

# Richmond

## Fossil hunting guide

The Toolebuc Formation is exposed at Fossil Hunting Sites 1 and 2. This sequence of rock was deposited on the seafloor 100 million years ago, when Richmond was covered by a shallow sea. The limestone & shale are made up of microscopic animals and the shells of clams that lived on the ancient seafloor. Therefore almost every rock you pick up at the fossicking sites contains the fossilised remains of animals. The purpose of this guide is to help you to identify finds at these sites.



*Inoceramus shell*

### BIVALVE CLAMS

Most of the shells that make up the limestone are from the giant clam *Inoceramus*. Each shell, or valve, could grow up to 50cm in length, but, was only a few millimeters thick. Most of the shells in this area have been crushed into fragments by currents or scavengers on the seafloor. The valves are pale grey and are made up of columns of tiny crystals that can be seen forming layers in cross-section.

A smaller clam, *Aucellina*, can also be found at the fossil hunting sites. They are typically white in colour and can be 2–3 cm in diameter.



*Belemnite*

### BELEMNITES

Belemnites are a group of extinct squids. Their soft bodies are not preserved as fossils but their internal shell, or guard, is commonly found at the fossil hunting sites. The guard is a black, bullet-shaped object 1–4 cm in length.



*Fish tooth*



*Fish vertebra*

### FISH

Scattered remains of small fish occur throughout the limestone. These include ribs, scales, fin rays, jawbones, vertebrae as well as the large, flat scales of the armoured fish *Richmondichthys*.



*Shark tooth*

### SHARK TEETH

As shark skeletons are mostly made of cartilage, usually only their teeth are preserved as fossils. Shark teeth found at the fossicking sites are shiny, chocolate black, and range from a few millimetres to 3 cm in length. They are similar in shape to the teeth of modern sharks.



*Fish jaw*

### TURTLES

3 species of fossil turtle are described from around Richmond, *Bouliachelys*, *Notochelone* and the giant *Cratochelone*. Turtle bone is very dense and often has a bluish tinge. Rib bones, limb bone and scutes are commonly found as these are robust and easily resist erosion.



*Richmondichthys scale*



*Turtle shell scute*



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**PERMITS ARE REQUIRED FOR THE FOSSIL HUNTING SITES AND CAN BE OBTAINED FROM KRONOSAURUS KORNER.**

If you don't already have tools for digging, you can purchase fossil hunting kits from Kronosaurus Korner for \$45.00.

REMEMBER to take your sunscreen, hats, water bottles and suitable shoes.

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Ichthyosaurus tooth



Ichthyosaurus vertebra



Ichthyosaurus phalange



Coprolite

### ICHTHYOSAURS

Remains of these dolphin-like reptiles are not common at the fossil hunting sites. They are usually represented by their vertebrae, which have a characteristic "hockey-puck" shape. Teeth are also rarely found, these have a distinctive conical shape with a rectangular root

### COPROLITES

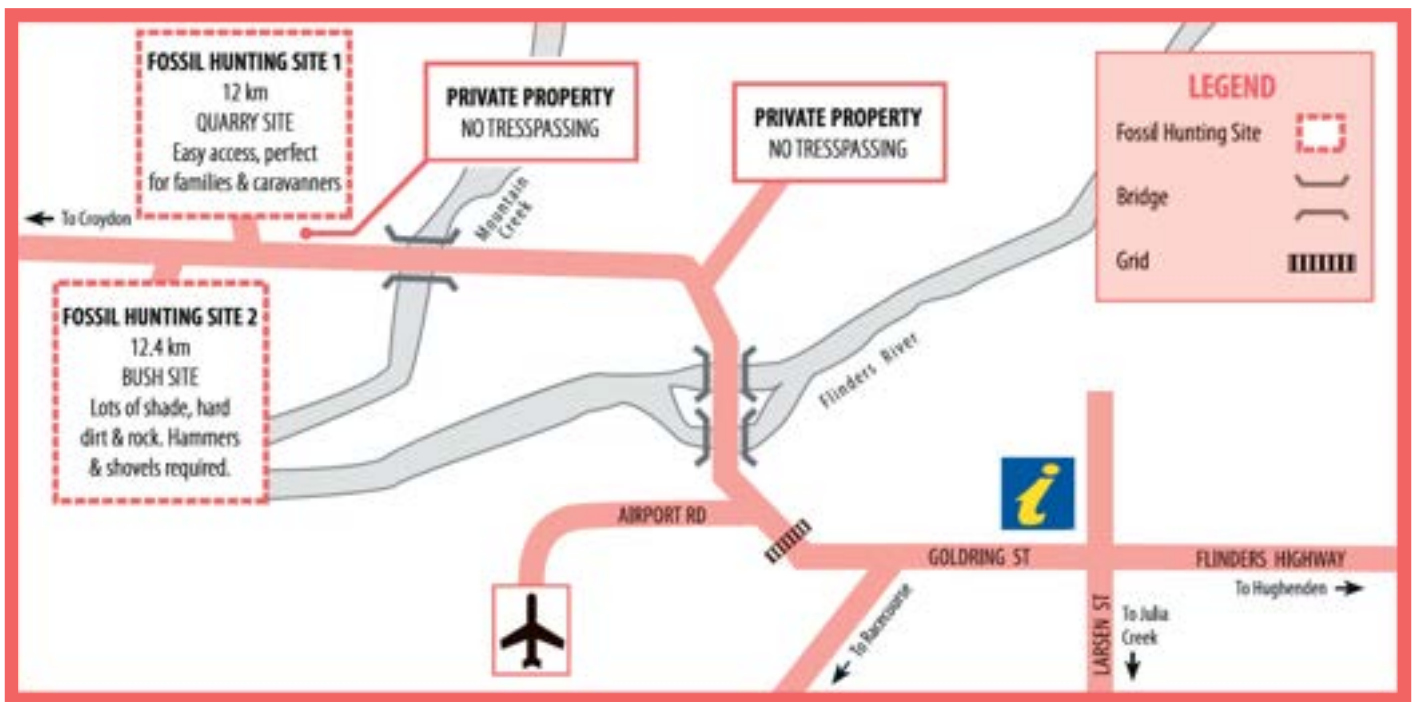
Smooth rounded, pale grey nodules are commonly found at the fossil hunting sites. These are coprolites – also known as fossilised poo! Most of these coprolites are less than 3 cm in diameter and were probably left by large fish or turtles.

### TRACE FOSSILS

Some surfaces of the limestone are covered in tube – like ridges. These are the mold of burrows made by worms on the seafloor.

Other fossils, including the bones of birds, pterosaur and other marine reptiles have also been found at the fossil hunting sites. So keep your eyes peeled.

**Museum staff at Kronosaurus Korner are interested to see anything you find and help you to identify your fossils.**



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