







Freshwater Microbes and small Arthropods

Drawings and information from:

Pond Life Identification Kit: a simple guide to small and microscopic pond life. Wim van Egmond and Dave Walker  
Micscape Magazine, November 2000.






<http://www.microscopy-uk.org.uk/mag/indexmag.html>

**Arthropods (invertebrate animals with jointed appendages and exoskeletons)**

Ostracods (types of crustaceans)		bean-like shell <2 mm
Copepods (types of crustaceans)		long antennae, tiny eyespot 0.5 - 3 mm
Daphnia ("water fleas")		antennae, large compound eye 0.3 - several mm
Water bears (Tardigrades)		8 stumpy legs body <1 mm
Water mites		8 legs, round body 0.5 - 5 mm
Mosquito larvae (e.g. fly)		Long, slender body, often moves in S- shaped curves 1 - 20 mm











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**Algae (microorganisms that may or may not live in colonies. All algae do photosynthesis.)**

<b>Flagellated forms (flagella may not be visible)</b>		
Euglenoids		green, flagella (whip-like cilia), free-swimming, red eye spot, body is flexible <0.4 mm
Dinoflagellates		brown, 2 flagella, (1 in girdle), free-swimming, tough armour <0.4 mm
Volvox (type of Green Algae)		Special colonies of cells
<b>Non-flagellated forms</b>		
Blue-green algae (cyanobacteria)		blue-green, often slow locomotion, used to be considered algae but more related to bacteria cells <0.05 mm colonies can be many mm
Diatoms		usually brownish, silica cell wall in two parts, solitary or colonial, some have a slow gliding motion <0.5 mm
Desmids		green, no flagella, mainly solitary, some colonial, various shapes, two semi-cells which are mirror images <0.5 mm
Green algae (Chlorophyta)		Green, may or may not move, not attached to a surface
Water net		a sock-like colony, green algae
<b>Filamentous forms</b>		
Pond scum (Gamophyta: conjugating green algae)		non-branching, green, chains of cells with distinctly shaped cell contents cell with <0.1 mm. length: centimeters
Other non-branching forms		
Branching forms		
Red algae (Rhodophyta)		mainly marine, but some freshwater forms, not always red

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## Other Protists (algae are types of protists)

Amoeba		move with pseudopods 0.02 - 5 mm
Shelled amoeba		amoeba with a shell e.g. of sand grains 0.1 - 0.4 mm
Heliozoans 'Sun animalcules'		immobile, spherical with radiating hair- like pseudopods 0.01 - 1 mm
Ciliates - Peritrichs		cylindrical or bell-shaped bodies, undulating membrane of cilia, some stalked, often colonial and attached to animals or plants bell: <0.25mm
Ciliates - Suctoria		on water plants and other animals, adult ciliates have lost cilia, sticky tentacles capture prey <0.7 mm
Other ciliates	 <i>Coleps</i>	various, mostly free living forms
	 <i>Lacrymaria</i>	cell usually of a fixed shape but can be contractile, or extending neck, cilia of various forms, fixed mouth 0.01 - 4 mm
	 <i>Paramecium</i>	
	 <i>Stentor</i>	
	 <i>Spirostomum</i>	

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