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The politics of Taíno revivalism: the insignificance of Amerindian mtDNA in the population history of Puerto Ricans. A comment on recent research
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The insignificance of Amerindian mtDNA in the population history of Puerto Ricans.

A comment on recent research.

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This article responds to statements I made recently in the fall of 2005. I will not that in my mitochondrial genetics which is passed exclusively through the female line was not that this type of genetic material could have been passed to a Puerto Rican alive today by a single Amerindian female living in the centuries that the technical small number of individuals could have generated the results judged to be significant and that mitochondrial DNA is a very poor analytical tool for use in determining the actual biological history of ethnically mixed populations - including Puerto Ricans who are overwhelmingly European and African in origin according to well-documented historical evidence. Iey wordsg in the field of human genetics and population genetics.
At various times during the past few years, a number of newsgroup and newspaper articles have appeared with headlines such as “UPR study finds high Taíno DNA rate: Tests contradict theory of extinction in PR,” “DNA research upsets Puerto Rico history,” and “Study suggests large number of Puerto Ricans descended from Taíno Indians.” These articles have reported on genetic research conducted on Puerto Rican islanders by Dr. Juan Carlos Martínez-Cruzado and a team of investigators from the University of Puerto Rico at Mayagüez. Focusing on human mitochondrial DNA (which is passed exclusively through the female line), Martínez-Cruzado and his team have determined that the maternal Native American contribution to the Puerto Rican gene pool is 61.3 percent. They claim that this figure is “significant,” but up until the present time, they have failed to adequately clarify or explain why this is the case. They also have failed to adequately explain or demonstrate that “the Taíno contribution to the current population” of Puerto Ricans “is considerable,” that the “DNA analysis reveals substantial Native American ancestry,” and that “some of the Taíno physiognomic traits are still present” in the Puerto Rican population.

Mitochondrial DNA has been used in recent years to trace the genetic ancestry of human populations. For example, a recent comparison of samples of mitochondrial DNA suggests that all humans have descended from a single female who lived in East Africa. Australian, European, New Guinean, and Native American ethnic groups have also revealed a specific number of mitochondrial types. The comparison of these types of mitochondrial DNA over time have enabled scientists to construct a family tree that shows when these groups began to evolve away from each other. However, broad ethnic or racialist conclusions based on this kind of research have limited utility when Puerto Ricans and other populations of mixed ancestry are analyzed.

Based on a study of a “random sample” of the island population, Martínez-Cruzado and his team have concluded “that the mtDNA pool of Puerto Ricans is predominantly Amerindian” or “indigenous Taíno.” However, they have minimized or have failed to report that in many instances, this genetic material may have been passed on to a living Puerto Rican by a single, or very few, sixteenth-century Taíno or Amerindian females, who contributed DNA to this individual through their female descendants, despite the birth of mixed offspring that resulted from a consistent pattern of unions between these females and males of African, European, Asian, and mixed background. In other words, the contribution of Taíno or Amerindian females to a contemporary Puerto Rican may be quite trifling when the actual biological history of that individual’s family is traced back over the generations to the early sixteenth century. There also is the distinct possibility that Puerto Ricans, with dark brown skin, tightly coiled hair, and facial features assumed to be “Black African,” may also have Taíno mitochondrial DNA.
of economic stagnation and depopulation that followed the virtual extinction of Native Americans, the total official population of the island hovered between 3,500 and 8,000 persons.\textsuperscript{20} By 1530, the African population may have already equaled or exceeded the combined Amerindian and European population. As noted earlier, an identifiable mixed African, Indian, and European population had also emerged at the beginning of the seventeenth century.\textsuperscript{21} With the continued arrival of mostly Africans and Europeans in the years between 1600 and 1750, the mixed population became increasingly “mulato,” or of mixed European and African ancestry. The details for this period are skimpy, but the trend is clear.

