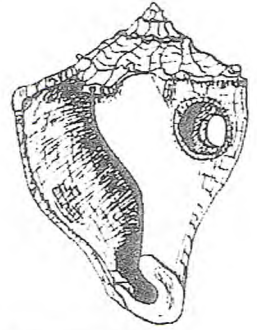


SWFAS

NEWSLETTER

THE SOUTHWEST FLORIDA ARCHAEOLOGICAL SOCIETY



JOHN G. BERIAULT, ACTING EDITOR VOLUME 19, NUMBER 10 OCTOBER, 2003



This is a really great photo sent me over a year ago that I am uncertain I used. I think this was taken after protective boarding was removed from the Craighead Lab when there was the likelihood a storm would hit us. We're nearing that time when, hopefully, we will be past the hurricane season, this year. People featured (L-R): Bud House, Art Lee, Helmut Nickel, and Jack Thompson

Ttthhhh...That's All, Folks!!!

Well, this is the last issue, for me, that is. Several of you have thanked me. One person even indicated the editorship might be considered a

“thankless” job, and I replied: “If you go into something like a newsletter editorship, *if* you expect thanks, it *is* a thankless job - and for good reason...If you take on something like this, it can't be by whim

or lightly... That's why I'm so glad Betsy McCarthy is gonna be doing this; she is a dedicated, intelligent lady, and I know she will do a good job. I was glad to do it for five years, but the monthly schedule finally gets to you... We have a great group and good people; it's in honor of

those people that I was happy to help.

I can't say too much else, except...Thanks, and I'm sure that the Newsletter with Betsy McCarthy at the helm will be even a further improvement.

Inside this Newsletter

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- 2 **Whispering Otoliths**
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THE DATEBOOK

October 8th SWFAS
Board Meeting, Hampton
Inn, Bonita Springs, 7:00
PM

October 15th SWFAS
General Meeting Ben Hill
Griffin Hall, Room 109,
Florida Gulf Coast University
at 7:30 PM

About SWFAS

The directorate: President Tom Franchino, first vice president Corbett Torrence second vice president Theresa Schoeber, membership secretary Charlie Strader, treasurer Charlie Strader, recording secretary Jo Ann Grey, directors Bud House, Sue Long, Liz Clement, Jo Ann Grey, Don Taggart, Jack Thompson, John Beriault, Charlie Strader, John Worth, and Dr Susan Stans.

The committees: Field: Beriault, 434-0624; Hospitality: position open; Membership: Charlie Strader, 941-992-6133; Publicity: Dottie Thompson, 597-2269; Sales: position open; 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.

Whispering Otoliths: the Stories that Fish Bones Tell

by Betty Anholt

A workshop entitled "Whispering Otoliths: the Stories that Fish Bones Tell," was conducted at the new Weedon Island Preserve Cultural and Natural History Center adjacent to Old Tampa Bay on September 27, by Dr. Richard McBride of the Florida Marine Research Institute.

Otoliths, or fish ear bones, are frequently found in the screens at our archaeological digs, and sifters become especially familiar with the rounded catfish stone-like otolith. Seatrout earbones are also found, if not as quickly recognized. But all bony fish have otoliths, and they carry much more information than the fact that a catfish, or a seatrout, had been captured by the native population.

Dr. McBride illuminated many aspects of fish biology and anatomy through Powerpoint and dissection, and brought examples of a wide variety of otoliths, described the examination and aging process via lapidary saw and microscopic analysis, and applied the biological findings to zooarchaeology.

Otoliths, or fish ear bones, act in fishes in a way that probably corresponds to our own inner ear. The otoliths are surrounded by a fluid-filled sac lined with cilia, or little hair-like nerves. As the otolith moves within the sac, the cilia are thought to transmit information to the fish's brain-- sound, balance and awareness of "which way is up" for example. There are actually three pairs of otoliths in bony fish, although only one pair, the sagittae, is generally examined.

Otoliths can be aged, as they lay down a set of opaque and translucent layers for each winter and summer. Many local volunteers are familiar with the work of Dr. Irv. Quitmyer on quahog clams in a similar study, and tree-ring analysis is also related. Scientists, Dr. McBride among them, section the earbones and age fish as one aspect of their fish studies work. The Florida Marine Research Institute in St. Petersburg averages 12,000 such otolith studies annually. In addition to the fish's age, information on fish ageing provides demographics of age distribution, reproductive information for management work, fish growth rates, and predicted mortality and future populations. Many of these factors are also of interest to archaeologists in their

examinations of midden otoliths.

Other hard parts of fishes can provide similar information, like scales, the dorsal fin spine, or shark vertebrae. Since otoliths consist of a complex of proteins and a calcium/aragonite structure, they have an advantage over bone, however. In hard times (environmentally), the body can resorb the calcium in bones, throwing off growth patterns, while the otolith is not affected by such events.

Fish that can produce sounds have larger otoliths, along with a larger swim bladder, the usual producer of sound. The otoliths from a six-inch sand trout are twice as large as those from a full-sized tarpon.

