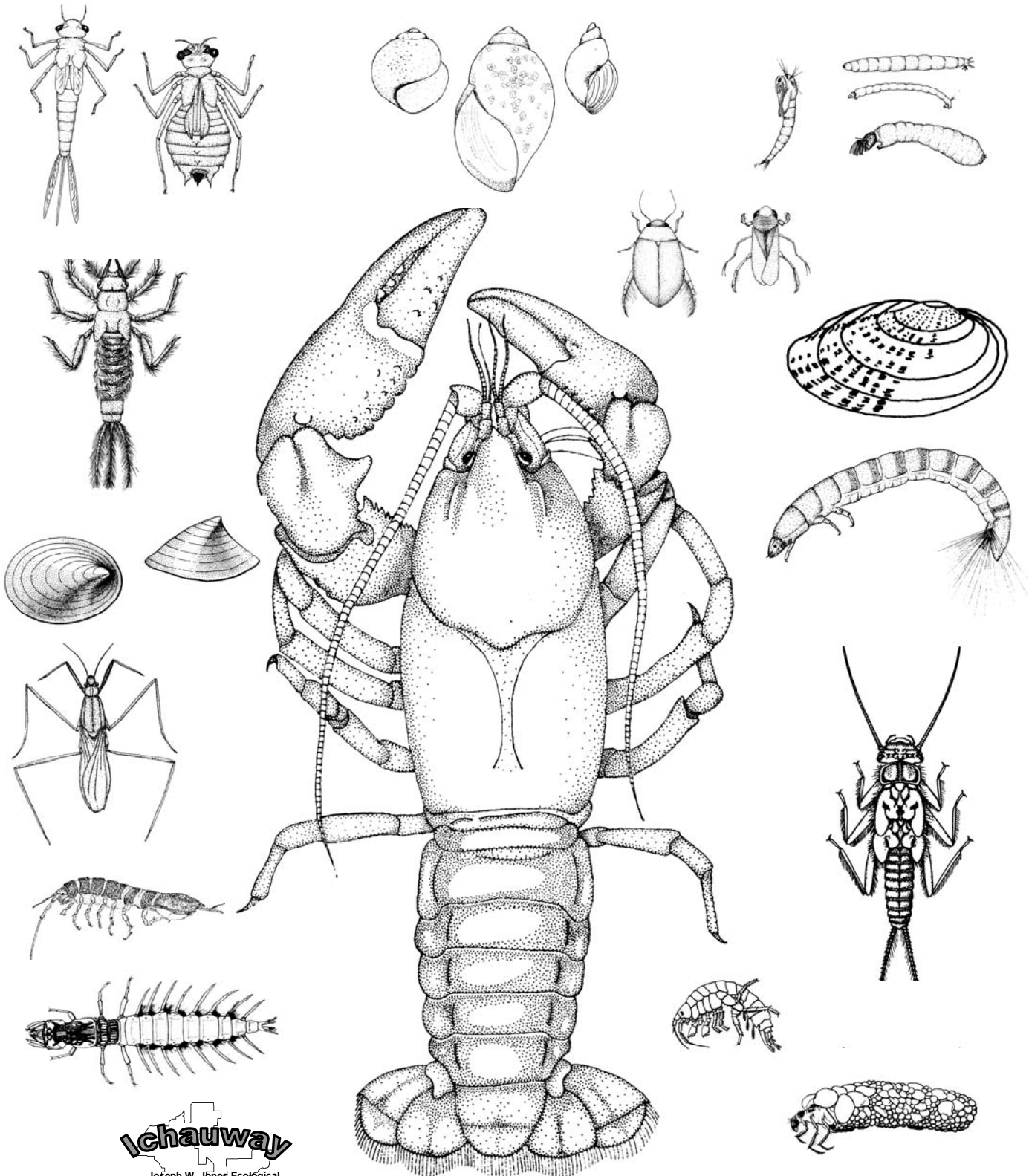


# Aquatic Macroinvertebrate Key



# Aquatic Macroinvertebrate Key

la. With segmented legs .....II

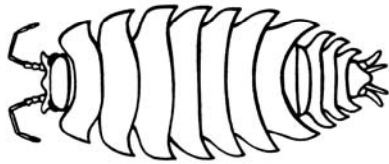
b. Without segmented legs .....V

Ila. With 3 pairs of segmented legs on thorax...Insect (See Insect Key)

