

The image features a central yellow banner with the text "Caddisfly ID Activity". Above and below the banner are numerous illustrations of aquatic insects. The top section shows a variety of beetles, including several dark-colored caddisfly adults, and some smaller insects. The bottom section is densely packed with various caddisfly larvae (pupae and nymphs) in different stages and species, showing their segmented bodies and appendages. The background is white, and the overall composition is educational and visually engaging.

Caddisfly ID Activity

Rock Pack Experiment



Coleoptera
"Beetles"



Diptera
"True Flies"

The Atlas of Common Freshwater
Macroinvertebrates
of Eastern North America



Ephemeroptera
"Mayflies"



Hemiptera
"True Bugs"

Lepidoptera
"Butterflies
& Moths"



Megaloptera
"Alderflies,
Dobsonflies,
& Fishflies"



Plecoptera
"Stoneflies"

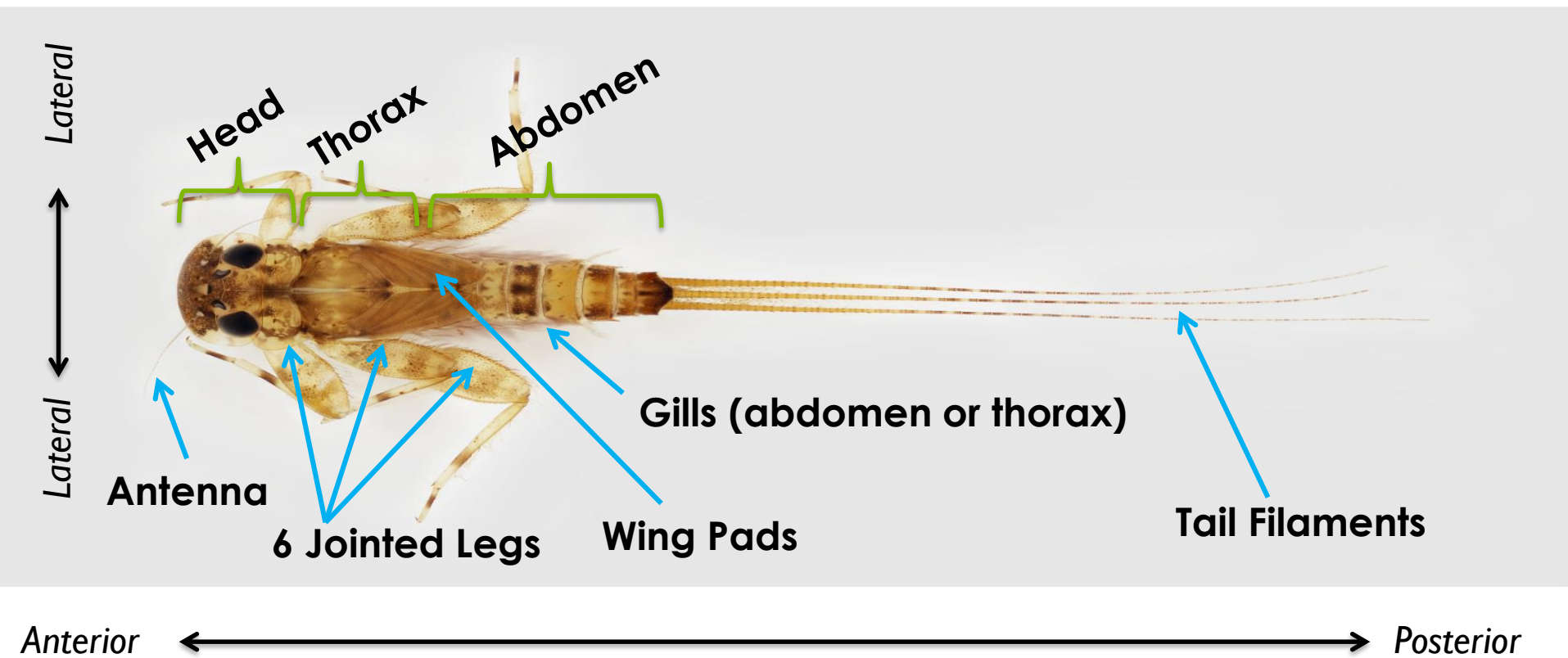


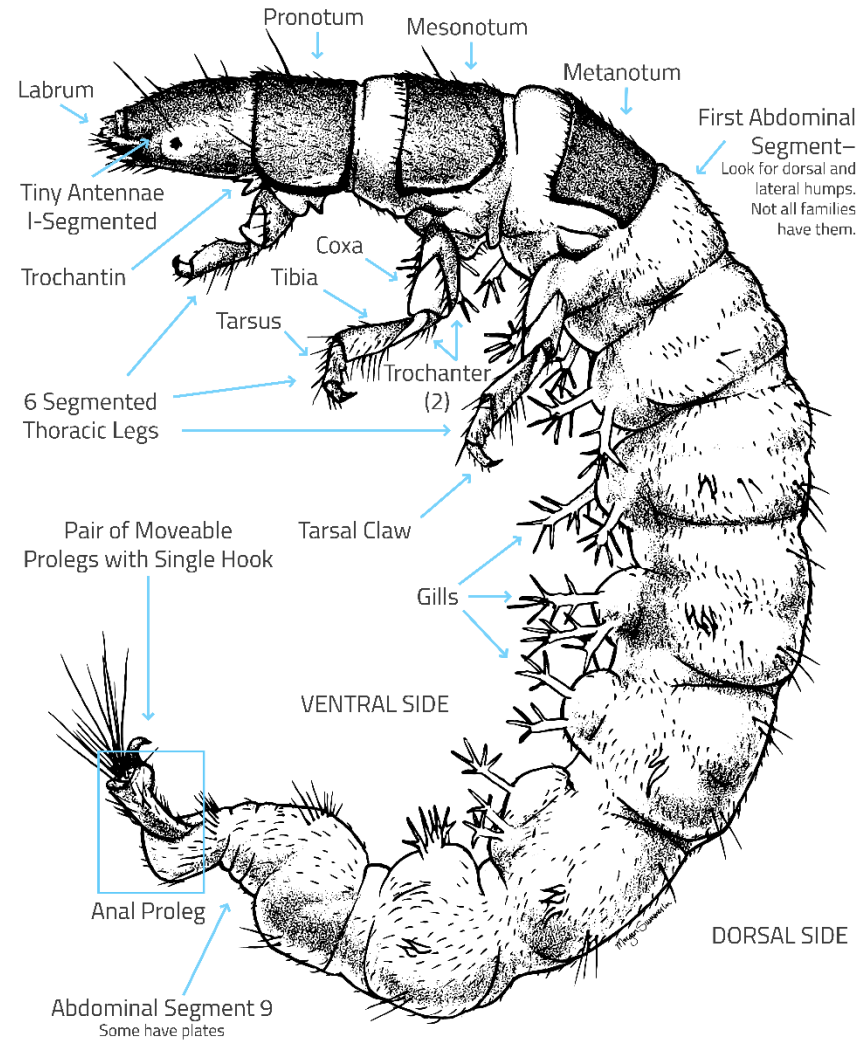
Odonata
"Dragonflies & Damselflies"

Trichoptera
"Caddisflies"



The INSECT





Activity

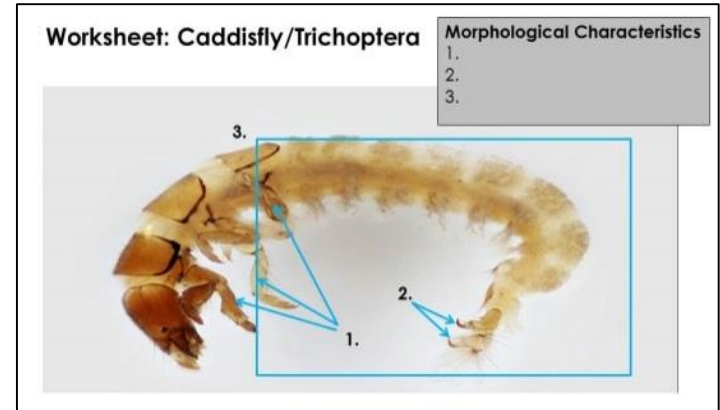
Intention: To learn what ID characters get you to:

(a) Order level of Caddisflies (Trichoptera)

(b) Family level of Net-spinning Caddisflies (Hydropsychidae)

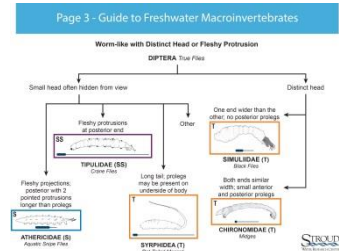
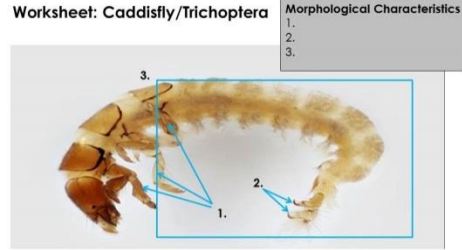
Audience: For you as a learner or a trainer/teacher of macroinvertebrate ID

