

New England Marine Invasions: 2010 Developments and Updates

Northeast Aquatic Nuisance Species Panel
Simsbury, Massachusetts

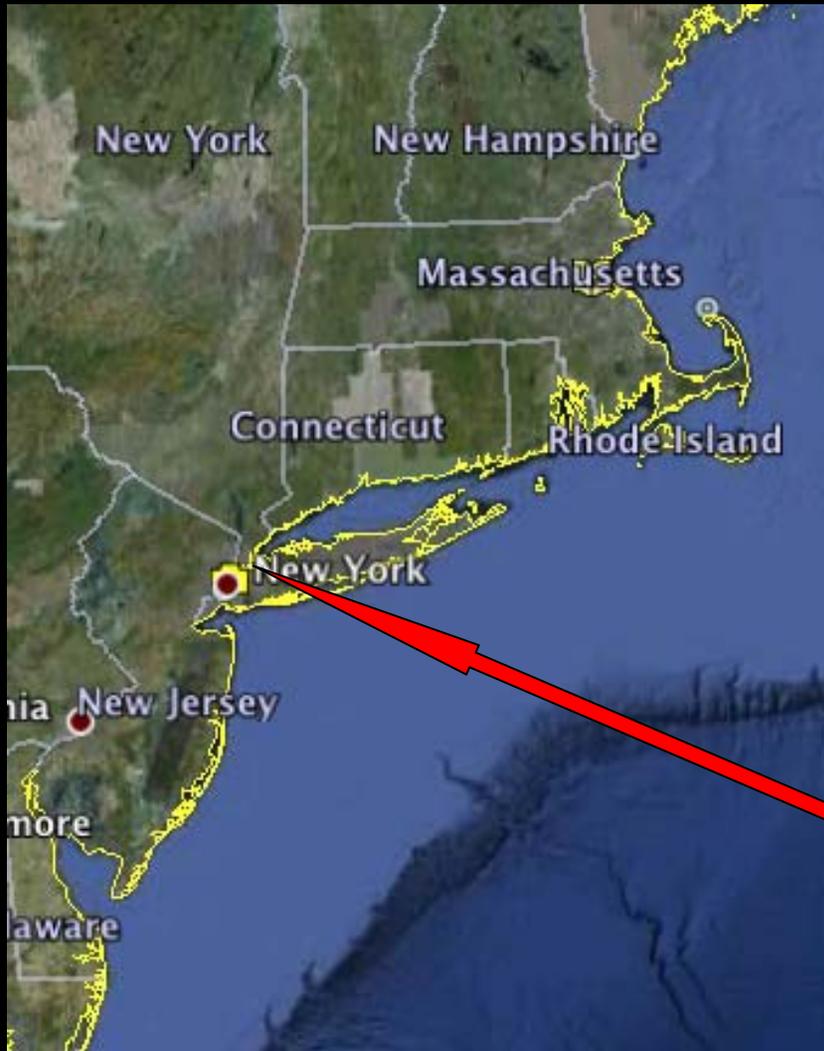
November 17, 2010

James T. Carlton

*Professor of Marine Sciences, Williams College
and
Director, The Maritime Studies Program of
Williams College & Mystic Seaport*



Palaemonetes:
(*vulgaris, pugio, intermedia*)
native to Atlantic coast



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(*vulgaris*, *pugio*, *intermedia*)
native to Atlantic coast

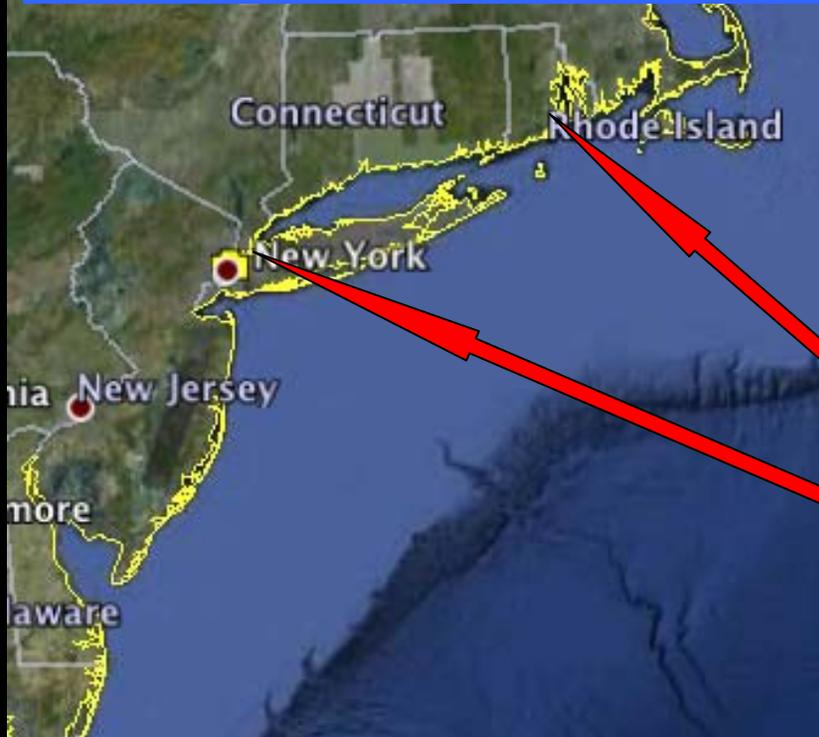


Palaemon macrodactylus:
native to Northwest Pacific Ocean
(Japan, China, Korea)

Palaemon collected in 2001 in New York City:
**By ichthyologists who did not announce
the discovery until 2010**

After announcement of its presence on the American Atlantic coast, *Palaemon macrodactylus* was found to be widespread from New York to Rhode Island by June 2010

