# PRECERAMIC CONNECTIONS BETWEEN YUCATAN AND THE CARIBBEAN

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*Archaeologists have long noted similarities between the lithic artifacts of the first colonists of the Greater Antilles (ca. 3500–2000 B.C.) and those from the eastern Yucatán Peninsula. Recent archaeological work in northern Belize has provided additional archaeological information on the characteristics and dating of the mainland assemblages. New findings by Caribbean archaeologists also have contributed to a clearer picture of the circumstances surrounding the first human migration to the Greater Antilles. A Yucatecan origin for the first Caribbean migrants is now considered probable.*

*Hace mucho tiempo que los arqueólogos han notado las similitudes entre los artefactos líticos de los primeros colonizadores de las Antillas Mayores (aproximadamente 3500–2000 a.C.) y los de los habitantes tempranos de la costa oriental de la península de Yucatán. Los resultados de excavaciones arqueológicas recientes en el norte de Belize ofrecen nuevos datos acerca de las características y fechas de los artefactos líticos de Yucatán. Investigaciones adicionales por arqueólogos en las islas del Caribe han contribuido también a crear una visión más clara de las circunstancias de la primera migración humana a las Antillas Mayores. Un origen yucateco para estos primeros inmigrantes caribeños actualmente se puede considerar como el más probable.*

As early as the 1950s archaeologists commented on the similarities between the lithic assemblages of Maya culture in the lowlands of the eastern Yucatán Peninsula and the earliest assemblages (ca. 3500–2000 B.C.) from the Greater Antilles (Bullen 1976; Callaghan 1990; Coe 1957; Rouse 1960, 1992). At that time, however, little was known about the early assemblages in the Caribbean or surrounding mainlands, or of their relative chronologies. Julian Steward suggested Florida as the source for the earliest inhabitants of the Greater Antilles in his introduction to the *Handbook of South American Indians* (1948). But Rouse, in that volume and later (1941, 1960, 1964), was more cautious, commenting on the similarities between Antillean assemblages and those from North, South, and particularly Central America. This paper provides an update to the possibility of a connection between Belize and the Greater Antilles. New data exist for the relevant time periods on both sides of the Yucatán channel (Figure 1). The Archaic chronology for Belize has been considerably revised since 1985, and further work is underway (Hester 1994a; Hester et al. 1993, 1996; Hudler et al. 1995; Iceland et al. 1995; Iceland and Hester 1996; Kelly 1993). Researchers also have carried out additional work on the early material from the Caribbean (Moore 1991; Pantel 1988). This new evidence strengthens the likelihood that the first human colonizers of the Greater Antilles came from the Yucatán Peninsula. The origins and ancestries of the first colonizers of the Greater Antilles are of great interest to archaeologists concerned with the later prehistory of the archipelago because of the growing realization that their descendants played an important role in the emergence of the complex Taíno chiefdoms in the Caribbean (Wilson 1996).

This paper first reviews the revisions being made to the Belize archaeological chronology

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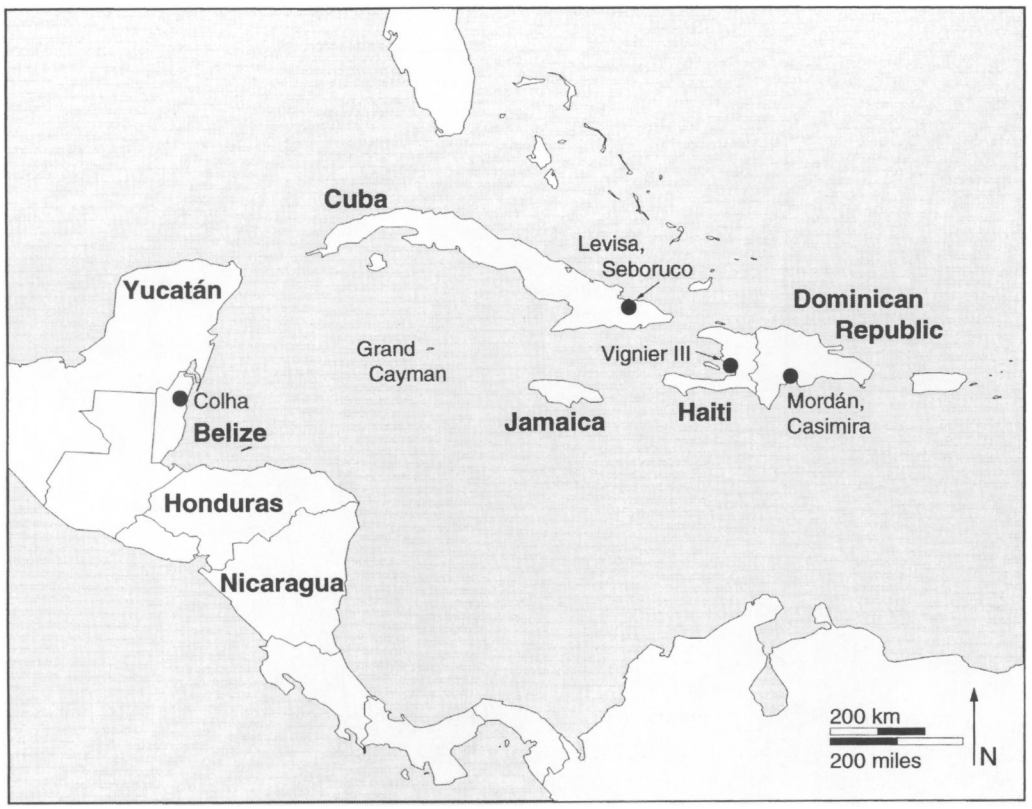


