

# NMAI Caribbean collections: Preliminary overview of dating and wood ID results



Figure 1. Detail of Loma de Polo figurine (NMAI 05/8307), AD 1030-1157.

Report by Joanna Ostapkowicz  
Compiled as part of the  
*Pre-Hispanic Caribbean Sculptural Arts in Wood project*  
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Figure 2. The Cuban La Patana Platter yielded an extremely tight date of AD 1412-1447 (95.4% at 2 sigma). It reflects the exceptional carving skills of the Baracoa artists at the height of the region's artistic fluorescence.

### Overview:

All the radiocarbon results are now available, as are 13 of the 18 wood IDs – and this report is a review of these results. The stable isotope samples have not as yet been processed, as standards are first being established through comparable *Guaiaecum* sp. and *Swietenia* sp. specimen collections at the BRE, USDA Forest Services and the Oxford Xylarium, but all are now with Prof. Michael Richards at the Max Planck Institute, Leipzig, Germany. The pigment and resin samples have been sent to Dr. Erika Ribechini, of the Department of Chemistry at the University of Pisa, Italy, for processing and results should be available by the end of the project (October 2009).

### AMS Radiocarbon dates<sup>1</sup>:

A total of 22 <sup>14</sup>C samples were taken from the 18 artefacts, including, in selected objects, additional resin or pith wood samples to cross-reference results and better place each piece chronologically. The maximum measurement error term was  $\pm 29$  years, with the majority falling within the  $\pm 24$ -25 year range. The calibration ranges tended to be below 115 years, with three falling within poor calibration plateaus resulting in wider ranges at 2 sigma – 200 years in the case of the wood sample from the La Gonave cylinder/drum (AD 782-982) and 400 years for the resin and wood samples, respectively, from the La Gonave anthropomorphic cylinder and the St Ann's Figure (both at AD 1666-1951). Some very tight ranges were also achieved:

<sup>1</sup> Unless otherwise noted, all dates are here reported at 2 sigma, or 95.4% confidence.

noteworthy is the 35 year spans for the La Patana Platter (AD 1412-1447)(Figure 2) and the Maracayo Duho (AD 1413-1448) – both of which fell within a steep part of the calibration curve.

The dates predominantly cluster between AD 1000 and 1500, refining our understanding of this period of Taíno artistic florescence (Table 1 and 2; Figure 3). Some pieces, such as the Loma de Polo Figure (AD 1080-1152; wood sample)(Figure 1), from the Dominican Republic, and the Lady Blake Duho 1 (AD 1044-1215), from Grand Turk, provide some of the earliest dates for such complex imagery. Others fall at the very cusp of European contact (Acklins Island Duho – AD 1436-1516; Mores Paddle – AD 1436-1511; 88.8% confidence), a period that, before this project, was thought to apply to most if not all Taíno wooden sculpture.

Several pieces also fall very early, helping to chart the development of wood carving on the islands (Pinar del Rio Staff, AD 259-418), while the presence of iconic ‘chiefly’ accoutrements – such as duhos – appear earlier than expected (Baracoa Duho, AD 665-770).

Resin dates, which compliment the wooden samples taken from some individual sculptures, suggest that some objects may have been curated over a significant period of time, having their resin inlay ‘refreshed’ periodically (Loma de Polo Figure, with resin date falling a minimum 100 years after the wood date). This is perhaps the first direct evidence of cross-generational use of Taíno artefacts – which, given the labour intensive manufacture of these carvings, alongside the possible belief in their continued spiritual relevance, is not necessarily unexpected. Further analysis of the resins is needed to confirm this possibility, and this is currently underway.

Among the results is a 19<sup>th</sup>- 20<sup>th</sup> century date for a naturalistic carving (Maracayo Snake sculpture – AD 1810-1926; 69.3% confidence) which does not fit the typical, highly stylistic conventions of Taíno art (and was specifically selected to check assumptions of what Taíno art is). The date suggests that it may be a *campansino* sculpture, or perhaps a ‘fake’ made specifically for sale – which in itself would indicate a potentially early date for Caribbean forgeries.

