

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