



Animals of the Serranía de la Lindosa: Exploring representation and categorisation in the rock art and zooarchaeological remains of the Colombian Amazon

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ABSTRACT

The Serranía de la Lindosa in the Colombian Amazon hosts one of the most spectacular global rock art traditions. Painted in vibrant ochre pigments, the artwork depicts abstract and figurative designs – including a high diversity of animal motifs – and holds key information for understanding how Amazonians made sense of their world. We compare a zooarchaeological assemblage with painted depictions of animals at the Cerro Azul site, and utilise relevant ethnographies and ethnohistories. A lack of direct proportional relationships between the animal representation in the art and zooarchaeological remains alludes to the complex socio-cultural interconnection between Amazonian communities and their ritualised environments. We discuss the benefits and limitations of quantitative categorisation and explore Indigenous ontologies, highlighting Amazonian perspectives on human-animal relationships.

1. Introduction: Rock art, zooarchaeology, and ethnography

The Colombian Amazon contains one of the richest collections of rock art in the world. Adorning the rock outcrops of the Serranía de la Lindosa (from here on La Lindosa) (Fig. 1), Chiribiquete, and the Inírida River region, are vibrant ochre images of human figures, handprints, animals, plants, and geometric designs (Becerra 2019; Castano-Uribe, 2019; Morcote-Ríos et al. 2021; Iriarte et al. 2022a, 2022b; Trujillo 2016; Urbina and Peña, 2016).¹ As with many other rock art corpora worldwide, the motifs here encode and manifest critical information about how Indigenous communities interacted with their environment, and how they constructed, engaged with, and perpetuated their ritualised, socio-cultural worlds.

Animals feature prominently in rock art worldwide, including multiple regional traditions and corpora in South America (Baeta & Prous 2017; Beltrão and Locks, 1993; Carden 2009; Miotti & Carden 2007; Motta and Romero Villanueva, 2020; Prous 2007; Troncoso et al. 2017; Troncoso et al., 2018; Troncoso & Armstrong, 2022; Valle et al. 2018).

Studies from across the globe have demonstrated that it is extremely rare to find a direct relationship between the painted animal images and the species identified in associated zooarchaeological assemblages (Hampson 2015, 2016; Laming-Emperaire 1957, 1962; Leroi-Gourhan 1965; Lewis-Williams 2002:19; Russell 2017; Valenzuela et al. 2015; Valle et al. 2018; Vinnicombe 1976:143; Whitley 1994, 2004). This disconnect alludes to the complex and many-layered social and ideological relationships between humans and animals beyond utilitarian exploitation, as well as highlighting the importance of integrating multiple lines of evidence to explore the social and ideological importance of fauna and how they fit within holistic Indigenous worldviews (Descola 1996; Fiore & Zangrando 2006; Valenzuela et al. 2015; Valle et al. 2018; Vivieros de Castro 1998).

Interpretation of rock art is greatly enhanced when combined with ethnographic and ethnohistoric records in addition to contextual archaeological data (e.g. McDonald 2013; Munduruku and Valle, 2021; Stewart & Challis 2023; Tuyuka et al. 2022; Valle et al. 2018). In this paper, we employ a multi-stranded approach and systematically

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¹ There are also engravings in the area, but we do not address them in this article.

compare the depictions of animals across multiple rock art panels at Cerro Azul in La Lindosa with zooarchaeological records from recent excavations (Morcote-Ríos et al. 2021). These quantitative approaches provide a baseline to identify what is represented (both in zooarchaeological remains and in the artwork). We also address regional ethnographic contexts and consider whether the use of ethnographic analogy is justified (e.g. Currie 2016; Hampson 2015, 2024; Iriarte et al. 2022a; Whitley 2021; Wylie 1985). We draw from the seminal anthropological work of the Austrian-Colombian Gerardo Reichel-Dolmatoff (1967, 1978, 1987, 1997), who worked from 1940 for four decades with Indigenous Amazonian communities. In many ways, Reichel-Dolmatoff provided the impetus for research into what would become known by many in anthropology as New Animism – an umbrella term and relational practice in which humans cultivate respectful relationships with other entities, whether human or other-than-human (Harvey 2014; see also Descola 1996; 2012; Abram 2010; Bird-David 1999; Costa and Fausto 2010; Ingold 2006; Kohn 2013; Vivieros de Castro 1998). These approaches recognise the limitations of the inflexible ‘pigeonholes’ found in Western classifications of nature, culture, and the supernatural, instead appreciating the distinct perspectives, or points of view, from which humans, animals, and spirits conceptualise themselves and one another (Vivieros de Castro 1998).

Moreover, when interpreting artistic traditions from an etic perspective, the recognition of Indigenous ontologies in the regulation and organisation of human-animal-plant relationships is critical to avoid the pitfalls of placing too much emphasis on economics and ‘adaptive functionality’, which often do not capture the meanings and motivations behind Amazonian classifications or painted motifs.² Indeed, Reichel-Dolmatoff (1997: 33–34) makes it clear that Desana elders and ritual specialists have a key role to play when assigning categories:

The Desana and their neighbours classify the fauna and flora of their habitat in several different ways, using various sets of criteria, according to the specific objective of the categories to be established... The true specialists... in classificatory systems are the shamans who, because of their practical and esoteric activities, must handle enormous masses of data. To bring order into the visible and invisible universe, as conceived

by the Desana, and to make all tangible and unseen phenomena amenable to manipulation and control are tasks all shamans must cope with, and the methods and aims of classificatory systems are often a matter of discussion by shamans and elders.

The contextual fluidity in classifications makes it clear that an anthropological – as well as archaeological – approach is essential when we consider the presence, motivation and function of animal depiction in the rock art of La Lindosa.

In this paper, we analyse the representation of animals at La Lindosa within the rock art corpus but also within the zooarchaeological remains, and we explore notions of cataloguing animal species and images from both archaeological and anthropological (ethnographic, ethno-historic) perspectives. Unsurprisingly, the faunal remains *and* the rock art present a broad diversity of taxa from multiple distinct habitats, reflecting both the large ecological range of practical resource exploitation and also the ritualistic nature of the human-animal relationships for the artists and their communities within Amazonian landscapes. Furthermore, a lack of specificity and ambiguity in some animal depictions mirror and embody the fluidity of Amazonian categorisations, as found within ethnographies, highlighting the dangers of Western categorisation when interpreting rock art.

2. Overview of the region and the art

This study focuses on archaeological investigations around Cerro Azul (Fig. 2), a prominent free-standing *tepuí* (table-top hill) at La Lindosa, a 20 km long sandstone outcrop located along the Guayabero River in the northwest of the Department of Guaviare, Colombia. This region forms the border between savannahs to the north and the Amazon rainforest to the south, and is characterised by an intersection of flora and fauna between the distinctive savannah and tropical forest environments (Vriesendorp et al. 2018). Modern faunal studies in the region record a high diversity of vertebrates, including fish (89), amphibians (30), reptiles (56), birds (226) and mammals (48) (Vriesendorp et al., 2018). The present climate is warm and humid, receiving ~ 2800 mm of rain annually with a dry season from November to February and a wet

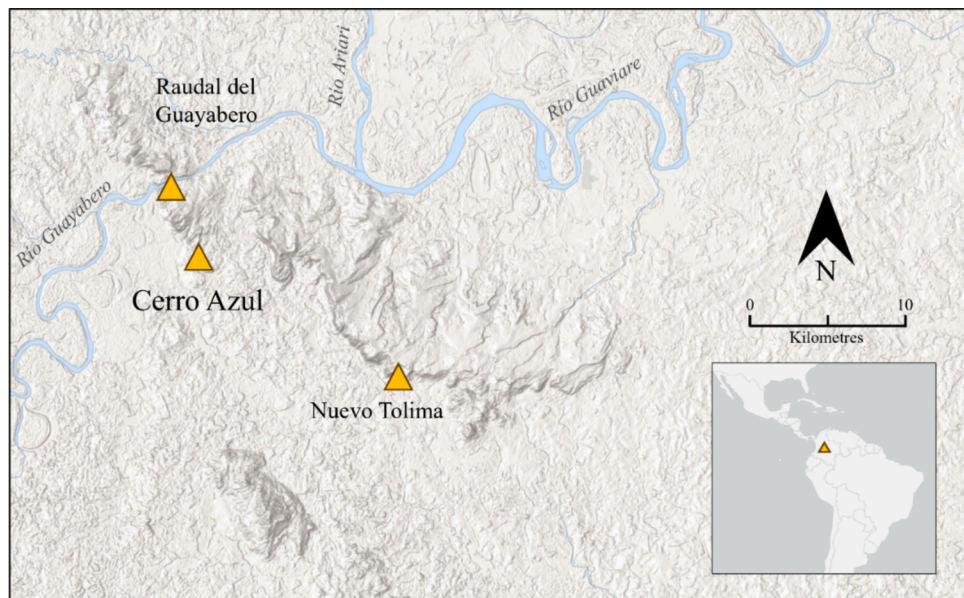


Fig. 1. Map of the location of Cerro Azul within the Serranía de la Lindosa.

