



Guide to Aquatic Macroinvertebrates: The Basics

© 2023 Izaak Walton League of America

Riffle Beetle Larva



- Small crunchy, comma shaped body, up to 1/2 inch
- 3 pairs of segmented legs
- Gills and 2 hooks on posterior end

Riffle Beetle Adult



- Oblong beetle shape, long antennae
- Small, 1/16 - 1/8 of an inch
- Walks slowly underwater, doesn't swim on surface

Water Penny



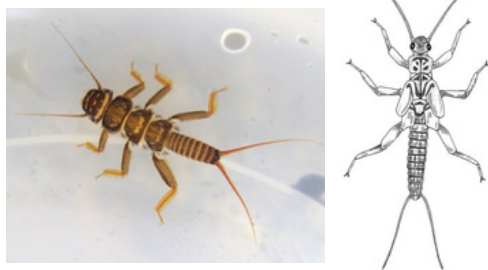
- Flat saucer-shaped body
- 3 tiny pairs of legs on the underside
- Up to 1/2 inch

Mayfly



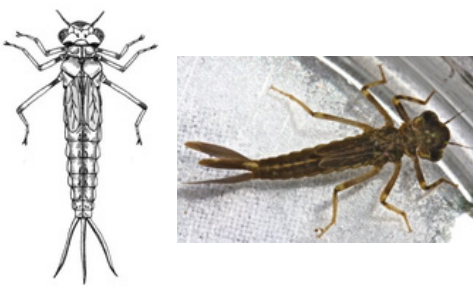
- Feather or leaf-like gills on the abdomen
- Typically has 3 tails (can have 2)
- 3 pairs of segmented legs

Stonefly



- Long antennae
- 2 tails
- No gills on abdomen
- 3 pairs of segmented legs

Damselfly



- 3 broad oar-shaped tails
- Long, narrow body with no gills on abdomen
- 3 pairs of spindly segmented legs

Common Net Spinning Caddisfly



- Head and first three thoraxes are hardened
- 2 fleshy, hairy hooks on the posterior
- 3 pairs of segmented legs
- Gill tufts on abdomen

Case-making/Free living Caddisfly



- May have a case constructed of sand, gravel, leaves or twigs
- Hardened head with grub-like soft body
- 3 pairs of segmented legs with hooks on the posterior

Dragonfly



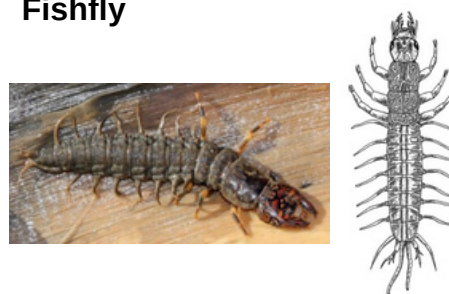
- Oval/round abdomen (may be wider than it is tall)
- Large eyes
- 3 pairs of segment legs

Dobsonfly (Hellgrammite)



- 8 pairs of fleshy appendages on abdomen
- Cotton-like gill tufts between appendages
- Large pinching jaw

Fishfly



- 8 pairs of fleshy appendages on abdomen
- No gill tufts
- Forked posterior with 2 fleshy tails

Alderfly



- 7 pairs of fleshy appendages on abdomen, no gill tufts
- One long thin branched tail



Guide to Aquatic Macroinvertebrates: The Basics

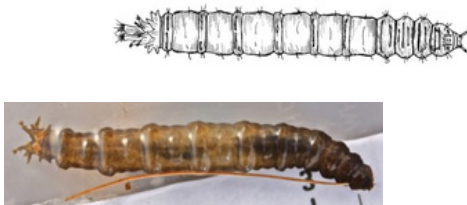
© 2023 Izaak Walton League of America

Midge



- Uniformly wide, segmented body
- Distinct head
- Pair of prolegs behind the head and at the posterior
- Up to 1/4 inch

Crane Fly



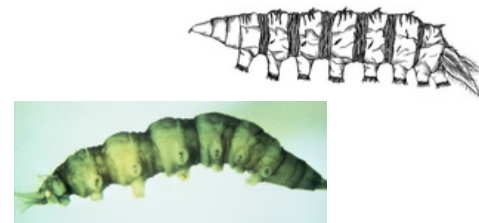
- Plump, caterpillar-like, segmented body
- 4 fingerlike lobes at the posterior
- 1/2 - 1 inch

Black Fly



- Bowling pin shaped body
- Distinct head with one proleg directly underneath
- Up to 1/4 inch

Water Snipe



- Soft, fleshy body with tapered ends
- Caterpillar-like legs
- 2 feathery 'horns' at the posterior

Crayfish



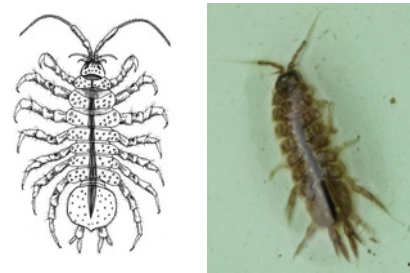
- Lobster-like body
- Two large claws near the head
- 1/2 - 5 inches

Scud



- Shrimp-like body, no hard covering
- Long antennae
- 7 pairs of legs
- Swims quickly on its side

Sowbug



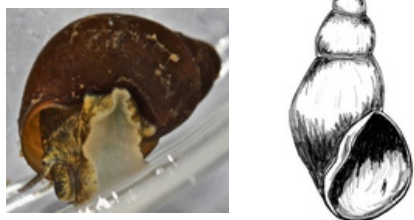
- Oblong body
- 2 pairs of antennae, one longer than the other
- Armor-like appearance

Clams & Mussels



- Fleshy body enclosed between two-hinged shells
- 1/8 - 5 inches

Gilled Snail



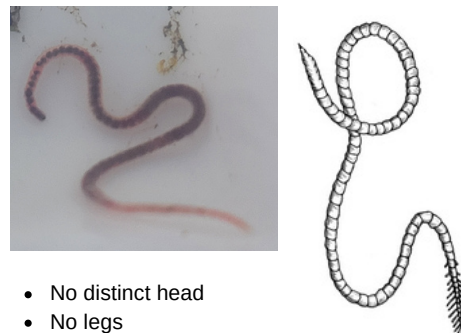
- Shell opens to the right when holding the shell with the narrow end pointing up and the opening facing you
- Has an operculum (thin plate covering the shell opening)

Lunged Snail



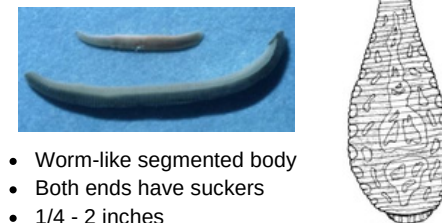
- Shell opens to the left when holding the shell with the narrow end pointing up and the opening facing you
- No operculum
- Shell might be in a coiled shape

Aquatic Worm



- No distinct head
- No legs
- 1/4 - 2 inches

Leech



- Worm-like segmented body
- Both ends have suckers
- 1/4 - 2 inches

Flatworm (Planaria)



- Soft elongated body
- Triangular shaped head with eyes on top