

MACRO-INVERTEBRATES IN SOUTH AFRICA

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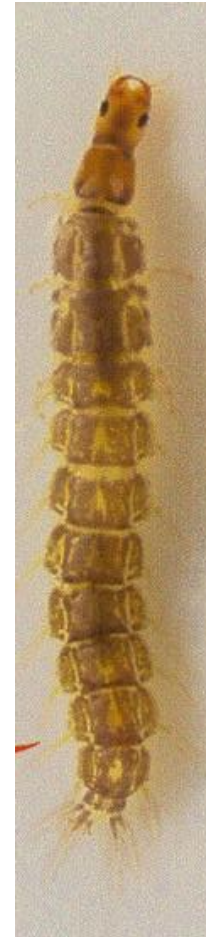
LOW SENSITIVE SPECIES

1. Coleoptera (Beetles)

Gyrinidae:

(Whirligig beetles)

- On the surface of the water
- Pools and flowing water

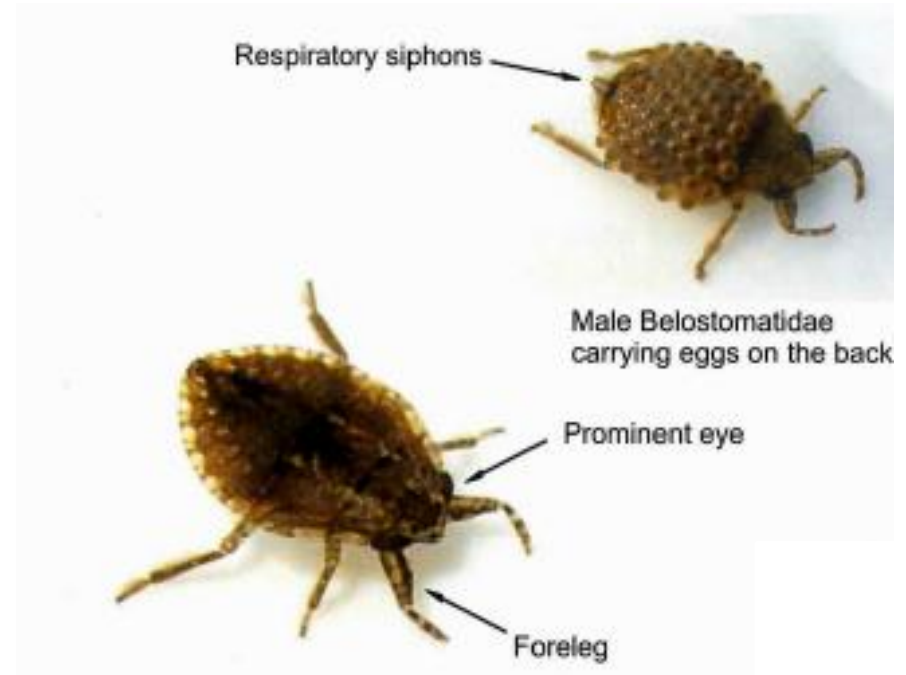


2. Hemiptera (True bugs)

Belostomatidae:

(Giant water bugs)