Interpretation of the above results is ongoing, but is beginning to reveal previously unexplored insights into Taíno art. For example, it is clear from the dates achieved on the NMAI corpus that elaborately carved sculptures – such as the Lady Blake Duho 1 – were not being produced solely towards the end of the ‘Classic Taíno’ period (AD 1000-1500), as is often surmised, but appear during the first part of this period. This finely carved duho, featuring one of the most elaborate back panels currently known, is testimony to the high calibre of carving skills present on the islands at a time when complex chiefdom level societies were thought to be emerging. To see such carving in the form of a duho – an item that came to represent cacical authority – so early on in the Turks and Caicos suggests that clear efforts were made to provide Lucayan caciques with artwork reflective of their escalating socio-political powers. This then raises related issues – for example, what were the social networks that demanded the refinement and elaboration of such objects? Why did the duhos from the Bahamas/Turks and Caicos islands come to be the largest examples currently known for the whole of the Caribbean? This, as well as their unique iconography, would suggest a local variation on the duho style, which was wide-spread within the Greater Antillean islands. This would argue that the Lucayans were utilising established forms of material culture to link themselves to a much wider elite network of chiefly iconography and ideology.

## Wood ID

Of the 18 pieces selected for this study, the wood ID of eight was determined on-site by Dr. Alex Wiedenhoef, resulting in fewer samples being required for this aspect of the project. Fourteen of the wood IDs have now been processed, revealing an overwhelming preference for carving *Guaiaacum* sp. (10 artefacts) and, to a lesser degree, *Swietenia* sp., *Cordia* sp. and *Carapa* sp. (1 artefact each)(Table 1).<sup>2</sup>

*Guaiaacum* sp. is an exceptionally dense and durable tropical hardwood. It is heavily cross-grained, consisting of interlocking diagonal and oblique fibers. While this feature gives the wood a fine, smooth and uniform texture which takes on a high polish when worked, it also makes carving it an extremely arduous task, even with metal tools. The interlocked fibers allow it to withstand enormous pressure, making it three to four times harder than oak and enabling it to last three times longer than steel or bronze under certain conditions. Adding to the wood's distinctiveness is the oily resin which gives it a waxy appearance, making it highly resistant to wear and durable even under conditions conducive to decay. It is this combination of features, among others, which make the wood one of such exceptional quality, and which have created a high demand since its first introduction to the European markets in approximately 1508. This early demand – not only for the wood as a carving material, but particularly for its use as a medicinal cure for such ailments as syphilis – led to heavy logging, to the extent that now only small groves survive, and *Guaiaacum officinale* and *Guaiaacum sanctum* are registered on CITES (Convention on International Trade of Endangered Species) lists.<sup>3</sup>

Unlike the extremely dense *Guaiaacum* sp., *Swietenia* sp. works more easily with hand and machine tools, and has a fine, lustrous finish that is enhanced over the years. Once cut, the wood 'seasons' relatively quickly, with little checking or warping and radial and tangential shrinkage is very low. It is susceptible to insect attack, although decay resistance is fairly good, especially because its cells contain oils, tannin and phenolic substances which impede the growth of fungus. Much of *Swietenia* sp., growth, colour, hardness, grain and figure depend on the soil and climate conditions, to the extent that experts can differentiate between mahoganies from different islands. Like *Guaiaacum* sp., *Swietenia* sp. was also heavily forested over the centuries and remains on CITES lists.

Of the other woods used by Taíno artisans, *Cordia* sp. is another dense tropical hardwood, considered very durable and scoring 2200 – or 'very hard' - on the Janka hardness test (in comparison, *Guaiaacum* sp. scores 4500, and is considered 'extremely hard' while *Swietenia* sp. scores 770-1330, and is only 'moderate to slightly hard'). The final wood identified, *Carapa* sp. (particularly *Carapa guianensis*), is moderately durable and scores 1220 ('hard') on the Janka test (Timyan 1996).

It is clear that the types of wood being selected to carve both large and small scale sculpture were quite dense materials. By their very nature, these would entail a greater investment of time and effort to carve, not only in relation to the quantity of time it would take to harvest the timber in the first place, but also the re-sharpening of tools during the various manufacture stages – from roughing out the piece, to carving the finer details, to final finish. It is clear that despite the difficulties inherent in working such woods, Taíno artisans clearly preferred materials of substance – ones that would last. Above and beyond this, there may

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<sup>2</sup> The Maracayo Snake is carved from *Clusia* sp., but given the 19<sup>th</sup>-20<sup>th</sup> century date for this piece, the wood is not discussed here in the context of pre-Hispanic timber resources.

