



Frenchman River Biodiversity Project

Quick Guide to Major Types of Freshwater Invertebrates in the Frenchman Watershed, Saskatchewan



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unless otherwise noted, photographs by Hugh Clifford,
from BioDITRL <http://bio-ditrl.sunsite.ualberta.ca/>

A joint project of the
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.... **What is the FRBP?**

The Frenchman River Biodiversity Project (FRBP) is a multi-disciplinary research project that began in 2003 and will run until 2006. The aim is to assess the health of the Frenchman River and the sustainability of local activities by studying the aquatic biodiversity of the river and social interactions that affect the watershed.

The FRBP is a joint undertaking of the Royal Saskatchewan Museum and the Canadian Museum of Nature, in partnership with local residents, university researchers, and representatives from provincial and federal government departments.

1a. Does the animal have a hard shell and no legs?

YES (it is a mollusc)



NO

go to 2a

1b. Are there two halves to the shell?

YES



it is a mussel (Mollusca:
Bivalvia)

NO



image by D. Belter

it is a snail (Mollusca:
Gastropoda)



2a. Is the animal soft and squishy with no legs and no head?

YES



NO

go to 3

2b. Is it relatively flat with a sucker at one or both ends?

YES



it is a leech (Hirudinea)

NO

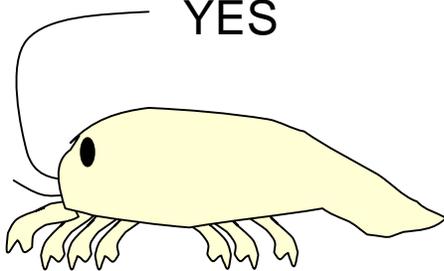


it is a freshwater earthworm (Oligochaeta)

after this line are animals with legs

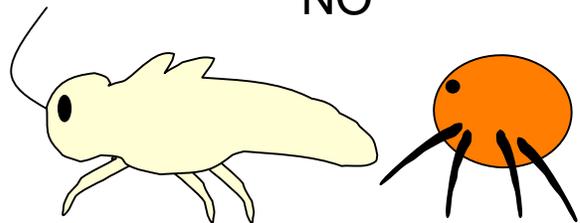
3. Does the animal have more than 4 pairs of legs?

YES



go to 4a, Crustacea

NO



go to 5a

4a. Does the animal have a pair of large front pincers?

YES



it is a crayfish, Decapoda: only species in Saskatchewan is *Orconectes virilis*

NO



4b. Does the animal look like a shrimp?

YES



NO

go to 4d

4c. Is it flattened from side-to-side?

YES



it is a scud (Amphipoda)

NO



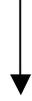
it is a fairy shrimp (Anostraca)

4d. Is most of the body covered by a thin, soft shell ?

YES



NO



it is a copepod (Copepoda): note, they range in colour from white to green to red, and some have antennae as long as their body

4 e. Does one pair of appendages stick out from the shell?

YES



it is a water flea
(Cladocera)

NO



it is a clam shrimp
(Conchostraca)

5a. Does it have four pairs of jointed legs?

YES (Arachnida)



NO (Insecta)

go to 6

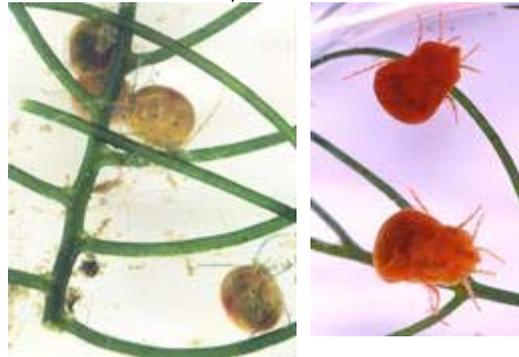
5b. Are there two major body parts separated by a narrow 'waist'?

YES



it is a spider (Araneae)

NO



mite photos by H. Proctor

it is a water mite (Hydrachnida)

after this line are insects: they have 3 pairs of jointed legs (except for larval flies, which have no legs!)

6. Does it have a pair of hard wings that cover the hind part of the body?

YES

go to 7

NO

go to 8

7. Do the wings meet in the middle to make a straight line?

YES



it is an adult beetle (Coleoptera)

NO



it is a true bug (Hemiptera): their wings overlap in a criss-cross*

8. Does the animal appear to live inside a stick or collection of leaves or sand grains?

YES



it is a caddisfly (Trichoptera)



NO

go to 9a

**note: young true bugs look like adults but they don't have full wings*

9a. Does it have 3 flat paddle-like 'tails'?

YES



it is a damselfly larva (Odonata: Zygoptera)

NO



9b. Does it have several pairs of gills on the abdomen (can be cylindrical, plate-like, or feathery)?

YES



NO

go to 10a

9c. Does it have 3 'tails'?

YES



it is a mayfly larva (Ephemeroptera)



NO



it is an alderfly larva (Megaloptera): has one 'tail'

10a. Does it have 2 'tails'?

YES



NO

go to 11

10b. Are the antennae about as long and as strong as the tails?

YES



it is a stonefly larva (Plecoptera)

NO



it is a type of beetle larva (Coleoptera)

11. Is there a tuft of hairy stuff coming out the hind end?

YES



it is a type of beetle larva (Coleoptera)

NO



it is a dragonfly larva (Odonata: Anisoptera); many have poky spines on the hind end

Still haven't seen your animal? Try these

Does it look like a swimming seed?



it is a seed shrimp
(Crustacea:
Ostracoda)

Does it look like this strange prehistoric monster?



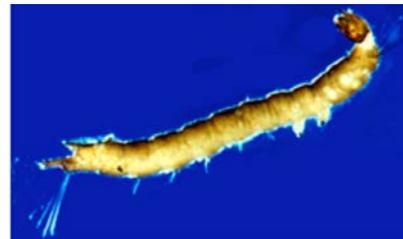
it is a tadpole shrimp
(Crustacea:
Notostraca)

Does it look like a mayfly but with only two 'tails'?



it is one of the rare mayflies with two tails! (Ephemeroptera)

Does it look like a worm but has a little head?



it is a larval fly
(Insecta: Diptera)

and if you still can't find it, check out the Saskatchewan Aquatic Insects Page:

<http://www.aquatax.ca/skabugindex.html>