A RADIOCARBON DATE OF 380 ±60 BP FOR A TAINO SITE, CUEVA NEGRA, ISLA DE MONA, PUERTO RICO

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Charcoal fragments were collected from a mixed charcoal and bone deposit from a chamber in Cueva Negra, Isla de Mona Puerto Rico. Radiocarbon dating yielded a conventional ^{14}C age of 380 ±60 Radiocarbon Years before present. Considering the standard deviation in the ^{14}C data, the range in possible calendar dates is from 1480 to 1655 AD. This time period encompasses the first contact between Taino population and Europeans, and the subsequent removal of the last of the Taino from the island to Puerto Rico in 1578.

Charcoal fragments and bird bone samples were collected from a mixed charcoal and bone deposit in a back chamber of Cueva Negra, Isla de Mona, Puerto Rico on August 1995 for identification and radiocarbon dating. The sample area is located in the distal end of a 40 m long by 5 m wide chamber. This chamber is located in complete darkness several hundred meters, and around several bends, from the nearest entrance. The sample site itself consists of a 2.5 to 7.5 cm layer of mixed charcoal, bird bone, and silt, atop a 15 cm bed of yellowish silt. Kaye (1959: 166) first described this deposit: "Bones of what must be literally thousands of birds are contained in the floor deposit of the chamber and all of them are more or less intimately mixed with small charcoal fragments. The abundance of charcoal fragments within the cave, it seems to the writer, cannot be ascribed to natural causes." Kaye (1959) reported these bones to be exclusively those of Audubon's shearwater (*Puffinus lherminieri*). This identification is consistent with bird bones collected during the 1995 sampling. Kaye (1959: 166) further suggested, based upon the location and characteristic of the deposit, "the bird bones constitute a midden built with the refuse of many feasts, probably during Indian occupancy of the cave, and that the charcoal represents scattered ashes from the fires. Why the Audubon's shearwater was exclusively favored in these feasts is not known."

The charcoal and bone samples were collected from a 2-m-wide flowstone ledge on the eastern side of the chamber, and the charcoal was submitted to Beta Analytic for radiocarbon analysis (sample #Beta-86999, November 1995). After mechanical and chemical pre-treatment, less than one gram of suitable carbon remained. That carbon was analyzed with extended counting to enhance precision. The sample yielded a conventional ^{14}C age of 380 ± 60 Radiocarbon Years BP with a Δ ^{13}C of -29.6 relative to PDB-1 (Beta Analytic sample #Beta-86999, November 1995). The error represents the one standard deviation statistic, 68% probability. Using the Stuvier and Pearson (1993) radiocarbon calibration curves, this ^{14}C age corresponds to a nominal calendar date of 1525 AD. Considering the standard deviation in the ^{14}C data, the range in possible calendar dates is from 1480 to 1655 AD.

Collected from the top surface of the deposit, the sample may represent the youngest material in the sequence. The time period is one of significant transition for the Taino population of the island. It spans the first contact between the island inhabitants and Europeans and the subsequent decimation and removal of that native population. The island was first sighted by Columbus on November 22, 1493, while sailing across the Mona Passage from Puerto Rico to Hispaniola on his second voyage to the New World (Morison 1944). Landfall on the island was made later on the same voyage by Columbus on September 24, 1494. Herrera y Tordesillas (1625, as translated by Stevens 1740, reprinted 1973: 137) states, "They next touch'd at the Island Mona, which is ten leagues from Hispaniola, and eight from the Island of St. John, being six leagues in compass, and on it grow most delicious melons, as big as a jar of oil that will hold six quarts." The island was described by de las Casas as being very rocky, but containing many holes filled with very fertile red soil. Cassava grew so large in some of these holes that an Indian could only carry two of them at a time on his back (Kaye 1959). Columbus provided his ship with fresh water, melons, and cassava during his short stay from supplies provided by the Taino Indians inhabiting the island (Wadsworth 1973). In 1508, Juan Ponce de Leon landed on the island with fifty men and spent several days there. They were supplied by the local population of 80 Taino Indians with water, cassava, and cloth made from wild cotton.

Isla de Mona was recognized as a productive source of supplies and changed governorship several times in the early 1500s. Soon, French pirates trying to disrupt this line of supply subjected the island to raids. These raiding parties took a grave toll on the Taino Indians. In 1578, the remaining Taino Indian population of ~10-30, down from a high of 152 reported in 1517, was transferred to Puerto Rico to protect them (Wadsworth 1973). This 1578 date of removal of the Taino Indian population from the islands provides a possible upper limit on the age of the bone and charcoal deposit.

Circumstantial evidence suggests that the bone and charcoal deposit is of Taino Indian origin; however, Europeans could have been responsible.

Prior to contact with Europeans in 1494, the island had been an important link in the travel patterns of the peoples of the Caribbean for possibly 2,000 years. It was a stopover on the long voyage between Hispaniola and Puerto Rico. There have been two archaeological excavations on the island. The first was the excavation of a village site in the Sardinera region at the west end of the island. This village was likely the same one found by Columbus in 1494. The village site is still evidenced by shell heaps and potsherds in the area (Santana 1973). The second excavation was conducted in Cueva de los Caracoles (Davila 1991). Stone implements, beads, amulets, and pieces of shell were recovered from the cave. Pictographs and petroglyphs are in several caves on the island (Frank 1993). These are carved into the cave walls or flowstone or they consist of black charcoal or mud drawings on the cave walls. Two "ball courts" are present on the island at Bajura de las Cerezos and at Los Corrales de los Indios (Alegria 1983). The ball court at Los Corrales de los Indios is oriented north-south and bounded by aligned stones at its margins. It measures 27 m wide by 35 m long. The ball court at Bajura de los Cerezos is 27 m by 40 m. The archaeological evidence clearly indicates that a population of Taino Indians were present on the island long prior to European contact. The event marked by the analyzed charcoal sample may represent the terminal phase of a long tradition on the island.

In Cueva Negra, Kaye (1959), described evidence of occupancy by man in the form of fragments of early Spanish colonial and Indian pottery, old glass, and conch shells (*Strombus gigus*). No evidence of this pottery or glass was found in the sample area. He also describes Indian petroglyphs and historical writings found on the cave walls made by finger tracing marks onto the soft limestone surface. Petroglyphs originally found in the walls adjacent to the bone and charcoal deposit in the cave have been nearly destroyed by vandalism. Most of the large caves in the island were mined for guano in the late 1800s and early 1900s. This mining disturbed large areas in these caves and destroyed many potentially rich archaeological sites. Vandalism in easily accessible caves is also taking a toll. Sites, such as Cueva Negra, need to be adequately documented before they are lost.

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