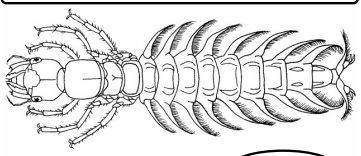
## Dobsonfly Larva

Group 1

Order: Megaloptera Family: Corydalidae



Predator >16mm

**Dorsoventrally flattened -** body is flat on lower and upper surfaces

**Cutaneous breathing -** most have gills

**Generations -** Less than one per year

**Life span**: 1-4 years, adults short lived

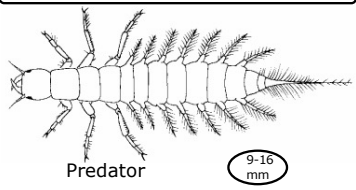
Cold-cool eurythermal temperature (0-15°C)

*One of Wisconsin's largest insects!*

## Alderfly Larva

Group 1

Order: Megaloptera Family: Sialidae



Predator 9-16 mm

**Dorsoventrally flattened -** body is flat on lower and upper surfaces

**Cutaneous breathing -** most have gills

**Generations -** Less than one per year

**Life span**: 1-2 years, adults short lived

No strong temperature preference

*Adults resemble lacewings.*

## Water Snipe Fly Larva

Group 1

Order: Diptera Family: Athericidae

Predator 9-16 mm

**Tubular body shape**

**Cutaneous breathing**

**Generations -** One per year

**Life span**: 1 year, adults short lived

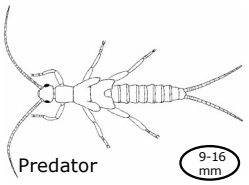
No strong temperature preferences

*Adults practice communal egg laying above water*

## Stonefly Larva (1 of 4)

Group 1

Order: Plecoptera Family: Perlodidae



Predator 9-16 mm

**Dorsoventrally flattened -** body is flat on lower and upper surfaces

**Cutaneous breathing**

**Generations -** One per year

**Life span**: 1 year, adults short lived

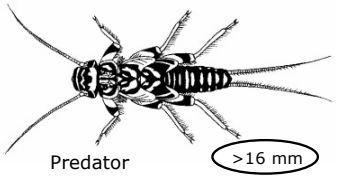
Cold-cool eurythermal temperature (0-15° C)

*Adults of some species feed on pollen*

## Stonefly Larva (2 of 4)

Group 1

Order: Plecoptera Family: Perlidae



Predator >16 mm

**Dorsoventrally flattened -** body is flat on lower and upper surfaces

**Cutaneous breathing -** most have gills

**Generations -** One per year

**Life span**: 2-3 years, adults short lived

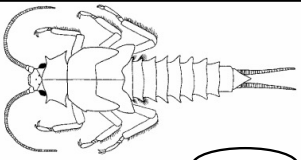
Cold-cool eurythermal temperature (0-15° C)

*Some species are territorial*

## Stonefly Larva (3 of 4)

Group 1

Order: Plecoptera Family: Pternoarcyidae



Shredder >16 mm

**Tubular body**

**Cutaneous breathing -** most have gills

**Generations-** Less than one per year

**Life span**:3 years, adults short lived

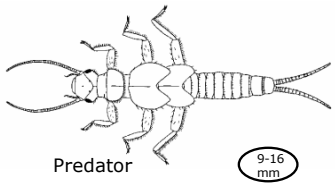
Cold-cool eurythermal temperature (0-15° C)

*Most emerge synchronously*

## Stonefly Larva (4 of 4)

Group 1

Order: Plecoptera Family: Chloroperlidae



Predator 9-16 mm

**Dorsoventrally flattened-** body is flat on lower and upper surfaces

**Cutaneous breathing -** some with gills

**Generations -** one per year

**Life span**: 1-2 years

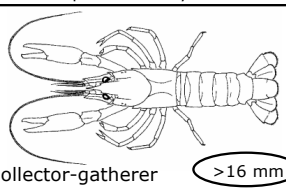
Cold-cool eurythermal temperature (0-15° C)

