



KEYWORDS: *Rock art – Northern Chile – Arica Precordillera – ‘Sierra de Arica style’*

ROCK PAINTINGS OF THE PRECORDILLERA REGION OF NORTHERN CHILE

Marcela A. Sepúlveda R., Thibault Saintenoy and Wilfredo Faundes

Abstract. The paper presents the findings of field research undertaken in the Arica Precordillera region at the sites of Tangani, studied by Hans Niemeyer in the late 1960s. Surveying activities led to the identification of more sites than were previously recognised, indicating intensive use of the area from the Archaic period to the recent past. Paintings from fourteen sites were analysed in regard to attributes such as the number of figures present, colours used, composition and rock support employed. The findings obtained invite a revision of the previously defined ‘Sierra de Arica style’, because the authors recognise a greater stylistic variability between the Late Archaic period (4000–2000 BCE) and Regional Development period (1000–1350 CE). Following this, possible interpretations of the different styles identified are discussed in relation to the particular socio-cultural processes occurring during each period.

During the 1960s Niemeyer (1972) surveyed and recorded a number of rockshelters containing paintings in the Arica Precordillera (foothills), later continuing this work with Schiappacasse (Schiappacasse and Niemeyer 1996). Today, with many advances made in other regions, this area, although offering one of the greatest concentrations of rock paintings in the north of Chile, remains insufficiently studied. It is therefore of special interest in the study of these visual art forms made by populations inhabiting northern Chile in pre-Hispanic times, since the Early Archaic period — approx. 8500 BCE (Santoro and Núñez 1987).

The rock paintings of the Precordillera have often been likened to those found in other regions of the south-central Andes; indeed, they share a certain ‘family likeness’ with the paintings of southern Peru (Guffroy 1999; Klarich and Aldenderfer 2001) and early Atacama puna styles such as the Kalina-Puripica, Taira-Tulán and Confluencia in Chile, from the Late Archaic period to the Formative period, also associated with a neolithisation process — approx. 1500–900 BCE (Núñez 1981, 1983, 1992; Berenguer 2004; Gallardo 2001, 2004; Gallardo and Yacobaccio 2005; Núñez et al. 2006). They are also considered contemporary to other styles, including the recently defined ‘Puntilla style’ (Aschero 2006) and the ‘Hornillos 2 style’ in Argentina (Yacobaccio et al. 2008). Nevertheless, variations in chronological attributes and interpretations do exist. Moreover, despite advances made in other regions, the

Arica Precordillera paintings have not been analysed from a stylistic perspective since the 1980s (Mostny and Niemeyer 1983; Santoro 1983; Santoro and Dauelsberg 1985). It is required to update the state of knowledge about these rock art traditions, to compare them with other styles and socio-cultural processes perceived in the rest of the south Andean area.

Until now, the Arica Precordillera paintings have been classified as examples of the ‘Arica Sierra style’ (Mostny and Niemeyer 1983: 38–42), defined as rock art produced with a polychrome painting technique and the occasional presence of petroglyphs, usually superimposed over the paintings. Situated on the walls of rockshelters, their themes and configurations consist of

associations of naturalistic camelids with small human figures, disproportionately schematic and smaller in scale than the animals. The human figures are sometimes depicted wielding bows, bows and shields or short spears, but most often they are shown as stick figures, with or without arms and legs open to, sometimes, imply movement. These human figures are displayed in a line, either face-on or in profile, making the line slightly slanted (Mostny and Niemeyer 1983: 38).

The presumed scenes seem to represent the practice of *chacu* (group hunting in which the prey is surrounded). The authors also mention that the camelids ‘are always lively, shown in profile and running, in lines or, less frequently, alone’. Anatomical features

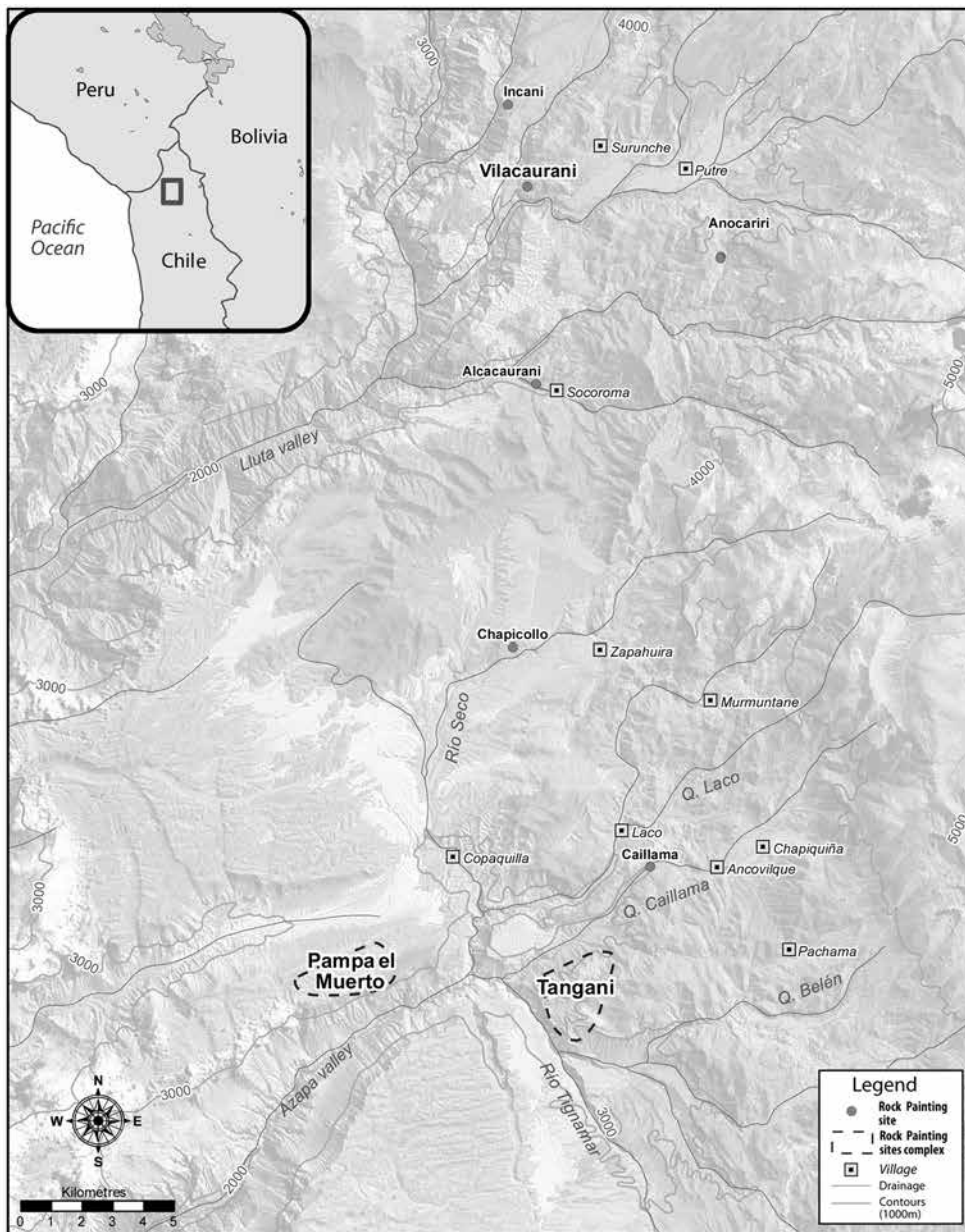


Figure 1. Map of localisation of rock art painting in far-northern Chile.

are depicted in detail, including for example hooves, and the animals are shown moving, in some cases indicated by the position of the neck, tail or ears. Lastly, the previous authors point out the lack of abstract-geometric symbols and motifs in this style. Thus, all of the aspects examined are related exclusively to attributes of form and composition.

Regarding his interpretation, Niemeyer believed that the Tangani paintings were linked to propitiatory magic rituals (1972: 100; see also Schiappacasse and Niemeyer 1996: 275). In his own words, art 'served the daily life of the community in its drive to control the forces of nature, to ensure their survival' (Niemeyer 1972: 100). The presumed depiction of hunting scenes, *chacu*, and the location of the sites in an environment favourable for camelids (both wild and domestic) support his suggestion that the paintings are associated

with propitiatory rituals related to hunting of these animals.

