Department of Primary Industries and Regional Development
GOVERNMENT OF WESTERN AUSTRALIA

# Phylum: Chordata

Chordata is one of the better-known phyla in the animal kingdom, as it includes humans!

This diverse group of animals share the following common traits:

- nerve chord,
- notochord (supporting structure),
- gill slits and
- tail.

These features may not always be obvious, but they do appear at some stage in the animal's development.

The majority of chordates are vertebrates (sub-phylum Vertebrata), which means they have a backbone. However, there are some groups within the phylum that do not have backbones, including the sub-phyla Urochordata (or Tunicata) and Cephalochordata.

The Chordata sub-phyla can then be further split into several groups (classes) that you might come across during your beachcombing experience:

### Chondrichthyes

This group includes cartilaginous fishes such as sharks and rays, which have an internal skeleton made of cartilage. They are cold-blooded and extract oxygen from the water through their gills.

Cold-blooded means that their body temperature is controlled only by the temperature of their environment.

### Osteichthyes

Bony fishes are vertebrates with an internal skeleton of bone, rather than cartilage. Like the Chondrichthyes, they are also cold-blooded and extract oxygen from the water through their gills.

### Reptilia

Reptiles are vertebrates which are air breathing and cold-blooded. They also have dry, scaly skin and generally lay eggs. Examples of marine reptiles include the sea snakes, turtles and saltwater crocodiles.

### Aves

Birds are also air-breathing vertebrates, but are warm-blooded. They have a covering of scales and feathers and lay hard-shelled eggs. Their front limbs have been modified to form wings.

Warm-blooded means they produce their own body heat.

### Mammalia

Mammals are warm-blooded vertebrates in which the scales have become modified into hair or fur. They give birth to live young and the female mammary glands produce milk to suckle their young. Marine mammals include whales, dolphins, seals, sea lions and dugongs.

### Ascidiacea

This group includes ascidians or tunicates, which are more commonly referred to as 'sea squirts'. The adults of this diverse group of animals have little resemblance to their larval form. The larvae of sea squirts have rod cells (notochords) or a basic backbone, which are lost as they develop into adults. These simple animals function as siphons, filtering water in and out of the body to collect nutrients. A cellulose-like material known as a 'tunic' protects the sea squirt's internal organs.

Other classes not included in this summary are Thaliacea (salps and thaliaceans), Larvacea (appendicularians and larvaceans), and Cephalaspidomorphi (jawless fishes), more commonly known as superclass Agnathans.