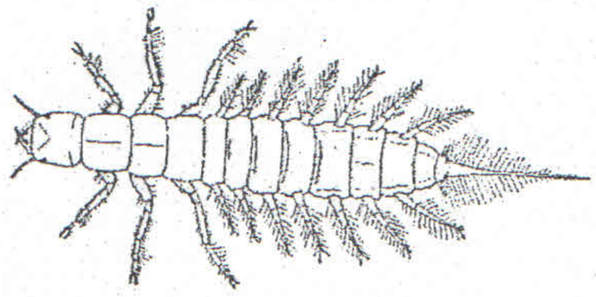
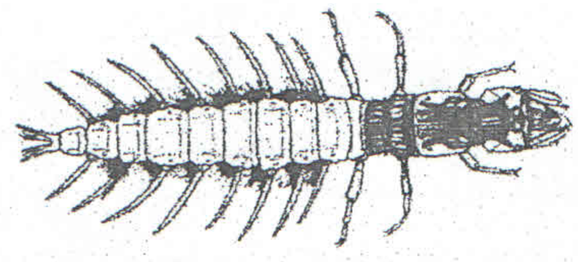
AQUATIC MACROINVERTEBRATE
Identification Guide

LOW POLLUTION TOLERANCE (PTI = 3)

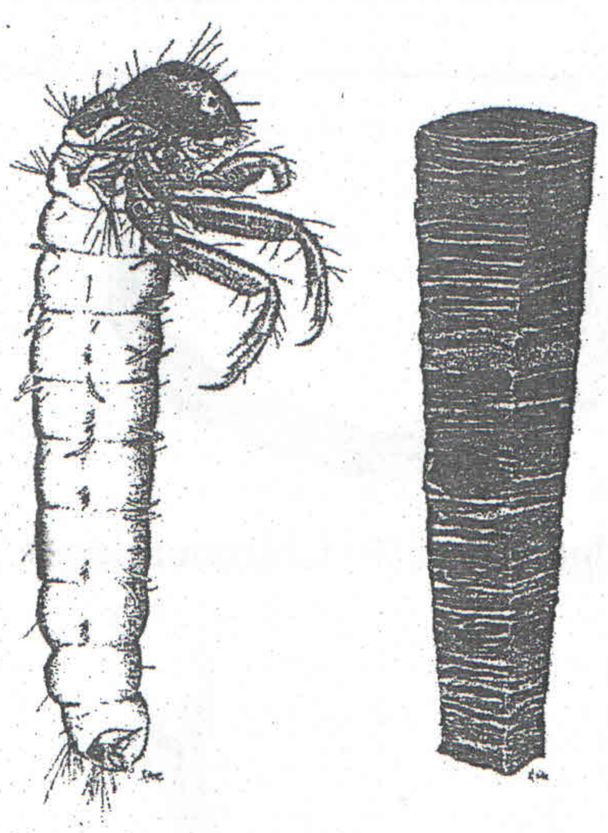


Fishfly Larva (O. Megaloptera)

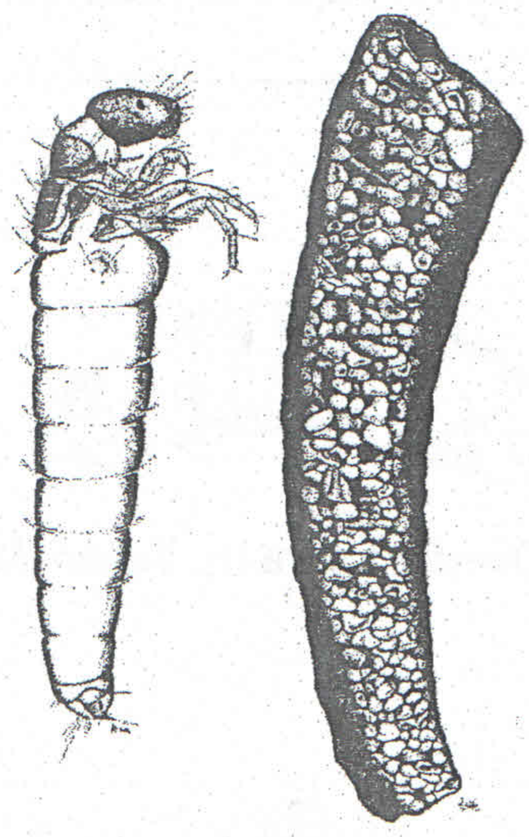
Snipefly Larva (O. Diptera)



