

# Phylum Ctenophora (Comb Jellies)

ctenophore = "to bear a comb)

~100 sp

include comb jellies and sea walnuts

apparently an ancient group

515 M yr old fossils have been found in china

*Stromatoveris*

→ clearly related to Ediacaran creatures of 542 MY ago

all marine

esp in deeper waters

but some species are common in coastal waters

can occur in enormous numbers

typically spherical and transparent

a few are compressed and elongated ribbon shaped

some are pink, orange, olive

chief identifying feature is 8 rows of “comb plates” of cilia extend from mouth to aboral end

are biradial

2 long tentacles in most

all are bioluminescent

→ flashes at night or when prodded

like Cnidaria at tissue level of complexity

diploblastic with thick mesoglea

a few simple organs

nerve net

### **body wall**

similar to Cnidaria

but spherical, not bell or polyp shaped

no polymorphism

### **Support and Locomotion**

no hard skeleton

most are pelagic

many occur in very large “schools”

mainly planktonic

use ciliated plates for locomotion

→ each comb beats in succession like a wave starting at aboral end

a few elongated forms crawl on bottom

## **Feeding**

most are carnivores, a few are parasitic

no nematocysts

→ instead have 2 long tentacles with

### **colloblasts**

=adhesive cells and lasso cells

some adhesive organs may also be located on  
body

stimulated by movement of prey

some tentacles are relatively long

eg. *Pleurobranchia*

~1/2 " diameter has 6" tentacles

surface of some is covered with papillae with  
colloblasts and suckers

eg. *Leucotheca*

most have pharynx (throat) inside mouth

GVC is incomplete

but has tiny "anal canals"

→ not sure of their function

GVC branches throughout body into jelly layer

## **Nervous System**

nerve net

sense organs include statocysts

No excretory, respiratory or circulatory systems

## **Reproduction**

no asexual reproduction

→but remarkable powers of regeneration  
any half can regenerate

sexual

all are hermaphrodites

in most sperm and egg discharge through  
mouth

external fertilization

unique larval form = cydippid

## **Classification**

Class: Nuda

no tentacles

eg. *Beroe*

Class: Tentacula

tentacles

diverse forms

## **Phylogeny**

origin is obscure

probably arose from radially symmetrical planula-like ancestor