
A Leviathan in the Desert

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Deep in a nearly impenetrable canyon of the Sierra de Guadalupe in Baja California Sur there is a rockshelter painted with images of humans, animals, and sea creatures. Floating above all these images is a huge whale—an orca! The painting is life size—about 8 m long. It may be the largest pictograph of an animal in the world. The paintings are within the Great Mural Tradition but faded with age so that some are nearly invisible. I use DStretch (www.DStretch.com) to make the fantastic images found here visible. The life-sized image (in red) of the orca is superimposed on older yellow paintings. Also red painted human figures cover ones in yellow that are in a style similar to images found at the well-known site of San Borjitas, in the same mountain range. The superimpositions in San Borjitas indicate that the yellow figures are among the oldest Great Mural human figures. This site confirms the sequence seen in San Borjitas. Many typical Great Mural forms are present: human figures, deer, bighorn sheep, birds, mountain lions, turtles, and fish. An excellent reference on Great Mural art is Crosby, 1997.

In this paper I describe a Great Mural site in Baja California Sur. At this site is an amazing full-size pictograph of an orca (killer whale). Although fish are common subjects in Great Mural art (Crosby 1997; Gutierrez 2013), an orca is very unusual. The identification of the pictograph as an orca is secure, as will be seen after some background on orcas. Even for Great Murals, known for life-size and larger paintings of humans and animals, this is a bold statement by the artist. Compared to other famous Great Mural sites that contain dozens or even hundreds of paintings such as Cueva Pintada and Cueva Palmarito (Crosby 1997:67, 101) this site is relatively simple. The number of paintings is small (less than 40), and the sequence of painting is at least grossly apparent. Yellow figures appear underneath red paintings including the red orca. On each side of the site are paintings of human figures (called *monos* in the language of the Great Murals) in red over older yellow *monos*.

DStretch

Paintings at this site are faded with age. I use the program DStretch (Harman 2008) to make the paintings visible. DStretch has several different enhancements which can be used to best enhance different pigment colors. These enhancements typically have names with three or four letters such as LDS, LRE, etc. Enhancements used are indicated in the figure captions. The letters CF indicate that the DStretch “Color Fix” button (introduced in DStretch version 8.3) was applied after enhancement.

Orcas

Background

The orca (*Orcinus orca*, Figure 1), also known as the killer whale, is the largest member of the dolphin family (thus technically not a whale). It is the largest and most fearsome ocean predator and the most widely distributed cetacean in

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Figure 1. Killer Whales Jumping. Photo by Robert Pittman (NOAA). Public domain.

the world (Reeves et al. 2002:436). Along the west coast of North America there are orca pods from the Bering Sea down to Baja California (Black and Ternullo 2009). Native groups along the coast noticed this fearsome animal and orcas played (and continue today to play) an important part in their mythology and art (Davidson and Steltzer 1994; Jonaitis 1986; MacDonald 1996).

Orcas in Native Art

The native tribes of the west coast of North America have included the orca in their mythology, ceremony, and art for centuries. Figure 2 provides some examples of orca depictions from native artists from the Haida, Tlingit, and Salish tribes. Note that the prominent dorsal fin is emphasized in all the depictions.

Orcas in Rock Art

Along the northwest coast of North America can be found several depictions of orcas in rock art located in the historic ranges of various Native cultures, but we should not assume the rock art was made by the historic inhabitants of these areas. At a San Francisco kayak club presentation in 2008 photographer Dan Kiely included the photo in Figure 3a from a kayak trip he made to the southeast Alaska coast. Faint red pictographs can be seen. I asked Dan for a copy of the photo which I then enhanced using DStretch to reveal the intricate

orca pictographs in 3b. Figure 4 illustrates orca depictions on Kosciusko Island and at Wrangell in southeast Alaska. Figure 5 shows orca depictions from the Olympic Peninsula at Wedding Rocks.

The Wedding Rocks depictions demonstrate orca characteristics that identify the petroglyphs as orcas: dorsal fin, whale tail, flippers, blunt head with mouth. The dorsal fin does not separate the animal from sharks or dolphins. The whale tail and flippers eliminate the possibility of sharks. The blunt head eliminates dolphins.

