OPENING OF NEW MUSEUM BUILDING DELAYED

"It was the best of times, it was the worst of times." Charles Dickens expressed well the feelings of museum staff during the first weeks in December 1988. It was with feelings of relief and pleasure that the museum staff viewed the anticipated completion of the new exhibition building — after planning for this significant occasion for some ten years. On the other hand, there was anxiety during the final weeks whether the building would be ready for the move. As matters developed, delays in construction beyond the museum's control required the rescheduling of the closing and moving from early December until early January.

It is now planned to close the museum from Sunday, January 1, 1989, until noon on Saturday, January 14. During that period the staff will be involved in moving collections from the old building to the new; temporary exhibits will be set up in the new building; the museum store will move displays and stock; and museum offices will be relocated. When the new building opens on January 14, virtually all of its facilities should be available: the lobby, museum store, changing exhibit area, temporary exhibits, and auditorium — all on the first floor — as well as the upper level offices for membership and development. The educational facilities on the first floor and mezzanine, however, will not be fully open until February 1 (see below). Some minor construction may still be in progress, but this should not affect visitors or programs after the building opens.

From about the middle of December, various offices of the museum will be in different stages of moving. Membership and development will move from the North Annex to the new building, as well as education. The administrative offices, including that of the director, will be moved to the North Annex. The museum library and archives will be moved into the East Annex, but these collections will be unavailable to the public for the coming year except under special advance arrangements.

Members visiting the museum during the next few months should enter the new building. Information on location of various activities will be available there. Access and parking will continue to be from Maryland Route 2 as you enter Solomons, but through the gate to the north of the old museum building — follow the signs there and in the parking area. Exit will be from a new gate on Lore Street. Information may also be obtained by phone (301-326-2042) from the museum.

The spring issue of the Bugeye Times will carry more complete information — with photographs — on the activities in the new exhibition building and plans for visitors during the spring and summer months. Be assured that there will be as many interesting activities as usual at the Calvert Marine Museum, although some may be in different locations than the coming year except under special advance arrangements.

(Continued on page 7)
An Extinct Angel Shark, *Squatina occidentalis*

One of the rarest and most interesting of fossil teeth found at Calvert Cliffs is that of *Squatina occidentalis*, an extinct angel shark. It is a small, single cusped tooth rarely exceeding a quarter of an inch in length. The erect, smooth crown is pointed with sharp cutting edges, and for its size, stoutly built. The root is relatively broad. On the outer face of the crown the enamel extends down over the medial surface of the root, forming a diagnostic characteristic. The inner face of the crown lacks this enamel elongation. The inner face of the root is raised and extended to the rear. Teeth of both jaws are similar in appearance.

*Squatina occidentalis* (Latin for western skate) is thought to have been about five feet long and to have weighed about sixty pounds. It was probably a shallow-water dweller and a bottom feeder using its needle sharp teeth to feed upon fish and crustaceans. Skate-like, its eyes and large spiracles (vestige gill clefts) would have been located on the top if its head and a wide mc would have been in front of its b snout. Five partly lateral gill slits would have been located on each side of its neck in front of enlarged cloak-like pectoral fins. In spite of its batoid shape, it probably swam like a true shark with a sculling motion of its tail.

The angel shark received its unusual name when pious medieval observers saw its free-flowing pectorals as wings and its tapering body and tail as angelic robes. Later, it was called a "monk," and finally dubbed a "bishop." One Australian species, richly decorated with ornate denticles, even managed to reach the rank of "archbishop."

Interestingly, the original tooth found of *S. occidentalis* from the Calvert Formation at Plum Point was the first of its kind to be definitely recognized as coming from the North American continent.

![Squatina occidentalis](image)

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**FOSSIL FACTS**

By Sandy Roberts

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**"SITTING IN ON THE FUTURE" – AN UPDATE**

The opening of the new exhibition building does not end the need for funds to complete the work there. Funds are still needed to match part of a grant from the National Endowment for the Humanities being used to fabricate and install the permanent exhibit, "Maritime Patuxent: A River and its People," in the new Maritime History Hall. Members visiting the new building will see evidence of the work on this exhibit, expected to open sometime in 1990.