**Figure 1. The Greater Antilles and Central America.**

and, in particular, looks at the recently excavated material from the site of Colha in Belize (Figure 2) that is contemporary with the lithic material from the Greater Antilles. The similarities in manufacture and morphology of the tools are examined, and the implications for understanding more about the first colonizers are discussed.

## The Archaeological Sequence in Belize

Callaghan (1990) recently commented on the similarities between the Belize and Greater Antillean lithic material, basing his observations on the reports of the Belize Archaic Archaeological Reconnaissance (BAAR; MacNeish et al. 1980; MacNeish and Nelken-Terner 1983). The BAAR project was intended to produce a regional sequence of human occupation in the lowlands of Belize from Paleoindian times until the Early Preclassic. Richard MacNeish had been intrigued by the large number of pre-Maya surface finds recovered by early surveys carried out by the Colha Project in northern Belize (Hester *et al.* 1980; Shafer et al. 1980), and hoped to provide a lowland study similar to his highland survey in the Tehuacán Valley (*The Prehistory of the Tehuacán Valley*, 5 vols., Byers, 1967–1972). Many aceramic sites were already known from Belize, and more were identified through the BAAR's surface reconnaissance. Six sites were chosen for excavation. These excavations, directed by R. Zeitlin and J. Zeitlin, produced a multiphase archaeological sequence, which they estimated to span from 9000 to 2000 B.C. Datable material was very poorly preserved in the excavated sites, however, and stratigraphy was extremely limited, so cross-dating of the lithic artifacts was used to tentatively align their local relative chronology with absolute chronologies from the Mesoamerican highlands or even farther afield (MacNeish and Nelken-Terner 1983; Zeitlin 1984; Zeitlin and Zeitlin 1996). The authors emphasized that the dates they associated with their complexes were provisional.