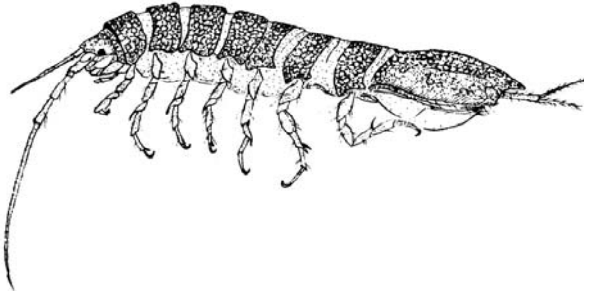
b. With more than 3 pairs of segmented legs .....III

IIIa. Body compressed dorsoventrally.....Isopoda (Water Sow Bugs)

III.a



*Water Sow Bugs*



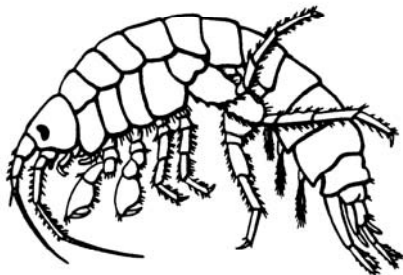
b. Body cylindrical or compressed laterally.....IV

IVa. Small, ~ <1cm long, without chelate legs (claws or pinchers)

.....Amphipoda (Scuds)

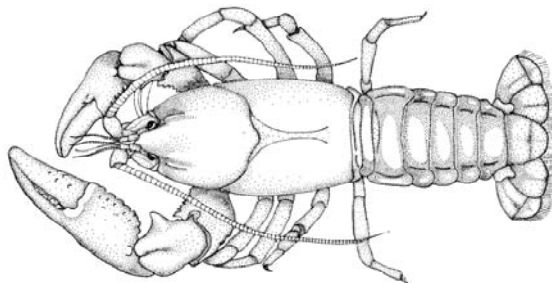
IV.a.

*Scud*



b. With some chelate (pincer-like) legs.....Decapoda (Crayfish)

*Crayfish*

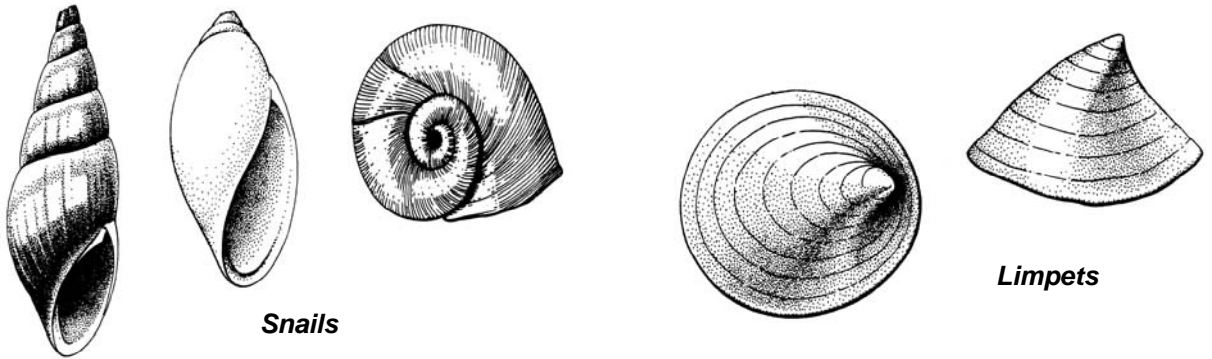


- Va. Wormlike, segmented.....VI
- b. Not wormlike.....VII

- Vla. With sclerotized (hardened) head capsule (may be retracted)
  - .....Insect (see Insect Key)
  - b. Without sclerotized head capsule.....Oligochaeta (Worms)

- VIIa. With a single shell, snail-like or limpet-like.....Gastropoda  
(Snails and Limpets)

VII.a.



