













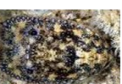





Invertebrates in Malaysia

What is Invertebrate?



- An invertebrate is an animal without a backbone. The group includes 95% of all animal species — all animals except those in the Chordate subphylum Vertebrata (fish, reptiles, amphibians, birds, and mammals)
- Over 95% of all animals on the earth are invertebrates of one form or another. Invertebrates are found just about everywhere in both terrestrial and aquatic habitats, and include animals ranging from sponges, corals and sea stars to insects, crabs and worms, just to name a few.
- For information on collecting aquatic invertebrates in freshwater environments see the Waterwatch site.
- Over 80% of all invertebrates are grouped into the single phylum Arthropoda that includes spiders, crustaceans, centipedes, millipedes and insects. All arthropods share the following common features
- Term "invertebrate" are describe such and divided the original two groups into ten, by splitting off Arachnida and Crustacean from the Linnean Insecta, and Mollusca, Annelida, Cirripedia, Radiata, Coelenterata and Infusoria from the Linnean Vermes. They are now classified into over 30 phyla, from simple organisms such as sea sponges and flatworms to complex animals such as arthropods and molluscs.
- Most invertebrates can move. Even sponges move when they are very young and very small. Once they settle down they don't move anymore.
- Other invertebrates like lobsters and insects move around their whole lives. Most invertebrates are organized in a way called symmetrical.
- Symmetrical organization means when you can draw a line down the middle of the organism and the two sides look like mirror images. Draw a line down the middle of yourself and one side looks like the other side.
- Invertebrates can't make their own food. Scientists use the word heterotrophic. Heterotrophs feed off other things to get their energy