Forty years after Niemeyer's visits, however, it has become necessary to reassess these sites and their paintings, especially in light of the discovery in recent years of new sites with paintings (Santoro 1983, 1992; Santoro and Chacama 1982; Santoro and Dauelsberg 1985).

In this work, we present the findings of fieldwork carried out in the Tangani sector, located at the intersection of the Caillama ravine and the Tignamar River (Fig. 1). The first records of Tangani are found in Niemeyer's work (1972), mainly the findings of his fieldwork in the late 1960s, when he explored the zone while undertaking hydrological surveys on behalf of the Office of Irrigation. He surveyed, recorded and excavated the sites in April 1969. Accompanied by Václav Solz, who had re-discovered Tangani, Niemeyer recorded seven sites, with their paintings and petroglyphs, taking advantage of his trips to

dig test wells.

The present findings refer to a total of twenty-five sites, with paintings in fourteen of these, including the seven originally described by Niemeyer (1972). Taken together, the paintings, located inside several rockshelters or on rock faces, display greater stylistic variation than originally considered, making it necessary to revisit the notion that only one style existed at the regional level — the 'Arica Sierra style' (Mostny and Niemeyer 1983).

Although several authors suggest that we have entered a post-stylistic era in the study of rock art (see Lorblanchet and Bahn 1993), we think style is still a useful tool to manage a wide range of painting representations. However, we need definitions that allow us to recover the evident variability in the set of rock art paintings. Until now, in Chile and the south

Andean area, studies had prioritised the common and similar characteristics to identify rock art style (Guffroy 1999; Klarich and Aldenderfer 2001). In this way many representations are excluded from stylistic definitions. It is not a problem of methodology, but requires a necessary conceptual precision.

To this end, this study presents new stylistic groupings and representational styles, following Carlos Aschero's definition:

Style refers to something particular in the form that is produced, shared and repeated over time and space. [It is] produced by a given social sector (individual or group of individuals), may be shared by the entire society or only a segment of it. Its components maintain a strict formal coherence [...] In this regard, stylistic group refers to a chronological development, to codes transmitted from generation to generation, and displays differences that do not affect the theme or canons (2006: 110).

This definition allows us to rescue the variability, without excluding any representation, and to hone our stylistic definitions and account for all of the surviving rock art painting of the northern Precordillera region.

The attributes used in this study include formal, compositional and locational criteria. We used the number of figures, the use of colour, the composition of the panels and the type of rock support used for the paintings. Then we discuss the 'Arica sierra style', applicable only to a portion of all of the paintings identified, i.e. the most common and most homogenous. Therefore we also address the issue of stylistic variability and its relation to different socio-cultural processes of regional pre-History, from the Late Archaic period (4000–2000 BCE) to the Regional Development period (1000–1350 CE). Since we cannot yet date the rock paintings, we will use the criteria of contiguity to establish a chronological attribution

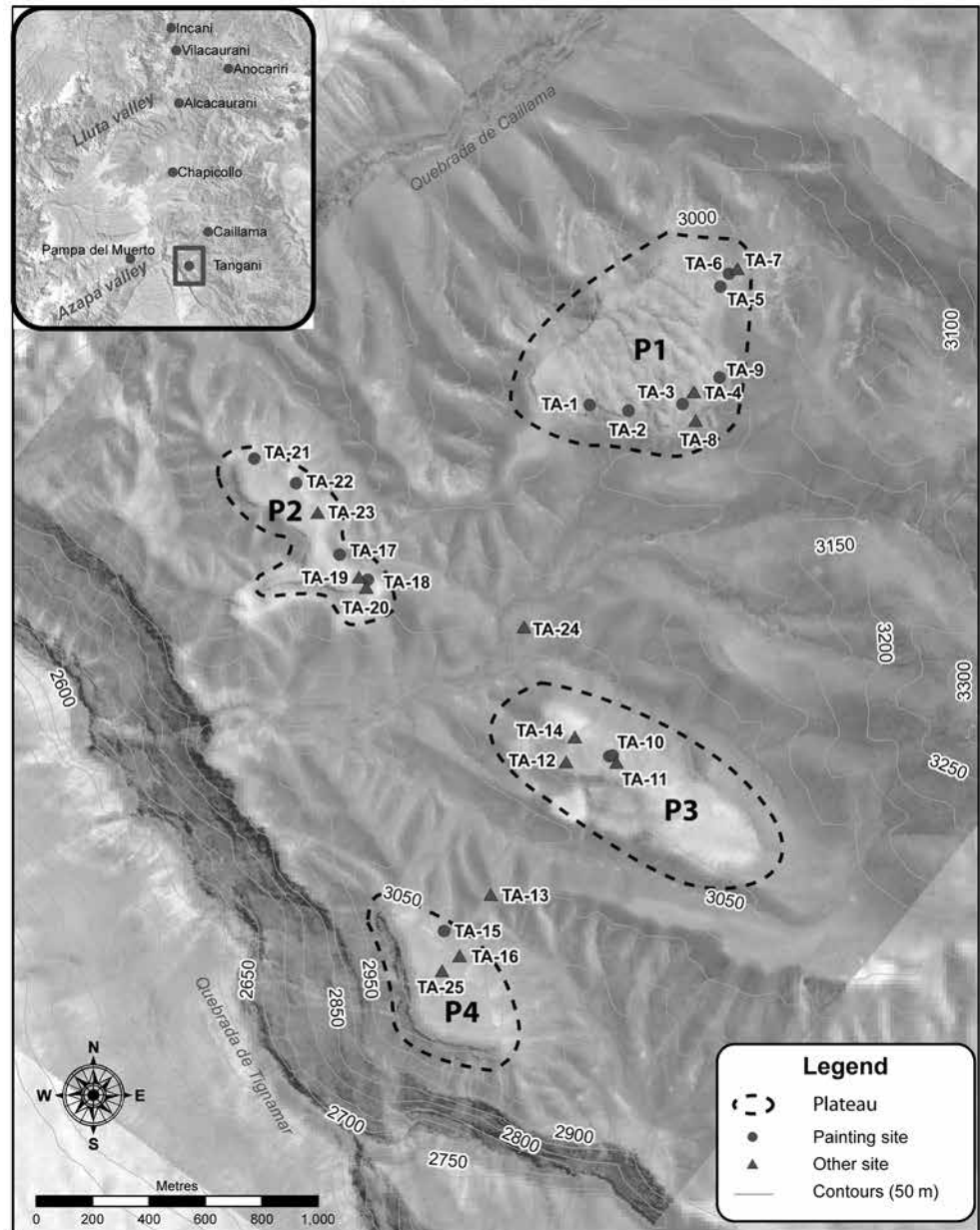


Figure 2. Map of Tangani's area with the localities of four plateaus and sites identified.

(Gallardo 1996); i.e. we date rock art based on the perceived contextual association. We also consider the recurrence of these associations and the dating obtained from this context.

Location and geographic description

The Precordillera region, or Sierra de Arica as Niemeyer (1972) called it, corresponds to a strip of land 20 to 35 km wide, located at an altitude of approximately 2000–3800 m a.s.l. (Fig. 1). The foothills are the precursors to the high Andes, which rise above 6000 m in the Arica and Parinacota region. The foothills terrain is a long plateau of tectonic and volcanic origin, with a regular and continuous surface, sloping gently to the west at an angle of around 2–3° (García et al. 2004: 11). This zone gives rise to the main rivers of the western valley sub-area, which flow in parallel lines from east to west through steep-walled valleys that

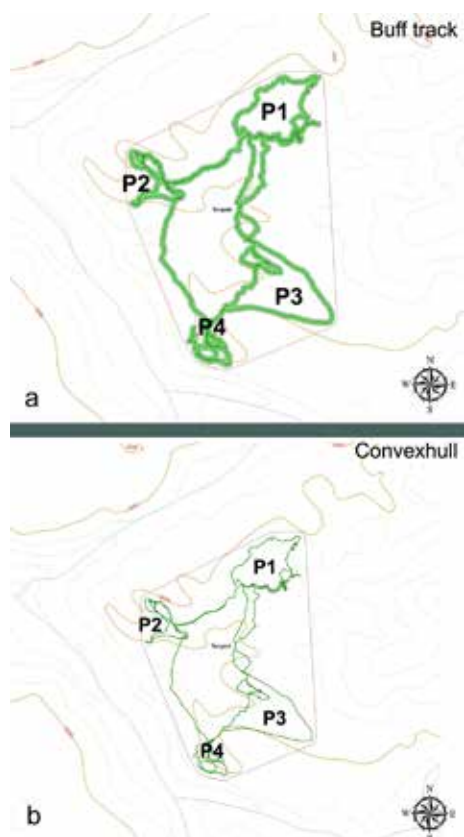


Figure 3. Map of surveyed areas.

incise the plateau, down to the Pacific Ocean. The main rivers in this part of Chile's far north include the Lluta, the Azapa and the Camarones, all of which act as natural corridors between the highlands and the coast that have been used by local inhabitants since pre-Hispanic times. In this predominantly desert landscape, these river valleys take on a special importance.