- b. Bivalve: with 2 shells connected by a hinge.....Pelecypoda  
(Clams and Mussels)

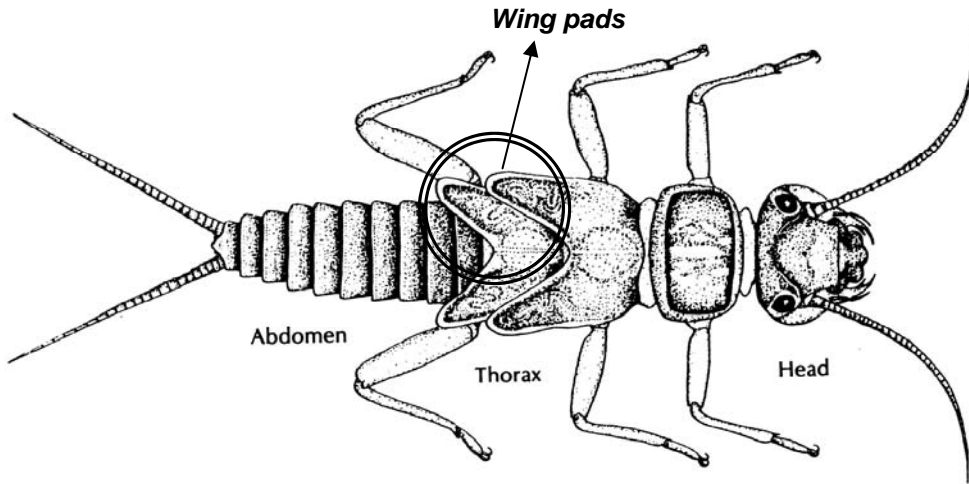
VII.b.



# Insect Key

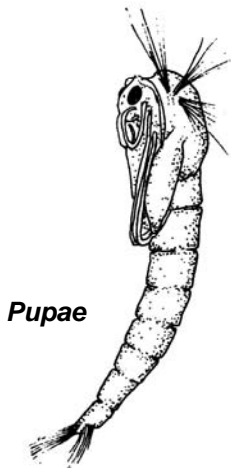
- 1.a. Thorax with 3 pairs of segmented legs.....3
- b. Thorax without segmented legs.....2

1.a.

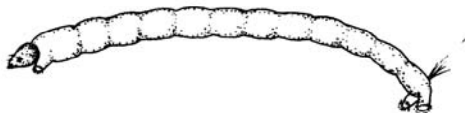
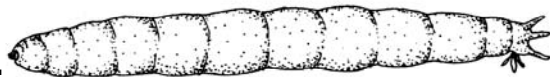


- 2.a. Mummy-like, may be in a case of silk and other matter, not active  
 .....Pupae (Not Keyed)
- b. Worm-like, mobile, usually with prolegs or pseudopods on one  
 or more segments.....Diptera (True Flies)

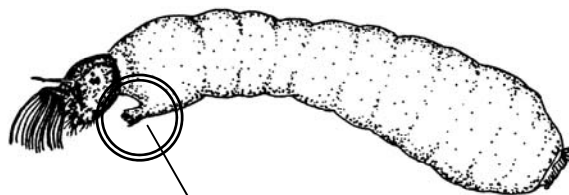
2.a.



2.b.