<sup>3</sup> Full references to the above summaries on *Guaiaacum* sp. and *Swietenia* sp. can be found in Ostapkowicz 1999 *Taíno Wooden Sculpture: Duhos, Rulership and the Visual Arts in the 12-16<sup>th</sup> century Caribbean*, pp 418-19.

have been a specific preference for woods that had spiritual resonance and/or deeply symbolic associations; these aspects can be glimpsed through *cronista* references (e.g., Ramon Pane) as well as the knowledge that has been passed down through the generations. For example, all of the species outlined above have medicinal uses that continue to be used today to cure a wide variety of ailments – from skin diseases (*Guaiacum* sp.), to rheumatism (*Clusia* sp.) to fevers and dysentery (*Swietenia* sp.). Many of these cures were likely learned from the original inhabitants of the islands, who had developed their understanding of the environment over centuries of experimentation prior to the arrival of Europeans, and later, Africans. *Guaiacum* sp., especially, appears to stand out in this respect – its use being adopted early on by Europeans, to the extent that it could not be imported fast enough during the 16<sup>th</sup> and 17<sup>th</sup> centuries. It may be possible to suggest that this demand for the *Guaiacum* elixir was a direct result of the indigenous belief that the tree, and its products, was a source of rejuvenation and life. The tree itself has many unusual features, not least of which is its evergreen foliage: this lushness appears in stark contrast to the very hot, dry environment in which *Guaiacum* sp. thrives. In such a setting, these characteristics may have come to epitomise the essence of fertility for the Taíno.

These aspects, as well as others, are currently being investigated.

Reference cited:

Timyan, Joel

1996 *Bwa Yo: Important Trees of Haiti*, South-East Consortium for International Development, Washington.

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Table 1. Dates for selected NMAI artefacts: from most recent to oldest (with emphasis on most likely ranges)