-- mistaken as presumptive *Palaemonetes*

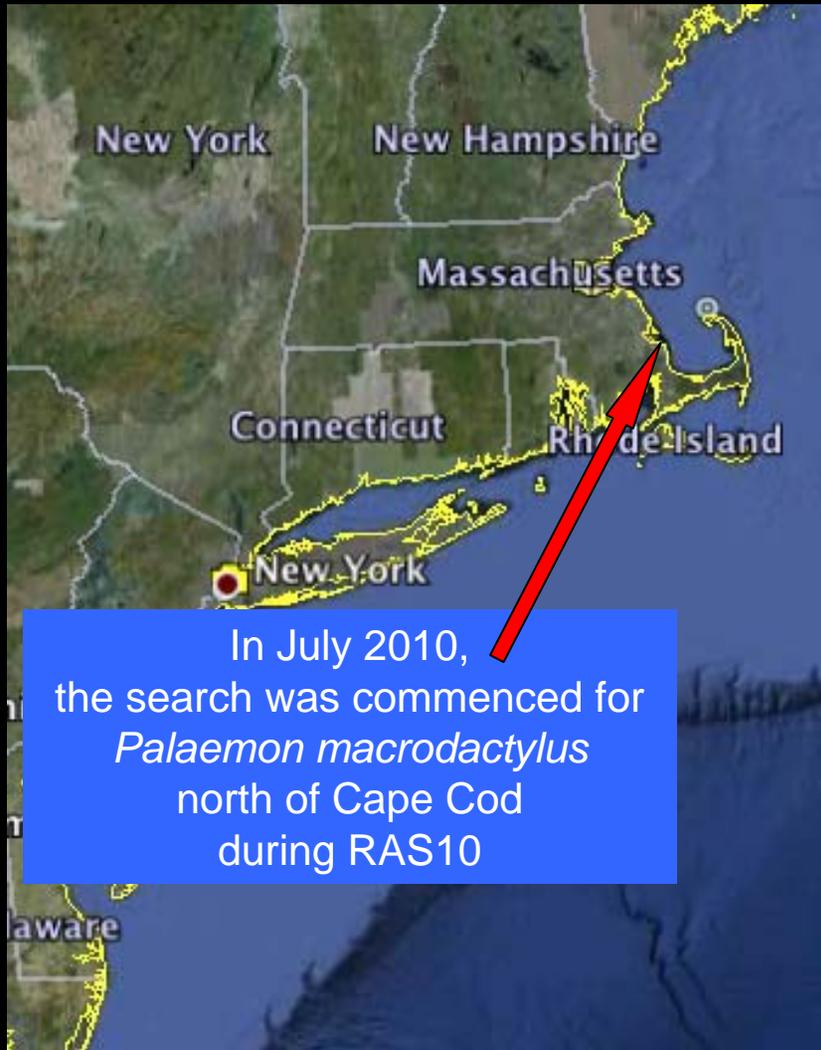


Palaemonetes vulgaris:
Native to Northwest Atlantic Ocean
(North American Atlantic coast)



Palaemon macrodactylus:
Native to Northwest Pacific Ocean
(Japan, China, Korea)

Palaemon first collected in 2001 in New York City:
**By ichthyologists who did not announce
the discovery until 2010**



In July 2010,
the search was commenced for
Palaemon macrodactylus
north of Cape Cod
during RAS10

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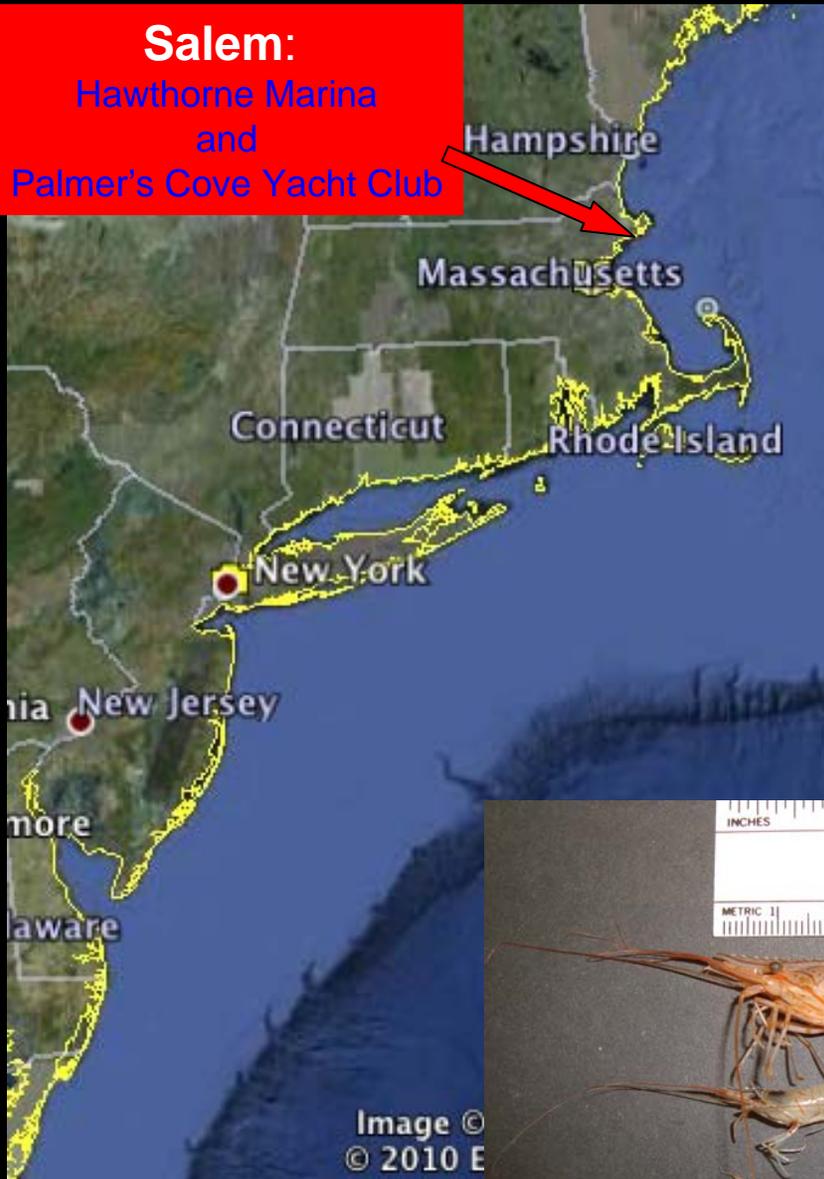


No Asian Shrimp were found north of
Cape Cod this summer,

But

Salem:

Hawthorne Marina
and
Palmer's Cove Yacht Club



European Rock Prawn:
Palaemon elegans

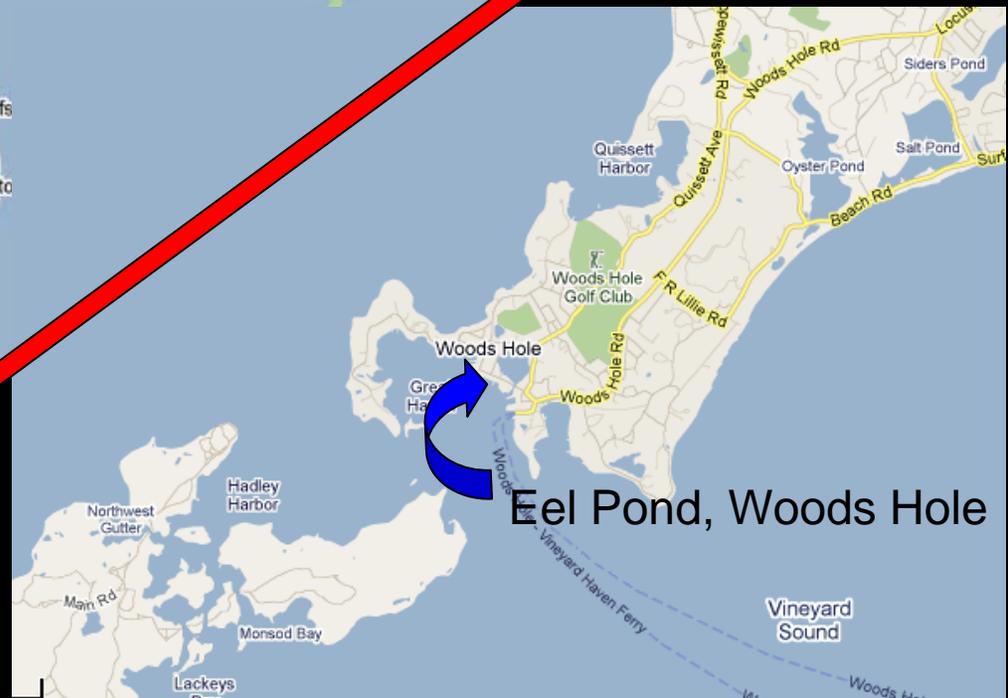
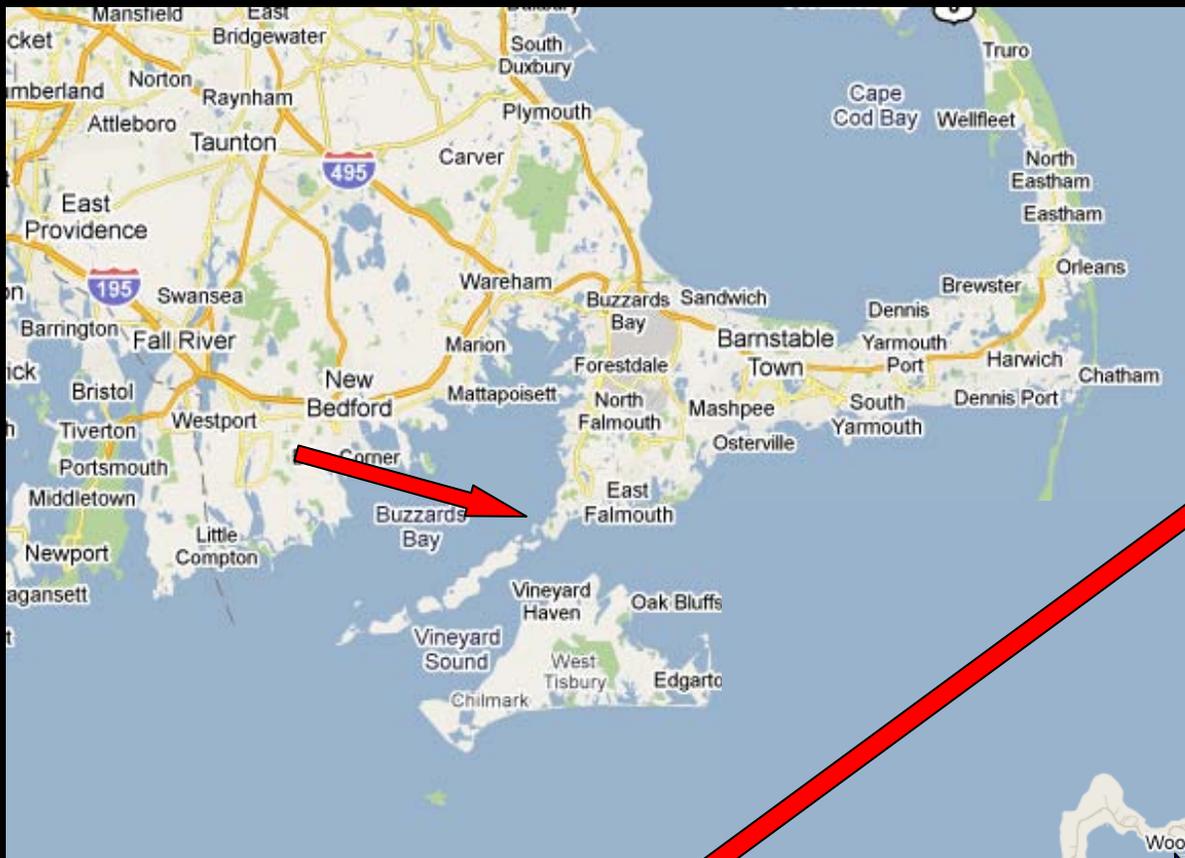
First record: July 30, 2010



large female -- 2 1/2"

Photo Niels Hobbs September 22, 2010

Image ©
© 2010 E



Unusual bryozoan found
on 13 September 2010
by Collin Johnson,
(Ph.D. student at Harvard),
in Eel Pond, while sampling *Bugula*

Eel Pond, Woods Hole

Initially identified as a *Scrupocellaria* --
not known from New England,
but includes some fouling species around the world.

Judy Winston (Virginia) then determined it as ...