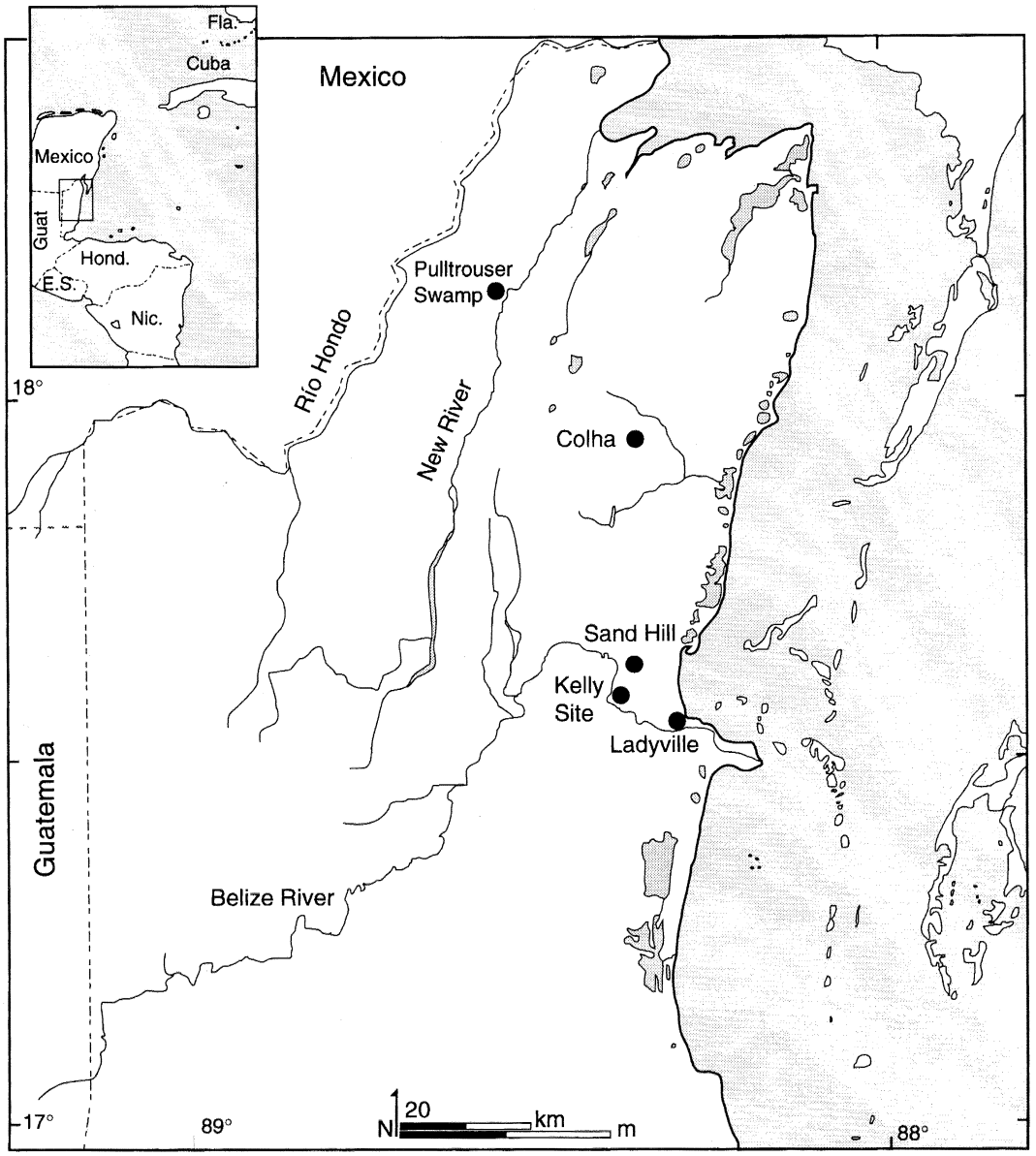


**Figure 2. Northern Belize, showing preceramic archaeological sites.**

The BAAR chronology did not correlate well with the more extensive radiocarbon chronology from the Caribbean (Figure 3 and Table 1). There, early lithic assemblages based on blades and macroblades had been found in Cuba, Haiti, and the Dominican Republic. The material was similar, but the dates were considerably more recent than the provisional BAAR dates. In Rouse's classificatory scheme (1992: Figure 14) the assemblages are seen as part of the Casimiran Casimiroid subseries. At present, the earliest radiocarbon date for human occupation in the Greater Antilles is 5580+80 B.P. (Table 1) from the Haitian site of Vignier III (Moore 1991). This left a gap of about 1,400 years between the end of the somewhat similar Orange Walk complex in Belize (6000–5000 B.C.) and the earliest dates of the Casimiran/Seboruco-Mordán occupations. There