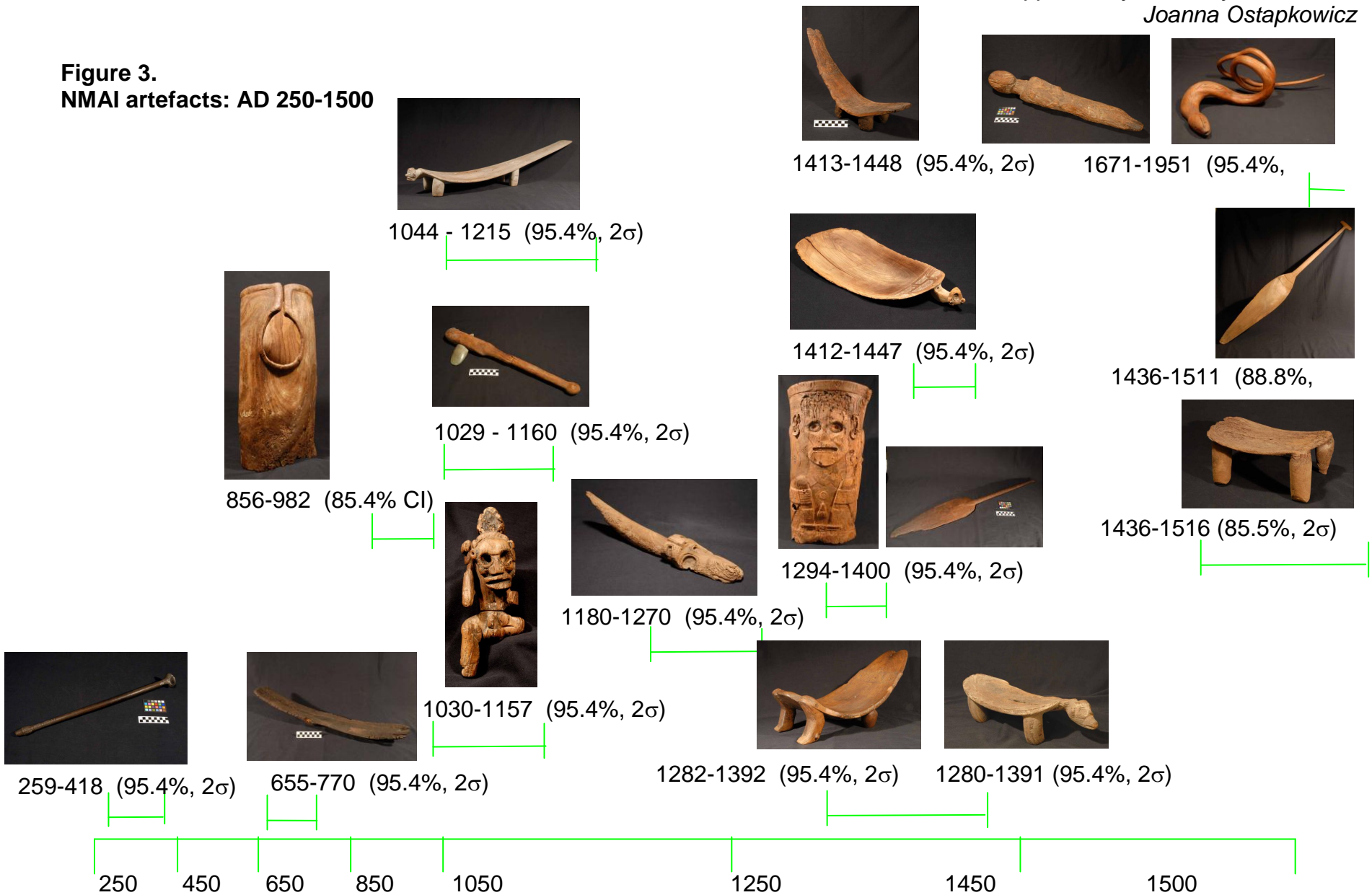
<b>Item</b>	<b>Provenance</b>	<b>Accession number</b>	<b>Date BP</b>	<b>±</b>	<b>Material</b>	<b>d13C</b>	<b>Calibration</b>
1 Maracayo snake sculpture	Puerto Rico	NMAI 14/5110	96	23	wood ( <i>Clusia</i> sp.)	-14.9	AD 1810-1926 (69.3%)
2 La Gonave anthropomorphic cylinder	Haiti, La Gonave, cave	NMAI 19/8807	150	25	resin (1 of 2 samples)	-12.93	AD 1666 - 1951 (95.4%)
3 St Ann's anthropomorphic figure	St Ann's, Jamaica	NMAI 03/3300	152	24	wood ( <i>Guaiacum</i> sp.)	-24.63	AD 1666 - 1951 (95.4%)
4 Acklins Duho	Spring Point Cave, Acklins, Bahamas	NMAI 03/2575	405	25	wood ( <i>Cordia</i> sp.)	-22.82	AD 1436-1516 (85.5%)
5 Mores Paddle	Mores Island, Bahamas	NMAI 03/2574	410	24	wood ( <i>Swietenia</i> sp.)	-23.44	AD 1436-1511 (88.8%)
6 Cantillo Zoomorphic staff	Cantillo, Baracoa, Cuba	NMAI 04/2389	442	24	resin (1 of 2 samples)	-13.66	AD 1420 - 1475 (95.4%)
7 Maracayo Duho	Maracayo, Puerto Rico	NMAI 14/0491	479	24	wood ( <i>ID pending</i> )	-25.41	AD 1413 - 1448 (95.4%)
8 La Patana platter	La Patana, Cuba, cave	NMAI 04/2409	484	24	wood ( <i>Guaiacum</i> sp.)	-22.53	AD 1412 - 1447 (95.4%)
9 Cantillo paddle	Cantillo, Baracoa, Cuba	NMAI 04/5645	545	26	wood ( <i>Carapa</i> sp.)	-24.31	AD 1318 - 1433 (95.4%)
10 Jobo Duho	Jobo, Puerto Rico	NMAI 00/4687	585	26	wood ( <i>ID pending</i> )	-24.78	AD 1302 - 1414 (95.4%)
11 La Gonave anthropomorphic cylinder	Haiti, La Gonave, cave	NMAI 19/8807	617	29	wood ( <i>Guaiacum</i> sp.)	-25.01	AD 1294 - 1400 (95.4%)
12 NMAI Duho 3	'Santo Domingo'	NMAI 14/2434	652	24	wood ( <i>Guaiacum</i> sp.)	-23.94	AD 1282 - 1392 (95.4%)
13 Lady Blake Duho 2 ('dog')	Bahamas	NMAI 05/8027	658	25	wood ( <i>Guaiacum</i> sp.)	-24.37	AD 1280 - 1391 (95.4%)
14 Loma de Polo figure	Loma de Polo, Barahona, DR	NMAI 05/8307	722	24	resin (1 of 2 samples)	-13.65	AD 1255 - 1299 (94.0%)
15 Cantillo Zoomorphic staff	Cantillo, Baracoa, Cuba	NMAI 04/2389	811	25	wood ( <i>Guaiacum</i> sp.)	-24.59	AD 1180 - 1270 (95.4%)
16 Lady Blake Duho 1	Turks and Caicos	NMAI 05/9385	890	24	wood ( <i>Guaiacum</i> sp.)	-24.2	AD 1044 - 1215 (95.4%)

