



Field Trip

"Paleontology and Sequence Stratigraphy of the Upper Cretaceous Navesink Formation, New Jersey"

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Hofstra University

Saturday October 18, 2003

Upper Cretaceous sediments deposited along the Atlantic continental shelf are exposed along a narrow belt of the inner Atlantic coastal plain in New Jersey. These Cretaceous strata record several cycles of sea level rise and fall (transgression and regression) that occurred during the end of the Mesozoic Era. The Navesink Formation is an approximately 10 meter thick interval of muddy sand and glauconite sand deposited during rapid sea-level rise at the beginning of the Maastrichtian Stage (the terminal stage of the Cretaceous). Navesink sediments record the initial flooding and ravinement of the inner continental shelf, deposition of nearshore sands during early sea-level rise, and sediment starvation of the shelf during maximum sea level rise. These different stages in the sea-level cycle can be seen in the different fossil assemblages and sedimentological characteristics present at successive levels within the Navesink Formation. The Navesink Formation is also well known for its fossil beds, which contain shelly fossils typical of marine communities in the Cretaceous. Several species of oyster, as well as brachiopods and belemnites are common. A variety of interesting trace fossils can also be observed, including the burrows of callianassid crustaceans (mud shrimp). In addition, erosion of the lower Navesink concentrates vertebrate fossils in the stream gravels, which can be sieved to obtain a variety of shark teeth, fish teeth, and the occasional marine reptile tooth or bone

[Link to Big Brook Identification Page.](#) Lots of information including a description of fossils to be found on our field trip.

Publications related to this topics include:

Bennington, J Bret, 2001. [Shell color and predation in the Cretaceous oyster *Pycnodonte convexa* from New Jersey.](#) Long Island Geologists Conference, Stony Brook, New York, April 2001.

Bennington, J Bret and Selss, Mark, 2000. Shell color, predation, and the fate of gryph-shaped oysters. *American Paleontologist* 8(5):2-4.

Bennington, J Bret, Miller, J. and Bonelli, J., 1999. [Paleocommunities and depositional environments of the Upper Cretaceous Navesink Formation: A report on work in progress.](#) Long Island Geologists Conference, Stony Brook, New York, April 1999.

Bennington, J Bret, Aluskewicz, P., Apostolou, V., Daniello, O., DeMaine, A., Forsberg, N., Miller, J., Schwager, K, and Verdi, Elisheva, 1998. [Callianassid, burrowing bivalve, and Gryphaeid-oyster biofacies in the Upper Cretaceous Navesink Formation, Central New Jersey: Paleoeological and sedimentological implications.](#) Long Island Geologists Conference, Stony Brook, New York, April 1998.

Participants from Suffolk County can meet at Stony Brook University ; we will depart promptly at 8:00 a.m. Participants from western Long Island may choose to meet us at 8:30 a.m. at the Park and Ride at Exit 41S LIE. You may also choose to meet us at the Poricy Park Nature Center at 10:00 a.m. We plan to leave by 4:00 p.m.

We will go rain or shine. There will be no refunds. Bring lunch and drink.

You must have footwear that can get wet (no bare feet allowed) – we will be walking through streams.

A towel and a change of dry shoes and socks are strongly recommended.

If you wish to collect shark teeth, bring a trowel and colander for sieving.

Directions to SUNY Stony Brook and ESS Parking Lot

From exit 62 of the Long Island Expressway (LIE, I-495) follow Nicolls Road (Route 97) north for nine miles. Pass the South and Main entrances to the University. Enter the North entrance, which will be on your left. At the top of the small hill, turn right on North Loop Road . Proceed about 1 mile to first stop sign. Turn left onto SAC Drive and then immediately turn left again onto Center Drive . Proceed about 50 yards then turn right into the large paved parking lot. Map of campus is on the web at: www.sunysb.edu/doit/maps.html

Directions to Park and Ride Exit 41S LIE

At exit 41S on I-495 go south 0.6 miles on Rt. 107 (North Broadway) turn east (left) on Nevada St. (Follow the Park and Ride signs.). Assemble in the parking lot on south side of Nevada St. directly across from the Red Lobster Restaurant.

Directions to Poricy Park Nature Center

Via the Gardent State Parkway from the north: Get off at Exit 114 (Holmdel-Middletown). At light ramp's end, make a left onto Red Hill Road . Make a right at the second light onto Dwight Road and stay on this road 1 1/2 miles past the first light. At light, turn left onto Middletown-Lincroft Road . Continue for 1/4 mile, past the Poricy Park Fossil Bed area, and turn right at the first light onto Oak Hill Road . The Nature Center is on the right immediately before the second set of railroad tracks. Park web site with map is at: www.monmouth.com/~poricypark/direction.htm

If you wish to participate, we need to know by Tuesday, October 14. Make your reservations by sending a check for \$30.00 per participant made out to Long Island Geologists.

No confirmation will be sent.

Long Island Geologists
Earth and Space Sciences Building
S.U.N.Y.
Stony Brook , New York 11794-2100

Tel. 631 632 8535;

Fax 631 632 8240

Cut Here-----

Enclosed is a check for \$ _____.to reserve ____places for the Field Trip on
Saturday October 18, 2003 .

Name(s) _____

Affiliation

Address _____
Town _____ State _____ Zip _____

Phone Number _____
Fax Number _____
e-mail _____

If you are a teacher, would you like in-service credit? _____

I (We) will meet the vans at _____ SUNY Stony Brook
_____ Park and Ride at Exit 41S LIE, south on Route 107
_____ Poricy Park Nature Center