² For issues surrounding etic and emic classifications – and polysemy – of rock art motifs, see e.g. Hampson 2015, and below.

season from March to October.

Although known to explorers for over 80 years (Gheerbrant, 1993), inaccessibility and political unrest has limited research activities in the region (although see (Brito-Sierra, 2015; Correal et al. 1990; Rostain

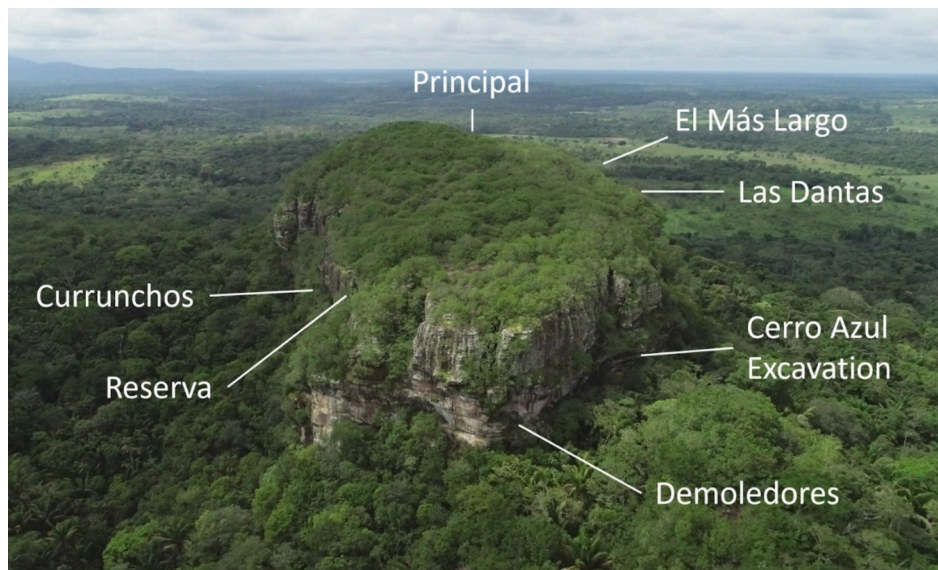


Fig. 2. Cerro Azul with the location of the rock art panels and the excavation site analysed in this study.

2019; Trujillo 2016; Urbina and Peña, 2016). After the peace agreement in 2016 between the FARC and the Colombian government, new archaeological excavations have established Late Pleistocene human contexts (ca. 12.5 ka BP) across the region (Aceituno et al. 2024; Morcote-Ríos et al. 2021). Evidence attests to the area being occupied by mobile groups engaged in a broad-spectrum economy including hunting, fishing, and plant exploitation, in which palms appear to have played a prominent role (Aceituno et al. 2024; Morcote-Ríos et al. 2021; Robinson et al. 2021).

The region has long been a crossroads and enclave for numerous Indigenous communities, including Arawakan, Cariban, Makú-Puinave, Tukanoan, Desanan, and Witoto ethnolinguistic groups (Cayón & Chacon 2014). At present, it seems that Indigenous groups are *not* creating rock art in the Serranía de La Lindosa. That said, however, we have surveyed only a small fraction of the rainforest. It is also likely that uncontacted Indigenous groups in nearby Chiribiquete National Park (the border of which is less than 100 km to the south) are still painting (Castano-Urbe, 2019; van der Hammen 2006). Importantly, there are Indigenous reservations (Nukak Makú, Jiw, Tukano and Desana) in the vicinity of La Lindosa, and several Tukano- and Desana-speakers live within the town of San Jose del Guaviare as well as close to the rock art sites. Since 2018, we have carried out interviews with Tukano, Desana, and Nukak elders in front of the painted panels; much of the information tallies with ethnographic narratives recorded in the twentieth century in other regions of the Amazon (see below, and (Hampson, forthcoming).

The rock panels at La Lindosa are painted in red ochre pigments (Iriarte et al. 2022a). Similar rock art is also found in the nearby Inírida River and Chiribiquete regions (Castano-Urbe, 2019; van der Hammen 2006), suggesting a shared cosmivision and artistic practice, albeit with distinct regional motifs. Dozens of rock art panels, in varying degrees of preservation and complexity, are present throughout the hill chains of La Lindosa, including well-known examples at Nuevo Tolima and Raudal del Guayabero. Sixteen large painted panels – with thousands of images – adorn the 400 × 150 m Cerro Azul outcrop. Ochre pieces have been recovered from the earliest occupational levels, with examples of ochre tablets with striations from grinding recovered from contexts dated to ~ 11.54 ka cal BP, and painted rock fragments from contexts dated to ~ 10.28 ka cal BP (Aceituno et al. 2024; Morcote-Ríos et al. 2021; Iriarte et al. 2022a).

3. Materials and methods

Zooarchaeological remains were recovered from excavations conducted in 2017 at the Cerro Azul Excavation site, a dry rockshelter on the western side of the Cerro Azul outcrop (Fig. 2), the results of which are reported in Morcote-Ríos et al. (2021). The excavations covered a 12 m² area which was excavated to a maximum depth of 110 cm below surface. Zooarchaeological analysis focused on materials identified in the deepest excavation units, Units A, B, M, and N (4 m²). Radiocarbon dating indicates this rockshelter's use spans from ~ 12.16–0.39 cal ka BP (Aceituno et al. 2024). Charred faunal remains were found in association with worked lithics, ochre fragments, and charred botanical remains. Despite heavy fragmentation the faunal bones exhibit evidence of cut marks and bone modification, all clearly indicating the material's anthropic origins. Faunal remains were identified to the highest possible taxonomic resolution (i.e. species level, where possible). Faunal bone preservation is rare in the region and both cultural and taphonomic processes bias preservation and potential species representation.

Six of the rock art panels at Cerro Azul were chosen for systematic analysis. Currunchos, Demoledores, Las Dantas, El Más Largo, Principal, and Reserva (Iriarte et al. 2022a) (Fig. 3). The selected panels provide a range in location (Fig. 2), size, and number of images, as well as being relatively well-preserved and (importantly for this study) accessible for drone photography to enable photogrammetry of the panels. All painted images within the continuous surface of each panel and which could be captured by drone photography were included in the analysis. Las Dantas (panel size ca. 20x10 m) and El Más Largo (ca. 40x10 m) are large rockshelters, with 998 and 1031 images respectively. Principal (ca. 10x6 m) is a relatively condensed panel, with a high density of well-preserved motifs (244). Currunchos (ca. 15x4 m) has a low density of images (153) and access requires a tricky traverse around a rock ledge from inside a cave mouth. Demoledores (ca. 8x2.5 m, 171 images) is a concave alcove with a stunning vista over the rainforest. Access to Reserva (ca. 30x3 m, 244 images) requires strenuous climbing and the use of ropes. All the panels include a narrow flat staging area (2–5 m) in front of the rock face, followed by a near vertical drop off down the hill.

