

Aquatic Macroinvertebrate Identification Key

1 Microscopic
Bigger than Microscopic? Go to **2**

Green, white or black. Swims with smooth motion. Seed Shrimp NR	Teardrop shape, jerking movement. Copepod NR	Swims with a jerk using antennae. Water Flea NR
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2 Shell
No Shell? Go to **3**

Single Shell			Double Shell	
Flattened Shell with small hump. Freshwater Limpet 4	Spiral Shell, opening on the left. Pouch Snail 1	Spiral Shell, opening on the right. Gilled Snail 1	Small, pale delicate shell. Pea Shell 5	Small, darker shell with ridges. Little Basket Shell 4

Got Legs? Go to **4**

3 No Legs

Worm-like						Tentacles, brushes or tails						
Green to Red, twisting movement. (Bloodworm) Non-biting Midge larvae 3	Segmented, no suckers, may have bristles. Segmented Worm 2	Long, very thin, swims in 'S' shape, can't coil. Biting Midge Larvae 4	Suckers, expands & contracts. Leech 1	Hair-like, swims in 'S' shape. Roundworm 3	Slides along bottom. Flatworm 2	Six fleshy lobes at end of body. Cranefly Larvae 5	Breathing tube at rear. Wriggles! Mosquito Larvae 1	Large head. Wriggles. Mosquito Pupae 1	Grub-like with no obvious head. March Fly Larvae 3	Sucker on end of body, waves head. Blackfly Larvae 5	Slender with tentacles, attached to solid surface. Hydra 2	Hangs from surface by ring of hairs. Soldier Fly Larvae 2

Acknowledgements:
The original Macroinvertebrate Key this poster is based on was designed by Ron Simms and Amy Blaylock in 2002 and adapted by Steve Walker in 2006. Assistance with the original Key was provided by staff of the SA Museum: Dr Errol Matthews, Dr Chris Watts and Mr Robert Hamilton-Bruce.

* Sensitivity Ratings from SIGNAL2 system in "New sensitivity grades for Australian River Macroinvertebrates" by Bruce C Chessman. Marine & Freshwater Research 2003, 54, 95-103.

Pollution Sensitivity*:

NR = Not Rated

10 - 8 = Very Sensitive

7 - 6 = Sensitive

5 - 4 = Tolerant

3 - 1 = Very Tolerant

Invertebrate Size:
Average actual length/size indicated by black line:

(unless otherwise stated)

4 More than 3 pairs of legs
Only 3 pairs of Legs? Go to **5**

More than 4 Pairs of legs					4 Pairs of Legs	
Lobster-like, brown or black or even blue. Actual size: 10cm+ (adult)	Swims with back up. Actual size: 5cm+ (fully grown)	Walks on bottom or swims by flicking tail. Actual size: 5cm+ (fully grown)	Shrimp-like, swims on side. Actual size: 5cm+ (fully grown)	Looks like a slater bug & sometimes attached to a shrimp. Actual size: 5cm+ (fully grown)	Tiny, swims in water, red, orange, brown. Actual size: 5cm+ (fully grown)	Runs on top of water. Actual size: 5cm+ (fully grown)
Yabby 4	Freshwater Shrimp 3	Freshwater Prawn 4	Scud (sideswimmer) 3	Isopod (sow bug) 2	Watermite 7	Fishing Spider 2

5 Has Wings
No Wings? Go to **6**

Soft Wings, piercing mouth parts (Bug)								Hard Wings, Jaws (Beetles)			
Flat oval body and head. Grasping arms. Actual size: 5cm+ (adult)	Swims fast, right side up. Streamlined body shape. Actual size: 5cm+ (adult)	Swims on back, jerky motion. Actual size: 5cm+ (adult)	Runs on surface of water, Black. Actual size: 5cm+ (adult)	On water surface and grass edges. Actual size: 5cm+ (adult)	Long, stick-like, lives on surface. Actual size: 5cm+ (adult)	Long breathing tube, grasping front legs. Actual size: 9cm+ (adult)	Scorpion shape, long tail. Actual size: 9cm+ (adult)	Swims moving hind legs alternately. Actual size: 5cm+ (adult)	Back legs move at same time. Actual size: 5cm+ (adult)	Swims on surface, often in fast circles. Actual size: 5cm+ (adult)	Crawls through water plants. Actual size: 5cm+ (adult)
Creeping Water Bug 3	Water Boatman 2	Backswimmer 1	Water Strider 4	Small Water Strider 3	Water Measurer 3	Needle Bug 3	Water Scorpion 3	Water Scavenger Beetle 2	Predacious Diving Beetle 2	Whirligig Beetle 4	Crawling Water Beetle 3

6 Tails or NO Tails

Two Tails... OR	Three Tails... OR	NO OBVIOUS TAIL								
Found in fast water and stream edges. Actual size: 5cm+ (adult)	Plate-like tails, no gills on abdomen. Actual size: 5cm+ (adult)	Long thin tails. Gills on abdomen. Actual size: 5cm+ (adult)	Can't swim, can only crawl. Actual size: 5cm+ (adult)	Usually brown, prefer to crawl rather than swim. Actual size: 5cm+ (adult)	Large mouthparts (nippers), 7 pairs of gills on side. Actual size: 5cm+ (adult)	Spines on side, large mouthparts. Actual size: 5cm+ (adult)	Large Body, hinged mouth. Actual size: 5cm+ (adult)	Hangs from surface, large mouthparts. Actual size: 5cm+ (adult)	Small and hops on surface and in plants. Actual size: 5cm+ (adult)	Hiding in tube/stick/case or free-living. Actual size: 5cm+ (adult)
Stonefly Nymph 10	Damselfly Nymph 3	Mayfly Nymph 9	Riffle Beetle Larvae 7	Marsh Beetle Larvae 6	Scavenger Beetle Larvae 2	Whirligig Beetle Larvae 4	Dragonfly Nymph 3	Predacious Diving Beetle Larvae 2	Springtail 1	Caddisfly Larvae 8