The "Sitting in on the Future" campaign is designed to raise these matching funds, and also to provide an opportunity for recognition of donors through a commemorative plate on a seat in the auditorium or on a donor list on the wall of the auditorium. Since the campaign began in early June, over $37,000 have been raised, with over 100 of the 198 seats "sold" to date. A gift of $250 will entitle the donor to a commemorative plate on the back of one of the seats as well as on a wall plaque designed and carved by LeRoy "Peppe" Langley; a gift of $100 will entitle the donor to a commemorative plate on the wall plaque. In either case, the donor may have his or her (or a couple's) name on the plate, or the name of someone the donor wishes to honor or memorialize.

Further details on the "Sitting in on the Future" campaign and an order form may be obtained by a phone call or letter to the museum.
THE MENHADEN'S NURSEMAID

By Janet Lembke

"Come here!" our neighbor Tom shouts as I leave the trailer, bucket in hand, to haul the crabpots. He stands at water's edge next door to extract fish from the gill nets he's just brought ashore from an overnight stay on the river. The sun is cresting the trees to the east.

Crabs can wait. I race across the shallow drainage ditch that separates our yard from his. What will it be this time? Tom helps to satisfy my quenchless curiosity about the river by saving the oddities that sometimes tangle themselves in his nets. He's shown me a lockdown, a silvery fish with a body as flat and narrow as a butter plate turned on its edge and with eyes set high above the long, precipitous slope to its mouth. Another catch produced a young filefish, mottled brown and beige and wearing a unicorn's spike in the middle of its forehead.

"Ever seen this?" Tom holds out a square, brown plastic tub. It contains a dead menhaden, an all-too-familiar species that casts itself overabundantly into our summer nets. When the menhaden are schooling in our part of the river, we throw back ten or twenty for every edible fish we keep. This one measures about nine inches from stem to stern, on the large side for the river.

"Look here," Tom says, pointing to the menhaden's open mouth. Something plump and white as a grub wriggles itself into the light. It looks like a medieval drawing come to life: the pallid soul escaping from the corpse's mouth.

"Don't know rightly what it's called, but what it does is help the menhaden process food. There's a deficiency, you see, in the menhaden's digestive system. All of 'em have these helpers."

The inch-long creature escaping from the dead menhaden's mouth has a fat, bleached, slightly repulsive but undeniable reality. Tom's explanation for its presence, however, seems like a chip off the folklore block, a tale kin to that of cooked eel turning raw if left in the refrigerator overnight. My husband and I have tugged many dead and dying menhaden from our nets, and I've saved them for crabpot bait—but not once has either of us seen this ghostly grub.

The crabpots wait a little longer, until I've checked the guide to nearshore marine life. The book gives modest help, indicating generally that the grub is a cymothoid, one of a large family of parasitic isopods. I'm not satisfied. I start asking questions.

"Sure," says another neighbor, "the menhaden's nursemaid, that's what you're talking about."

But he doesn't know how the nursemaid goes about its duties, nor how it got hired in the first place. He does, however, show me how to spot the menhaden when they're schooling inshore.

On summer evenings they announce their presence by their noise. It's not the crisp pop pop-pop of shrimp, nor the ripple-making splash of an airborne mullet or shad as it returns to the water. It's a gentle but incessant murmur, a rustling whisper, made by myriad mouths breaking the surface for an instant, then retreating. The sound brings bad news and good: In the morning we'll be cussing as we extricate one menhaden after another from the net and pitch them back, and we'll be blessing the larger fish—blues, maybe— that snared themselves in pursuit of a menhaden dinner. Some people sell their menhaden as crabpot bait, but at two cents a pound, it takes a lot of menhaden to make a dollar.