Attempts to directly date the images are ongoing. As such, and because we have not yet been able to chronologically separate images with any degree of confidence, we do not discuss potential chronological changes or sequences in animal representation in the artwork. The presence of processed ochre pigments throughout associated stratigraphy, dating from circa 12 ka BP to 500 years ago, suggests paintings

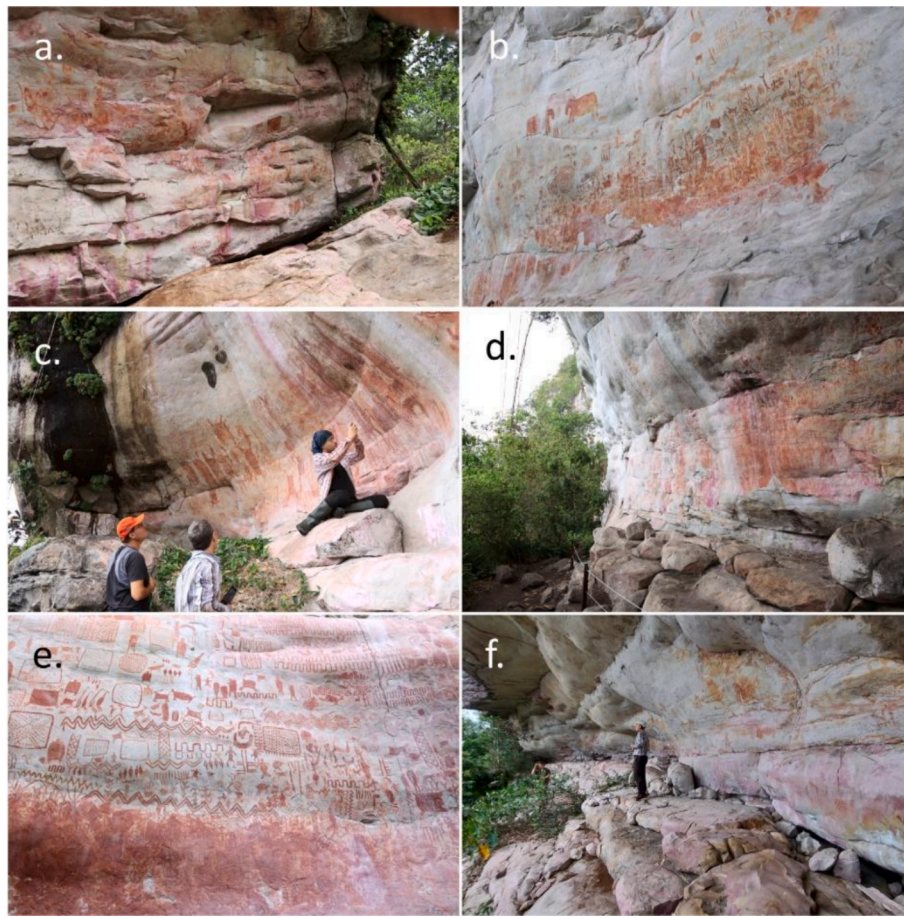


Fig. 3. Photos of the rock art panels at Cerro Azul: a. Currunchos, b. Las Dantas, c. Demoledores, d. El Más Largo, e. Principal, f. Reserva.

may have been made since the late Pleistocene (Aceituno et al. 2024; Iriarte et al. 2022).

Using photogrammetry from drone and traditional photography, a 2D and 3D stitch of each of the panels was created; each panel was then analysed using GIS software (ArcGIS Pro), applying an arbitrary coordinate system with relative x and y coordinates allocated to each panel image, enabling cataloguing of the images (assigning a unique identifier number), while capturing relative spatial data.

All visible images were categorised, although, as outlined above, we recognise the inherent issues of subjectivity and ambiguity within any form of art interpretation. Classifications are subject to change as understanding of the artistic tradition increases. Firstly, images were assigned to one of four broad categories: Figurative, Geometric, Abstract, and Unknown. Geometric motifs, incorporating repeated basic shapes, are common in the region, with a range of forms and designs that can be both bounded or unbounded. Importantly, we acknowledge that for Amazonian groups, animals are often manifested in artwork as geometric designs, for example, zig-zags and undulating lines can represent snakes, while a scroll design may invoke a jaguar's spots (Iriarte et al. 2022a; see also Hampson, forthcoming). The Abstract category includes irregular non-figurative or geometric images, whereas the Unknown category encompasses images that cannot be clearly identified, typically due to poor preservation.

The Figurative category (the most important for this paper) includes the sub-categories: humans, animals, schematised, handprints, flora, and objects. Schematised images primarily consist of those that are an abstraction from a human or animal form that incorporates distinctly 'non-realistic' elements (this does not include the therianthrope merger of animal and human physical features, which are included under Animals – see below). A common schematised motif, for example, is a series

of vertical lines that lack defined human physical features, but suggest human figures through the addition of what might be disproportionately short or large limbs. A future study will explore these images in greater depth. The Objects category includes images that show a distinct, well-defined form, which appears to represent a material object. Images classified as animals (the focus of this study) were further categorised and assessed for specific attributes. As with the faunal remains, depictions of animals are assigned to the finest possible taxonomic level. Within this study, due to the focus on animal representation, the subjectivity in classification, and the fluidity between animals and humans in Indigenous ontologies, potential therianthropes (part human, part animal figures) have been classified by their animal component for quantitative analysis. However, we do highlight potential therianthropes in the results and explore ethnographic and ethnohistoric approaches to human-animal transformations.

4. Results: Faunal remains

Preliminary analysis of faunal remains from Cerro Azul revealed no significant diachronic changes in faunal distribution from the Late Pleistocene to the Late Holocene (Morcote-Ríos et al., 2021); therefore, here we present the assemblage as a whole. The analysis focused on number of identified specimens (NISP; Table 1) and found that fish like Cachama (*Piractus* sp.), piranha (*Pygocentrus* sp.), and catfish (*Doradidae*) accounted for 58.8 % of the assemblage. Mammal species made up 33.4 % of the assemblage by NISP and included armadillo (*Dasypus* sp.), deer (*Cervidae*), agouti (*Dasyprocta* sp.), and capybara (*Hydrochoerus hydrochaeris*). Reptiles account for 5.5 % of the assemblage, with representation of turtles (*Testudines*), iguanas (*Iguana* sp.), snakes (*Viperidae*, *Boidae*, and *Serpentes*), caimans and crocodiles

Table 1

Zooarchaeological identifications, their habitats, and the presence of taxa in the rock art panels discussed in the manuscript.

