

DICHOTOMOUS KEY TO STREAM MACROINVERTEBRATES

(Page 1)

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1. A. Segmented legs.....go to 2
- B. No segmented legs.....go to 14

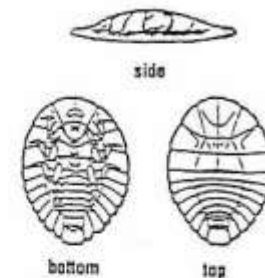
2. A. 6 legs.....go to 3
- B. More than 6 legs.....go to 23

3. A. No wings, or wings not fully developed and do not cover entire body.....go to 4

- B. Wings cover entire body (but not legs), may appear beetle-like.....go to 26

4. A. Body longer than it is wide.....go to 5

- B. Body oval & flat; head & legs concealed beneath body.....**WATER PENNY**
 (a type of beetle larva)
 Order Coleoptera, Family Psephenidae
 Feeding Group: SCRAPER



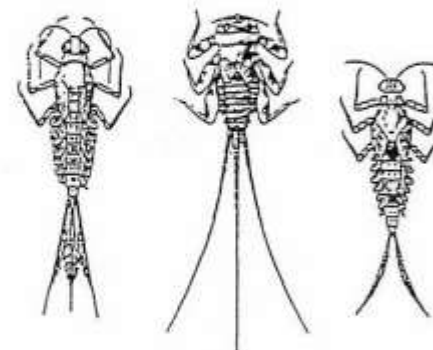
1/4"
(excluding tails)
(all from IWL)

5. A. 2 or 3 distinct hairlike tails; tails not fleshy or hooked, but may be fringed with hairs.....go to 6

- B. Not as above.....go to 7

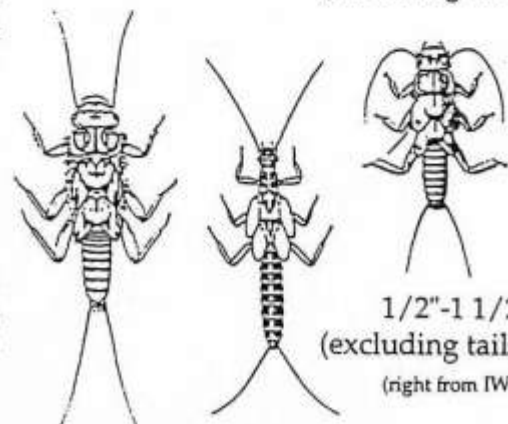
6. A. 2-3 tails; platelike or hairlike gills along sides of abdomen.....**MAYFLY LARVA**

Order Ephemeroptera
Feeding Group: VARIES*



(center from IWL) 1/4"-1"
(excluding tails)

- B. 2 tails; may have hairy gills under thorax.....**STONEFLY LARVA**
 Order Plecoptera
 Feeding Group: VARIES*



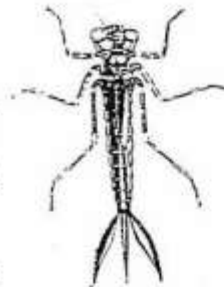
1/2"-1 1/2"
(excluding tails)
(right from IWL)

* If feeding group varies, see picture key on pages 155-157 for more information.
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7. A. 3 oar-shaped tails (gills) at *end* of abdomen; no gills along *sides* of abdomen
.....**DAMSELFLY LARVA**
Order Odonata, Suborder Zygoptera
Feeding Group: PREDATOR



1/2"-1"
(left from IWL)

- B. Not as above.....go to 8

8. A. Fat abdomen; large eyes; mask-like lower lip.....**DRAGONFLY LARVA**
Order Odonata, Suborder Anisoptera
Feeding Group: PREDATOR



1/2"-2"

- B. Not as above.....go to 9

(IWL)

9. A. May be hiding in case made of gravel or plant parts; abdomen ends in pair of prolegs which may be hidden by hairs; each proleg has single hook on end, sometimes fused together
.....**CADDISFLY LARVA**
Order Trichoptera
Feeding Group: VARIES*



(IWL)

up to 1"

- B. Not as above.....go to 10

10. A. Well developed lateral filaments extend from abdominal segments.....go to 11



- B. No lateral filaments along abdomen; body is hardened & stiff; tip of abdomen has small plate-like opening with hooks and filaments.