The gateway to the Andes mountains, this Precordillera zone is composed of volcanic rock overlaid by Miocene sedimentary rock (García et al. 2004: 14). The Tangani sector is located just south of the intersection of the Caillama and Tignamar ravines, where the San José River flows (Fig. 1). It is specifically located in the upper sector of a hilly area that is capped by the four high plateaus of Tangani (Fig. 2). The group of sites identified by Niemeyer, and more recently by the authors, is at an altitude of approximately 3100 m a.s.l. and consists of ignimbrite rock facies, specifically volcanic ash-tuff (Touron 2009). This rock is subject to constant flaking from wind erosion and the high temperature variation characteristic of the Precordillera, all of which have a

Plateau	Site	Description	Paintings
Plateau 1	TA-1	Shelter closed by an enclosure wall and used like a corral. Paintings and petroglyphs present. Adjacent to the site a great panel presents only petroglyphs.	X
	TA-2	Panel with small area limited by an enclosure wall. Paintings and petroglyphs are present on panel, extending approx. 30 m.	X
	TA-3	Panel with small area limited by an enclosure wall. Paintings and petroglyphs are present on panel, extending approx. 30 m.	X
	TA-4	Panel with petroglyphs.	
	TA-5	Panel with small area limited by an enclosure wall.	X
	TA-6	Panel with painted rock art.	X
	TA-7	Panel with petroglyphs.	
	TA-8	Panel with painted rock art.	X
	TA-9	Panel with painted rock art.	X
Plateau 2	TA-17	Panel with enclosure wall.	X
	TA-18	Panel with painted rock art.	X
	TA-19	Panel with small petroglyph rock art.	
	TA-20	Corral.	
	TA-21	Panel with painted rock art.	X
	TA-22	Panel with painted rock art. Presence of large pile of stones covering some of the paintings.	X
	TA-23	Shelter with ceramics and stone on floor surface.	
Plateau 3	TA-10a	Shelter with enclosure wall.	X
	TA-10b	Shelter with enclosure wall; panel with paintings and petroglyphs.	X
	TA-11	Shelter with small circular structure inside, well defined by stone slabs. Structure was looted.	
	TA-12	Shelter with a small semi-circular structure inside formed by stone slabs. Structure was looted.	
	TA-14	Panel with small area limited by enclosure wall; presence of lithic material on surface.	
Plateau 4	TA-15	Shelter, perhaps with enclosure wall; presence of rock painting inside.	X
	TA-16	Shelter with enclosure wall, may be used as corral.	
	TA-25	Complex settlement with circular structures. Presence of many ceramics shards on surface, which belong to late pre-Hispanic period.	
Between plateaus	TA-13	Large pile of stones (<i>mojon</i>) associated with access path to complex settlement (TA-25).	
	TA-24	Path associated to circular structure.	

Table 1. Summary of the main characteristics of registered sites and their location in relation to each plateau.

serious impact on conservation of the paintings (Sepúlveda et al. 2009a).

Exploration and new information

The first recent survey of Tangani was conducted in 2007, and at that time the researchers noted the presence of a greater number of panels with paintings and petroglyphs than was originally described by Niemeyer (1972). Since that work, investigation of rock paintings focused on other areas of the foothills (Mostny and Niemeyer 1983; Santoro 1983; Santoro and Dauelsberg 1985). Our findings led to a more systematic exploration in 2008, around the first plateau (P-1), originally visited by Niemeyer, and three additional plateaus west and south of the first (P-2, 3 and 4 in Fig.



2). At that time, a linear area of 83.26 hectares was covered (Fig. 3a). The total area explored, enclosing the trajectory in a (convex hull) polygon, was 439 hectares (Fig. 3b). The methodology included survey and recording of all sites and archaeological evidence on the surface, with priority given to the four plateaus, their bases and surfaces corresponding to flat areas. Once these zones were surveyed, the exploration was completed with a survey of the surrounding hillsides and other areas between these isolated plateaus.

The exploration allowed us to recognise twenty-five sites (TA-1 to TA-25; Fig. 2), including those originally identified by Niemeyer (TA-1 to TA-7). The new sites correspond to new rockshelters with rock paintings, rockshelters with stone walls but without paintings, sites with petroglyphs, and a large settlement with buildings, corrals and herding trails (Table 1). These trails had to be distinguished from the many trail-like lines made more recently by the camelids, mainly guanacos that traipse the hillsides here. Indeed, it is common today, between August and January, to witness wild camelids roaming singly or in groups upon the hillsides of Tangani. We may also see tarucas or huemuls (two kinds of Andean deer) wandering the mountainsides.

It should be noted that most of the sites surveyed display sub-recent usage by herdsmen of the region; indeed, the TA-1 site has been used as a corral for goatherds since the 1960s.

Description and classification of the Tangani sites

Different types of evidence and archaeological remains were observed on and around the four plateaus that dominate the landscape of the Tangani sector (Fig. 2).

The sites identified by Niemeyer (1972) were concentrated around the first plateau (plateau 1).



Figure 4. (a) Tangani 1, shelter with enclosure; (b) Tangani 12, shelter floor with circular structure.

This study finished recording these sites, where not all panels had been registered previously. As a group, these sites also contain the highest number of painted images in the area of Tangani. Most of these are in rockshelters with very small interiors, and in some cases in shelters enclosed with dry-stone walls (Fig. 4a). The small walled-in space and the absence of animal dung make it reasonable to suggest that not all of these overhangs were used as corrals; some may have been temporary shelters used by hunters or herdsmen (Sepúlveda et al. 2009b). A highlight of this location is the presence of panels with multiple petroglyphs, by themselves or superimposed on the paintings (TA-1 and 2). These depict anthropomorphous figures, camelids and geometric forms resembling *tumis* (Andean ceremonial knives) and *chacras* (small garden plots) that are similar to those observed in the middle and lower valleys of Chile's far north. These petroglyphs, in these places, are attributable to the Regional Development or Late Intermediate period



Figure 5. (a) Tangani 25, circular structure housing. (b) Tangani 25, examples of ceramics shards.

(1000–1350 CE; Valenzuela et al. 2004). In this work we do not consider them, we focus on reviewing the ‘Sierra Arica style’ that characterises only one set of rock art paintings. At TA-1, two 1×1 m units were excavated, with occupation dating approximately and calibrated from 4000 BCE to 1300 CE, specifically 5160 ± 60 BP and 790 ± 40 BP (Sepúlveda et al. 2009b).

The second plateau, plateau 2, has fewer sites and paintings. Most of the sites here are characterised by their small interior space, making it more likely to be rest areas along a narrow trail that wound around the mountain itself. One site, TA-22, stands out for its commanding views of the intersection of the Tignamar and Caillama ravines (Fig. 2). Only one of the sites here (TA-19) contains a pair of engraved geometric motifs, which are less than 5 cm high. It should also be pointed out that site TA-20 is located at the base of the plateau.

Plateau 3 also differs from the others. The few paintings within its sites are mostly small. Interestingly, these sites have not been equipped for habitation, but have had small circular holes of indeterminate function dug into the ground, and now emptied or destroyed (Fig. 4b). These sites boast a view of the trails coming from the east, specifically from the area of Belén, where there are late pre-Hispanic settlements, making it possible to propose a link between the temporary occupation of these sites and their proximity to the trails mentioned.

