



# Scotch Bonnet

*What we are hearing from the sea.*

North Carolina Sea Grant

[www.ncseagrants.org](http://www.ncseagrants.org)

Fall 2005

## Greetings!

OK, it's back to school time! With this fall issue, you'll notice a name change! We're renaming the *Conch Shell* the *Scotch Bonnet*, the state shell of North Carolina. Although the name is different, the content will remain the same — I'll focus on marine education topics and will include a wide variety of resources for classroom teachers, librarians and informal educators.

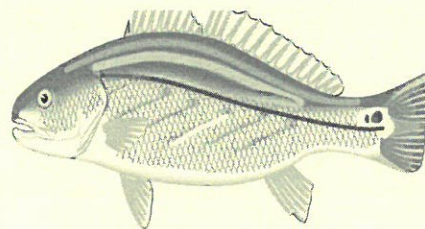
Our state seashell, the Scotch bonnet (*Phalium granulatum*), is a gastropod (one-shelled mollusk) that lives offshore from North Carolina to Uruguay. It lives on sandy bottoms, feeding on sea urchins and sand dollars, using a form of sulfuric acid to dissolve their calcareous tests. It belongs to the helmet family (*Cassidae*) that also includes the king helmet and the reticulated cowrie-helmet.

Over the years, the N.C. General Assembly has adopted various symbols that represent our natural and cultural heritage. The Scotch bonnet was designated North Carolina's state shell by the General Assembly of 1965 (Session Laws, 1965, c. 681).

Although 14 out of 23 coastal states have official state shells — including South Carolina (lettered olive), Virginia (Eastern oyster), New Jersey (knobbed whelk), and Florida (horse conch) — North Carolina was the very first state to designate one!

For you trivia buffs, here are other North Carolina state symbols and the year of designation.

- Berries, 2001:
  - Red berry – strawberry
  - Blue berry – blueberry
- Beverage – milk, 1987
- Bird – cardinal, 1943
- Boat – shad boat, 1987
- Carnivorous plant – Venus flytrap, 2005
- Dances, 2005
  - Folk dance – clogging
  - Popular dance – shagging
- Dog – Plott hound, 1989



- Flower – dogwood, 1941
- Fruit – scuppernong grape, 2001
- Insect – honey bee, 1973
- Mammal – gray squirrel, 1969
- Precious stone – emerald, 1973
- Reptile – Eastern box turtle, 1979
- Rock – granite, 1979
- Saltwater fish – red drum, 1971
- Tree – pine, 1963
- Vegetable – sweet potato, 1995
- Wildflower – Carolina lily, 2003

Visit the N.C. Department of the Secretary of State's Web site: [www.secretary.state.nc.us/](http://www.secretary.state.nc.us/) and click on kids' page for additional information on our state symbols.

## NC Phytoplankton Bloom

[www.chbr.noaa.gov/PMN](http://www.chbr.noaa.gov/PMN)

Science teachers Leslie Horne and Katie Neller and 12 students from First Flight High School in Kill Devil Hills reported their very first phytoplankton bloom this past spring. This group began monitoring for the SouthEast Phytoplankton Monitoring Network (SEPMN) last February.

On April 6, the group collected samples from the U.S. Army Corps of Engineers Field Research Facility in Duck. The next day, the students examined the samples under a microscope and immediately reported a possible bloom of

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*Odontella*, *Rhizosolenia*, and some *Pseudo-nitzschia*.

SEPMN staff instructed Leslie and Katie to ship the sample to the National Oceanic & Atmospheric Administration (NOAA) labs in Charleston, S.C., where it was examined under a scanning electron microscope (SEM) and found to contain an abundance of *Pseudo-nitzschia pseudodelicatissima*. Using the SEM is the only way to identify this particular species.

The identification of *Pseudo-nitzschia pseudodelicatissima* is very exciting because this is the first time it has ever been reported in the Carolinas, according to SEPMN staff. At this time, *P. pseudodelicatissima* has been reported from the Bay of Fundy, the Gulf of Maine, the Gulf of Mexico and Florida's Indian River Lagoon. This particular species has the potential to carry a toxin, known as domoic acid. NOAA conducted further studies of this diatom and collected local shellfish samples for further testing.

This North Carolina population of *Pseudo-nitzschia* was not found to be producing toxins, and the blue mussels that were analyzed did not contain any domoic acid.

Congrats to First Flight High School for this very important scientific discovery!

SEPMN, a program of NOAA, is based in Charleston, S.C. A partner with the Center for Ocean Sciences Education Excellence SouthEast, SEPMN has now expanded into Georgia and North Carolina and is hoping to add Alaska, Maryland, Florida and Virginia in the near future. Contact me if your N.C. school or civic group is interested in joining the network.

## MAMEA Fall Conference

[www.mamea.org](http://www.mamea.org)

Don't miss the annual fall conference for the Mid-Atlantic Marine Educators Association (MAMEA) set for Oct. 14-15 in Beaufort at the Duke University Marine Laboratory.

Featuring guest speakers Pete Peterson from UNC's Institute of Marine Sciences and Jay Barnes, director of the N.C. Aquarium at Pine Knoll Shores, this conference offers wonderful field trips and interesting concurrent sessions. Tour the N.C. Maritime Museum; search for beachcombing treasures on Shackleford Banks; explore the Rachel Carson Reserve; meet new friends; and renew old acquaintances!

A great weekend of renewal experiences has been planned for you. Visit the MAMEA Web site for de-

tails, registration information or to join the organization.

## Online Marine Life Field Guide [sanctuaries.noaa.gov/education](http://sanctuaries.noaa.gov/education)

NOAA's National Marine Sanctuary Program has unveiled a new, innovative online resource that highlights the diverse marine life of America's ocean and Great Lakes treasures. The "Encyclopedia of the Sanctuaries" is part of a continuing NOAA effort to enhance public awareness, understanding and appreciation of the ocean environment.

