Carabamba (on the right) and the Las Salinas (on the left) Rivers meet; (b) the ravine that features Geoglyphs 2–5 (photographs by Amedeo Sghinolfi). (Color online)

barely visible anthropomorphic figures can also be seen: one (13×7 m) below the feline and the other (6.80×2.75 m) next to the warrior's forehead. The site also features a small, rounded structure (diameter, 3.75 m) 10 m northeast of the warrior, as well as others 150 m south of the geoglyph.

Geoglyphs 2 through 5 are located in a narrow canyon (quebrada) 560 m south of Geoglyph 1

(Figure 2b) and 280 m southwest of the river. Geoglyph 2 (8.5×1.0 m) is on a flat area, was made with additive (head and part of the tail) and subtractive (end of the tail) techniques, and features a snake or a tadpole facing the highlands (Figure 4). Geoglyph 3 is located on an eastern-facing slope 550 m southwest of the river. It was made using the subtractive technique and is the largest (88×45 m) geoglyph of the group

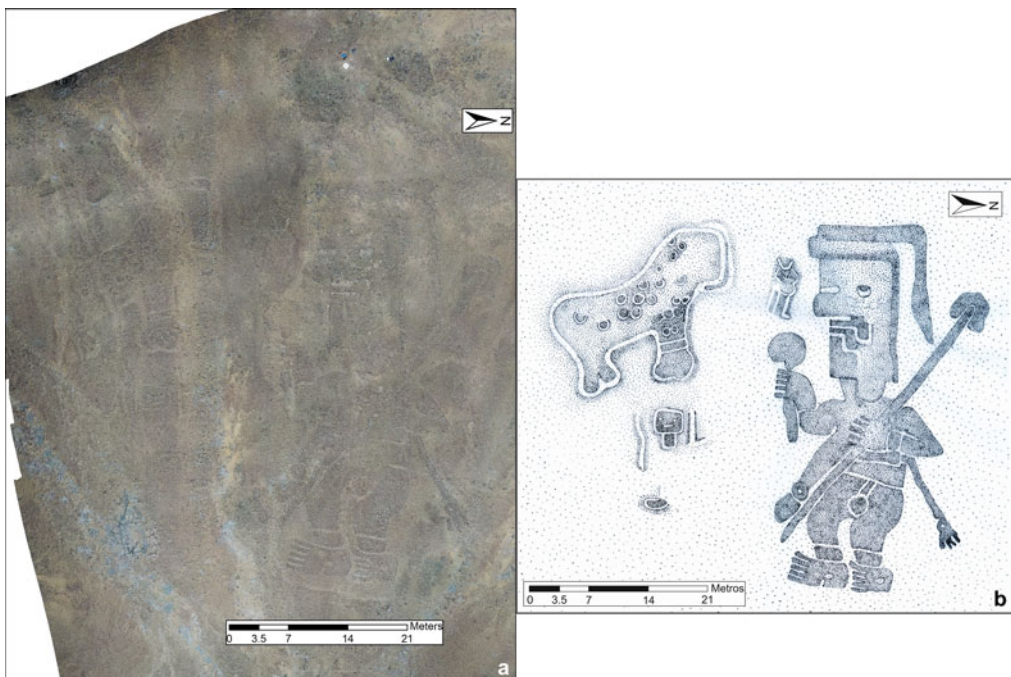


Figure 3. (a) Photograph of Geoglyph 1; (b) drawing of Geoglyph 1 (photograph by Amedeo Sghinolfi, drawing by Jeisen Navarro Vega). (Color online)