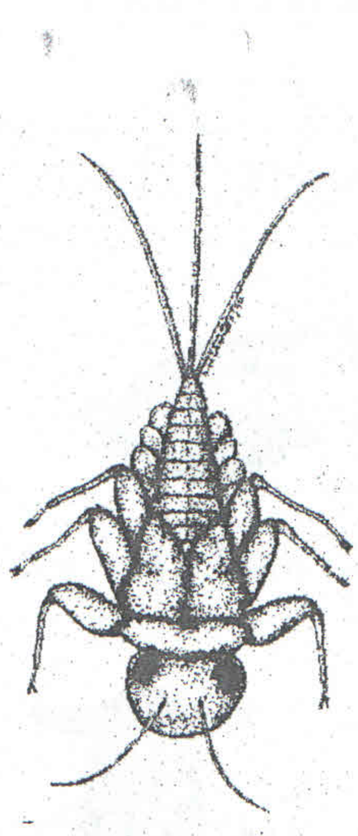
Dobsonfly Larva (O. Megaloptera)



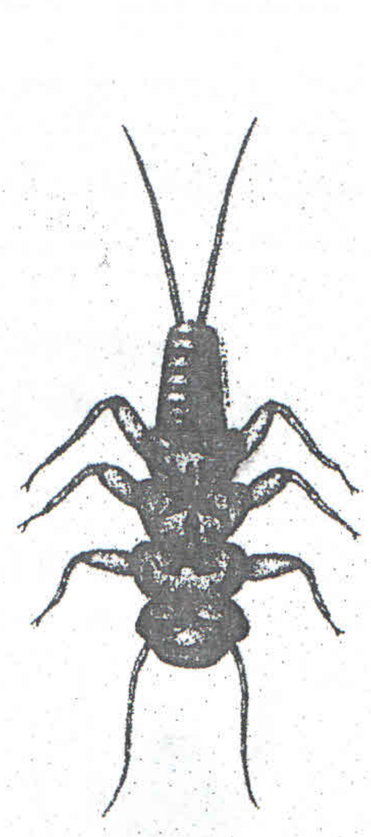
Caddisfly Larva (O. Trichoptera)
plant-matter case



Caddisfly Larva
gravel case

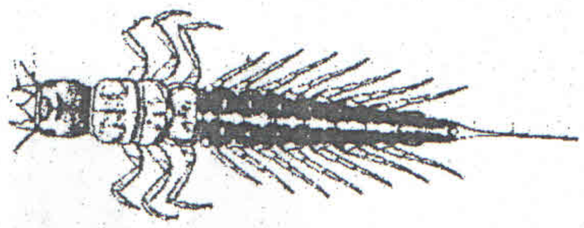


Mayfly Nymph (O. Emphemeroptera)



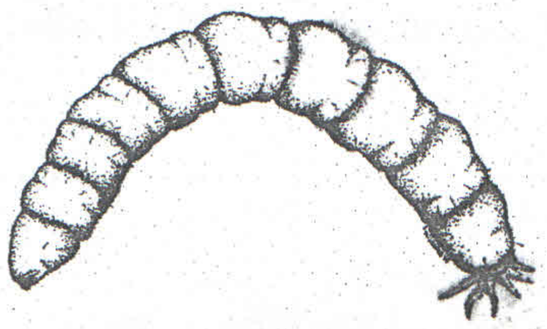
Stonefly Nymph (O. Plecoptera)

MEDIUM POLLUTION TOLERANCE (PTI = 2)

