A Selection of Aquatic Macroinvertebrates of Illinois, USA

Organized by Illinois RiverWatch Taxa Categories

Produced by Jim Bland. © Photos by Jim Bland [ilmbland@comcast.net]. **version** 1. 04/2012
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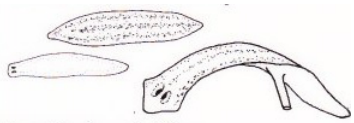
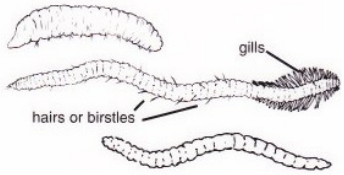
- Soft bodied,flat and non-segmented
- Gray,brown, or black, often mottled striped or spotted.Ventral usually gray
- May have two eyespots on the dorsal surface
- Appearance changes drastically when preserved; body goes gray, specimen curls into a "C" shape
- Specimens are fragile and easily destroyed in handling



Length: 1mm to 30mm

Turbellaria **1**
PLATYHELMINTHES
Flatworms

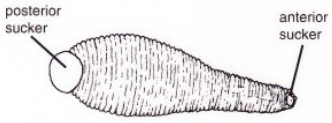
- Soft-bodied, many segments, and elongate
- No distinct head region
- May have bristles, hairs or gills when viewed under the microscope
- Beige to red when alive; gray when preserved
- Often curl into a "curly-Q" when preserved



Length: 5mm to 40mm

Oligochaeta **2**
ANNELIDA
Aquatic worms

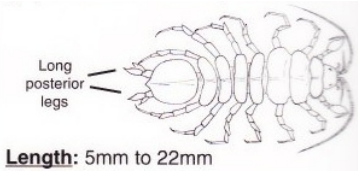
- Segmented worms that are dorso-ventrally flattened (top to bottom)
- Suckers on both ends,on the ventral or bottom side.
- Anterior sucker small or large; posterior sucker always large
- May be solid brown or reddish, or brightly colored and patterned.
- Many turn gray or cream when preserved



Length: 5mm to 40mm (may stretch out in life or contract and curl when preserved).

Hirudinea **3**
ANNELIDA
Leaches

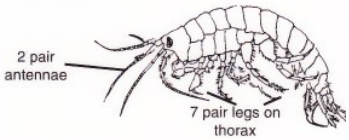
- Crustaceans related to pill bugs
- 7 pairs of legs on thorax; posterior legs longer than anterior legs; grasping claws on first pair of legs
- Six (6) pairs of appendages on abdomen; the last of which projects posteriorly
- Eyes unstalked and body dorso-ventrally flattened
- Brownish and often mottled in life
- Dull cream color when preserved



Length: 5mm to 22mm

Isopoda **4**
CRUSTACEA
Sowbugs

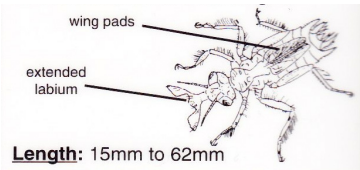
- Shrimp-like crustaceans
- 7 pairs of legs on the thorax; 1st two pairs with grasping claws
- Head with unstalked eyes and two pair of antennae
- Bodies laterally flattened (from side to side); move along the substrate on their sides
- White, gray or cream colored when preserved



Length: 5mm to 21mm

Amphipoda **5**
CRUSTACEA
Scuds

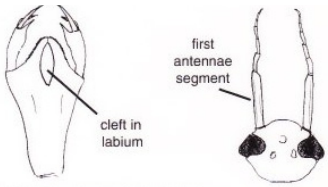
- Nymphs with stout rugged bodies; three pairs of jointed legs; large well developed eyes
- Mask-like labium (lower jaw) that is hinged and often fanged
- Older specimens with distinctive wing pads on the thorax
- Three to five short pointed structures at the end of the abdomen



Length: 15mm to 62mm

Odonata: Anisoptera **6**
INSECTA
Dragonfly nymphs

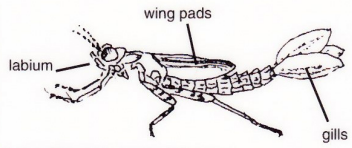
- Nymphs differ from narrow-winged damsel flies by:
- Elongated first segment of the antennae
- Labium (lower lip) with a large, diamond shaped center cleft
- The middle gill filament is shorter than the lateral filaments
- Veins within the gill filaments are not apparent



Length: 30mm to 40mm

Odonata: Calopterigidae **7**
INSECTA
Broad-winged damselflies

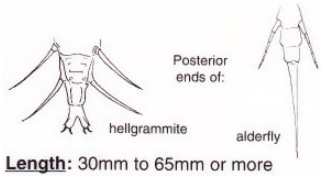
- Nymphs with slender bodies, three pairs of jointed legs, and well developed eyes
- Mask-like labium (lower lip)
- Lower lip is extensible for catching prey
- Distinct win-pads on the thorax
- Three leaf like gills at the end of the abdomen



Length: 10mm to 22mm

Odonata: Coenagrionidae **8**
INSECTA
Narrow-winged damselflies

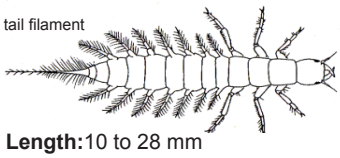
- Elongated dorso-ventrally flattened; three pairs of jointed legs, each with two claws
- Abdomional segments 1-8 have two segmented lateral filaments
- End of last abdominal segment has fleshy , non-jointed prolegs
- Each proleg with a dorsal filament and two claws (hellgrammites) or a single, long filament (alderflies)



Length: 30mm to 65mm or more

Megaloptera: Coryalidae **9**
INSECTA
Hellgrammites and Fishflies

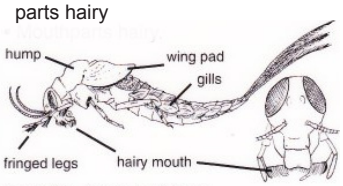
- Abdomen terminates in a single tail filament with setae (hairs)
- 6 to 8 filament on each side of abdomen
- All three thoracic segments are schleratized (hardened)
- Gills are located at the base of each abdominal filament
- Color brownish; dorso-ventrally flattened



Length:10 to 28 mm

Megaloptera: Sialidae **10**
INSECTA
Alderflies

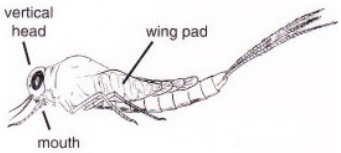
- Three pairs of jointed legs, each with a single claw
- Three tail-like filaments with dense fringe on inside edges
- One pair of wingpads present
- Flat gills with tufts along abdomen
- Thorax extremely hunched and head angle slightly beyond vertical
- Forelegs with dense comb; mouth-parts hairy



Length: 9mm to 17mm

Ephemeroptera: Oligonueridae **11**
INSECTA
Torpedo mayflies

- Three pairs of jointed legs each with a single claw
- Three tail-like filaments
- One pair of wingpads apparent
- Flattened gills along abdomen
- Head vertical with mouthparts pointing downward



Length: 3mm to 14mm

Ephemeroptera: Baetidae and Siphlonuridae **12**
INSECTA
Swimming mayflies