Setting: Training workshop, class with students, indoors connected to wifi



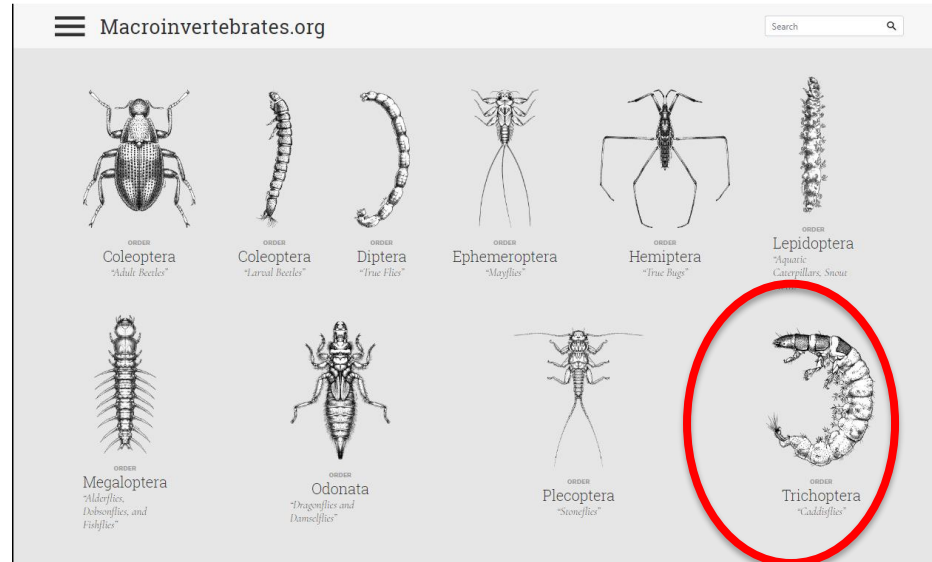
Supplies

- Access to Macroinvertebrates.org
- ID Focus Worksheet(s)
- Di-Key (optional)
- ID Flash card (optional)
- Live or preserved specimen (optional)
- Hand lenses



STEPS

1. **Pick an Order**
2. **Use focus sheet & macroinvertebrates.org**
3. **Explore site, Complete sheet**
4. **Discuss**
5. **Proceed w/a Family of that Order**