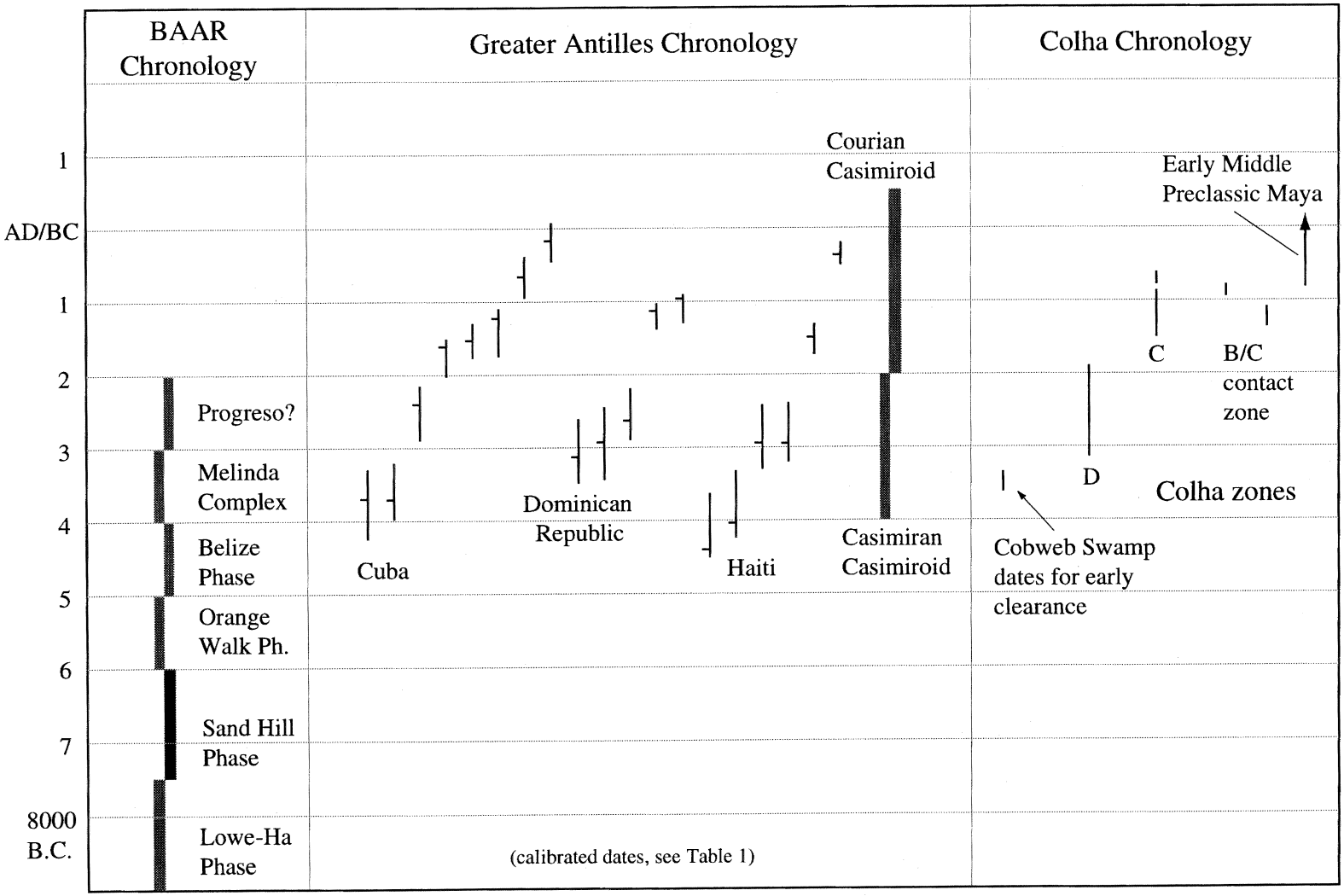


**Figure 3. Comparison of Belizean and Greater Antillean chronologies**

Table 1. Selected Calibrated Radiocarbon Dates from Cuba, Haiti, and the Dominican Republic

| Location | Lab No. | Site | Radiocarbon Age | | Calendar | Calibrated Date | |
|---|---|---|---|---|---|---|---|
| | | | Date B.P. | +/- | A.D./B.C. | Cal range from/to B.C.* | |
| Cuba | Gd-252 | Levisa | 5140 | 170 | -3190 B.C. | 4250 | 3700 |
| Cuba | ** | Levisa | 5050 | | -3100 B.C. | 3980 | 3710 |
| Cuba | SI-429 | Residuario Fuenche | 4000 | 150 | -2050 B.C. | 2900 | 2300 |
| Cuba | Gd-204 | Levisa | 3460 | 160 | -1510 B.C. | 2030 | 1530 |
| Cuba | Y-1764 | Damajayabo | 3250 | 100 | -1300 B.C. | 1670 | 1430 |
| Cuba | SI-428 | Residuario Fuenche | 3110 | 200 | -1160 B.C. | 1650 | 1100 |
| Cuba | SI-427 | Residuario Fuenche | 2510 | 200 | -560 B.C. | 850 | 390 |
| Cuba | SI-426 | Residuario Fuenche | 2070 | 150 | -120 B.C. | 360 | A.D. 70 |
| Dom. Rep. | Y-1422 | Mordan | 4560 | 80 | -2610 B.C. | 3490 | 3100 |
| Dom. Rep. | IVIC-5 | Mordan | 4400 | 170 | -2450 B.C. | 3340 | 2900 |
| Dom. Rep. | Tx-54 | Mordan | 4140 | 130 | -2190 B.C. | 2900 | 2580 |
| Dom. Rep. | I-6790 | El Porvenir | 2980 | 95 | -1030 B.C. | 1390 | 1090 |
| Dom. Rep. | I-6615 | El Porvenir | 2855 | 90 | -905 B.C. | 1200 | 910 |
| Haiti | Beta-26796 | Vignier III | 5580 | 80 | -3630 B.C. | 4510 | 4350 |
| Haiti | Beta-30944 | Vignier II | 5270 | 100 | -3320 B.C. | 4240 | 3990 |
| Haiti | Beta-20473 | Matelas | 4370 | 90 | -2420 B.C. | 3300 | 2900 |
| Haiti | Beta-30942 | Des Cahots | 4340 | 80 | -2390 B.C. | 3100 | 2900 |
| Haiti | Beta-30943 | Phaeton | 3260 | 70 | -1310 B.C. | 1630 | 1450 |
| Haiti | CACII | Ca Coq II | 3090 | 50 | -1140 B.C. | 1740 | 1410 |
| Haiti | Beta-7141 | Bois Neuf | 2855 | 55 | -905 B.C. | 1260 | 900 |
| Haiti | Beta-7142 | Bois Neus | 2740 | 65 | -790 B.C. | 1040 | 800 |
| Haiti | Beta-25933 | Caberet | 2280 | 80 | -330 B.C. | 410 | 200 |
| Zone C | TX8295 | Colha, Belize | 2620 | 38 | -670 B.C. | 826 | 795 |
| Zone C-1 | CAMS8397 | Colha | 2780 | 60 | -830 B.C. | 1000 | 840 |
| Zone C | CAMS8399 | Colha | 2930 | 60 | -980 B.C. | 1260 | 1050 |
| Zone B4/top C | TX8106 | Colha | 2936 | 169 | -986 B.C. | 1390 | 930 |
| Zone C | CAMS8398 | Colha | 2940 | 80 | -990 B.C. | 1300 | 1030 |
| Zn C/B interface | TX7371 | Colha | 2950 | 100 | -1000 B.C. | 1320 | 1030 |
| Base of Cobweb Clay Fill | Beta-46785 | Colha/Cobweb Swamp | 2952 | 60 | -1002 B.C. | 1270 | 1060 |
| Zone C | TX7459 | Colha | 3118 | 140 | -1168 B.C. | 1600 | 1160 |
| Zone D | TX7460 | Colha | 3970 | 400 | -2020 B.C. | 3100 | 1900 |
| Zone D | TX8020 | Colha | 4532 | 117 | -2582 B.C. | 3380 | 3030 |
| Base of Lower Field | Beta-64376 | Colha/Cobweb Swamp | 4630 | 60 | -2680 B.C. | 3510 | 3200 |
| Cobweb Clay above basal marl | Beta-39443 | Cobweb Swamp 4BB | 4723 | 65 | -2773 B.C. | 3220 | 3010 |