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<b>Item</b>	<b>Provenance</b>	<b>Accession number</b>	<b>Date BP</b>	<b>±</b>	<b>Material</b>	<b>d13C</b>	<b>Calibration</b>
17 North Caicos hafted axe	Turks and Caicos	NMAI 06/0000	932	26	Wood ( <i>Guaiaicum</i> sp.)	-23.01	AD 1029 - 1160 (95.4%)
18 Loma de Polo figure	Loma de Polo, Barahona, DR	NMAI 05/8307	936	24	wood ( <i>Guaiaicum</i> sp.)	-23.6	AD 1030 - 1157 (95.4%)
19 La Gonave cylinder (drum?)	Haiti, La Gonave, cave	NMAI 19/8808	1139	27	Wood ( <i>Guaiaicum</i> sp.)	-24.58	AD 856 - 982 (85.6%)
20 Baracoa Duho	Cuba, Baracoa, cave	NMAI 04/2390	1316	27	wood (outer)( <i>ID pending</i> )	-22.75	AD 618 - 682 (95.4%)
21 Baracoa duho	Cuba, Baracoa, cave	NMAI 04/2390	1371	25	wood (pith)( <i>ID pending</i> )	-24.6	AD 665 - 770 (95.4%)
22 Pinar del Rio staff	Remates de Guane, Malpaton Lake, Pinar del Rio, Cuba, cave	NMAI 09/2389	1686	24	Wood ( <i>ID pending</i> )	-25.01	AD 321 - 418 (81.8%)



**Figure 3.**  
**NMAI artefacts: AD 250-1500**








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Table 2. Review of results for NMAI selections (by ascending accession number)

Acc.number, Title, Provenance	Image	Wood ID	Dates
00/4687 Jobo Duho Jobo, Puerto Rico		<i>pending</i>	wood -24.78 <b>585 ± 26</b>  <u>68.2% probability (1 sigma)</u> AD 1316 – 1354 (48.9%) AD 1389 – 1405 (19.3%)  <u>95.4% probability (2 sigma)</u> <b>AD 1302 – 1367 (66.5%)</b> <b>AD 1382 – 1414 (28.9%)</b>
03/2574 Mores Paddle Mores Island, Bahamas		<i>Swietenia</i> sp	wood -23.44 <b>410 ± 24</b>  <u>68.2% probability (1 sigma)</u> AD 1442 – 1478 (68.2%)  <u>95.4% probability (2 sigma)</u> <b>AD 1436 – 1511 (88.8%)</b> AD 1601 – 1616 (6.6%)
03/2575 Acklins Duho Acklins Island, Bahamas		<i>Cordia</i> sp.	wood -22.82 <b>405 ± 25</b>  <u>68.2% probability (1 sigma)</u> AD 1444 – 1484 (68.2%)  <u>95.4% probability (2 sigma)</u> <b>AD 1436 – 1516 (85.5%)</b> AD 1598 – 1618 (9.9%)
03/3300 St Ann's Figure Cedar Valley, St Ann's Parish, Jamaica		<i>Guaiacum</i> sp.	Wood -24.63 <b>152 ± 24</b>  <u>68.2% probability (1 sigma)</u> AD 1675 – 1692 (10.8%) AD 1728 – 1778 (34.2%) AD 1799 – 1811 (8.3%) AD 1920 – 1942 (14.9%) <u>95.4% probability (2 sigma)</u> AD 1666 – 1706 (16.3%) AD 1720 – 1784 (35.9%) AD 1796 – 1819 (10.8%) AD 1832 – 1882 (14.4%) AD 1914 – 1951 (18.0%)