Plateau 4 is of undisputed importance due to the presence of a major pre-Hispanic settlement on its flat

summit (TA-25). This site contains a large number of structures, both freestanding and adjoined, with an intriguing structure on the south side of the mountain (Fig. 5a). Each enclosure here contains a wall made of large stone slabs laid on edge to form a circular floor plan with a small extension, in the shape of a comma, to protect the entryway. A preliminary count yielded at least forty units. Towards the south-east side of the mountain, the survey identified structures resembling tanks, joined together by canals carved out of the rocky hillside. These may have been used to store rainwater, as no other water source is available on this part of the summit. On the ground, a large amount of ceramic material was observed, most of it decorated shards. Some ceramic vessels, broken but apparently complete, were also identified as attributable to regional developments of the Arica culture, specifically Gentilar and San Miguel styles, although a large number of fragments of the ‘black on red’ altiplano style were also identified (Fig. 5b). Another particularity of this site was the fact that access to the summit was only possible from the east, along a single track that passed close by site TA-15 (overhang with rock paintings). The summit of the mountain is effectively closed off on the eastern side by a high stone wall, which is visible from the access trail. In association with the wall, a large number of round rocks of different colours (green, purplish, orange and other colours) were also noted. Given their petrographic characteristics and shape, these rocks probably did not originate in the area. The summit is also delimited on the west side, but this time by a natural feature — a steep cliff that falls off into the Tignamar ravine 500 m below, making access to the site effectively impossible from the west.

The information collected to date and the review of previous information on the region, while displaying a pattern that is similar overall to that of other pre-Hispanic village settlements of the Regional Development period (Muñoz and Chacama 2006), also shows that the settlement and construction pattern of this discovery is different from others described for Chile’s far-northern highlands (Muñoz et al. 1996). The site’s features, the great abundance of decorated ceramics found, and the lack of cultivated areas in the immediate vicinity all make it likely that the settlement was not occupied on a permanent basis, but it might have played a specific role in the area or region. In particular, we interpret this settlement as a ceremonial place, which concentrated population at specific times of the year for special events.

Viewed collectively, the survey of the four plateaus, the datings obtained, and the features of the sites — especially those of the large settlement at TA-25 — seem to indicate an intensive occupation of the area throughout regional pre-History. The presence of paintings and some petroglyphs also confirms

Site	Support	Colours	No. of figures	Composition
TA-1	Wall	Red, orange, yellow and black	$\geq 300^*$	'Scenes', symmetries and additions
TA-2	Wall	Red, orange, yellow and black	$\geq 200^*$	'Scenes', symmetries and additions
TA-3	Wall and Clasts	Red, orange, yellow, white, black	$\geq 100^*$	'Scenes', symmetries and additions
TA-5	Wall	Red	$\leq 10^*$	Additions
TA-6	Wall	Red, yellow and black	$\leq 10^*$	Additions
TA-8	Wall	Red	≤ 5	Additions
TA-9	Wall	Red	≤ 5	Additions
TA-10a	Wall	Red	≤ 5	Additions
TA-10b	Wall	Red	≤ 5	Added
TA-15	Wall and clasts	Red and yellow	≤ 10	'Scenes' and additions
TA-17	Clasts	Red	≤ 5	Isolated
TA-18	Clasts	Red	≤ 5	Additions and isolated
TA-21	Wall and clasts	Red	≤ 10	Additions and isolated
TA-22	Wall and clasts	Red	≤ 30	Symmetry and isolated

* Badly eroded and covered with petroglyphs

Table 2. Summary table of the kind of rock support, the use of colours, the number of figures and the type of composition at rock painting sites.

the use of these two techniques at Tangani, although the petroglyphs are assumed to be more recent. In this regard, it is important to note that the presence of engraved panels without paintings is a feature more commonly found in the middle and lower valleys of the region. Since we focus on rock paintings we are not considering them in our stylistic proposal.

Rock painting characteristics and analysis

Among all sites studied, fourteen (56%) contain rock paintings (Table 1). Most of the paintings are found in rockshelters or on rock faces enclosed or delimited by dry-stone walls of various sizes. Others include small painted figures with no specific associations other than scattered material remains on the ground.

A multi-level study was conducted of these finds. Individual records were made of each site, panel and figure, and random paint samples were also extracted for physical-chemical analysis (Sepúlveda et al. 2009c). Lastly, an analysis of the chromatic alteration of the paintings was undertaken, identifying different agents of deterioration (Sepúlveda et al. 2009a).

The results presented here are related to the panels, and specifically address the media used, the number of images, the colours used and composition. We followed Gallardo's (2009) proposition that composition as an attribute of distribution is important for understanding these visual artefacts, and can be defined as relationships of place established among



Figure 6. Detail of panel at Tangani 3.

different designs (also see Raphael 1986; Vialou 1999).

Examination of the way of using the media to produce the rock paintings reveals differences among sites (Table 2). In effect, the paintings found in sites TA-1 to TA-10b generally cover the entire available rock face (Fig. 6). Those in sites TA-15 to TA-22 were painted onto single faces of small clasts embedded in the volcanic ash bedrock, delimiting the area available for paintings (Fig. 7). This particular use of the rock support has been seen only rarely in the north of Chile, at a few Precordillera sites including the overhangs of Chapicollo (see Santoro and Standen 1999) and Alcacaurani (Niemeyer 1972: Fig. 1). Also, the figures



Figure 7. Figures on clast at Tangani 21.



Figure 8. Anthropomorphs carrying 'weapons'.

here are smaller than at other sites such as TA-1 to TA-10b. At the same time, the compositions here are less complex and are limited to some juxtaposed figures.

In terms of images, the panels found around the first mountain plateau (TA-1 to TA-3) display the largest number of figures and/or motifs, including anthropomorphic and zoomorphic figures, interspersed with occasional geometric motifs. The images range in number from 100 to 300 or more, and come in a range of colours (orange, red, yellow, white and black; Table 2). The remaining sites contain fewer figures, all of them painted in a single colour, red (Table 2).

While painting is the most common technique used to produce the rock art of Tangani, the large number of petroglyphs found at sites TA-1, 2 and 3 also bears mention. Indeed, the vast majority of petroglyphs found in the Tangani area were found at these sites, as well as TA-4, 5, and 6, with a few more found at TA-19. The petroglyphs are particularly relevant for two reasons: first, because they are concentrated around plateau 1, and second, because they are similar to the rock art found in lower-lying lands in northern Chile, as already mentioned.

The composition of the panels is also linked to the number of figures represented; for example, sites with more paintings also contain apparent scenes, symmetrical arrangements and additions, while sites with fewer images display mainly additions, with occasional 'scenes' (TA-15) and symmetrical

depictions (TA-22). Most of the scenes apparently depict hunting, in one of two compositional forms: collective hunting, in which a camelid figure is 'surrounded' by anthropomorphic figures, in stationary pose; and 'scenes' defined by the presence of one or more camelids 'pursued' by anthropomorphs in apparent motion, carrying possibly spears or spear throwers (Fig. 8). The symmetrical paintings are compositions with anthropomorphs copied repeatedly to form a line. These have been found at various sites, including TA-1 and TA-2. Similar though more complex compositions are found at site TA-22, where anthropomorphic figures have been copied repeatedly and framed with broken or unbroken lines (Fig. 9). On the same panel, another 'human' figure can be seen at the centre of several concentric circles, which also enclose numerous lines or points within the circles (Fig. 10).

The re-discovery and recording of new sites with paintings at Tangani provides evidence of a degree of variability in the use of rock support, colour and composition. Our review of the recorded sites enhances the understanding of Mostny and Niemeyer's findings, and suggests mainly that there is insufficient evidence to support the existence of a single 'Arica Sierra style' (Sepúlveda 2008, 2009). In contrast to the previous authors' findings, the authors of the present study encountered a wide variety of paintings that are not polychrome but painted in distinct colours and tones. Indeed, most of the



Figure 9. Detail of panel at Tangani 22: anthropomorphic representations, repeated by symmetry and framed in complex geometric patterns.