Orca Effigies

While researching orca images I found several beautiful orca effigies attributed to the Chumash (Hoover 1974). Unfortunately, I found that these effigies (Figure 6), with their naturalistic style, smiling faces, and shell bead inlay,



Figure 2. Orcas in Northwest Coast native art. (a) Salish wood carving, “Transformation—Human to Whale” by John Murphy (George and Anne Stoll collection). (b) Haida deer-skin paint bag, ca. 1890 (Canadian Museum of History). (c) Tlingit carved bone amulet (Portland Museum of Art). (d) Tlingit ceremonial hat (Smithsonian Institution).

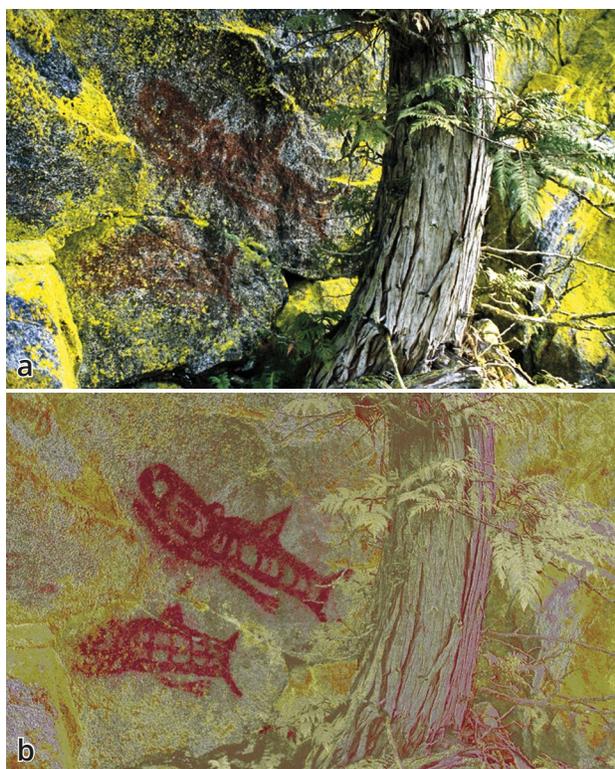


Figure 3 (a) Dan Kiely photograph taken along the southeast Alaska coast. (b) DStretch LRE CF enhancement.

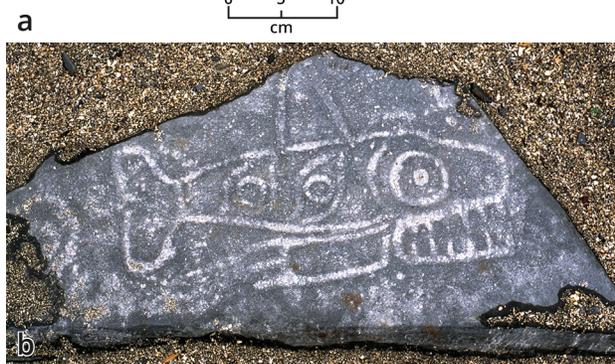
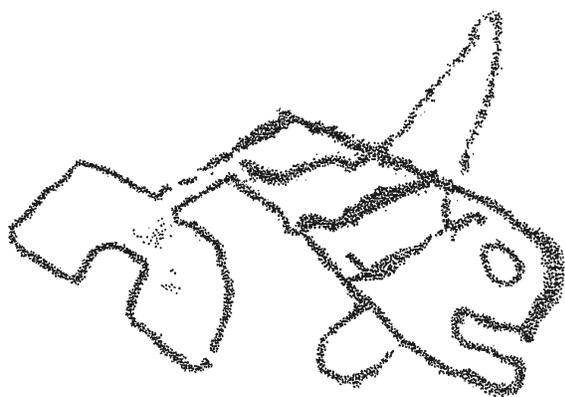


Figure 4. Orcas in southeast Alaska rock art. (a) Kosciusko Island (courtesy James D. Keyser); (b) Wrangell (photo courtesy Ken Hedges).



