

• Latest News

Home | **Science Topics** | Mind & Brain | Plants & Animals | Space & Time | Earth & Climate | Matter & Energy | Computers & Math | Fossils & Ruins

Show **Encyclopedia menu**

RSS feeds | Free **newsletter**

Print this page | Email to friend | **Bookmark**

Text: **small** | med | large

Source: [United States Geological Survey](#)
Date: September 21, 2006

Post to: [Slashdot](#), [del.icio.us](#), [Digg](#), [Furl](#), [Netscape](#), [Newsvine](#), [reddit](#), [Yahoo!](#) [MyWeb](#)

Invasive Sea Squirts Persist On Georges Bank

For the fourth consecutive year, federal and university researchers have surveyed two areas on Georges Bank where an invasive colonial sea squirt continues to thrive on the gravel bottom. The colonies are denser than in 2005 over the 88 square-mile area observed. But scientists found no colonies in nearby Canadian waters, indicating they have not spread eastward. The Georges Bank squirts are a species of the genus *Didemnum*.

"The area of seabed covered by the colonies has doubled at 75 percent of the sites we observed in both 2005 and 2006," said Dr. Page Valentine of the U.S. Geological Survey, who tracks occurrences of the species off the northeastern U.S., and elsewhere in the world. Greater density of colonies observed during the survey is evidence that the infestation is persistent, and not a short-lived phenomenon.



Decorator crab with colonies of the tunicate Didemnum sp. growing on its carapace. Northern Georges Bank, August 2006. Collectors: Jeremy Collie, Page Valentine, and Robert Reid. (Photo credit: Dann Blackwood, U.S. Geological Survey)

Robert Reid, a biologist with NOAA Fisheries Service and chief scientist for the survey, agreed that the squirt appears to be proliferating in the study area. "The fact that it is still there in high abundance over a fairly large area certainly indicates this occurrence is not ephemeral," Reid said.

Scientists remain concerned that the infestation could threaten important fisheries in the

Science Video News



Reuters Quickcut: Fish Discovery

Twenty four new species of fish discovered off the coast of Indonesia. > [watch video](#)

Jump to: < [prev](#) | [next](#) >

Related News Topics

- [Invasive Species](#)
- [Fish](#)
- [New Species](#)
- [Invasive Species](#)
- [Earth Science](#)
- [Recycling and Waste](#)

Related Science Stories > [more ...](#)

- [Invasive Sea Squirt Alive And Well On Georges Bank](#)
- [Scientists Find Millions Of Tiny, Tentacled Predators Threatening Already Vulnerable East Coast Fish](#)
- [Survey Discovers Potential Threat To Maine's Fishing](#)
- [Colonial Spiders Get Better Web Sites Not By Fighting But By Rising Early, Researchers Discover](#)
- [Stanford Study Of Sea Squirt Provides Clue To Human Immune System](#)

Related Encyclopedia Articles > [more ...](#)

Search Archives

Find: [> options](#)

Also search *ScienceDaily* or the web with Google:

ScienceDaily.com
Web

In Other News ...

Israel closes Gaza, West Bank for holiday
(2 hours ago)

Japan's teachers win patriotism lawsuit
(2 hours ago)

Pope invites Muslim leaders to talks
(2 hours ago)

Italy orders internal probe into spy plot
(2 hours ago)

British soldier alleges casualty coverup
(2 hours ago)

region. Sea squirt mats could prevent fish from feeding on worms and crustaceans that live in and on the gravel bottom, reduce the shelter required for these species to avoid predators, and limit the space available for settlement of larvae of sea scallops and other species. Didemnum is a nuisance to the aquaculture industry, overgrowing shellfish in New England coastal waters.

Dr. Jeremy Collie, a biologist with the University of Rhode Island, has been studying the benthic communities in the area since before the sea squirts arrived, and he is monitoring the effects they are having on the benthos. "We haven't seen any dramatic changes yet, but as the percentage of the area covered by sea squirts gets higher and higher, it's going to seal off the seafloor. That's when we expect to see significant effects," he said.

As in prior years, scientists conducted the annual survey from the NOAA Ship Delaware II. Returning researchers included Valentine and Reid, and Collie. This year's survey included video transects of up to 0.8 miles in length using the USGS seabed observation and sampling system (SEABOSS). Preliminary evaluation of the images show the gravel is 50 to 75 percent covered at some study sites, a marked increase from last year.

