

## UNIVERSITY OF MIAMI RADIOCARBON DATES XXI

SHARON CRABTREE and J J STIPP

Department of Geology, University of Miami  
Coral Gables, Florida 33124

The following radiocarbon dates are a partial list of samples measured for a variety of projects and materials since August 1980. Chemical and counting procedures remain the same as indicated in R, v 20, p 274-282.

Calculations are based on the 5568-year Libby  $^{14}\text{C}$  half-life. Precision is reported as one-standard deviation based only on statistical counting uncertainties in the measurement of the background, NBS modern standard and sample activities.  $^{13}\text{C}$  values are measured relative to PDB and reported ages are corrected for isotopic fractionation by normalizing to  $-25\text{‰}$ .

### SAMPLE DESCRIPTIONS

#### I. GEOLOGIC SAMPLES

##### *United States*

##### *Florida*

##### **Ten Thousand Islands series**

Marine shells coll from flood delta of Ten Thousand Islands Bay ( $22^{\circ} 55' \text{ N}$ ,  $81^{\circ} 40' \text{ W}$ ). These samples are second set coll from site and agree stratigraphically with first sample-set dated. Coll and subm 1980 by M Perlmutter, Rosenstiel School Marine and Atmos Sci, Univ Miami, Virginia Key, Florida.

**UM-2223. 3-19-2, 50-53cm**  **$990 \pm 80$**

Sample from shelly and sandy coarse layer, 50cm deep in flood delta.

**UM-2224. 3-19-4, 12-24cm**  **$920 \pm 110$**

Sample taken from coarse layer, 12 to 24cm deep in flood delta.

**UM-2278. 11-17-8, 0-4cm**  **$490 \pm 110$**

Sample from surface of flood delta, 0 to 4cm deep.

##### **Indian River series**

Shell and organic core samples from shallow marine lagoon, Indian R, Florida E coast ( $27^{\circ} 17' 8'' \text{ N}$ ,  $80^{\circ} 16' 7'' \text{ W}$ ). Samples dated to measure rate of Holocene sediment accumulation. Coll 1979 by M Almosi, Rosenstiel School Marine and Atmos Sci, Univ Miami.

**UM-2194. 1**  **$3710 \pm 80$**

Bivalve shell coll 100 to 110cm deep.

**UM-2195. 2**  **$3870 \pm 220$**

Large clam shell coll 190 to 195cm deep.

**UM-2196. 3** **2070 ± 190**

Oyster shell coll 400 to 405cm deep.

**UM-2197. 4** **3030 ± 90**

Bivalve shell coll 40 to 50cm deep.

**UM-2198. 5** **6570 ± 160**

Organic material coll 85 to 100cm deep.

### **Republic Groves series**

Two pine-wood samples found assoc with human skeletal remains from Site 8HrR, Republic Groves, E Hardee Co (27° 27' 16" N, 81° 43' 37" W). Dates will be used in preliminary report on Site 8Hr4 on wet sites in the state. Coll 1980 by M Hope; subm 1981 by M Hope and B R Wharton.

**UM-2259. R G - 417** **2480 ± 80**

Sample taken from upper peat muck from 0.9m to 1.2m depth (Holocene), underlain by gray sandy clay (Pleistocene fossil-bearing) zone. Stake was recovered from a 1.5m × 1.5m excavation square (Sq 5R, Quad 2) in oblique vertical position *in situ* from 34.3cm to 64.8cm below surface.

**UM-2260. R G - 409** **5750 ± 110**

Sample taken from upper peat muck from 0.9m to 1.2m depth (Holocene), underlain by gray sandy clay (Pleistocene fossil-bearing) zone. Sample stake was recovered from 1.5m × 1.5m excavation square (Sq A, Quad 1) *in situ* from 1m to 0.7m below surface. Stake was found in oblique vertical position, with distal end driven into underlying sandy clay zone, 5.7cm below peat muck/sandy clay contact.

### *California*

### **La Liebre Ranch series**

Peat from lower canyon de la Lecheria, Western Antelope Valley. Samples probably assoc with fluctuating climate between longer glacial periods. Dates are needed for chronology of alluvial episodes in Quaternary period. Samples from medium-to-thin-bedded moderately sorted gravel, sand, and silt with dark organic horizons and other peat layers. Coll 1980 by D B Burke; subm 1980 by J S Tinsley, USGS, Menlo Park, California.

