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Preliminary Report of the 1999 Lake La Yeguada Paleoindian Survey, Veraguas Province, Panama

By Georges A. Pearson

Early this year, I conducted an archaeological survey to locate Paleoindian sites at Lake La Yeguada, Panama. The research was made possible by a fellowship from the Smithsonian Institution and was based out of the Smithsonian Tropical Research Institute (STRI) in Panama City. Drs. R. Cook and D. Piperno of STRI supervised the project, which took place from January 29 to March 26. The survey included me and my assistant, Robert A. Beckwith.

Context and Problems of Central and South American Paleoindian Archaeology

The dispersal of early human colonists across the American continent has been monitored archaeologically through the recovery of specific cultural remains resulting from a singular technology. For example, projectile points with fluted bases are considered an unmistakable sign that Paleoindians passed through a region. Although the antiquity of fluted points was first recognized in North America, they have since been recovered as far south as Tierra del Fuego. Interestingly, however, only a few lanceolate forms (parallel-sided and wasted) similar to classic Clovis points appear to have spread past the isthmus of Panama (Bird and Cooke 1978). Fishtail projectile points (FTPPs) and other fluted types are found in South America (Bell 1965; Bird 1969; Nami 1996; Politis 1991; Schobinger 1988). Although an overlap in the distribution of Clovis-like and FTPPs occurs in lower Central America (Ranere and Cooke 1991; Snarskis 1979), none of the Costa Rican or Panamanian specimens have been dated directly, and the nature of the relationship between these point types and the people who manufactured them is still unknown.

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An important paradigm shift occurred in American archaeology two years ago when a group of Paleoindian specialists confirmed that the occupation at Monte Verde, Chile, was 12,500 years old (Meltzer et al. 1997). This announcement pushed back the initial peopling of the New World by approximately 1,000-500 years, forcing archaeologists to reevaluate the position of Clovis populations and to reconsider alternate migration routes (i.e., interior vs coastal). Although this eased persisting doubts surrounding the site itself, it has raised more questions about the peopling of the Americas than it has answered. Still unexplained is the absence of Monte Verde-like sites between Alaska and South America and the fact that Monte Verdeans appear culturally distinct from Clovis (Haynes 1997).

These problems have prevented many archaeologists from developing ideas that integrate both hemispheres of the Americas into a "unified theory" of the peopling of the New World. Monte Verde has created a new challenge in the struggle to formulate colonization models since it must now be incorporated with the Clovis and fishtail point data. Nonetheless, there exist at present a great number of hypotheses (Bryan 1973; Lynch 1978; Mayer-Oaks 1986; Politis 1991; Rouse 1976) about the interrelation between Clovis and FTTPs that need testing and resolving in order to advance to higher levels of inference.

The Isthmus of Panama: A Strategic Testing Ground For North-South Paleoindian Contacts

The isthmus of Panama is the most promising area in which to test colonization models between North, Central, and South America. Its geographical characteristics, combined with the fact that it contains both Clovis-like and FTTPs, offer a unique opportunity for archaeologists looking for clues linking Paleoindians from both

hemispheres. Because human movements between North and South America were funneled through Panama, and since its archaeological record is confined to a narrow strip of land, it is one of the best areas of research for this particular problem. What's more, significant diachronic changes in Panamanian lithic industries have allowed archaeologists to recognize specific diagnostic traits associated with specific time periods. For example, bifacial reduction of cryptocrystalline raw materials ceases after 7,000 B.P. The lithic industries that followed were dominated by unifacially retouched blades and flakes. During this time, bifacial reduction was limited to the manufacture of wedges and axes made on coarser materials (e.g., andesite and basalt). Hence, the mere presence of bifacial thinning flakes of fine-grained material indicates great antiquity.

The First Panamanians

Until recently, the Paleoindian record of Panama was limited to isolated finds around Lake Alhajuela or Madden Lake (Figure 1; Bird and Cooke 1978; Sander 1964). However, a survey of the Santa Maria watershed in the mid 1980s (*Proyecto Santa Maria*; Cooke and Ranere 1984, 1992a) located many surface sites and rock shelters with stratified deposits. One of these, the Corona rock shelter, contained a bifacial industry dated at 10,440±650 B.P. (Cooke and Ranere 1992b; Valerio-Lobo 1985). In addition, Clovis-like point fragments and fluted bifaces were unearthed at the deeply buried La Mula West site situated east of the Parita Bay. Unfortunately, the artifacts were lying on an old deflated surface and could not be dated (Cooke and Ranere 1992b; Ranere and Cooke 1996).

