

Data Sheet Green Harbor River Study

Date 7/17/03 Start 10:25 Depart 1 PM
Time 10:25 (AM) PM Tide Low 8:38 AM

Height of water above sea level below chart 10:30 < -2

Location of testing By dike (left side facing dike - river side)
Plankton sample - channel from ^wend of island to left side of dike

Air temperature 77°F Water temperature (surface) by dike 74°F

Water temperature (1 meter deep) by dike 68°F 1/2 m 68°F
surface 1.014 19.4 ppt

Specific gravity ((20 degrees C) 1 m. 1.020 Salinity by chart 27 ppt

pH (surface) 7.8
pH 8.2 depth 1 meter

Nitrate 0 Nitrite 0

Dissolved oxygen 7.1 ppm

Secchi disk 1 1/4 meters dike side 1 1/2 meters harbor side

General observations: Water clarity murky; fairly turbid
Odor slight Water color appears brownish
Sediment sample Sandy, gravel. Hundreds of mussel shells on top of sand in front of dike

some copepods may be Pseudocalanus Biological data: Calanus sp ^{estimate} 70 (7)
Plankton sample (see other pages) Copepods (dominant by far), Zoaea,
Unid. fan tail crustacean, 5 amphipods, 2 copepods with tubular antennae
Macroinvertebrates no time today (1 Ctenophore, 1 ? crustacean)

Invertebrates Periwinkles > 20; barnacles on rock. - 4/6 found on
other rocks with barnacle, 5 green crabs (see back)
Fish 3 caught 2 cm each (see back) dip net
no time for seine net

Comments:
Tide switched around 10:50 > 2 hrs. after real low tide in
ocean Tide pouring in; very loud 11:50 > Foam @

12:10

Barnacle molt 13
There are hundreds of barnacles check next time and larvae, molt young.

not collected per Dr. Gall

Sea Lettuce

Crabs - green - 5

Mussels (not alive)
shells

2 very fast, very small
black fish - not caught

Green Crabs
5.7 cm female - lost claw
3.4 cm female - real green

6.5 cm male (greenish body & legs)
5.7 cm female
orange underside
6.0 cm female
orange underside

2+1 fish green with dark green spots
Looks like a Hicory shad but that doesn't seem very likely
I didn't look long enough to ID and can't tell from sketch. Need to see fins.



Great blue herring (landed E end)
Cormorants (2 flew over)

Rowed out @ 12:12 PM for plank

| JULY | | | 2003 | | |
|--------------|-----------|--|-------------|--|--|
| Morning | BOSTON | | Afternoon | | |
| HIGH 11:34 | SUNDAY | | HIGH 11:44 | | |
| Height 9.9 | 13 | | Height 11.7 | | |
| LOW 5:20 | FULL MOON | | LOW 5:28 | | |
| Height -1.1 | | | Height 0.1 | | |
| Sunrise 5:19 | | | Sunset 8:21 | | |
| HIGH --- | MONDAY | | HIGH 12:28 | | |
| Height --- | 14 | | Height 10.0 | | |
| LOW 6:12 | | | LOW 6:21 | | |
| Height -1.1 | | | Height 0.1 | | |
| Sunrise 5:20 | | | Sunset 8:21 | | |
| HIGH 12:37 | TUESDAY | | HIGH 1:19 | | |
| Height 11.6 | 15 | | Height 10.0 | | |
| LOW 7:02 | | | LOW 7:12 | | |
| Height -1.0 | | | Height 0.2 | | |
| Sunrise 5:21 | | | Sunset 8:20 | | |
| HIGH 1:28 | WEDNESDAY | | HIGH 2:08 | | |
| Height 11.3 | 16 | | Height 10.4 | | |
| LOW 7:51 | | | LOW 8:19 | | |
| Height -0.8 | | | Height 8.19 | | |
| Sunrise 5:23 | | | Sunset 8:19 | | |
| HIGH 2:17 | THURSDAY | | HIGH 2:56 | | |
| Height 10.9 | 17 | | Height 9.8 | | |
| LOW 8:38 | | | LOW 8:53 | | |
| Height -0.4 | | | Height 0.6 | | |
| Sunrise 5:23 | | | Sunset 8:19 | | |
| HIGH 3:07 | FRIDAY | | HIGH 3:42 | | |
| Height 10.4 | 18 | | Height 9.6 | | |
| LOW 9:25 | | | LOW 9:43 | | |
| Height 0.1 | | | Height 0.9 | | |
| Sunrise 5:24 | | | Sunset 8:18 | | |
| HIGH 3:56 | SATURDAY | | HIGH 4:29 | | |
| Height 9.9 | 19 | | Height 9.5 | | |
| LOW 10:11 | | | LOW 10:34 | | |
| Height 0.5 | | | Height 1.2 | | |
| Sunrise 5:24 | | | Sunset 8:17 | | |
| JULY | | | | | |

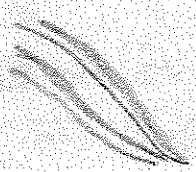
Eastern Standard Time - Corrected For Daylight Savings Time

There are two main types of seaweed growing by dike and in front of dike.