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<p>04/2389 Cantillo staff Cave near Cantillo, Baracoa, Cuba</p>		<p><i>Guaiacum</i> sp.</p>	<p>wood -24.50 <b>811 ± 25</b></p> <p><u>68.2% probability (1 sigma)</u> AD 1216 – 1258 (68.2%)</p> <p><u>95.4% probability (2 sigma)</u> <b>AD 1180 – 1270 (95.4%)</b></p> <hr/> <p>OxA-19180 Resin (eye, yellow) <b>442 ± 24</b></p> <p><u>68.2% probability (1 sigma)</u> AD 1432 – 1454 (68.2%)</p> <p><u>95.4% probability (2 sigma)</u> <b>AD 1420 - 1475 (95.4%)</b></p>
<p>04/2390 Baracoa Duho Cave, Baracoa, Cuba</p>		<p><i>pending</i></p>	<p>wood (inner) -22.75 <b>1316 ± 27</b></p> <p><u>68.2% probability (1 sigma)</u> AD 660 – 694 (50.7%) AD 748 – 764 (17.5%)</p> <p><u>95.4% probability (2 sigma)</u> <b>AD 665 – 722 (70.8%)</b> <b>AD 740 - 770 (24.6%)</b></p> <hr/> <p>OxA-18799 Wood (outer) <b>1371 ± 25</b></p> <p><u>68.2% probability (1 sigma)</u> AD 646 – 667 (68.2%)</p> <p><u>95.4% probability (2 sigma)</u> <b>AD 618 – 682 (95.4%)</b></p>
<p>04/2409 La Patana Platter La Patana, Baracoa, Cuba</p>		<p><i>Guaiacum</i> sp.</p>	<p><i>Guaiacum</i> sp. -22.53 <b>484 ± 24</b></p> <p><u>68.2% probability (1 sigma)</u> AD 1421 – 1440 (68.2%)</p> <p><u>95.4% probability (2 sigma)</u> <b>AD 1412 – 1447 (95.4%)</b></p>

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<p>04/5645 Cantillo Paddle Cave near Cantillo, Baracoa, Cuba</p>		<p><i>Carapa</i> sp.</p>	<p>wood -24.31 <b>545 ± 26</b></p> <p>68.2% probability (1 sigma) AD 1329-1341 (16.1%) AD 1396-1423 (52.1%)</p> <p>95.4% probability (2 sigma) <b>AD 1318-1353 (31.5%)</b> <b>AD 1389-1433 (63.9%)</b></p>
<p>05/8027 Lady Blake Duho 2 Bahamas</p>		<p><i>Guaiacum</i> sp.</p>	<p>-24.37 <b>658 ± 25</b></p> <p>68.2% probability (1 sigma) AD 1286 – 1306 (32%) AD 1363 – 1385 (36.2%)</p> <p>95.4% probability (2 sigma) <b>AD 1280 – 1320 (46.3%)</b> <b>AD 1350 – 1391 (49.1%)</b></p>
<p>05/8307 Loma de Polo Figure Loma de Polo, near Barahona, DR</p>		<p><i>Guaiacum</i> sp.</p>	<p>Wood -23.60 <b>936 ± 24</b></p> <p>68.2% probability (1 sigma) AD 1038 – 1052 (11.1%) AD 1080 – 1152 (57.1%)</p> <p>95.4% probability (2 sigma) <b>AD 1030 – 1157 (95.4%)</b></p> <hr/> <p>Resin (black) <b>722 ± 24</b></p> <p>68.2% probability (1 sigma) AD 1270 – 1286 (68.2%)</p> <p>95.4% probability (2 sigma) <b>AD 1255 - 1299 (94.0%)</b> AD 1370 – 1380 (1.4%)</p>
<p>05/9385 Lady Blake Duho 1 Turks Island, Turks and Caicos</p>		<p><i>Guaiacum</i> sp.</p>	<p>wood (<i>Guaiacum</i> sp.) -24.20 <b>890 ± 24</b></p> <p>68.2% probability (1 sigma) AD 1052 – 1080 (23.5%) AD 1128 – 1133 (3.2%) AD 1152 – 1190 (34.2%) AD 1196 – 1207 (7.2%)</p> <p>95.4% probability (2 sigma) <b>AD 1044 – 1100 (33.1%)</b> <b>AD 1118 – 1215 (62.3%)</b></p>