Figure 10. Detail of panel at Tangani 22: single anthropomorphic representation framed in complex geometric patterns.

paintings are actually monochrome, though a few are bichrome. Observing the forms only, we find not only the existence of camelids attributable to what has been variously called the Andean tradition (Guffroy 1999) or 'hunter art' (Klarich and Aldenderfer 2001), or

described as similar to art found in the Atacama area, and consisting of 'figurative images with a marked naturalistic and iconic emphasis' (*sensu* Berenguer 1996; see also Yacobaccio et al. 2008); but also much more schematic figures, with a minor but notable presence of geometric motifs.

In regard to the presumed scenes depicted, as well as *chacu* or collective hunting in which the prey is surrounded hunting with bolas, there are apparent scenes with 'human' figures holding 'bows', 'mounted quadrupeds', juxtaposed camelid figures, and anthropomorphic figures in symmetric configurations or framed within geometric forms, among other designs.

The type of rock support used is also worth noting and has not been analysed previously. Recording the media used for the paintings enables not only their differentiation but also their different compositional systems.

In summary, the new paintings of the rockshelters TA-8, 9, 10b, TA-15, TA-17, TA-18, TA-21 and TA-22 are of particular importance because of the different patterns of composition, colour and rock support they employ, which differ from those observed at sites TA-1 to TA-7, previously recorded by Niemeyer (1972).

Styles and stylistic groups in Tangani

Based on the descriptions given above, the different styles and stylistic groups present can be summarised as follows. Although this systematisation is illustrated with examples taken from the rock paintings found at Tangani, the same set of groupings can be applied to



Figure 11. Style E1 of 'naturalistic' group style S1: camelids with anatomical traits implied, Tangani 6.



Figure 12. Style E1 of first 'naturalistic' group style S1: anthropomorphic representation 'hombres palotes' repeated by symmetry, Tangani 1.

other rock art sites in the Precordillera zone (Andean Precordillera), such as Pampa El Muerto, Vilacaurani, Incani, Anocariri, and Alcacaurani (Niemeyer 1972; Santoro and Dauelsberg 1985; Sepúlveda 2008, 2009, in press; Sepúlveda et al. 2009b). Furthermore, a putative chronological development is proposed, its relation to the historic and socio-cultural processes attributable to the Precordillera and the highlands of Arica.

It must first be made clear that this analysis does not reject the possible existence of an 'Arica Sierra style', but rather highlights the need to define such a style as a subset of a 'naturalistic stylistic group' (S1), composed of two different styles (E1 and E2) and a

second stylistic group (S2) which must still be defined.

The first of these styles, which we label E1, includes most of the painted representations of camelids found in the Precordillera region. The animals are depicted with clear anatomical features (the shape of the abdomen and the joints of the legs), and are arranged in complex 'scenes' that include large numbers of individuals, either in a line or in 'random' arrangements (Fig. 11). These camelids are often depicted together with anthropomorphs, which are represented by simple line drawings, as seen from the front and without animation of posture (Fig. 12). These human figures normally appear in groups, either side by side or surrounding an animal.

These paintings are found under rocky overhangs and on vertical rock faces of narrow ravines, probably indicating places most suitable for hunting camelids by driving them into enclosed spaces, as presumed practiced in the Late Archaic period (Santoro and Chacama 1984; Santoro and Dauelsberg 1985; Muñoz and Briones 1996). This theory was upheld by Santoro and Dauelsberg, who mention the finding of a painted block under the Patapatane overhang, clearly associated with the strata and dated to 4890 ± 130 BP; as well as a gourd fragment containing red iron oxide pigment, possibly used to create the paintings at the Guañure site and dated to 4330 ± 105 BP. Finally, they mention two

datings of charcoal at Puxuma, of 4240 ± 95 BP and 4010 ± 100 BP, placing all these finds in the Late Archaic period (Santoro and Dauelsberg 1985: 73). Other, more recently obtained dates of possible relevance can be added to these, with occupation evidence from Pampa El Muerto 8 dated to approximately 4500 BCE, and from Tangani 1 ranging from 4400 to 4200 BCE (Sepúlveda et al. 2009b), confirming the presence of human occupation of the rockshelter sites where paintings of these styles are found, but without proof that they relate to the rock art.

Interpretation of these finds attributes them to a stylistic pattern corresponding to hunter-gatherer groups. The sites where such paintings were

made would have been occupied in a transitory and seasonal manner, as is shown by the relative paucity of the deposits and the presence of multiple micro-events related to small fires, indicating the only occasional presence of individuals (García and Sepúlveda 2009; Sepúlveda et al. 2009a).

The second style we propose, E2, depicts camelids with equally well defined anatomical characteristics in regard to abdomen shape, but generally not in regard to leg joints. The animal

figures are smaller, and the panels display fewer animals. Scenes often show groups of camelids being 'pursued' by anthropomorphs, which are shown as line drawings in profile, apparently in the act of running and carrying hunting weapons such as spears or bows (Fig. 13). E2 paintings tend to be smaller than those of E1, and have been found at a number of locations at Tangani, such as TA-15, as well as other sites such as Anocariri 2. These paintings probably correspond to a chronological range in the Formative period (near the beginning of the common era), a time when the use of bows and arrows tended to become more common.

In accordance with the hypothesis of Schiappacasse and Niemeyer, and based on research conducted at Itiza, this style could be attributed more specifically to an agricultural-pastoral tradition: '... just as was found at Piñuta, the Itiza rockshelter can be understood to be part of a settlement system of agricultural-pastoral villages, where hunting was also practised' (Schiappacasse and Niemeyer 1996: 274). However, the authors do not propose locations for such villages or any origins of these settlements, leaving a significant question unanswered regarding the origin of the hunters. Rather, they support their hypothesis attributing the Itiza paintings to the Formative period, starting 1630 ± 60 BP (Schiappacasse and Niemeyer 1996). These dates coincide with a recent dating from Pampa El Muerto 8 (Sepúlveda et al. 2009a), as well as previous findings made at Piñuta by Santoro and Chacama (1982): 2520 ± 90 BP and 2540 ± 180 BP.

Santoro and Chacama (1982) shed further light on the origins of these peoples with the discovery of a ceramic vessel made with a vegetable-based clay softening agent, in a style similar to finds attributed to the coastal communities of the Early Formative period (1400–500 BCE). However, this enigmatic piece could be interpreted in two different ways:



Figure 13. Style E2 of first 'naturalistic' group style S1: 'scene' of camelid and anthropomorphous figures, Tangani 15.

it either suggests a coastal origin for the hunters depicted in the highland rock paintings; or points to the interaction of two separate groups, one on the coast and the other inhabiting the higher Precordillera, Altiplano and Puna environments. Santoro and Chacama favour the former hypothesis, stating that 'the camps in the caves [...] were probably part of a larger settlement pattern, based on small nuclei of semi-sedentary villages' (1984: 96). However, the second possible hypothesis is equally valid, particularly in light of the similarities between the paintings found in the Precordillera of Arica and those from southern Peru (Aldenderfer 1987, 1998; Guffroy 1999; Klarich and Aldenderfer 2001; Ayca Gallegos 2004). It is therefore feasible to propose the existence of specific highland groups, and this theory suggests that the 'more naturalistic' rock paintings indicate a level of mobility of hunter groups along the length of the Precordillera transect. Consequently, as Aldenderfer (1987) proposes, the number of anthropomorphs in these paintings could reflect changes in the usage of sites over time, as well as the highland groups' adoption of new food supply strategies — processes that can be understood through investigation of the semi-naturalistic rock paintings of the Precordillera. These changes began at some time during the Archaic period (Aldenderfer 1989, 1998) and carried on through Formative period (1400 BCE – 300 CE). Unlike the development processes of the coastal groups, which moved towards more complex societies (Muñoz 2004) or more structured groups (Santoro 2000), the highland peoples maintained a way of life highly dependent on the local fauna, through either hunting or pastoralism (Kuznar 1990), complemented by the exploitation of plants native to these highland regions (García and Sepúlveda 2009).

Finally, the second stylistic group (S2), which exhibits greater diversity and requires a more precise



Figure 14. Example of second stylistic group S2: red camelids of Tangani 1.



