The Unique Australian Wildlife

The notes to the geological history of the continent

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School 7

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Many countries have their own unique fauna.

But Australia is mostly unusual in that

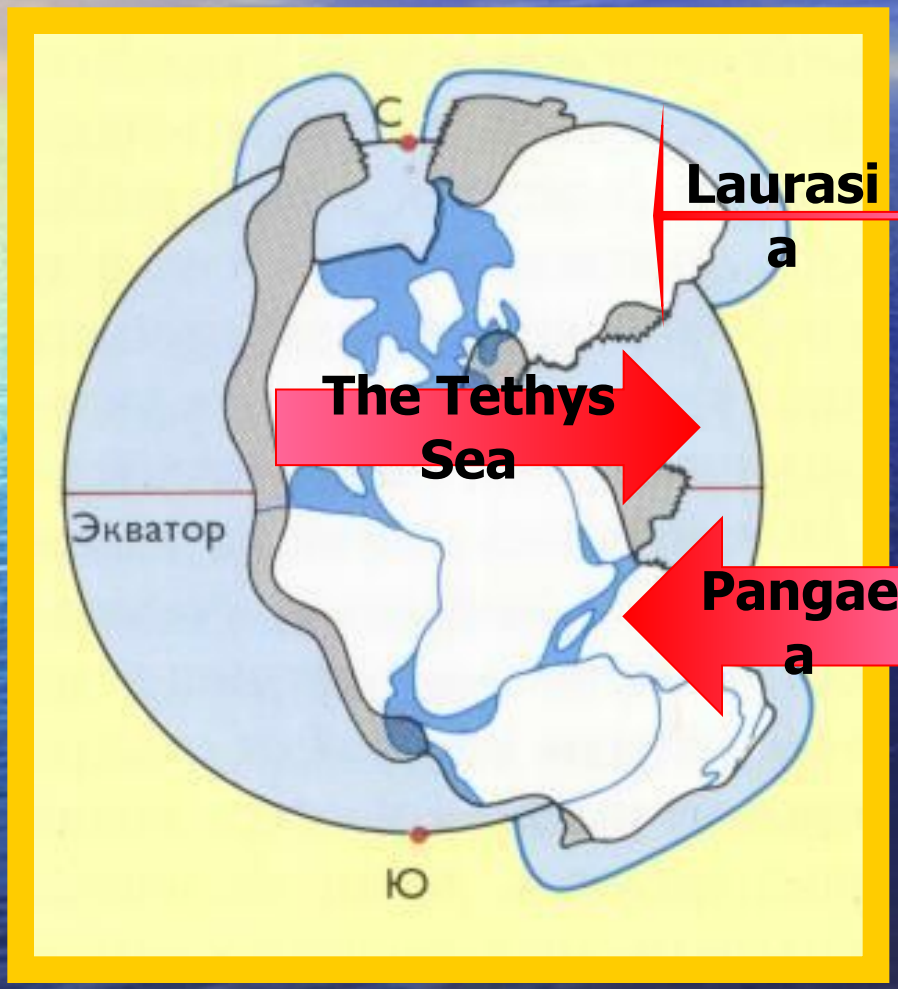
320-270 million years ago

Permo-Carboniferous Age

If we had observed the Earth surface from space at that time,
we would have seen quite the other picture

270-210 million years ago

The end of Permian – the beginning of Trias



About 275 million years ago Euroamerica and Angara made a huge landmass of Laurasia.

The Tethys Sea Separated Laurasia from the protocontinent of Pangaea.