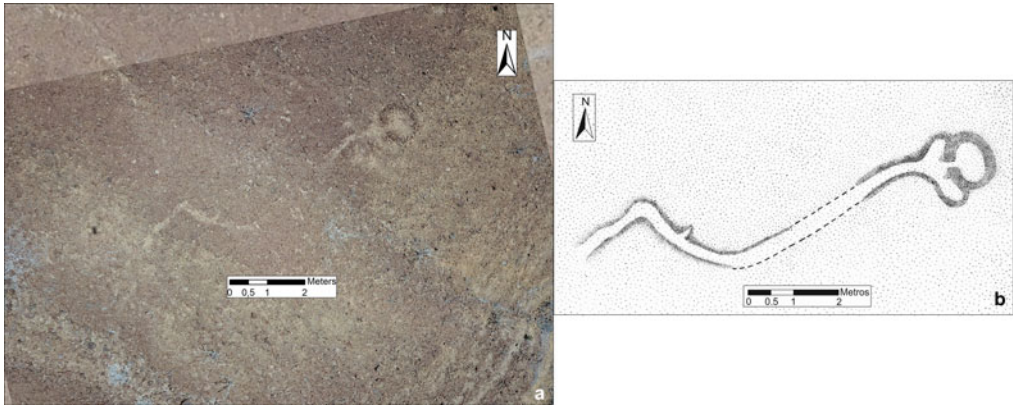


Figure 4. (a) Photograph of Geoglyph 2; (b) drawing of Geoglyph 2 (photograph by Amedeo Sghinolfi, drawing by Jeisen Navarro Vega). (Color online)

(Figure 5). It includes a bird-like motif and a head or half-moon design, as well as horizontal, vertical, and diagonal lines (heavily eroded). Originally, this geoglyph would have stood out in this isolated quebrada, acting as the focal point of this sacred landscape. Geoglyphs 4 and 5, made with the subtractive technique, are located on the bottom of the quebrada between Geoglyphs 2 and 3 (Figure 6). Geoglyph 4

(11.5 × 9.5 m) depicts a camelid, whereas Geoglyph 5 (13.0 × 7.5 m) features a spiral motif. The tip of the spiral points toward a nearby hill, while the head of the camelid faces the confluence of the Las Salinas and Carabamba Rivers. Remnants of possible geoglyphs are also visible on a hillslope located 290 m to the southeast, but the area is heavily disturbed by modern path making (Figure 7).

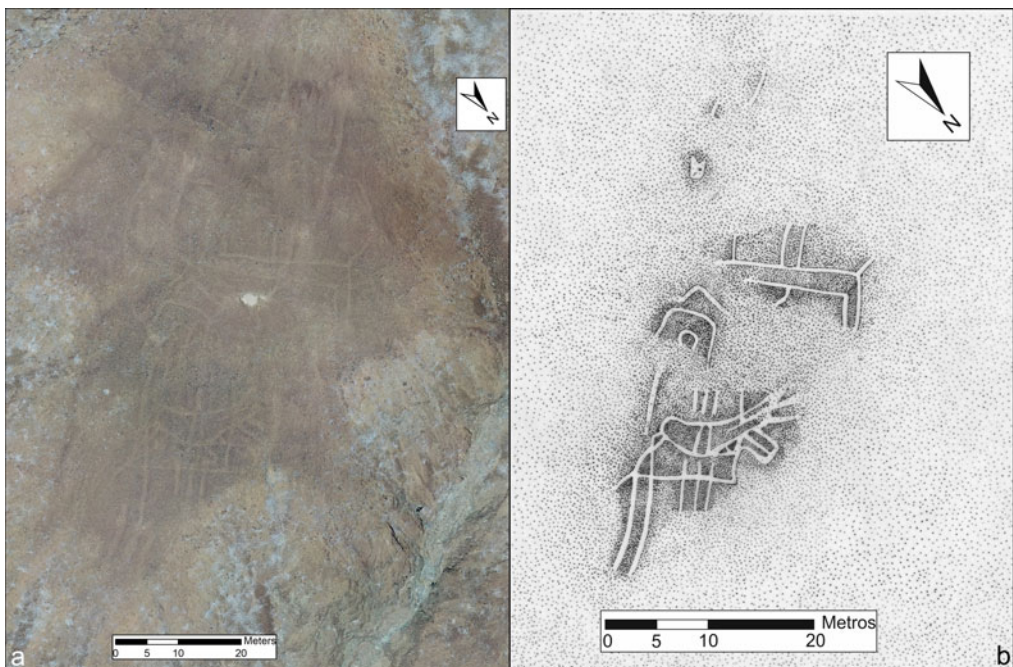


Figure 5. (a) Photograph of Geoglyph 3; (b) drawing of Geoglyph 3 (photograph by Amedeo Sghinolfi, drawing by Jeisen Navarro Vega). (Color online)



Figure 6. (a) Photograph of Geoglyph 4 (right) and 5 (left); (b) drawing of Geoglyph 4 (right) and 5 (left) (photograph by Amedeo Sghinolfi, drawing by Jeisen Navarro Vega). (Color online)