The distribution, origins and taxonomy of *Tricellaria inopinata* d'Hondt and Occhipinti Ambrogi, 1985, an invasive bryozoan new to the Atlantic

P. E. J. DYRYNDA†, V. R. FAIRALL†, A. OCCHIPINTI AMBROGI§ and J.-L. d'HONDT

†School of Biological Sciences, University of Wales, Park, Swansea. SA2 8PP, Wales, UK; e-mail: P.D.BDFairall@swan.ac.uk

Note brève

TRICELLARIA INOPINATA D'HONDT ET OCCHIPINTI AMBROGI (BRYOZOA: CHEILOSTOMATA) DANS LE PORT DU HAVRE (MANCHE)

par Gérard BRETHERTON et al.

Résumé

Reconnu pour la première fois à Venise en 1982, *Tricellaria inopinata* a, entre 1996 et 2001 envahi la façade atlantique signalée sur les côtes françaises de la Manche et en 2003 - dans plusieurs plans d'eau du port du Havre.

Abstract

Discovered for the first time in Venice in 1982, *Tricellaria inopinata* between 1996 and 2001 has invaded the Atlantic coast of France in the English Channel and in 2003 - in several basins of the port of Havre.



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Tricellaria inopinata



Taxon	Family / Order / Class / Phylum
<i>Tricellaria inopinata</i> d'Hondt & Occhipinti Ambrogi, 1985	Scrupocellariidae / Cheilostomata / Gymnolaemata / Ectoprocta

COMMON NAMES (English only)

SYNONYMS

SHORT DESCRIPTION



EXTENSION OF THE RANGE OF THE BRYOZOANS *TRICELLARIA INOPINATA* AND *BUGULA SIMPLEX* IN THE NORTH-EAST ATLANTIC OCEAN (BRYOZOA: CHEILOSTOMATIDA)

Hans De Blauwe & Marco Faasse

A survey of the bryozoan fauna of harbours and marinas in the Netherlands, Belgium and France revealed two interesting bryozoans. The invasive *Tricellaria inopinata* originates from the North Pacific Ocean. It has probably been introduced by man in southern Australia, New Zealand, the western part of the Pacific and in Venice. In recent



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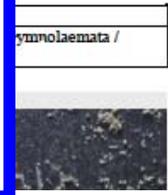
Tricellaria inopinata



Note brève

TRICELL

Specifically searched for and not found at Woods Hole in August 2003 during RAS03 by Peter Dyrinda



Résumé

Reconnu pour la première fois à Venise en 1982, il 1985 a, entre 1996 et 2001 envahi la façade alla signalée sur les côtes françaises de la Manche et 2003 - dans plusieurs plans d'eau du port du Havr

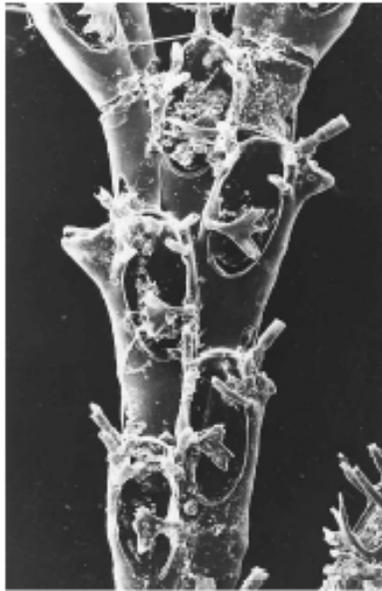
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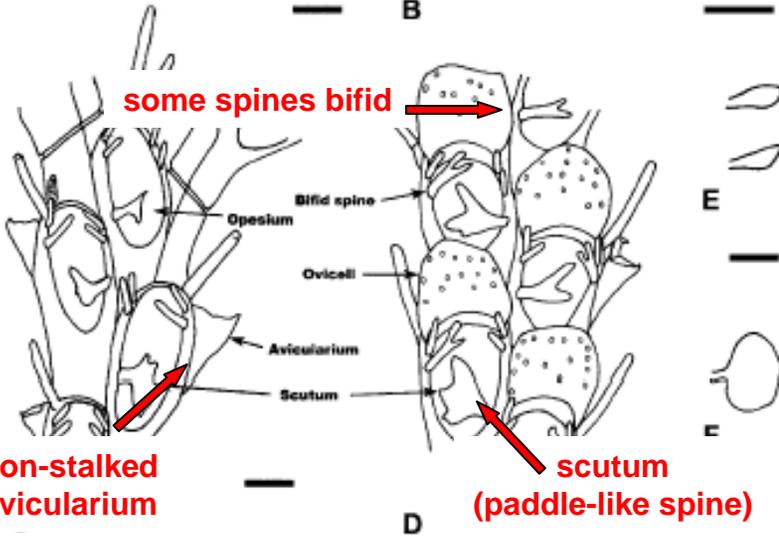
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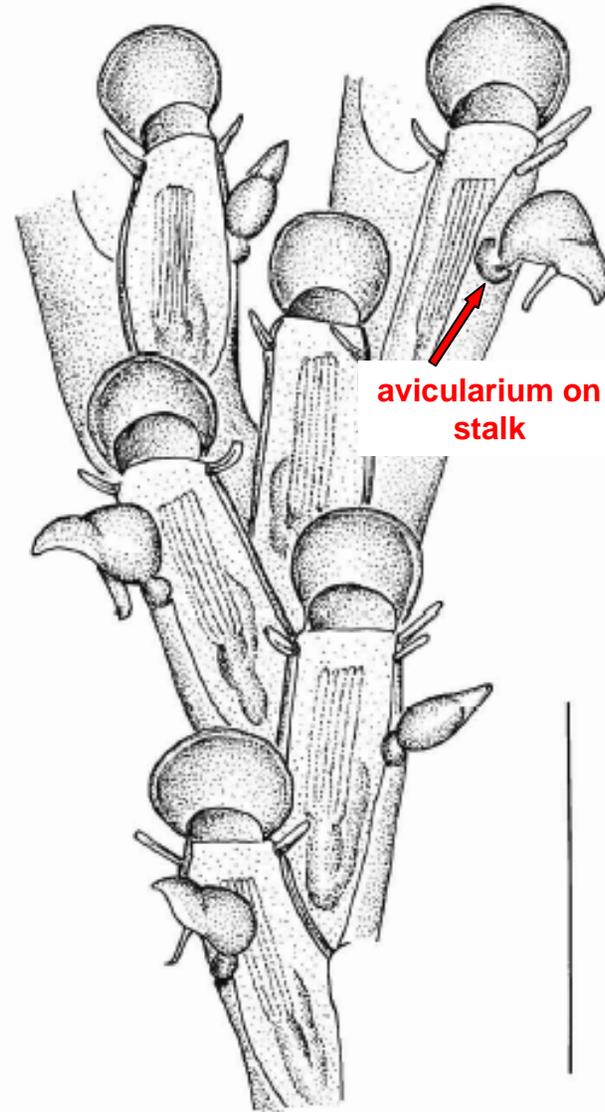
A



