



## Aquatic Insects

This deck provides an overview of 10 common aquatic insects with information about what juveniles and adults eat.

Ideas for using this deck include: making observations about insect size, breeding habitat and breathing methods.

Find this card deck and more at: [education.eol.org/species\\_cards](http://education.eol.org/species_cards)

Title Image Credit:  
Lynette Schimming CC-BY-NC

## Project Description

### Grousewing Caddisfly *Mystacides longicornis*

eol  
Trichoptera



+ Terrestrial and Aquatic

OMNI  
Foodweb Role

**Adult Length** 9 mm  
**Development** holometabolous  
**Breeding Habitat** lentic waters  
**Oviposition Sites** water surface  
**Breathing (larva)** filamentous gills

NE  
IUCN Redlist™

Aquatic larvae feed on plant material and invertebrates.  
Terrestrial adults are short-lived. They may feed on plant juices or nectar.

Image: Biopix CC-BY-NC

### Brown Drake Mayfly *Ephemera simulans*

eol  
Ephemeroptera



+ Terrestrial and Aquatic

DETR  
Foodweb Role

**Adult Length** 25 mm  
**Development** hemimetabolous  
**Breeding Habitat** lotic waters  
**Oviposition Sites** water surface  
**Breathing (naiad)** filamentous gills

NE  
IUCN Redlist™

Aquatic nymphs (naiads) feed on animal and plant detritus.  
Terrestrial adults are short-lived and do not feed.

Image: Phil Myers CC-BY-NC-SA

### Common Name

Scientific Name

Taxon Group

#### Food Web Roles

|      |  |
|------|--|
| DECO | Decomposer: Energy from dead material              |
| AUTO | Autotroph: Energy from sun, water, CO <sub>2</sub> |
| HERB | Herbivore: Energy from plants                      |
| OMNI | Omnivore: Energy from plants, animals              |
| CARN | Carnivore: Energy from animals                     |
| APEX | Apex Predator: Top predator                        |
| DETR | Detritivore: Energy from dead vegetation           |
| SANG | Sanguinivore: Energy from blood                    |
| MULT | Multiple: Energy from multiple sources             |

Habitat (where species is found)  
+ (indicates species is also found in other habitats)

#### Species Conservation Status

##### IUCN Redlist™

International Union for  
Conservation of Nature

|    |                 |
|----|-----------------|
| LC | Least Concern   |
| DD | Data Deficient  |
| NT | Near Threatened |
| EN | Endangered      |

NE Not Evaluated

|    |                       |
|----|-----------------------|
| VU | Vulnerable            |
| CR | Critically Endangered |
| EW | Extinct in Wild       |
| EX | Extinct               |

### Eastern Dobsonfly *Corydalus cornutus*

eol  
Megaloptera



+ Terrestrial and Aquatic

CARN  
Foodweb Role

**Adult Length** 55 mm  
**Development** holometabolous  
**Breeding Habitat** lotic waters  
**Oviposition Sites** above water  
**Breathing (larva)** filamentous gills

NE  
IUCN Redlist™

Aquatic larvae prey on invertebrates.  
Terrestrial adults are short-lived and do not feed.

Image: gowan CC-BY-NC



## Eastern Pondhawk

*Erythemis simplicicollis*

eol  
Odonata



+ Terrestrial and Aquatic

CARN  
Foodweb Role

|                   |                       |
|-------------------|-----------------------|
| Adult Length      | 42 mm                 |
| Development       | hemimetabolous        |
| Breeding Habitat  | lentic waters         |
| Oviposition Sites | floating algae        |
| Breathing (naiad) | gills in rectum (gut) |

LC  
IUCN Redlist™

Aquatic juveniles (naiads) are predators of invertebrates.  
Terrestrial adults are aerial predators of insects.

Image: Magdy Mohamed Salem CC-BY-NC-SA

## Giant Water Bug

*Lethocerus americanus*

eol  
Hemiptera



+ Aquatic

CARN  
Foodweb Role

|                   |                   |
|-------------------|-------------------|
| Adult Length      | 55 mm             |
| Development       | hemimetabolous    |
| Breeding Habitat  | lentic waters     |
| Oviposition Sites | plants near water |
| Breathing         | siphon (snorkel)  |

NE  
IUCN Redlist™

Nymphs and adults are aquatic and prey on invertebrates.

