SWFAS

SOUTHWEST FLORIDA ARCHAEOLOGICAL SOCIETY

Inside this Newsletter

Excavating at the Olde Marco Inn: Mark Lance, a superlative field technician working with the Archaeological and Historical Conservancy, digs a meter-square test pit during the Phase 5 investigations at the Olde Marco Inn, mid-August, 1999.

Another Phase for Different Days... Continued Work At the Olde Marco Inn.

The Phase Five Scope of Work for the ongoing investigation of the Olde Marco Inn has been underway for approximately a month. During this time, members of both SWFAS and the Marco Island Historical Society have participated in the recovery of archaeological materials and information from both a series of trenches and from a carefully excavated test pit performed by Mark Lance of the Archaeological and Historical Conservancy. Mark is an excellent field archaeologist who has trained at the University of Reading in England and who has participated in numerous projects in Great Britain and the United States. People that know Mark, know him as a quiet guy, but a person who knows his archaeology and who is "a heck of a worker". South Florida's climate can be a bit hard on someone fresh from the excavation at a medieval castle in Sussex, but Mark shoulders his burden like a true archaeologist and forges ahead! The careful job of excavating he performed in a test pit in the former main parking lot 100 feet east of the historic Inn has better helped us to understand the chronology and changes through time that have occurred in the new area of investigation.

Although, the volunteer phase of work has ended for present, there may be several "windows of opportunity" further into the Fall, where interested people who are willing to help sort and sift can be called to take part. If you are interested, please call John Beriault at (941) 434-0624 and leave a message.

THE DATEBOOK

October 13th - SWFAS Board of Directors Meeting, Hampton Inn, Bonita Springs, 6:30 PM

October 20th - General Meeting Bonita Springs Community Center, 7:30 PM

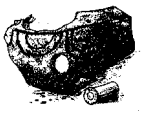
About SWFAS

The directorate: President Wayne ("Bud") House, first vice president Don Taggert, second vice president Betsy Perdichizzi, membership secretary Brenda Hamilton, treasurer Jack Thompson, recording secretary Jo Ann Grey, directors Valerie Flanigan, Sue Long, Dottie Thompson, Jo Ann Grey, Charles Dugan, Annette Snapp, Tom Franchino, John Beriault and Charlie Strader.

The committees: Field: Beriault, 434-0624; Hospitality: position open; Membership: Brenda Hamilton; Publicity: Dottie Thompson, 597-2269; Sales: Valerie Flanigan, 262-8394; Finances, Jack Thompson 597-2269, 774-8517; Lab: (774-8517), Art Lee, 261-4939, Walt Buschelman, 775-9734, Jack Thompson, 597-2269.

To Join: Address your check to the Southwest Florida Archaeological Society, P.O. Box 9965, Naples, FL 34101. Dues are: Individual $20, Individual Sustaining $50.00, Family $35, Student $15.

Any questions, comments, contributions to the Newsletter: John G. Beriault, acting editor, P.O. Box 9074, Naples, FL 34101-9074 or Email to: **JGBeriault@aol.com.**



POTSHERDS AND POTSHOTS... AN ONGOING SERIES BY ROBERT GORE

CUSHING'S KEY MARCO AND TIME, TIDE, AND RAPID CLIMATIC CHANGE. I.

The accumulation of data on the magnitude and rate of sealevel rise, in conjunction with the recent discovery of rapid changes in climate, raises some interesting questions regarding Frank Hamilton Cushing's suggestion that his "Court of the Pile Dwellers" was located within or at the edge of the intertidal zone of what is now called the Big Marco River estuary. Cushing's discovery of magnificent carved and painted wooden artifacts at Key Marco (now Marco Island, not the euphemistically named 'Key Marco' on Horr's Island) has been considered one of monumental importance in southwestern Floridan archaeology. Even more

interesting, however, is what influences the sea, the weather, and the climate had over the last several thousand years, a period which includes the hypothesized age of the Key Marco materials.

Sealevel fluctuations are an accepted fact. For example, investigations on another Marco Island site, imputed to be bay-side, suggested a period over which increasing inundation occurred. Similarly, multiple-use seaside sites up to 2,500 years in age were apparently abundant on the (presumed) passes and tidal inlets along the southwestern Florida coast. Data from a coastal midden-mound on Sarasota Bay also clearly indicated a series of accretionary lenses composed of varying substrata that proceeded downslope toward the present-day shoreline of the Bay. Corresponding evidence comes from across the Florida Straits where the Taino Indians near Punta Alegre, Cuba lived similarly close to the intertidal zone. In fact, their house posts and other wooden artifacts became preserved under two feet of muck when sea level rose to cover the site. But perhaps the most dramatic evidence comes from the Florida Keys. Investigations of sealevel rise over the Florida Reef Tract indicated that a layer of mangrove peat lies directly under a covering layer of subaerially-hardened limestone crust. The latter constitutes the existing seafloor and lies some seven meters (more than 21 feet) below present-day mean sea level (MSL). Because mangroves are shallow-water emergent trees the now deeply submerged area must have been intertidal at an earlier period. In fact, recalculations suggest that sea levels rose nearly 21 feet between 7,000-2,000 years BP, to a level about 2.5 feet below present MSL. This is a relatively rapid rise that results in an <u>average</u> rate of about four feet per1,000 years, and brackets at least some of the time-period that the Key Marco culture was hypothesized to be extant.