*Green or yellow as adults*

## Crayfish

Group 2

Order: Decopoda Family: Cambaridae



Collector-gatherer >16 mm

**Tubular body**

**Gills**

**Generations -** One per year

**Life span**: 2-3 years, long lived adults

No strong temperature preference

*Burrowing activity is important for other species!*

## Freshwater Mussels

Group 2

Families: Unionidae and Margaritiferidae

Collector-filterer >16 mm

**Flattened body**

**Gills**

**Generations -** One per year

**Life span**: 2-9 years to mature, long lived (50+)

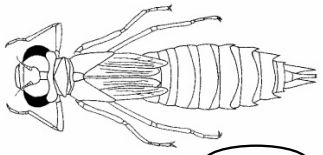
No strong temperature preference

*Larvae (glochidia) are parasites of fish!*

## Dragonfly Larva (1 of 3)

Group 2

Order: Odonata Family: Aeshnidae



Predator >16 mm

**Streamlined Body**

**Cutaneous Breathing with internal gills**

**Generations -** One per year

**Life span**:1-3 years, long lived adults

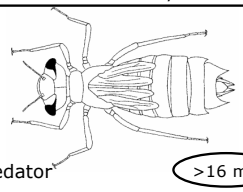
No strong temperature preference

*Larvae inhabit aquatic plants*

## Dragonfly Larva (2 of 3)

Group 2

Order: Odonata Family: Libelluidae



Predator >16 mm

**Bluff / blocky body**

**Cutaneous Breathing with internal gills**

**Generations -** One per year

**Life span**:1-3 years, long lived adults

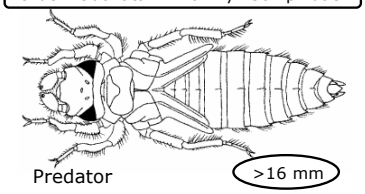
No strong temperature preference

*Adults can be territorial*

## Dragonfly Larva (3 of 3)

Group 2

Order: Odonata Family: Gomphidae



Predator >16 mm

**Bluff / blocky Body or somewhat dorsoventrally flattened**

**Cutaneous Breathing, Gills**

**Generations -** One per year

**Life span**:1-4 years, long lived adults

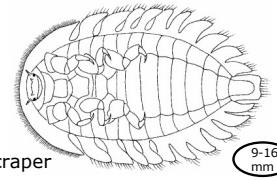
No strong temperature preference

*Larvae burrow in the substrate*

## Water Penny

Group 2

Order: Coleoptera Family: Psephenidae



Scraper 9-16 mm

**Dorsoventrally flattened-** body is flat on lower and upper surfaces

**Gills**

**Generations -** Less than one per year

**Life span**:2 years, adults short lived

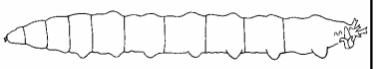
No strong temperature preference

*Adults are terrestrial*

## Crane Fly

Group 2

Order: Diptera Family: Tipulidae



Shredder 9-16 mm

**Tubular body**

**Cutaneous breathing -** most have gills

**Generations -** One per year

**Life span**:1-2 years, adults short lived

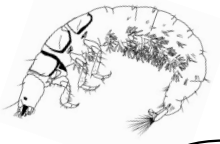
No strong temperature preference

*Adults look like large mosquitoes!*

## Caddisfly larva (1 of 3)

Group 2

Order: Trichoptera Family: Hydropsychidae



Collector-filterer >16 mm

**Tubular body**

**Cutaneous breathing -** most have gills

**Generations -** 1-2 per year

**Life span**:1 year, adults short lived

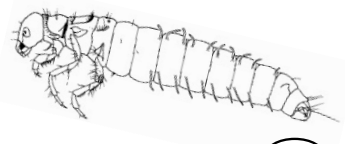
Temperature preference varies, some cool, cold, or warm

*Larvae do not have a case; small-moth like adults*

## Caddisfly larva (2 of 3)

Group 2

Order: Trichoptera Family: Leptoceridae



Collector-gather/ Predator 9-16 mm

**Tubular body**

**Cutaneous breathing -** most have gills

**Generations -** One per year

**Life span**:1 year, adults short lived

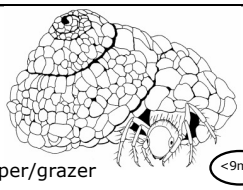
Temperature preference varies, some cool, cold, or warm