-**RIFFLE BEETLE LARVA**
Order Coleoptera, Family Elmidae
Feeding Group: GATHERER COLLECTOR



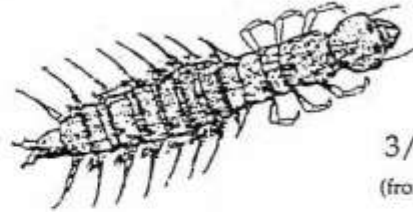
1/4"-1/2"

*If feeding group varies, see picture key on page 158-161 for more information
(all drawings on this page from McCafferty: *Aquatic Entomology*, except as noted)

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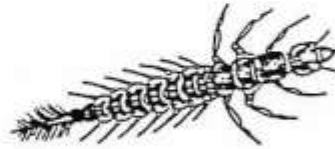
11. A. Fluffy or branched gill tufts under abdomen.....**DOBSONFLY LARVA**
("Hellgrammite")
Order Megaloptera, Family Corydalidae
Feeding Group: PREDATOR



3/4"-4"
(from IWL)

- B. Not as above.....go to 12

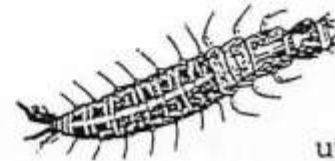
12. A. Abdomen ends in single, unforked, long, hairlike tail....**ALDERFLY LARVA**
Order Megaloptera, Family Sialidae
Feeding Group: PREDATOR



up to 1"

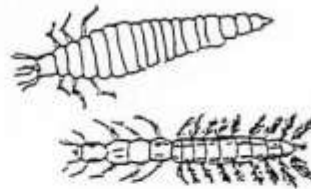
- B. Not as above.....go to 13

13. A. Abdomen ends in a pair of prolegs, each with 2 hooks.....**FISHFLY LARVA**
Order Megaloptera, Family Corydalidae
Feeding Group: PREDATOR



up to 1 1/2"

- B. Not as above; large, obvious mouthparts
.....**AQUATIC BEETLE LARVA**
Order Coleoptera
Feeding Group: PREDATOR



1/4"-1"
(from IWL)

14. A. Has small but distinct head; body less than 1/2" long.....go to 15

- B. Appears not to have a head, although it may be retracted into body.....go to 16

15. A. Body widens at bottom end (bowling pin shaped); may be attached to substrate; dark head....**BLACK FLY LARVA**
Order Diptera, Family Simuliidae
Feeding Group: FILTERER COLLECTOR



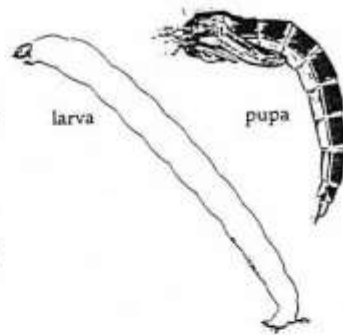
pupa

larva

up to 1/2"

(all drawings on this page from McCafferty: *Aquatic Entomology*, unless otherwise noted)

15. B. Both ends of body about the same width; tiny pair of prolegs under head & at tip of abdomen.....MIDGE LARVA
 Order Diptera, Family Chironomidae
 Feeding Group: GATHERER COLLECTOR



up to 1/2"

16. A. Fleshy Caterpillar-like body.....go to 17
 B. Body not caterpillar-like.....go to 18

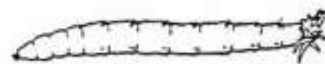
17. A. Two feathered "horns" at back end; caterpillar-like legs
WATERSNIPE FLY LARVA
 Order Diptera, Family Athericidae
 Feeding Group: PREDATOR



1/4"-1"

last segment not swollen - SHREDDER

- B. Can be up to 4" long; head not apparent because it is retracted into body; may have fleshy, finger-like extensions at one end
CRANEFLY LARVA
 Order Diptera, Family Tipulidae
 Feeding Group: SHREDDER OR PREDATOR



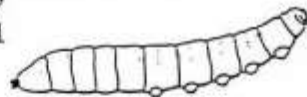
18. A. Body without hard shell..... go to 19
 B. Body with hard shell.....go to 21



1/3"-4"

last segment swollen or no fingerlike extensions - PREDATOR
 (all from Cummins)

19. A. Flattened, unsegmented, worm-like body; distinct eye spots; gliding movement.....PLANARIAN
 (Flatworm)



up to 3/4"
 (from IWL)