Type of Invertebrate

 <p><i>Linckia sp.</i> Starfish</p> <p>This starfish, widespread throughout the region, is usually blue, but may also be pale brownish. It is a large species with a diameter up to 40cm (1ft 6 in). It is particularly common in shallow water, but is found as deep as 50m (165ft).</p>	 <p><i>Phyllidia varicosa</i> Molluscs</p> <p>Most are brightly colored and a potential meal for predators but, when disturbed, <i>P. varicosa</i> mucus that is toxic to fish. The toxin involved actually comes from the sponge on which the nudibranch feeds.</p>	 <p><i>Diadema sp.</i> Long-spined urchin</p> <p>The species of long spine sea urchins in the area, <i>Diadema sp.</i> Has the longest, thinnest spines, and has a bright red or orange ring around the anal opening on top of the test. The outside of spines is coated with poisonous mucus, which causes considerable discomfort if the spine penetrate the skin.</p>	 <p><i>Thelenota ananas</i> Holothurians, Sea Cucumber</p> <p><i>T. ananas</i> reaches a length of about 50cm (1ft 8 in) and has distinctive 'armour' of pointed tubercles covering its leathery skin. It is found in rubble or sandy areas of the reef front, and feeds on organic detritus. It is widespread throughout the Indo-Pacific</p>	 <p><i>Acanthaster planci</i> Crown-of-thorns</p> <p>This starfish reaches 60cm (12ft) in diameter, has up to 23 arms and is covered with strong, sharp spines. It matures at 2-3 years of age. For at least the first 6 months, the young starfish feed on coralline algae, but then they switch their intention to live coral. Preferring branching sp such as <i>Acropora</i>.</p>	 <p><i>Tridacna gigas</i> Giant Clam</p> <p><i>T.gigas</i> is the largest of the seven species of giant clam that occur in the area, and grows to a length of over 130cm (4ft 4in). The shell is distinctly ribbed, but there is no sculpturing in the form flutes. The mantle is usually brown with iridescent blue green circles.</p>
 <p><i>Sepia sp.</i> Reef Cuttlefish</p> <p>Cuttlefish has ten arms with suction disks on their inner surface. This is one of the largest species, reaching 50cm (1ft 8in) in length. It may found single or in pairs, and with care can be approached quite closely. Color patterns are remarkably variable and change in an instant, depending on mood and habitats.</p>	 <p><i>Protoreaster sp.</i> Starfish</p> <p>This starfish is easily recognized by its have build and the blunt, black spines set against a pinkish body. <i>P. lichi</i> is similar but has a grey body with sharper, bright red spines. <i>Protoreaster sp</i> may be abundant in sandy habitats, both in shallow water and at the base of the reef.</p>	 <p>Sea horse</p> <p>Although they are bony fish, they do not have scales, but rather a thin skin stretched over a series of bony plates arranged in rings throughout their body. Seahorses swim upright. Seahorses have a coronet on their head, which is distinct to each individual, much like a human fingerprint. They swim very poorly by using a dorsal fin, since they are poor swimmers; they are most likely to be found resting, with their prehensile tails wound around a stationary object. They have long snouts, which they use to suck up food, and eyes that can move independently of each other.</p>	 <p><i>Charonia tritonis</i> Giant Triton</p> <p>The giant triton is one of the largest of all gastropods and is instantly recognizable. This specimen is attacking a cushion star (<i>Culecita</i>), but it feeds on many other species of echinoderm, including the coral feeding Crown-of-thorns starfish. It may grown to more than 50cm (1ft 8in) in length.</p>	 <p><i>Dardanus megistos</i> Crustaceans, Hermit Crab</p> <p>Hermit crabs have a soft abdomen, which they protect by using empty mollusk shells as a home. <i>D. megistos</i> is a colorful hermit crab with a red body covered with black-edged white spots and spines. It is also one of the largest, growing to a length about 15cm (6in). Large individuals are often found in the shells of the Giant Triton <i>Charonia tritonis</i>. Its food consists mainly of mollusks.</p>	 <p><i>Camposcia retusa</i> Crustaceans, Spider Crab</p> <p>The small spider crab is common on reefs throughout the region, but it is incredibly well camouflaged and is often overlooked. It grows to only about 3cm (1in) in length, and the carapace and limbs are almost completely obscured by sponge, algae and pieces of debris that the crab picks and puts in position. It occurs mainly on the shallow reef top, to depths of 15m (50ft), and forages for food at night.</p>
 <p><i>Parrabicus antarcticus</i> Slipper Lobster</p> <p>Slipper lobsters are easily recognized by their extremely flattened carapace and appendages. The antennae are reduced to thin, strong plates at the front of the body, and they have no pincers. The eyes are widely spaced. This species grows to about 20cm (8in) long.</p>	 <p><i>Acyrova lanceolata</i> Molluscs, Ovoid</p> <p>Ovoids are related to cowries, but have an egg or spindle-shaped shell. They live and feed on various soft corals, gorgonians and sponges, and are usually well camouflaged. <i>Acyrova lanceolata</i> has a red shell that closely mimics the gorgonian polyps. It grows to about 2.5cm (1in) in length.</p>	 <p><i>Polycarpa aurata</i> Ascidians (sea squirts)</p> <p>This is one of the larger ascidians, growing to a height of about 10cm (4in). It may be solitary, but often is found in small groups. <i>P. aurata</i> is easily recognized by the mottled yellow and blue coloration.</p>	 <p><i>Oxycommanthus benetti</i> Cnidoids, Featherstar</p> <p>It is active both by day and night. It secures the best feeding position by clinging to protruding rocks or reef animal, and sometimes occurs in groups. It has as many as 100 arms and comes in at least for color varieties</p>	 <p><i>Culecita noveguineae</i></p> <p>Young cushionstars have recognizable arms, but as they grow the arms disappear. The maximum size is about 25cm (10in) across. The color is variable, ranging from orange-red to dark green. Close examination will usually reveal the small shrimp <i>Periclemenes soror</i> on the underside.</p>	 <p><i>Spirobranchus giganteus</i> Christmas tree worm</p> <p>This tube worm has brightly colored tentacles (red, blue, purple, yellow or green), which form two fan-shaped spiral whorls. The tube is also calcareous, and the top end is visible when the tentacles retract. Live massive corals are the preferred habitat. Following a short planktonic stage, the larvae settle on live coral, probably finding and entry points where polyp has died.</p>