Figure 15. Anthropomorphic representation of second stylistic group S2: Tangani 1.

description, includes images of camelids depicted with less accentuated anatomical features, and rarely placed in 'naturalistic scenes'. Some of the camelid depictions seem largely schematic, with rectangular bodies and legs represented by simple lines, grouped one behind the other (Fig. 14), reminiscent of the 'style' known as 'herder art' (*'arte de pastores'*; Klarich and Aldenderfer 2001). Although some paintings may depict transport or trade caravans, no clear evidence has been found to confirm this.

Although rock paintings from the Precordillera region do not exhibit depictions of caravans, like those commonly found around the Loa River (Berenguer 2004), it has still been suggested that the paintings are connected with trade routes in the far north of Chile. In particular, Muñoz and Briones (1996) allude to paintings at the Vilacaurani site, which 'presents an unusual geographical situation due to its association with the pre-Hispanic period's most significant transport route, the Ruta Precordillerana (n°1)'. They claim that the region would have been the site of extensive and significant transport activities since early periods (Archaic period), activities that 'have continued in the region to the present day' (1996: 64). The authors make similar claims regarding the sites at Pampa El Muerto, located on another major pre-Hispanic trail that linked Copaquilla with Alto de Livilcar. According to this theory, the overhangs where the paintings are found would have been 'inhabited sporadically in historical times, [although] the presence of such pictograms shows that the site was used by caravan traders and late hunters. Evidence such as *markas* and *apachetas* [types of cairns of spiritual and cultural significance in the region], the use of rockshelters, and pictograms, indicate that the space was being used actively before 2000 BCE' (Muñoz and Briones 1996: 64). This theory suggests that mobility and caravan traffic could have been related to some of

the paintings found in the Precordillera, but findings at Tangani have yet to provide any material confirmation for this hypothesis.

Like the camelids in the second stylistic group (S2), the anthropomorphs depicted are widely variable: they can appear face-on or in profile, occasionally with elements of 'clothing' and 'headdresses'. The 'human' figures generally appear alone (Fig. 15), or are associated with small numbers of animals.

These paintings may date from Regional Development period (1000–1350 CE), related mainly to pastoralism in areas peripheral to major centres of population in the Precordillera region, and can help describe a settlement pattern that is still incompletely understood, relating mainly to camelid herding activities.

Nonetheless, it would be a mistake to neglect the importance of an extensive settlement (TA-25), which is of particular relevance in an area that stands out for its large number of rock painting sites. Although the site was not permanently occupied, it probably came to reaffirm the strong symbolism associated with the Tangani area, particularly in the Regional Development period. Activities undertaken at TA-25 were without doubt associated with certain concepts and sentiments that are hard for modern people to understand. However, the location commands a view over all of the main mountains of Tangani, the trails to Chapiquiña and Belén, and the confluence of the San José and Tignamar rivers. Other symbolic structures are present, including *chullpas* (funeral towers) that may have been oriented towards TA-25 (Romero, pers. comm. 2009). This settlement undoubtedly marked an important site for the locals' interpretation of a place that has been considered of great importance since the Archaic period.

The final component of the second stylistic group (S2) is the presence of *tarucas* (or North Andean

Deer, *Hippocamelus antisensis*), visually very similar to camelids but distinguished by its antlers (Fig. 16). This suggests that hunting activities continued, probably remaining an important activity into Regional Development period.

The Tangani sites show a progressive replacement of painting with petroglyphs, attributed to this period, as is seen in the superposition of engraved figures over paintings in TA-1, 2 and 3, along with the complete absence of paintings made over prior petroglyphs.

Apart from these stylistic groups and styles, certain paintings include features that have yet to be found at other sites, such as the overriding symmetry in the composition including anthropomorphous figures at TA-22 (Figs 9 and 10), which is unique in the Arica Precordillera region, but strongly reminiscent of the 'Cueva Blanca style' found in the Río Salado sub-region (Gallardo et al. 1999; Gonzalez 2005). Finally, certain depictions include a wide variety of feline figures (TA-21 and 22, as well as at other sites such as Vilacaurani), which have yet to be placed into any stylistic or chronological category.

Open questions

Although the information presented here does allow certain patterns to be discerned, it also shows that attributing a site's rock art to a particular 'cultural period' remains a complex problem. Dating has demonstrated that many sites underwent several periods of occupation throughout the region's pre-History. But we also observe some recurrence in the contextual association, in the dating and the style of representation associated to each site that allowed us to propose a chronological attribution to style and stylistic group identified.

We are conscious that the clear reuse of spaces where paintings had been made calls for caution in attributions, as different works at a single site may date back to very different periods — as seems to be the case at Tangani 1. Here, we can observe a high incidence of superposition of one work over another, and an evident stylistic variability of paintings. We recognise that our proposition would be reconsidered in the light of new discoveries and more precision of contextual association, for example by studying the presence of possible paint residues in the archaeological stratigraphy.

Also, in order to enhance understanding and attributions of the E1 and E2 styles, it would be useful to determine whether the camelids depicted were wild or domestic (Berenguer 1996; Klarich and Aldenderfer 2001; Gallardo and Yacobaccio 2005), and thus describe the interrelation of these paintings with the socio-cultural and economic chronology of



Figure 16. Tarucas from second stylistic group S2, Tangani 15.

hunter-gatherer and pastoralist groups, as well as the transition between these ways of life in the south Andean area.

While the paintings of the Arica Precordillera cannot yet be used to determine such interrelations, they do demonstrate the existence of a long tradition that was undoubtedly related to the characteristic socio-cultural development processes of the south-central Andes. They also bring up questions about the origins of the practice of painting, which could have taken place in the Early and Middle Archaic period, as suggested by findings from Patapatane (Santoro and Dauelsberg 1985) and a number of sites in southern Peru (Guffroy 1999).

The variability of the rock art found in the Precordillera encourages researchers to continue to refine theories relating to its content and interpretations. Investigations at Tangani have expanded the range of paintings known from the Precordillera, but these new findings now call for wider-ranging studies, and the application of a more systematic methodology to research in the south-Andean arid mountains.

Acknowledgments

This work was prepared under Fondecyt Project 11060144. We wish to thank all of those who assisted us on the journey to Tangani, Paz Casanova, Trini Martinez i Rubio and Leslie Veliz. Particular thanks to Rolando Ajata for all maps presented in this paper and to Alvaro Romero, Calogero Santoro and Andrés Troncoso for the first reading and their comments. We also thank the three RAR referees who contributed significantly to the improvements of this paper and its final version.

Dr Marcela A. Sepúlveda R.
Department of Anthropology
Faculty of Social and Juridical Sciences
Universidad de Tarapacá

18 de Septiembre 2222

Casilla 6D

Arica

Chile

E-mail: marcelaasre@gmail.com

Dr Thibault Saintenoy

UMR8096: Archéologie des Amériques

Université Paris 1- Panthéon Sorbonne

Illapata 140, depto 82

Arica

Chile

E-mail: tsaintenoy@gmail.com

Wilfredo Faundes C.

Department of Anthropology

Faculty of Social and Juridical Sciences

Universidad de Tarapacá

18 de Septiembre 2222

Casilla 6D

Arica

Chile

E-mail: wankarani.wilfredo@gmail.com

Final MS received 30 November 2009.

