

Macroinvertebrate Identifications:

*Common Name (Order)

Mayfly Nymph (Ephemeroptera): elongate, cylindrical to flattened bodies. Range in length from 3-20mm. Well-developed eyes and chewing mouthparts. 6 single-clawed legs. Developing fore wing pads while hind wing pads may be present or absent. Gills present at the sides of the abdomen. May have two or three elongate tails (most often 3). Common Ephemeroptera Heptageniidae has a flattened body, three tails, abdominal gills, and eyes located on the top of a flattened head.



Family: Heptageniidae



Family: Baetidae



Family: Oligoneuridae

Stonefly Nymph (Plecoptera): elongate, somewhat flattened to cylindrical bodies. Range in length from 5-35mm (not including tails). Widely separated eyes on the sides of the head and chewing mouthparts. 6 double-clawed legs. Developing wing pads present. Gills may be present on mouthparts, thorax, leg bases, and/or abdomen. Gills are fingerlike or filamentous. Two tails.



Family: Perlidae



Family: Pteronarsidae



Family: Peltoperlidae

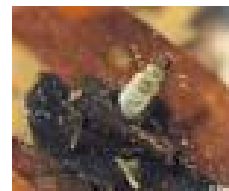
Caddis Fly Larvae (Trichoptera): elongate, caterpillar-like forms between 2-40mm. Small, simple eyes. Reduced antennae. Wing pads absent. Two stubby anal prolegs, each with an anal claw. No tails. Filamentous gills may be present. Two groups:
¹*Casebuilders*- build cases out of sand, stone, wood, or plant matter. Cases are usually elongate and tube-like in shape. These caddis flies are mobile and bring their cases with them.



Family: Limnephilidae



Family: Brachycentridae



Family: Limnephilidae

²Net-spinners (free-living): do not have cases that are carried around with them. These caddis flies are free-living and anchor silken nets to substrate materials with which to catch suspended food materials.



Family: Hydropsychidae



Family: Philopotamidae



Family: Polycentropodidae

Dragonfly Nymph (Odonata): elongate, robust forms between 10-60mm. Eyes are moderately developed. Two pairs of wing pads are present. No gills. No tails. End of abdomen has three short, wedge-shaped structures. 6 two-clawed legs. Usually less flattened than stoneflies and more robust.



Family: Aeshnidae



Family: Gomphidae



Family: Petaluridae

Damselfly Nymph (Odonata): elongate and slender, between 10-60mm. Eyes moderately developed. Two pairs of wing pads present. No gills. No tails. End of abdomen has three elongate, leaf-like caudal lamellae. Elongated abdomen.



Family: Calopterygidae



Family: Calopterygidae



Family: Coenagrionidae

Alderfly Larvae (Megaloptera): elongate and slightly flattened forms between 10-25mm. Well-developed chewing mouthparts. Short, filamentous antennae. Poorly developed eyes. Wing pads absent. Abdomen has 7 pairs of segmented lateral filaments and a single, unbranched terminal filament (end of abdomen).



Family: Sialidae



Family: Sialidae



Family: Sialidae

Helgramite Larvae (Megaloptera): elongate and slightly flattened forms between 25-90mm. Very well-developed mouthparts. Simple eyes. Wing pads absent. Eight pairs of lateral filaments, and abdomen ends in two anal prolegs. Each proleg has two terminal hooks.



Family: Corydalidae



Family: Corydalidae



Family: Corydalidae

Black Fly Larvae (Diptera): Soft bodied with bulbous abdomen. General shape like a bowling pin. Pair of prothoracic prolegs just below the head. Mouth brush (fan-like) over front of head (may be hard to see with naked eye)



Family: Simuliidae



Family: Simuliidae



Family: Simuliidae

Midge Larvae (Diptera): slender, cylindrical but slightly curved with two terminal prolegs and a pair of prothoracic prolegs just below a well-developed head. Simple eyes. Whitish to yellowish in color. 2-20mm.



Family: Chironomidae
Chironomidae



Family: Chironomidae



Figure 1 - Lateral view of head of Chironomidae larvae

Family:

Most True Flies (Diptera): Fleshy elongate forms. May or may not have developed prolegs along abdomen. Head not well-developed and usually retracted into the thorax. Anterior end usually tapered.



Family: Athericidae



Family: Tipulidae



Family: Tabanidae

Riffle Beetle (Coleoptera): *Larval diagnosis*- Elongate and cylindrical forms. Hard bodied. Single-clawed legs. In most cases, filamentous gills at posterior end. Simple eyes.

Adult diagnosis: Somewhat elongate. 1-8mm. Antennae are generally slender but can be clubbed. If clubbed, antennae are short and simple. More complex eyes. Small dimples laterally lined along the shell. Double-clawed legs. Claws are long and hook-like.



Family: Elmidae (larval)



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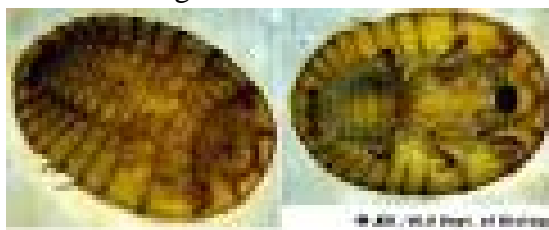


Family: Elmidae (adult)

Water Penny (Coleoptera): Flattened, disk-like forms. Almost as broad as long. 4-6mm. Head and legs concealed by round shell from above. May have filamentous, branched gills located below third set of legs.



Family: Psephenidae



Family: Psephenidae

Other beetle larvae (Coleoptera): May be various forms.



Family: Dytiscidae



Family: Gyrinidae



Family: Hydrophilidae

Crayfish: Small, lobster-like forms. Five pairs of legs. The first pair is robust and pincer-like. 10-150mm. Can be a variety of colors (red, blue, brown).



Snails: Single, usually drab-colored shell, either spiraled or coiled. Wide range of sizes from 2-70mm.



Aquatic Worms: Soft-bodied, elongate forms without developed features. Can include: planarians, leeches, horsehair worms, nematodes, and aquatic earthworms.



Aquatic Earthworm



Planarian



Leech

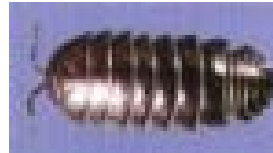


Horsehair Worm

Scuds: Small shrimp-like forms. Laterally flattened. Most often yellow or white in color. 5-20mm. Seven pairs of legs with the first two pairs modified for grasping.



Sowbugs: Flattened forms. Bilaterally symmetrical, armored, and highly segmented bodies. 5-20mm. 7 pairs of well-developed legs. First pair of legs are modified for grasping. One set of relatively long, filamentous antennae and one shorter set. Simple eyes. Flat and round posterior abdominal area.



Clams: Bivalves (2-piece shell with single hinge). Commonly oval in shape with concentric growth lines. Color may range from black to white or may be yellow, green, or brown. Wide range of size from 2-250mm. Protruding body parts have no head, eyes, or tentacles.