Trichoptera: Caddisflies

9,000 species worldwide

Most build cases as retreats

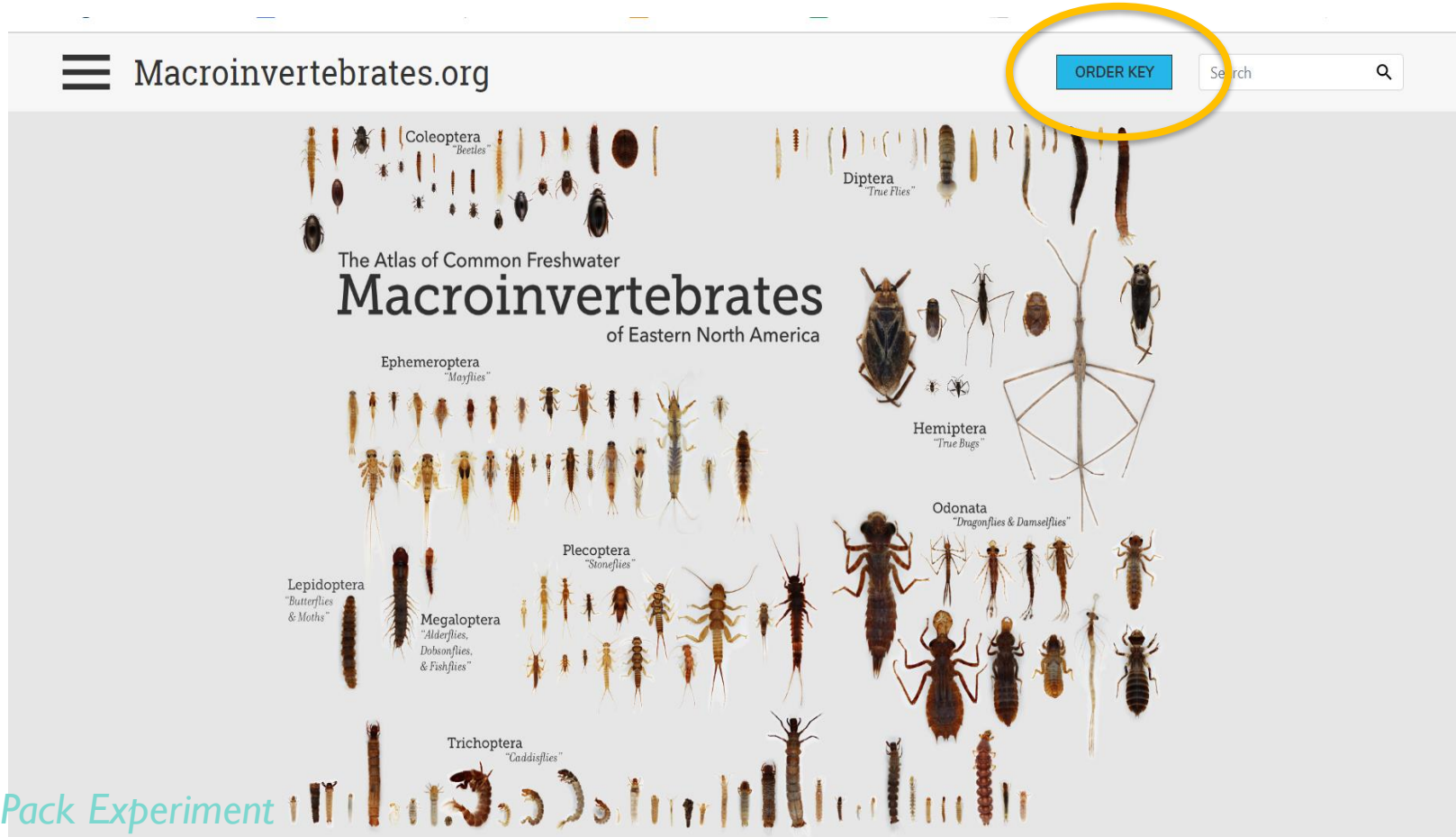
1-2 generations per year

Many construct a mesh retreat for
Filtering food

Tricho=hair; pteron=wing

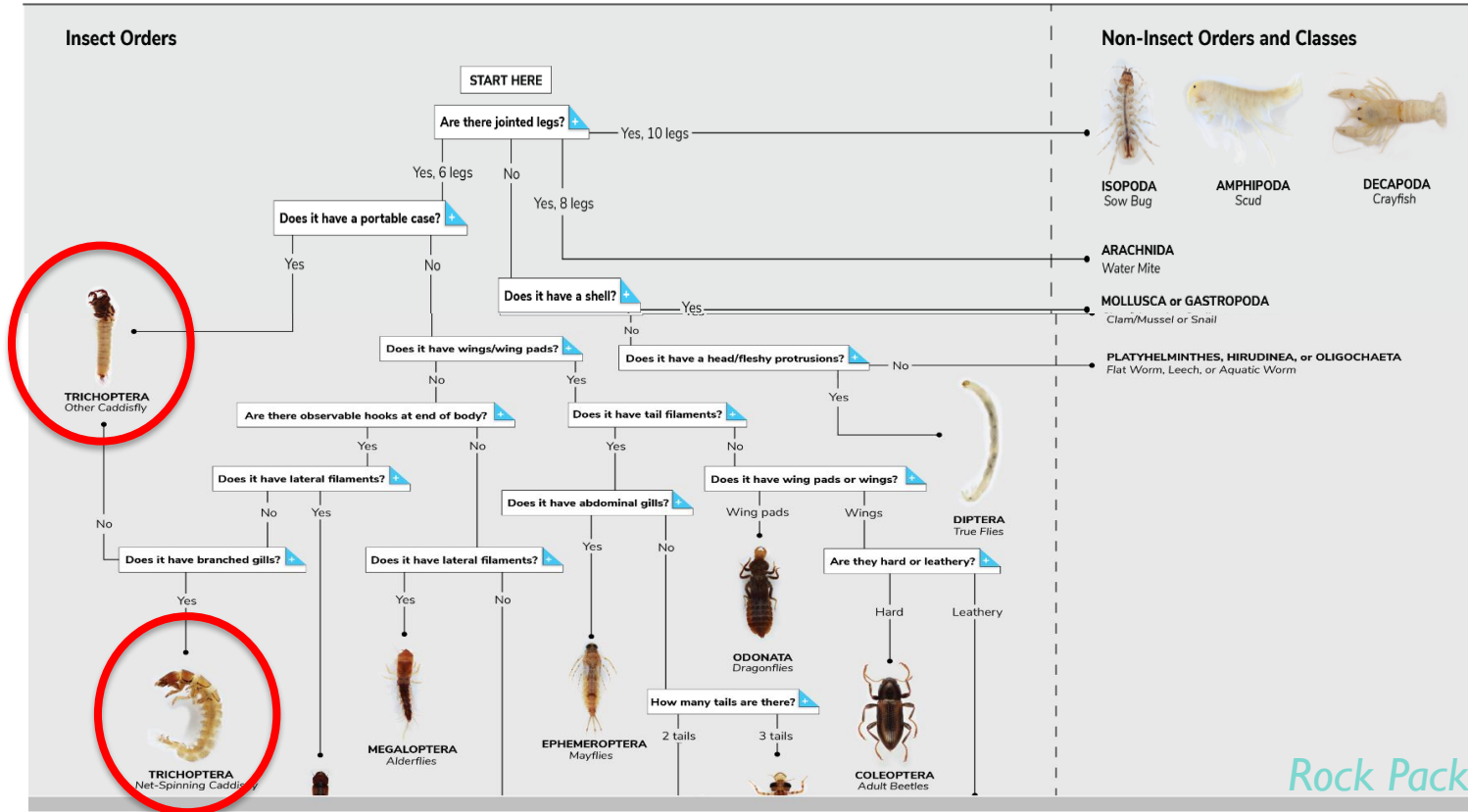


STEP #1: Start with the Order level key OR..