Image: Kent McFarland CC-BY-NC

## Ebony Jewelwing

*Calopteryx maculata*

eol  
Odonata



+ Terrestrial and Aquatic

CARN  
Foodweb Role

|                   |                    |
|-------------------|--------------------|
| Adult Length      | 48 mm              |
| Development       | hemimetabolous     |
| Breeding Habitat  | lotic waters       |
| Oviposition Sites | aquatic vegetation |
| Breathing (naiad) | leaf-like gills    |

NE  
IUCN Redlist™

Aquatic juveniles (naiads) are predators of invertebrates.  
Terrestrial adults are aerial predators of insects.

Image: Greg Lasley CC-BY-NC

## Giant Salmonfly

*Pteronarcys californica*

eol  
Plecoptera



+ Terrestrial and Aquatic

OMNI  
Foodweb Role

|                   |                   |
|-------------------|-------------------|
| Adult Length      | 32 mm             |
| Development       | hemimetabolous    |
| Breeding Habitat  | lotic waters      |
| Oviposition Sites | water surface     |
| Breathing (nymph) | filamentous gills |

NE  
IUCN Redlist™

Aquatic nymphs feed on algae and detritus.  
Terrestrial adults are shortlived and do not feed.

Image: phinphish CC-BY-NC

## Giant Water Bug

*Lethocerus americanus*

eol  
Hemiptera



+ Aquatic

eol  
Coleoptera

CARN

Foodweb Role

|                   |                       |
|-------------------|-----------------------|
| Adult Length      | 12 mm                 |
| Development       | holometabolous        |
| Breeding Habitat  | lentic waters         |
| Oviposition Sites | underwater air bubble |
| Breathing (adult) |                       |

NE  
IUCN Redlist™

Both larvae and adults are aquatic.  
Larvae are predators of invertebrates.  
Adults are scavengers, feeding on dead invertebrates.

Image: Lynette Schimming CC-BY-NC

## Water Boatman

*Notonecta glauca*

eol  
Hemiptera



+ Aquatic

CARN

Foodweb Role

|                   |                    |
|-------------------|--------------------|
| Adult Length      | 15 mm              |
| Development       | hemimetabolous     |
| Breeding Habitat  | lentic waters      |
| Oviposition Sites | aquatic vegetation |
| Breathing         | air bubble         |

NE  
IUCN Redlist™

Nymphs and adults are aquatic and prey on invertebrates.

Image: Malcolm Storey CC-BY-NC-SA



**Yellow Fever Mosquito**  
*Aedes aegypti*

eol  
Diptera



**SANG**  
Terrestrial and Aquatic  
Foodweb Role

**Adult Length** 4 mm  
**Development** holometabolous  
**Breeding Habitat** lentic waters  
**Oviposition Sites** above water  
**Breathing (larva)** siphon (snorkel)

**IUCN Redlist™** NE

Aquatic larvae feed on organic matter in the water.  
Terrestrial adults feed on plant nectar.  
Females also feed on mammalian blood.

Image: Public Health Image Library - public domain

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**Adaptation:** A physical characteristic or behavior that helps an organism survive in its environment

**Brood/Litter:** Group of young produced at one time

**Carapace:** Shell of a turtle or head and thorax of arthropods

**Clutch Size:** Number of eggs laid in a nest at one time

**Complete Metamorphosis:** Some insects have a four stage life cycle: egg, larva, pupa, adult

**Crepuscular:** Active at dawn and dusk

**Diurnal:** Active during the day

**Vocabulary**

**eol species cards**

**Habitat:** The area an organism lives and can find its resources

**Growth Form:** Classification of plants as trees, shrubs, herbaceous, and grasses

**Incomplete Metamorphosis:** Some insects have a three stage life cycle: eggs, nymph, adult

**Molt:** The act of shedding exoskeleton, skin or feathers as an animal grows

**Snout-vent Length:** In amphibians and reptiles, the length from tip of nose to tail base (cloaca)

**Standard Length:** In fishes, length from tip of snout to end of last vertebra

**Vocabulary**