*Larvae construct a long cylindrical case*

## Caddisfly larva (3 of 3)

Group 2

Order: Trichoptera Family: Helicopsychidae



Scraper/grazer

<9mm

**Tubular body**

**Cutaneous breathing**

**Generations -** One per year

**Life span**:1 year, adults short lived

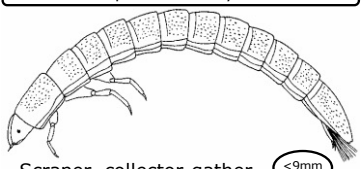
Warm eurythermal temperature (15-30° C)

*Snail shaped case*

## Riffle Beetle Larva

Group 2

Order: Coleoptera Family: Elmidae



Scraper, collector-gather

<9mm

**Tubular body**

**Cutaneous breathing, Spiracular gills**

**Generations -** One per year

**Life span**:1 year, adults long lived

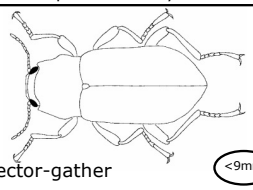
Cold-cool eurythermal temperature (0-15° C)

*Some species live in woody debris!*

## Riffle Beetle

Group 2

Order: Coleoptera Family: Elmidae



Collector-gather

<9mm

**Bluff / blocky body**

**Plastron -** traps air under wing covers

**Generations -** One per year

**Life span**:1 year, adults long lived

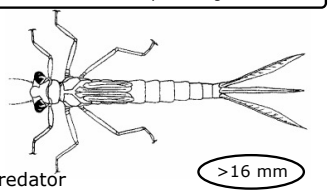
Cold-cool eurythermal temperature (0-15° C)

*Some species live in woody debris!*

## Damselfly larva (1 of 2)

Group 2

Order: Odonata Family: Coenagrionidae



Predator

>16 mm

**Tubular body**

**Cutaneous breathing with external** gills

**Generations -** 1 per year

**Life span**:1 year, adults short lived

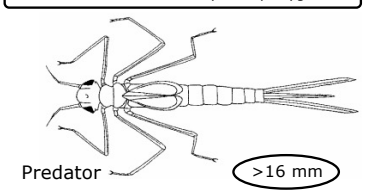
No strong temperature preferences

*Larvae swim like small fish!*

## Damselfly larva (1 of 2)

Group 2

Order: Odonata Family: Calopterygidae



Predator

>16 mm

**Tubular body**

**Cutaneous breathing with external gills**

**Generations -** 1 per year

**Life span**:1-2 years, adults long lived

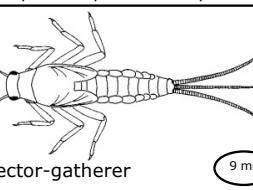
No strong temperature preferences

*Many adults are iridescent*

## Mayfly Larvae (1 of 4)

Group 2

Order: Ephemeroptera Family: Baetidae



Collector-gatherer

9 mm

**Streamlined body**

**Cutaneous breathing -** most have gills

**Generations -** 1-2 per year

**Life span**:1 years, adults very short lived

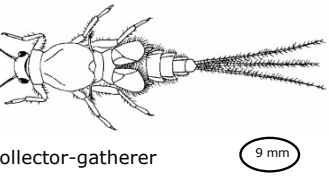
Temperature preference varies, some cool, cold, or warm

*Larvae are strong swimmers!*

## Mayfly Larvae (2 of 4)

Group 2

Order: Ephemeroptera Family: Caenidae



Collector-gatherer

9 mm

**Dorsoventrally flattened -** body is flat on lower and upper surfaces

**Cutaneous breathing -** most have gills

**Generations -** 1-2 per year

**Life span**:1 year, adults very short lived

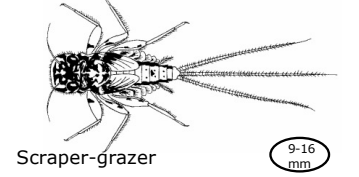
Warm eurythermal (15-30 °C)