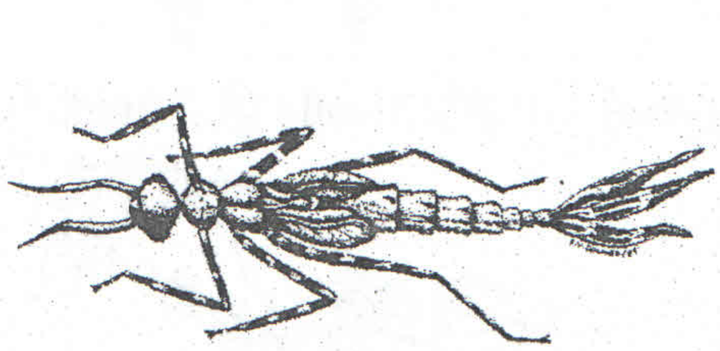


Alderfly Larva (F. Sialidae)

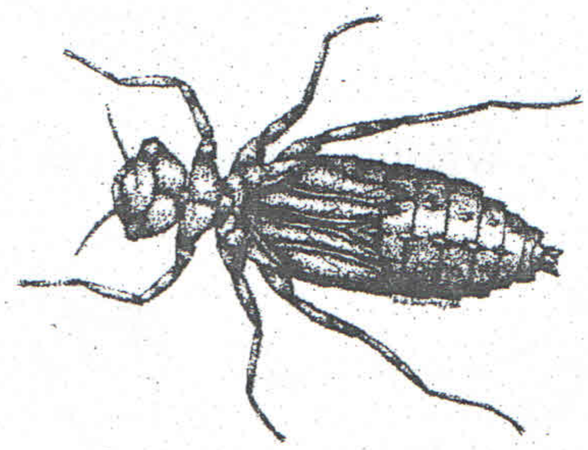
Flatworms (C. Turbellaria)



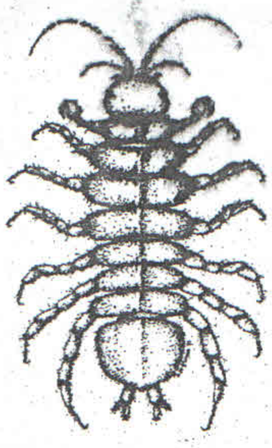
Cranefly Larva (F. Tipulidae)



Damselfly Nymph (O. Odonatia)



Dragonfly Nymph (O. Odonatia)



Aquatic Sowbug (O. Isopoda)

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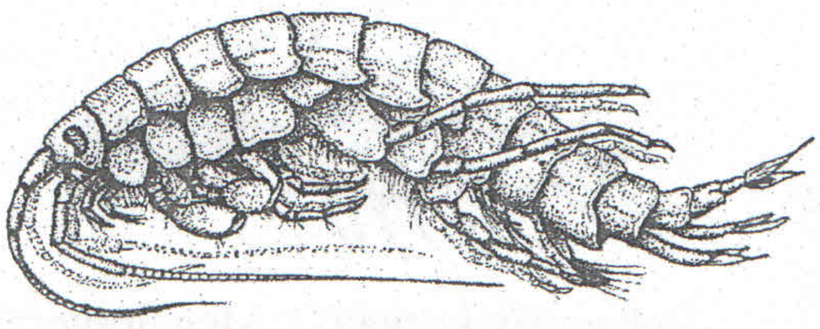
MEDIUM POLLUTION TOLERANCE (PTI = 2)

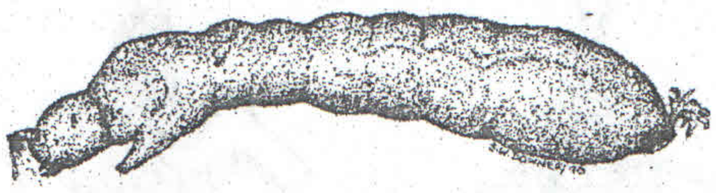


Freshwater Scud (O. Amphipoda)