Order	Family	Binomial	Common Name	NISP	Present in Rock Art	Ecological Info
Mammalia				4816		
Artiodactyla	Cervidae	Cervidae indet.	Deer	60	X	Crepuscular. Forests and Savannahs.
Artiodactyla	Cervidae	<i>Odocoileus virginianus</i>	White-tailed deer	29	X	Crepuscular. Forests and Savannahs.
Carnivora	Procyonidae	<i>Nasua nasua</i>	Coati	1	X	Diurnal. Terrestrial. Diverse forested habitats.
Carnivora	Canidae	Canidae indet.	Domestic dogs or South-American canids	–	X	Diurnal. Terrestrial. Diverse habitats, including forests and savannahs.
Carnivora	Felidae	Felidae indet.	Felids	–	X	Varies from diurnal to nocturno-crepuscular. Diverse habitats, including forests and savannahs.
Chiroptera	–	Chiroptera indet.	Bats	–	X	Nocturnal. Aerial.
Cingulata	Dasyopodidae	<i>Dasyops</i> sp.	Armadillo	4388	X	Nocturnal. Terrestrial.
Didelphimorphia	Didelphidae	Didelphidae indet.	Opossums	13	–	Nocturnal. Arboreal.
Perissodactyla	Tapiridae	<i>Tapirus terrestris</i>	Tapir	–	X	Terrestrial. Diverse habitats, including forests and savannahs.
Primates	Atelidae	<i>Lagothrix lagothricha</i>	Common woolly monkey	1	X	Diurnal. Arboreal.
Rodentia	–	Rodentia indet.	Rodent	260	–	–
Rodentia	Cuniculidae	<i>Cuniculus paca</i>	Paca	1	X	Nocturnal. Terrestrial. Habitats near water.
Rodentia	Caviidae	<i>Hydrochoerus hydrochaeris</i>	Capybara	4	–	Terrestrial/semi-aquatic. Habitats near water.
Rodentia	Dasyproctidae	<i>Dasyprocta</i> sp.	Agouti	40	–	Diurnal. Terrestrial. Diverse habitats, especially forests.
Rodentia	Sciuridae	<i>Sciurus</i> sp.	Squirrel	4	–	Diurnal. Terrestrial. Forested habitats.
Rodentia	Echimyidae	<i>Proechimys</i> sp.	Spiny rat	15	–	Nocturnal. Terrestrial. Common in dryland forests.
Rodentia	Erethizontidae	<i>Coendou prehensilis</i>	Brazilian porcupine	–	X	Nocturnal. Arboreal. Lowland forests.
Reptilia				793		
Crocodylia	–	Crocodylia indet.	Crocodile, alligator, or caiman	609	–	Semi-aquatic
Crocodylia	Alligatoridae	Alligatoridae indet.	Alligator or caiman	3	X	Semi-aquatic
Testudines	Kinosternidae	Kinosternidae indet.	Mud turtles	1	X	Aquatic and semi-aquatic
Testudines	–	Testudines indet.	Turtles	35	X	–
Squamata	–	Squamata indet.	Indet. Lizards or Snakes	29	–	–
Squamata	Teiidae	–	Ground lizards	1	X	–
Squamata	Iguanidae	<i>Iguana</i> sp.	Iguanas	33	–	Diurnal. Terrestrial and Arboreal. Habitats near water.
Squamata	Serpentes	Serpentes indet.	Snake	68	X	Terrestrial and arboreal
Squamata	Viperidae	Viperidae indet.	Vipers	1	–	Terrestrial and arboreal
Squamata	Boidae	Boidae indet.	Boas	13	–	Terrestrial and arboreal
Actinopterygii and Chondrichthyes (Fish)				8485		
–	–	Actinopterygii indet.	Fish	7938	X	Aquatic
Characiformes	Cynodontidae	Cynodontidae indet.	Dogtooth characins	61	–	Aquatic
Characiformes	Cynodontidae	<i>Hydrolycus</i> sp.	Payara	8	–	Aquatic
Characiformes	Curimatidae	<i>Curimatella</i> sp.	Toothless characins	2	–	Aquatic
Characiformes	Serrasalminidae	Serrasalminidae indet.	Pacu or piranha	72	–	Aquatic
Characiformes	Serrasalminidae	<i>Pygocentrus</i> sp.	Piranha	32	–	Aquatic
Characiformes	Serrasalminidae	<i>Piaractus</i> sp.	Pacu	328	–	Aquatic
Osteoglossiformes	Osteoflossidae	<i>Arapaima</i> sp.	Arapaima, pirarucu, or paiche	1	–	Aquatic
Perciformes	Cichlidae	Cichlidae indet.	Perch-like fish	1	–	Aquatic
Siluriformes	Doradidae	Doradidae indet.	Thorny catfishes	14	–	Aquatic
Siluriformes	Doradidae	<i>Platydoras</i> sp.	Thorny catfishes	26	–	Aquatic
Siluriformes	Pimelodidae	<i>Pseudoplatystoma</i> sp.	Long whiskered catfishes	2	–	Aquatic
Myliobatiformes	Potamotrygonidae	<i>Potamotrygon motoro</i>	Freshwater stingray	–	X	Aquatic
Amphibia				–		
Anura	–	Anura indet.	Frogs	–	X	–
Aves				1		
Pelecaniformes	Ardeidae	Ardeidae indet.	Egret	1	X	Diurnal. Aerial. Habitats near water.
Bivalvia				326		
Unionida	Mycetopodidae	Mycetopodidae indet.	Freshwater pearly mussels	326	–	Aquatic

(Crocodylia). Fragmented freshwater bivalves were also identified, making up 2.3 % of the assemblage by NISP. The diverse zooarchaeological assemblage indicates the use of a broad spectrum of animals associated with a variety of ecosystems including aquatic environments, flooded forests, *terra firme* forests, and savannahs (Table 1). The identified taxa are commonly eaten by Indigenous Amazonian groups from

the local region (e.g., see Cabrera, Franky & Mahecha 1999; Politis 2007; Politis & Saunders 2002).

We assume NISP figures underrepresent the use of larger mammals because of high fragmentation. The Cerro Azul zooarchaeological remains are intensely fragmented; most bone fragments measure less than 10 mm. As bones become more fragmented, NISP will initially increase,

and then decline once fragments are no longer identifiable (Marshall and Pilgram 1993). The minimum size necessary for a fragment to remain identifiable varies by taxa and element; larger elements, and by extension larger animals, require larger fragments to be identified (Lyman and O'Brien 1987). Put simply, medium- and large-bodied animals are more likely than smaller animals to become analytically absent in assemblages which have been intensely fragmented. As a result, we assume that the relatively low representation of larger-bodied taxa such as tapir, deer, and peccary does not mean that they were absent from the La Lindosa diet (although see discussion below for ethnographic taboos for the consumption of some large mammals).

To assess the impact of fragmentation on species identification, we weighed all bone fragments by taxonomic class (mammal, fish, reptile, or bird). Bivalve shells were excluded as they were too delicate to be handled, but the total weight of the shell fragments is estimated at less than 0.1 g. Fragments of indeterminate taxonomic class were weighed as 'unidentified' but excluded from the total calculated percentages to avoid overwhelming weights of known taxa. The bone weights in Table 2 provide an alternative approach to quantifying the Cerro Azul faunal classes. When quantified by NISP, the Cerro Azul faunal assemblage is dominated by fish (58.8 %). By weight however, mammal bone makes up 78.6 % of the assemblage. We therefore suggest that mammals, including medium and large-bodied species, likely formed a more significant component of La Lindosa diet than was previously recognised. Additional studies of the zooarchaeological remains are underway and will be the subject of future publications.

5. Results: Rock art images

A total of 3223 images were catalogued across the six panels (Table 3). Figurative images are the most abundant, accounting for 58.3 % of all images (1879 individual images). Figurative representation ranges from 26.8 % of all images on the Currunchos panel to 65.5 % at Las Dantas and El Más Largo. The larger panels with more total images (Las Dantas, El Más Largo and Principal) have the highest percentage of Figurative illustration (61.3–65.5 %), whereas the smaller panels with fewer total images (Currunchos, Demoledores, and Reserva) have the lowest proportion of Figurative images (26.8–32.7 %). The representation of Flora, Handprints, and Objects varies across the panels (Table 3). Here we focus on the animal representations.

Animal figures

The animal paintings (556 images in total) consist of infilled designs, with rare occurrences of outline-only drawings. Of the Figurative images, the proportion of human and animal images varies greatly amongst panels (Table 4). Animals account for 56.1 % of all the Figurative images at Currunchos and just 21.3 % at El Más Largo. In comparison, Human representation ranges from just 7.3 % of the Figurative images at Currunchos to 32 % at Las Dantas.

We created 23 categories of animals in the six panels at varying taxonomic resolution, including an *Unknown Quadruped* category of non-diagnostic quadrupedal animals (Table 4; Fig. 4). *Unknown Quadruped* (mammals and potentially some lizards) constitute a large percentage of animal depiction (44.8 % of Figurative images).

Table 2
Zooarchaeological analysis by weight.

Class	Total NISP	Weight (grams)	Percentage NISP	Percentage weight (grams)
Mammalia (Mammals)	4817	1276.55	33.40 %	78.61 %
Actinopterygii (Bony Fish)	8485	283.22	58.83 %	17.44 %
Reptilia (Reptiles)	793	64.12	5.50 %	3.95 %
Aves (Birds)	1	0.05	0.01 %	0.00 %
Mollusk	326	–	2.26 %	–
Unidentified	67,075	1439.01	–	–

Despite fish bones accounting for 58.8 % of the faunal NISP, fish are rarely depicted in the art, appearing at only two panels and accounting for just 2.5 % of the Figurative images. This number is reduced (to 1.3 % of Figurative images) when considering that eight of the ten fish depicted at El Más Largo are clustered together as part of what appears to be a well-defined single scene.³

Mammals dominate the imagery – accounting for 71.6 % of the Figurative paintings – and are also a major component of the zooarchaeological assemblage (33.4 % of NISP, 78.6 % of weight). Deer are the most represented animals in the rock art, accounting for 11.5 % of the animal images (this number is likely higher, as many of the *Unknown Quadrupeds* may also represent deer) – yet they only account for 0.62 % of the zooarchaeological NISP. Despite armadillos being the most represented faunal remains (30.4 % of NISP) (largely reflective of the preferential preservation and identifiability of the osteoderms), depictions in the artwork are limited to a single tentative identification (Fig. 4a). Conversely, the absence of some of the painted animals from the zooarchaeological record – such as amphibians, arachnids and bats – might be in part due to their low nutritional value, culinary preferences, human-animal relationships, and cultural taboos, as well as poor preservation (Ross et al. 1978; Politis 2007; Politis & Saunders 2002), whereas their presence in the art strongly implies their important roles in human/animal relationships.⁴

Animals are represented individually and in groups. They are shown both 'statically' (i.e., standing) and 'dynamically' (e.g., running deer, leaping/transforming monkeys). Scenes of movement and/or transformation may be animated by showing the same animal in a sequence of different positions (Fig. 5d). Figures are portrayed either in profile or top-down view. Top-down view is limited to Crocodylia, lizards, turtles, stingrays, and singular instance of a porcupine. The profile image perspective is typically abstracted to show all limbs. Bats appear to be the only animal represented in portrait (face-on) view. Animals with their head to the top or head to the bottom are typically reserved for the representation of specific taxa, such as bats (head down) and Crocodylia (primarily head up). Despite the frequent occurrence of penises on human figures – many of which are erect – genitalia are almost entirely absent from animal representations (see below). Depictions of feet can be specific (including distinct toes), non-specific (lacking foot definition) and abstract (non-realistic elements). When depicted, the number of toes can greatly vary, even on a single animal (including for taxa that have the same number of toes of fore and hind legs). An image that is repeated at La Lindosa is a serpent with legs; when present, this motif is typically one of the larger images on a panel. The two sets of two legs are positioned at either end of the long, undulating, serpent body (Fig. 4n above; and see below).

