



## Guide to the Major Groups

### Acarina

- antennae absent
- 2 pairs of feeding appendages
- body with no sign of external division or segmentation
- 8 legs, frequently fringed with swimming hairs
- size: up to 5mm



### Bivalvia

- shell consists of 2 separate valves, hinged dorsally
- concentric growth rings usually present on shell
- shell may or may not be lined internally with nacre
- body mass with protrusible muscular foot, without defined segments, enclosed in shell
- size: 5mm to 20cm



### Bryozoa

- colonial animals
- bearing numerous ciliated tentacles (tentacular crown), with mouth opening
- size: individuals are microscopic, colonies may spread several square metres **OR** form balls the size of an orange





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### Cnidaria

- a range of body forms
- body a simple sack with a 'mouth' opening
- tentacles with stinging nematocysts
- sessile
- found in congregations of individuals **OR** colonies
- size: up to 15mm, diameter up to 25mm



### Collembola

- mouthparts modified for biting
- antennae 4-segmented
- no wings
- 6 legs
- thorax 3-segmented, 1st segment reduced
- abdomen 6-segmented
- furcula (forked springing organ) on segment 6
- size: generally 1 to 3 mm and rarely up to 10 mm



### Crustacea

- typically with a hard, rigid exoskeleton
- body divided head, thorax, and abdomen
- >8 legs or appendages
- carapace absent (Copepoda, Anostraca, some Malacostraca) **OR** present and covering some body segments (Notostraca, some Malacostraca) **OR** present and covering all body segments (Cladocera, Ostracoda, Conchostraca, Branchiura)
- size: 250µm to 40cm



K. Hawking





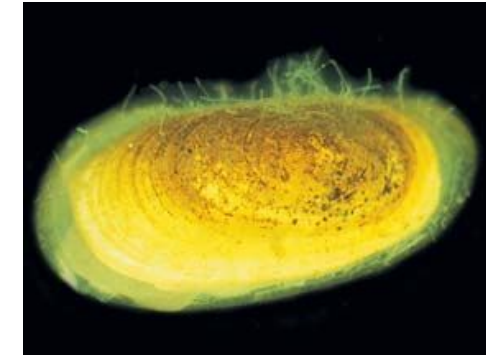
## Guide to the Major Groups

### Gastropoda

- single hard shell
- shell limpet-shaped **OR** coiled into a flattened spiral **OR** coiled and drawn out to a helical structure
- soft bodied, no limbs or segmentation, body consists of a large muscular foot, a visceral hump, anterior head with a pair of tentacles with eyes at the tips or bases
- some families with an operculum that seals the shell when body is fully withdrawn
- size: <3mm to 30mm



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### Hirudinea

- anterior (oral) and posterior (caudal) suckers present
- body consists of 2 preoral segments and 32 postoral somites
- no chaetae present on segments
- body not divisible into distinct regions
- legs absent
- size: up to 80mm (extended)



### Insecta - larvae

- head sclerotized but sometimes retractile
- thorax and abdomen not always clearly defined
- never with wings
- 6 legs present or absent
- free swimming or case constructing
- size: 1.8 to 25mm





## Guide to the Major Groups

### Insecta - nymph

- head distinct
- body clearly defined into thorax and abdomen
- always with jointed legs on thorax
- wing pads present on thorax
- free swimming
- size: 4 to 50mm



### Insecta -pupa

- head distinct
- body not always clearly defined into thorax and abdomen
- never with wings, but developing wing pads may be visible
- legs absent, present or fused to body
- totally or partially enclosed in case or cocoon, when alive
- size: 2 to 25mm



### Insecta - aquatic adult

- distinct head bears a single pair of antennae
- body clearly defined into thorax, and abdomen
- winged or wingless
- always with jointed legs on the thorax
- free swimming
- size: 1mm to 11cm





## Guide to the Major Groups

### Nematoda

- elongate, thin body, cylindrical in cross-section
- posterior end tapered, anterior end usually blunt or truncate, may be tapered
- setae may be present anteriorly
- size: 0.5 - 4mm (except a few at 30cm)



### Nematomorpha

- worm-like body, thin, cylindrical, unsegmented
- end not tapered
- size: 10 - 100cm



