Background Information

Riversleigh is one of the world’s richest mammal fossil sites. Riversleigh, along with Naracoorte, was inscribed as The Australian Fossil Mammal Site (Riversleigh/Naracoorte) World Heritage Area in 1994.

The extensive fossil deposits at Riversleigh are preserved in limestone, which was formed in lime-rich freshwater pools, and in caves. Riversleigh provides the first records for many distinctive groups of living mammals, such as marsupial moles, koala, platypus and feather-tailed possums. The area also has many other unique and now extinct Australian mammals such as the massive wombat-like marsupials (diprotodontids), marsupial lions (thylacoleonids) and marsupial tapirs or tree-pushers (palorchestids).

The variety of deposits at Riversleigh has helped us understand how the environment has changed over time from a rich rainforest community to semi-arid grassland, and how the animals that lived in it have changed too. Many of the descendants of these animals now no longer live in rainforests but live in the habitats that dominate Australia today. Others have left no descendants at all!

The highest diversity of animals have been found in the Late Oligocene to Middle Miocene (25 million years ago – 10 million years ago) deposits. During this time Riversleigh was cooler and wetter and covered in rainforest. From the number and diversity of fossils found from this time a full food web can be shown. Specialised creatures such as the forest koala and possums lived in the trees, bandicoots and thingdonta (aka Yalkaparidon) probably searched for insects on the forest floor whereas the larger marsupials like the Nimbadon possibly ate plant shoots. These animals were hunted by the larger carnivores such as the cleaver-headed crocodile or the smaller tree climbing ridge-headed crocodile. The Riversleigh Thylacine would have chased down smaller animals on the forest floor.

By the Pliocene (5 million years ago) the climate had changed and so did the vegetation—from rainforest to a more arid environment with grasslands. With the changes in climate and vegetation came a decline in vertebrate diversity.

By the Pleistocene (1.9 million years ago) many animals of the region specialised into different niches and

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Inquiry Questions

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<tr>
<td>Science</td>
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<td>What evidence do fossils give of how the landscapes and environment have changed?</td>
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<td>How do scientists collect and analyse evidence, including fossils and minerals?</td>
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<td>Geography</td>
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<td>What can you find out about how a landform was produced?</td>
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Points of Interest

Riversleigh Fossil Centre, Outback at Isa

See dioramas and exhibitions at the Riversleigh Fossil Centre, Outback at Isa illustrating the unique discoveries of Riversleigh - one of the world’s richest fossil fields. Displays provide a window to the development of early mammal fauna over the past 26 million years.

- 19 Marian Street, Mt Isa QLD 4825
- Cost: Entry fee applies. Group Prices available.
- Hours: 8.30am - 5.00pm daily
- Phone: (07) 4749 1555

Additional Resources

http://australianmuseum.net.au/Riversleigh
http://www.create.unsw.edu.au/research/riversleigh.html

References

Riversleigh: Story of Animals in Ancient Rainforests of Inland Australia
Authors: Michael Archer, Suzanne Hand, Henk Godthelp
Published in 1994