Figure 5. Orca petroglyphs from Cape Alava (Olympic Peninsula) “Wedding Rocks.” Photo by Jon Harman.

were fakes (Gamble 2002; Koerper and Desautels-Wiley 2010:73–78; Lee 1993). Archaeological collections for the Canaliño area include a large number of genuine stylized and schematic effigies including orcas and whales, other forms of sea life, pelicans, and tabular forms interpreted as orca dorsal fins (Koerper and Desautels-Wiley 2010). Among early examples are orca effigies (Figure 7) collected on San Nicolas Island by León de Cessac in the 1870s (de Cessac 1882), an effigy (Figure 8a) collected on Catalina Island by Paul Schumacher in the 1870s (Put-



Figure 6. Fake Chumash orca effigies characterized by whimsical smiles and shell bead inlay in styles not found on genuine effigies. (a) Portland Museum of Art (no copyright restrictions); (b) Metropolitan Museum of Art (public domain).

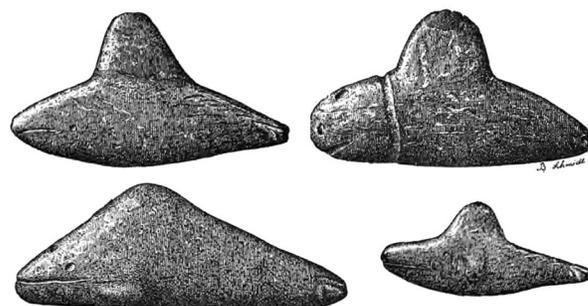


Figure 7. Orca effigies from San Nicolas Island, collected by León de Cessac (1882:31–32).

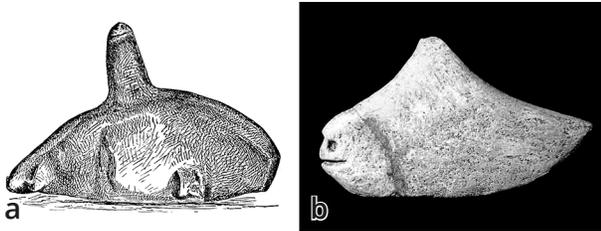


Figure 8. (a) Orca effigy collected on Catalina Island by Paul Schumacher in the 1870s (Putnam 1879:220). (b) One of two orca effigies excavated near Santa Barbara by David Banks Rogers in 1925 (Rogers 1929:Plate 74), Santa Barbara Museum of Natural History, Robert Hoover photo.

nam 1879:220), and examples found in archaeological excavations near Santa Barbara by David Banks Rogers (Figure 8b) in 1925 (Rogers 1929:Plate 74).

Toños Pictograph Site

Location

The pictograph site described in this paper is located inland in the rugged mountains of the Sierra de Guadalupe in Baja California Sur (Figure 9). Accompanied by my wife Sheila, I photographed it in 2009 as part of the INAH (Instituto Nacional de Antropología e Historia) project “Identidad Social, Comunicación Ritual y Arte Ruprestre: El Gran Mural de la Sierra de Guadalupe B.C.S.” The project was under the leadership of INAH archaeologist Maria de la Luz Gutiérrez Martínez. Our local guides were INAH guide Miguel Angel Aguilar and Manuel Vicente Rousseau. The site, named Toños after its discoverer (a local rancher), is located in a canyon filled with dense vegetation (Figures 10 and 11). As the crow flies it is only 5 km from the important and much-visited Great Mural site San Borjitas (Crosby 1997:113; Dahlgren and Romero 1951; Grant 1974:99; Gutiérrez 2013:250; Harman 2010,



Figure 9. Map of Baja California Sur showing locations of Toños and San Borjitas.



Figure 10. Canyon containing the Toños site.



Figure 11. Overview of the Toños site.

2011), but between the two places are extremely rugged mountain peaks and canyons. There are clear links between this site and San Borjitas in the style of the monos. The images at San Borjitas are mostly monos (by my count nearly 80 of them) and there is considerable overlap. This allows for the creation of a sequence of mono types. The monos at Toños can be fit into that sequence, as will be seen below. There are many sites in the Sierra de Guadalupe within a few kilometers of the site, but except for San Borjitas they are not open to the public. In my experience there is nothing unusual in the location (side of a canyon) of this site. At the time of my visit I did not see any water in the canyon.