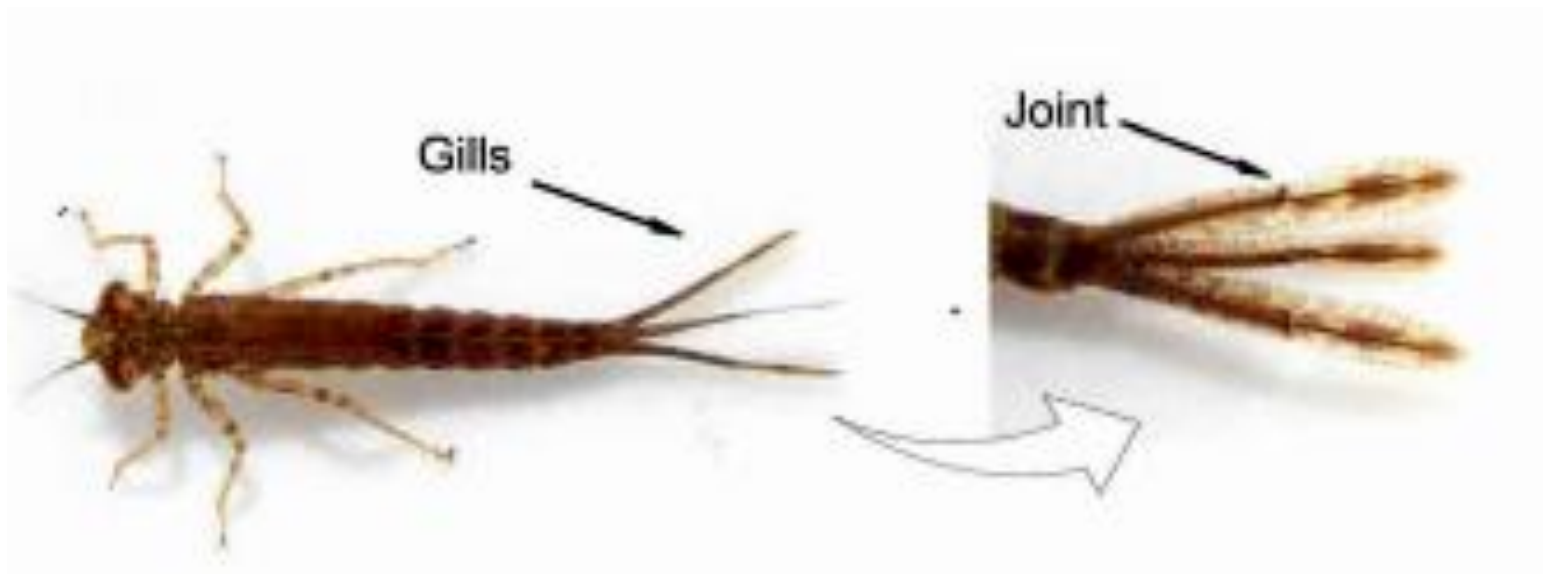
- Bottom of shallow pools
- Backwater areas or quiet areas of streams



3. Coenagrionidae (True bugs)

Coenagrionidae:
(Damselflies)

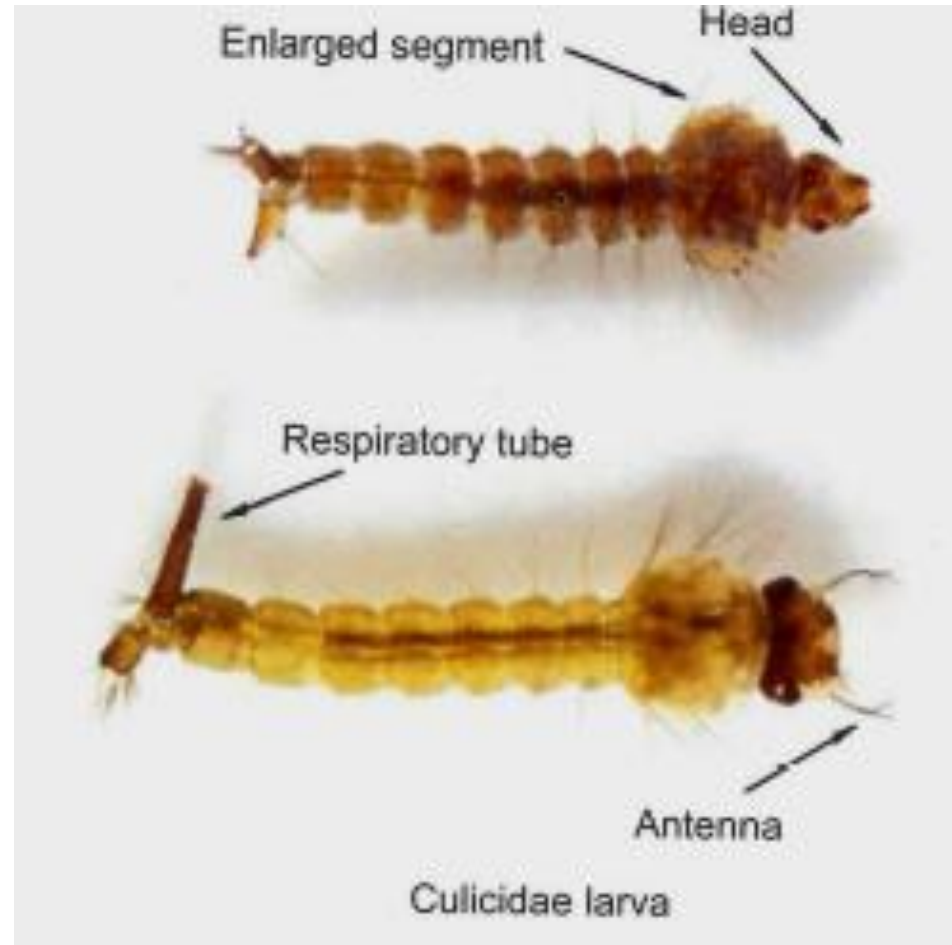
- Vegetation
- Edges of streams



4. Diptera (Flies, Mosquitoes, Midges)

Culicidae: (Mosquitoes)

