

38th Voyage Observations July, 2014

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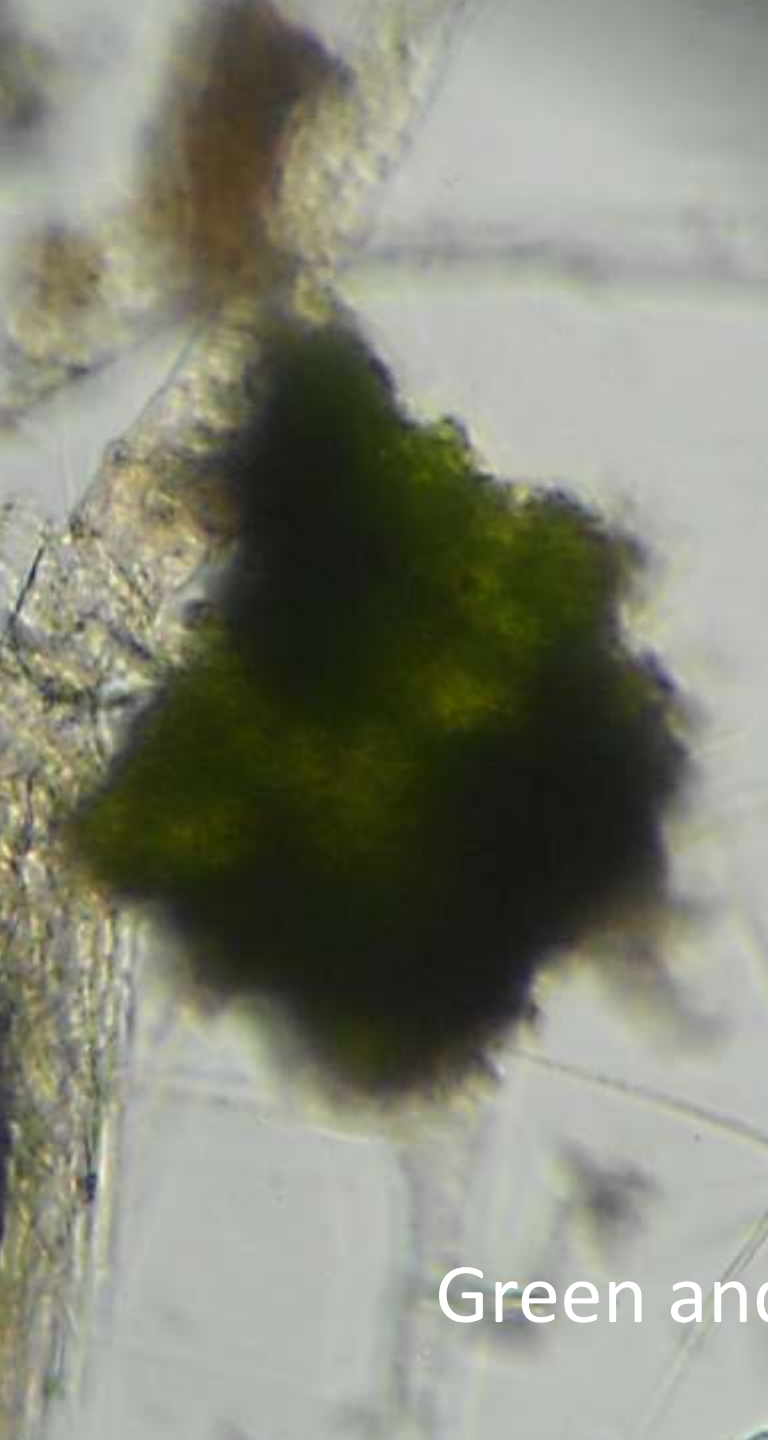
Goal: A “snap-shot” of the cruise’s plankton community will be presented via micrographs that will be produced for exhibit, publication, poster, web-page and/or blog. Day-and-night collections will be made to document the dynamic nature of the plankton community and our "search" for target species like the key food-web constituent - the copepod "Calanus.”

Results: With the assistance of the Morgan’s crew and good conditions, plankton samples were collected during the day and night. Preliminary observations onboard indicate that a sufficient number of specimens were obtained to provide representative examples of the plankton community. In addition, particulate matter (possibly pollutants) was also retrieved and brought back for analysis.

Provincetown Harbor waters at night.
(Collection: A mix of plankton and detritus)



