



Hippocampus: The Strange Little Seahorse

By Ken Kaumeyer and Carin Stringer

The unusual appearance and remarkable life cycle of seahorses have captured our imagination for thousands of years. The graceful swimming and "dancing" of mature pairs is fascinating to observe. In addition, they provide income for fishing families, and they are used by Asian communities to treat a range of ailments. Ironically, it is this popularity that places them in danger and in need of conservation.

All seahorses belong to a single genus, *Hippocampus*, which is derived from the Greek words for horse, *hippos*, and sea monster, *campus*. They really are a very strange fish, with a horse-shaped head, eyes that move independently, skin that is stretched tightly over bony plates instead of scales, a monkey-like prehensile tail, and a long tubular snout for sucking in food. Worldwide, there are thirty-two species currently recognized, the majority of which are found in the Indo-Pacific area. They range in size from less than an inch to over a foot long. In North America there are four recognized species, of which only one, the Lined Seahorse, *Hippocampus erectus*, is found in the Chesapeake Bay.

Taxonomists have had a very difficult time classifying seahorses, with over a hundred species listed in the past. Their chameleon-like ability to change color and the capability of adding long filaments to their body has caused many researchers to believe that they had found a new species. This ability to change shape and color is an adaptation that allows seahorses to blend in with their surroundings and avoid detection. Seahorses collected in the Chesapeake Bay have often differed greatly in appearance even though they are the same species. In the lower bay, where there is much more eelgrass and filamentous algae, the seahorses' color matches the grass, and they often have long filaments similar to the algae. Seahorses brought to the museum, where there is no algae and eelgrass, tend to lose the skin filaments within a few days. Their ability to change color was demonstrated rather dramatically when a Pacific Ocean seahorse changed its color to fluorescent orange matching a researcher's marking tape.

So where do seahorses live and how do they move around? They are primarily found among sea grasses, mangroves, corals, and oyster reefs. These habitats provide them with two essential needs — something to hold on to and a source of food. They have evolved an existence that favors maneuverability over speed, swimming upright and slowly within the structure of the habitat, using their dorsal fins for propulsion and their pectoral fins for stabilization and steering. The lack of a caudal (tail) fin means that they are slow swimmers and cannot swim against strong currents. They stop often and use their tail to cling to grass and other structures.

Seahorses exist in habitats that are home to many small amphipods, isopods, other invertebrates, and larval forms of various fish species, all of which they actively prey upon. Their camouflage ability allows them to ambush their prey by quickly sucking it through their snout with a rapid snap of the head. If you were to put a microphone in the water, you would hear what sounds like a loud snapping of fingers as they feed.

Since seahorses have no teeth, they swallow their prey whole. For larger food, such as grass shrimp, they injure them with blows from the snout, and then suck out the soft tissue. Seahorses are voracious predators since they do not have a true stomach and must consume large amounts of prey to compensate for inefficient digestion.

By contrast, seahorses have few natural predators, since their hard bony structure makes them rather unpalatable, although such large pelagic fish as tuna eat the species that live in sargassum weed. Young seahorses, however, are devoured by many species of fish, and rely on the refuge afforded by the structure (shells,



Drawings by Tim Sheirer.



Annual Report

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MUSEUM BOARD CHANGES IN 2003

At the annual dinner in early December for the members of the museum's Board of Governors, one new member – actually a returning member – was welcomed to the board: **Robert L. Swann**, former county commissioner and resident of Solomons. He replaces Carl M. Loffler Jr. All other board members will remain in 2003: John P. Cook, RoxAnne Cumberland, Ralph T. Eppard Jr., Richard H. Fischer Jr., John P. Ford, C. Bernard Fowler, Marshall S. Gibson, Marianne Harms, Michael L. Hewitt, Michael S. King, Constantine J. Pappas, Kirk L. Swain, Dawn M. Szot, and Edward Gregory Wells. CMM director C. Douglass Alves Jr. is an ex officio member, as well as a new county commissioner, yet to be named. The Board of County Commissioners has approved a change to the museum bylaws to allow an additional ex officio board member. Rear Admiral Tim Heely, Commander, Naval Air Warfare Center at Patuxent River Naval Air Station, will join the board representing the Defense Department and the strong military presence in the area.