Though people don't eat them (at least not yet), menhaden support fleets of commercial trawlers that pull their nets in river mouths and sounds for precisely this species. The catch is processed for oil or ground into fertilizer and chicken feed. It may be that menhaden will soon make the leap from chicken troughs to china plates; researchers now experiment with mashing parts of menhaden to make surimi, the fish-paste developed by the Japanese and currently manufactured from other species to mold "crab legs" and "shrimp" that sell for half the price of the real thing.

The menhaden trap themselves in our nets because of their feeding habits. They swim with mouths wide open, letting a hearty broth of plankton flow through their buccal cavities and out through their gills, which are equipped with rakers—fine, feathery sieves—that strain all the goodies out of the soup. It's the gaping mouths that land menhaden in trouble with nylon filament. River people say that "menhaden swallow the net." Or they try to, closing their mouths on the mesh and catching it in the hinges of their jaws. River people also call them "back-out fish." Instead of pulling them head-first through the net like croakers or small blues, we must grasp them behind the gills and give a backward tug.

I keep asking questions about the nursemaid. Do all menhaden give lodging to these isopods? At what cost? Who pays and who profits? "Nursemaid" does not seem to designate a parasite; it sounds benign, implying a caretaking function, perhaps like that of an adult animal regurgitating pre-

(Continued on page 6)
CHESPAX: ENVIRONMENTAL EDUCATION COORDINATION FOR CALVERT COUNTY

The need for coordination among the several groups in Calvert County dealing with environmental education has been evident for several years. In a county located between two major bodies of water — the Chesapeake Bay and the Patuxent River — each with serious environmental problems, it is inevitable that the public schools would want to emphasize environmental matters in their science curriculum. At the same time, the research groups in the county — Chesapeake Biological Laboratory, Jefferson Patterson Park and Museum, Benedict Estuarine Research Laboratory, and Calvert Marine Museum — joined together in the SEARCH consortium, are interested in such programs and are called upon to help with educational programs. A third party — Calvert County — has responsibility for environmental planning and outdoors programs that are related and that fall under the county’s Planning Office and its Division of Natural Resources. And finally, a fourth party — the state of Maryland — has broad programs and financial support in this field.

Some of these interested parties formed in 1988 a Planning Group for the Outdoor/Environmental Education Task-force to study the needs for programs and the ways to provide coordination. Late in May 1988 they reported to the Calvert County commissioners and recommended the formation of a regional outdoor/environmental education program in Calvert County, named CHESPAX, with a permanent board of directors. This concept was accepted and given initial funding in 1989 with an addition of $50,000 to the county’s Board of Education. It is expected that the fuller, permanent program will be funded and implemented in 1990.

Under CHESPAX, Calvert County would utilize its unique geographic location and its plethora of existing county, state, and private agencies and institutions to produce a comprehensive regional outdoor/environmental education program. This program would serve the county’s education system, provide dimensions of learning as part of the outreach program for existing neighboring county outdoor programs, and significantly enhance on-going county programs at all age levels. In specific terms the program would include:

- development and implementation of education learning packages, from kindergarten to adults;
- development and implementation of long and short term scientific investigations;
- development and maintenance of living plant, animal, and microbe specimens;
- development and implementation of student-designed projects;
- cooperation with neighboring counties, local, state, and federal agencies in seeking additional funds, programs, and opportunities;
- coordination with other local resources (Flag Ponds Nature Park, Calvert Marine Museum, Battle Creek Nature Center, Jefferson Patterson Park and Museum, Chesapeake Biological Laboratory) for maximum access and utilization of existing facilities;
- development of a catalog of regional resources available to in-county and out-of-county school systems and other service groups seeking access to regional programs.

King’s Landing Park would be used by the Board of Education as the primary site for its outdoor/environmental education program and focal point for CHESPAX. As the program develops further, Bugeye Times readers will be kept informed.