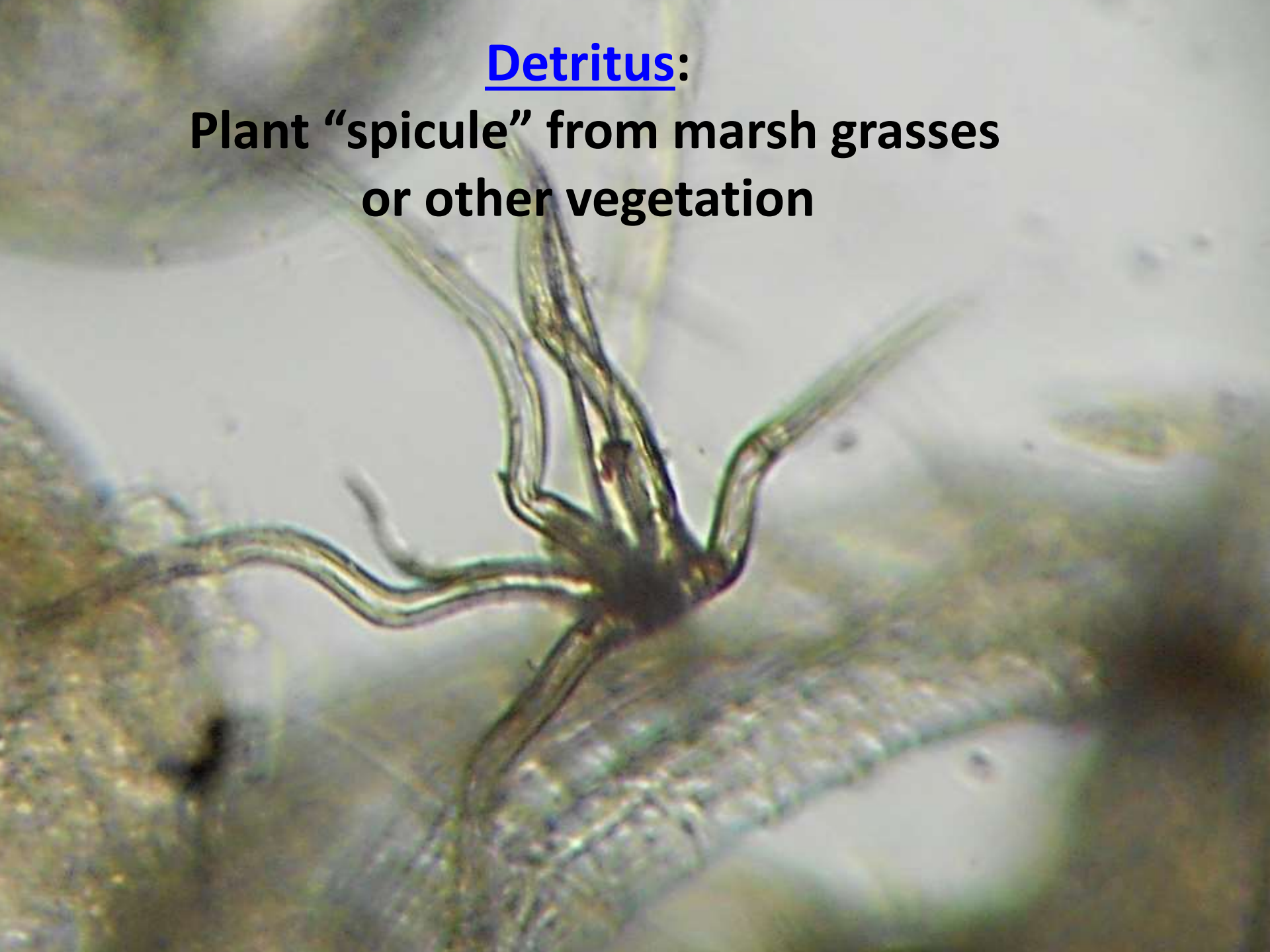
42°02'33.0"N 70°10'30.2"W
42.042511 -70.175058



Green and red algae fragments

Detritus:

**Plant “spicule” from marsh grasses
or other vegetation**



Diatom (Coscinodiscus) with sand particle



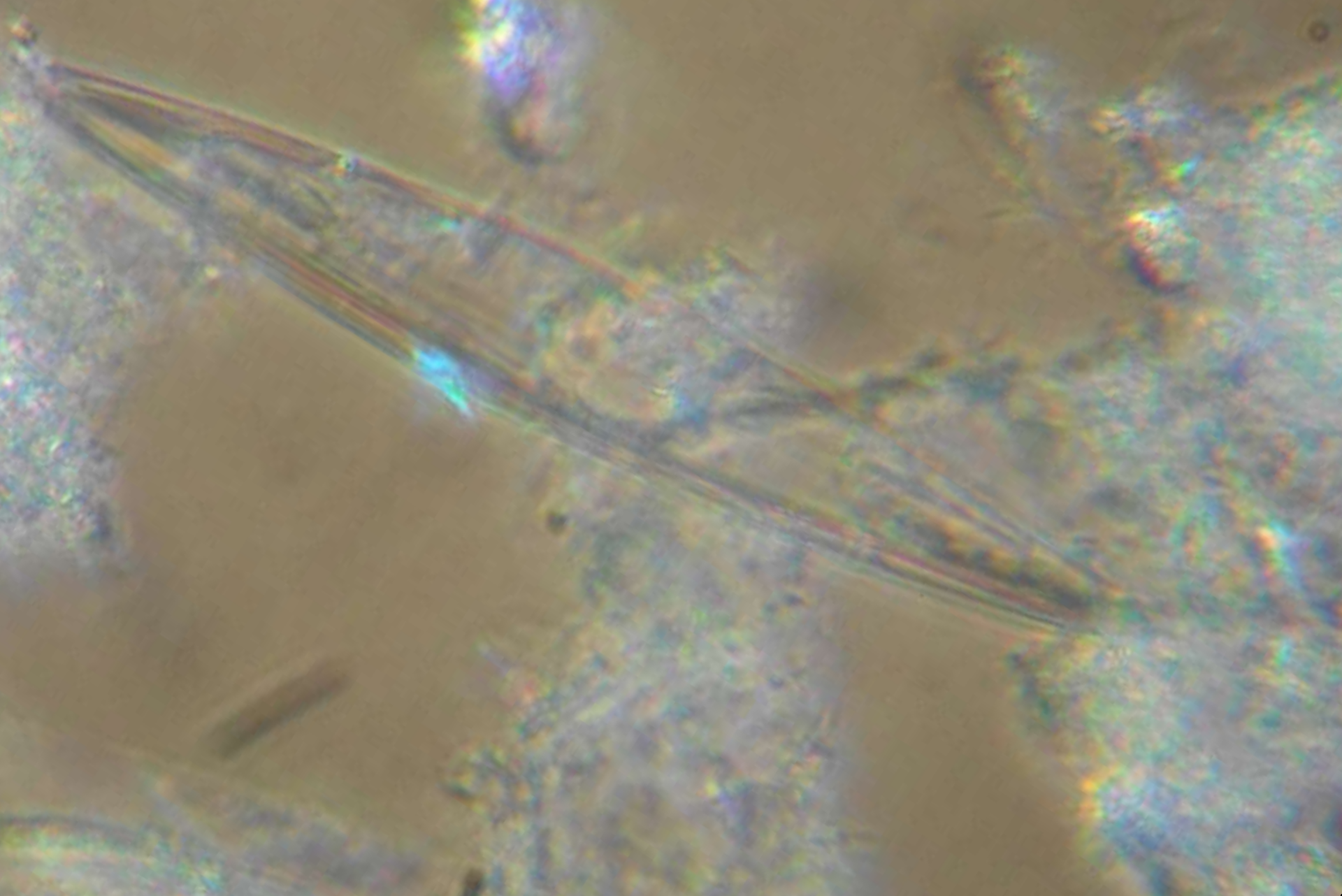
Chain diatom (above),
sand particle, [Coscinodiscus](#) diatom and detritus