Site Description

The paintings cover about 20 m along the side of the canyon. A rock fall has created a shelter under the paintings and there is some archaeological debris inside. There is a flat rock with a grinding slick and some (possibly recent) evidence of fire. To my knowledge it has never been excavated. There is a main panel containing the orca and other red paintings of fish over older yellow paintings (Figures 12a and b). In Figure 12b a DStretch enhancement is used that emphasizes

reds. The large red orca can be seen as well as a red fish and two turtles beneath the orca. An idea of the huge scale of the orca pictograph can be judged from Figures 13a and b, where enhancement makes the tail more visible. The size of the orca is about 8 m, which makes it a candidate for the largest pictograph in the world! The next section describes the orca and associated paintings in more detail.

Left Part of Site

There are also several paintings to the left of Figure 12. Some of those can be seen in Figure 14a and in the



Figure 12. (a) Toños main panel. (b) DStretch LRE CF enhancement showing orca and associated paintings in red.

enhancements, Figures 14b and c. This part of the site contains many typical Great Mural images including a mono at far left, a mountain lion with long tail (just above Sheila in Figure 14b), and two quadruped images done in yellow (Figure 14c). The rightmost quadruped in Figure 14c has the massive horns of a male bighorn sheep. I describe the mono in a subsequent section.

Orca Panorama

It was difficult to get the photo in Figure 12 because of vegetation and rock obstructions. It gives a somewhat distorted image of the orca. For a better view



Figure 13. (a) Tail of the orca with Sheila Harman and Manuel Vicente Rousseau. (b) DStretch LRE CF enhancement showing the size of the orca tail.

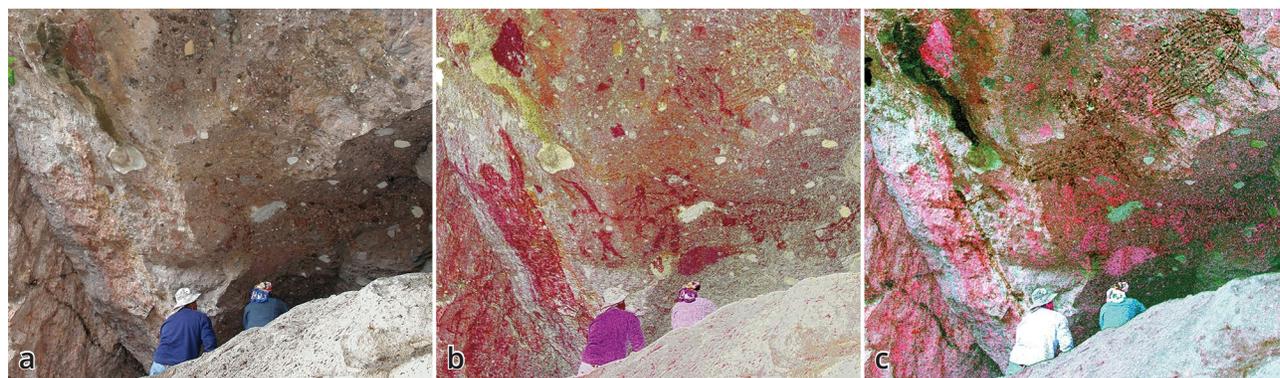


Figure 14. (a) Painted area to the left of main panel with Miguel Angel Aguilar and Sheila Harman. (b) Levels-adjusted DStretch LRE CF enhancement shows several typical Great Mural images. (c) DStretch YYE enhancement showing two quadrupeds painted in yellow.

Figure 15a is a panorama of the main panel made of several separate images. In Figure 15b the red painting is enhanced. Here the large dorsal fin of the orca is apparent, as is the whale tail and blunt head. Harder to see are the two flippers (pectoral fins) just to the right of the vertical fish. These characteristics (large dorsal

fin, whale tail, flippers, blunt head) ensure the identification of the painting as an orca (Figure 15b). The orca has been painted over older figures done in yellow including a bird, fish, and probable bighorn sheep. These figures are discussed in the detailed description of the left side of the main panel below.