B



Tricellaria inopinata



Bugula stolonifera
(cryptogenic)

Spaghetti Bryozoan: *Zoobotryon verticillatum*

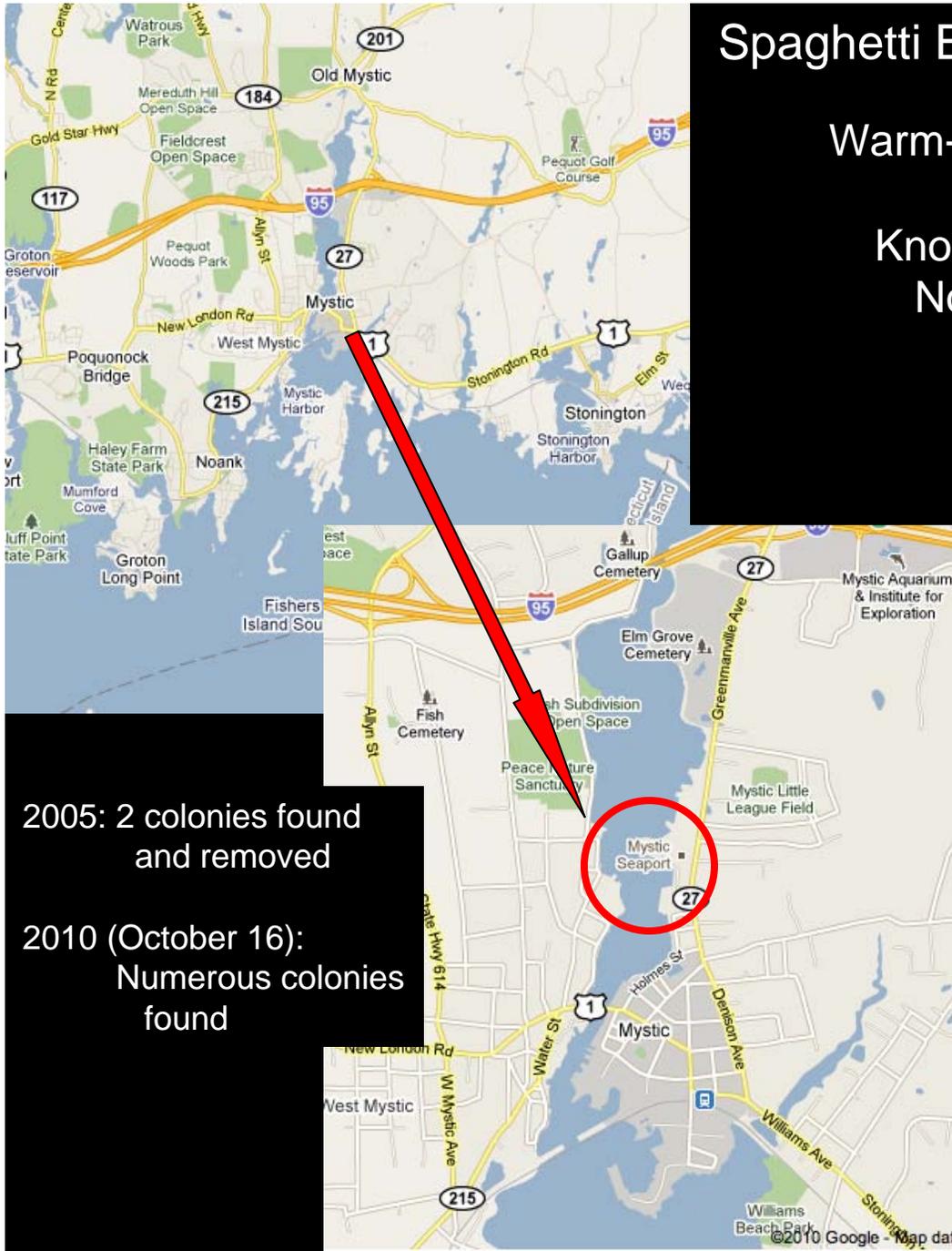
Warm-Temperate and Subtropical

Species:

Known on Atlantic coast from
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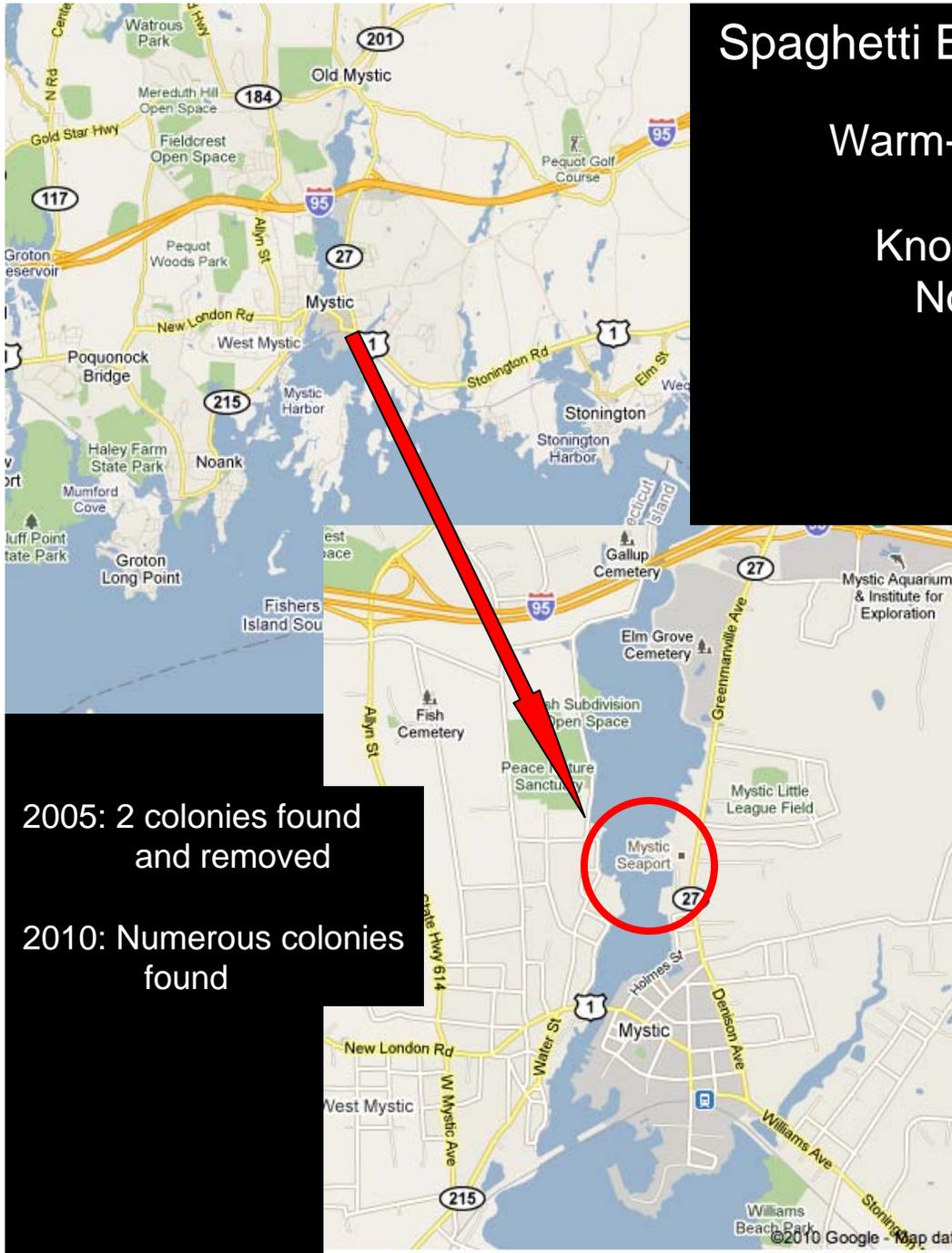
2005: 2 colonies found
and removed

2010 (October 16):
Numerous colonies
found



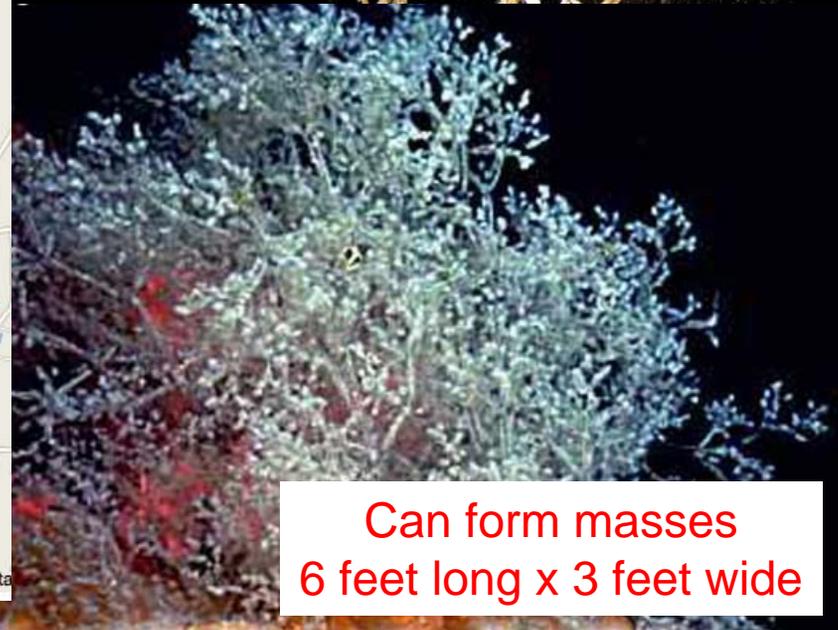
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Can form masses
6 feet long x 3 feet wide

Hurricane / T. S. *Bill* passed along southern New England
August 22-23, 2009

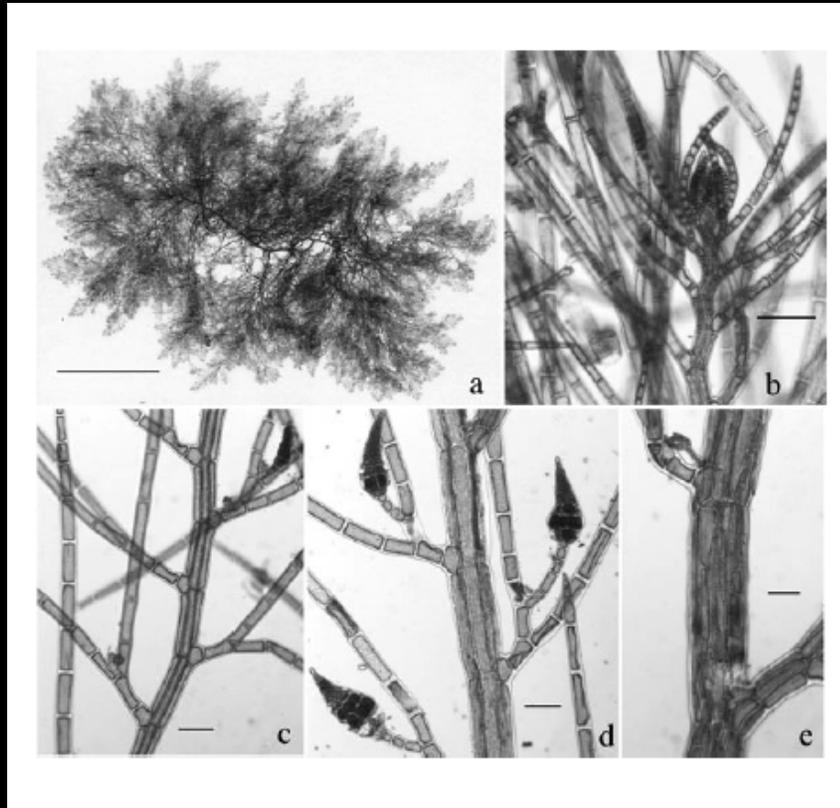


Hurricane Bill in the NE Atlantic,
August 22, 2009
AP photo

..... Washing ashore huge masses
of seaweed along the
Connecticut and Rhode Island
coasts



.... and 10 to 20% of the drift biomass in
Rhode Island, from Napatree Beach to
Scarborough State Beach, turned out to be
"Heterosiphonia" japonica



Craig Schneider (2010):
Journal of Phycology 46: 653-657.