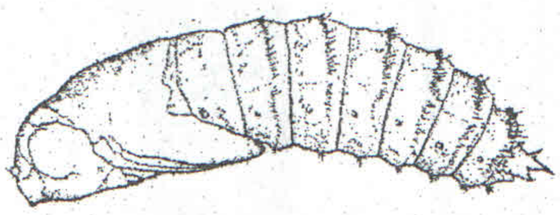
Aquatic Snails (C. Gastropoda)

Water Mites (C. Arachnida)

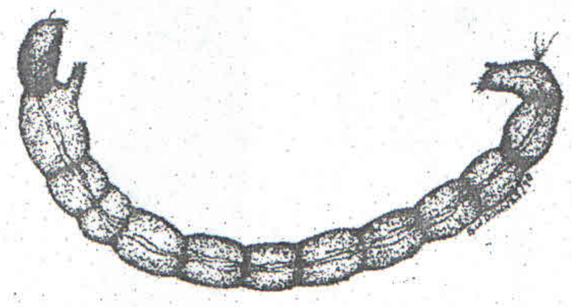
HIGH POLLUTION TOLERANCE (PTI = 1)



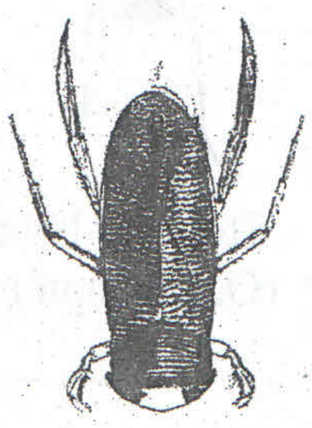
Blackfly Larva (F. Simuliidae)



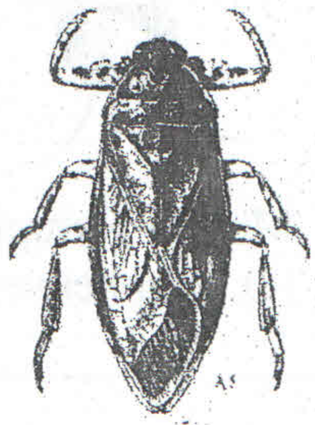
Horse/Deerfly Larva (F. Tabanidae)



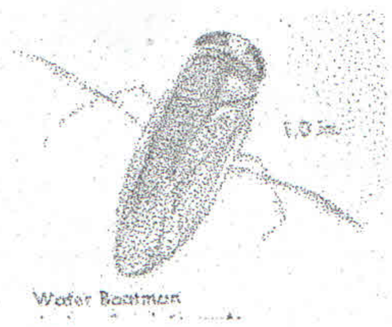
Midge Larva (F. Chironomidae)



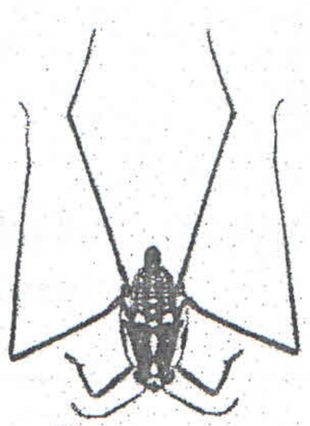
Backswimmer (F. Corixidae)



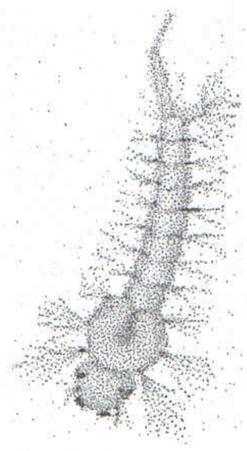
Giant Water Bug (G. Lethocerus)



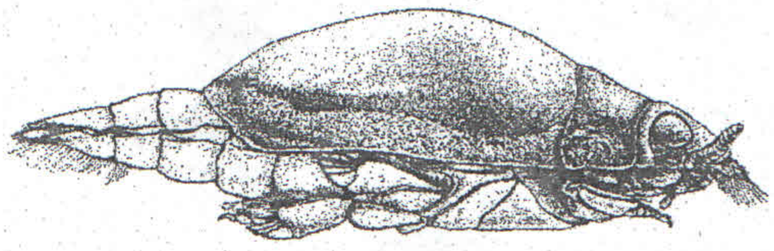
Water Boatman (F. Corixa)