Discussion

We found no ceramic sherds on the surface of those prehispanic sites, which makes dating difficult. However, the warrior depicted in Geoglyph 1 is clearly associated with Formative period iconography. The warrior shows striking similarities with the human figures carved on the stelae from the Chavín heartland (Burger 1982; Lumbreras 1977), with rock paintings and petroglyphs from Poro Poro in the department of Cajamarca (del Carpio Perla et al. 2001) and Huaca Partida in the Nepeña Valley (Shibata 2017), and with petroglyphs from Alto de la Guitarra in the middle Moche Valley (Castillo Benitez and Barrau 2014; Disselhoff 1955) and Palamenco in the Lacramarca Valley (Gufroy 1999:100). The warrior also resembles the Sechín Alto Complex stone carvings (Bischof 1994:Figure 7). The other geoglyphs are harder to date. They could date from earlier times or from a later period when the area close to the river started to be occupied more intensively (ca. 400 BC). According to Corcuera Cueva and Echevarría López (2010:44–46), the later geoglyphs in the Quebrada Santo Domingo (Moche Valley) were made with the subtractive technique and featured geometric motifs, whereas earliest geoglyphs were made with the additive technique. It is unclear whether a similar chronology exists in the Carabamba Valley (Figure 8).

The geoglyphs may have been associated with an inland north–south road running from the

Moche to the Chao Valley, which likely started to be used during the Formative period (Beck 1979; Van Hoek 2018; see also Gálvez Mora et al. 2012:101–104, Figure 8). However, they are also associated with the east–west communication route that connected the coast to the highlands along the Carabamba River. Our survey yielded coastal and highland ceramics on numerous sites (highland textiles and ceramics were also found in the lower Virú Valley [Downey 2015; Millaire 2010; Szpak et al. 2015:457–458]), many of which were also littered with camelid bones. The presence of camelid remains is suggestive of the importance of herding and caravaning in the area, which played a key role in moving goods and ideas across valleys and between the highlands and the coast throughout prehispanic times (Wilson 1988). The camelid featured in Geoglyph 4 may thus have been intended as a celebration of the importance of this animal at a time when long-distance travel was booming in the region.

The geoglyphs presented in this article could therefore have marked the location of an important place for travelers. Geoglyphs 2 to 5 are in a secluded quebrada that would have channeled people toward the largest geoglyph (Geoglyph 3), which is located below one of Cerro Misia’s peaks that features yellow-colored rocks and stands out in the surrounding landscape. This would have been an ideal location for travelers to perform rituals before continuing their journey (for a description of such rituals, see Bikoulis et al. 2018:1387–1388).