REFERENCES

- ALDENDERFER, M. 1987. Hunter-gatherer settlement dynamics and rupestrial art: inferring mobility and aggregation in the South Central Andes of southern Peru, Paper presented at VIII International Symposium on American Rock Art, Santo Domingo.
- ALDENDERFER, M. 1989. Cronología y definición de fases de Asana, sur del Perú. *Chungara* 24–25: 13–35.
- ALDENDERFER, M. 1998. *Montane Foragers. Asana and the South Central Andean Archaic*, University of Iowa Press, Iowa City.
- ASCHERO, C. 2006. De cazadores y pastores. El arte rupestre de la modalidad río Punilla en Antofagasta de la Sierra (Puna meridional, Argentina). In D. Fiore and M. M. Podestá (eds), *Tramas en La Piedra*, pp. 103–140. Sociedad Argentina de Antropología y Asociación Amigos del Instituto Nacional de Antropología, Buenos Aires.
- AYCA GALLEGOS, O. R. 2004. *El arte rupestre de Vilavilani*. Municipalidad Distrital de Palca, Palca-Tacna.
- BERENGUER, J. 1996. Identificación de camélidos en el arte rupestre de Taira: ¿Animales silvestres o domésticos? *Chungara* 28 (1–2): 85–114.
- BERENGUER, J. 2004. Cinco milenios de arte rupestre en los Andes atacameños: imágenes para lo humano, imágenes para lo divino. *Boletín del Museo Chileno de Arte Precolombino* 9: 75–108.
- GALLARDO, F. 1996. Acerca de la interpretación en arte rupestre. *Boletín de la Sociedad Chilena de Arqueología* 23: 31–33.
- GALLARDO, F. 2001. Arte rupestre y emplazamiento durante el Formativo Temprano en la Cuenca del río Salado (desierto de Atacama, norte de Chile). *Boletín del Museo Chileno de Arte Precolombino* 8: 83–98.
- GALLARDO, F. 2004. El arte rupestre como ideología: un ensayo acerca de pinturas y grabados en la localidad del río Salado (desierto de Atacama, norte de Chile). *Chungara* 36(1): 427–440.
- GALLARDO, F. 2009. Sobre la composición y la disposición en el arte rupestre de Chile: consideraciones metodológicas e interpretativas. *Magallania* 37(1): 85–98.
- GALLARDO, F. and H. YACOBACCIO 2005. Wild or domesticated? Camelids in early formative rock art of the Atacama Desert (northern Chile). *Latin American Antiquity* 16(2): 115–130.
- GALLARDO, F., C. SINCLAIRE and C. SILVA 1999. Arte rupestre, emplazamiento y paisaje en la Cordillera del Desierto de Atacama. In J. Berenguer and F. Gallardo (eds), *Arte rupestre en los Andes de Capricornio*, pp. 57–96. Museo Chileno de Arte Precolombino, Santiago.
- GARCÍA, M., J. GARDEWEG CLAVERO and G. HÉRAIL 2004. *Carta geológica de Chile. Serie geología básica n°84. Hoja Arica- Región de Tarapacá. Escala 1:250.000*, Subdirección Nacional de Geología, Servicio Nacional de Geología y Minería, Santiago de Chile.
- GARCÍA, M. and M. SEPÚLVEDA 2009. Contextos vegetales asociados a aleros pintados de la precordillera de Arica (extremo norte de Chile). Unpubl. MS.
- GONZALEZ, P. 2005. Códigos visuales de las pinturas rupestres Cueva Blanca: formas, simetría y contexto. *Boletín del Museo Chileno de Arte Precolombino* 10(1): 55–72.
- GUFFROY, J. 1999. *El arte rupestre del antiguo Perú*. Travaux de l'Institut de Français d'Études Andines. IFEA-IRD, Lima.
- KLARICH, E. and M. ALDENDERFER 2001. Qawrankasax Waljawa: arte rupestre de cazadores y pastores el río Ilave (sur del Perú). *Boletín del Museo Chileno de Arte Precolombino* 8: 47–58.
- KUZNAR, L. 1990. Pastoralismo temprano en la sierra alta del Departamento de Moquegua, Perú. *Chungara* 24–25: 53–68.
- LORBLANCHET, M. and P. BAHN (eds) 1993. *Rock art studies: the post-stylistic era, or where do we go from here?* Oxbow Monograph 35, Oxbow Books, Oxford.
- MOSTNY, G. and H. NIEMEYER 1983. *Arte rupestre de Chile*. Serie El Patrimonio Cultural Chileno, Colección Historia del Arte Chileno, Depto. de Extensión del Ministerio de Educación, Santiago de Chile.
- MUÑOZ, I. 2004. El periodo Formativo en los valles del norte de Chile y sur del Perú: nuevas evidencias y comentarios. *Chungara* 36, Supl. Especial Tomo I: 213–225.
- MUÑOZ, I. and L. BRIONES 1996. Poblados, rutas y arte rupestre precolombinos de Arica: descripción y análisis de sistema de organización. *Chungara* 28(1–2): 47–84.
- MUÑOZ, I. and J. CHACAMA 2006. *Complejidad social en las alturas de Arica. Territorio, etnicidad y vinculación con el estado Inca*. Ediciones Universidad de Tarapacá, Arica.
- NIEMEYER, H. 1972. *Las pinturas de la Sierra de Arica*. Editorial Gerónimo de Bibar, Editorial Universitaria, Santiago de Chile.
- NÚÑEZ, L. 1981. Asentamientos de cazadores-recolectores tardíos en la Puna de Atacama: hacia el sedentarismo. *Chungara* 8: 137–168.
- NÚÑEZ, L. 1983. Paleoindian and Archaic cultural periods in the arid and semiarid region of northern Chile. In *Advances in World Archaeology II*, pp. 161–201. Academic Press.
- NÚÑEZ, L. 1992. Ocupación arcaica en la Puna de Atacama: secuencia, movilidad y cambio. In B. Meggers (ed.), *Prehistoria Sudamericana. Nuevas perspectivas*, pp. 283–307. TAXACUM, Washington D.C.
- NÚÑEZ, L., I. CARTAJENA, C. CARRASCO, P. DE SOUZA and M. GROSJEAN 2006. Patrones, cronología y distribución del arte rupestre arcaico tardío y formativo temprano en la Cuenca de Atacama. In D. Fiore and M. M. Podestá (eds),

- Tramas en La Piedra*, pp. 191–204. Sociedad Argentina de Antropología y Asociación Amigos del Instituto Nacional de Antropología, Buenos Aires.
- RAPHAEL, M. 1986. *Trois essais sur la signification de l'art pariétal paléolithique*. Editions Le couteau dans la plaie / Kronos, Limoges.
- SANTORO, C. 1983. *Cave and rockshelter art study*, Preliminary report supported by a Grant from the National Geographic Society No. 2623/83.
- SANTORO, C. 1989. Antiguos cazadores de la puna (9.000 a 6.000 a.C.). In J. Hidalgo, V. Schiappacasse, H. Niemeyer, C. Aldunate e I. Solimano (eds.), *Culturas de Chile. Prehistoria, desde sus orígenes hasta los albores de la conquista*, pp 33–56. Editorial Andrés Bello, Santiago de Chile.
- SANTORO, C. 1992. Study of rockshelter art in northern Chile, final report (unpubl.). Supported by a Grant from National Geographic Society N°2983/84.
- SANTORO, C. and J. CHACAMA 1982. Secuencia cultural de las tierras altas del área centro sur Andina. *Chungara* 9: 22–45.
- SANTORO, C. and J. CHACAMA 1984. Secuencia de asentamientos precerámicos del extremo norte de Chile. *Estudios Atacameños* 7: 85–103.
- SANTORO, C. and P. DAUELSBERG 1985. Identificación de indicadores tempo-culturales en el arte rupestre del extremo norte de Chile. In C. Aldunate, J. Berenguer and V. Castro (eds), *Estudios en arte rupestre - primeras jornadas de arte y arqueología*, pp. 69–86. Museo Chileno de Arte Precolombino, Santiago de Chile.
- SANTORO, C. and L. NÚÑEZ 1987. Hunters of the Dry Puna and the Salt Puna in northern Chile. *Andean Past* 1: 57–109.
- SANTORO, C. and V. STANDEN 1999. *Proyecto: catastro y evaluación del patrimonio cultural arqueológico de la provincia de Parinacota*. II Informe SNASPE- CONAF, Arica.
- SCHIAPPACASSE, V. and H. NIEMEYER 1996. Las pictografías de los aleros de Itiza y de Mullipungo de la Sierra de Arica. *Chungara* 28(1–2): 253–276.
- SEPÚLVEDA, M. 2008. Pinturas rupestres de la Precordillera de Arica (norte de Chile). Re-evaluación a 40 años de la obra pionera de Hans Niemeyer. *SIARB Boletín* 22: 68–79.
- SEPÚLVEDA, M. 2009. Estilo v/s agente: rescate del individuo en la práctica rupestre. Unpubl. MS.
- SEPÚLVEDA, M. in press. La tradition naturaliste des peintures rupestres des groupes chasseurs-cueilleurs de l'extreme nord du Chili. In D. Vialou (ed.), *Préhistoire des Amériques*. Cahier des Travaux Historiques et Scientifiques (CTHS), Paris.
- SEPÚLVEDA, M., M. P. CASANOVA and S. TOURON 2009a. Conservation diagnosis: a new methodology applied in the study of rock art in the Precordillera of Arica (northern Chile). Unpubl. MS.
- SEPÚLVEDA, M., M., M. GARCÍA and C. CARRASCO 2009b. Contextos arqueológicos y pinturas rupestres de la precordillera de Arica (extremo norte de Chile). Unpubl. MS.
- SEPÚLVEDA, M., E. LAVAL and M. MENU 2009c. Caracterización química de las pinturas rupestres de la precordillera de Arica (extremo norte de Chile). Unpubl. MS.
- TOURON, S. 2009. Chili. Région de Tarapaca — Sierra de Arica. État sanitaire des peintures rupestres. Unpubl. Report No. 1242A, Laboratoire de Recherche des Monuments Historiques, Paris.
- VALENZUELA, D., C. SANTORO and A. ROMERO 2004. Arte rupestre en asentamientos del período Tardío en los valles de Lluta y Azapa, norte de Chile. *Chungara* Vol. 36(2): 421–437.
- VIALOU, D. 1999. L'art rupestre chez les peuples chasseurs. Approche théorique du phénomène. In D. Sacchi (Ed.), *L'art paléolithique à l'air libre, le paysage modifié par l'image*, p. 181–185; GAEP et GEOPRÉ, Tautavel.
- YACOBACCIO, H., M. P. CATÁ, P. SOLÁ and M. S. ALONSO 2008. Estudio arqueológico y físicoquímico de pinturas rupestres en Hornillos 2 (puna de Jujuy). *Estudios Atacameños* 36: 5–28.