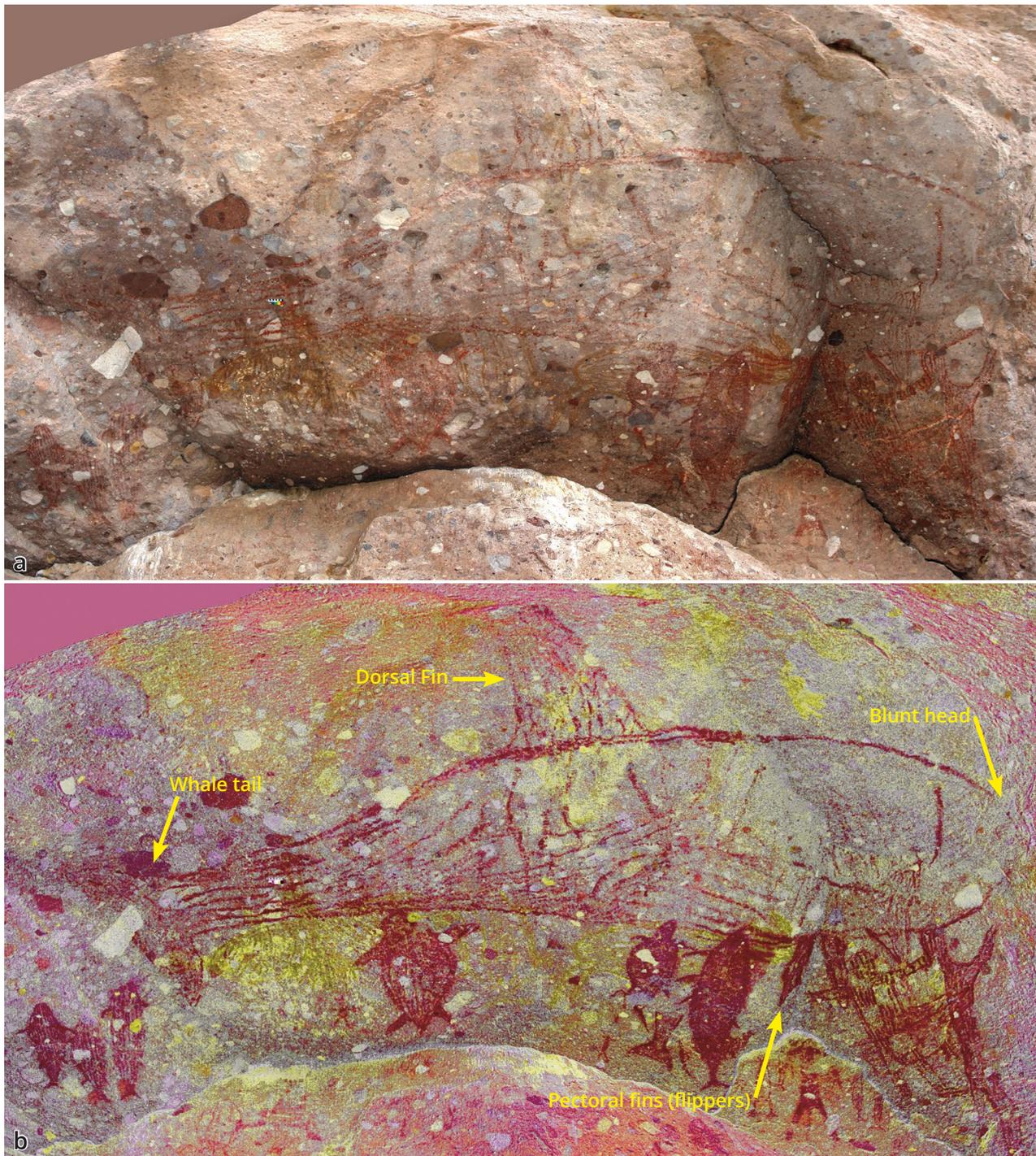


Figure 15. (a) Panorama of main panel. (b) DStretch LRE CF enhancement emphasizing red pigments. Arrows indicate defining characteristics of the orca image.