In 1569, the outgoing governor, Francisco Bahamón de Lugo, was accused of allowing “white” males to mix with “black” females and women of mixed African background (mulatas). In 1673, the city of San Juan was said to be populated by 820 “whites,” 667 slaves, and 304 persons of part African ancestry (pards libres). A French cleric, writing at the beginning of the eighteenth century, observed that a majority of the island’s people was of mixed background (mulatos).\textsuperscript{22} When Marshal Alejandro O’Reilly supervised his exhaustive 1765 census of the island’s resources, the total population of only 44,883 was divided into 5,037 persons of enslaved status and 39,846 persons of free status—identified as “whites,” “blacks” (morenos), and persons of mixed ancestry (pards libres).\textsuperscript{24}

In an attempt to exaggerate the Amerindian element in the biological history of Puerto Ricans, Martínez-Cruzado and his team have defined the term “pardo” as referring to persons of mixed European and Amerindian ancestry.\textsuperscript{25} They cite no source for this truly extraordinary claim, which is not supported in the historical record, or by contemporary historians, anthropologists, and linguists. As would be expected, the term pardo is best translated into English as “brown,” and was used in medieval Spain to define a person who had “brownish skin.” The term was also used as the equivalent of “loco” when applied to humans, and was connected to the word “mulato” which defined persons of African with European or Amerindian ancestry in both Spain and the Americas during the sixteenth century.\textsuperscript{26}

By the late seventeenth century, the term “pardo” had become a somewhat more respectable alternative to the more derogatory “mulato.” In the Caribbean and in Puerto Rico, the term “pardo” was increasingly used to define the “free colored” population in contrast to “mulato,” which was applied to persons of the lowest status and slaves of mixed African and European ancestry. Government officials, visitors to the island, and the census records of the eighteenth and nineteenth centuries are clear on this.\textsuperscript{27} The census of 1775 (see Table 1) shows that the largest identified casta in Puerto Rico (46.7 percent) was of mixed ethnic

<table>
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<th>Table 1: Population of Puerto Rico by Casta, 1775</th>
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<td>“Blancos”</td>
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estimates are available for so-called “white” immigrants during the same period. Nevertheless, it is apparent that the high birth rate and the arrival of substantial numbers of Africans and “whites” had a dramatic impact on the overall make-up of the island population. The figures in Table 2 show that the Puerto Rican population rose from 44,883 in 1765 to 112,906 in 1795, and reached a total of 898,819 just prior to the United States invasion in 1898, when significant immigration came to a halt. Although a number of Amerindian and indio-mestizo convict and “contract” laborers were brought to Puerto Rico from Mexico and other areas to work on San Juan’s fortifications and other projects from the late seventeenth to the early nineteenth centuries, it is clear that the most significant contribution to the biological make-up of contemporary Puerto Ricans came from Europeans and persons of mixed background. In terms of raw numbers and percentages, “whites” and persons of mixed, and mostly African and European background, clearly outnumbered persons defined as “Black” or “Indian.” From the important base date of 1775 and up until 1897, persons defined as “white” constituted between 38.4 percent and 63.9 percent of the total population (51.5 percent to 63.9 percent from 1860 and 1897). At the same time, the population of mixed background varied from 32.2 percent to 46.7 percent of the total during the same period. Thus, given the complex ethnic history of the island’s population, it is not wonder that individual Puerto Ricans can be said to look like “whites,” “Arabs,” “Hindus,” “Amerindians,” “Black Africans,” “Chinese,” and every other possible combination in between, with the continued use of terms such as “blanco,” “colorao,” “rubio,” “trigueño,” “Indio,” “grifo,” “jabao,” “moreno,” “mulato,” “negro,” and “prieto,” as part of everyday parlance in the popular culture.

Martínez-Cruzado and his team have also sent decidedly mixed messages on the conclusions they have drawn from their research. On the one hand, they admit that after “1542,” the Taínos “were slowly assimilated through the following decades or centuries by the settler population,” that “an immigration wave with strong European and African components helped increase the population of Puerto Rico over threefold during the 19th century,” and that this immigration wave has resulted in a Puerto Rican population that is “highly mixed” or “the product of centuries of admixture.” On the other hand, they have also insisted that the population of western Puerto Rico “had a very high Amerindian ancestry in 1776,” and that “the Taíno contribution to the current population is considerable,” which are assertions not supported by the substance of their research.