CMM AMAZON EXPEDITION SUCCESSFUL

Seven hardy Calvert Marine Society members returned safely after a two-week Amazonian expedition to Peru. Highlights of the trip included swimming in the Amazon, paddling dugout canoes, catching piranhas, seeing monkeys, tree sloths, poison arrow frogs, six-foot wide Victorian water lilies, and tapirs — one of which visited the camp one night. A lecture on the expedition will be given later at a date and time to be determined.

Many members may recall the first CMS expedition in 1985 to watch and pet gray whales in Baja California. The next trip will be underwater exploration of the reefs of Fiji, now scheduled for August 1989, as described in detail in the flyer in this issue of the Bugeye Times. Future trips will include the Iberian Peninsula in 1990 and possibly Iceland in 1991. For information call Layne Bergin at the museum. The first two trips were spectacular. Don’t miss those in the future!
SOLOMONS HARBOR SHIPWRECK SURVEY

Over the years the museum has accumulated a great deal of information about shipwrecks in the Solomons area. Preston Lore, who was captain for many years of the buyboat *Sidney R. Riggin*, in 1977 identified over a score of wrecks near Solomons, including one area where derelict wrecks lay one on top the other. These wreck sites have been marked on master maps in the museum and have proved useful for more detailed harbor surveys.

In 1987 the owner of Calvert Marina on the Dowell peninsula (between Back and Mill Creeks) approached CMM about surveying potential wreck sites along his property as part of his effort to obtain Army Corps of Engineers permits for bulkheading and pier work. The Nautical Archaeological Division of Capitol Divers Association in cooperation with CMM conducted a survey of the marina during the summers of 1987 and 1988 as part of their training courses. Efforts in early 1987 were concentrated on the Mill Creek side of the marina, resulting in the discovery of two wrecks which may be the bugeye *William Hellen* and the schooner *Alfred*, indicated in the Preston Lore survey as sunk in this area. The wrecks were in very bad condition and for the most part buried below the bottom. Since the wrecks lie in areas that would not be affected by the marina development, no further work was carried out.

During late 1987 and in 1988, efforts were concentrated on the Back Creek side of the marina where a former U.S. Navy minesweeper, a railroad barge, a scow, and an unidentified barge were located. Because these wrecks are to be removed and destroyed, a complete location survey, a photographic survey, and basic architectural drawings have been completed for all four wrecks. Archival research has confirmed that the minesweeper was built in 1942 in Newport Beach, California, and converted in 1945 to an amphibious hydrographic survey ship named *Simon Newcomb*.

The most significant find, however, was the scow. Evidence of a forward mast step, the lack of a centerboard trunk, and no mechanical propulsion indicate that this wreck was a sailing vessel, perhaps a pungy. The stern had obviously been altered sometime in its career; when, according to local tradition, the vessel was converted to a barge.

CMM is interested in adding to its files any additional information concerning these or other wrecks in the area. Anyone with such information is urged to contact the museum. (Ralph E. Eshelman).

Al Lavish, CMM volunteer and member of the Patuxent Small Craft Guild, helped a youngster and his mother build a model boat as part of a special boatbuilding workshop at Patuxent River Appreciation days in October.
Nursemaid (Continued from page 3)

digested food for its young. Is there some substance to the talk about a defect in the menhaden's digestive system? And how does the nursemaid arrive on the scene? I put the questions to fishermen on and off the river and to the owners of seafood markets. They're familiar with the nursemaid, but they have no satisfying answers.

The person who can lead me to the facts appears on an August afternoon at a seafood exhibition. I've been asking all the exhibitors about the nursemaid, and one of them finally says, "You might check over there with Joe." Joe's name tag identifies him more fully as Joseph W. Smith, National Marine Fisheries Service. And, hallelujah, all I need to say is "menhaden" and "isopod."

"Olenecra praegustator, that's your critter," he says.

_Praegustator_-an appropriate name for something that lives in the mouth of something else. It means "foretaster," the one who takes the first sampling of the food put on the table.