**UM-2115. 6-80-3** **3950 ± 100**

Shallow excavation in arroyo wall ca 3m below eroded ground surface, ca 3.5m below former depositional surface (34° 52' 37.2" N, 118° 39' 40" W). UM-2157 is 1m higher and 10m downstream from UM-2155.

**UM-2157. 6-80-5** **2720 ± 110**

Shallow excavation in arroyo wall ca 2m below eroded ground surface (34° 52' 37.1" N, 118° 39' 40" W).

## Iran

**Gheshm Island series**

Shells from marine beds overlying Plio-Pleistocene rocks on Gheshm I. Samples dated to calibrate Quaternary stratigraphy and tectonic history of area. Coll and subm 1980 by M R Samadian, Univ Coll, London. Sample levels are relative to sea level.

**UM-2115. 836-1 A** **8960 ± 120**  
 $\delta^{13}C = +1.10\%$   
*Meretrix* sp coll at +17.6m (26° 50' N, 56° 08' E).

**UM-2116. 813-7 A** **5850 ± 90**  
 $\delta^{13}C = +0.87\%$   
*Cardium* sp coll at +11m (26° 50' N, 6° 08' E).

**UM-2117. 819-3a A** **32,300 ± 1320**  
 $\delta^{13}C = +2.15\%$   
*Drosina* sp coll at +22m (26° 43' N, 55° 58' E).

**UM-2165. Sd2** **29,800 ± 1100**  
 $\delta^{13}C = +1.63\%$   
*Kodakia tigrina* coll at +18m (26° 42' N, 55° 55' E).

**UM-2166. Sg6a, Sg6B** **23,000 ± 660**  
 $\delta^{13}C = +0.86\%$   
*Paphia gallus* coll at +17.5m (26° 41' N, 55° 40' E).

**UM-2167. 8 12-2A** **16,000 ± 250**  
 $\delta^{13}C = +1.9\%$   
*Circe arabia* coll at +14.5m in coral reef deposit overlying Khark Limestone (26° 46' N, 55° 50' E).

**UM-2168. Gh3** **4080 ± 140**  
 $\delta^{13}C = +0.15\%$   
*Oliva bulbosa* coll at +20m (27° 05' N, 55° 15' E).

## Turkey

**Konya series**

Shells dated to establish chronology for limnologic history of Konya basin, Konya vilayet. Coll 1977-1980 and subm 1979-1980 by N Roberts, Univ Coll, London.

**UM-1577. 10.a.i** **14,700 ± 160**  
 $\delta^{13}C = -2.03\%$   
Shell (mainly *Dreissena polymorpha*) from Kilbasan fossil shoreline at 1005.1m above msl (37° 21' N, 33° 13' E).

**UM-1578. a.b.ii** **19,000 ± 330**  
 $\delta^{13}C = -2.07\%$   
Shell (mainly *Dreissena polymorpha*) from Kilbasan fossil shoreline at 1004.9m above msl (37° 21' N, 33° 31' E).

**UM-1579. 8.b.i** **19,500 ± 440**  
 $\delta^{13}C = -1.62\%$   
Shell (mainly *Dreissena polymorpha*) from Beydili fossil shoreline at 1010.6m above ms1 (37° 23' N, 33° 22' E).

**UM-1637. 2.a.i outer fraction** **20,900 ± 190**

**UM-1638. 2.a.i inner fraction** **22,900 ± 370**  
 $\delta^{13}C = -3.31\%$   
Same sample (*Dreissena polymorpha*) from Kilbasan fossil shoreline at 1004.9m above ms1 (37° 21' N, 33° 13' E).

**UM-1639. 8.b.i rpt** **21,800 ± 680**  
 $\delta^{13}C = -0.31\%$   
Shell (*Dreissena polymorpha* and *Theodoxus cf. fluviatilis*) from Beydili fossil shoreline at 1010.6m above ms1 (37° 23' N, 33° 22' E).

**UM-2150. K.80.6.a/b** **17,800 ± 630**  
Shell (*Dreissena polymorpha*) from Adabag fossil shoreline at 1008m above ms1 (37° 29' N, 33° 52' E).

**UM-2151. Adabag marsh: modern** **400 ± 80**  
*Lymnaea cf. stagnalis* and *Planorbarius corneus* dated to check uptake of "old" carbon from surrounding limestone hills. This establishes true chronology for limnologic history of Konya basin by correcting dates on shells from fossil beaches in basin (37° 29' N, 33° 52' E).

