FOSSIL SEABIRDS OF THE CHESAPEAKE REGION

Michael D. Gottfried,
CMM Curator of Paleontology

"This [fossil gannet] species is established on a single bone which I found at the foot of the Miocene cliffs in Calvert Co., Maryland..." (Edward Drinker Cope, 1871)

The term "seabird" refers to a diverse group of birds, ranging from the flightless penguins of the southern oceans, to the Wandering Albatross whose eleven-foot wingspan is the longest of any living bird. Seabirds are not all closely related, but are joined together because they share broadly similar lifestyles and adaptations to aquatic habitats. Among the seabirds that can be regularly seen on the Chesapeake Bay are loons, grebes, cormorants, gannets, terns, and gulls. Other kinds of seabirds, including shearwaters, storm petrels, tropicbirds, jaegers, and auks, are pelagic (open ocean) forms that occur off our coast. All told, there are about three hundred living species of seabirds, widely distributed over the world's oceans. It is worth noting that many familiar water birds, including the waders (herons, egrets, flamingos, etc.), shorebirds (sandpipers, pipits, and their close relatives), and waterfowl (ducks, geese, and swans) are not considered "seabirds" in the traditional sense.

The seabirds of today's oceans are, however, only the latest chapter in a long story. The fossil record of seabirds extends back many millions of years, with early fossil seabirds known from forty to fifty million years ago. The Miocene Epoch (between five and twenty-four million years ago) was a particularly important period in seabird evolution and diversification, a time when many of the modern families became established but some of the more ancient lineages still persisted. It was during the middle of the Miocene — about ten to twenty million years ago — that a broad embayment covered the Chesapeake region, with the sea at times reaching as far inland as present-day Washington, D.C. The layers exposed today at Calvert Cliffs (and other sites in Maryland and Virginia) formed on the bottom of this ancient sea, and contain one of the world's richest concentrations of Miocene-age marine life.

Fossil collectors and many CMM members and visitors are familiar with the abundant Miocene shells, shark teeth, and whale bones from the cliffs and other regional sites, but less well-known is the fact that these Miocene deposits contain a very significant assemblage of fossil seabirds. Research on Miocene birds from this region dates back to the 1860s and 1870s, the

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LATE NEWS

The Wm. B. Tennison returned to service on August 13, after a spring and summer of repairs at Zahniser's Sailing Center. Scheduled cruises will continue through October 31, and there will be free trips throughout both days of PRAD, October 9 and 10. If you missed a Tennison trip this summer, take advantage of fine October weather to enjoy a Patuxent cruise.

Craig DeTample has left his position as curator of education to accept the position of executive director of the South Dakota Discovery Center & Aquarium, Pierre, South Dakota. Craig was with CMM since 1989. He will be joined in Pierre by his wife, Ruth, formerly the librarian at the Calvert Cliffs Nuclear Power Plant. Candidates for the vacant position of curator of education are being interviewed.
The museum was fortunate to acquire a fine oil painting of the steamboat *City of Richmond*, done by C. Leslie Oursler in 1969 and donated by H. Graham Wood. The painting, previously loaned to the museum for an exhibition, is an important addition to CMM’s collection of Oursler’s works. Another steamboat-related donation is an unissued stock certificate of the Weems Steamboat Company, given by Nathaniel Frampton, Jr.

Well known Chesapeake marine artist John M. Barber donated seven limited edition prints of his paintings. Virginia marine historian and artist Dr. Arthur L. Van Name, Jr., gave five prints of his works, in addition to allowing CMM access to his photographs through which he recorded the last days of working commercial sail on the Chesapeake. Another painting was that of Karen E. Russell, entitled “Reel Time,” depicting fishermen along the bulkhead at Solomons. This oil painting received the 1982 Maryland Federation of Art Jurors’ Choice Award.

The loan of a large model of a schooner named “J. E. Daiger” is described with a photograph on page 4. This loan required considerable restoration work last winter by CMM’s “Pepper” Langley. During the same period, a restoration effort of a different kind was completed by volunteer Paul Adams on an antique gasoline pump, dating from about 1925, donated by Henry C. Huhn, Jr. The pump, formerly used on Lloyd Bean’s farm in Beachville, St. Mary’s County, is now on exhibit in the Maritime History Hall.