*Adults may only live for a few hours!*

## Mayfly Larvae (3 of 4)

Group 2

Order: Ephemeroptera Family: Heptageniidae



Scraper-grazer

9-16 mm

**Dorsoventrally flattened -** body is flat on lower and upper surfaces

**Cutaneous breathing -** most have gills

**Generations -** 1 per year

**Life span**:1 year, adults short lived

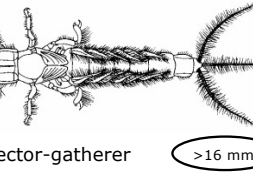
Temperature varies, most cool or cold

*Larvae are terrible swimmers!*

## Mayfly Larvae (4 of 4)

Group 2

Order: Ephemeroptera Family: Ephemeridae



Collector-gatherer

>16 mm

**Tubular body**

**Cutaneous breathing -** most have gills

**Generations -** 1 per year

**Life span**:1 year, adults very short lived

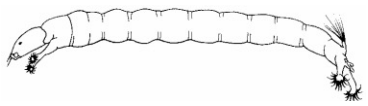
No strong temperature preference

*Larvae burrow in substrate*

## Non-red Midge Larva

Group 3

Order: Diptera Family: Chironomidae



Collector-gatherer

9-16 mm

**Tubular body**

**Cutaneous breathing -** some have gills

**Generations -** One per year

**Life span**:1 year, adults short lived

No strong temperature preference

*Clouds of adults (mating swarms) can be observed over water*

## Black Fly Larva

Group 3

Order: Diptera Family: Simuliidae

Collector-filterer

<9 mm

**Tubular body**

**Cutaneous breathing**

**Generations -** One per year

**Life span**: Less than 1 year, adults short lived

No strong temperature preference

*Adult females feed on blood*

## Snails (Orb or Gilled)

Group 3

Family: Lymanaeidae and Planorbidae

Grazers

>16 mm

**Coiled body**

**Pulmonary Sac-** some have hemoglobin

**Generations-** 1 per year

**Life span:** 1 year, adults long lived

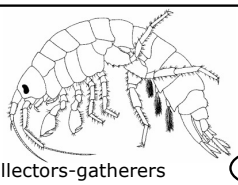
No strong temperature preferences

*Important host for flatworm parasites*

## Amphipod or Scud

Group 3

Order: Amphipoda Families: Hyalellidae and Gammaridae



Collectors-gatherers

9-16 mm

**Laterally-flattened** – body is flat side to side

**Gills**

**Generations -** 1 per year

**Life span**:1-2 years, adults long lived

No strong temperature preference

*Appear to swim on their sides*

## Pouch Snail

Group 4

Family: Physidae and others

Grazers

9-16 mm

**Coiled body**

**Air Sac**

**Generations -** 1 per year

**Life span**:1 year, adults long lived

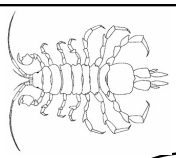
No strong temperature preference

*Some have the ability to waggle their shell*

## Aquatic Sowbug

Group 4

Class: Isopoda Family: Asellidae



Collector-gatherer

>16 mm

**Dorsoventrally flattened -** body is flat on lower and upper surfaces

**Gills**

**Generations -** Unknown

**Life span**: 1 year, adults long lived

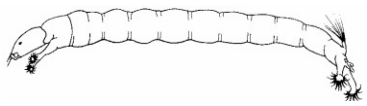
Unknown temperature preferences

*Can be infected with waterfowl parasites.*

## Bloodworm Midge Larva

Group 4

Order: Diptera Family:Chironomidae



Collector-gatherer

9-16 mm

**Tubular body**

**Cutaneous breathing -** hemoglobin

**Generations -** 1 per year

**Life span**:<1 year, adults short lived

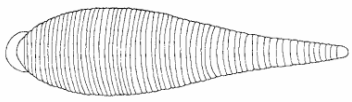
No strong temperature preference

*Larvae appear pink or red*

## Leech

Group 4

Subclass: Hirudinea



Predator or Parasite

>16 mm

**Tubular Body**

**Cutaneous breathing –** may also use oxygen from blood meal

**Generations -** 1 per year

**Life span**: 4-5 years, adults long lived

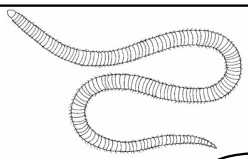
Warm eurythermal (15-30 C)

*Some are very prey or host specific*

## Aquatic Earthworm

Group 4

Subclass: Oligochaeta



Collector-gatherer

>16 mm

**Tubular Body**

**Cutaneous breathing**

**Generations -** 1 per year

**Life span:** Unknown

No strong temperature preferences

*Can regenerate from fragments*