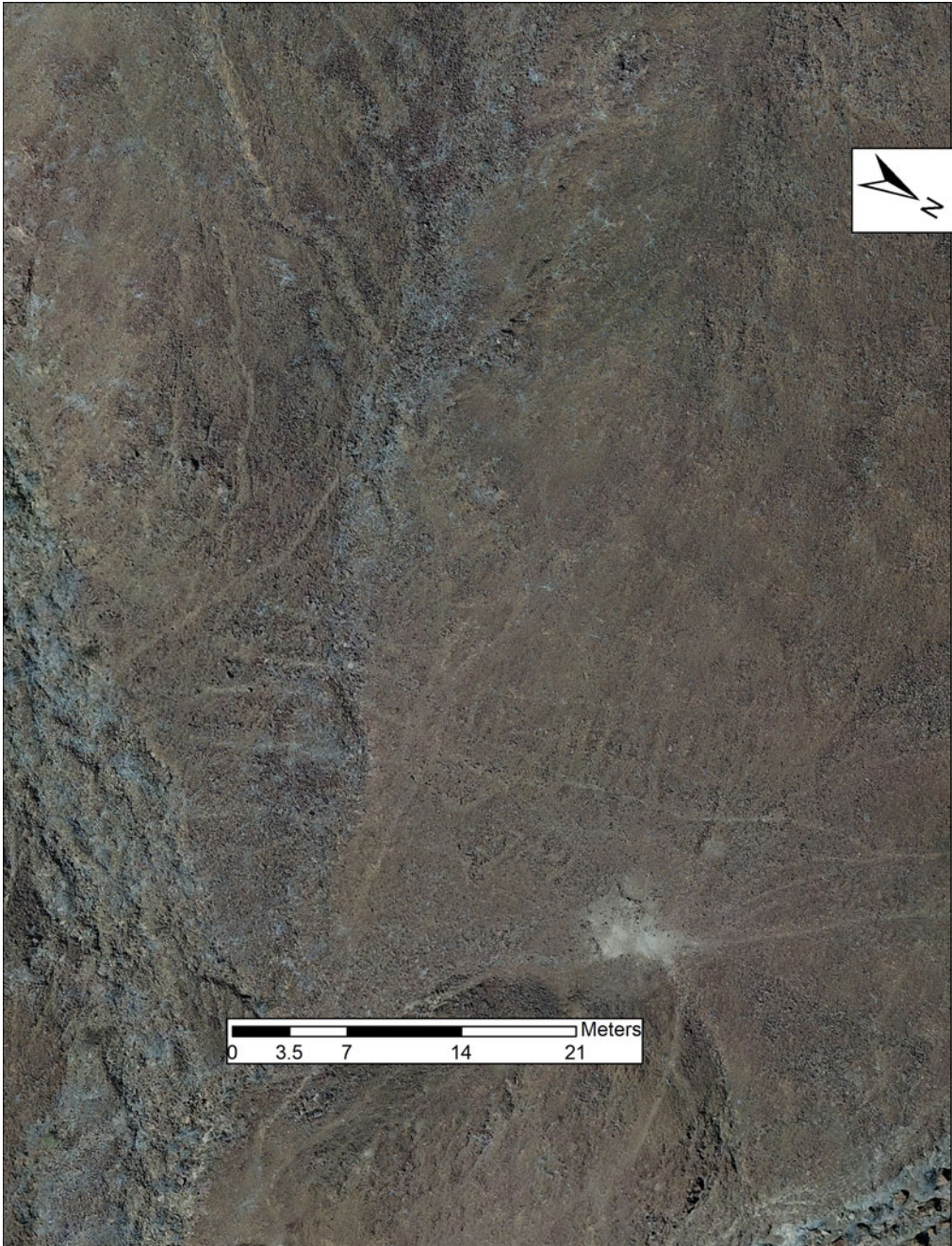


Figure 7. Possible geoglyphs located southeast of Geoglyphs 4 and 5 (photograph by Amedeo Sghinolfi). (Color online)

Other clues suggest possible connections with fertility. The geoglyphs are located where the Carabamba River meets the Las Salinas River, a place where a natural spring called Puquio Grande also originates. Interestingly, the geoglyphs face the highlands, the source of all waters, and many

iconographic elements refer to water and fertility. For example, Geoglyph 1 features a jaguar and a snake, which are often related to fertility in Andean iconography (Bischof 1994:217; Burger 1992:153; Guffroy 1999:112; Hocquenghem 1983:61–63; Venturoli 2005:73). Geoglyph 2



Figure 8. Location of the sites mentioned in the text (map made by Amedeo Sghinolfi on ESRI ArcGIS). (Color online)

features a tadpole, an amphibious creature related to earth, water, and fertility (Venturoli 2005:74). Geoglyph 5 features a spiral motif, which Masini and colleagues (2016:277) argue can be linked to water. The spiral may also represent a land snail (*Scutalus* sp.), which reproduces during the rainy

season and was consumed by locals throughout prehispanic times (Gálvez Mora et al. 1996). The possible bird in Geoglyph 3 may represent the sky, yet another source of water (Burger 1992:107). If those geoglyphs were indeed related to fertility, one could argue that they were made by

people who lived in this arid stretch of land to perform propitiatory fertility-related rituals.

More work is needed in this part of the valley to identify the extent of this ritual site and to understand the relationship among the geoglyphs, the landscape, and the human groups that inhabited the lower Carabamba Valley. However, it is important to note that this stretch of land is presently under threat not only from erosion caused by natural phenomena but also, and more importantly, from illegal modern mining, quarrying, and looting activities that will inevitably thwart future archaeological research on prehispanic geoglyphs in the Northern Andes.

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Data Availability Statement. Georeferenced orthophotos of geoglyphs are stored at Western University, London, Ontario, Canada.

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