A Solomons Island Yacht Club Class A outboard trophy, dating from soon after the club’s establishment in 1937, was given by John Mellin. And, speaking of outboards, three outboard engines have been added to the museum’s engine collection: a 1938 Neptune Model 2A38 from William King; a 1946 Mercury Model KD3, donated by Robert D. Carpenter; and a 1948 Royal Model 1A5 from Gordon R. Ottis. (Richard Dodds)

**SHOP THE MUSEUM STORE THIS FALL**

The inventory of attractive items and new products at the CMM Museum Store keeps growing. Come see the new lighthouse note cards and the Drum Point Lighthouse Christmas cards, created by artist Bill Martz, Lottsburg, Virginia. And don’t forget that the store also has an excellent selection of books on the museum’s themes and regional interest, including a number of children’s books. Four books published by the museum (or jointly with other publishers) are still available and are worth considering as gifts: Geoffrey M. Footner’s *The Last Generation* (1991), “Pepper” Langley’s *I Remember* (1990), Paula Johnson’s *Working the Water* (1988), and David C. Holly’s *Tidewater by Steamboat* (1991).

Bring your gift list to the store and let our staff help you make light work of it. Remember, museum members receive a ten percent discount on most items. Also, VISA and MasterCard credit cards are honored. By shopping the Museum Store you help yourself and help the museum.
NEW CULTURAL ATTRACTION FOR VISITORS TO SOLOMONS

Thanks to the generosity and vision of Francis L. Koenig, Virginia architect/engineer and weekend resident on the Chesapeake Bay near St. Leonard, the county now has a new cultural attraction located in the Solomons area. Mr. Koenig and his wife stayed in the county on weekends and holidays for some thirty-five years, and during that time they came to appreciate the many benefits Southern Maryland has to offer. Mr. Koenig's professional activities over the past forty years were largely around McLean, Virginia, but love of the water and Calvert County led the Koenigs to buy undeveloped property on St. John Creek and eventually to offer it to the county as a sculpture garden, to be named Annmarie Garden in honor of Mrs. Koenig.

The thirty-acre property, with a thousand feet of waterfront, was first offered to the county several years ago, but was not accepted at the time because of anticipated costs for development and upkeep. Through the efforts of County Commissioner Patrick Buehler, however, funds were found, leading the county to accept the Koenig's donation in December 1991. Formal planning began soon after acceptance, with a presentation of the garden concept to the county commissioners in December 1992. Although the Koenigs' primary interest is in providing a place for walking and quiet reflection, their other vision for the garden is as a place to "celebrate the arts" through space for sculptures, concerts, and plays. The configuration of the land lends itself to areas of different sizes and character, each to be developed artistically.

An essential infrastructure of entrance roadway, parking, paths, and lighting will be paid for by the county, and this work has already been started. A variety of funding sources will be sought to develop other aspects of the garden, but one artistic effort is already under way: a competition for a sculpture of an "Oyster Tonger," to serve as the garden's focal sculpture. The competition was held this past summer, ending with selection of Toby Mendez of Frederick, Maryland, from a field of twenty-six applicants, five of whom were asked to submit models. These models are at present on display in the Calvert County Courthouse in Prince Frederick.

A groundbreaking ceremony for Annmarie Garden on St. John was held on June 10, 1993, in which county and state officials participated, but without the Koenigs whose health prevented their attending this memorable event. Most unfortunately, moreover, Francis Koenig died on August 3, the day on which the results of the sculpture judging were announced. Although Mr. Koenig did not live to see the completion of his vision of a sculpture garden, he did participate in the final acceptance and the essential planning process. A formal dedication was held at the garden on September 19, attended by officials and county citizens.

Public participation in the funding of Annmarie Garden is a responsibility of the Friends of Annmarie Garden under a board of nine members. Visitors to Solomons may visit the garden site — although at present still under development — on Dowell Road, north of the Solomons Firehouse. Because of the similarity of interests in cultural activities in Solomons, the museum will keep its members informed of developments at the garden.