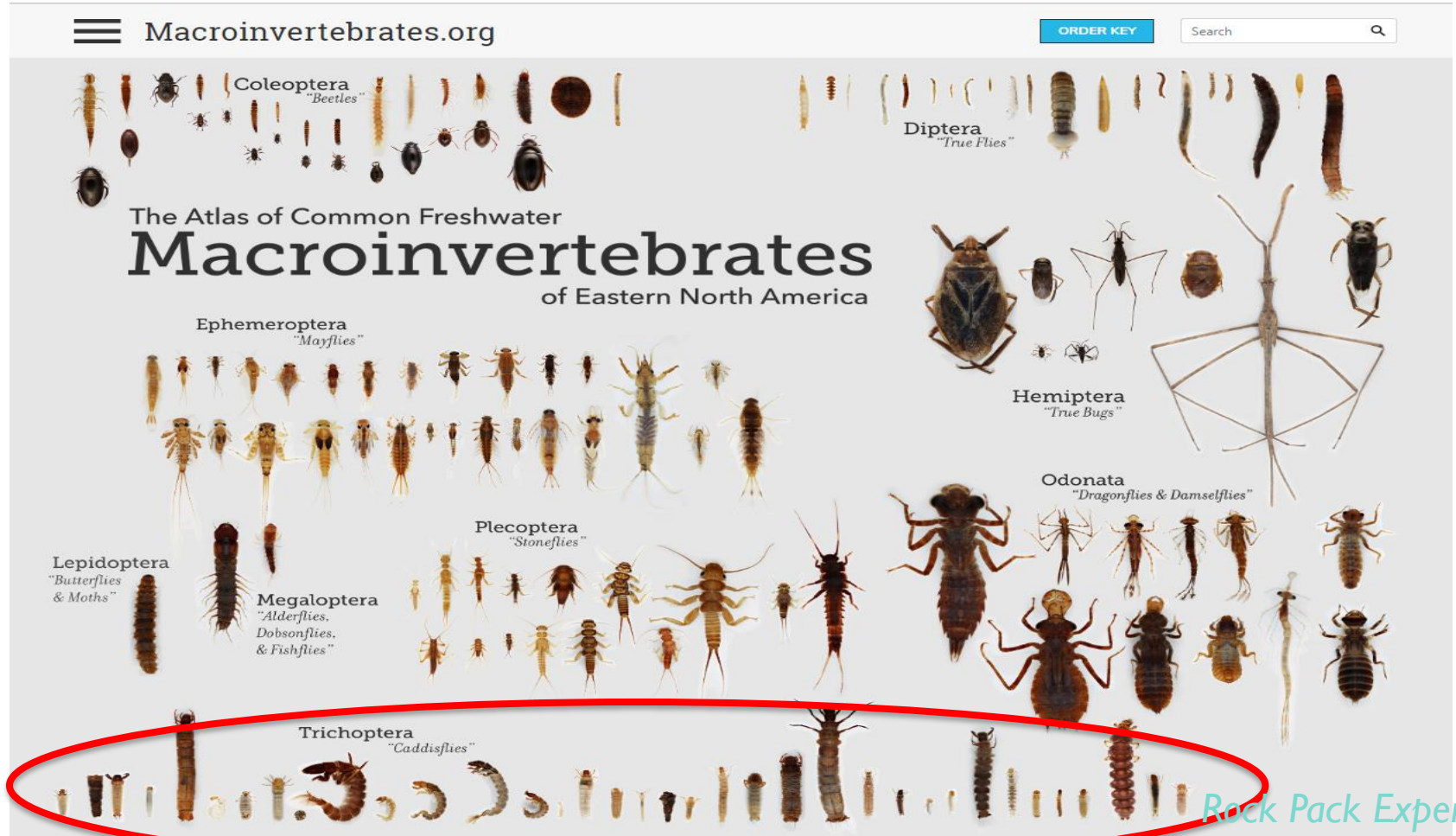


STEP #1: Start with the Order level key OR..

Aquatic Macroinvertebrate Order Level Key



STEP #1: Dive into the Caddisfly page



What characters get you to the **Caddisfly/Trichoptera Order**?

≡ Macroinvertebrates.org

Get Involved

ORDER ▾

Trichoptera
“Caddisflies”



