

NEWS AND NOTES

Possible Fishing Structures on the West Coast of San Matías Gulf, Río Negro, Patagonia Argentina

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ABSTRACT

Systematic archaeological studies carried out in the San Matías Gulf area for over 10 years show an intensive fishing signal, one of the most prominent of the Patagonian Atlantic coast. These fishing activities were dated from ca. 6000 to 400 BP. We detect at least three rocky structures in the muddy estuarine coast of Islote Lobos archaeological locality. Because of their location and appearance, these rock alignments resemble stone weirs or fish traps like those recorded worldwide. The findings reported here are of great relevance because no other similar devices were detected on the continental coast of Patagonia Argentina to date.

Keywords coastal, construction techniques, estuarine environment, fishing strategies, Patagonia, stone, structures

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coast (Scartascini 2014). The chronological range of human occupations in the area goes from ca. 6000 to 400 BP (Favier Dubois et al. 2009).

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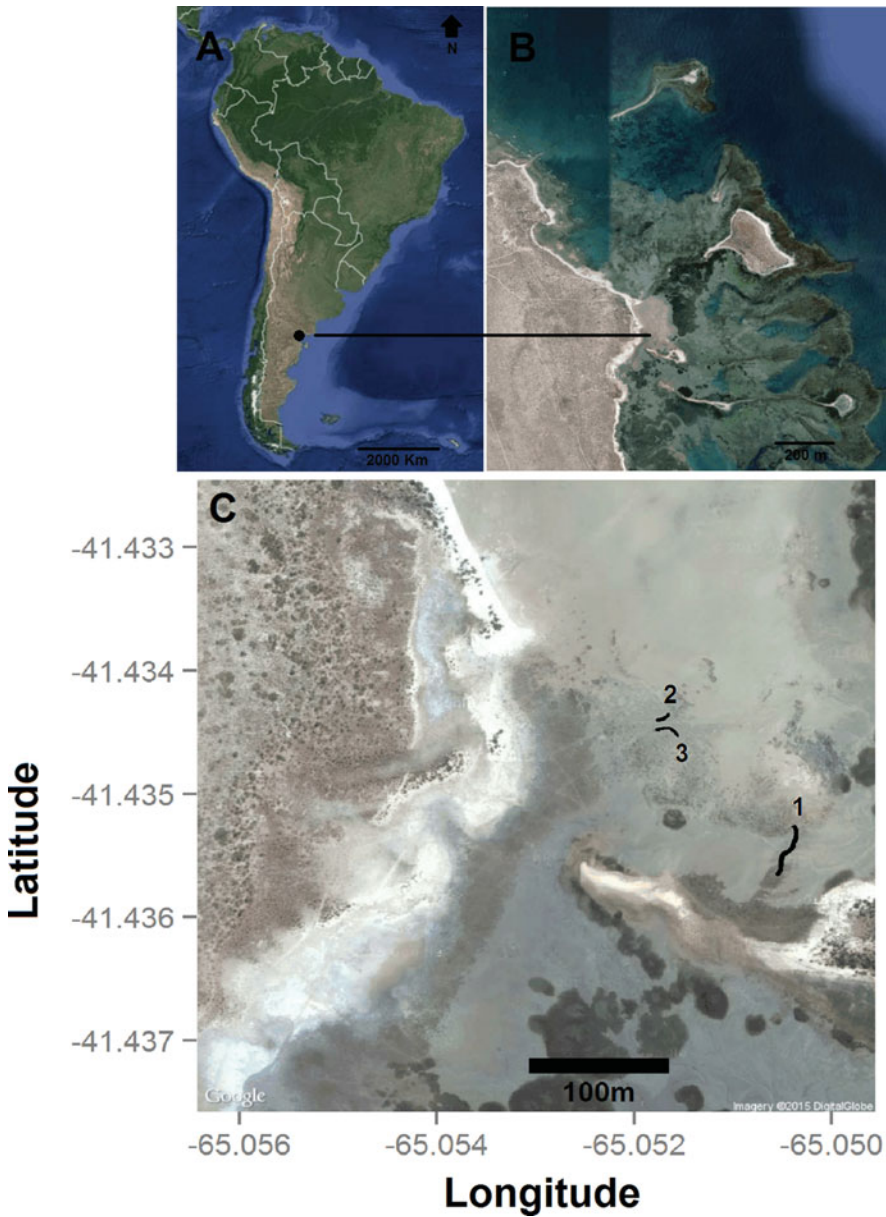


Figure 1. A) South America image with the approximate location of the study area in the Patagonian coast, Argentina; B) geographic context of structures; C) recognized structures.

