

## PREHISTORIC CULTURES AND INHABITANTS

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Recent archaeological, linguistic, and genetic information document that the modern Amerindian groups of Costa Rica are descendants of pre-Columbian groups that occupied the area for thousands of years, rather than transition cultures between the major groups of northern Central America and Mexico or of South America. Indigenous peoples inhabited the Monteverde region for millennia as documented by pottery shards found in the vicinity of Santa Elena, but we know little of their population density and impact on the local environment.

The first human inhabitants of Costa Rica were bands of hunters and gatherers who arrived in the area roughly between 12,000 and 8000 B.C. Archaeological evidence of workshops and artifacts have been recorded in the Turrialba valley, in Guanacaste, and from Lake Arenal. One of the earliest artifacts known, a Clovis-style point made from local quartz (chalcedony), is from Lake Arenal, dated at 10,000 B.C. The cultures inhabiting the mountains from Volcán Orosi to Monteverde were similar and distinct from those to the west in Guanacaste and to the east in the Atlantic lowlands. The region has been termed the Cordilleran cultural subarea (Sheets et al. 1991, Sheets 1994).

The combination of deposits of volcanic ash associated with the eruptions of Volcán Arenal (Melson 1984, 1994), radiocarbon dates from charcoal, and stratigraphic relationships from pottery and stone implements has allowed investigators to document much about the lives of people living in the vicinity of Lake Arenal during the past 6000 years (Sheets et al. 1991, Sheets and McKee 1994). Around the second or third millennium B.C., early agriculture was practiced, the staple crops being tubers, fruit trees, berries, and palms. Expanding agriculture changed the indigenous societies, which led to the establishment of permanent settlements, the development of ceramics, and social changes. During the Archaic Period (3300–2000 B.C.),

subsistence shifted from primarily hunting and gathering to agriculture. Villages were established, although population densities were low. The Early and Late Tronadora phases (2000–500 B.C.) are characterized by well-built houses and extensive use of ceramics and by many small villages scattered throughout the region.

The period from 500 B.C. to A.D. 300 in Costa Rica marked a transition from small tribal societies to chiefdom societies associated with the cultivation of seeds, primarily maize. A mixed system of horticulture involving tubers, berries, and fruit trees and seed agriculture (primarily corn, beans, and squash) was present throughout much of the country. Main villages contained constructions such as stone foundations, house mounds, paved causeways, ovens, storage wells, and statuary. Many of the carved jade objects and ceremonial metates now exhibited in museums are funerary offerings during this period.

The major occupancy of the Arenal area occurred during the Early and Late Arenal phases (500 B.C.–A.D. 600). There is evidence of large-scale land clearing during this time, which was related to an increase in the human populations living along the lake and an expansion beyond the lakeshores (Piperno 1994). Some of the early volcanic eruptions of Arenal could have weathered by this time to form relatively fertile soils. The general pattern throughout Costa Rica is a rapid population increase until about A.D. 500. Deforestation increased rapidly after 500 B.C., as a result of increased cultivation. The population density in the Arenal region and throughout the mountains reached its peak during these phases (Sheets 1994).

During the period from A.D. 300–800, the organization of societies in Costa Rica evolved from simple chiefdoms to complex chiefdoms with structures such as foundations, paved causeways, mounds, and burial sites. From A.D. 800 until the arrival of the Spaniards in the sixteenth century, large villages with intricate

infrastructure were formed. Some of the elements of Costa Rican societies at the time of the Conquest included multiple, simple, and complex cemeteries; elaborate structures in main villages (house mounds, aqueducts, public squares, paved causeways, and supporting walls); a diversity of domestic property; regional exchange of goods; the introduction of gold-work; and the rivalry of chiefdoms.

At Lake Arenal during the Silencio Phase (A.D. 600–1300), the Río Piedra valley was heavily populated. Settlements were large but widely separated. Population may have shifted to the west away from the lake in response to increased volcanic activity from adjacent Volcán Arenal (Mueller 1994). The Silencio and Tilarán phases were periods of general population decline and abandonment of long-used sites. Population declines during these phases were not directly correlated with volcanism and are thought to be a regional phenomenon (Mueller 1994). Based on analysis of the carbon isotopes  $^{13}\text{C}/^{12}\text{C}$  from human bone recovered from burial sites, less than 12% of the diet was maize, which is a far lower percentage than was consumed by most historical populations in Mesoamerica (Friedman and Gleason 1984, Bradley 1994).

The arrival of the Spaniards in A.D. 1502 began a painful transition period for the indigenous societies of Costa Rica, with marked population declines of the indigenous peoples, the decimation of cultures, and the extinction of some tribal groups. The cultures that the Spanish found in Costa Rica fiercely resisted them for two generations. Costa Rica was the last of the

Central American countries to be conquered by the Spanish. The most recent estimate of the peak pre-Columbian population of indigenous peoples is about 400,000 people (Denevan 1992). The population was reduced to 80,000 by 1563 (MacLoed 1973, J. W. Hoopes, pers. comm.).

The combination of wild-gathered and garden-cultivated plants along with protein provided by wild game was probably the characteristic diet of most indigenous people in Costa Rica (Hoopes and Chenault 1994, Sheets and McKee 1994). People seemed to prefer living in the drier life zones present on Arenal, the tropical moist forest/premontane transition, and humid premontane forest. Highland areas above 1500 m in the Cordillera de Tilarán generally were not inhabited.

Throughout much of the period of occupancy, the cultures of the Arenal region appear to have been self-sufficient and relatively independent of outside groups, compared to other Mesoamerican villages. Maize was cultivated by 2000 B.C., but did not become the mainstay of the diet. The cultures living around the lake instead based their subsistence on the exploitation of the rich and diverse indigenous flora and fauna. Population densities fluctuated considerably but in general were relatively low compared with densities farther north in Mesoamerica or in the Andes of South America. However, the peoples of the Arenal region had an impact on their environment and were responsible for considerable deforestation (Sheets et al. 1991).