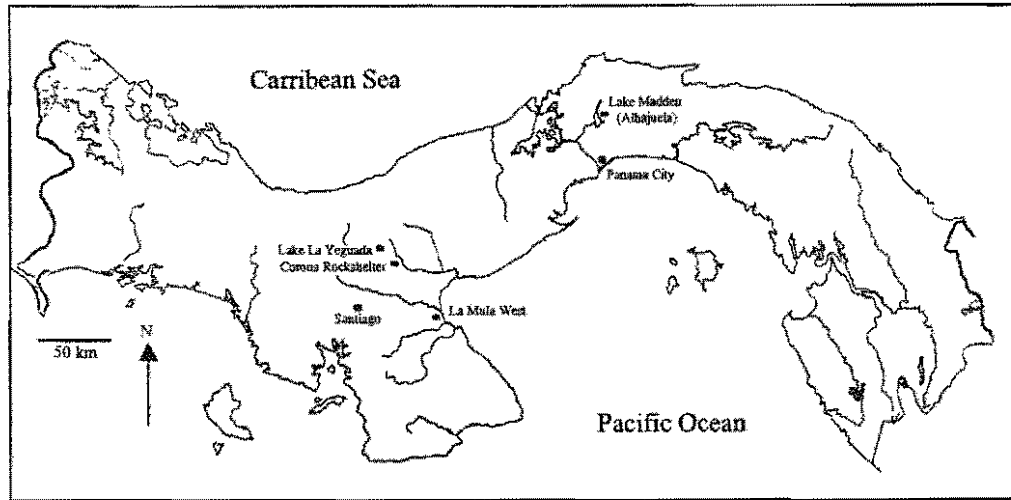
A bifacial projectile point with a broken stem was also found in Veraguas Province on the shore of Lake La Yeguada, situated less than 20km north of the Corona rock shelter

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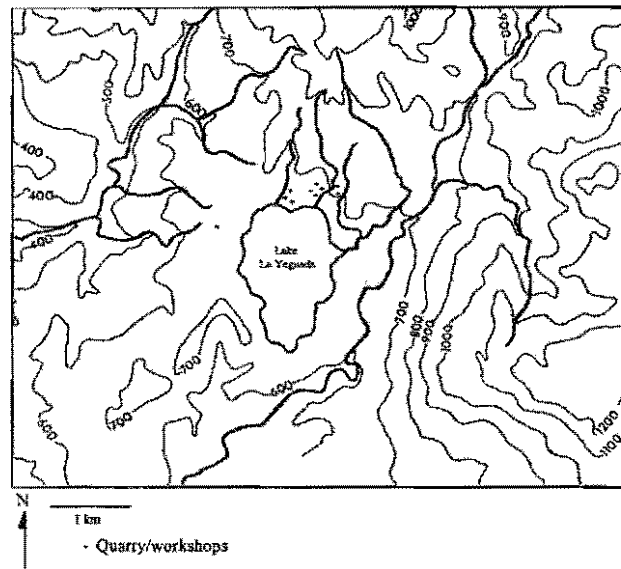
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Figure 1

Panama. Location of Paleoindian Sites and Lake La Yeguada



Lake La Yeguada



(Ranere and Cooke 1996). Lake La Yeguada (8°27' N, 80°51' W) is located 650 meters above sea level in the middle of a reforested pine reserve on the Pacific side of the Continental Divide. It measures 1.5 by .75 km and varies in depth from 15m to 6m depending on the season (Bush et al. 1992). Indirect evidence for a Paleoindian presence at La Yeguada was also provided by palynologists who noted an increase of particulate carbon in the lake's sediments c. 11,050 B.P. This suggested that early humans were repeatedly burning the surrounding vegetation, possibly to attract game, facilitate the growth of favored plants, and/or to clear areas for camps (Bush et al. 1992; Piperno et al. 1990). Although superficial material was collected on the lake shore during the Santa Maria survey project, sub-surface testing was not carried out, and areas around the lake were never explored until early this year.

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A bifacial projectile point with a broken stem was also found in Veraguas Province on the shore of Lake La Yeguada, situated less than 20km north of the Corona rockshelter (Ranere and Cooke 1996). Lake La Yeguada (8°27' N, 80°51' W) is located 650 meters above sea level in the middle of a reforested pine reserve on the Pacific side of the Continental Divide. It measures 1.5 by .75 km and varies in depth from 15m to 6m depending on the season (Bush et al. 1992). Indirect evidence for a Paleoindian presence at La Yeguada was also provided by palynologists who noted an increase of particulate carbon in the lake's sediments c. 11,050 B.P. This suggested that early humans were repeatedly burning the surrounding vegetation, possibly to attract game, facilitate the growth of favored plants, and/or to clear areas for camps (Bush et al. 1992; Piperno et al. 1990). Although surficial material was collected on the lake shore during the Santa Maria survey project, sub-surface testing was not carried out, and areas around the lake were never explored until early this year.

Goals of the 1999 La Yeguada Paleoindian Survey

The project consisted of an extensive reconnaissance along the entire periphery of the lake and its immediate area. Although exploratory in practice, this research had clear and defined objectives. One of these was to ascertain if a pre-Clovis basal culture, comparable to the one found at Monte Verde, spread along the Pacific coast and was present in this part of the Panamanian interior. Since Lake La Yeguada was formed 14,000 years ago, it could have attracted pre-Clovis groups to the area.