Members of the museum's Board of Governors also serve as directors of the Calvert Marine Museum Society, Inc., responsible for fundraising. ▲

MUSEUM BENEFACTOR

The museum, as well as other Calvert County organizations, were saddened by the recent death of Mary Marvin Breckinridge Patterson (Mrs. Jefferson Patterson) at the age of 97. Known especially for the gift of the Jefferson Patterson Park and Museum property to the state, Mrs. Patterson and her husband were also generous benefactors to the Calvert Marine Museum from its earliest days, supporting the museum's founding in 1970, its renovation of the Solomons School in 1975, and later conservation and educational programs. ▲

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The bugeye was the traditional sailing craft of the Bay, and was built in all its glory at Solomons, the "Bugeye Capital of the World." Membership dues are used to fund special museum projects, programs, and printing of this newsletter. Address comments and membership applications to:

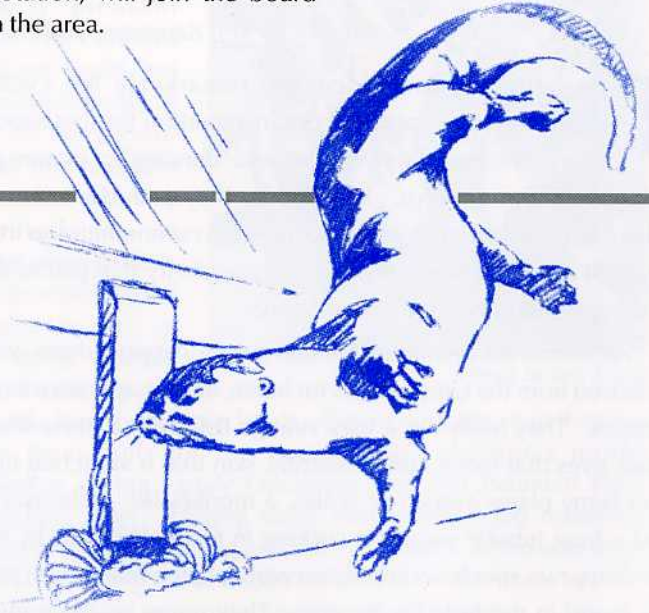
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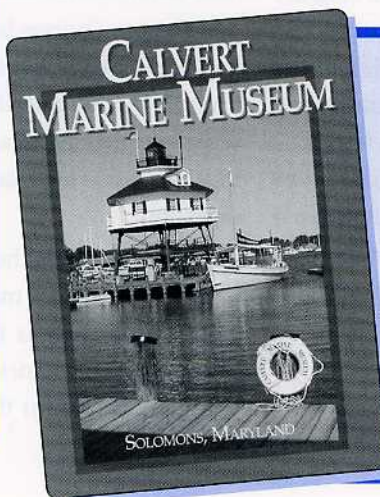


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THERE'S STILL TIME TO SUPPORT BUBBLES!



The museum's 2002 year end appeal is a follow-up to last year's initiative to expand our otter exhibit habitat. Last year the museum raised approximately 41 percent of the expected budget for the 200 sq. ft. exhibit addition. An addition designed to enable the museum to add a second otter and provide both otters with enough dry land to protect themselves from the sun and weather. With a little extra help from our members we anticipate beginning work on the expansion this spring. Much of the labor will be done in house, but we still can't complete the project without your tax-deductible donation. Please help Bubbles move into her new home by sending your contribution to: Calvert Marine Museum Society, P.O. Box 97, Solomons, MD 20688. For more information call 410-326-2042, ext. 18. ▲



MUSEUM GUIDEBOOK

The museum now has a fine guide to its buildings, exhibitions, and activities. Consisting of twenty-four pages with many color photos, the guidebook is the work of a large number of staff members, with final editing by a new volunteer, Nancy McCabe. The design was by the staff of the publisher, The Creative Company of Lawrenceburg, Indiana. Copies are available for purchase from the Museum Store for \$5.95, less membership discount. For a wonderful record of your association with the Calvert Marine Museum, pick up your copy today! ▲