Some rock art images at Cerro Azul, and indeed across the wider region, seem to incorporate both animal and human elements, suggesting the depiction of therianthropes (Fig. 6; see also Hampson, forthcoming). The Tukano-, Desana-, and Nukak-speakers who accompanied us to the rock art sites highlighted these images, discussing the fluid transformation between animal and human state (see below, and Hampson, forthcoming). Potential therianthropes are most often bipedal

³ As in many parts of the world, more work needs to be done on how scenes are identified and categorised. One of us (Hampson 2019, 2024) has previously shown that what we – as etic, Western researchers – identify as a 'scene' does not always tally with Indigenous concepts and beliefs. See below, and Hampson, forthcoming.

⁴ Notably, there is very little feline representation in the La Lindosa rock art, despite felines being apex predators and holding a prominent position in Amazonian mythology. This absence is also in stark contrast to the jaguar-rich artwork of Chiribiquete (Castano-Uribe, 2019; Castaño-Uribe and van der Hammen, 2005). Likewise, the low representation of fish at La Lindosa is in stark contrast to the art of Cerro Gavilán in the Middle Orinoco River (Scaramelli et al. 2021).

Table 3
Figurative representation in rock art at Cerro Azul.

	Currunchos	Demoledores	Las Dantas	El Más Largo	Principal	Reserva	Total	% of Total
Total Images	153	171	998	1031	626	244	3223	100
Non-Figurative Images	112	115	344	356	242	175	1344	41.7
Figurative Images	41	56	654	675	384	69	1879	58.3
Animal	23	17	203	144	154	15	556	17.25
% of Total Panel Images	15	9.9	20.3	14	24.6	6.1		
% of Total Panel Figurative Images	56.1	30.4	31	21.3	40.1	21.7		
Human	3	12	209	203	83	21	531	16.48
% of Total Panel Images	2	7	20.9	19.7	13.3	8.6		
% of Total Panel Figurative Images	7.3	21.4	32	30.1	21.6	30.4		
Schematised Human or Animal Figures	7	24	149	266	86	28	560	17.38
% of Total Panel Images	4.6	14	14.9	25.8	13.7	11.5		
% of Total Panel Figurative Images	17.1	42.9	22.8	39.4	22.4	40.6		
Handprint	0	0	88	50	51	0	189	5.86
% of Total Panel Images	0	0	8.8	4.8	8.1	0		
% of Total Panel Figurative Images	0	0	13.5	7.4	13.3	0		
Flora	1	3	4	6	10	5	29	0.9
% of Total Panel Images	0.7	1.8	0.4	0.6	1.6	2		
% of Total Panel Figurative Images	2.4	5.4	0.6	0.9	2.6	7.2		
Object	7	0	1	6	0	0	14	0.43
% of Total Panel Images	4.6	0	0.1	0.6	0	0		
% of Total Panel Figurative Images	17.1	0	0.2	0.9	0	0		

Table 4
Animal representation in the rock art panels at Cerro Azul. Brackets indicate % of images of that species from the panel.

Species	Currunchos	Demoledores	Las Dantas	El Más Largo	Principal	Reserva	Total	% of all Animal Images
Amphibian	0 (0)	0 (0)	3 (1.5)	1 (0.7)	3 (1.9)	0 (0)	7	1.3
Armadillo	0 (0)	0 (0)	0 (0)	1 (0.7)	0 (0)	0 (0)	1	0.2
Bat	0 (0)	0 (0)	0 (0)	0 (0)	8 (5.2)	0 (0)	8	1.4
Bird	0 (0)	1 (5.9)	1 (0.5)	1 (0.7)	23 (14.9)	0 (0)	26	4.7
Canid	0 (0)	1 (5.9)	15 (7.4)	5 (3.5)	3 (1.9)	2 (13.3)	26	4.7
Coati	2 (8.7)	0 (0)	9 (4.4)	0 (0)	3 (1.9)	1 (6.7)	15	2.7
Crocodylia	2 (8.7)	1 (5.9)	1 (0.5)	4 (2.8)	1 (0.6)	0 (0)	9	1.6
Deer	1 (4.3)	0 (0)	17 (8.4)	17 (11.8)	28 (18.2)	1 (6.7)	64	11.5
Feline	0 (0)	0 (0)	5 (2.5)	0 (0)	0 (0)	0 (0)	5	0.9
Fish	0 (0)	0 (0)	4 (2.0)	10 (6.9)	0 (0)	0 (0)	14	2.5
Horse	0 (0)	1 (5.9)	0 (0)	1 (0.7)	0 (0)	0 (0)	2	0.4
Lizard	3 (13.0)	0 (0)	5 (2.5)	15 (10.4)	14 (9.1)	2 (13.3)	39	7.0
Monkey	2 (8.7)	2 (11.8)	0 (0)	0 (0)	0 (0)	0 (0)	4	0.7
Paca	0 (0)	0 (0)	0 (0)	2 (1.4)	1 (0.6)	0 (0)	3	0.5
Peccary	0 (0)	0 (0)	19 (9.4)	0 (0)	0 (0)	0 (0)	19	3.4
Porcupine	0 (0)	0 (0)	1 (0.5)	0 (0)	0 (0)	0 (0)	1	0.2
Rodent	2 (8.7)	0 (0)	0 (0)	2 (1.4)	2 (1.3)	0 (0)	6	1.1
Serpent	0 (0)	0 (0)	1 (0.5)	0 (0)	0 (0)	0 (0)	1	0.2
Sloth	0 (0)	2 (11.8)	3 (1.5)	0 (0)	0 (0)	0 (0)	5	0.9
Spider	0 (0)	0 (0)	1 (0.5)	0 (0)	0 (0)	0 (0)	1	0.2
Tapir	5 (21.7)	1 (5.9)	2 (1.0)	0 (0)	1 (0.6)	1 (6.7)	10 (0)	1.8
Turtle	0 (0)	2 (11.8)	7 (3.4)	18 (12.5)	14 (9.1)	0 (0)	41	7.4
Unknown Quadruped	6 (26.1)	6 (35.3)	109 (53.7)	67 (46.5)	53 (34.4)	8 (53.3)	249	44.8
Total	23	17	203	144	154	15	556	

and are often in a 'performative' stance, in which motion is implied. For example, arms are outstretched, and fore and hind legs are on different planes. As noted above, penises, which are frequently depicted on human figures, are all but absent from animal figures; however, the only examples of penises on animal figures (1 at Las Dantas and 2 at Reserva)

are on potential therianthropes that incorporate both human and animal components.⁵

⁵ In our database, the presence of genitalia was not used as a diagnostic human indicator.



Fig. 4. Examples of animal taxa represented at Cerro Azul. a) armadillo, b) paca, c) coati, d) amphibian, e) tapir, f) stingray, g) feline, h) turtle, i) deer, j) crocodile/caiman, k) monkey, l) porcupine, m) horse, n) serpent with legs, o) lizard, p) deer, bat, spider, aquatic birds, q) sloth, r) canid.