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<p>06/0000  North Caicos  hafted axe  Cave on North  Caicos Island,  Turks and Caicos</p>		<p><i>Guaiacum</i>  sp.</p>	<p>wood  -23.01  <b>932 ± 26</b></p> <p>68.2% probability (1 sigma)  AD 1040 – 1055 (11.3%)  AD 1076 – 1154 (56.9%)</p> <p>95.4% probability (2 sigma)  <b>AD 1029 – 1160 (95.4%)</b></p>
<p>09/2389  Pinar del Rio Staff  Remates de  Guane, Malpoton  Lake, Pinar del  Rio, Cuba</p>		<p><i>Pending</i></p>	<p>wood  -25.01  <b>1686 ± 24</b></p> <p>68.2% probability (1 sigma)  AD 338 – 404 (68.2%)</p> <p>95.4% probability (2 sigma)  <b>AD 321 – 418 (81.8%)</b>  AD 259 - 295 (13.6%)</p>
<p>14/0491  Maracayo Duho  Puerto Rico</p>		<p><i>Pending</i></p>	<p>wood  -25.41  <b>479 ± 24</b></p> <p>68.2% probability (1 sigma)  AD 1424 – 1442 (68.2%)</p> <p>95.4% probability (2 sigma)  <b>AD 1413 – 1448 (95.4%)</b></p>
<p>14/2434  NMAI Duho 3  'Santo Domingo'</p>		<p><i>Guaiacum</i>  sp.</p>	<p>wood  -23.94  <b>652 ± 24</b></p> <p>68.2% probability (1 sigma)  AD 1290 – 1306 (28.4%)  AD 1363 – 1385 (39.8%)</p> <p>95.4% probability (2 sigma)  <b>AD 1282 – 1320 (43.6%)</b>  <b>AD 1350 – 1392 (51.8%)</b></p>



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<p>14/5110 Maracayo snake Cave, Maracayo, Puerto Rico</p>		<p><i>Clusia</i> sp. Wood -14.90 <b>96 ± 23</b> 68.2% probability (1 sigma) AD 1696 – 1726 (23.9%) AD 1814 – 1836 (17.2%) AD 1847 – 1850 (2.0%) AD 1878 – 1895 (14.2%) AD 1903 – 1916 (10.9%)</p> <p>95.4% probability (2 sigma) AD 1690 – 1730 (26.1%) <b>AD 1810 – 1926 (69.3%)</b></p>
<p>19/8807 Gonave anthropomorphic cylinder, Gonave Island, Haiti</p>		<p><i>Guaiacum</i> sp. wood -25.01 <b>617 ± 29</b> 68.2% probability (1 sigma) AD 1299 – 1325 (27.8%) AD 1344 – 1370 (26.8%) AD 1380 – 1394 (13.6%) 95.4% probability (2 sigma) <b>AD 1294 – 1400 (95.4%)</b></p> <p>Resin -12.93 <b>150 ± 25</b> 68.2% probability (1 sigma) AD 1674 - 1694 (12.0%) AD 1728 – 1778 (32.5%) AD 1798 – 1812 (8.7%) AD 1918 – 1942 (15.0%)</p> <p>95.4% probability (2 sigma) AD 1666 - 1706 (16.3%) AD 1720 – 1784 (35.9%) AD 1796 – 1819 (10.8%) AD 1832 – 1882 (14.4%) AD 1914 – 1951 (18.0%)</p>

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<p>19/8808          Gonave cylinder          (drum?)          Gonave Island,          Haiti</p>			<p><i>Guaiacum</i>          sp.</p>	<p>wood          -25.01  <b>1139 ± 27</b></p> <hr/> <p>68.2% probability (1 sigma)          AD 882 - 904 (18.6%)          AD 914 - 970 (49.6%)</p> <hr/> <p>95.4% probability (2 sigma)          AD 782 - 789 (1.5%)          AD 810 - 848 (8.2%)          AD 856 - 982 (85.6%)</p>
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