* Calibrations, (1 sigma range) (OxCal v.2.18) (Stuiver and Kra 1986)
** sample # not reported

was an even greater chronological discrepancy with the Belizean lithic complex that seemed to have closest similarities to the macroblade assemblages of the Greater Antilles. This complex—termed Sand Hill—had a suggested terminal date of 6000 B.C.

In recent years, both the tentative archaeological sequence of complexes and the associated

chronology proposed by the Belize Archaic Archaeological Reconnaissance have been called into question (Kelly 1993). New excavations and radiocarbon dates, along with supporting archaeobotanical work (Jacob 1995; Jones 1994), have changed the picture of the Belizean preceramic considerably, particularly those aspects of the chronology that are relevant for understanding the Greater Antillean material.

Excavations (directed by Thomas Hester and Harry Shafer) at the Maya site of Colha in northern Belize have produced evidence that is relevant to understanding these chronological problems. In 1987, archaeologists carrying out off-mound testing away from the ceremonial center of the site found what appeared to be preceramic occupations beneath the Maya strata. Further explorations in 1991 and 1993 confirmed the existence of two preceramic components. Based on several radiocarbon samples (see Figure 3), the earlier component is dated to approximately 3500–2000 B.C. and the later to around 1500–900 B.C. (Hester 1994b; Hester *et al.* 1996; Lohse 1993; Wood 1990). The earlier component contains what appears to be an in situ lithic quarry production locale, with large macroblades, massive nodular cores, prepared blade cores, and smaller blades (Figure 4). Blades and flakes exhibit broad single-facet platforms and pronounced cones and bulbs typical of hard hammer percussion. Pointed unifaces are the only complete retouched tool forms in this component. Similar large macroblades, sometimes trimmed or exhibiting evidence of usewear, are frequent in surface collections from Sand Hill, about 30 km north of Belize City (Hester *et al.* 1980); pointed unifaces have been recovered there and at the nearby early sites at Ladyville. These large macroblades are often 25 cm or more in length; pointed unifaces range up to 16 cm or so.

The later preceramic component at Colha contained numerous constricted unifaces and uniface preforms, along with massive cores, macroflakes and blades, and large amounts of flake debitage. It appears that these constricted unifaces were made in the immediate area and probably were used nearby as well. Another constricted uniface production locale was located at the Kelly site, near Ladyville, and complete specimens have been recovered in surveys at several sites between Ladyville and Colha. A constricted uniface also has been reported by Mary Pohl at Pulltrouser