6. Discussion

The taxonomic identification and classifications of fauna *and* rock art images are essential components of documenting an archaeological culture, and the intertwining of the two research strands provides an important line of insight into past practices, human-animal relationships, and the presence or absence of past species. Taphonomic processes and complex emic worldviews, however, mean that rigid quantitative analyses can be misleading and therefore misrepresent Indigenous ontologies. While taxonomic identification does provide evidence of the presence and utilisation of specific species in the past, the zooarchaeological assemblage is inherently biased due to preservation processes that often result in the underrepresentation of specific types of taxa (see results above). Recognition of the limitations of a zooarchaeological assemblage is of course essential to avoid false assumptions, but it should not negate the undertaking of heuristic research into past behaviours and lifeways. Likewise, we report the relative proportions of specific taxa depicted in the artwork at the same time as acknowledging that, by themselves, these proportions do not lead to discovery of the motivations behind, or meanings of, the animal paintings. Art is both a reflection and manifestation of cultural beliefs as well as a tool for conveying thoughts and ideas. Pigment procurement, artistic style, composition, and the choice of subject matter are

embedded within social norms and ontologies, and attempts at taxonomic identification of rock art not only highlight the core fluidity in Indigenous categorisations but also remind us that the unambiguous ‘specificity’ of an image (from a Western point of view) was not necessarily the goal of the original artist.

Throughout the Americas there are numerous ethnographic texts which make clear that painted motifs were and are powerful things in themselves; indeed, the word for pigment is often synonymous with the word for ‘potency’ or ‘supernatural spirit’ (e.g. [Hampson 2015](#); [Hugh-Jones 2016](#); [Hultkrantz 1987](#): 94; [Laird 1976](#): 123; [Stoffle et al. 2011](#): 14). In addition, we know that taxonomic specificity was not always the goal of Indigenous artists, partly because many entities, including rock art motifs, were considered to be ‘emergent’, or in the ‘process of becoming’; to many Indigenous groups, processes were and are as important as the final product, if not more so (e.g. [Whitley 2021](#); see also examples in [Hampson et al. 2022](#)). [Reichel-Dolmatoff \(1997](#): 36) points out that ‘Desana classificatory thought is not so much concerned with morphological characteristics as it is with meanings and relationships’, and also that ‘Tukanoan decoration is not mimesis; the Indians do not copy life-forms from nature’ ([Reichel-Dolmatoff 1987](#): 17). Similarly, Tukanoan ‘artistic and technical skill and perfection are not of the essence. An artifact may be ill made; a dance may be clumsily executed or a person may have a poor singing voice. What counts is ... meaning.

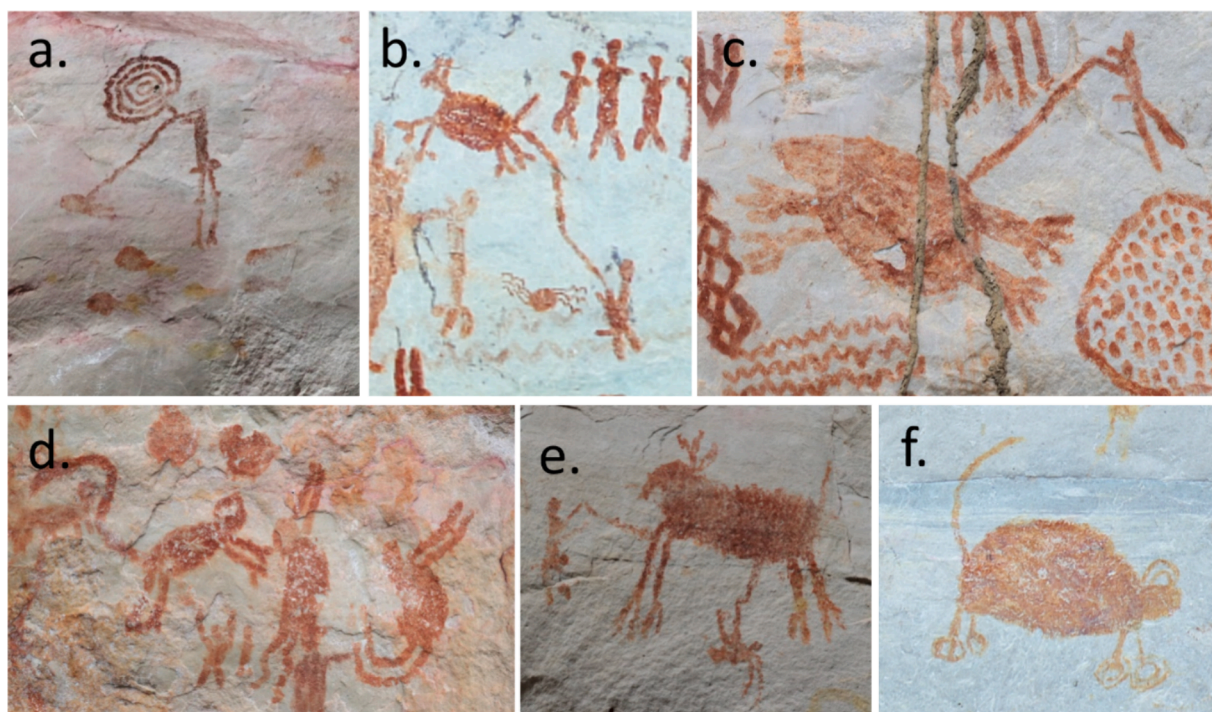


Fig. 5. Images of potential a) fishing; b, c, e) hunting; d) monkey leaping/transforming sequence; f) and an unknown animal with circular feet and curved head elements.

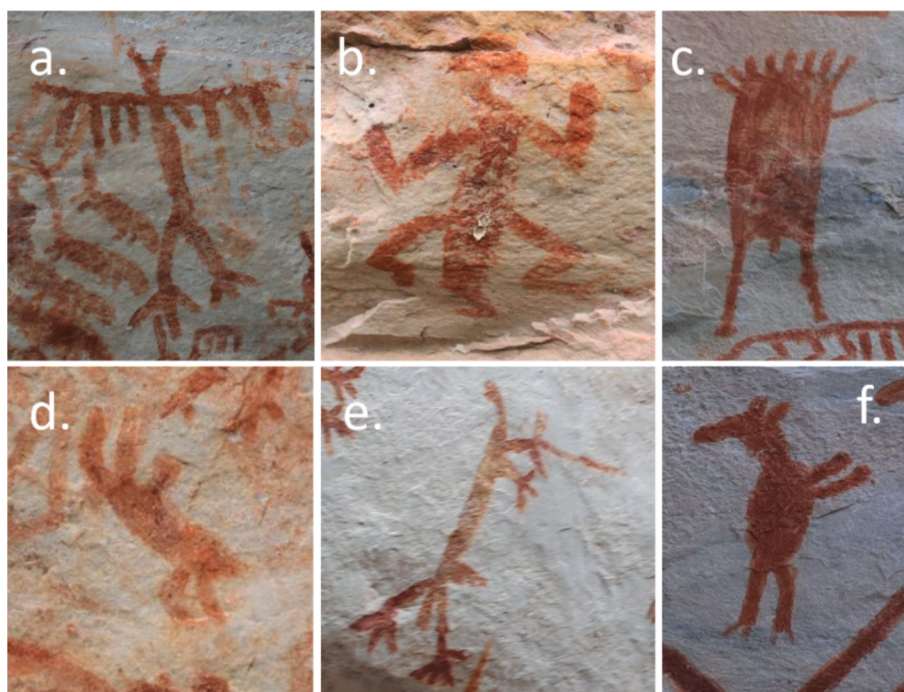


Fig. 6. Potential therianthrope images, as suggested by Indigenous informants: a) avian/human at Las Dantas, b) lizard with round, human-like head at Currunchos, c) bird/plant/human with penis at Principal, d) sloth/human at Demoledores, e) Unknown quadruped with tail and penis at Reserva, f) Deer/human at Principal.

Artistic excellence should never become a goal. In fact, shamans warn people not to be too form-perfect; not to be too impressed by appearances' (Reichel-Dolmatoff 1987: 17). The animal figures at La Lindosa appear to mirror and embody these concepts, with the action and presence of image painting of greater concern than conveying the specifics of the animal (see below). Although direct statements concerning rock art are extremely rare (cf. Hampson 2015; Lewis-Williams 2002;

Whitley 2021), it is nonetheless possible to interpret some of the rock art by referring to practices associated with rock art production and consumption.

