

Dichotomous Key to Stream Macroinvertebrates of Butler Creek

1. A. Segmented legs (jointed/can bend 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 except legs, may appear beetle-like.....go to 27
4. A. Easily visible head and legs; Body longer than it is wide.....go to 5
B. Head & legs concealed beneath body; Body oval & flat..... (**Water Penny**)
Order Coleoptera, Family Psephenidae
5. A. 2 or 3 distinct tail-like structures.....go to 6
B. No tail-like structures.....go to 8
6. A. 3 paddle or feather shaped tails at the end of abdomen; no gills along sides of abdomen or thorax.....
.....(**Damselfly nymph**) *Order Odonata, Suborder Zygoptera*
B. 2 or 3 distinct *hair-like* tails, with gills along sides of abdomen or thoraxgo to 7
7. A. 2-3 tails; plate-like or hair-like gills along sides of abdomen; one hook on end of each leg.....
.....(**Mayfly nymph**) *Order Ephemeroptera*
B. 2 tails; may have hairy gills under thorax; 2 hooks on end of each leg.....(**Stonefly nymph**)
Order Plecoptera
8. A. Fat abdomen; large eyes..... (**Dragonfly nymph**)
Order Odonata, Suborder Anisoptera
B. Not as above.....go to 9
9. A. May be hiding in case made of gravel or plant part (swimming stick); abdomen ends in pair of prolegs which may be hidden by hairs; each proleg has single hook on end, sometimes fused together; *if specimen meets this description but has well-developed lateral filaments go to 11*.....(**Caddisfly larva**)
Order Trichoptera
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
11. A. Fluffy or branched gill tufts under abdomen.....(**Dobsonfly larva**)
Order Megaloptera Family Corydalidae
B. Not as above.....go to 12
12. A. Abodmen ends in single, unforked, long, hairlike tail..... (**Alderfly larva**)
Order Megaloptera Family Sialidae
B. Not as above.....go to 13

13. A. Abdomen ends in a pair of prolegs, each with 2 hooks..... (**Alderfly larva**)
Order Megaloptera Family Corydalidae
 B. Not as above; large with obvious mouthparts..... (**Aquatic Beetle larva**)
Order Coleoptera
14. A. Has small but distinct head; body less than ½ inch 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*
 B. Both ends of body about the same width; tiny pair of prolegs under head & tip of abdomen
 (**Midge larva**) *Order Diptera Family Chironomidae*
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 leg.....(**Watersnipe Fly larva**)
Order Diptera Family Athericidae
 B. Can be up to 4 inches 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*
18. A. Body without hard shell.....go to 19
 B. Body with hard shell.....go to 21
19. A. Flattened, unsegmented, worm-like body; distinct eye spots; gliding movement.....(**Planaria**)
Class Turbellaria
 B. Segmented body.....go to 20
20. A. Flattened body with suckers at each end.....(**Leech**) *Class Hirudinea*
 B. Segmented, earthworm-like body..... (**Aquatic Earthworm**) *Class Oligochaeta*
21. A. Snail-like.....go to 22
 B. Body enclosed within two hinged shells..... (**Freshwater Clam or Mussel**) *Class Pelecypoda*
22. A. Opens to the right. Has operculum (hard covering used to close the opening).....(**Gilled Snail**)
Class Gastropoda Order Prosobranchia
 B. Opens to the left. No operculum; may be spiral-shaped.....(**Lung-Breathing Snail**)
Class Gastropoda Order Pulmonata
23. A. Looks like spider with 8 legs; may be very tiny..... (**Aquatic Mite**)
Class Arachnida Order Hydracarina
 B. Not as above.....go to 24
24. A. Lobster or shrimp-like.....go to 25
 B. Flat segmented body with pair of legs on every segment; crawls slowly on bottom..... (**Aquatic Sowbug**) *Subphylum Crustacea Order Isopoda*
25. A. Looks like a shrimp; may swim quickly on its side.....go to 26
 B. Looks like small lobster; has front claws (10 legs total)..... (**Crayfish**)
Subphylum Crustacea Order Decapoda

26. A. Looks like tiny shrimp; swims on side; may carry roe (eggs).....(**Scud**)
Subphylum Crustacea Order Amphipoda
- B. A clear shrimp with large eyes; long antennae.....(**Freshwater Shrimp**)
Subphylum Crustacea Order Decapoda
27. A. Beetle-like, crawls slowly on bottom..... (**Riffle Beetle**)
Order Coleoptera Family Elmidae
- B. Beetle-like, swims quickly.....go to 28
28. A. Wings meet along the midline of back side of body, do not overlap.....(**Adult Beetle**)
Order Coleoptera (ex. Diving beetles, Whirligig beetles)
- B. Wings overlap on backside, usually form a visible triangular pattern just below head.....go to 29
29. A. Front legs are shorter than mid and hind legs; propels itself with oar-like strokes....(**Water Boatman**)
Order Hemiptera Family Corixidae
- B. Similar to water boatman but swims upside down, on its back.....(**Backswimmer**)
Order Hemiptera Family Notonectidae