Key to the major invertebrate species of stream zones in NE Colorado

WaterSHED

City of Fort Collins Utilities

Macro Organism

With Shells
Hard, like a seashell or snail shell

Single Shell

Subclass Prosobranchia

Gilled Snail
right opening
Fa: Valvatidae
Ge: Valvata sp.

Subclass Pulmonata

(left opening) Spiral shell

Pouch Snail
Fa: Physidae (left)
Physa sp.
Common

Coiled shell

Orb Snail
Fa: Planorbidae
Ge: Helisoma

Conical shell

Limpet
Fa: Ancylidae
Ge: Ferrissia

Double Shell

About 1/2 inch

Pill Clam
Fa: Sphaeriidae
(Spherium simille)
G: Pisidium
Fingernail Clam

2-4 inches

Freshwater Mussel
Fa: Unionidae
Sub-Family: Lampellinae
(Lampellis sillquoides)

Without Shells

Segmented Body

Obvious Jointed Legs
(Phylum Arthropoda)

4 Pairs of Legs
(8 Legs)

Very, very small
0.1 inch

Watermite
Or: Acarina
Hydrachnida
Many families
Common in Colorado

Large
0.4 to 0.7 inches

Fisher Spider
Or: Araneae
Fa: Pisauridae
Uncommon in Colorado

More than 4 Pairs of Legs
(More than 8 legs - may be difficult to see)

Lobster-like;
up to 5 inches

Crayfish
(Cambaridae)
Or: Decapoda
G: Orconectes

Cylindrical
body

Copepod
Subclass:
Copepoda

Clam-like "shell"

Ostracod
Cl: Ostracoda

Body flattened
top to bottom

Isopod
Or: Isopoda
Fa: Asellidae
(Caecidotea – Sow Bug)

Body Flattened
Side to Side

Swims with
Y-shaped
antennae

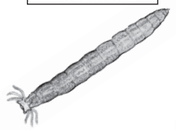
Cladoceran
(Water Flea)
Cl: Branchipoda
Fa: Daphniidae

Swims
with legs

Amphipod
Or: Amphipoda
Fa: Gammaridae
(Scud)
Hyalella and
Gammarus

3 Pairs of Legs
(6 Legs) (Class Insecta)

Worm-like larva
about 1 inch;
smaller at higher
elevations



Crane Fly Larva
(Tipulidae)

Posterior
breathing
tube

Mosquito Larva
Or: Diptera
Fa: Culicidae
Rare in streams

Some have
bright
red body

Midge larva
(bloodworms)
Or: Diptera
Fa: Chironomidae

Without Shells

Unsegmented Body

Asymmetrical

Rough-textured
; pores

Freshwater Sponge
Or: Porifera
Fa: Spongillidae
Rare in Colorado

Smooth;
no pores

Bryozoan Colony
Ph: Bryozoa
Rare in Colorado

Radial Symmetry

Sessile

Hydra
Or: Hydroida

Free

Freshwater Jellyfish
Cnidaria
Cl: Hydrozoa
Craspedacusta sp.
Rare in Colorado

Bilateral Symmetry

Rounded body

Threadworm
Ph: Nematoda
Cl: Adenophorea,
Secernentea

Flattened
body;

Planarian
(Flatworm)
Or: Tricladia
Cl: Turbellaria
Fa: Planaridae
G: Dugesia

No Obvious Jointed Legs

Some Appendages
(Class Insecta)

Round; swollen
abdomen; circle of
hooks on bottom
of abdomen

Black Fly Larva
(Simuliidae)

Transparent
body; silvery
air sacs

Phantom Midge
Larva
(Glassworm)
Fa: Chaoboridae

No Obvious Appendages

Class Hirudinea
(leeches)

Smooth body:
suckers

Leech

Class Oligocheta
(aquatic worms)

Tube-dwelling

Tubifex
(Bloodworm)

Body with
bristles; no
suckers

Bristle Worms
Fa: Naididae

No Wings

Free-Living

2 Tail appendages

2 long, thin tail
appendages - gills
on abdomen

Mayfly Nymph
Or: Ephemeroptera

Short antennae;
one claw at end
of each leg

Beetle Larva
Or: Coleoptera
Fa: Dytiscidae;

Long antennae;
two claws at end
of each leg

Stonefly Nymph
Or: Plecoptera
9 families in Colorado

3 Tail appendages

3 long, thin tail
appendages - gills
on abdomen

Mayfly Nymph
Or: Ephemeroptera

Plate-like tail
appendages

Damselfly Nymph
Suborder: Zygoptera

Order Odonata

Short,
inconspicuous
tail appendages

Dragonfly Nymph
Suborder:
Anisoptera

No hooks or
tails

5 pairs of
false legs on
abdomen

Aquatic Moth
Caterpillar
Or: Lepidoptera
Fa: Pyralidae

Two hooks on
last segment

Caddisfly Larva
Or: Trichoptera

Live in Tube or Case

Case made of
silk, sand or
leaf

Caddisfly Larva
Or: Trichoptera

2 Pairs of Wings

Front pair of wings w/ horns; chewing mouthparts

Large;
powerful
diver and
swimmer;
hard shell-like
forewings

Dytiscid Beetle
(Diving Beetle)

Found in
shallow riffle

Riffle Beetle
Fa: Elmidae

Small; very active
at surface;
swims in circles

Whirligig Beetle
Or: Coleoptera
Fa: Gyrinidae
Uncommon in
Colorado streams

Only half of front wings w/ horns; sucking mouthparts

Found on
surface film

Water Strider
Or: Hemiptera
Fa: Gerridae

Found
underwater

Posterior
breathing

Water Scorpion
Or: Hemiptera
Fa: Nepidae
Uncommon in
Colorado streams

No breathing
tube

Up to 3 inches

Giant Water Bug
Fa: Belostomatidae
Uncommon in
Colorado streams

Less than 1/2 inch

Swims on back;
back legs long
and oar-like

Backswimmer
Or: Hemiptera
Fa: Notonectidae
Uncommon in
Colorado streams

Swims on abdomen;
front legs short with
"scoops"

Corixid Water
Boatman
Or: Hemiptera
Fa: Corixidae