Animal depiction

The representation of animals in both the faunal and art assemblages reflects a wide diversity of habitats and activity cycle (nocturnal, diurnal), providing evidence of broad resource knowledge and

acquisition practices, as well as a holistic conceptual and socialised framework underlying the selection of painted motifs. Occupants of Cerro Azul and local environs hunted and depicted animals that occupied diverse ecological niches (e.g. aquatic fish, arboreal monkeys, terrestrial deer, aerial birds), with nocturnal (e.g. bats, armadillo, tapir) and diurnal (e.g. monkey, coati, canine) activity patterns. Unsurprisingly, the Indigenous occupants of Cerro Azul had intimate knowledge of the various habitats in this ecotonal region, including the *terra firme* tropical forests, flooded-forests, savannahs, and riverine and aquatic systems; they possessed the relevant skills to track and hunt animals and harvest plants from each ecosystem as part of a broad subsistence strategy, as evidenced by the zooarchaeological and archaeobotanical analyses (Aceituno et al. 2024; Morcote-Ríos et al. 2021; Robinson et al. 2021).

Despite the fact that painting a specific motif numerous times does not necessarily make that motif more significant or meaningful, it is important to recognise that over half of all the images at La Lindosa are figurative. As stated above, differences in the relative proportional representations of figurative motifs between panels do not necessarily demonstrate differing principles or motivations for the production of rock art in the region – especially because we are not yet able to distinguish meaningful chronological sequences – but it is interesting to note that there is a larger percentage of figurative motifs on the panels with higher numbers of overall images. Analysis of more panels, including potential direct dating of images — alongside ethnographic texts and ethnohistory — is needed to determine whether this higher proportion of figurative images on the larger panels is a significant, meaningful pattern beyond mere numbers.

The distribution of specific taxa across panels also shows some notable patterns. Bats are only present at Principal, where they are a distinctive feature alongside a range of bird figures. Of the 26 avian figures (not including bats), 23 are found at Principal, with sole examples at Demoledores, Las Dantas, and El Más Lago. Felines (5) are only present at Las Dantas, and fish are only present at Las Dantas and El Más Lago. While we are unable to determine the significance of species' presence and absence at particular panels at this stage, the data do raise questions over the specific functioning and polysemous meanings attached to individual panels, as well as the control over image selection and depiction (see Hampson, forthcoming).

As mentioned above, there is a wide variation of the level of anatomical specificity in animal depictions, and, as with many rock art traditions worldwide, when the artists at La Lindosa wanted to unambiguously depict an animal, they did so. It seems that many images at La Lindosa – and indeed rock art corpuses elsewhere (see examples in Hampson et al. 2022) – were deliberately painted *without* diagnostic features.⁶ Moreover, artists could and did often choose to accentuate certain features to increase the potency of a particular motif (e.g. Hampson 2015, 2016; Keyser & Whitley 2006). Classificatory ambiguity in taxa (from a non-Indigenous perspective) also stems from the fact that animistic ontologies are fluid and polysemous; unsurprisingly, we see human/animal therianthropes and other motifs at La Lindosa depicting transformative states (Fig. 6; Iriarte et al. 2022a; Langdon 2017; Riviere, 1994; Viviros de Castro 1998; Wright 2013; see also Hampson, forthcoming; Moro-Abadía & Porr 2021; Pilaar Birch 2018).

Diet?

The lack of correlation between diet and depictions of animals is common across a wide range of rock art traditions around the world (Fiore & Zangrando 2006; Laming-Emperaire 1957, 1962; Leroi-Gourhan 1965; Lewis-Williams 2002; Valenzuela et al. 2015; Vinnicombe 1976; Whitley 1994, 2004). Scenes of food preparation and

consumption are not depicted in La Lindosa rock art, and as mentioned above, the images do not directly correlate with dietary evidence from the zooarchaeological assemblage. Although most of the taxa in the zooarchaeological assemblage are represented in the artwork, far more taxa are painted than recovered in the zooarchaeological assemblage, and the abundance of specific animal bones does not correlate with the proportion of painted species (although see above for representation biases in the zooarchaeological assemblage). While the low representation of larger mammals in the zooarchaeological assemblage may be related to the lack of preservation of identifiable bone fragments, it is worth noting that hunting taboos for multiple Amazonian groups generally avoid these larger mammals, in part due to the relative and perceived quality and flavour of the meat, but also due to the symbolic relationships with these animals, whereby hunting and consumption are mediated by the ideational domain (Politis 2007; Reichel-Dolmatoff 1997; Yoamara et al. 2020). The larger animals are often perceived to be more sacred and more potent because they embody spirit-ancestors (Politis 2007). For example, in a complex and multi-stranded relationship, the tapir is incorporated into Tukano ontology and genealogy as an ancestor, with this relationship guiding interactions (Reichel-Dolmatoff 1997). These kinds of relationships are also found within Amazonian ontologies in Brazil, Venezuela, and Colombia, where the consumption of some primates, as well as tapir, is restricted because they are believed to be members of the family and/or ancestors (Yoamara et al. 2020).

Food restrictions can also affect different sectors of society in different ways. In particular, children and women are often more restricted than men when it comes to the consumption of certain animals, with specific life events, such as pregnancy, invoking further restrictions. For example, for the Nukak of Colombia, peccary is taboo to most women, but commonly hunted and consumed by men (Politis 1996: 257).⁷ Farther south, Fiore and Zangrando (2006: 384) investigate the importance of the fish-related *kina* ceremony in Tierra del Fuego, in which men 'controlled' women through the ceremonial embodiment of spirits. The importance of this ritual meant that a certain fish species – the Patagonian blennie – was not caught or eaten, despite its high nutritional value. Indeed, as Valenzuela et al. (2015: 251) state, 'the wide spectrum of animal uses covers diverse spheres of biological, social and cultural life'. The potential manifestation of the relationships between specific sectors of society and animals in artistic imagery requires further exploration.

Hunting?

Animal tracks are absent in the art at Cerro Azul, and foot depiction often lacks definition or consistency in the number of digits, suggesting a stylistic and cultural choice rather than the representation of key anatomical information that could aid a hunter.⁸ Circular foot and head elements (primarily restricted to images at El Más Largo) have been suggested to represent the armour of European war dogs (Urbina and Peña, 2016), although the feature appears on a range of quadrupedal animals and is not limited to canid images (Fig. 5f). All this strongly strengthens the hypothesis that the Cerro Azul artwork was *not* simply a means of depicting activities associated with everyday animal hunting, processing, or eating (although hunting scenes do appear to be present); as attested by ethnographies, hunter-prey relationships are embedded within complex social institutions (see sections below).

At Las Dantas, a male figure appears to be hunting a quadruped with a long spear (Fig. 5c). Nearby (on the same panel), two other 'scenes' show similar interactions with a canid (Fig. 5b) and a deer. A further image at El Más Largo depicts two humans connected to an oversized deer, which may indicate a group hunt (Fig. 5e). As with all the motifs at

⁶ Of course, some images considered to be lacking in diagnostic features and/or 'unintelligible' to Western researchers (i.e. from an etic perspective), would have been, and indeed are, intelligible to Indigenous groups (see Hampson 2024; Hampson, forthcoming).

⁷ For information on tapir and peccary taboos, see Ross et al. 1978; Reichel-Dolmatoff 1997; Politis 2007; Politis & Saunders 2002.

⁸ For more on polymelia and rock art, see e.g. Hampson 2016. There is also the possibility that depictions of feet are analogous to animal tracks (see e.g. Devlet et al. 2015).

Cerro Azul, these scenes are not necessarily literal, and the lines connecting humans and animals may also represent spiritual connections and a symbolic hunter-prey relationship (see Hampson, forthcoming; Keyser & Whitley 2006; McGranaghan & Challis 2016; Reichel-Dolmatoff 1967, 1976; Stewart & Challis 2023). Moreover, as Furst and Furst (1981: 262) point out, the Desana ‘seek to assure continued balance between their needs and the environmental possibilities by supernatural means. Hunting is thus as much a matter of ideological determinants as of economic ones.’ However, as discussed below, the use of art in the negotiation with spirits in relation to hunting activities makes these images particularly compelling.