We have detected at least three rocky structures in the muddy estuarine coast of Isote Lobos archaeological locality (Figure 1 B-C). Because of their location and appear-

ance, these rock alignments resemble stone weirs or fish traps like those recorded worldwide (Bannerman and Jones 1999; Dortch et al. 2006; Munita et al. 2004; Torres 2009,

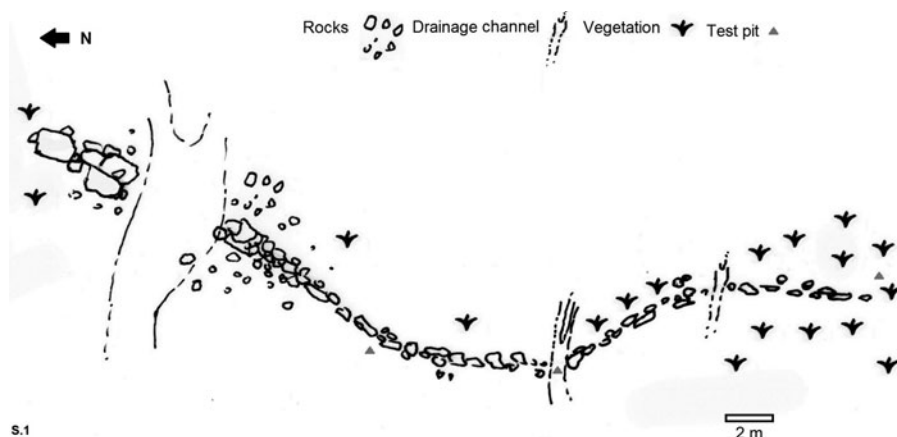


Figure 2. Sketch plan of Structure 1 (S.1).

among many others). Fish weirs are passive devices (Munita et al. 2004) or untended facilities (*sensu* Oswalt 1976) whose use allows investing time and energy to other tasks. The findings reported here are of great relevance because no other similar devices were detected on the continental coast of Patagonia, Argentina, to date (but see Vázquez 2014).

Rocks of these structures (mostly limestones) are locally available at coastal outcrops (see supplementary material).

STRUCTURE 1

This 60 m structure is oriented north-south, perpendicular to the coastline (Figures 1, 2, and supplementary material). Its average height is 32 cm, with a maximum of 60 cm and a minimum of 20 cm, and the average thickness of stone piles is 68.33 cm, with a maximum 100 cm and minimum of 50 cm. In some sections, the stone piles were completely covered by sediments (Figure 4 B). The aggregation pattern of stones is variable, and in some points the pile was developed over the rocky outcrop, incorporating the outcrop itself as part of the structure without any modification. In some cases, four or more rocks of different size and shape were stacked (Figure 4 C). This structure is

interrupted by a tidal channel of 3 meters wide and 2 meters deep at high tide. Two shovel test pits placed in different sections (Figure 4 B) showed the vertical continuity of the structure, although no buried rocks were observed in the drainage channel. These tests allowed us to establish that this stone accumulation is partially buried.

STRUCTURE 2

Structure 2 has a C-shape and is located closer to the actual coastline, with its long axis oriented east-west and a total length of 5 m (Figures 1, 2, 4, and supplementary material). This stone alignment is located at 146 m from the S.1 (Figure 1 C). The average height is 19.5 cm with a maximum of 22 cm and a minimum of 17 cm. The average thickness of the pile is 58 cm with a maximum of 60 cm and a minimum of 56 cm. As for Structure 1, shovel test pits showed the vertical continuity of rock pile below the sediment. Therefore, as in the previous case, it can be proposed that it was higher (at least 60 cm).

STRUCTURE 3

This feature also has a semicircular shape and is the mirrored image of S.2, forming a corri-