- Pools
- No flow



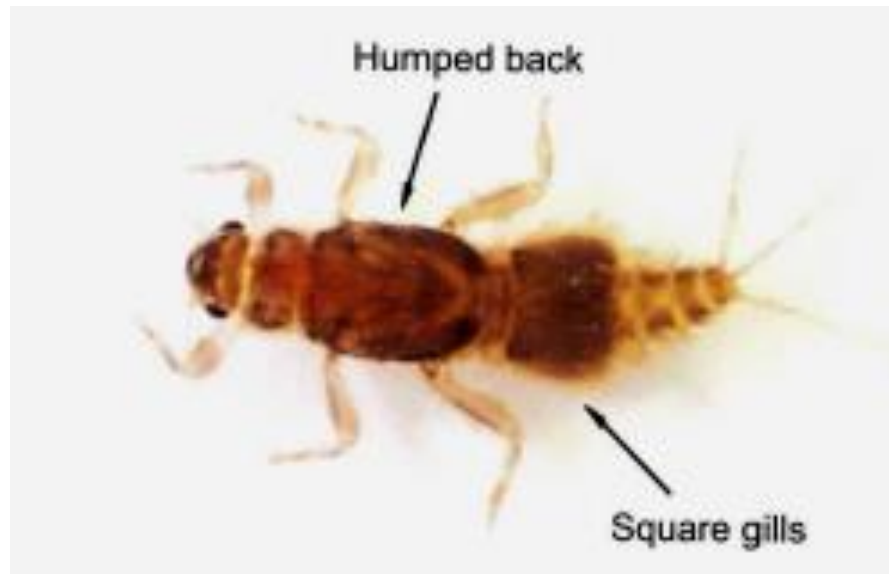
MODERATELY SENSITIVE SPECIES

1. Ephemeroptera (Mayflies)

Ceanidae:

(Cainflies)

- Stones or muddy areas
- Slow or very slow flow

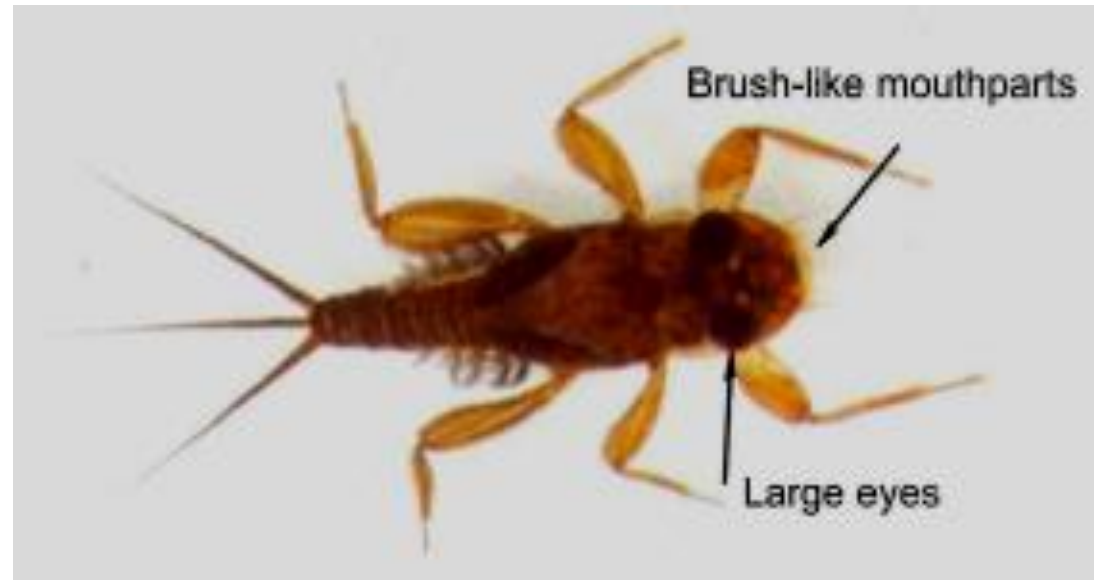


2. Ephemeroptera (Mayflies)

Tricorythidae:

(Stout crawlers)

- Rocks or any solid submerged substrate
- Fast flow

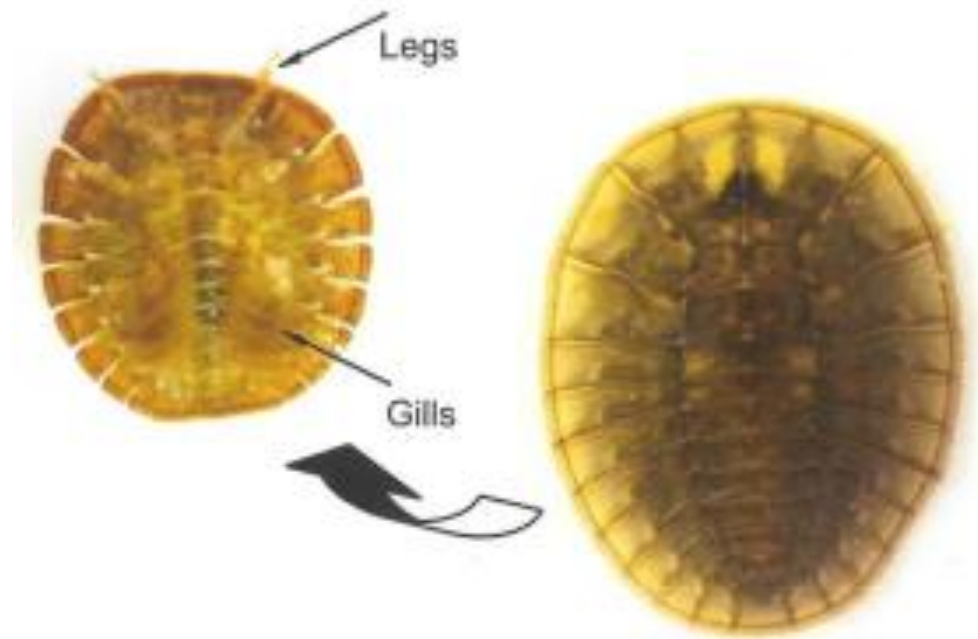


3. Coleoptera (Beetles)

Psephenidae:

(Water penny beetles)

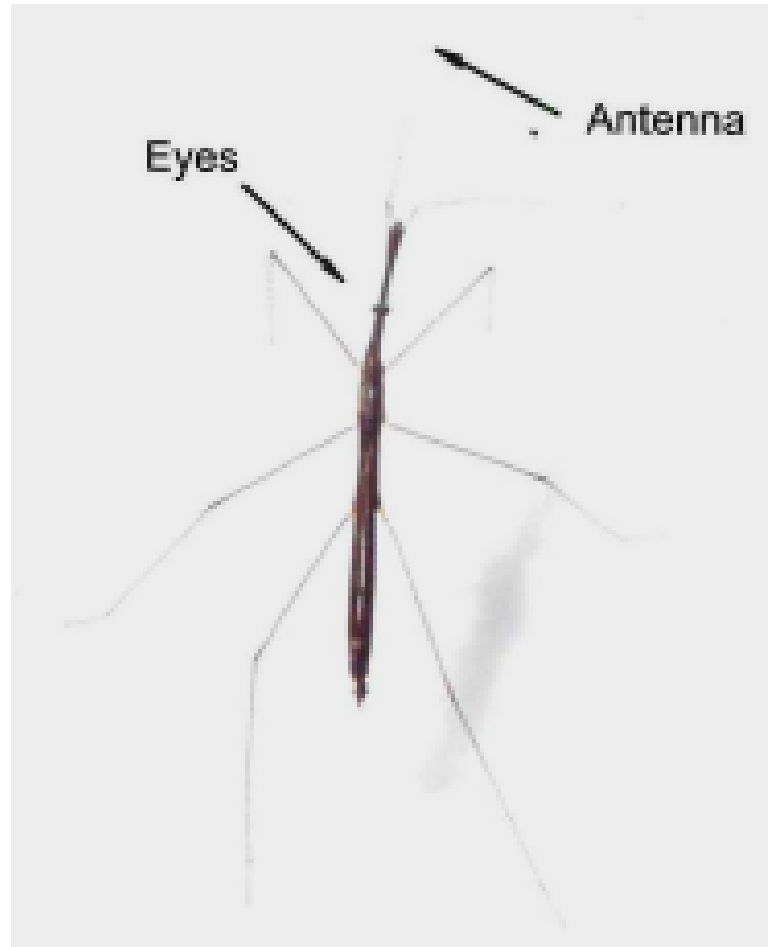
- On rocks or other solid substrate
- Fast flow and shallow water



