Phylum Chaetognatha  
(arrow worms)

means “hairy jaws”

>100 sp

**marine**

warm shallow waters

most are **planktonic**

swim and drift on surface at night; sink deeper during the day

very common

**voracious predators** in planktonic community

a few species are benthic forms

**Body Form**

small straight bodies

→ torpedo or dart like

1 - 12 cm long

**Body Form**
head - unsegmented trunk - postanal tail

Body Wall

think cuticle covers body

single layer of epidermis

  on sides of animal becomes multilayered

well developed coelom

  used as hydrostatic skeleton

Movement

highly mobile and nearly transparent

  → effective predators

use caudal fins and longitudinal muscles to dart at prey

horizontal fins act as stabilizers

Feeding & Digestion

predators of copepods, fish and each other

use water vibrations to detect prey
teeth and chitinous spines on head

use curved spines around mouth to capture prey

complete digestive tract

**Circulation**

simple hemal system

**Nervous System**

well developed nervous system

consists of *nerve ring* around esophagus

with *cerebral ganglia* and other ganglia

**sense organs:**

eyes

sensory bristles

may also be able to detect water vibrations, water currents and chemicals

no *respiratory* or *excretory* systems

**Reproduction**
all are protandrous hermaphrodites

function first as male then as female
cross or self fertilization
eggs are planktonic

**Evolutionary Relationships**

some think they’re related to nematodes or annelids??
others believe they are related to deuterostomes
molecular phylogeny suggests they are not closely related to either protostomes or deuterostomes
→ they apparently split some time before the protostome/deuterostome split