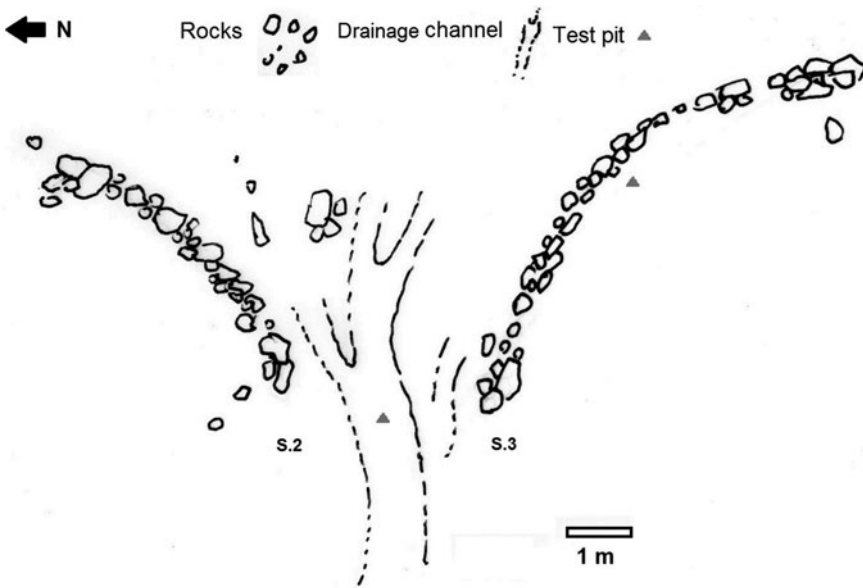


Figure 3. Sketch plan of Structure 2 (S.2) and 3 (S.3).

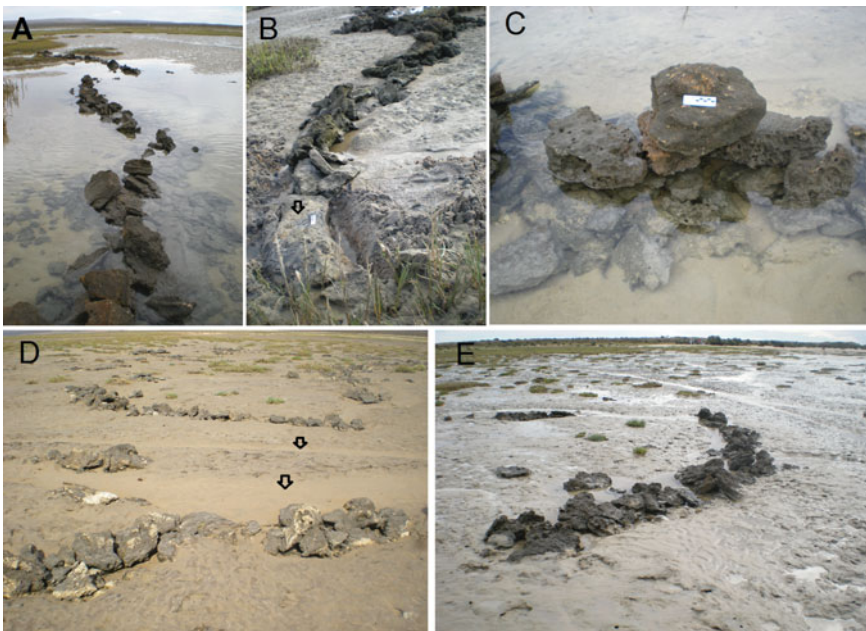


Figure 4. A) Structure 1 in rising tide; B) low tide, the arrow marks a test pit and unearthed rocks; C) wall structure detail 1; D) structure 2 and 3 in low tide, arrows show small drainage channels; E) structure 2, low tide.

dor between both structures that narrows to 3 m toward the coast (Figures 1 C, 3, 4, and supplementary material). The current length of S.3 is 8 m with an average thickness of 60 cm, with a maximum of 70 cm and a minimum of 50 cm. The average height is 25.5 cm, with a maximum of 30 cm and a minimum of 21 cm. A shovel test pit showed the vertical continuity of this structure, as in the previous cases. No buried rocks were detected in a test pit conducted at the center of current drainage channel (Figure 4 C). Based on their shape and orientation we believe that S.2 and S.3 could have been functionally related.

Based on the information reported here, we consider three possible hypotheses for the origin of the structures: 1) natural, 2) cultural, 3) mixed (natural and anthropogenic). Given the recorded evidence as well as archaeological information available in the area, we believe that the third hypothesis is the most plausible. This last scenario suggests an intentional use of coastal geomorphology, complemented with simple construction techniques, which possibly allowed the development of a safe and systematic fishing system in the area. Following Dortch et al. (2006) to assess this proposal, a systematic study that will include detailed mapping, evolution of coastal geomorphology, excavation and dating of the organic matter related to the structures is needed. Also, combining this information with dating recently excavated middens in this locality will give us a more accurate chronological context to these structures.

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SUPPLEMENTAL

Supplemental video files are available for this article at the publisher's website, at <http://dx.doi.org/10.1080/15564894.2015.1074131>. The short video shows the environmental and geomorphological context in which the structures are located.

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