The centric diatom
Coscinodiscus



Pennate diatom - Navicula



Chain-forming diatoms - Fragillaria



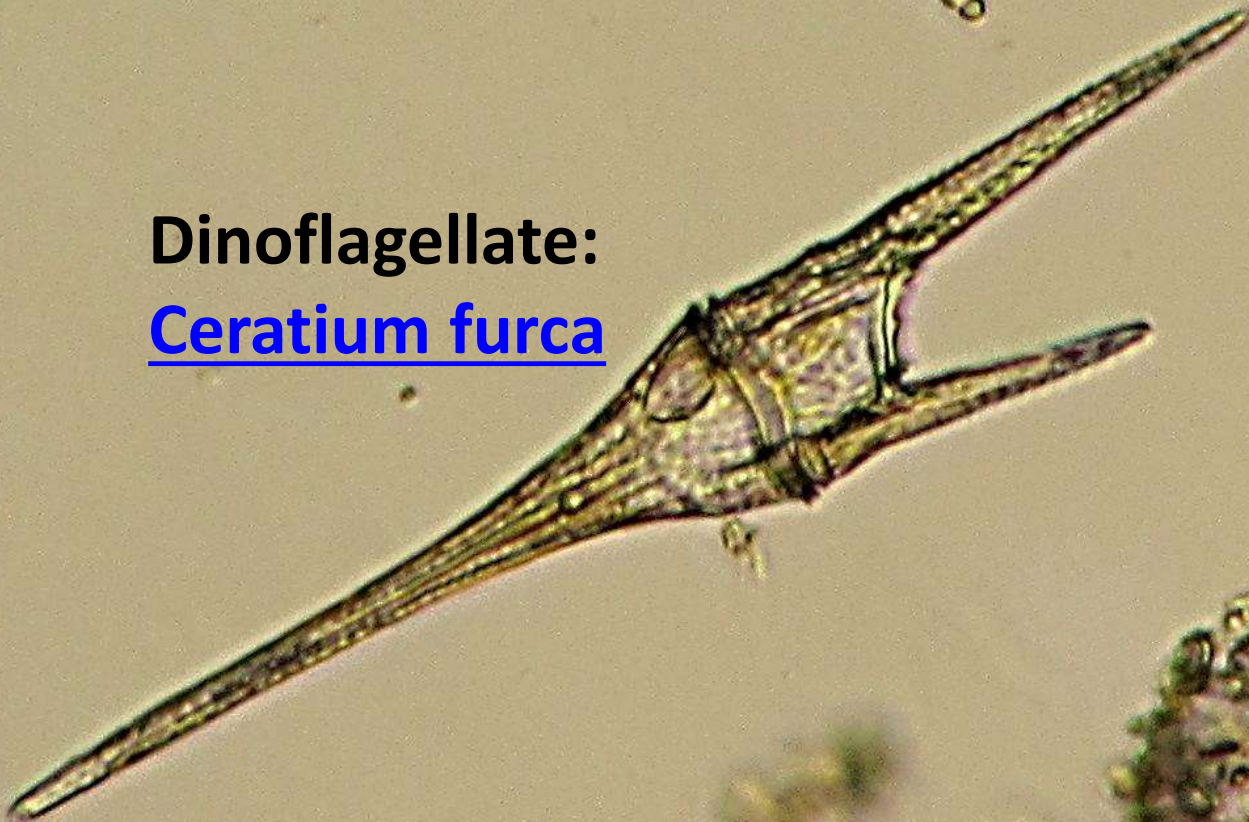
Single Diatom



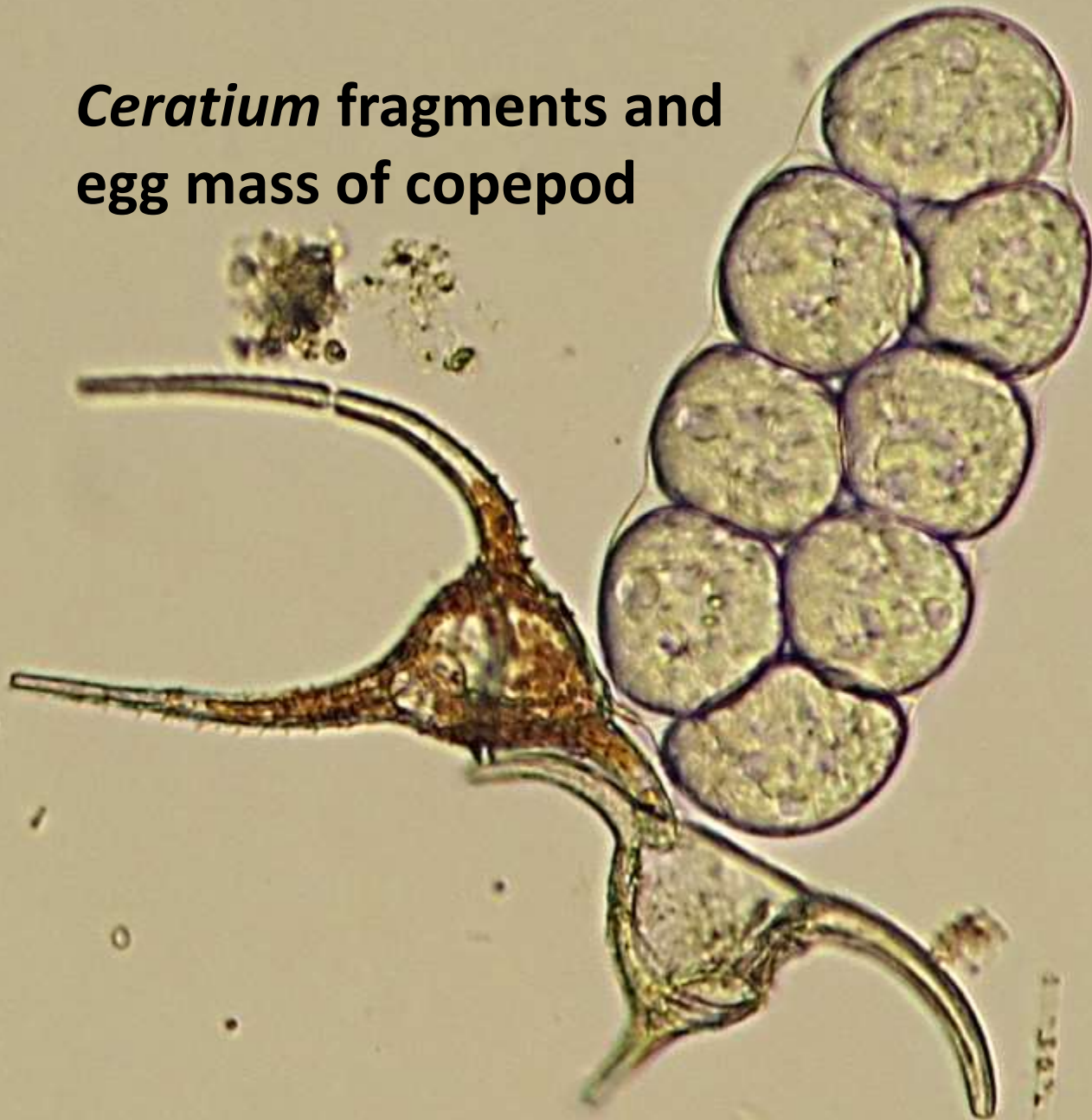
Dinoflagellate:
Ceratium tripos



Dinoflagellate:
Ceratium furca



***Ceratium* fragments and
egg mass of copepod**



**Mollusk larvae (Bivalve)
sand grain, and detritus**



Mollusk larvae
(Bivalve)