YOUR HELP WANTED — “EVERY MEMBER BRING IN A MEMBER” CAMPAIGN

People support museums for many reasons: some like the exhibits or subject matter of the museum; others enjoy the classes and trips offered; some simply like to support and encourage educational and cultural organizations. For every museum member, however, there are many people who "just haven't gotten around to joining CMM." That's where we need your help — talk with a friend about the Calvert Marine Museum, about whatever pleasures you derive from membership. Word-of-mouth is our best advertising. Our "EVERY MEMBER BRING IN MEMBER" campaign will work if YOU make it work! A membership application envelope is enclosed with this issue of the Bugeye Times, and we hope you will pass it on to a friend or will consider giving a holiday gift membership to be enjoyed all year.
CMM's Wm. B. Tennison returns to service in August 1993, following extensive repair work. (Photo by Richard Dodds)

"Pepper" Langley with restored model of a schooner given the name "J. E. Daiger." This large model was built by Walter Daiger and named for his daughter, Jean Ellen Daiger. Mr. Daiger spent a long career on the water on oyster dredgeboats, yachts, and steamboats before working for Nash Marine Supply on the waterfront in Washington, D.C. The model was built over a ten year period, beginning in the late 1940s, and represents a type of coastal schooner but not an actual vessel. When Nash Marine Supply closed in 1971, the model was acquired by Philip Donahue of Solomons who has loaned it to CMM for exhibit. Following a careful restoration of the model during the winter of 1992-93 by "Pepper" Langley, a special case was constructed this past summer. It is now exhibited in the museum's library. (Photo by Robert Hurry)
Volunteer Bill Loughrey at work.
(Photo by Richard Dodds)
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tumultuous pioneering days of natural history in North America, when the two most famous (and notorious) paleontologists of the time—the archrivals Edward Drinker Cope (see above quote) and Othniel Charles Marsh—described fossil seabirds from Maryland. Although fossil bird specimens are relatively rare compared to shells, shark teeth, and marine mammal bones, enough specimens have been collected and described since the days of Cope and Marsh to provide an overview of the Miocene seabirds from our region. Much of this work was carried out by the late Alexander Wetmore, who during his long career at the Smithsonian Institution (which extended from the 1920s to the 1970s, including a stint as Secretary) accumulated many specimens and published a number of papers on fossil birds. Storrs Olson, currently at the National Museum of Natural History, has maintained and strengthened the Smithsonian’s tradition of research on fossil birds. This research has been greatly advanced by a dedicated group of amateur paleontologists, notably Wallace Ashby who continues to collect Miocene birds and other interesting fossils and is an active volunteer in paleontology at CMM.

Typically, fossil bird bones are found one at a time, particularly the long bones of the wing and the leg. This is because bird skeletons disarticulate (come apart) quickly, and the hollow, lightweight bones are soon scattered. Occasionally a number of associated fossil bones from a single bird have been found together, and in a very few instances skulls (the most delicate part of the skeleton) have been preserved.

**Miocene gannets** (of the genus *Morus*, which also includes the living gannets) are the most frequently collected bird fossils along Calvert Cliffs, and, in addition, a few fossil gannet skulls have been found. Living gannets are known for their spectacular head-first plunging dives in pursuit of fish, their favorite prey. Their strong pointed bills are well adapted for catching fish, and gannet skulls are solidly built to withstand the impact of their dramatic dives. Gannets also have special inflatable air sacs in their throat and breast to cushion the shock from the dives—a sort of avian airbag! Gannets, like many seabirds, gather in large colonies to breed, and like their close relatives, the boobies, carry out elaborate courtship rituals. A living species, the Northern Gannet (*Morus bassanus*), visits Chesapeake Bay to feed on fish during the colder months of the year.