Dawn Sephton, a biologist from the Department of Fisheries and Oceans Canada, Maritimes Region, was also part of scientific team this year, since the study included Canadian waters. Sephton currently leads a project to detect and monitor invasive sea squirt species along the Bay of Fundy and Nova Scotia coastlines. "While the absence of Didemnum at the Canadian study sites is welcome news, we are concerned about its potential spread and impact on fisheries and shellfish aquaculture in the Maritimes," Sephton said.

Sea squirts are also called tunicates, having a primitive spinal cord and an outer sheath or "tunic," from which the name derives. Tunicates spread in several ways: by larvae that swim for only a few hours before settling; by colonies that hitchhike onto surfaces such as boat hulls, moorings, fishing gear, and other manmade objects and are carried to new, favorable habitats; and by fragments of colonies that are broken up by human activities and natural events and drift until they settle elsewhere. They expand outward by budding new millimeter-sized individuals to form circular mats up to a foot in diameter. The mats coalesce with neighboring colonies to form a tough, barren layer of intergrown colonies that attach to hard surfaces including gravel, wood, metal, and plastic. No other species is known to eat or overgrow them.

Scientists first observed the Didemnum colonies in 2003, on the U.S. side of the international maritime boundary separating U.S. and Canadian waters of Georges Bank. Georges Bank is frequently fished by commercial vessels, particularly sea scallopers and ground fishermen. The same or similar species of Didemnum occur on the coasts of Europe, New England, California, Washington, British Columbia, and New Zealand. So far, this is the only occurrence reported in an offshore fishing ground.

Can't find it? Try searching ScienceDaily or the entire web with:

- [Pollock](#)
- [Fishery](#)
- [Marine conservation](#)
- [Marine biology](#)
- [Quicksand](#)
- [Atlantic sturgeon](#)
- [Coral reef](#)
- [Fish farming](#)
- [Dead zone \(ecology\)](#)
- [Gray Whale](#)

Related Book Reviews

[> more ...](#)

- [Airport Planning & Management](#)
- [MCSA/MCSE Self-Paced Training Kit \(Exam 70-270\): Installing, Configuring, and Administering Microsoft Windows XP Professional, Second Edition](#)
- [The 7 Habits Of Highly Effective Teens](#)
- [Chemistry: Matter and Its Changes](#)
- [The World Is Flat: A Brief History of the Twenty-first Century](#)

- [Science Articles](#)
- [Encyclopedia](#)
- [Books](#)



Invasive Sea Squirt Alive And Well On Georges Bank (November 22, 2004) --

The invasive sea squirt that federal and university researchers discovered on Georges Bank a year ago is flourishing in U.S. waters near the U.S.-Canada boundary, a joint research team announced ... [> full story](#)

Scientists Find Millions Of Tiny, Tentacled Predators Threatening Already Vulnerable East Coast Fish (November 13, 1997) --

Tiny, tentacled sea creatures, rarely seen drifting in the ocean, have been discovered thriving by the millions off New England's vulnerable Georges Bank over the past few years, threatening valuable ... [> full story](#)



Survey Discovers Potential Threat To Maine's Fishing (September 6, 2005) --

Robin Hadlock Seeley, a Cornell University marine biologist, spearheaded an invasive species survey of Cobscook Bay, Maine, that has discovered a sea squirt there that could potentially threaten the ... [> full story](#)

Official: Torture not worse than Saddam

(3 hours ago)

Failed bomber gets death sentence

(3 hours ago)

Thailand coup leaders take over media

(3 hours ago)

Pakistan: U.S. threatened in 2001

(3 hours ago)

U.N. expert: Iraq torture worse than ever

(8 hours ago)

... more breaking news at [NewsDaily](#) -- updated every 15 minutes



Web ScienceDaily.
com

Colonial Spiders Get Better Web Sites Not By Fighting But By Rising Early, Researchers Discover

(June 5, 2000) -- Researchers at the University of Cincinnati and Cornell University have discovered how large female spiders in colonies are able to claim enough territory to rebuild their daily webs in the face of ... > [full story](#)



Stanford Study Of Sea Squirt Provides Clue To Human Immune System

(November 24, 2005) -- The trigger for this unseemly behavior has now been traced to a single gene, isolated by researchers at the Stanford University School of Medicine. That gene also points to a common origin with the ... > [full story](#)

Bee Mites Suppress Bee Immunity, Open Door For Viruses And Bacteria

(May 18, 2005) -- A non-native bee mite is causing the dramatic and sudden collapse of bee colonies across the country, but Penn State researchers believe they have found the combination of factors that triggers ... > [full story](#)



Anemone Armies Battle To A Standoff

(August 25, 2005) -- Clashing colonies of sea anemones fight as organized armies with distinct castes of warriors, scouts, reproductives and other types, according to a new study. The sea anemone *Anthopleura* ... > [full story](#)