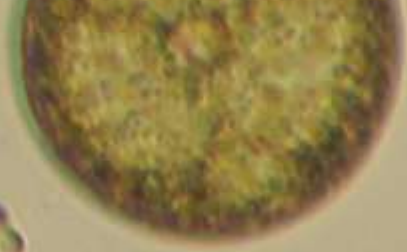
Mollusk larvae



Nauplius (larvae) of a copepod crustacean

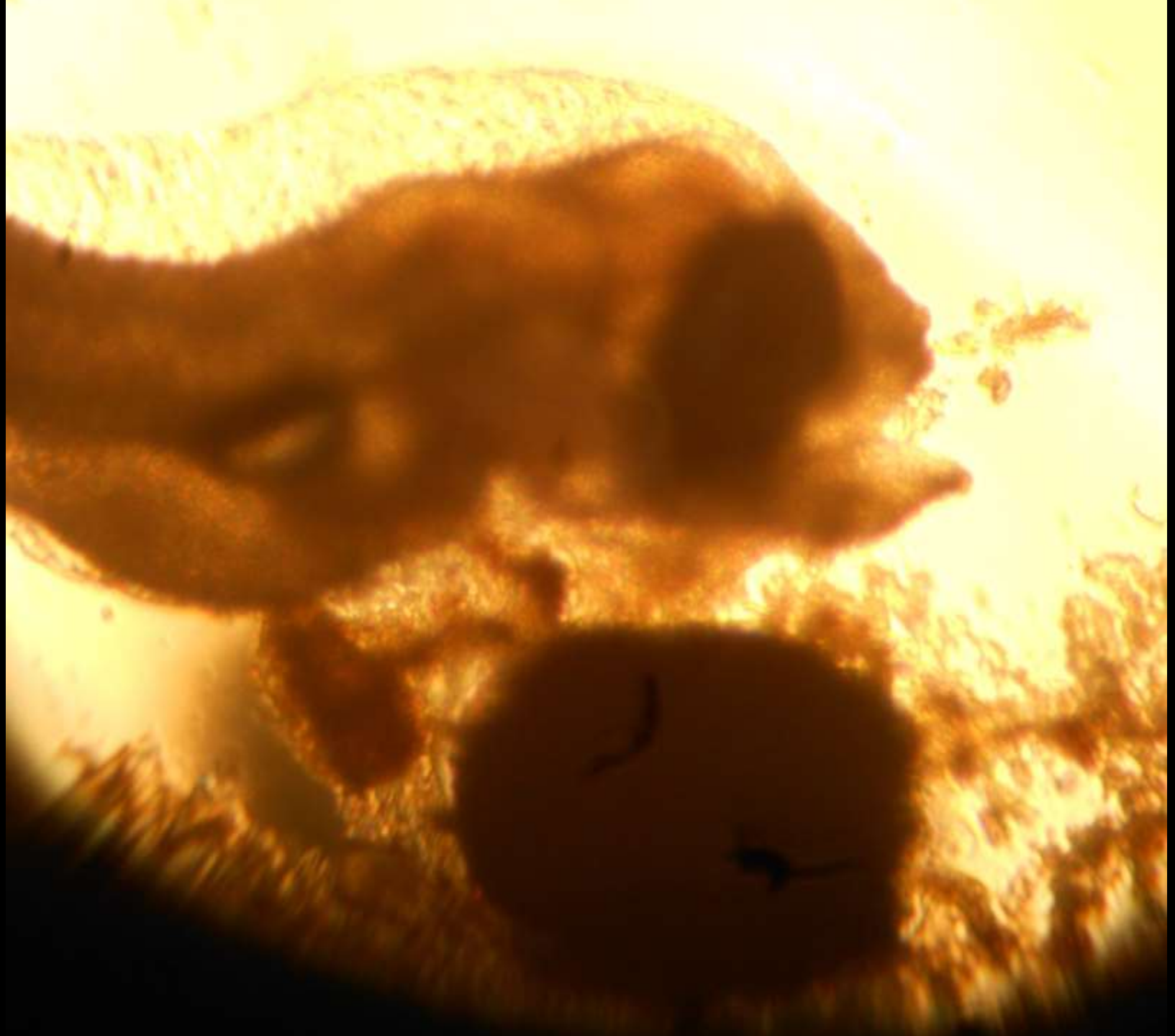


**Detritus:
Fecal pellet of copepod**



A detailed microscopic view of a larval fish, likely a zebrafish, showing its head, body, and tail. The fish is oriented vertically, with its head at the top. The head features a large, dark, circular eye and a mouth. The body is elongated and tapers towards the tail. The surrounding environment is filled with various particles, including small, dark, oval-shaped structures and larger, irregular debris, which are likely part of the larval's diet or environment. The overall scene is captured under bright, focused light, highlighting the intricate details of the fish's anatomy and the surrounding particles.