### Nemertea

- 3 pairs of lateral eyespots
- mouth located under proboscis
- body unsegmented, very thin, worm-like, smooth, covered with cilia, tapered posteriorly, blunt anteriorly
- no appendages or setae
- very long muscular proboscis, with apical stylet, anteriorly
- size: up to 30mm





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### Oligochaeta

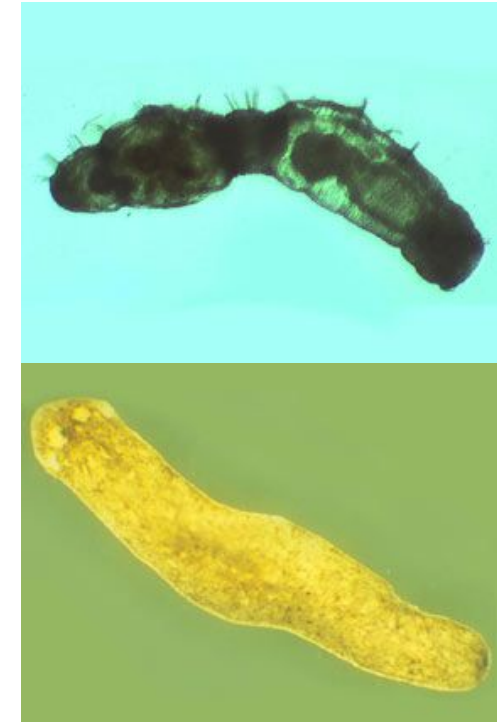
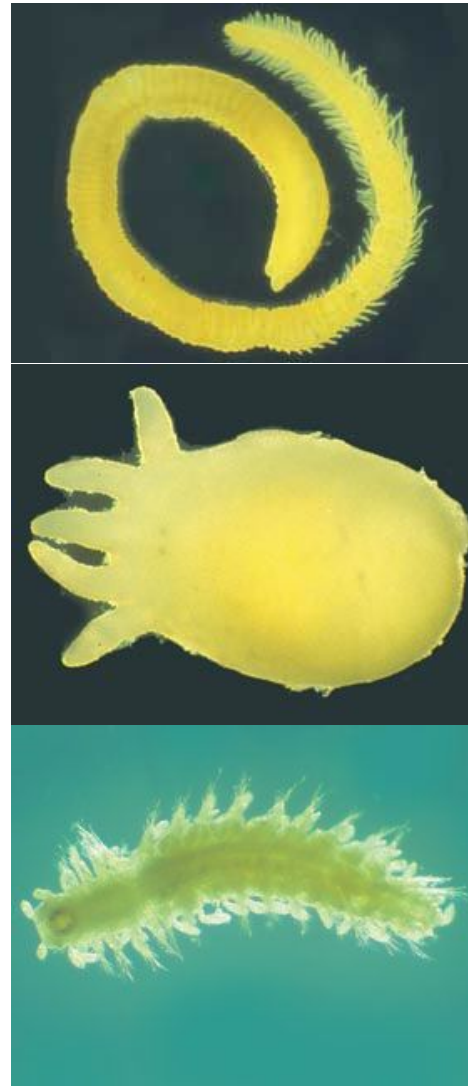
- elongate, cylindrical, soft body, body wall thin, translucent or opaque
- body segmented, mostly 40-200 segments
- each segment except 1<sup>st</sup> (and sometimes a few other anterior ones) bears 4 bundles of setae, each bundle is of 1-20 setae
- suckers absent
- size: 0.5mm to 100mm

### Platyhelminthes

- body flat, thin or squat, bilaterally symmetrical
- no distinct internal systems
- Temnocephalidea with 2 – 6 tentacles posteriorly, suction disc anteriorly
- Tricladida usually with a pair of eye spots dorsally
- size: up to 20mm

### Polychaeta

- head with 1 median and 2 pairs of lateral tentacles, 1 pair lateral palps
- body 5-segmented, imperfectly segmented posterior region, with paired lateral outgrowths bearing bristles
- anterior and posterior suckers absent
- size: up to 5mm





## Guide to the Major Groups

### Porifera

- immobile, sessile individuals forming a mat-like colonial structure, spongy to touch
- individual body shape is irregular
- body consisting of a cavity surrounded by convoluted walls with many pores
- flagella may be present
- size: encrustations can be very small to several metres across but less than 2cm deep