4. Hemiptera (True bugs)

Hydrometridae: (Marsh treaders)

- Floating vegetation
- Backwaters of streams



5. Odonata (Dragonflies/Damselflies)

Aeshnidae: (Dragonflies)

- Under stones
- Slow or fast flow



Different types of Aeshnidae

6. Odonata (Dragonflies/Damselflies)

Chlorocyphidae: (Damselflies)

- Under stones
- Backwater or slow flow areas



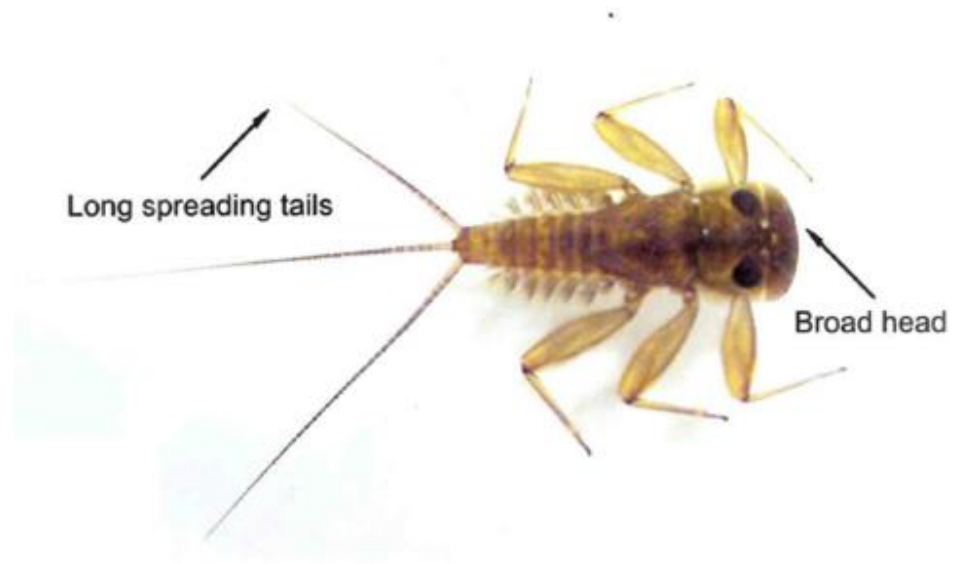
HIGHLY SENSITIVE SPECIES

1. Ephemeroptera (Mayflies)

Heptageniidae:

(Flat-headed mayflies)

- Stones or submerged pieces of wood
- Moderate or fast flow



2. Coleoptera (Beetles)

Helodidae:

(Marsh beetles)

- On submerged vegetation and under stones
- Slow or fast flow but with low pH value

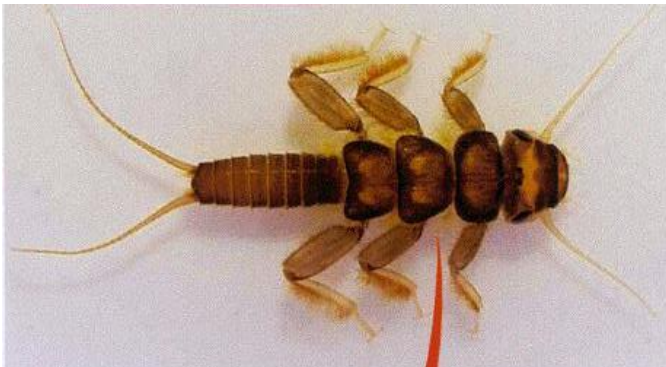


3. Plecoptera (Stoneflies)

Perlidae:

(Stoneflies)

- Under stones
- Fast flow



SPECIAL CASES

1. Ephemeroptera (Mayflies)

Baetidae:

(Small minnow flies)

- Only when there are more than two species present
- Rocks, plants or coarse sand
- Moderate fast flow



2. Trichoptera (Caddisflies)

Hydropsychidae: (Caseless caddisflies)

- Only when there are more than two species present
- Under stones (live in shelters made of sand grains)
- Fast flow