RAR 27-970

**Continuation of the list of the members of the
International Federation of Rock Art Organisations (IFRAO)
from page 160**

Professor Jack Steinbring
Mid-America Geographic Founda-
tion, Inc. (MAGF)
Department of Anthropology
Ripon College
P.O. Box 248
RIPON, Wisconsin 54971
U.S.A.
E-mail: SteinbringJ@Mail.Ripon.EDU

Dr Arsen Faradjev
Moscow Centre of Rock Art and Bio-
indication Research
St. Arkhitektora Vlasova 15-1-26
Moscow 117335
Russian Federation
E-mail: arsenfaradzhev@hotmail.com

Dr Angus R. Quinlan
Nevada Rock Art Foundation
(NRAF)
1201 Terminal Way, Suite 215
Reno, Nevada 89502
U.S.A.
E-mail: arquinlan@nvrockart.org

David Morris
Northern Cape Rock Art Trust
Archaeology Department
McGregor Museum
P.O. Box 316
Kimberley 8300
South Africa
E-mail: dmorris@museumsnc.co.za

Rob Burrett
Prehistory Society of Zimbabwe (PSZ)
P. O. Box 876
HARARE
Zimbabwe

Professor Jack Steinbring
Rock Art Association of Manitoba
(RAAM)
Dept of Anthropology
Ripon College
P.O. Box 248
RIPON, Wisc. 54971-0248
U.S.A.
E-mail: SteinbringJ@Mail.Ripon.EDU

Professor Chen Zhao Fu

Rock Art Research Association of
China (RARAC)
Central Institute for Nationalities
100081 BEIJING
P. R. China
E-mail: chen525@vip.sohu.net

Professor Giriraj Kumar
Rock Art Society of India (RASI)
Faculty of Arts
Dayalbagh Educational Institute
DAYALBAGH, Agra 282 005
India
E-mail: girirajrasi@yahoo.com

Dr Olga Sovetova
Siberian Association of Prehistoric Art
Researchers (SAPAR)
Archaeology Department
Kemerovo State University
Krasnaya Street
Kemerovo 65004
Russia
E-mail: olgasovetova@yandex.ru

Lic. Freddy Taboada
Sociedad de Investigación del Arte
Rupestre de Bolivia (SIARB)
c/o Matthias Strecker
Casilla 3091
LA PAZ
Bolivia
E-mail: siarb@accelerate.com

Professor Angelo Fossati
Società Cooperativa Archeologica Le
Orme dell'Uomo
Piazzale Donatori di Sangue, 1
25040 CERVENO (Brescia)
Italy
E-mail: fossati@numerica.it

Dr Jean Clottes
Société Préhistorique Ariège-Pyré-
nées
11, rue du Fourcat
09000 FOIX
France
E-mail: j.clottes@wanadoo.fr

Dr Anne Solomon
Southern African Rock Art Research
Association (SARARA)
Natal Museum
Private Bag 9070
PIETERMARITZBURG 3200
South Africa

Tadjik Centre for the Study of Petro-
glyphs (TCSP)
Institute of History, Archaeology and
Ethnography
Tadjik Academy of Sciences
Dushanbe
Tadjikistan

David Coulson

The Trust for African Rock Art
(TARA)
P.O. Box 24122
00502, Nairobi
Kenya
E-mail: tara@swiftkenya.com

Charles Robert Bailey
Upper Midwest Rock Art Research
Association (UMRARA)
1513 72nd Avenue North
BROOKLYN CENTER, Minnesota
55430
U.S.A.
E-mail: cbailey@tcinternet.net

Dr George Nash
Welsh Rock Art Organisation
(WRAO)
Mytton Mill
Forton Heath
Montford Bridge
Shrewsbury, Shropshire SY4 1HA
United Kingdom
E-mail: gnash@slrconsulting.com

Office of the IFRAO Convener
Robert G. Bednarik
P.O. Box 216
Caulfield South, Vic. 3162
Australia
E-mail: auraweb@hotmail.com

About IFRAO

IFRAO was formed in Darwin, Australia, on 3 September 1988, during the first major international academic conference dedicated entirely to the study of pre-Historic rock art. Nine rock art organisations decided to form an international federation of independent national or regional bodies. At the founding meeting it was decided that IFRAO should be a common forum and initiator of policies, projecting or representing the common interests of member organisations without interfering in their autonomy. It would operate as a democratic advisory body in which each member organisation would hold one vote, exercised by an official representative. International meetings would be held by nominating suitable rock art conferences as official IFRAO congresses at regular intervals.

Over the subsequent twenty years, the number of affiliate members increased to almost fifty, and the current members of IFRAO cover most of the world. The combined memberships of these organisations include about 7000 rock art specialists, i.e. practically all such specialists in the world.

Until the late 1980s, individual rock art researchers as well as rock art organisations around the world operated largely without being aware of the work conducted in other parts of the world — sometimes even in their own country or region of activity. As a result the discipline experienced a great diversity of research approaches and terminologies, reflected in a multitude of idiosyncratic constructs, sequences, chronologies, names and definitions. Therefore one of IFRAO's initial principal concerns was

the standardisation of those aspects of the discipline that are essential for effective communication and collaboration: methodology, terminology, ethics, and the technical standards used in analysis and recording. These subjects were addressed through extensive consultation of specialists and, where appropriate, the deliberations of appointed sub-committees.

For instance, to establish a uniform code of ethics for all rock art researchers in the world, IFRAO appointed a sub-committee at its 1998 meeting in Cochabamba, Bolivia, which produced a draft ratified two years later in Alice Springs, Australia. Consultation has also been the basis of determining a uniform terminology, now enshrined in a multi-language dictionary. Methodology has experienced a more subtle process of standardisation, in which unrigorous practices have gradually been weeded out, through debate, editorial practices and good example.

The IFRAO members produce about twenty specialist periodicals, whose flagship is *Rock Art Research*, the official organ of the Federation. Wide-ranging co-operation in publishing exists among members.

IFRAO has been particularly effective in the area of rock art protection and preservation, achieving sometimes spectacular successes, such as the electoral defeat of recalcitrant governments in 1995 and 2002. The federation has become the principal international body pursuing the conservation of pre-Historic rock art effectively. Another of its greatest achievements to date has been its successful campaign of empowering traditional indigenous societies to secure the return of rock art sites into their care and possession.