Martínez-Cruzado, himself, has also articulated these claims more

| Table 3: Estimated Puerto Rican Slave Imports, 1801–1865 |
|----------------|-----------------|-----------------|
| Period         | No. Imported    | Annual Average  |
| 1801           | 0               | 0               |
| 1802–19        | 10,400          | 580             |
| 1820–29        | 11,900          | 1,190           |
| 1830–45        | 22,600          | 1,410           |
article “Sangre Taína” in El Nuevo Día, October 9, 2005, and also in an article published by KACIKE, an electronic journal that is connected to academic and grassroots advocates of Amerindian identity and survivalism. See Martínez Cruzado (2002: 2).

It also appears that the sixteenth century Amerindian female “founder” population could have been quite small. Hypothetically, it could have been as small as 135 Amerindian females in the late sixteenth century. Assuming the virtual extinction of “pure blooded” Amerindians by 1580, this founder population would have produced females of mixed ethnic background that contributed their Amerindian mtDNA to other females of mixed background that over fifteen generations (assuming each female had two daughters) would result in the 61.3 percent of Puerto Ricans who are currently said to carry Amerindian mtDNA by Martínez-Cruzado and his team (2.2 of 3.6 million Puerto Rican islanders).

As would be expected from historical evidence, two other studies suggest a much smaller Amerindian contribution to the genetic make-up of contemporary Puerto Ricans. According to an analysis of “blood group and protein markers” by Hanis et al. (1991), the Native American contribution to the Puerto Rican gene pool is 18 percent, in contrast to the African contribution of 37 percent and a European contribution of 45 percent. In another study—this time of “autosomal ancestry informative markers” (Bonilla et al. 2004), the Amerindian contribution is said to be 17.6 percent in contrast to the African contribution of 29.1 percent and a European contribution of 53.3 percent. In a third study that looked at the “JC virus” by Fernández Cobo et al. (2001), the Asian contribution (assumed to be Amerindian) is said to be 61 percent, which matches the figure by Martínez-Cruzado and his team. However, the authors of this study also conclude that their numbers are probably skewed by several factors that include the effects of “genetic competition” and the “directional or asymmetrical mating” of women with Amerindian genes and men of African or European background (Fernández Cobo, et al. 2001: 385, 395, 397, 398–9).

It also should be noted that all three studies are problematic because of their reliance on small samples and their lack of randomness—for example, 55 volunteers from a “retirement home” or persons “attending an international conference” (Fernández Cobo et al. 2001), and 64 Puerto Rican women from New York “aged 60–75” (Bonilla et al. 2004). There also is a lack of information or a problematic basis for determining the “race” or physical appearances of those sampled (e.g.: a “melanin index”). However, in all three studies, there is a consensus that Puerto Ricans are primarily a people of mixed background—also acknowledged in passing by Martínez-Cruzado and his team, despite their emphasis on the Amerindian component of their mtDNA analysis.

Parra, et al. (2003) have shown that physical appearances are poor predictors for the genetic history and origins of ethnically mixed persons (e.g.: Puerto Ricans). This fact was only recently acknowledged by Martínez-Cruzado and his team (2005: 133, 148). Their earlier research was based in part on Puerto Ricans who exhibited a supposed Amerindian appearance. See Martínez-Cruzado et al. (2001: 491, 494, 503 and passim).
This admission was made twenty years after Bishop Rodrigo de Bastidas claimed that there were only 60 native Indians left in the entire island. See Brau (1966:80), among others. Sued Badillo (1995a: 64–73) also makes reference to the arbitrary, manipulative, and self-serving decisions of Queen Isabella, Christopher Columbus, his son Diego, the Jeronimite Friars, and the “highly corrupted” Audiencia of Santo Domingo, who allowed various groups of Indians to be enslaved and brought to Hispaniola, Cuba, and Puerto Rico in the early decades of the sixteenth century. Finally, there is the June 1604 letter by Martín Vázquez de Arce, bishop of Puerto Rico, who reports that the island is still receiving large numbers (“gran suma”) of enslaved Indians from the Guianas (Sued Badillo 1995a: 67).