Range as of fall 2010:

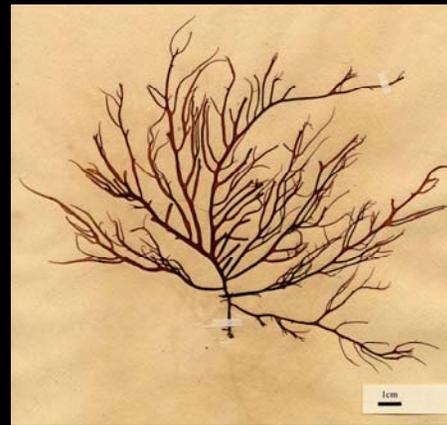
Connecticut/Rhode Island border
to
Nahant, Massachusetts
(RAS10; Matt Bracken, Northeastern Univ.)

In the 2010 *Heterosiphonia* paper, Schneider reports that

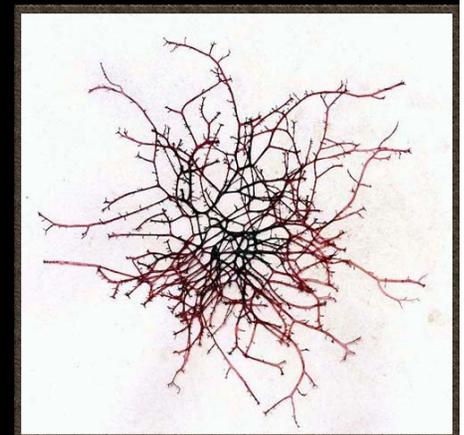
Red Alga *Gracilaria vermiculophylla*

was collected in 2007 on Jamestown Island, Narragansett Bay (RI)

... an Asian (Western Pacific)
species reported by the 1990s
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G. vermiculophylla



G. tikvahiae

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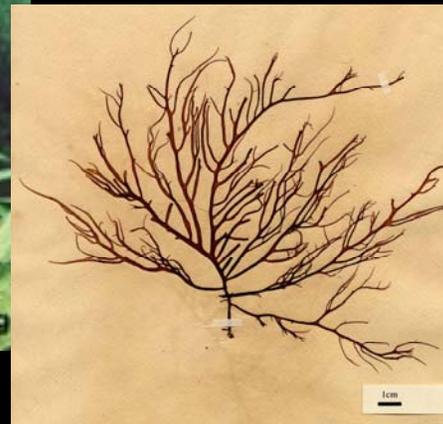
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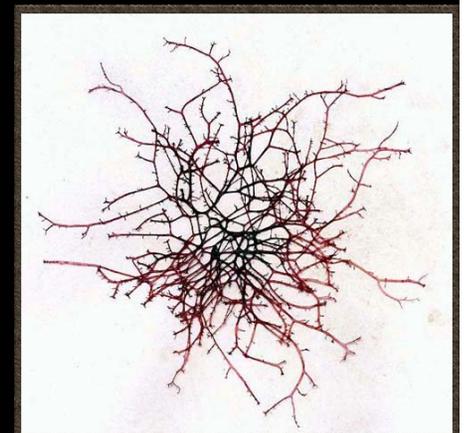


... an Asian (Western Pacific) species reported by the 1990s from Virginia, where it had long been mistaken for the native *Gracilaria tikvahiae*

A mat composed of the highly invasive *Gracilaria vermiculophylla*
(Brian Silliman lab, University of Florida)



G. vermiculophylla



G. tikvahiae

European opossum shrimp (mysid) *Praunus flexuosus*



Unusual habit of suspending themselves vertically in water column

Known since 1960s from Cape Cod north:

First record in Southern New England



Light Bulb Sea Squirt *Clavelina lepadiformis*



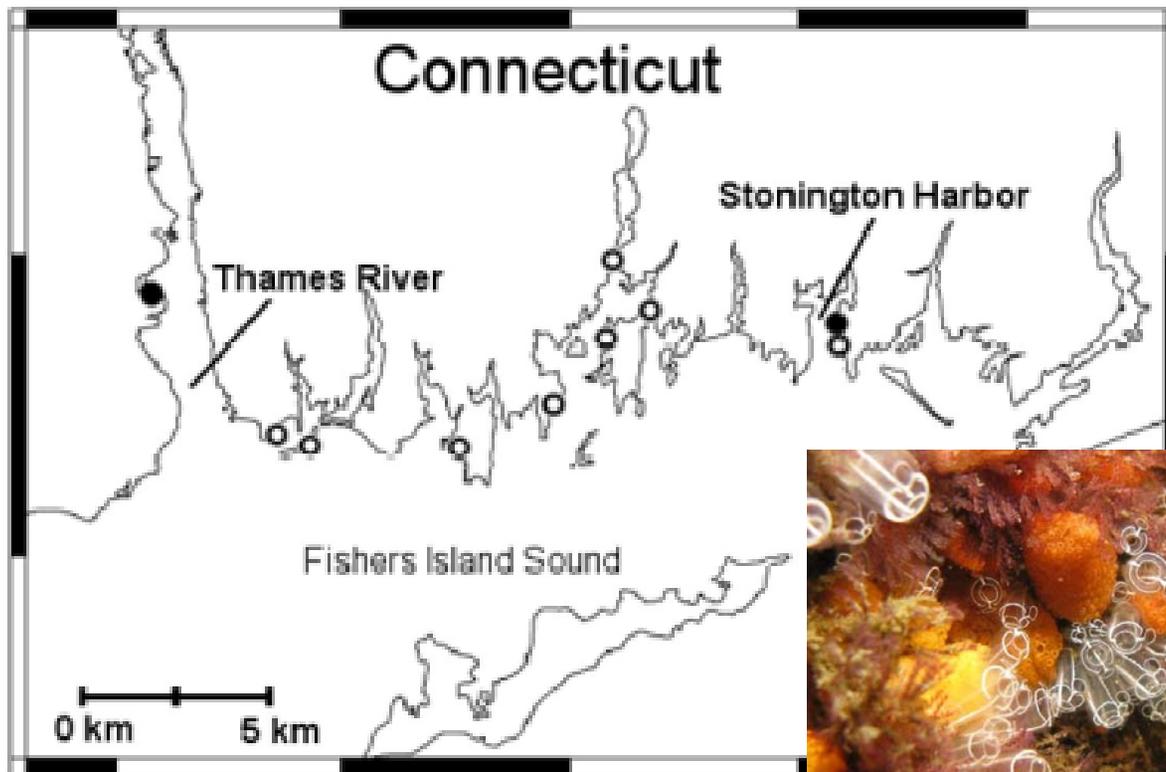
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Short communication - **CORRECTED PROOF**

