



New South Wales

State Arms, Symbols and Emblems Amendment (Fossil Emblem) Bill 2015

Explanatory note

This explanatory note relates to this Bill as introduced into Parliament.

Overview of Bill

Currently, the State emblems recognised under the *State Arms, Symbols and Emblems Act 2004* are as follows:

- (a) the animal emblem of New South Wales is the platypus,
- (b) the bird emblem of New South Wales is the kookaburra,
- (c) the floral emblem of New South Wales is the waratah,
- (d) the state fish of New South Wales is the blue groper,
- (e) the gemstone emblem of New South Wales is the black opal.

The object of this Bill is to recognise the fish fossil *Mandageria fairfaxi* as a State emblem.

Outline of provisions

Clause 1 sets out the name (also called the short title) of the proposed Act.

Clause 2 provides for the commencement of the proposed Act on the date of assent to the proposed Act.

Clause 3 amends the *State Arms, Symbols and Emblems Act 2004* to include the fish fossil *Mandageria fairfaxi* in the list of State emblems recognised by the Act.

Information about *Mandageria fairfaxi* and its scientific importance

Mandageria fairfaxi, a large, air-breathing sarcopterygian (“fleshy-finned”) fish, lived in freshwater lakes and rivers during the Devonian Period (also known as the “Age of Fishes”) around 370 million years ago and its well-preserved fossil remains have been found in what is now central-west New South Wales, near the town of Canowindra.

The Canowindra site was discovered in mid-1955 during road works by a bulldozer driver who turned over a large rock slab with “strange marks”, pushed it clear of the road and saved it. In early 1956 this slab, bearing the remains of about 140 complete fish fossil specimens, was recovered and removed to the Australian Museum in Sydney. However, nearly 40 years passed before Canowindra’s fossil site was rediscovered and excavated, in 1993. It proved to be the richest fish fossil site of its kind in the world. Eight types of long-extinct fishes have now been identified from the Canowindra fossil site, but other forms unknown to science may still be buried there.

Mandageria fairfaxi, the largest of the Canowindra fishes, grew to around 1.7 metres in length and was clearly the top predator in its ecosystem. It is named after the Mandagery Sandstone Formation in which it was found during the 1993 excavation and to honour Mr James Fairfax for his support in funding scientific research on Canowindra’s Devonian fish fossils. The fossil was first described and named in 1997 by Dr Zerina Johanson, then at the Australian Museum, Sydney, and by Dr Per Ahlberg, then at the Natural History Museum, London.

The unusual uncrushed preservation of the head region in some *Mandageria fairfaxi* specimens means that detailed information on many aspects of its internal anatomy (for example, its palate, gill arches and braincase) has been recovered.

One significant feature was the discovery of 2 facets at the rear of the *Mandageria fairfaxi* braincase, where it met the backbone. These facets reveal that *Mandageria fairfaxi* had already developed a functional neck joint, the first such discovery in sarcopterygian fishes.

Freeing the head from the body was an essential step in the evolutionary transition from fishes to tetrapods. *Mandageria fairfaxi* had taken this step.

The original fossils of *Mandageria fairfaxi* are on permanent public display in the Age of Fishes Museum in Canowindra.