The most spectacular of the Miocene seabirds are the giant Pseudodontorns, which means “false-toothed bird.” Pseudodontorn bills are long and narrow, with rows of sharply pointed projections that at a glance look like teeth. Actually, these “teeth” are bony extensions from the bill itself, not true teeth, hence the name “false-toothed” birds. These soaring giants are nearly the largest flying birds known, with a wingspan of eighteen to nineteen feet, twice that of a California Condor. Only the enormous vulturelike teratorn Argentavis, from the Miocene of Argentina, had larger wings, with a span approaching twenty-five feet. Pseudodontorns were probably not strong flapping flyers, but rather gliders, using the wind’s lift and their large wings to soar above the Miocene sea, and gliding down to the surface to catch fish and other prey with their long, serrated bills. Pseudodontorns are placed within the pelecaniform seabirds, the group that also includes gannets and boobies, along with pelicans, cormorants, and frigatebirds.

Other seabirds from the regional Miocene include loons, which were much smaller than their living counterparts; shearwaters, related to the shearwaters that occur today in the North Atlantic; and auks, placed in the same family as the living guillemots and razorbills of the North Atlantic. In addition, specimens of a fossil tropicbird, jaeger, gull, and albatross have been found, but remains of these birds are quite rare. Overall, the Miocene seabirds

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from this region are characteristic of offshore, pelagic, warm temperate conditions. As a group, or assemblage, they are broadly similar to the pelagic seabirds that occur now in the western North Atlantic, and quite different from the waders, shorebirds, and waterfowl that are the most conspicuous water birds in the marshes and mudflats of Chesapeake Bay.

The Miocene seabird fossils from the Chesapeake region of Maryland and Virginia, although numbering only about three hundred total specimens to date, provide very important information on the evolution of marine birds in the Miocene. The combined fossil record of seabirds from the mid-Atlantic coast of North America (which includes remains from New Jersey to the Carolinas) is perhaps the most complete of any region of the world. Deciphering the evolution of the multitude of birds that grace our seas and skies is an active area of current research, and the potential of making new and exciting discoveries that will contribute to this unfolding story is always present for the fossil collectors who explore our region.

IF YOU FIND A FOSSIL BIRD BONE—
Fossil bird bones are often delicate and need special care. If you think you have found a bird bone, please record the location, then bring it to the museum if it can be safely and legally removed, or call CMM if the specimen appears too delicate to be collected. Be sure to wrap fossil bird bones carefully in tissue or cotton. AND PLEASE REMEMBER — the Calvert Cliffs are unstable, and they are generally private property; it is not permitted, and can be dangerous, to dig directly into the cliffs for bird bones or other fossils!

We hope that many members and other visitors will plan to stop by CMM and see "SEABIRDS, Past & Present," our newest exhibit. SEABIRDS opens on October 2, 1993, in the museum's lower changing exhibits gallery, and will run through the end of March 1994. The exhibit will feature Miocene fossils, including giant false-toothed birds and a rare fossil gannet skull, along with specimens and photos of seabirds that occur in today's Chesapeake Bay. Please also note that there will be a special lecture on fossil seabirds by Dr. Pamela Rasmussen (Smithsonian Institution) on Saturday, October 23, at 7:30 p.m. (see this issue's calendar for details).

1994 MARITIME ENGLAND TRIP

Plan now for a trip next spring to maritime England, as detailed in the summer issue of the Bugeye Times. Visit historic Plymouth, Exeter, and Portsmouth — all highlighting England's seagoing legacy. The trip price includes a donation of $200 to the museum. For more information contact Lord Addison Travel at P. O. Box 3307, Peterborough, New Hampshire, 03458.

THE BUGEYE SOCIETY: A NEW WAY TO SUPPORT CMM

Several past issues of the Bugeye Times have included brief items about the new Bugeye Society, a special category of annual giving to the Calvert Marine Museum Society. The museum's Board of Governors felt that personal and corporate members who want to show their support at the level of $1,000 or more should be especially recognized, and thus created the Bugeye Society for that purpose. Funds raised by the Bugeye Society, of course, will be used for the benefit of the programs of the museum, such as the completion of the Estuarium and the new paleontology exhibit, "A Window in Time: Maryland in the Miocene."