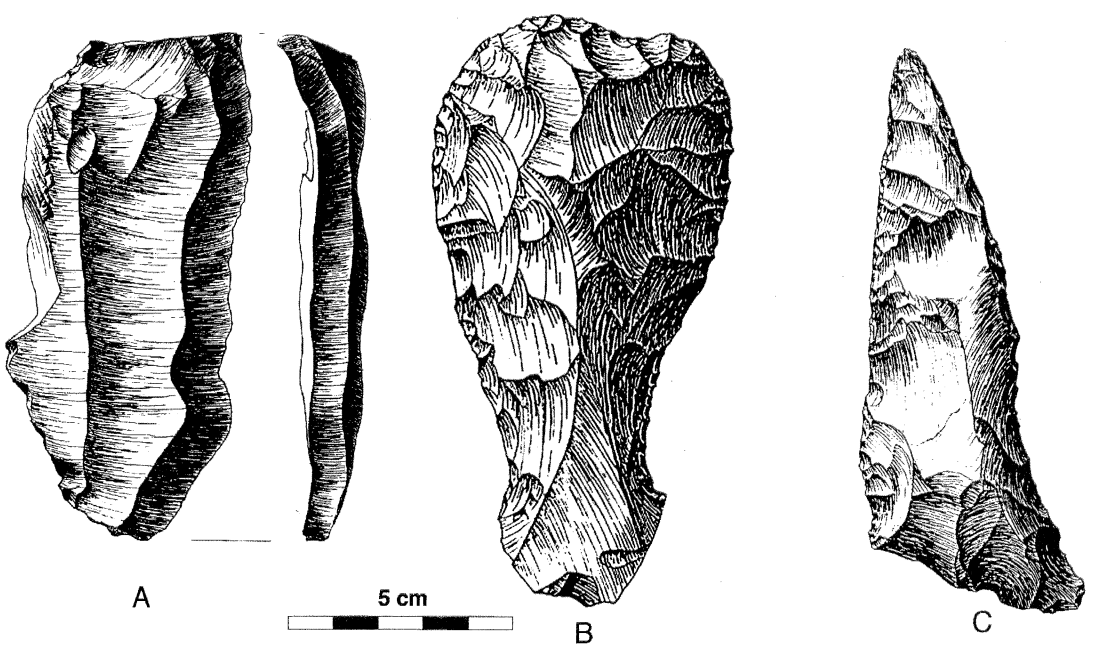


**Figure 4. Artifacts from Colha. "A" is an interior macroblade from CH4046, Zone D; "B"is a constricted uniface from Zone C; and "C" is a pointed unifacially worked macroblade from Zone D.**

Swamp, north of Colha, with an associated radiocarbon date of about 1300–1000 B.C. (Bower 1994:279). These distinctive artifacts are called "snowshoe" or "sole-shaped" unifaces in the BAAR reports, where they are considered diagnostic of the early Archaic Sand Hill complex (and which as noted above had been tentatively dated to 7500–6000 B.C.). They also are apparent in other phases in the BAAR sequence (MacNeish and Nelken-Terner 1983).

The results have some important implications for examining the Caribbean connection, as they raise further problems with the chronology and artifact typologies proposed by the BAAR. The BAAR typology and chronology were first approximations subject to modification. The emerging chronological revisions enable the Caribbean material to be correlated with the Belizean Sand Hill complex. In fact, with the Colha excavations, the chronologies of the early blade/macroblade assemblages from the Caribbean and Belize now correspond very well—people were producing very comparable macroblades and blades in Belize at about the same time and in the same way as were the people who moved into the Greater Antilles.

The recent research at Colha raises another very interesting possibility concerning the economy and lifeways. Paleobotanical work done in Cobweb swamp, adjacent to the site, has produced evidence that the preceramic people at Colha were cultivating maize (*Zea mays*) and possibly manioc (*Manihot esculenta*) as early as 3500 cal B.C.; later they were growing chilis and cotton (Jones 1994). Very little is known of the overall economy and adaptation patterns of the first Caribbean colonists. Moving into such a rich and uninhabited environment as the uncontested top predators probably made horticulture unnecessary. It should be a priority to excavate some of these Caribbean sites, perhaps those recently reported by Moore (1991), to learn more about how their residents lived.

## Comparison of the Lithic Assemblages from Belize and the Antilles

How similar are the assemblages from Belize and the Caribbean, and might their similarity be coincidental? Parry (1994:87) notes that prismatic blade production, while a fairly common Old World lithic phenomenon, is relatively rare and highly localized among prehistoric societies in the New World. A striking aspect of New World blade industries, he finds, is their diversity in terms of production techniques, raw materials, blade sizes, and functions. In his survey of nine lithic industries occurring in various parts of North America (including Mesoamerica) at various times, he finds that virtually all "appear to be independent developments with no evidence of historical connections among them" (Parry 1994:87). Just two of these lithic industries, the Clovis and Maya chert blade industries, involve primarily the production of macroblades. The Caribbean blade-making traditions are not included in his study, probably because they are much less well known in the U.S. literature. In this broad geographical and chronological perspective, then, the possibility of a direct connection between Belizean and Antillean macroblade makers appears to warrant further examination.

As Pantel (1988) and others point out, it is often more useful to analyze the manufacturing process of the lithic pieces than merely to study their shapes (see also Kozlowski 1974; Rouse 1986; Veloz Maggiolo 1976; Veloz Maggiolo and Vega 1982). In comparing the Belizean and Caribbean assemblages, we are paying particular attention to the earliest assemblages, for example, the lower levels at Barrera I in the Dominican Republic (Veloz Maggiolo 1976) and Levisa I in Cuba (Pantel 1988), where, as in northern Belize, macroblades make up a large part of the assemblages.

