

ZOOPLANKTON
FLASH



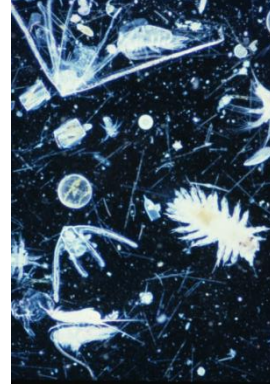
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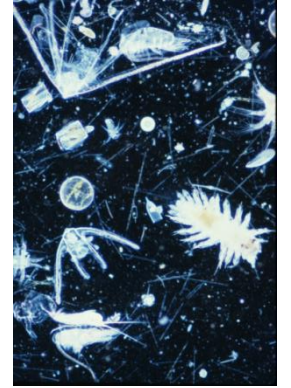
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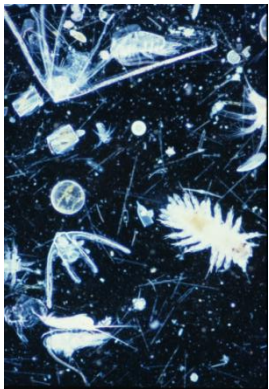
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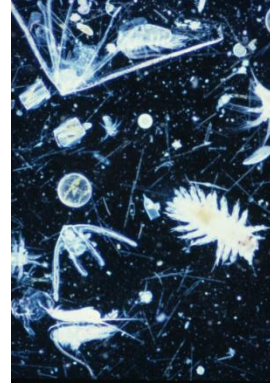
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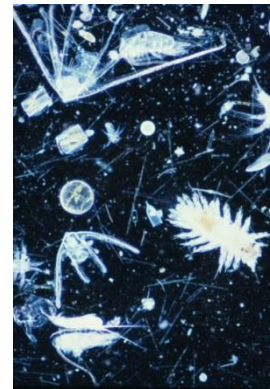
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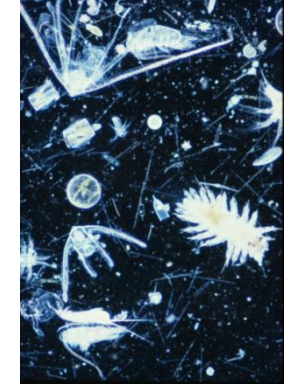
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**Harpacticoid
copepod
(har pac ti coid)**



Short antenna

**Calanoid copepod
(cal ũ noid)
(koh-puh-pod)**



Long antenna

**Ctenophore
(tě ně for)**



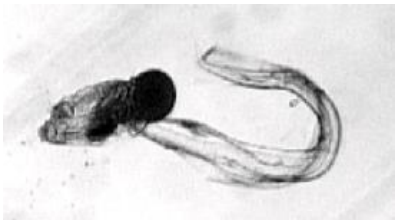
**Phosphorescent
Jelly-like
Called a jelly comb**

**Euphausid
(yu fŏ zee ěd)**



**Also called a krill
shrimp-like and
Food for birds**

**Oikopluera
(oi kŭ pler ă)**

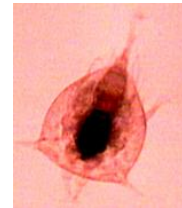


**Pteropod
(ter uh pod)**



**Snail-like, but
not a snail**

**Barnacle
nauplius larva
(naw plee uhs)**



Adult barnacle



**Bivalve "D"
veliger larva
(vě ľi jer)**



Adult bivalve



**Bivalve umbo
veliger larva
(vē lī jer)**



Adult bivalve



**Crab
megalops larva**



Adult crab



**Crab
zoea larva**



Adult crab



**Polychaeta worm
larva
(pol ee keet ũ)**



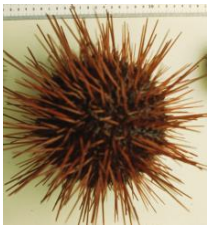
Adult



**Sea urchin pluteus
larva
(ploo tee uh s)**



Adult



**Snail veliger larva
(vē lī jer)**



Adult snail



**Starfish bipinnaria
larva**



Adult



**Starfish pluteus
larva**



Adult



Plankton basics

Plankton by definition are living aquatic organisms that are small, mainly microscopic in size, and have limited mobility. These small organisms are an essential component of freshwater and marine food webs. Plankton are divided into two major groups: phytoplankton and zooplankton.

Phytoplankton are microscopic photosynthetic organisms that use nutrients in the water and

sunlight to produce sugar as an energy source for growth and reproduction. Since each phytoplankton cell is a separate organism, they are not classified as plants. Phytoplankton in aquatic systems are the base of the food pyramid which starts the food web.

In the marine system, two major phytoplankton groups are:

Diatoms: Composed of single cells or chain forming organisms, diatoms are a rich source of nutrients for higher

animal species. Diatoms are most abundant in the spring and fall.

Dinoflagellates: Composed of single cell and some chain forming species, dinoflagellates are not a nutrient rich food source, but can provide some essential nutritional benefit to higher animal species. Some species, as the genus *Alexandrium*, are toxic. Dinoflagellates bloom during the summer.

Zooplankton are animals that are somewhat mobile, and

most often feed on phytoplankton. Zooplankton largely moved through the water by currents. As a major food source to higher animals (i.e. fish, birds, and predatory invertebrates), their availability, abundance, and distribution in the water is particularly critical to survival and growth of early life stages such as salmon juveniles during their first summer after migrating to the sea. Animals feeding on zooplankton have species preferences. For example, juvenile pink salmon prefer

Calanoid copepods and chum salmon feed on Harpacticoid copepods that inhabit in a zone near the bottom.

Zooplankton are divided into two major groups: The holoplankton and the meroplankton.

Holoplankton float in the water for their entire life while meroplankton are a larval stage that transforms into another adult stage. For example, a D veliger and Umbo veliger stages are floating stages of a bivalve, like a clam, mussel or scallop.

The meroplankton stage may last a few days to more than a month. As an example, a mature clam at the time of reproduction will release eggs and sperm into the water. The eggs become fertilized forming the first planktonic stage, the trochophore larva. The next stage is the D veliger, followed by the umbo veliger, and completed with the pediveliger larval stage that settles to the bottom and transforms into a clam.

These flash cards show the holoplankton as a single

photo on the card, while the meroplankton cards show the larval plankton form and the adult animal into which it transforms.

On a number of flashcards, the phonetic spelling was provided to help you in pronunciation.

In your study of the plankton, please feel free to search the internet by species name to learn more about the species and the various images that are available to see the enormous variety. The internet will also aid you with

pronunciation using online dictionaries such as:

www.memidex.com/zooplanktons

www.merriam-webster.com

<http://www.dictionme.com/>

As always, ask you teacher or contact me if you have any questions at ray.ralonde@alaska.edu