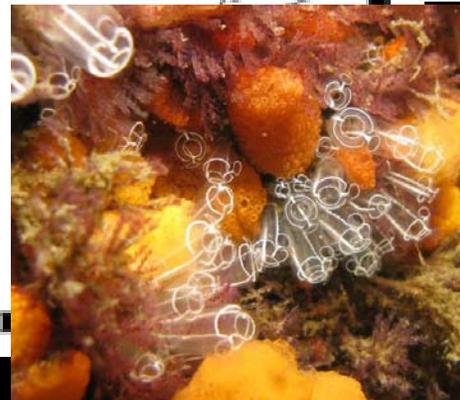
First record of the non-native light bulb tunicate *Clavelina lepadiformis* (Müller, 1776) in the northwest Atlantic

James F. Reinhardt^{1*}, Lauren M. Stefaniak¹, David M. Hudson², Joseph Mangiafico¹, Rebecca Gladych³ and Robert B. Whitlatch¹

¹Department of Marine, Estuarine and Estuarine Science, University of Connecticut, Storrs, CT 06269, USA



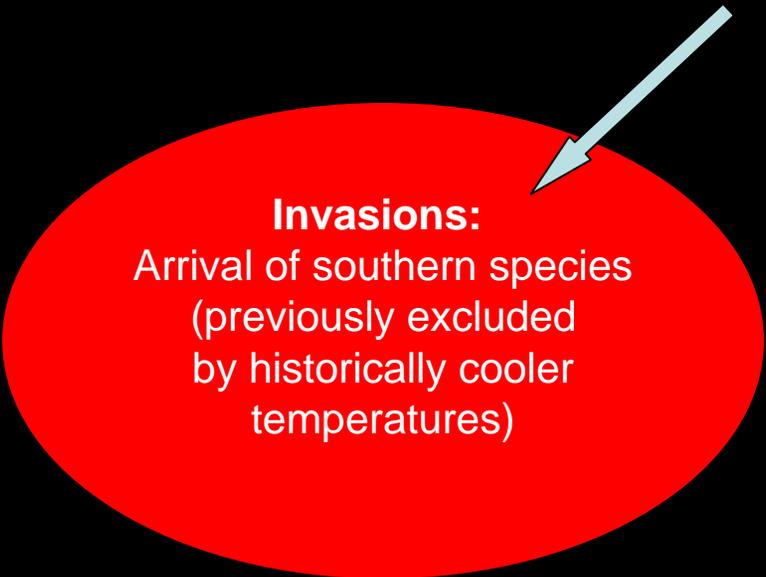
Stonington Harbor, 2009



Still present in
Thames and
Stonington in 2010

Marine Bioinvasions: The Role of Climate Change in Future Invasions in Northeast North America

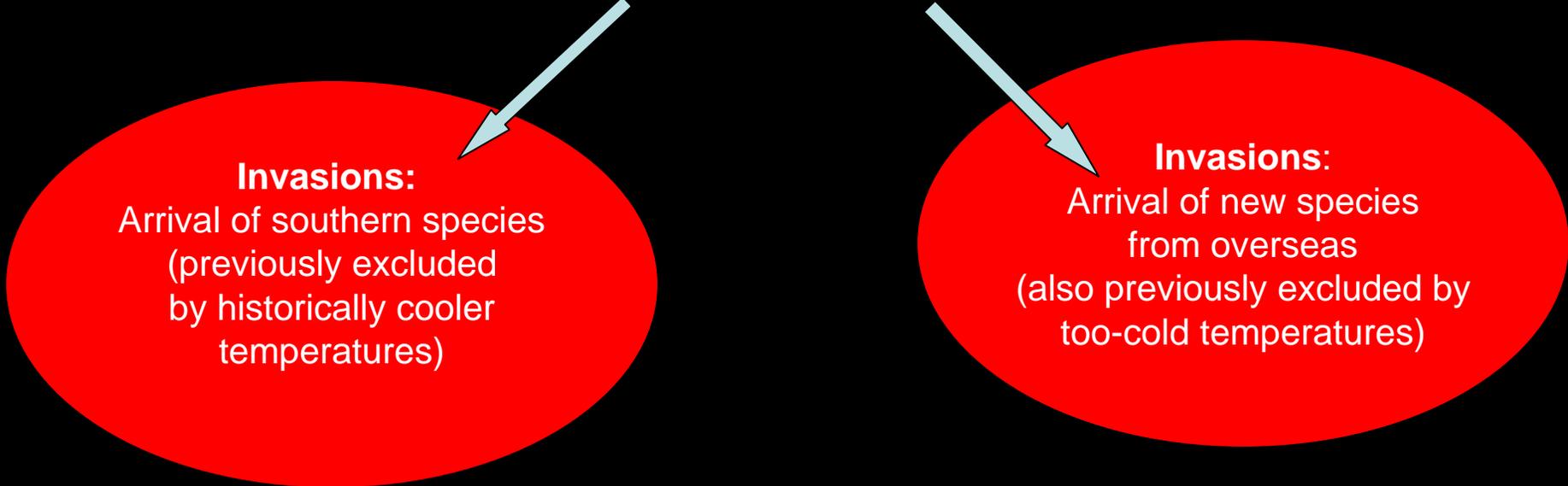
Examples of Major Anticipated Impacts:



Invasions:
Arrival of southern species
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Regional Extinctions:
Retreat of cold-affinity
species
from warming waters

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