Both are green algae

One is enteromorpha (I think)
Looks like green hair

One has long strands with air inside, has the same texture as sea lettuce. The strands are like thin sacs with air bubbles inside. They grow in clumps.



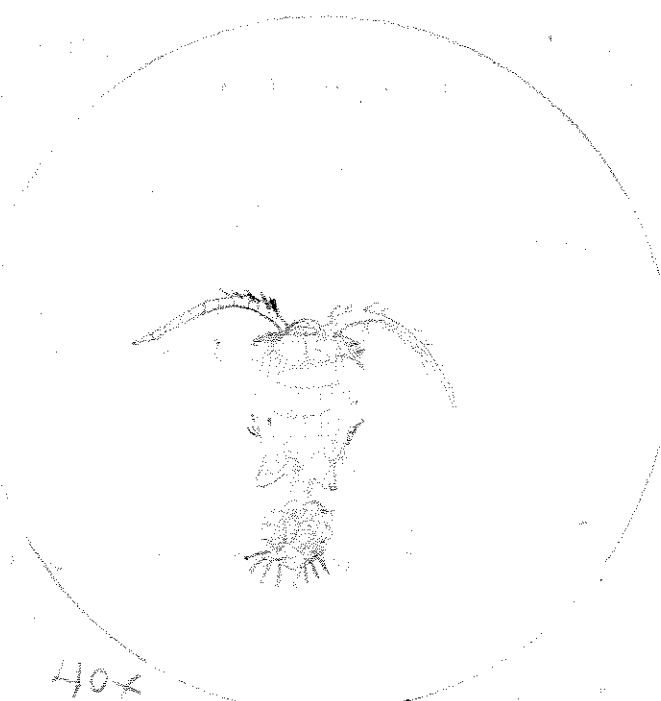
young sea lettuce

7/17/03



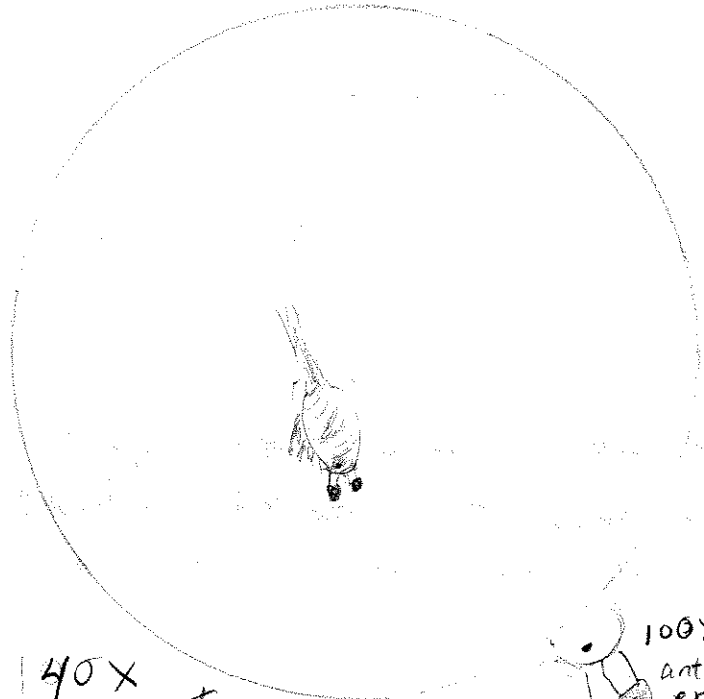
40x

Amphipod (dead) Gammarid
~ 11 segments
~ 11 pairs of segmented legs
omnivores
can live



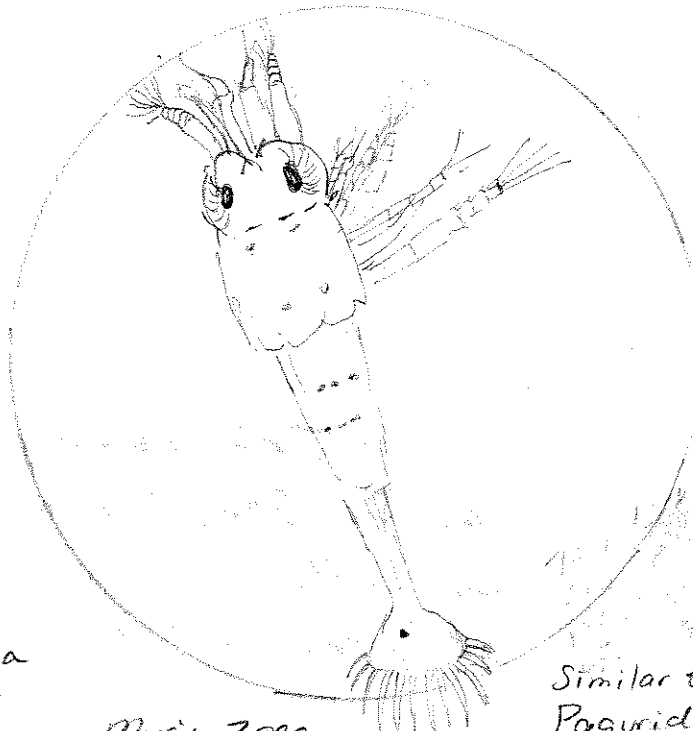
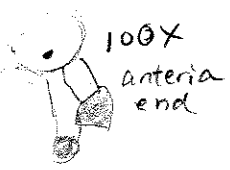
40x