Larval Fishes

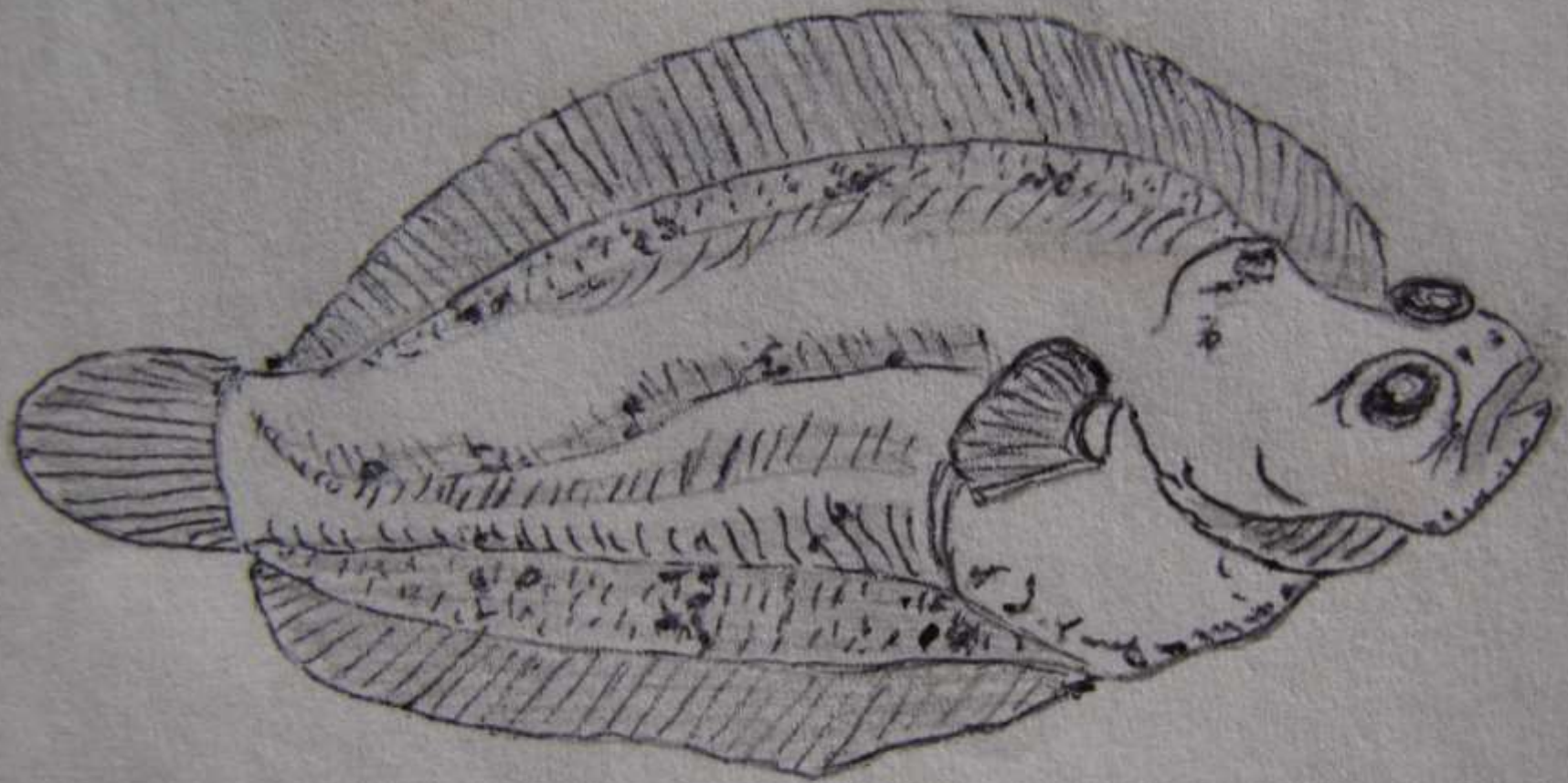


Close-up of fish larva head





Larval Yellowtail flounder

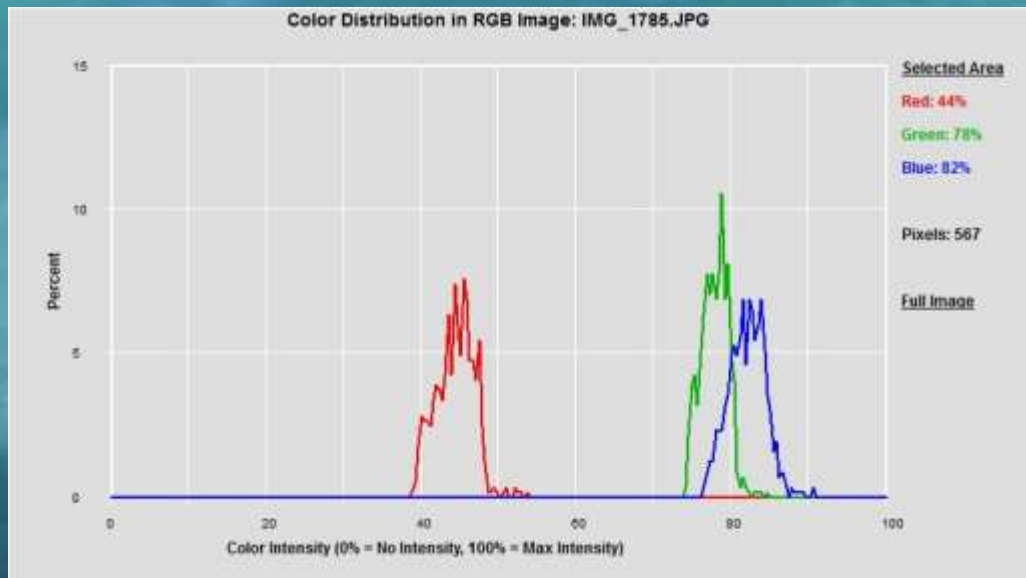


Yellowtail - *Limanda ferruginea*



Stellwagen Bank waters

42° 19' 59.88" N 70° 15' 0" W
42.3333 -70.25



Unsorted copepod plankton sample



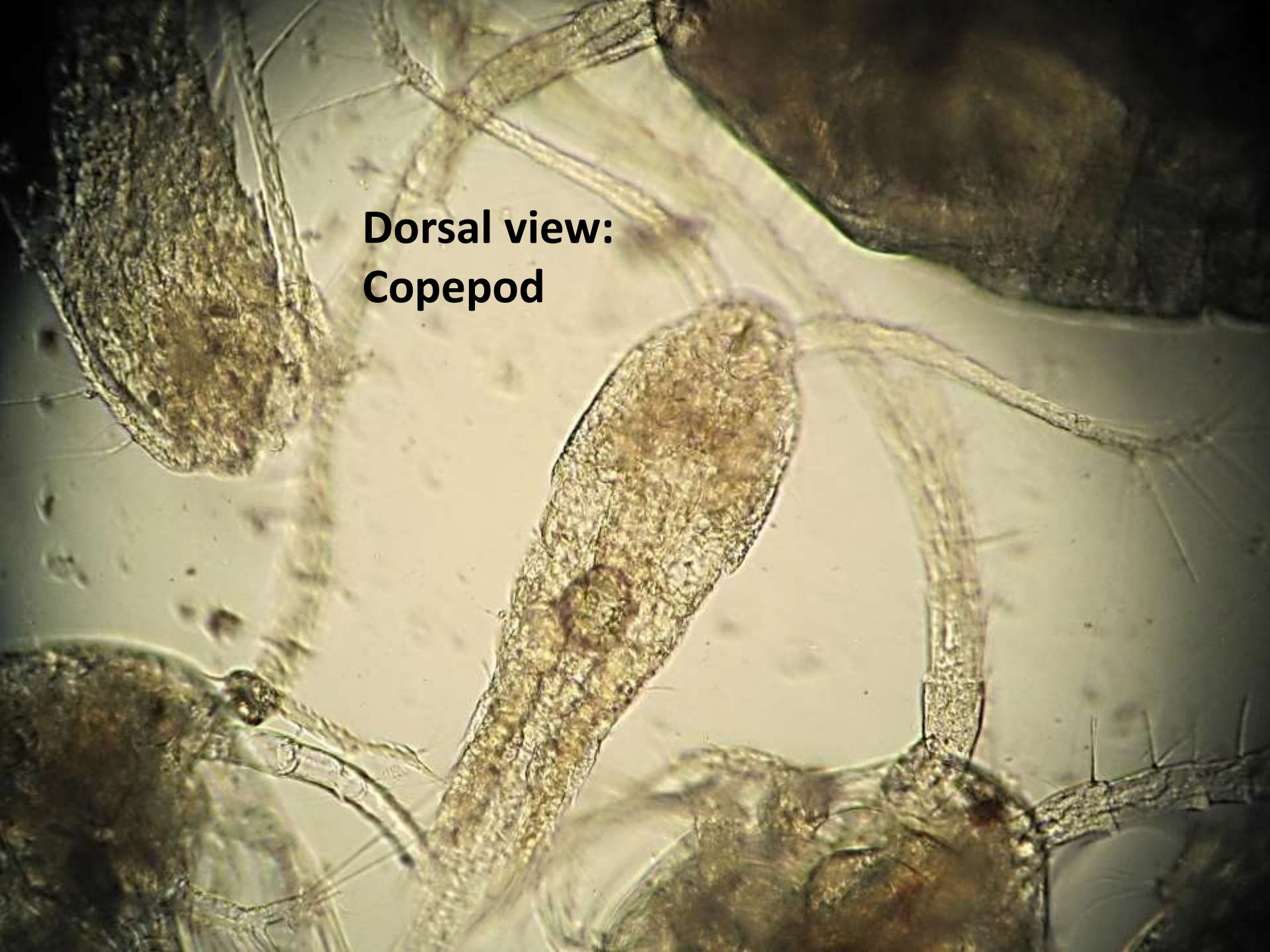


Sorted copepod plankton sample

Sorted copepod – side view