This online field guide provides photos, streaming video and important biological information for more than 100 marine species from each of the national marine sanctuaries in the United States, ranging from spiny lobsters and ocean sunfish to loggerhead sponges and sea turtles. This is a fantastic resource to better understand the marine life that thrives in our National Marine Sanctuary system.

## Marine Life Posters

[bookstore.gpo.gov/collections/ocean\\_exploration.html](http://bookstore.gpo.gov/collections/ocean_exploration.html)

NOAA's National Marine Fisheries Service has reprinted its long unavailable series of posters depicting species of fishes, mollusks/crustaceans, marine mammals and sea turtles. The eight posters can be viewed and purchased at the Government Printing Office's online store. Each poster is \$13.

## N.C. Museum of Natural Sciences

[www.naturalsciences.org](http://www.naturalsciences.org)

The museum is offering some wonderful programs throughout the fall.

Contact Mike Dunn, coordinator of teacher education, [mike.dunn@ncmail.net](mailto:mike.dunn@ncmail.net) for details and updates.

- Nature Walking with



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Young Children: Autumn Wonders; Prairie Ridge Ecostation, Raleigh; Saturday, Oct. 15.

- River Roundup; Eno River State Park, Durham; Saturday, Oct. 22.
- Got Elk; Great Smoky Mountains National Park, Haywood County; Friday, Oct. 28 – Sunday Oct. 30
- Discovering Chimpanzees; N.C. Zoological Park, Asheboro; Saturday, Nov. 5.

### Maritime Heritage Education Conference [www.sanctuaries.noaa.gov/education/mhec/](http://www.sanctuaries.noaa.gov/education/mhec/)

Formal and nonformal educators will come together Nov. 18-20 at the National Marine Sanctuaries' Maritime Heritage Education conference, to promote the sharing of maritime heritage-related education partnerships, programs, and products.

Nauticus: The National Maritime Center in Norfolk, Va., will serve as host. Themes for this event will include lighthouses, lifesaving stations, whaling and fishing heritage, native canoe cultures, shipping and port heritage, shipboard education, and, of course, shipwrecks!

### ROV Teacher Workshop

Are you interested in learning about Remotely Operated Vehicle (ROV) technology and its application in ocean studies? Want to put together a high school team to participate in a regional ROV competition?

If you answered yes to these questions, mark your calendar for Sat., Dec. 10! An ROV Teacher



Workshop will be held from 1 to 5 p.m. at Nauticus: The National Maritime Center, in Norfolk, Va. Teacher participants will:

- Build an ROV from PVC pipes and other materials and have a chance to test their design;
- Discuss how ROV technology can be infused into high school curriculum tied to state and national standards;
- Be introduced to ROV technology and how it is used for research, monitoring and exploration in National Marine Sanctuaries; and
- Be provided an overview of the Marine Advanced Technology Education (MATE) Center and its regional and national student ROV competitions.

This workshop is sponsored by Nauticus: The National Maritime Center and the Monitor National Marine Sanctuary.

Interested educators, please RSVP by Nov. 23 to: Christine Arrasate, Nauticus, 757/ 664-1019; [christine.arrasate@norfolk.gov](mailto:christine.arrasate@norfolk.gov); or Krista Trono, Monitor NMS, 757/ 591-7328; [krista.trono@noaa.gov](mailto:krista.trono@noaa.gov).

### New Juvenile Literature [www.earth2ocean.net/aodi.htm](http://www.earth2ocean.net/aodi.htm)

Enjoy the adventures of Kelly Wickmer after she is lost at sea, getting swept off a sailboat during a storm in the Caribbean. In the new book *Adventure on Dolphin Island*, Kelly ends up on the Alabama island — and is in for the adventure of her life.

Discover more about the ocean and marine life while reading this captivating story.

The author, Ellen Prager, is the president of Earth 2 Ocean, Inc., an organization that focuses on bringing earth and ocean science to the public. She has written three other books for young readers: *Sand*, *Volcanoes* and *Earthquakes*.

Prager reinforces fun marine facts from the story in the final section “The Real Deal.” The section also contains Web sites for resources and organizations. It is a great addition to this story for young readers ages 8-13, allowing them to do additional research and learn more!

### Nautical Word Origins

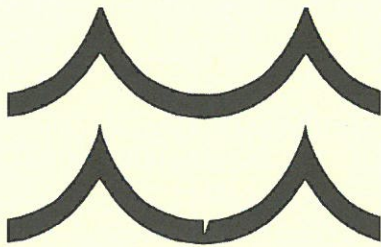
“In the Doldrums” – meaning sad or depressed.

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where light winds make sailing very difficult. Sometimes sailors would have to tow their ship by row boat to an area of better winds!

“Let the Cat Out of the Bag” – meaning to share information or tell a secret. In the early sailing days, the ‘cat o’ nine tails’ was kept in a bag until the person to be punished didn’t have a chance of a reprieve.

“Posh” – meaning luxurious. When the wealthy British sailed between England and India, the more comfortable (cooler) accommodations were on the port (left) side on the outbound trip and on the starboard (right) side coming home.



P.O.S.H. (portside out, starboard home) was found next to the affluent passengers in the reservation books.

Reprinted with permission from *Captain Bucko’s Nauti-Words Handbook* (ISBN 0- 595-31529-1) by Roger Paul Huff; 2004, iUniverse, Inc.

### To Contact Me

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Please check your mailing label – if we need to make changes, or if you’re getting more than one copy of *Scotch Bonnet*, let me know! Don’t forget to recycle this newsletter after sharing it with friends and colleagues.

Best Fishes!

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