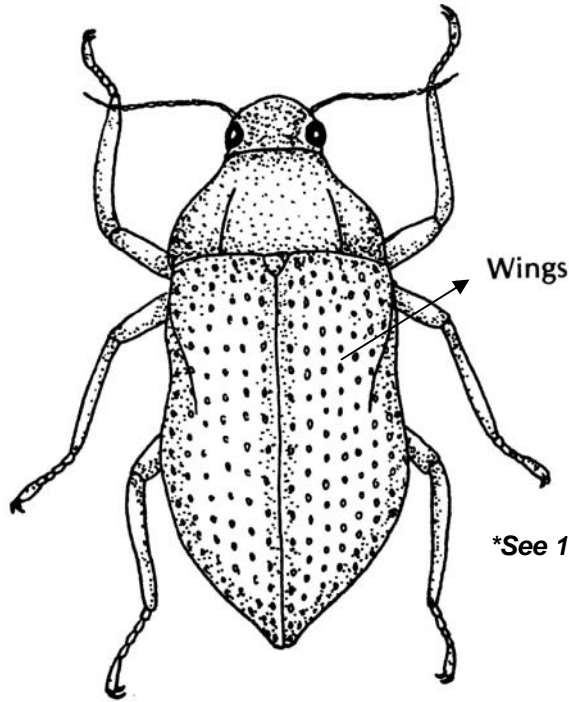
True Flies



Prolegs

- 3.a. With wings or wing pads (pads may be inconspicuous).....4
- b. No wings or wing pads.....10

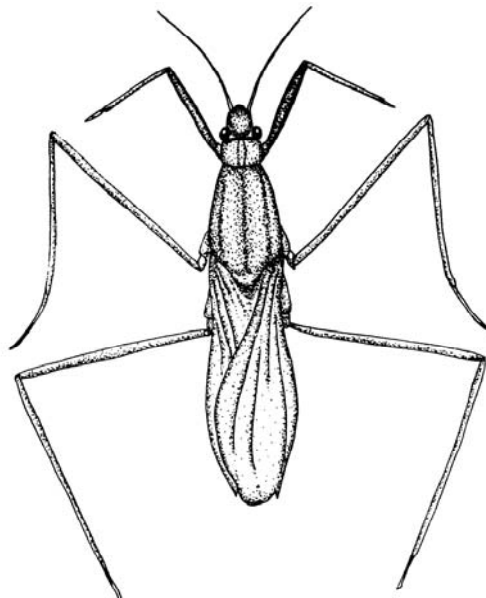
3.a.\*



*\*See 1.a. for wing pad illustration*

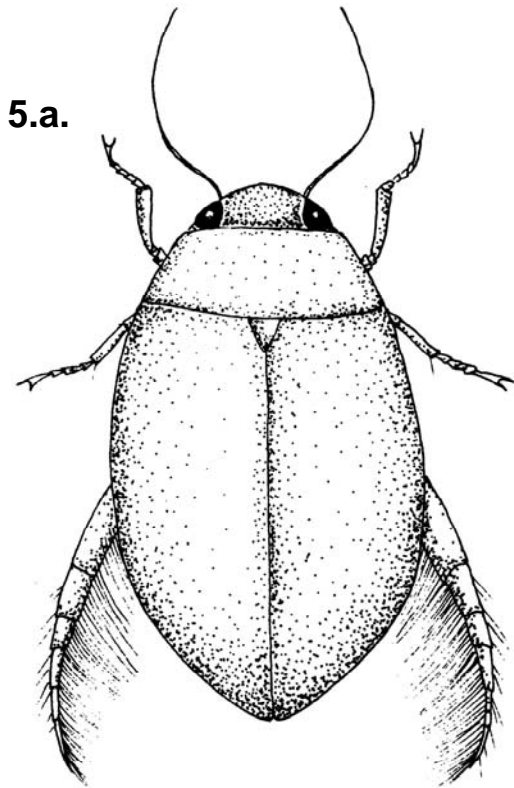
- 4.a. With functional wings.....5
- b. With wing pads.....6

4.a.