Class Turbellaria
 Feeding Group: PREDATOR or PARASITE



- B. Segmented body.....go to 20

20. A. Flattened body with suckers at each end
LEECH
 Class Hirudinea
 Feeding Group: PREDATOR or PARASITE










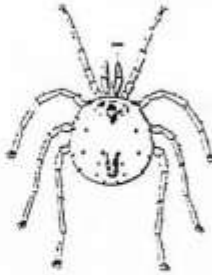
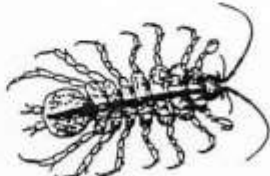
1/4"-2"
 (bottom figure from IWL)



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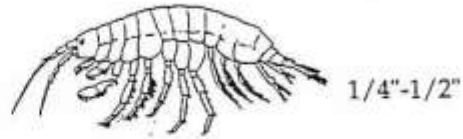
20. B. Segmented, earthworm-like body
**AQUATIC EARTHWORM**
 Class Oligochaeta
 Feeding Group: GATHERER COLLECTOR
- 
- 1/4"-2"
21. A. Snail-like.....go to 21
- B. Body enclosed within two hinged shells
**FRESHWATER CLAM or MUSSEL**
 Class Pelecypoda
 Feeding Group: FILTERER COLLECTOR
- 
- 
- (both from IWL)
22. A. Has operculum (hard covering used to close the opening).....**GILLED SNAIL**
 Class Gastropoda, Order Prosobranchia
 Feeding Group: SCRAPER
- 
- (right from IWL)
- B. No operculum; may be spiral-shaped, limpet-like, or coiled in one plane
**LUNG-BREATHING SNAIL**
 Class Gastropoda, Order Pulmonata
 Feeding Group: SCRAPER
- 
- 
- 
- (both from IWL)
23. A. Looks like spider; may be very tiny; has 8 legs.....**AQUATIC MITE**
 Class Arachnida, Order Hydracarina
 Feeding Group: PREDATOR
- 
- up to 1/8"
- B. Not as above.....go to 24
24. A. Lobster or shrimp-like.....go to 25
- B. Armadillo shaped body, wider than high; crawls slowly on bottom
**AQUATIC SOWBUG**
 Subphylum Crustacea, Order Isopoda
 Feeding Group: SHREDDER
- 
- 1/4"-3/4"

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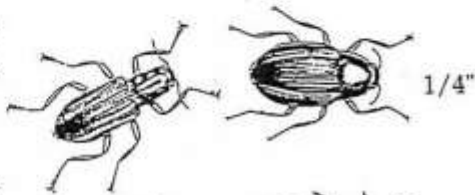
25. A. Looks like tiny shrimp; swims quickly on its side.....SCUD
Subphylum Crustacea, Order Amphipoda
Feeding Group: SHREDDER



- B. Looks like small lobster; has 2 large front claws (10 legs total).....CRAYFISH
Subphylum Crustacea, Order Decapoda
Feeding Group: GATHERER COLLECTOR

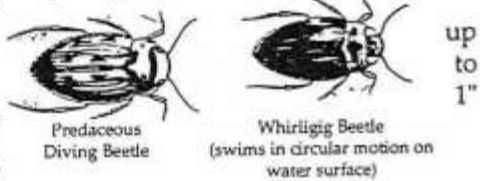


26. A. Beetle-like, crawls slowly on bottomRIFFLE BEETLE ADULT
Order Coleoptera, Family Elmidae
Feeding Group.: SCRAPER or GATHERER COLLECTOR



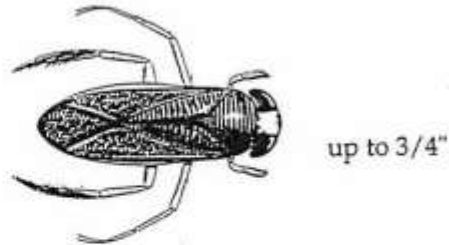
- B. Beetle-like, swims quickly.....go to 27

27. A. Wings meet along the midline of back side of body, they do not overlapBEETLE ADULT
Order Coleoptera
Feeding Group: MOST ARE PREDATORS



27. B. Wings overlap on backside, usually form a visible triangular pattern just below head.....go to 28

28. A. Front legs are shorter than mid and hind legs; propels itself with oar-like strokes,WATER BOATMAN
Order Hemiptera, Family Corixidae
Feeding Group: VARIES



- B. Similar to backswimmer but swims upside down, on its backBACKSWIMMER
Order Hemiptera, Family Notonectidae
Feeding Group: PREDATOR



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