FAMILY
Apataniidae



Apatania

FAMILY
Brachycentridae



Brachycentrus



Micrasema

FAMILY
Calamoceratidae



Heteroplectron

FAMILY
Dipseudopsidae



Phylocentropus

FAMILY
Glossosomatidae



Glossosoma

FAMILY
Goeridae



Goera

Diagnostic Characters

ORDER

NOT
PLACED

Free-living Or In Tubes



Prolegs With Single
Hook

+ Expanded Character List

FAMILY
Helicopsychidae



Helicopsyche

FAMILY
Hydropsychidae



Arctopsyche



Cheumatopsyche



Diplectrona



Hydropsyche



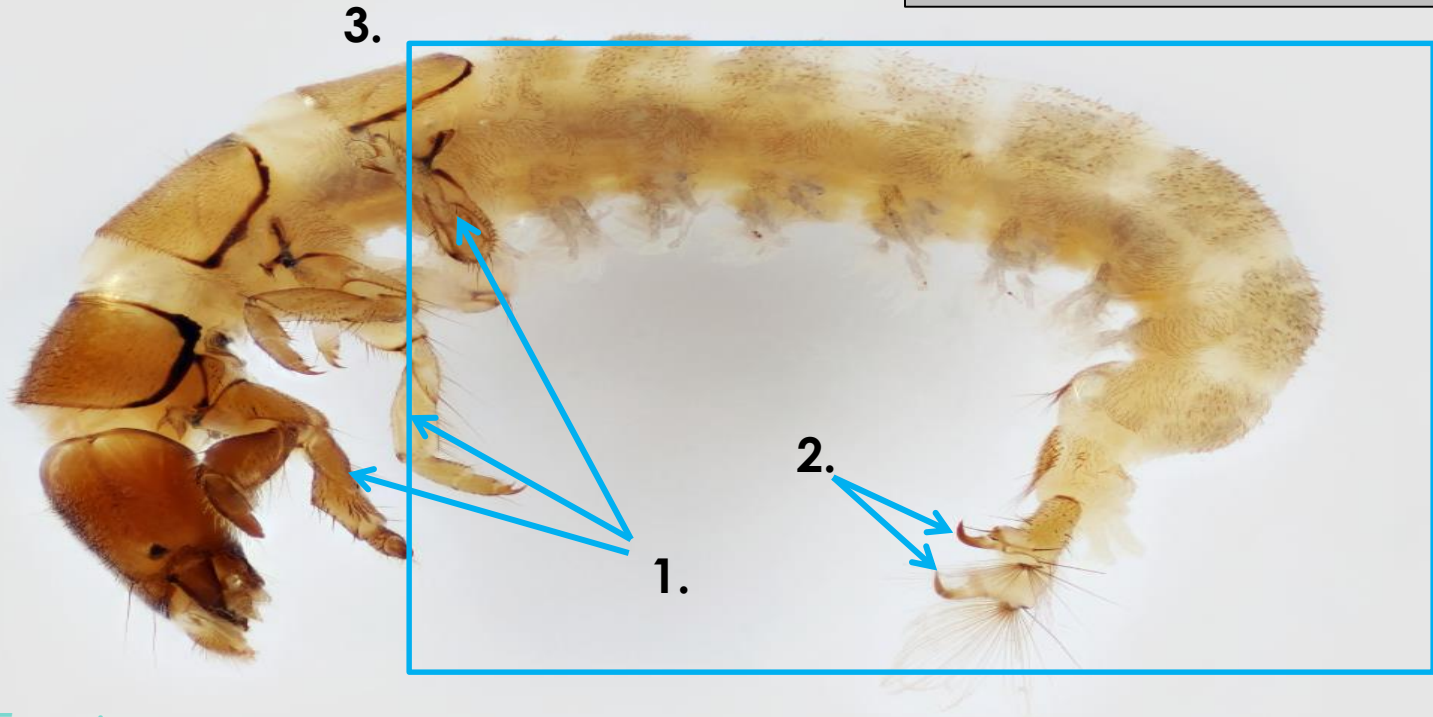
Macrostemum

Rock Pack Experiment

Worksheet: Caddisfly/Trichoptera

Morphological Characteristics

- 1.
- 2.
- 3.

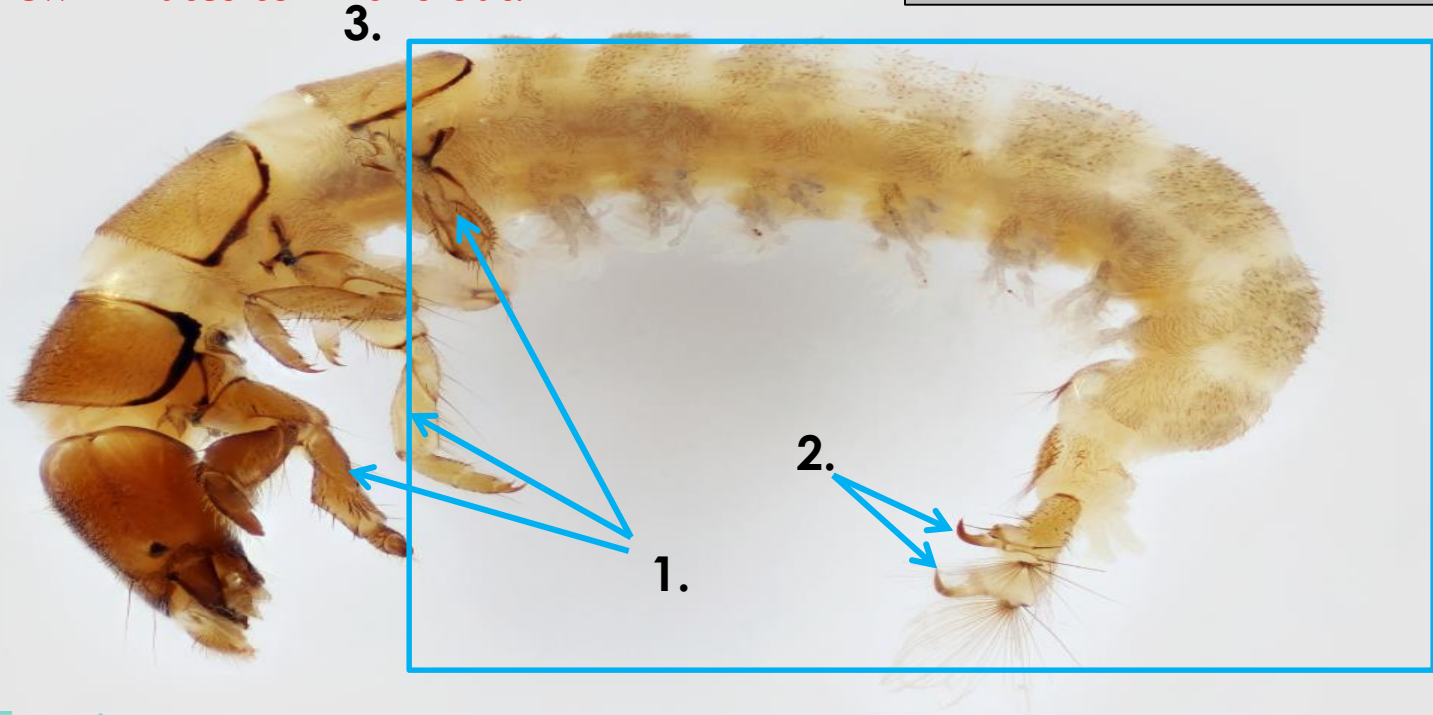


Order Level Worksheet: Caddisfly/Trichoptera

Take a few minutes to fill this out!