Nowadays it is the Middeteranian Sea

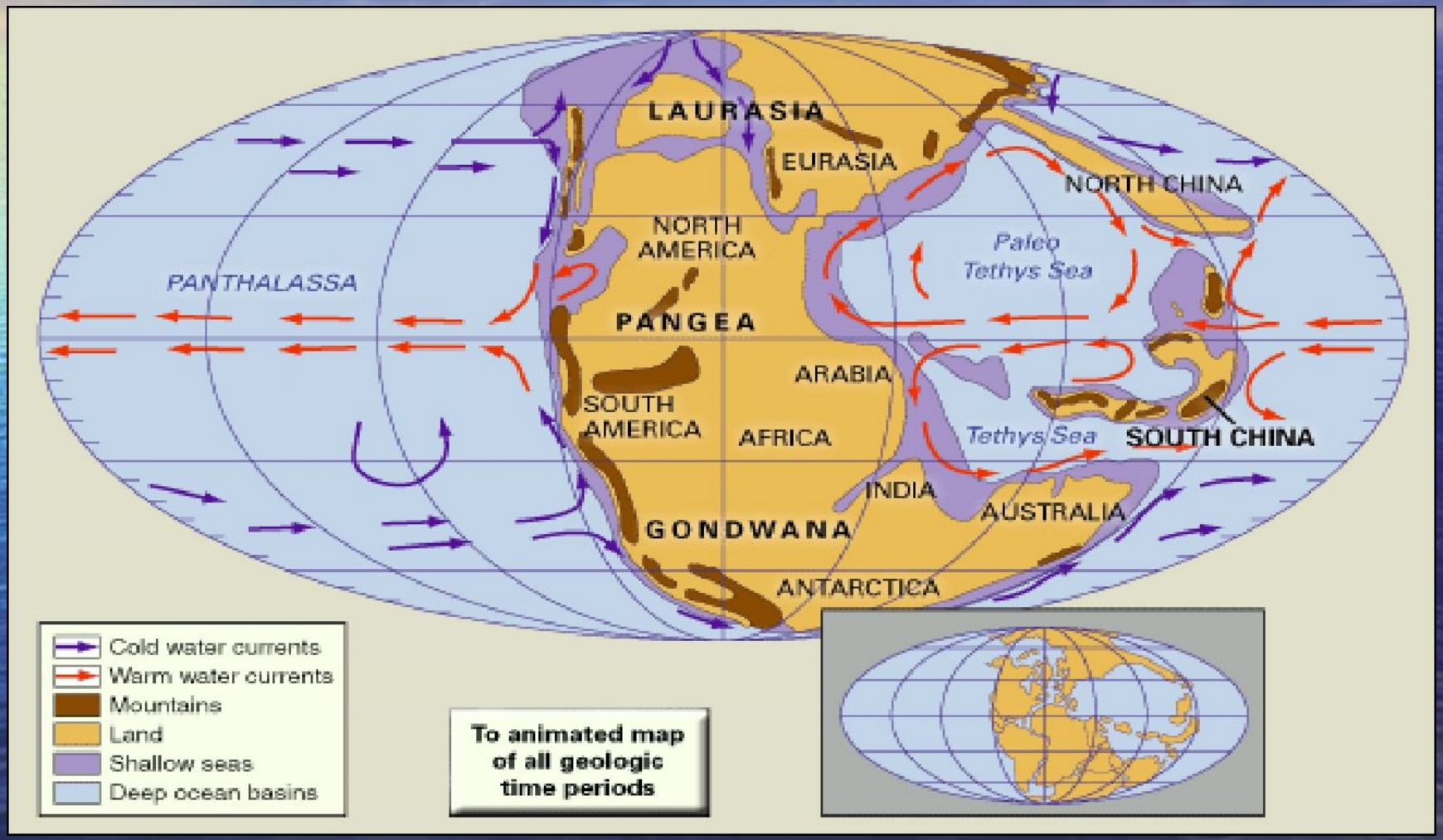
270-210 million years ago

The end of Permian – the beginning of Trias

- On land the vertebrates are represented in the Triassic by amphibians and reptiles.
- The first true mammals, which were very small, are supposed to appear in the Late Triassic.

Triassic Period:

continents and oeans of the Earth in Early Triassic time



Monotreme

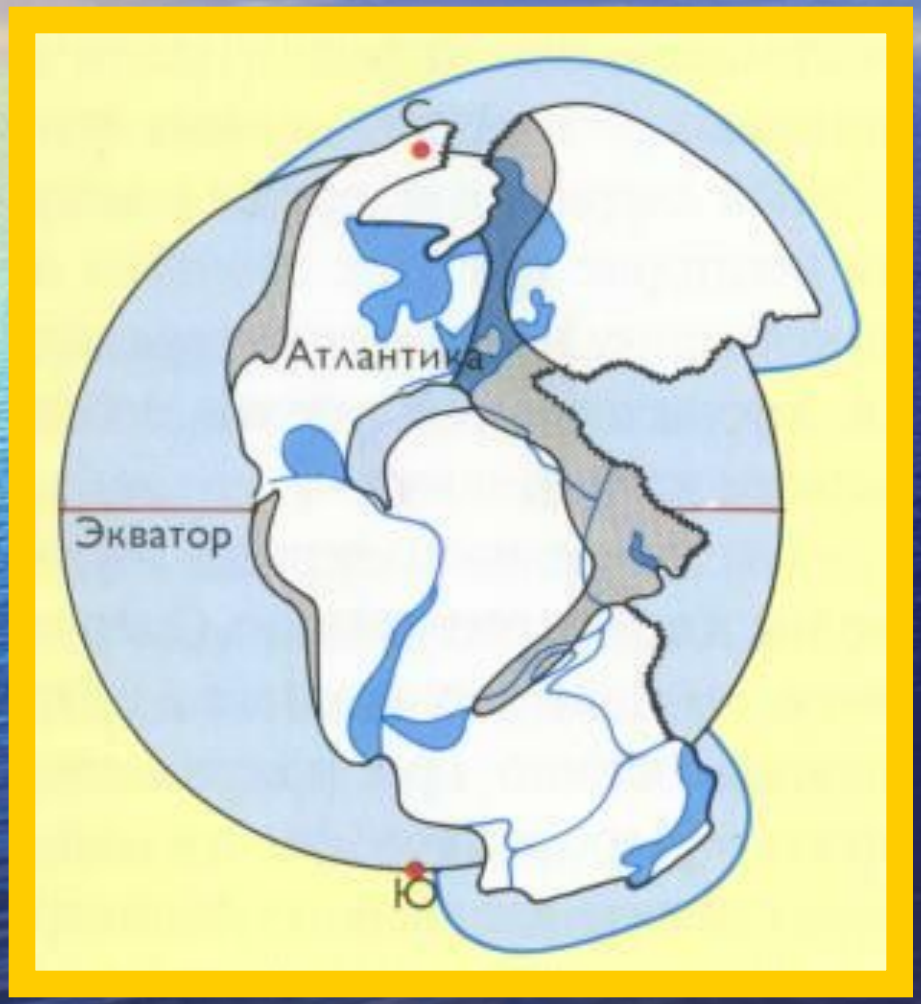
The egg-laying mammalians include the amphibious platypus and the terrestrial echidnas of Australia, Tasmania, and New Guinea