Joe adds that he doesn't know all that much about the creature-his work as a fisheries biologist centers elsewhere—but, come to think of it, he's read about this very isopod in a specialized journal. Would I like a copy of the article?

Praise be to those whose memories are like gill rakers, collecting nourishing tidbits of information and letting the dross go. Six days later the article, published more than 15 years ago, arrives in my mailbox. It tells a strange story.

When _O. praegustator_ leaves the incubation of its mother's brood-pouch, it begins life as a free-swimming male. After it finds a female and mates, it looks for lodging in a juvenile menhaden that has no other tenant. The fish's open, indiscriminate mouth sweeps in the isopod along with food, and both travel to the gills, where the isopod fastens itself and enters a transitional phase. No one knows if the isopod feeds directly on the gills or simply ingests the food trapped there. The host can sustain damage; sometimes massive but rarely fatal, to all parts of gills, from rakers to coverings. While the isopod occupies the gills it undergoes a sex change; roving male is transformed to sedentary female.

When the change is complete, the isopod moves to the host's mouth and, facing forward, attaches itself to the roof of the buccal cavity. Snuggled in, it apparently ceases to bite the host that feeds it and takes on its role as taster. Like a cook testing an entree, the isopod gets first crack at plankton soup. The menhaden's gills heal. Fish and isopod assume a kind of commensal relationship. The isopod, no longer truly parasitic, has found armor for its soft body and issued itself another ticket for free meals. The fish, relieved of injury, can easily support this uninvited mouthful of a guest. Though only one party gains, neither is hurt.

No, nothing is wrong with the menhaden's digestive tract. Nor does the fish need the isopod to perform any other everyday task. And no, not every juvenile menhaden is so occupied. _O. praegustator_ shuns cooler waters; menhaden off the Massachusetts coast don't encounter these hitchhikers. Only in Chesapeake Bay and waters farther south do these isopods appear regularly in numbers ranging from slight to moderate.

A commensal relationship. What a homely word commensalism is. It means "tabled together," sharing the same heaping board; it suggests comfort, courtesy, and enough food to fill every belly. I think of noon day farm dinners-three meats with gravy, five kinds of vegetable, homemade biscuits, and sweet-potatoe pie. Those dining together may be strangers without mutual customs, language, or interests, but they gather at the common board in a common cause, the need to fuel themselves so they can go about the main business. To make the picture truly commensal, place a few other species at the table—a chicken, a horse, a beetle, all minding their manners in a domestic version of the Peaceable Kingdom. The main business of this motley crew may appear in different guises—harvesting the corn, cleaning the barn—but underneath, it's always the same: ensuring the future of each species at the table.

Menhaden and isopod tabled together look to me like a model of uneasy but workable companionship. As for my kind, here we are, stuck in the world's craw. And if we do not still cradle the notion that we are divinely appointed landlords exercising dominion over the planet, we may well think of ourselves as caretakers for all that shelters, feeds, and clothes us and lets us get on with perpetuating ourselves in ever greater numbers.

Does the planet need us? The menhaden doesn't need its isopod and would do just as well without it. The nursemaid that is not a nursemaid depends on the menhaden for its very life and it knows enough to back off before it kills its host. But it operates on instinct; we must use our wits.

Janet Lembke, the poet in a poet-scholar team, has translated four Creek tragedies for a series published by Oxford University Press. She spends winters in Staunton, Virginia, and the rest of the year on the lower Meuse River in North Carolina. This article appeared originally in Sierra, July/August 1988. Used with permission

CHANGE PLANNED FOR MEMBERSHIP RENEWALS

The membership office, in an effort to reduce unnecessary paperwork and to speed its operations, will change procedures for renewals, beginning February 1, 1989. Renewal notices will be sent three times a year: members who joined in February, March, April, or May will receive a renewal notice in May; those who joined in June, July, August, or September, will be notified in September; and those who joined in October, November, December, or January will receive notice in January. No changes are planned at present for membership categories or dues.