Members of the Bugeye Society will receive all of the usual membership benefits, and in addition will receive several special benefits: unlimited free admission to the museum for themselves and guests; unlimited Tennison cruises; admission for two to museum events; twenty-percent discount in the museum store; two tickets to the Bugeye Ball; and invitations to special events just for Bugeye Society members. Perhaps the best of all will be the satisfaction of supporting the growth of the Calvert Marine Museum in the years ahead as it endeavors to serve increasing numbers of visitors from the community and elsewhere through interpretation of its three themes.

This past summer there has been a concerted effort to recruit members, with the result that it is now possible to report that fifteen members have joined the Bugeye Society. These members will be provided with special identification for their visits to CMM. If you would like to join in this support category, you may use the form below. If you have questions, please call the Development Office on (410)326-2042.

BUGEYE SOCIETY — APPLICATION

___ Please enroll me/us in the CMMS Bugeye Society. A check for $1,000 is enclosed.

___ Please call or provide further information.

Name(s): ____________________________

Address: ____________________________

State: ________ Zip Code: ____________ Phone: ____________________________

Mail to: Development Office, Calvert Marine Museum Society, Inc., P. O. Box 97, Solomons, Maryland 20688
VOLUNTEER SPOTLIGHT –

Dorothy Ordwein
CMM Volunteer Council President

“The primary function of any good museum is education. Everything else is secondary.” With this statement, believed as strongly now as at the museum’s inception in 1970, Dorothy Ordwein unfolded the pages of her remarkable volunteer career at Calvert Marine Museum — a career that continues with her recent election as president of the museum’s volunteer organization, the Volunteer Council.

Dorothy — or “Dot,” as she is known — was recruited by Joe Lore for the original museum building on Solomons Island shortly after it opened. She and friend Clara Dixon rotated with other volunteers, “standing duty” on Sunday afternoons, welcoming visitors to a one-room collection of maritime artifacts and local history. Retired from the Maryland school system with thirty-six years of teaching experience, Dot was obviously going to be a valuable addition to the crew. But could anyone have foreseen then how her vision, energy, and resolve would help bring the museum from its modest beginnings to the prestige it enjoys today?

Proudest of her work in the schoolhouse building, the museum’s second location, Dot often worked forty to fifty hours a week as CMM’s growth went into high gear. Her personal achievements are genuine milestones in the history of this institution: she started the first gift shop, managed it, and operated it with the help of volunteers; she was instrumental in the founding of three of the museum’s member clubs — canoe club, fossil club, and the woodcarvers; she started the first Discovery Room with discovery boxes built and filled by volunteers; and she started the first educational programs for both school-age children and adults. With time spent helping keep the building clean, managing and training new volunteers, planning and marketing lectures, skipjack cruises, and workshops, while encouraging museum memberships, Dot claims to “have done everything at this museum that anyone has ever done except design an exhibit hall.”

Now, as the museum approaches its twenty-fifth anniversary in 1995, Dorothy Ordwein stays attached and involved, hosting visitors and training new recruits to the volunteer program. She feels it’s essential to have a strong volunteer core, as that’s what is going to make this museum grow. But the new Volunteer Council president sees our biggest challenge as education, not only for school children but for the community and the entire state. “There’s no reason why we can’t make an impact on the whole Chesapeake region,” Dot says, “then it will make it possible for the museum to have an influence in what happens.”

Listed in Who’s Who in American Museums and the recipient of CMM’s first Volunteer Achievement Award, Dot Ordwein has earned and received recognition for her many contributions. But to hear her tell it, she did it all for the “sheer fun” of it, delighting especially in her docent role: “For me, that’s where the fun is, dreaming up ways to tell the story.”

To learn more about how you may find “sheer fun” in volunteering at CMM, call the Volunteer Coordinator on (410)326-2042. (Layne Bergin)

MEMBERS’ YULE PARTY
Sunday, December 5, 1993, 5:30 to 8:00 p.m.
Our annual Members’ Yule Party is bigger and better every year, with carols, Santa, hayrides, holiday goodies, and the traditional Weems Steamship Line eggnog toast. But the party’s success has meant limiting it to “members only.” To treat family and friends to this event and a year of museum enjoyment, consider a gift membership. A holiday card will announce your gift (you’ll receive a confirmation). Call the membership office for more details.

GIVE A CMM MEMBERSHIP THIS HOLIDAY!