*General Comments:* UM-1577 has been subsequently shown to have suffered up to 8% secondary contamination, and, thus, is taken to be min age only. UM-1639 and -1579 date shells from same horizon; the former is considered to be more reliable. Dates indicate that last phase of high lake levels in Konya basin occurred between 23,000 and 17,000 yr ago.

## II. ARCHAEOLOGIC SAMPLES

### Florida

#### Little Salt Spring series

Charcoal and shell samples from Archaic midden deposit, Little Salt Spring, North Port (Zone 17 (UTM) 377710-720mE, 2995180-190mN). Dated to evaluate temporal relationship of midden to burial area in adjacent slough. Coll by H S Hale; subm 1980 by C J Clausen, Little Salt Spring Research Facility, North Port, Florida.

*General Comment (JS):* evidence of soil acid contamination; biased bone dates from this midden area.

**UM-2211. LSS 800 604-351**  
*Elliptio buckleyi*.

**7750 ± 290**  
 $\delta^{13}C = -8.6\%$

**UM-2213. LSS 800 609-349**  
Charcoal.

**8570 ± 820**

<b>UM-2214. LSS 800 609-348</b>	<b>4880 ± 80</b>
<i>Mercenaria campechiensis.</i>	$\delta^{13}C = -0.04\text{‰}$
<b>UM-2215. LSS 800 603-347</b>	<b>5830 ± 120</b>
<i>Pomocea paludosa.</i>	$\delta^{13}C = -12.3\text{‰}$
<b>UM-2216. LSS 800 624-346</b>	<b>4770 ± 100</b>
	$\delta^{13}C = -0.76\text{‰}$

*Bahamas***Bahama series**

Samples coll from NE sec San Salvador (24° 05' 12" N, 74° 31' 06" W). Samples of palmetto series coll from 2m test pit in Gerace site. Habitation site was built upon sand dune possibly disturbed by sand crabs and slash-and-burn cultivation. Material picked from stratigraphic context after fragments were noted while sifting. Coll 1980 by S Winter; subm 1980 by D Gerace, Coll of Finger Lakes Bahamas Field Sta, San Salvador.

<b>UM-2158. SS-W-1-C</b>	<b>1940 ± 180</b>
Charcoal fragments.	
<b>UM-2243. SS-W#3</b>	<b>730 ± 60</b>
Charred turtle shell.	
<b>UM-2244. SS-W#4</b>	<b>600 ± 100</b>
Charcoal fragments.	
<b>UM-2245. SS-W#2</b>	<b>560 ± 80</b>
Conch shell.	

**Pigeon Creek series**

Five charcoal samples from Pigeon Creek site (24° 00' 05" N, 74° 27' 05" W) San Salvador. Dated to determine time of Arawak occupation in this area. Coll 1980 by R Rose; subm 1981 by D T Gerace.

<b>UM-2271. SSP8p-52-38L</b>	<b>310 ± 80</b>
Charcoal from 30 to 40cm depth.	
<b>UM-2272. SSP81-10</b>	<b>220 ± 60</b>
Charcoal from 20cm depth.	
<b>UM-2273. SSP8p-52-40L</b>	<b>580 ± 90</b>
Charcoal from 30 to 40cm depth.	
<b>UM-2274. SSP81-33</b>	<b>620 ± 70</b>
Charcoal from 26cm depth.	
<b>UM-2275. SSP81-52a, b</b>	<b>1380 ± 60</b>
Charcoal from 40 to 50cm depth.	

*Jamaica***Cinnamon Hill series**

Bone and charcoal samples from undisturbed middens fringing edge of hilltop on Cinnamon Hill (18° 30' N, 77° 50' W). Arawaks occupied site from est 650 AD to 1526 when Spaniards destroyed village. Dates needed to determine approx time of cemetery and habitation. Coll 1972 by F J Osborne and S W Lee, Archaeol Soc Jamaica; subm 1980 by S W Lee.

**UM-2240. B-1→A-1 S B-0→A-0 660 ± 200**

Charcoal from 0cm to 25.4cm depth.

**UM-2241. B-2→A-3 S B-1→A-2 970 ± 180**

Charcoal from 25.4cm to 50.8cm depth.

**UM-2242. Burial 99.6cm deep 480 ± 90**

Human bone in matrix of hard marl.

## REFERENCES

Calvert, M, Rudolph, Kim, and Stipp, J J, 1978, University of Miami radiocarbon dates XII: Radiocarbon, v 20, p 274-282.