The major reason more otoliths aren't found in archaeological digs is the size of the screens we use, as the small earbones sift through. Column samples and 1/16 " screening could turn up many more, although that is a laborious process that takes much time. A key for identifying species by otoliths is not yet available, but their shapes do appear to be sufficiently different between genera to aid in identification. Dr. McBride feels that otoliths from archaeological samples can be used to reconstruct a fish population and fishery, and is currently working with Drs. Quitmyer and Mike

Russo in a study of shad in the St. Johns River system.

The workshop was an excellent learning tool, and otoliths are much more interesting than you might think!

BILL MARQUARDT TO SPEAK OF LAST TWENTY YEARS

"Twenty Years on the Shell Coast: A Personal Retrospective on Southwest Florida Archaeology"

William H. Marquardt,
Curator in Archaeology

Marking the twentieth anniversary of the Florida Museum of Natural History's Southwest Florida Project, Bill Marquardt will provide a review of what has been learned, discuss some yet-unsolved research questions, and provide a progress report on the development of the Randell Research Center at Pineland.

William Marquardt received his Ph.D. in Anthropology from Washington University, St. Louis, in 1974 and is Curator in Archaeology, Florida Museum of Natural History, University of Florida. He has done archaeological

research in New Mexico, Kentucky, South Carolina, Georgia, Florida, and Burgundy (France). Since 1983, he has directed the Southwest Florida Project, focused on the ancient domain of the Calusa Indians. He has been instrumental in the establishment of the Randell Research Center, a research and education center at Pineland, near Fort Myers. He is curator of the permanent exhibit, *People of the Estuary: Six Thousand Years in South Florida*.

Dr. Marquardt will speak to SWFAS at the October general meeting, October 15th, held at Florida Gulf Coast University, Ben Hill Griffin Hall, Room 109, at 7:30 PM.

THE STONES OF THE YUCATAN – LONG MAY THEY WAVE!

By John G. Beriault

I am fascinated by the stones of the Yucatan, both in their natural unaltered state, and as components in Mayan ruins or Spanish colonial houses. In the natural state, the Yucatan is practically *all* stone, soils are very scant and fall under the category of loams (eroded from stone) or peats (derived from vegetative processes, mostly – although there are midden soils which are archaeological deposits –

but more on that later). The stone in the areas we'll be travelling in will be mostly sedimentary, largely lumped under the heading of limestones (and these in turn can be aragonitic [calcitic] or more of a fine-grained chalky, almost diatomaceous sort – big words for small concepts). The limestone has a tendency, being soft rock, to erode, patinate, be encrusted, to weather, and many other subtle processes you can get bored watching. The end result is unusual appearances, of cracking, spalling, weathering. Old, long-exposed limestone turns a light to medium gray. Often the old coralline structures, or in rare instances fossil shells, can be seen. If you are visiting a newly-restored ruin, the limestone appears fresh and white because it has been shielded by being buried until very recently from the elements.

Many times there are crevasses and small holes in which you can find plants of all sorts, including orchids, bromeliads, aroids, and agave. Some of the great old engravings by Frederick Catherwood show the just-cleared ruins, with abundant vegetation still growing out of the crevasses and the roofs. Nowadays they (the Mexicans) allow a little less of that – it's a toss-up between having

picturesqueness or causing further degradation to the ruins, as plants, such as strangler figs, can literally tear a standing ruin apart. I guess it also spoils some of the clean-looking restoration work.

On some of the ruins, particularly in the various chambers, are graffiti that can range from the historic to the vandalistic. Early explorers were not averse to inscribing a chamber where they camped out for many lonely, bug-filled months with their "calling-cards". In fact many of the buildings today are known by the names of their distinguished temporary former tenants. There is even more ancient graffiti, from the Classic period, or during that dark, anonymous time after the collapse of Maya civilization when the ruins were still visited and worshipped in by the wild Lacandons and other post-Classic Indian groups.

Many stones are mossy with bryophytic and other organisms, creating a green "fur". Some are downright slimy with molds, although you generally have to look harder than the general desire would permit to find these. Some of the stones... well... just go up to the top of the Castillo and up into the chambers very far from any bathroom and you'll know

what I'm saying. You learn to ask yourself, before climbing a pyramid, Do I have to (go)? – and getting an definite answer, act on it in the nearest equivalent to a port-a-john on the ground, always a wise move! and it keeps the smell down for the next visitors...

Most Yucatecan rock resembles the oolitic and coralline limestone of the Florida Keys. A little at Coba actually had fossil *Chione cancellata* (ribbed venus clam) shells, which reminded me of the tabular slabs of cap rock found in Collier County. Several Coba stellas were comprised of this stone.

Another interesting offshoot is the crystalline chert found in the extreme southern part of the Yucatan region. This is a metamorphic silicate stone, used and prized by the Maya as a local source for cutting edge tools. It can be found in many color variants, black and tan being most common, but even reds, purples, greens, and blues are possible, particularly with heat-altered material.

Jimi Hendrix once asked the question: are you stoned – or beautiful? I think the Yucatan is both.