Female Copepod
Egg sac of ~ 15 eggs (black)
Hairy antennae with algae
Eggs appear brown at 100x



140x

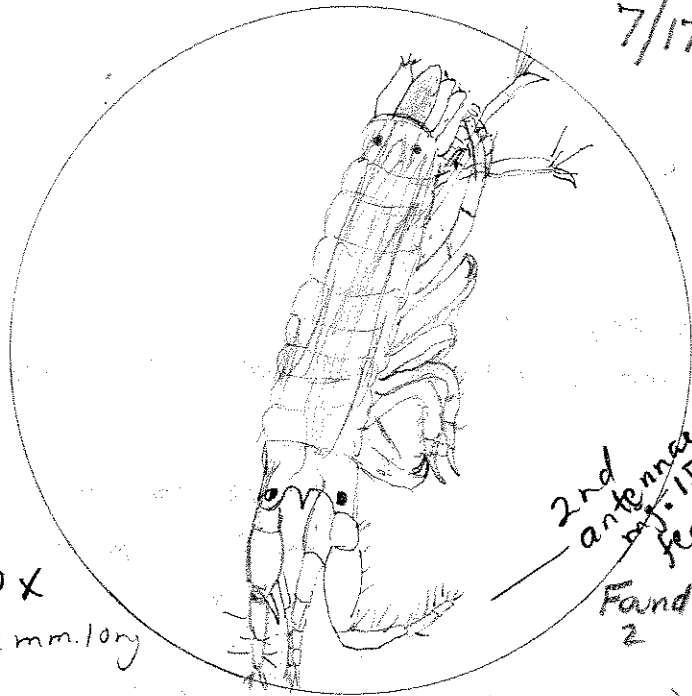
Prob. not Copepod species?
Dr. Gallon
Antennae are knob like and very short; Brown on end; move in response to conditions; appeared to block a zoea. Presents a lateral view different from a... usually... dead!



Mysis-zoea Larval crustacean; decap.
Similar to Pagurid picture
outermost antennae has 8 projections
Tail has 13 projections
Transparent
Mysid? or shrimp

Green Harbor River

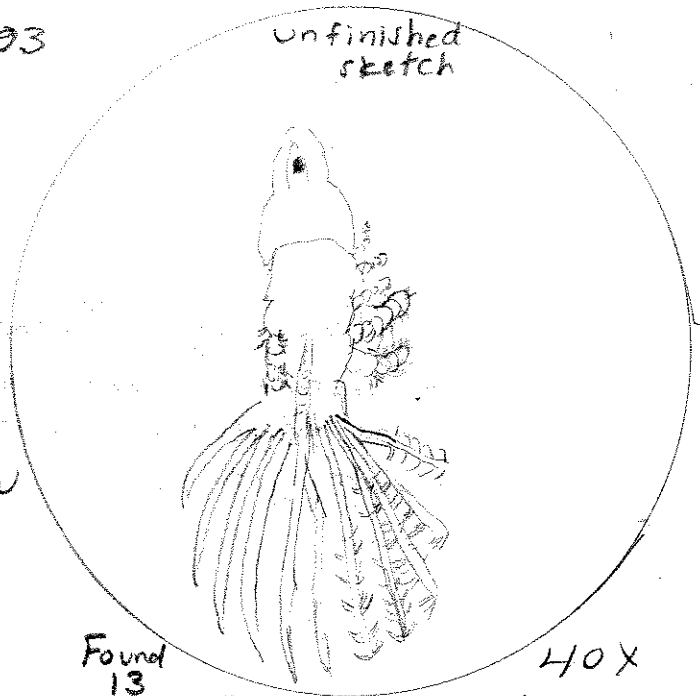
7/17/03



40x
2mm. long

Found 2

11 body segments (didn't draw right)
Brown intestine and legs
Grayish green body
Seven legs visible
Was hiding in algae
Crustacean - Amphipoda
Carophiid live in U shaped tube



Unfinished sketch

Found 13

40x

Barnacle molt
Crustacean (unidentified sp X)
Fan-like tail has 6 sections that each branch in two.
Transparent, clear except for legs which are very hairy and green. They are see through and segmented.
Each one found was dead. (see back)
Appear tan to naked eye.