Membership in the Calvert Marine Society is an important way to show your support for the work and programs of the Calvert Marine Museum. Through continuing membership you will stay informed of the activities planned in the months ahead—a period that promises to be exciting for the museum and its members. We hope to see you often during the year in the membership room on the upper level of the new exhibition building. Stop by to meet the membership and development staff, and also to enjoy a dramatic view of the boat basin, lighthouse, and Back Creek.
in the past. And mark your calendars now for the **formal** opening of the new building on International Museum Day, Thursday, May 18, 1989.

**Discovery Room Opening**

The Discovery Room on the first floor of the new exhibition building will open to the public on Wednesday, February 1, 1989. This room is dedicated to hands-on activities for children from five to eleven years of age. Parents and children should both enjoy playing and learning together.

The Discovery Room will be open to the public on Tuesdays through Fridays from noon to 2:00 p.m., and on Saturdays and Sundays from 1:00 to 3:00 p.m. For more information, please call the museum.

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**YEAR-END APPEAL UPDATE**

As of mid-December, some 185 members have donated nearly $11,000 to the Calvert Marine Society’s annual Year-End Appeal on behalf of the museum. Our thanks to you who have donated. We still hope to exceed the record $16,000 realized in last year’s Appeal. Give as generously as you can to this special fund that helps keep the Calvert Marine Museum a center for enjoyment and enrichment — goals that are even more important as activities and programs shift to the new exhibition building in 1989. The Year-End Appeal will close on February 15, 1989.

A roster of donors will appear in the spring issue of the *Bugeye Times*.

A reminder: you may use your VISA or MASTERCARD to charge your contribution. Indicate your card number and expiration date on the “Amount” line of the Year-End Appeal envelope and sign on the bottom line.

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Among the artifacts being conserved for the expanded maritime history exhibit in the museum’s new exhibition building is this deep water mine, similar to those tested during World War II at the U.S. Naval Mine Warfare Test Station at Point Patience. Shown here is Jody Hill, one of several volunteers from the Naval Weapons Station at Yorktown who are refinishing the mine.
Volunteers who act as host perform one of the most important public relations functions at the museum. Along with our interpretive staff, they represent our “front line” and are frequently the only person with whom visitors have any contact during their visit. A good host can provide the friendly, welcoming environment that is remembered long after the details of the exhibits have faded.

John Darr—“Jack”—is one of our museum hosts. For many years a weekender to the Solomons area from his home in Vienna, Virginia, Jack retired in 1981 from the Bureau of Standards and moved here permanently. His first experience as a volunteer resulted from the efforts of his late wife Martha, then acting as the museum’s volunteer coordinator, recruiting him as a substitute host. Since that time, Jack has gradually increased his commitment so that he’s now depended upon as a regular weekday host, plus host on one or more Saturdays during the month.

Museums are not new to Jack Darr. As a youngster in Pittsburgh, he and his grandfather explored the Carnegie Museum together each weekend and gathered information about museum organization. Later, personal experiences with boatbuilding (he has built three and another under construction) and talks with area watermen and other residents helped him become knowledgeable in local maritime history.

CMM has received several letters praising Jack Darr for sharing this considerable knowledge with our visitors.

When not at the museum, Jack enjoys reading and music with his wife Margie at their home on Old House Cove in Lusby. He also likes working in his shop and has just recently volunteered to complete children’s tables for the new discovery room at the request of educator Craig DeTamble.

Jack claims he volunteers “just to keep from vegetating,” but he thoroughly enjoys the educational aspect of his position. “If a person wants to learn about the museum, the best way, by far, is to become a volunteer. When you have to try to explain it to someone else, that’s when you really learn.”

Questions about the volunteer program, positions, and benefits are welcome and may be directed to Layne Bergin, Volunteer/Events Coordinator. Join the crew!