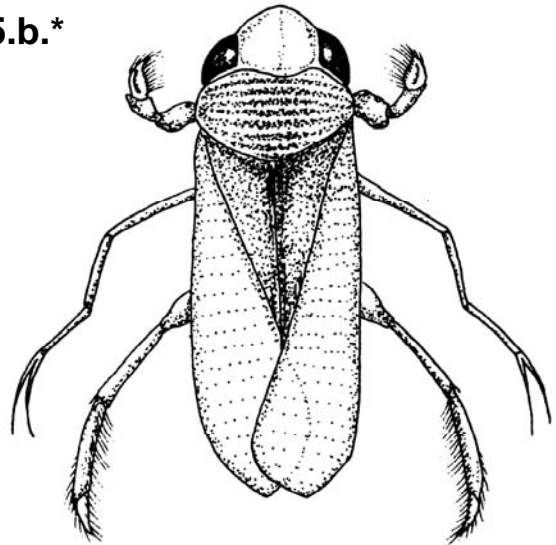
5.a. Front wings hard, shell-like, covering hind wings.....Coleoptera  
(Adult Beetles)

b. Front wings mostly membranous, only leathery in basal half.  
Mouthparts often tubelike.....Hemiptera  
(Adult True Bugs)



*Adult beetle*

5.b.\*



\*see also 4.a.

*True bugs*

6.a. With 2 or 3 long “tails” (filamentous terminal appendages).....7

b. “Tails” absent or *not* filamentous.....8

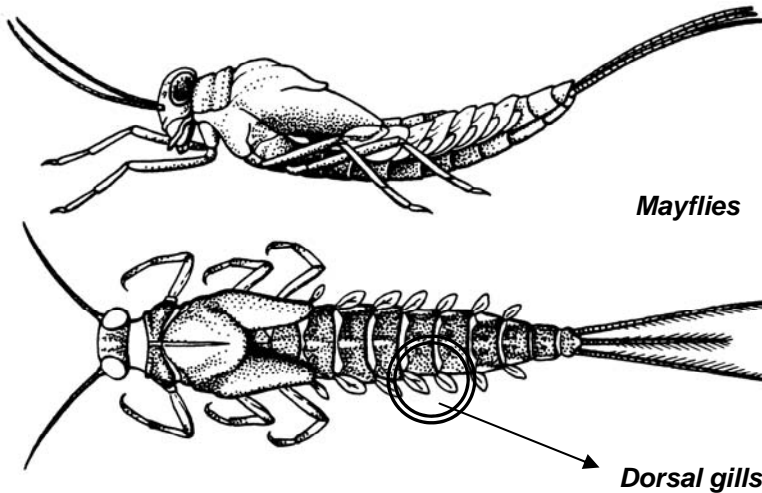
7.a. Abdomen with dorsal gills (platelike, featherlike, or leaflike), usually 3 tails, always 1 tarsal claw.....Ephemeroptera

(Mayflies)