Detailed Description of the Paintings

Right Side of Main Panel

The DStretch enhancements in Figures 15 and 16 give a closer look at elements associated with the large orca. The red objects below the orca are, from left to right, a large turtle, after a space a smaller turtle with an unfinished fish tail below it, a large vertical fish, the two flippers of the orca, and finally two red monos. Above the flippers can be seen a small faint orca inside the large one. In Figure 16 the DStretch enhancement has been digitally altered to highlight



Figure 16. Detail of the left side of the main panel. DStretch LRE CF enhancement showing the red figures below the large orca, digitally altered to show the small orca in black.

the small orca. The small orca is facing to the left with only the bottom of the tail extending outside the larger orca. It can be seen between the heads of the two red monos. The identification of the small orca as an orca depends on the existence of a large dorsal fin. This fin is very hard to see even in the enhancement. The leading (left) edge of the fin can be seen above the vertical fish. It extends almost to the top of the large orca. The small orca does not have flippers.

Monos on Right

On the right side and below the orca are two monos in red superimposed on an irregular form in white pigment bordered in red (Figure 17a). Figure 17b emphasizes the red pigments. One fluke of the tail of the small orca falls between the heads of the monos. The mono on the left is a scarecrow (Dahlgren and Romero 1951:173) with a checkerboard pattern. The one on the right has a vertically divided pattern with one side empty, the other side filled with red. This type was named a bicolor (Dahlgren and Romero 1951:174). Examples of these two types of monos can be found at San Borjitas (Dahlgren and Romero 1951; Harman 2010) and other Great Mural sites in the Sierra de Guadalupe. The two red monos seem painted at the same time, but the checkerboard type is an older type in the San Borjitas sequence versus the bicolor type. An explanation of this anomaly could be that the red scarecrow mimicked the style of the older yellow scarecrow beneath it.

In Figure 17c an enhancement (LDS) is used that emphasizes yellows and demonstrates that there is yellow under the red pigments. The irregular white figure

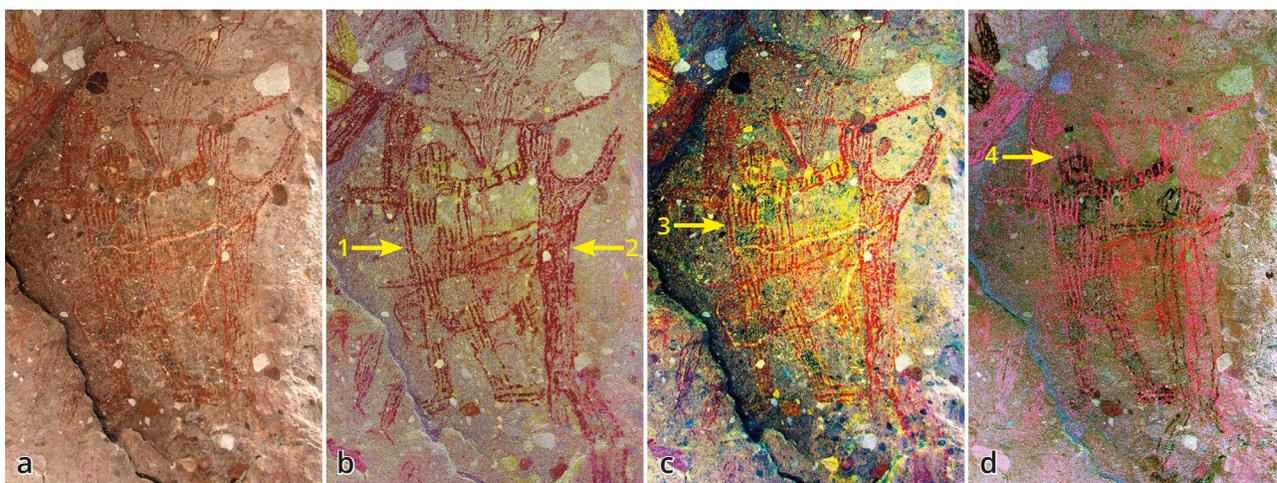


Figure 17. (a) Monos on right side of main panel. (b) DStretch LRE CF enhancement showing checkerboard mono (1) and vertically divided mono (2) in red. (c) DStretch LDS enhancement showing yellow under the red figures and highlighting black squares alternating with red striped squares (3) in the checkerboard mono. (d) DStretch YYE enhancement rendering yellow as black to highlight the figures under the red monos; red mono on the left follows the checkerboard pattern and outline of the yellow one except for the head extended upward (4).