Even Hurricanes Have Silver Linings (September 17, 1999) -- Hurricanes may not be all bad, despite the damage they do. While their impact to the environment is often drastic, some researchers think hurricanes may be nature's way of cleaning ... > [full story](#)

Household Ant Invasions Are Determined By Weather, Not Pesticide Use, New Study Finds

(April 27, 2001) -- Using bug spray, bait and other household pesticides to prevent ant invasions is futile, according to a new study by Stanford researchers to be published in the journal *American Midland* ... > [full story](#)

New Kind Of Mutation Could Explain Numerous Phenotypic Variations In Various Species

(June 5, 2006) -- Thanks to a recent study on the genetic factors that promote muscular hypertrophy among Texel sheep, Prof. Michel Georges' team at the

University of Liège has discovered a new kind ...
> [full story](#)

Pollock -- Pollock is the common term for either of the two species in the Pollachius genus. Both P. pollachius and P. virens are commonly referred to as pollock. Other names for P. pollachius include the ...
> [full article](#)

Fishery -- A fishery (plural: fisheries) is an organized effort by humans to catch fish or other aquatic species, an activity known as fishing. Generally, a fishery exists for the purpose of providing human ...
> [full article](#)

Marine conservation -- Marine conservation, also known as marine resources conservation, is the protection and preservation of ecosystems in oceans and seas. Marine conservation focusses on limiting human-caused damage to ... > [full article](#)

Marine biology -- Marine biology is the scientific study of the plants, animals, and other organisms that live in the ocean. Given that in biology many phyla, families and genera have some species that live in the sea ... > [full article](#)

Quicksand -- Quicksand is loose, water-logged soil that yields easily to weight or pressure. It can be formed when sand, silt, clay, or other grainy soil is saturated or supersaturated by water flowing from below ... > [full article](#)

Atlantic sturgeon -- The Atlantic sturgeon is a member of the Acipenseridae family and is among one of the oldest fish species in the world. Its range extends from New Brunswick, Canada to the eastern coast of Florida. ... > [full article](#)

Coral reef -- A coral reef is a type of biotic reef that develops in tropical waters by the growth of coralline algae, hermatypic corals, and other marine organisms. Coral reefs are typically massive biogenic ... > [full article](#)

Fish farming -- Fish farming is the principal form of aquaculture, while other methods may fall under mariculture. It involves raising fish commercially in tanks or enclosures, usually for ... > [full article](#)

Dead zone (ecology) -- Dead zones are hypoxic

(low-oxygen) areas in the world's oceans, the observed incidences of which have been increasing since oceanographers began noting them in the ...

> [full article](#)

Gray Whale -- The Gray Whale or Grey Whale, more recently called the Eastern Pacific Gray Whale, is a whale that travels between feeding and breeding grounds yearly. It reaches a length of about 15 meters, a ... > [full article](#)



Airport Planning & Management

A just-in-time update of the classic airport industry reference praised as "excellence and comprehensive" (Bookends). Supplies aviation professionals and academicians with current airport industry ... > [read more](#)



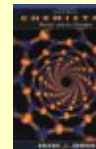
MCSA/MCSE Self-Paced Training Kit (Exam 70-270): Installing, Configuring, and Administering Microsoft Windows XP Professional, Second Edition

Fully updated for Windows XP Service Pack 2, this popular kit delivers in-depth preparation for core MCSA/MCSE Exam 70-270, including self-paced training, expert exam tips, full review, 425-question ... > [read more](#)



The 7 Habits Of Highly Effective Teens

Based on his father's bestselling The 7 Habits of Highly Effective People, Sean Covey applies the same principles to teens, using a vivacious, entertaining style. To keep it fun, Covey writes, he ... > [read more](#)



Chemistry: Matter and Its Changes

All students are not the same! Finally, an interactive website that treats each student like an individual! The new Brady/Senese 4th Edition companion website provides the value-added support that ... > [read more](#)



The World Is Flat: A Brief History of the Twenty-first Century

Thomas L. Friedman is not so much a futurist, which he is sometimes called, as a presentist. His aim, in his new book, The World Is Flat, as in his earlier, influential Lexus and the Olive Tree, is ... > [read more](#)

Copyright © 1995-2006 ScienceDaily LLC — All rights reserved — Contact: editor@sciencedaily.com
[About This Site](#) | [Editorial Staff](#) | [Awards & Reviews](#) | [Contribute News](#) | [Advertise With Us](#) | [Privacy Policy](#) | [Terms of Use](#)