18 See Martínez-Cruzado et al. (2001: 492–3), along with Silvestrini and Luque de Sánchez (1998: 92), and Anderson-Córdova (1990: 274), who cite Brau (1966: 199, 1969: 479). Silvestrini and Luque de Sánchez (1988: 202) also state that these Amerindians probably came from other localities—an assertion also supported in one instance by Martínez-Cruzado, who says that they came from Mona Island (see Orlando Sentinel, October 6, 2003). It also needs to be said that Brau (1969: 479), Silvestrini and Luque de Sánchez (1988: 202), and Anderson-Córdova (1990: 274) include other figures for other years. According to them, there were 1,642 “Indians” in 1776, 2,832 in 1790, and 2,922 in 1797. To complicate matters further, Figueroa (1974: 74) substitutes the years 1771 for 1777 and 1778 for 1787. Wagenheim (1998: 91) also repeats the figures in Silvestrini and Luque de Sánchez, but fails to include the numbers for “Indians.” Finally, Brau (1969: 479) makes reference to the absorption of “Indians” into the general “free colored” population by Governor Toribio Montes in 1808.

19 According to Sued Badillo (1995b: 39), the “Indians” of Mona Island were resettled in the hills of Añasco and San German before 1685. He also suggests (1995b: 40) that the late eighteenth century “Indians” may have come from Venezuela and/or Mexico. On this issue, also see Pike (1983: 134–47 and passim), Picó (1986: 141–2), and Haslip-Viera (1999: 111–2).

Also, given the demographic history of the Caribbean between 1492 and 1775, it would seem that all or most of these individuals were already persons of mixed background despite their official status as “Indians.”

20 See Víla Vilar (1974: 30–1) and Silvestrini and Luque de Sánchez (1988: 88–95, 102–17). The claim by Fernández Méndez (1970: 145) that Puerto Rico had a population of 68,605 in 1646 should also be noted; however, no source is given for this figure.

21 The beginnings of the mixed

32 Picó (1986: 141–2) and Sued Badillo (1995b: 39, 40). Also see Pike (1983: 134–47 and passim) and Haslip-Viera (1999: 111–2). The term indio-mestizo has been used by Aguirre Beltrán (1972) and others to define persons of mixed Indian and European ancestry in Mexico as opposed to other mestizos with different mixtures.

33 See Table 2. The ups and downs in the relative percentages for “whites,” “free pardos, mulato,” and “colored,” and the shift towards “whiteness” during the course of the nineteenth century probably resulted from the redefinition of people from “black” to mixed, and from mixed to “white.”

34 Martínez-Cruzado et al. (2001: 492, 493; 2005: 131, 133, 150). In another preliminary study of their sample, Martínez-Cruzado and his team have reported on the 70 percent of Puerto Ricans who have Y chromosomes that have European traits (passed through the male line), 20 percent that have African traits, and 10 percent that have Indian traits. This is almost the reverse of the ethnic breakdown for the percent ages of female mitochondrial DNA in the same Puerto Rican sample, and demonstrates the overall mixed nature of the island population. See Orlando Sentinel, December 26, 2003 <www.orlandosentinel.com>; Juan Gonzalez in New York Daily News, November 4, 2003, p. 42; Martínez-Cruzado et al. (2005: 147, 149); Martínez Cruzado in El Nuevo Día, October 9, 2005; and the supplement “Viva in New York,” New York Daily News, November 20, 2005.

35 Martínez-Cruzado et al. (2001: 491; 2005: 148). The claim that the population of western Puerto Rico “had a very high Amerindian ancestry in 1776” seems to have been contradicted by Martínez-Cruzado in a recent article, where he states that the majority of women with Amerindian mtDNA have been located in the coastal areas of the island as opposed to the mountainous interior, and that “we can no longer say that there is a greater Amerindian heritage in the mountains of Puerto Rico.” It’s also not clear to this reader that Martínez Cruzado can also claim that there was a nineteenth-century movement of women with Amerindian mtDNA from the interior to the coast, while women with African mtDNA remained in the interior, and then base this claim on mtDNA research that focuses on Puerto Rican women in the contemporary period. See Martínez Cruzado’s article “Sange Taína” in El Nuevo Día, October 9, 2005.

36 See Orlando Sentinel, December 26, 2003 <www.orlandosentinel.com>; Claridad, November 27–December 3, 2003, pp. 29–39; and Indian Country Today, October 6, 2003 <www.indiancountry.com>. It should be noted at this point, that Martínez-Cruzado has recently backed away from some of these extreme statements. Martínez-Cruzado now admits that the research “does not demonstrate that the genetic make-up of Puerto Ricans is primarily indigenous,” nor does it “provide data on the overall genetic make-up