Field Methods

The survey explored the terrain around the lake, with a special focus on key topographic and hydrographic features. Surface collecting and subsurface testing was conducted systematically to sample the widest possible area. Sectors most suited for campsites, such as the mouths or confluence of streams, rockshelters, and zones where lithic raw materials were exploited, were tested more thoroughly. Other locations, such as knolls, promontories, or points that could have served as strategic lookouts, were also examined. Active prospecting for knappable stones (exposures, stream beds, gravel bars) was carried out in conjunction with the survey in order to build a lithic comparative collection to be stored at STRI.

Preliminary Results

1) Quarry/Workshops

The survey located ten quarry/workshop (Q1 to Q10) sites associated with sources of three different types of lithic raw materials. These quarries were quite large (e.g., Q1 =61m by 18m; Q2=

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65m by 54m) and were found on exposed and/or poorly vegetated mounds of volcanic bedrock.

In most cases, these large workshop areas consisted of nothing less than solid carpets of mixed debris, cores, and tools. Unfortunately, this mass of material represented several millennia of deposition. Therefore, only diagnostic pieces were collected from the quarry surfaces. This included several broken bifaces, bifacial thinning flakes, spurred end scrapers, keeled scrapers (limaces), large scraper planes, and a stemmed point. This unique specimen is almost complete and shows a flute-like removal on one side of its ground base. It is manufactured on a large flake of local yellow jasper and is similar to other fishtail points from La Elvira in Colombia (Illera and Gnecco 1986) and El Inga in Ecuador (Bell 1965; Mayer-Oakes 1986). Of note, some of the bifacial fragments were so weathered as to be completely porous and almost unrecognizable compared to the majority of the surficial material. Moreover, the only specimens manufactured on heat-treated or non-local materials were those considered to be possible Paleoindian tools based on technological attributes.

Test pits were also excavated near some quarry sites in the hope of finding stratified assemblages. These revealed that prehistoric groups also mined lithic raw materials and did not limit their activities to the exposed boulders. Indeed, we observed that the buried debris was as rich as that found on the eroded quarry surfaces. For example, we recorded over 660 lithic artifacts in a single 50 cm² test pit just north of Q1.

2) Rockshelters

Four rockshelters were discovered during the survey. These consisted of very large (car-size to house-size), free standing, volcanic boulders that afforded protection against the elements. A 1m² test pit was excavated to a depth of 1.2m in the largest of the rockshelters. Artifacts were encountered only in the topmost highly weathered horizons (0-40cm below surface). Evidence of bifacial technology was not observed. However, a three-sided edge ground cobble was discovered 36cm below surface, suggesting that the rockshelter may have been occupied as early as 6,000 to 7,000 yr B.P. Charcoal samples were collected, and results are forthcoming.

3) Lake Shore

Beaches around the lake's periphery were scoured for artifacts as the water level gradually dropped. Among the many artifacts recovered on the newly exposed beaches was a small concentration of bifacial thinning flakes of non-local and apparently heat-treated chert.

4) Other Sites

This last category includes all other sites discovered around the lake, such as lookouts, mountain tops, deflated surfaces, cut banks, isolated finds, etc. The most common diagnostic artifacts of early occupations found at these localities were bifacial thinning flakes. Among the isolated finds was a double-spurred endscraper manufactured on a triangular blade. This tool was discovered on the surface of a deflated terrace overlooking the valley to the west of the lake. It is made on a non-local white chert and shows evidence of having been hafted.

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5) Lithic Sources

An abundance of lithic raw materials are found in the immediate area surrounding Lake La Yeguada. The majority of the northern sources contain jaspers of various colors (reds, yellows, and caramel). To the northwest, boulders of an off-white to gray chert were also found mixed with the ubiquitous jaspers. The fifth quarry site was situated on an eroded surface on the western side of the lake. At this locality we found large boulders of a banded bluish/black chert in all stages of reduction. Finally, nodules of olive-brown chert and yellow jasper were found eroding out of the southern banks of the lake onto the beach.

Conclusion and Recommendations

Although I am still in the early stages of my research, preliminary findings support the previous lake core evidence and the suggestion by Piperno et al. (1990) that Paleoindians were present at Lake La Yeguada. However, the material was not concentrated at a large single occupation but was thinly distributed on the landscape. We can surmise that these early populations were sparse and very mobile. However, the fact that a large Paleoindian camp was not found could also be attributable to visibility, site density, destruction by the recent rise of the water level, and the fact that the survey team was composed of only two persons.

Since this project focused on exploration, only a limited amount of time could be spent at each locality. Therefore, a follow up project is being planned to conduct more thorough examinations of the quarries. A second phase of surveying would also be initiated in conjunction with this second project that would expand to other parts of Panama. Such areas of high potential would include locations where megafaunal remains have been reported, the Pearl Islands, and the southern tip of the Azuero Peninsula where the Pleistocene coastline has not significantly receded since the post-glacial sea level rise.

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