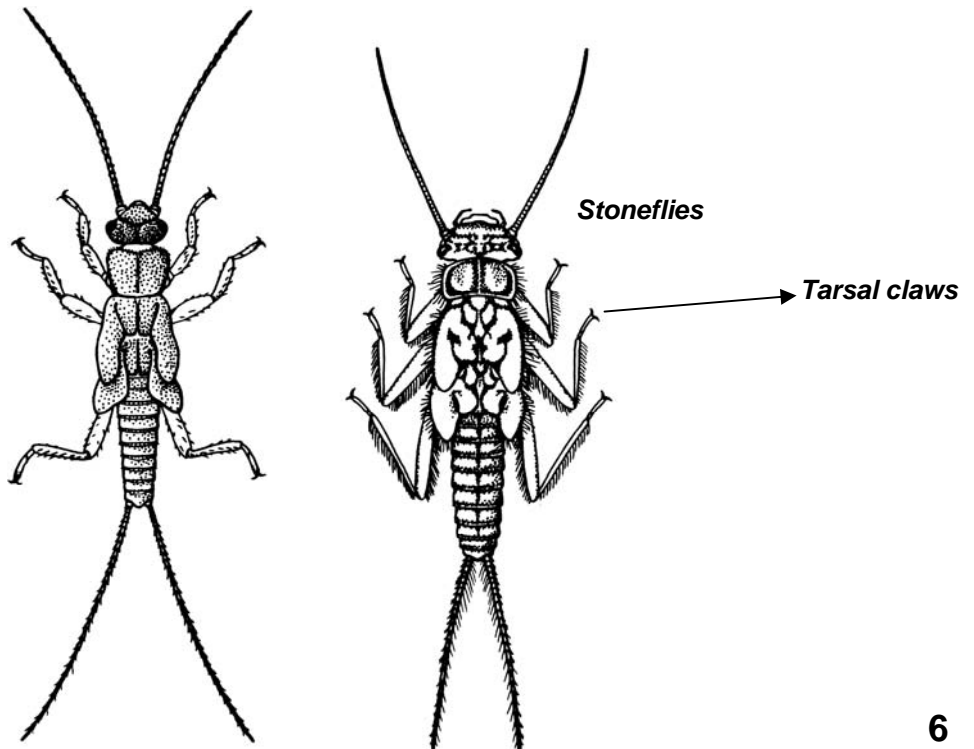
b. Abdomen without dorsal gills, 2 tails, 2 tarsal claws.....Plecoptera

(Stoneflies)

7.a.

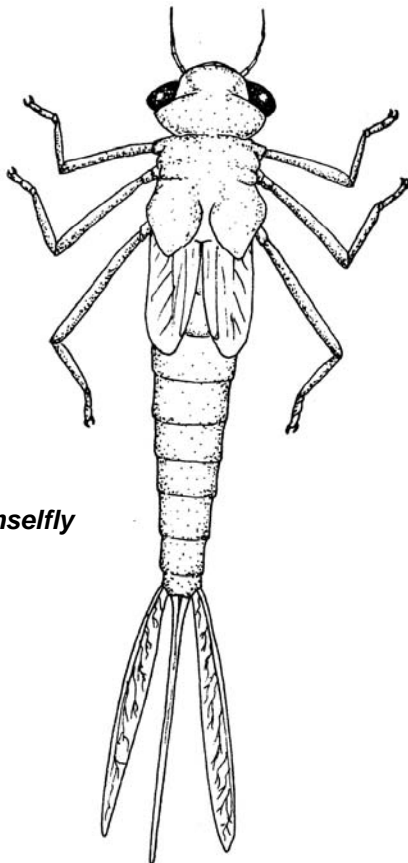


7.b.



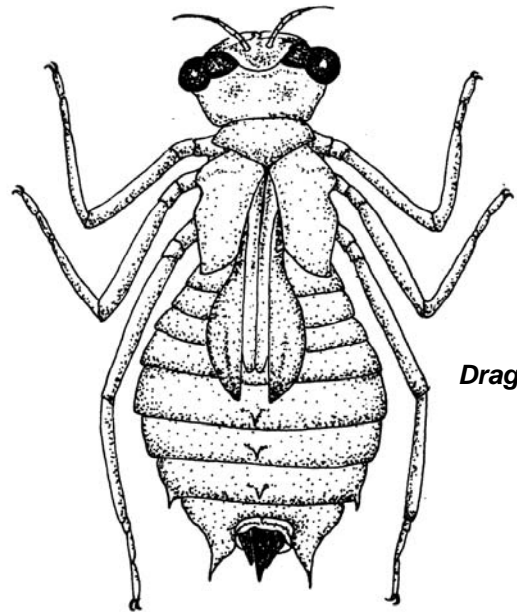
- 8.a. Mouthparts formed into a broad or narrow tube, adapted for sucking.....Hemiptera  
(Nymphs of True Bugs)
- b. Mouthparts not tube-like, labium (lower “jaw”) in the form of an elbowed, extensile, grasping organ.....Odonata.....9  
(Damselflies & Dragonflies)
- 9.a. Body usually slender, 3 long, flattened terminal gills...Zygoptera  
(Damselflies)
- b. Body usually thickened, no external gills.....Anisoptera  
(Dragonflies)

9.a.