According to Veloz Maggiolo (1976:111), the chert-working tradition in the Dominican Republic began with the production of large macroblade artifacts during Barrera I, somewhat before 2600 B.C. Trimmed macroblades ("prepared blades") and pointed unifaces ("prepared blades feathering") are the most frequent intentionally retouched artifacts at the Dominican sites of Barrera, Mordan, and Casimira. Artifacts illustrated from this phase and Barrera II (beginning ca. 2200 B.C.), then, are contemporaneous with the macroblade assemblages at the early Belizean sites and strikingly similar in several respects. As examples, a trimmed macroblade 25 cm in length and a pointed uniface 22 cm long have virtually identical counterparts from Colha and Sand Hill.

Although the flaking detail on the Dominican samples is not entirely clear, it appears that the former is a massive macroblade with a relatively unmodified point, a trapezoidal cross-section, and lateral trimming, while the latter has a heavily retouched point and an approximately triangular cross-section, as is the case with the Belizean specimens. It should be emphasized that these are not exceptional artifacts, but, based on our still limited data, the most frequent retouched forms at early sites in both regions. Collections of preceramic lithic artifacts from sites in the central range of mountains in the Dominican Republic illustrated by Veloz Maggiolo (1976:149) appear to be similarly dominated by broad macroblades with retouched margins and pointed unifaces that have triangular cross-sections. It also should be noted that, while distinctive "daggers" on macroblades with unmodified converging distal tips and bifacially flaked stems also appear to be common to both Belize and the Dominican Republic, as illustrated by Veloz Maggiolo (1976:281) citing Coe, the Belizean specimens cannot be dated with any certainty to the Preceramic; they are well known from Preclassic Maya times (Shafer 1991:33).

In the Greater Antilles, the earliest macroblade tools were produced using high-quality chert from sources in eastern Cuba, Haiti, and the Dominican Republic. Pantel (1988:161–179) describes the lithic production process as consisting of the removal of cortical flakes from chert nodules to prepare cores with perpendicular striking platforms, followed by the use of hard-hammer percussion to produce macroblades and macroflakes that received minimal additional, usually unifacial, retouch. Kozlowski (1974:40) describes the core technology used by Seboruco-Mordán stone workers in Cuba and Hispaniola in similar terms. Blades and flakes were produced on single-platform cores with flat, unprepared platforms, as well as cores with two platforms perpendicular to one another, and sometimes multiplatform and other core forms.

The earliest stone tool assemblages in the Caribbean consisted of general purpose tools, often made on macroblades and smaller blades. At Levisa I, blade tools were gradually supplanted by tools made on flakes. In Levels VII and VI, the earliest stratigraphic levels at Levisa I, nearly all tools were made on blades, which tended to be long, thin, and slender (Kozlowski 1974:55). Several radiocarbon dates from this level span ca. 3200–2200 B.C. Blade tools appear to become increasingly scarce in Levels V–II, and blades are generally thicker and shorter. By Level I, nearly all tools are made on flakes or unworked fragments (Kozlowski 1974:50). Kozlowski (1974:42) uses this transformation of the underlying technology of the Levisa I assemblages in a model of technological change in which "the [Seboruco-Mordán culture] appeared in the Caribbean in a highly developed form and it is only in the isolated conditions of the islands that the technique of manufacuring flakes and blades underwent a degeneration, manifested by the replacement of blades with flakes."

In contrast, Rouse (1992:58; Cruxent and Rouse 1969) sees blade production as a later elaboration by the people making Courian Casimiroid subseries artifacts in the Dominican Republic and Haiti after 2000 B.C. (the related subseries is Redondan Casimiroid in Cuba). In this view, blade tools, after a period of use, declined in importance (Rouse 1992:61). Certainly large unifacially and sometimes bifacially-worked macroblades appear in the Courian Casimiroid sites (Figure 5:a, b). It may be that artifacts that could be seen as more formal tools, such as "Couri points" and large unifacially worked "knives," may have been made on the macroblades (see Kozlowski 1974:Table IX). However, the evidence for blade and macroblade production at the earliest Casimiran and Seboruco sites seems persuasive (Callaghan 1990; Kozlowski 1974; Moore 1991; Veloz Maggiolo 1976). And as Pantel (1991:161) notes, there is no evidence of a technological change in lithic reduction patterns from earlier to later sites.

## Other Routes of Migration

In regard to other possible sources for the earliest occupants of the Caribbean, research over the past decades has not produced strong alternatives to the route from the Yucatán to Cuba. A great deal of archaeological research has been carried out in the Lesser Antilles, and archaeological deposits similar to the earliest ones from the western Greater Antilles have not been found. The migration route from the east, through the Lesser Antilles, appears less plausible as a source of the