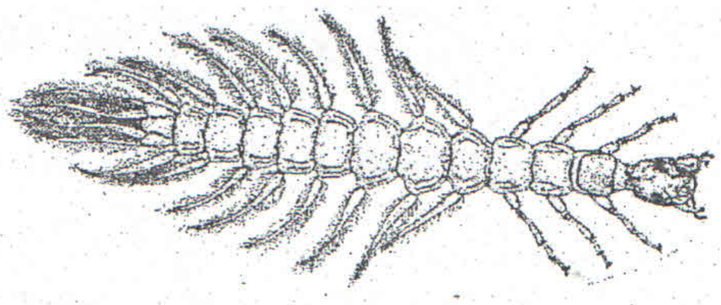
Waterstrider (F. Gerridae)



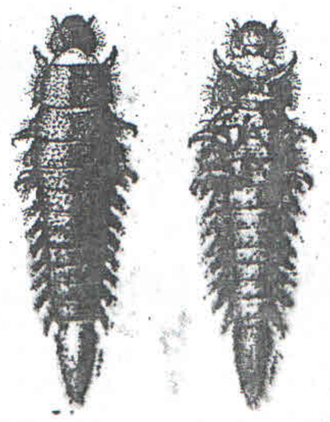
Mosquito Larvae (O. Diptera)



Whirligig Beetle (F. Gyrinidae)



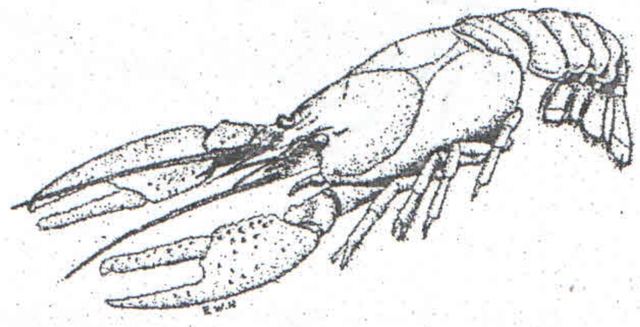
Whirligig Beetle Larva (F. Gyrinidae)



Riffle Beetle (F. Elmidae)

Aquatic Worms (Oligochaeta)

Leech (C. Hirudinea)



Crayfish (O. Decapoda)

MACROINVERTEBRATE COUNT

After conducting the macroinvertebrate count, use letter codes (A = 1-9, B = 10 – 99, C = 100 or more) to record the numbers of organisms found in the sample. Add up the number of letters in each column and multiply by the indicated index value. The columns are organized based on the organisms' sensitivity to pollution.

POLLUTION SENSITIVE	SOMEWHAT SENSITIVE	POLLUTION TOLERANT
_____ stonefly nymphs	_____ crayfish	_____ aquatic worms
_____ caddisfly larvae	_____ sowbugs	_____ midge fly larvae
_____ water pennies	_____ scuds	_____ blackfly larvae
_____ riffle beetle adults	_____ alderfly nymphs	_____ leeches
_____ mayfly nymphs	_____ fishfly nymphs	_____ pouch/other snails
_____ gilled snails	_____ damselfly nymphs	
_____ dobsonfly larvae	_____ watersnipe fly larvae	
_____ water fleas	_____ crane fly larvae	
_____ planaria	_____ whirligig beetle larvae	
	_____ dragonfly nymphs	
	_____ clams or mussels	
	_____ diving beetle larvae	
_____ # of letters	_____ # of letters	_____ # of letters
_____ index value	_____ index value	_____ index value
(# of letters times 3)	(# of letters times 2)	(# of letters times 1)

Now add together the three index values from each column for your total index value. Total index value = _____

Compare this total index value to the following ranges of numbers to determine the water quality of the stream.

WATER QUALITY RATING
(mark one)

_____ Excellent (>22) _____ Good (17 – 22) _____ Fair (11 – 16) _____ Poor (<11)