*Damselfly*

9.b.



*Dragonfly*



10.a. Mouthparts formed into a broad or narrow tube for sucking

.....Hemiptera  
(Nymphs of True Bugs)

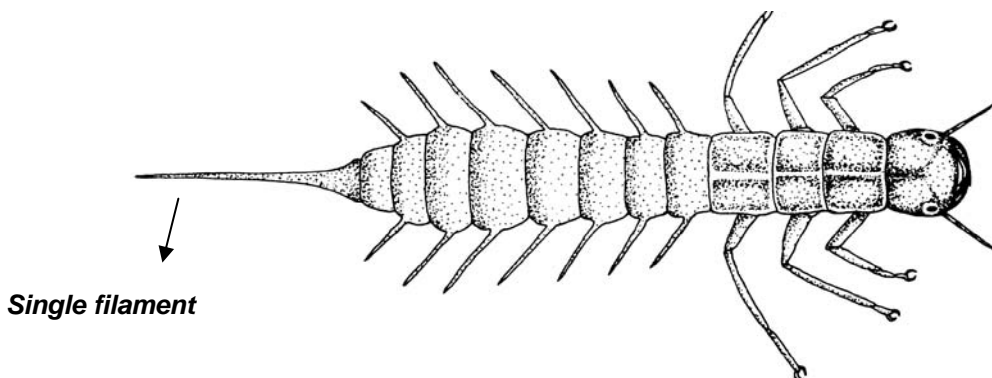
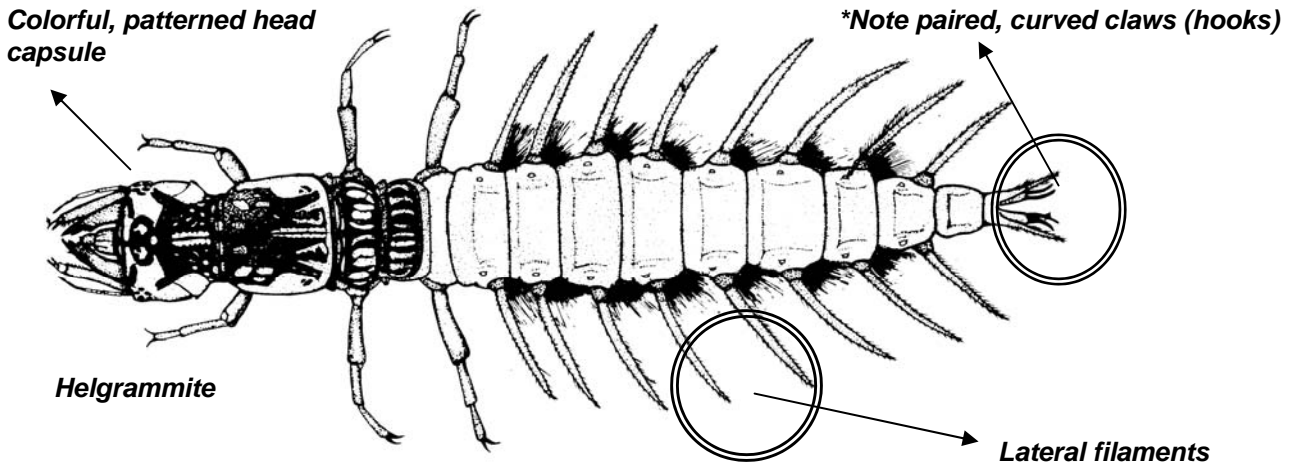
b. Mouthparts not tube-like.....11

11.a. Abdomen terminating in a single, slender filament OR 2 prolegs, each with 2 hooks. Frequently with thick lateral filaments

.....Megaloptera

b. Not as above.....12

11.a.