is also rendered as bright yellow in this enhancement. The red checkerboard mono has vertically striped squares, black squares, and alternating red and black lines in the head; the black is best seen in Figure 17c. Figure 17d uses the YYE enhancement that turns yellows into brown and reds into pink. This makes the yellow painting below the red monos visible. Two yellow monos are present, a crude one on the right and the checkerboard scarecrow on the left. The red monos were intentionally placed on top of the yellow ones. In fact, on the left the red mono follows the checkerboard pattern and the outline of the yellow one, with the exception that the head is extended upward. This gives evidence that the red painters were aware of the yellow painting and the overpainting was intentional. I return to a discussion of the mono types later when we describe the panel with monos to the left of the orca.

Left Side of Main Panel

I include two enhancements of the left side of the orca. Figure 18a emphasizes reds and Figure 18b emphasizes yellows. As was seen in the panorama, the red paint was placed on top of three yellow figures, rendered here in dark brown. They consist of a beautifully drawn bird (possibly an eagle or a vulture) on the left, a fish in the center, and a quadruped on the right. The painting of the quadruped is very similar to the yellow paintings in Figure 14c, hence it is probably a depiction of a bighorn sheep.

Mono Panel on Left Side of Site

Besides the main orca panel there are paintings to the left. Animals in yellow on this panel are discussed above (Figure 14c). Here we will focus only on the mono panel on the far left.

Figure 19a shows the panel. The red pigments are enhanced in Figure 19b. A large red mono has been placed over two older yellow monos. The red mono is a type called bicolor in Dahlgren and Romero (1951:174) and gingerbread men in Grant (1974:100). Details of the yellow monos can be seen in Figure 20.

These two yellow monos are “scarecrows” as defined by Dahlgren and Romero (1951:172), and also mentioned by Grant (1974:98). Dahlgren defines the scarecrow type as having an elliptical head, straight arms, yellow or red paint, painted using stripes (i.e., not filled), legs with feet turned out. Dahlgren and Grant considered the scarecrows to be the oldest mono type at San Borjitas. Gutiérrez (2013:363) considers the scarecrow figures to be in the second out of three phases at San Bor-

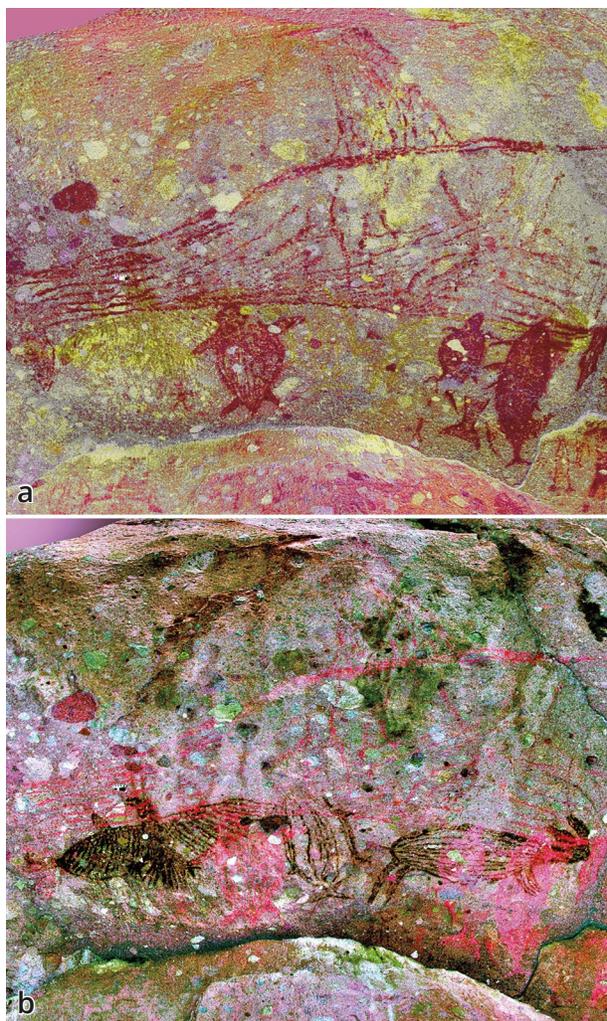


Figure 18. (a) DStretch LRE CF enhancement of left side of main panel, emphasizing red pigments. (b) DStretch YYE enhancement emphasizing yellow pigments.

jitas. This site confirms that the scarecrows are an older type. It also reinforces the existence of paired monos as a repeated pattern in Great Mural art (Harman 2012).

