Early Hunter-Gatherers and Miners (ca. 12,000 CALYBP) in the Arid Coast of Northern Chile

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The early hunter-gatherers and fishers of the Pacific coast of South America have been regarded as rather simple societies, dependent on subsistence and technological imperatives (De France et al. 2001; Jackson and Méndez 2005; Lavallée et al. 1999; Llagostera 1979; Sandweiss et al. 1998; Stothert 1988). However, the recent discovery of the site San Ramón 15 (SR-15) in the northern coast of Chile (Lat. 25 S.) shows that these early coastal groups conducted a complex operation to mine iron oxide, probably for ritual purposes.

The San Ramón 15 site is located in a ravine 800 m from the coastline in the arid coast of northern Chile. The settlement is associated with an iron oxide mine with a stratigraphic sequence of 6 m, which was heavily exploited during early (12,543 CALYBP) and late (4350 CALYBP) Holocene times. Evidence of mining and cutting technology consists of numerous lithic hammers and debitage. Also present are some essentially marine faunal remains (Salazar et al. 2011).

Evidence from early levels includes trimming debitage from biface pieces and a discoidal stone, which, in conjunction with its chronology (Table 1), links this settlement to groups with a marine/coastal adaptation regionally known as the Huentelauquén cultural complex (Jackson and Méndez 2005; Llagostera 1979; Llagostera et al 2000). Possibly related to the San Ramón mine is a small shelter some 9 km north of the site called Quebrada Cascabeles, with two occupational events attributed to the Huentelauquén cultural complex dating to 11,000 CALYBP (Casteletti et al. 2009).

Table 1. Radiocarbon dates of the San Ramón 15 (Salazar et al., 2011).

<table>
<thead>
<tr>
<th>Lab no.</th>
<th>¹⁴C date, RCYBP</th>
<th>Calibrated age, CALYBP (2σ)</th>
<th>Stratigraphic provenience</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta -255687</td>
<td>9160 ± 80</td>
<td>10,519 – 9948</td>
<td>Unit 2/Layer 2-3</td>
<td>Charcoal</td>
</tr>
<tr>
<td>UGAMS – 5440</td>
<td>9250 ± 30</td>
<td>10,490 – 10,246</td>
<td>Unit 1/Layer 4</td>
<td>Charcoal</td>
</tr>
<tr>
<td>UGAMS – 5441</td>
<td>9360 ± 30</td>
<td>10,651 – 10,301</td>
<td>Unit 1/Layer 6</td>
<td>Charcoal</td>
</tr>
<tr>
<td>UGAMS – 5442</td>
<td>9390 ± 30</td>
<td>10,666 – 10,421</td>
<td>Unit 1/Layer 7</td>
<td>Charcoal</td>
</tr>
<tr>
<td>POZ – 32943</td>
<td>9310 ± 50</td>
<td>10,570 – 10,264</td>
<td>Unit 1/Layer 9</td>
<td>Charcoal</td>
</tr>
<tr>
<td>Beta – 280992</td>
<td>10,430 ± 60</td>
<td>12,543 – 12,095</td>
<td>Unit 2/Layer 5</td>
<td>Shell</td>
</tr>
</tbody>
</table>

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The stratigraphy of the early levels of the San Ramón mine reveals evidence of repeated mining operations using lithic hammers along with fragments of mollusks (Choromytilus chorus, Argopecten purpuratus, and Concholepas concholepas). Striations and signs of wear suggest they were used to extract iron oxide from narrow seams and veins.

The associated faunal remains consist of unidentified mammal skeletons, bird remains (penguin, Spheniscus sp.) and at least five fish species (Citharichthys gilberti, Hydrologus macrophalamos, Synodontis violacea, Trachurus symmetricus and Paralichthys microps). Marine fauna remains consist of 19 mollusk species (MNI 221), including 10 gastropod, 6 poliplacofor, and 3 bivalve, and one echinoderm species, all of them present in the rocky intertidal zone. Marine faunal remains show signs of fire exposure, suggesting they were transported to the site and consumed as food by workers engaged in mining.

The exceptional evidence from this site shows a diversified settlement pattern that included systematic mining exploitation in a hunter-gatherer-fisher context, in which pigments were acquired for multiple uses, probably linked to ritual activities. The multiplicity of activities suggests a more complex and sophisticated society than previously thought.

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References Cited