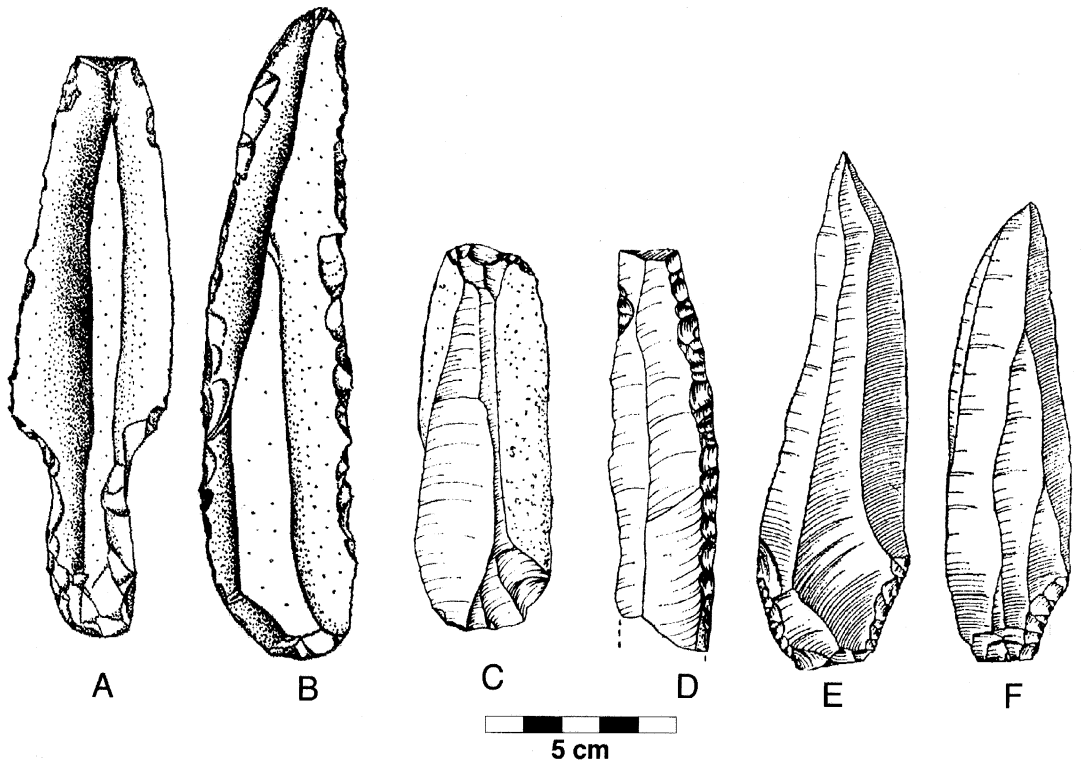


**Figure 5. Artifacts from Cuba and Hispaniola. "A" and "B" are unifacially worked macroblades from Couri, Haiti (after Rouse 1960), "C" through "F" are from Levisa, Cuba (after Kozlowski 1974).**

early colonists. Also, despite reconnaissance, archaeologists have not found evidence that people used other proposed migration routes, such as through Grand Cayman (Stokes and Keegan 1993) or along the mid-Caribbean island chain between Nicaragua and Jamaica. However, with Holocene sea-level rise, and the probable subsidence of the mid-Caribbean ridge, the evidence for temporary settlements along the route from Nicaragua and Honduras, trending northeast toward Jamaica, would now be submerged.

Callaghan (1991) undertook a computer simulation study of this problem, looking for the most and least likely routes for trips from the mainland to the Greater Antilles. He used modern winds and ocean currents to simulate the voyages of rafts and canoes assuming that they (1) were allowed to drift, (2) had sails, and (3) were paddled. In the experiment, assuming that the water craft were paddled, he suggested the northern coast of South America was the most probable point of departure, but concluded that, "[although] rafts had very limited possibilities of success in this experiment, the canoes had high possibilities from all three regions considered [Venezuela/Colombia, the Eastern Gulf, and Northern Central America]" (Callaghan 1991:66).

Finally, archaeological research over the last few decades has not produced strong alternatives to the Yucatán Peninsula as a source for the first colonizing population. Observations have been made about artifact complexes with similarities (e.g., Las Casitas and Canaima in Venezuela, complexes from Catrú in Colombia, El Inga in Ecuador, the Joboid assemblages from South America, and the Early Archaic unifacial adzes of north Florida [Gerrell et al. 1991]). All of these cannot be reviewed here, but in each case there are problems with the comparability of the lithic technologies, large chronological discrepancies, and/or lack of geographically intermediate assemblages.

## Conclusion

For some time now, a good case has existed for Belize, and Yucatán generally, as the source of the early lithic cultures of the Caribbean. The similarities in macroblade technology between the two areas argued for some connection between the groups, separated by the Yucatán Channel. The chronologies for the assemblages on either site of the channel did not correspond well, however, and the detailed similarities in lithic technology had not been explored. Recent research at the site of Colha in northern Belize resolves some of the chronological questions concerning the comparable assemblages in Cuba and the eastern Yucatán Peninsula. With these new dates and lithic assemblages, it is possible to make a much stronger case for the contemporaneity of groups using similar technology on both sides of the Yucatán Channel. It now seems probable that the first colonizers of the Caribbean came from Middle America around 4000 B.C.

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