12.a. Antennae extremely short (1 segment) and inconspicuous. Two terminal prolegs with 1 hook each.

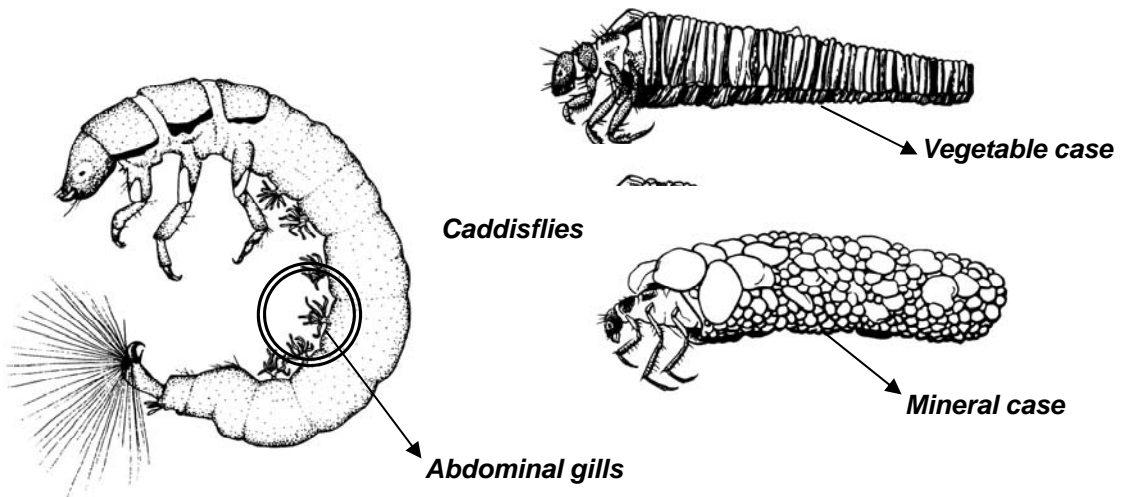
Frequently with ventral and lateral abdominal gills.

Often in a case of mineral or vegetable matter.....Trichoptera  
(Caddisflies)

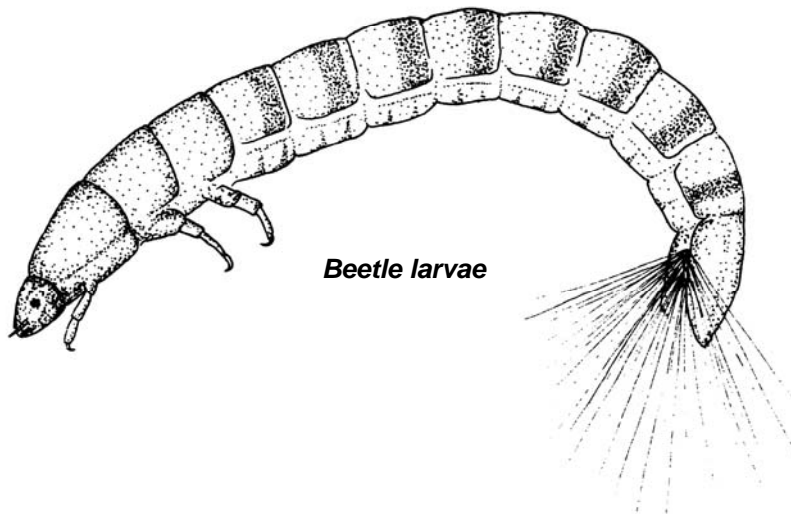
b. Antennae visible, 3 or more segments. May have lateral filaments, but *if* so then does *not* have two terminal prolegs.....Coleoptera

(Beetle Larvae)

12.a.



12.b.



# Illustrations By:

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