At El Más Largo, there are two instances of a male human figure using a line to hook a single fish. Next to the human figure is a large concentric circle element at head height (Fig. 5a). A third scene nearby includes a male with the circular element but without the line or associated fish. The meaning behind the concentric circle element is unknown, but it might indicate a method of fishing and/or be connected to ritual specialists and altered states of consciousness; we know from ethnography and from the testimony of local informants that fish and fishing play an integral role in Indigenous ontologies (e.g. Ballester 2018; Hampson, forthcoming; Reichel-Dolmatoff 1987, 1997).⁹

Ethnography, animism, and the Master of Animals

Given that Indigenous groups rarely utilise binary divisions (such as sacred:mundane, nature:culture, real:unreal) (Bird-David 1999; Descola 1996; 2012; Harvey 2014; Vivieros de Castro 1998), it should come as no surprise that human-animal interactions are woven into a complex web of relationships, drawing heavily from symbolic and cosmological associations (Arhem 1996; Cayón & Chacon 2014; Fernández-Llamazares & Virtanen 2020; Reichel-Dolmatoff 1967, 1978, 1987, 1997).

A case in point is the depiction of serpents at Cerro Azul, some of which have legs, and plumes on their heads (see Fig. 4n above) – features which, in ‘Western’ categorisation systems, might be placed in the ‘non-real’ category. Importantly, there are numerous ethnographic accounts (e.g. Hugh-Jones 1979; Reichel-Dolmatoff 1978, 1997) from Amazonia that include large snakes – often anacondas – as ancestral creator beings, often glossed as ‘snake-canoes’. These potent beings are found within animistic and shamanistic frameworks and, as in other parts of the Americas, are connected with waterways, the sky, and the underworld (Hampson, forthcoming). Artists did not depict them simply because they were ‘good to eat’, or because they saw them in the ‘real’, everyday world.

Indeed, the natural and supernatural worlds across Amazonia were and are fluidly integrated, and animals are endowed with human-like characteristics and behaviours (Politis & Saunders 2002). Animals may embody or contain the spirit of ancestors, with the three largest mammals of the forest, tapir, jaguar, and deer, particularly revered as spirit-animals, and being ‘like people’ (Bird-David 1999; Descola 1996; Politis & Saunders 2002; Reichel-Dolmatoff 1997; Vivieros de Castro 1998). Conflation of, and transformation between, animal and human states (including one animal species to another animal species) is a common component of Amazonian cosmologies, with numerous myths featuring transformation within and between a wide array of animal species (Bird-David 1999; Descola 1996; Iriarte et al. 2022a; Reichel-Dolmatoff 1997; Vivieros de Castro 1998). Furthermore, and as with many classification schemes, context can and does greatly alter the assigned characteristics and meaning. A Tukanoan hunter’s account, for instance, notes that there are two types of tapir: the zoological animal, and one that has been transformed from a human (Reichel-Dolmatoff 1997). Indigenous taxonomic systems often can and do embed a distinction in context that assigns the appropriate meaning to an animal. Indeed, symbolic relationships between Amazonian groups and tapirs ‘develop on several different levels and use many different images’

(Reichel-Dolmatoff 1997: 81). Tapir is sometimes equated with Thunder, a powerful being who lives in the sky; in several myths, the first Desana take narcotic snuff and visit Thunder ‘by climbing up to the sky on a column of tobacco smoke’ (Reichel-Dolmatoff 1987: 81).

In many Amazonian perspectivist and animistic cosmologies, everything that grows, moves, or evolves is ‘equal to’ a human, with a soul and a social life (Santos-Granero 2009; Viveiros de Castro 1998). To this end, each living being’s physical body can be imagined as an ‘outer cover’, hiding its human form. Only other members of the same species, or special beings such as ritual specialists who cross species boundaries, can see through this external covering (or ‘clothing’). According to this Amazonian way of seeing and living, the world is inhabited by various types of beings, including humans and nonhumans, who perceive reality from different points of view. These entities, such as spirits, animals, certain plants, and even objects, are considered to have consciousness, and, like humans, the ability to reflect. Animals, therefore, are people, or see themselves as persons.

Within many Amazonian groups, human-animal relationships are mediated by Wai-maxsè, a Master of Animals and forest spirit who protects and controls animals (e.g. Fausto 2008; Fernández-Llamazares & Virtanen 2020; Reichel-Dolmatoff 1967, 1978, 1987).¹⁰ The release of game and a successful hunt requires negotiation with these spirits. Indeed, hunts are regulated by rules, restrictions, and rituals (Fernández-Llamazares & Virtanen 2020), many of which are related to fertility within an animistic ontology (see, for example, Bird-David 1999; Descola 1996; Harvey 2014; Vivieros de Castro 1998). There are several ethnographic and ethnohistoric examples of ritual specialists negotiating with the Master of Animals to release game, performing ritualised trances and visiting rockshelters to paint animals before hunts:

With a red pigment they paint on the rocky walls the animals which the hunters need, thus reaffirming their request to Wai-maxsè. Next to the figures, or within their bodies, they paint the signs which, according to the Tucano, symbolize fertility: rows of dots that signify drops of semen, lines in zigzag which signify the succession of generations, or lines which fill up the body of the animal and signify its fecundity. (Reichel-Dolmatoff 1967: 111.)

As in many animistic traditions, there are special relationships between ritual specialists, rock art, hunters, and prey (e.g. Challis 2019; Keyser & Whitley 2006; McGranaghan & Challis 2016). As Whitley (2021: 73) states, ritual specialists ‘were the necessary bridge upon which these relationships were established. That is, these relationships required the active participation of [ritual specialists] with the production of rock art a key performative element in their practices.’ The Desana word *yee* means both jaguar and shaman, for example – and there are numerous ethnographic examples in the Amazon of shamans transforming into jaguars (e.g. Reichel-Dolmatoff 1997: 140). Further work (see Hampson, forthcoming) is needed to ascertain how strong (or otherwise) these relationships might have been at La Lindosa – but the intertwining strands of evidence from local Indigenous testimonies and a variety of ethnographic sources give us confidence that the rock art here is *at least in some way* connected with ritual specialists negotiating spiritual realms and the interdigitation of human and non-human worlds.

7. A way forward?

The ways in which people value, interact, and communicate with animals are mediated by particular cosmologies and animistic world-views; unsurprisingly, these complex interactions are also embedded within resource exploitation practices and Indigenous artistic traditions (Descola 1996, 2012; Reichel-Dolmatoff 1967, 1997; Sauvet et al. 2009;

⁹ Similarly, ethnographies from Apinajé groups in Brazil include stories of shamans turning into caiman in order to ‘hunt’ women (e.g. Nimuendajú 1939).

¹⁰ This is the Tukano name for a role present across many Amazonian communities.

Viveiros de Castro 1998). The Cerro Azul artists could and did select animal images from the entire repertoire of their ontological and animistic frameworks. Similarly, the artists could and did choose from across the full range of deliberate specificity or ambiguity when painting, decisions which also allude to the diverse motivations for artistic manifestation and the complex, fluid, and polysemous relationships between humans and animals. Following this, it is clear that we should at all times take care to avoid imposing Western (and often tacit) categories or worldviews, especially those that downplay the sophisticated spirituality and ontologies of Indigenous groups. Crucially, we must remember the importance of reciprocal interactions between 'ideology, mental life (both waking and in ecstatic-visionary trances), environment, economics, social structure, ... technology, the arts and crafts, conservation of scarce natural resources, and so on. ... The implication is that where these interrelationships are not recognized, culture is distorted' (Furst & Furst 1981: 261). Looking at any of these elements in isolation is unlikely to yield meaningful or accurate conclusions about Amazonian rock art or belief systems.

A holistic approach to the rock art and larger environment of La Lindosa is clearly essential. This article has suggested how animals – including those depicted in the rock art of La Lindosa – fit within broader ontological frameworks and archaeological contexts; it lays the foundation for further exploration of one of the most spectacular – yet understudied – rock art traditions in the world.

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CRedit authorship contribution statement

Mark Robinson: Writing – original draft, Methodology, Formal analysis, Conceptualization. **Jamie Hampson:** Writing – original draft, Conceptualization. **Jo Osborn:** Writing – original draft, Formal analysis. **Francisco Javier Aceituno:** Writing – original draft, Investigation, Funding acquisition. **Gaspar Morcote-Ríos:** Investigation, Funding acquisition. **Michael J. Ziegler:** Writing – original draft. **José Iriarte:** Writing – original draft, Methodology, Funding acquisition, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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