The problem here, as any good statistician knows when "averages" are concerned, is that there is no guarantee that projected rates were a steady increase rather than episodic, or that they did not, in turn, fluctuate wildly about an imputed "mean" or average value. Recent evidence in climatological research now reveals that the climate <u>around the entire earth</u> can change in dramatically brief periods of time, perhaps as short as a decade. The points to be emphasized from this are: first, what now constitutes beach, estuarine littoral zone, or tidal pass, was not necessarily any of these physiographic features during the postulated periods of occupation by coastal peoples. Second, an <u>average</u> sealevel rise of four feet per century must be viewed as a long-term sequence of short-term events. For example,

FIGURE 1. HYDROGRAPHIC CHART, PORT OF MUSPA DOTTED LAND LINEAMENTS = ANCIENT BEACH RIDGES; DASHED WATER LINEAMENTS = PUTATIVE PAST OR FUTURE SEA LEVEL CONTOURS BASED ON MODERN OFFSHORE CONTOURS; LARGE ARROW = MUSPA LAGOON; CIRCLED STAR = CUSHING'S "KEY MARCO" SITE; SMALL ARROWS = MUSPAN "SHORELINE" BASED ON ANCIENT BEACH RIDGE POSITION. DEPTHS IN FEET.

extrapolating the average overall rate of four feet per century downward into years translates into an average rise of about one inch per decade. This rate, even it was consistent, is not necessarily noticeable enough to attract much

attention or cause alarm to any but the most assiduous observer, particularly if the coastal aboriginals were not interested in taking into long-term accountancy related tidal situations.

Third, the tides today along the southwestern coast of Florida range from mixed semi-diurnal (i.e. two unequal highs and two unequal lows per 24 hour period) to nearly diurnal (one high and one low tide per 24 hour "day"). These same tidal cycles probably prevailed 2,500-5,000 years ago, but their effects would vary substantially depending on whether they occurred on a low energy beachfront or within a shoal-clogged estuary. Moreover, the cumulative effects produced in ancient times by short-term weather events (e.g. onshore winds or hurricanes) in conjunction with such tidal changes has not yet been assessed, and given the changeability of our coastlines and estuaries, may never be.

Cushing considered the Marco Island artifacts to be Calusan. More recent evidence strongly suggests they are Muspan. Whether there existed any Muspan or Calusan "oceanographers" seems doubtful, but if there were they would have had much to consider. They would have easily noticed that a recurring series of "typical" bimonthly spring high and low tides inundated the higher shores and concomitantly exposed the lower intertidal zones of pre-Marco Island for longer periods of time than the intervening bimonthly neap tides. However, these levels would need to be marked each time they occurred for even a ten-year averaged record of one inch overall rise to have any meaning, let alone allow projections to be made for potential future floodings. It would also require a long and careful period of observation just to be able to predict with any degree of accuracy where the next mean ("average") tide-level, high, intermediate, or low, would reach. And, having no clocks but the sun and moon, the "when" would beeven less precise. Data interpretation throughout the region would be especially difficult. An Uzitan "oceanographer" on Sarasota Bay, for example, would be hard put to explain the effects resulting from essentially mixed diurnal tides along his coast to his Muspan counterpart on Naples Bay whose experience was mostly with mixed semi-diurnal tides.

Moreover, all these measurements would be complicated by vagaries of weather, onshore or offshore winds, major rainfall events, changing seafloor topography, shifting longshore cur-rents, and variation in wave activity, height, frequency, lengthand period--all of which restructure barrier islands and coasts on a daily basis. Even so, it is a question whether such measurements would be necessarily meaningful to a people who merely had to build a little higher up on the shore to escape their local wave and tidal incursions. Thatched huts move easier than hotels.

SMITHSONIAN EXPEDITIONS: EXPLORING LATIN AMERICA OPENS THIS MONTH AT MIAMI SCIENCE MUSEUM

By Linda Ballou

The Miami Museum of Science will kick off its 50th

anniversary celebration Saturday, October 30th with the opening of a major new exhibit, Smithsonian Expeditions: Exploring Latin America.

The exhibit showcases the Smithsonian's contributions to the study and preservation of the natural history and culture of the Americas for more than a century and a half. Artifacts on loan are among the earliest anthropological collections of the nation.

Through the exhibit, visitors will join an expedition tracing the steps of scientists who traveled to remote regions exploring tropical jungles, archaeological ruins and a Mayan king's tomb.

"We have recreated the famous tomb of King Pakal and visitors will be able to enter and peer into the giant sarcophagus representing the sacred spot where the great Mayan king was laid to rest centuries ago," said Tonia Barringer, Director of Exhibits at the Miami Museum of Science.

While it will feature high-tech interactivity, the exhibit will incorporate over 150 natural history and archaeological artifacts. "Some of the objects have never been on exhibit," said Dr. Jane Walsh, Smithsonian anthropologist and head curator of Smithsonian Expeditions, "and some not seen for nearly a century such as the four large stone carvings from Nicaragua, which were sent to the Smithsonian Institution by Ephraim George Squier in 1849."

The exhibit marks the beginning of a new partnership between the Miami Museum of Science and the Smithsonian Institution. The affiliation is part of the Smithsonian's effort to expand its reach to a more diverse audience. The Miami Museum of Science, which will begin using "in association with the Smithsonian Institution" following its present name, also has plans for expansion. A multi-million dollar project is envisioned aimed at establishing an international cultural center to be called the Science Center of the Americas.

The Miami Museum of Science is located at 3280 S. Miami Avenue. Hours are 8-6 daily. For more information on the exhibit call (305) 854-4247 or visit their internet site: www.miamisci.org._

NEWSLETTER

JOHN G. BERIAULT, acting editor Volume No. 15 Issue No