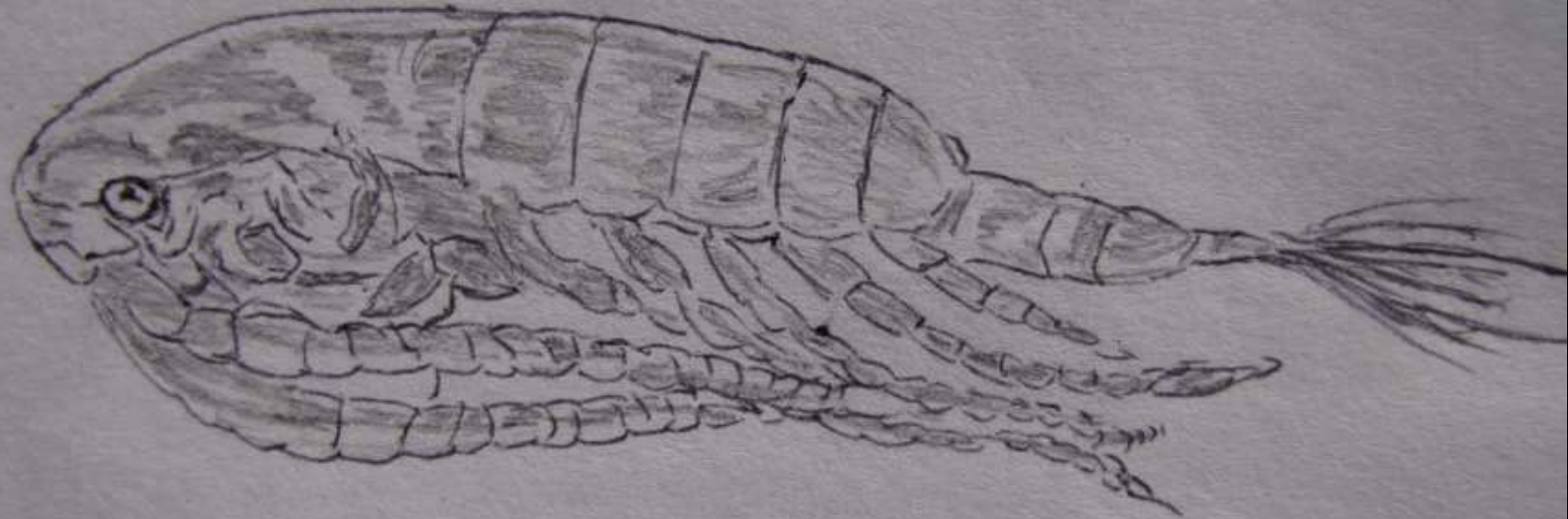


**Dorsal view:
Copepod**

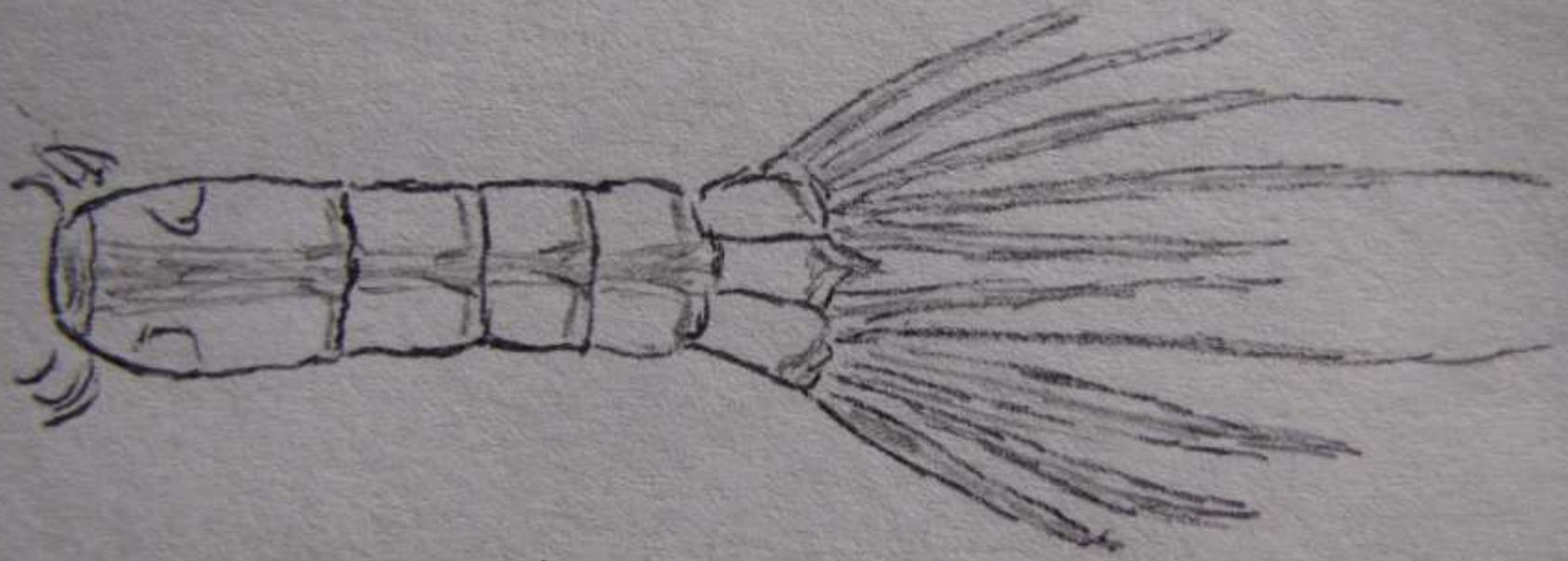




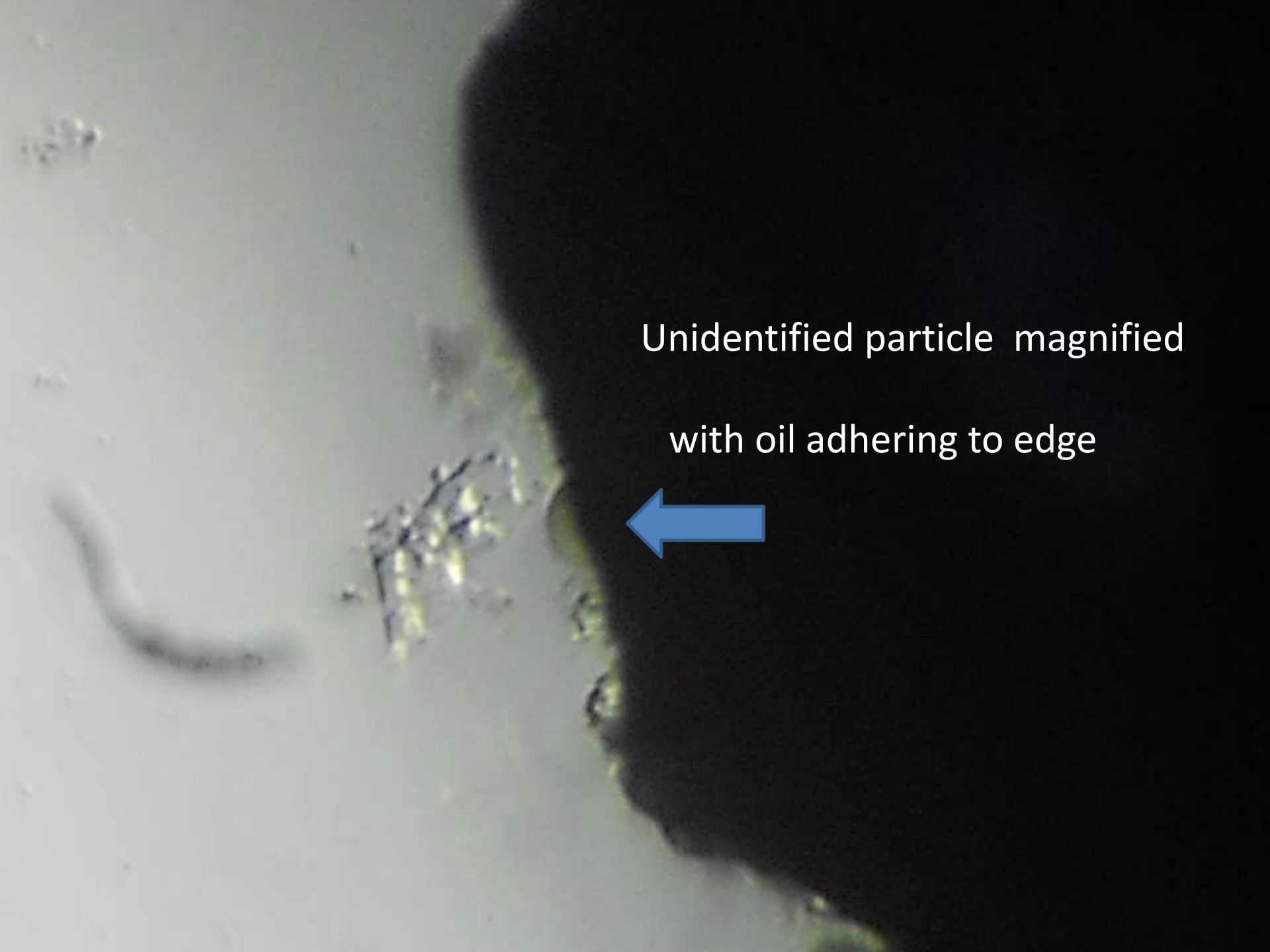
Ventral view:
[Calanus finmarchicus?](#)



Calanus




Copepod tail fragment



Unidentified particle magnified
with oil adhering to edge



A circular field of view showing three dark, irregular, and somewhat spherical particles. The particles are dark grey or black with some lighter, speckled areas. They are set against a light, textured background. The overall appearance is that of microscopic particles.

Unidentified* particles:
Plastic, soot, paint chips???

*(Identified later as “Plastic micro-beads”
by Dr. Andy Draxler, NOAA-NMS Chief Chemist)



Vertebrate list:

- Humpback whales**
- Fin Whales**
- Gannet**
- Great shearwater**
- Cory's shearwater**
- Sooty shearwater**
- Black-backed gull**
- Herring gull**
- Laughing gull**
- Common tern**
- Double-crested cormorant**

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<http://www.mysticseaport.org/38thvoyage/voyagers/dave-grant/>

<http://www.mysticseaport.org/news/2014/a-second-day-on-stellwagen/>

http://teacheratsea.noaa.gov/#/2012/Dave*Grant/photos

<https://teacheratsea.wordpress.com/category/2012/dave-grant-2012/>

<https://teacheratsea.wordpress.com/2008/11/>