Concluding Remarks

This example of an orca pictograph is unique (so far) in Great Mural art. There is no indication that the orca played a role in the mythology of the Great Mural painters at all similar to the important role played by orcas in the tribes of the northwest coast of North America. There is very little ethnographic data existing for the Great Mural artists; in fact, the relation between the painters and the inhabitants of the peninsula at the time of European contact is not known (Crosby 1997:210). Great Mural art could have preceded European contact, which may account for the lack of ethnographic descriptions of the rock art production.

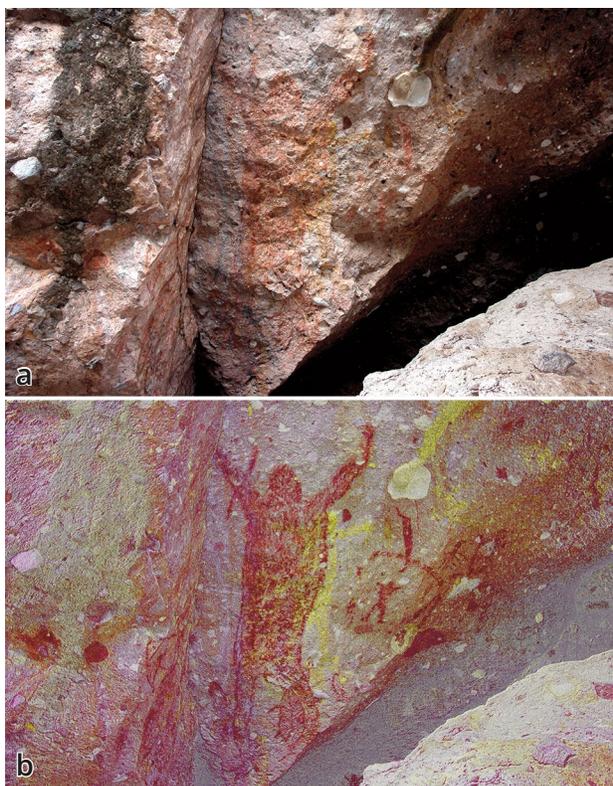


Figure 19. (a) Left mono panel. (b) DStretch LRE CF enhancement emphasizing red pigments.



Figure 20. DStretch YYE enhancement of close-up of left mono panel, enhancing yellow pigments.

It is an interesting question to ask where the painters at this site could see an orca. Difficult and variable conditions on the Baja California Peninsula resulted in a highly nomadic lifestyle of its inhabitants (Harman 2016:126,127). The painters could have seen orcas on either coast of the peninsula. The site is closer to the Sea of Cortez (Gulf of California) than to the Pacific. Formal studies have produced records of orcas in the gulf from La Paz northward, with significant numbers in the Canal de Ballenas opposite Bahia de Los Angeles and occasional sightings as far north as Puerto Peñas-

co (Black et al. 1997:10, 30–34, Figure 1; Silber et al. 1994). Thus ample opportunities existed for sightings of orcas in the Sea of Cortez, but there is another possibility. Each year California gray whales make a long migration from their feeding grounds in the Bering Sea to their breeding areas in Baja California (Reeves et al. 2002:204). One of the lagoons that form a major part of the southern terminus of this migration is San Ignacio Lagoon, shown in Figure 9. Hundreds of gray whales gather in the Pacific coastal lagoons of the Baja California peninsula in the winter to breed and give birth. Orcas do not enter the shallow lagoons but follow the gray whale mothers and calves on their return trip in spring (Pederson 2016). Orca predation of the gray whales on the return trip is significant. Whether on the Pacific coast or in the Gulf of California, orcas easily could have been observed from land or from small boats known to be used by indigenous peoples.

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