Morphological Characteristics

1. 3 pairs of legs; 6 jointed
2. Prolegs with single hook
3. Free-living or in cases



Trichoptera

Prolegs With Single Hook



Hydropsychidae *Cheumatopsyche*



Apataniidae *Apatania*



Apataniidae *Apatania*



Brachycentridae *Brachycentrus*



Brachycentridae *Brachycentrus*



Brachycentridae *Micrasema*



Brachycentridae *Micrasema*



Calamoceratidae *Heteroplectron*



Calamoceratidae *Heteroplectron*



Dipseudopsidae *Phyllocentropus*



Glossosomatidae *Glossosoma*



Glossosomatidae *Glossosoma*



Goeridae *Goera*



Hydropsychidae *Arctopsyche*



Hydropsychidae *Diplectrona*



Hydropsychidae *Macrostenus*



Hydropsychidae *Hydropsyche*



Hydropsilidae *Hydropsila*



Lepidostomatidae *Lepidostoma*



Lepidostomatidae *Lepidostoma*



Leptoceridae *Oerelia*



Leptoceridae *Nectopsyche*



Leptoceridae *Ocetis*



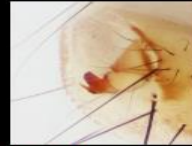
Leptoceridae *Trisenodes*



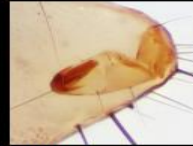
Limnephilidae *Pycnopsyche*



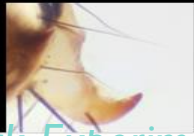
Limnephilidae *Pycnopsyche*



Molannidae *Molanna*



Molannidae *Molanna*



Dive Deeper: What characters get you to the **Hydropsychidae** Family?

Macroinvertebrates.org

Get Involved

ORDER ▾
Trichoptera
"Caddisflies"



Diagnostic Characters

ORDER

NOT
PLACED

Free-living Or In Tubes



Prolegs With Single
Hook

+ Expanded Character List

Rock Pack Experiment

ORDER -
Trichoptera
"Caddisflies"

FAMILY -

Hydropsychidae



GENUS
Arctopsyche



GENUS
Cheumatopsyche



GENUS
Diplectrona



GENUS
Hydropsyche



GENUS
Macrostemum



Diagnostic Characters

- ORDER
- NOT PLACED Free-living Or In Tubes
 - Prolegs With Single Hook
- FAMILY
- All Not Sclerotized
 - NOT PLACED Retreat
 - Setal Fan On Prolegs
 - Ventral Branched Abdominal Gills
- + Expanded Character List

Family Level Worksheet:

Hydropsychidae

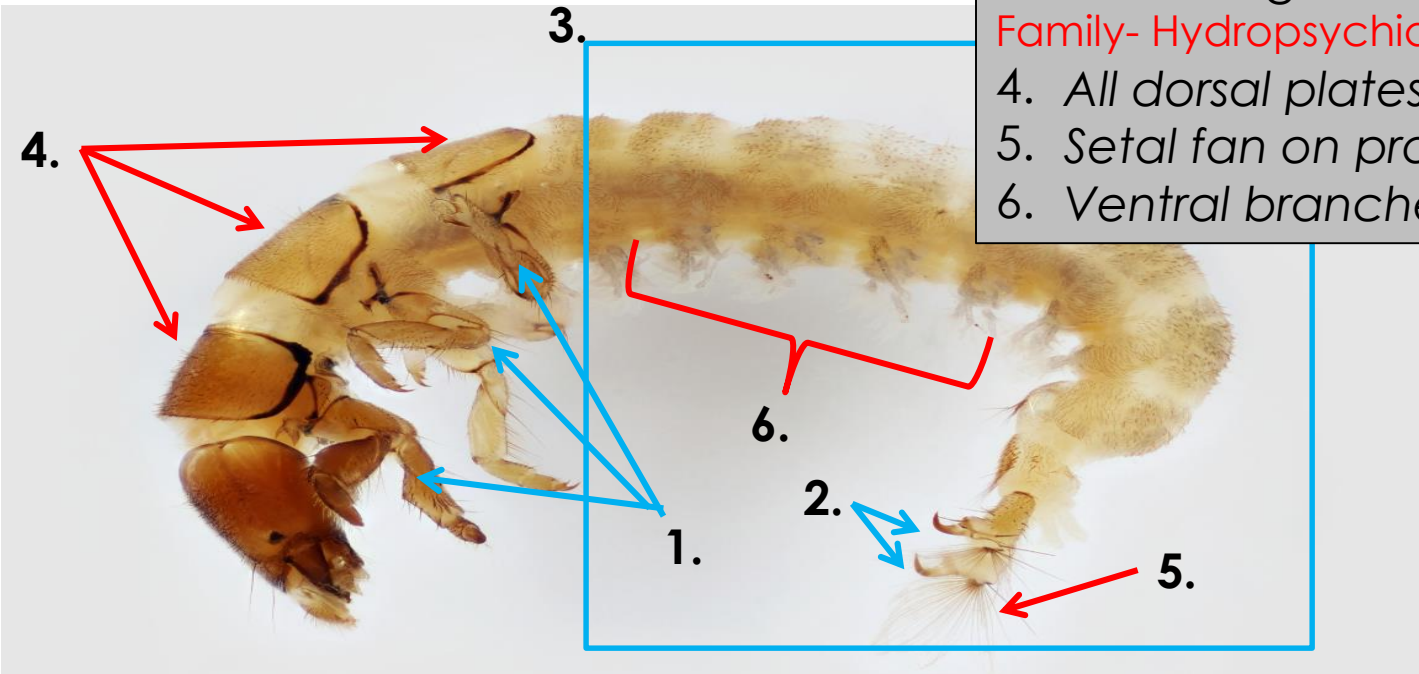
Characteristics

Order

1. 3 pairs of legs
2. Prolegs with single hook
3. Free-living or in a case

Family- Hydropsychidae

4. All dorsal plates/nota sclerotized
5. Setal fan on prolegs
6. Ventral branched abdominal gills



Trichoptera Hydropsychidae

☐ All Nota Sclerotized



Cheumatopsyche



Arctopsyche



Diplectrona



Hydropsyche



Macrostemum

ORDER - Trichoptera
FAMILY - Hydropsychidae
"Caddisflies"

GENUS - *Arctopsyche*



GENUS - *Cheumatopsyche*



GENUS - *Diplectrona*



GENUS - *Hydropsyche*



GENUS - *Macrostemum*



Diagnostic Characters

ORDER

NOT PLACED

Free-living Or in Tubes

PROLEG

Prolegs With Single Hook

FAMILY

NOT PLACED

All Nota Sclerotized

NOT PLACED

Retreat

SETAL

Setal Fan On Prolegs

VENTRAL

Ventral Branched Abdominal Gills

+ Expanded Character List

Rock Pack Experiment

Trichoptera Hydropsychidae

Setal Fan On Prolegs



Cheumatopsyche



Arctopsyche



Diplectrona



Hydropsyche



Macrostemum

ORDER - Trichoptera FAMILY - Hydropsychidae
"Caddisflies"

GENUS - *Arctopsyche* GENUS - *Cheumatopsyche* GENUS - *Diplectrona*

GENUS - *Hydropsyche* GENUS - *Macrostemum*

Diagnostic Characters

- ORDER: ☐ ORDER
- NOT PLACED: Free-living Or In Tubes
- NOT PLACED: Prolegs With Single Hook
- FAMILY: ☐ FAMILY
- NOT PLACED: All Noto Sclerotized
- NOT PLACED: Retreat
- Setal Fan On Prolegs
- Ventral Branched Abdominal Gills

+ Expanded Character List

Rock Pack Experiment

Trichoptera Hydropsychidae

☐ Ventral Branched Abdominal Gills



Cheumatopsyche



Arctopsyche



Diplectrona



Macrostemum

ORDER Trichoptera FAMILY Hydropsychidae
"Caddisflies"

GENUS *Arctopsyche*

GENUS *Cheumatopsyche*

GENUS *Diplectrona*

GENUS *Hydropsyche*

GENUS *Macrostemum*

Diagnostic Characters

ORDER

NOT PLACED Free-living Or in Tubes

Prolegs With Single Hook

FAMILY

All Nots Sclerotized

NOT PLACED Retreat

Setal Fan On Prolegs

Ventral Branched Abdominal Gills

+ Expanded Character List

Dive Deeper: What interesting facts can you find about Net-Spinning Caddisflies/Hydropsychidae?

Macroinvertebrates.org

Get Involved

ORDER -
Trichoptera
"Caddisflies"

FAMILY -
Hydropsychidae

GENUS
Arctopsyche



GENUS
Cheumatopsyche



GENUS
Diplectrona



GENUS
Hydropsyche



GENUS
Macrostemum



How many families? species?
Where do they live?
Indicator level?

Family Overview

There are 47 genera in the family globally, with about 13 found in the UK. There are more than 155 species. Larvae build stationary retreats of silk, detritus and rock fragments. A part of the entrance of a retreat has a silken filter net protruding into the current to strain food from the water. This is how they earned the common name, "net spinners". The mesh size of the filter net varies among hydropsychid species, corresponding with the current speed of their optimal habitat and the size of the food particles on which they specialize. They spend most of their life hiding in their retreats, waiting for food to get caught in their nets, mostly tiny bits of organic debris, but occasionally larger items. They sometimes also scrape algae from the surfaces of the rocks or other substrates to which their retreats are attached. Members of this family are often thought to be tolerant of pollution, but this is a misconception as tolerance varies greatly among the different species.

Characteristics