short-beaked echidna

amphibious platipus

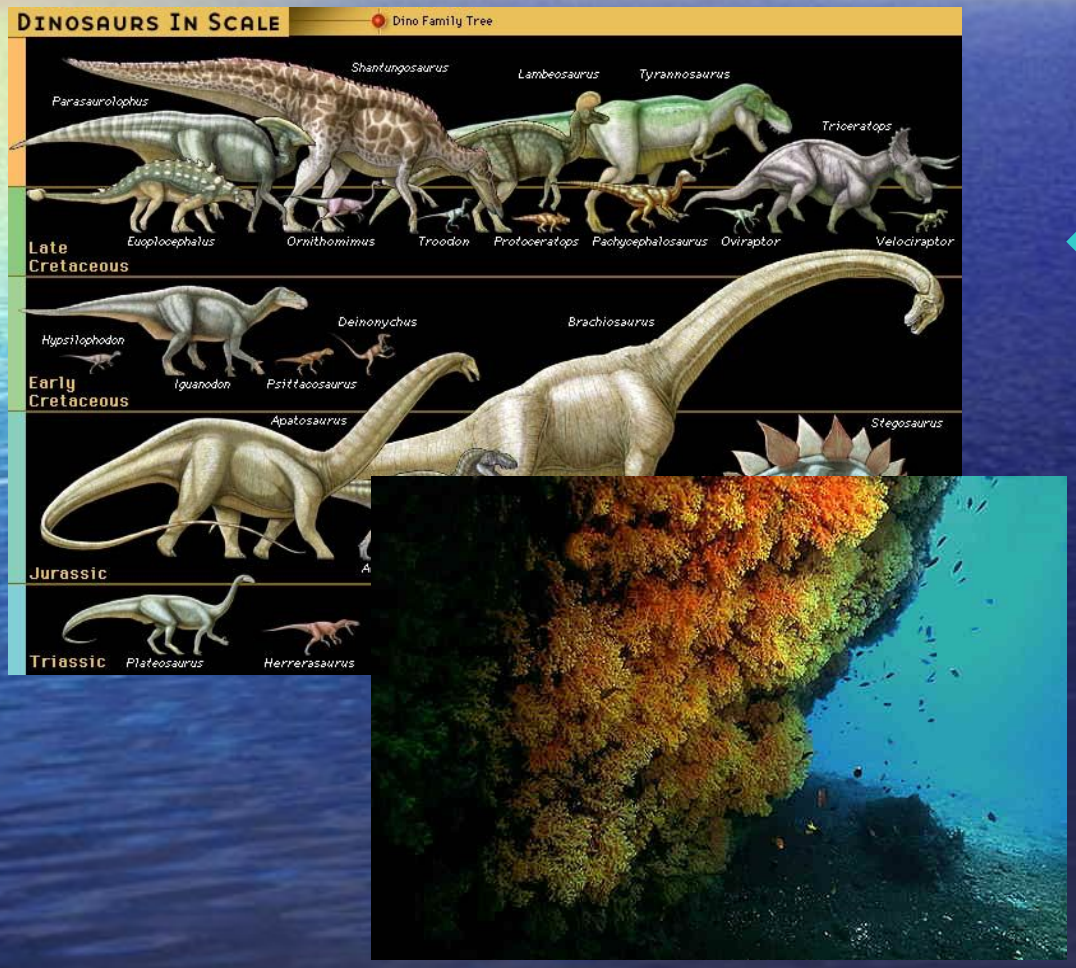
180 million years ago

Middle Jurassic period



The protocontinent supposedly covered about half the Earth and was completely surrounded by a world ocean called Panthalassa.

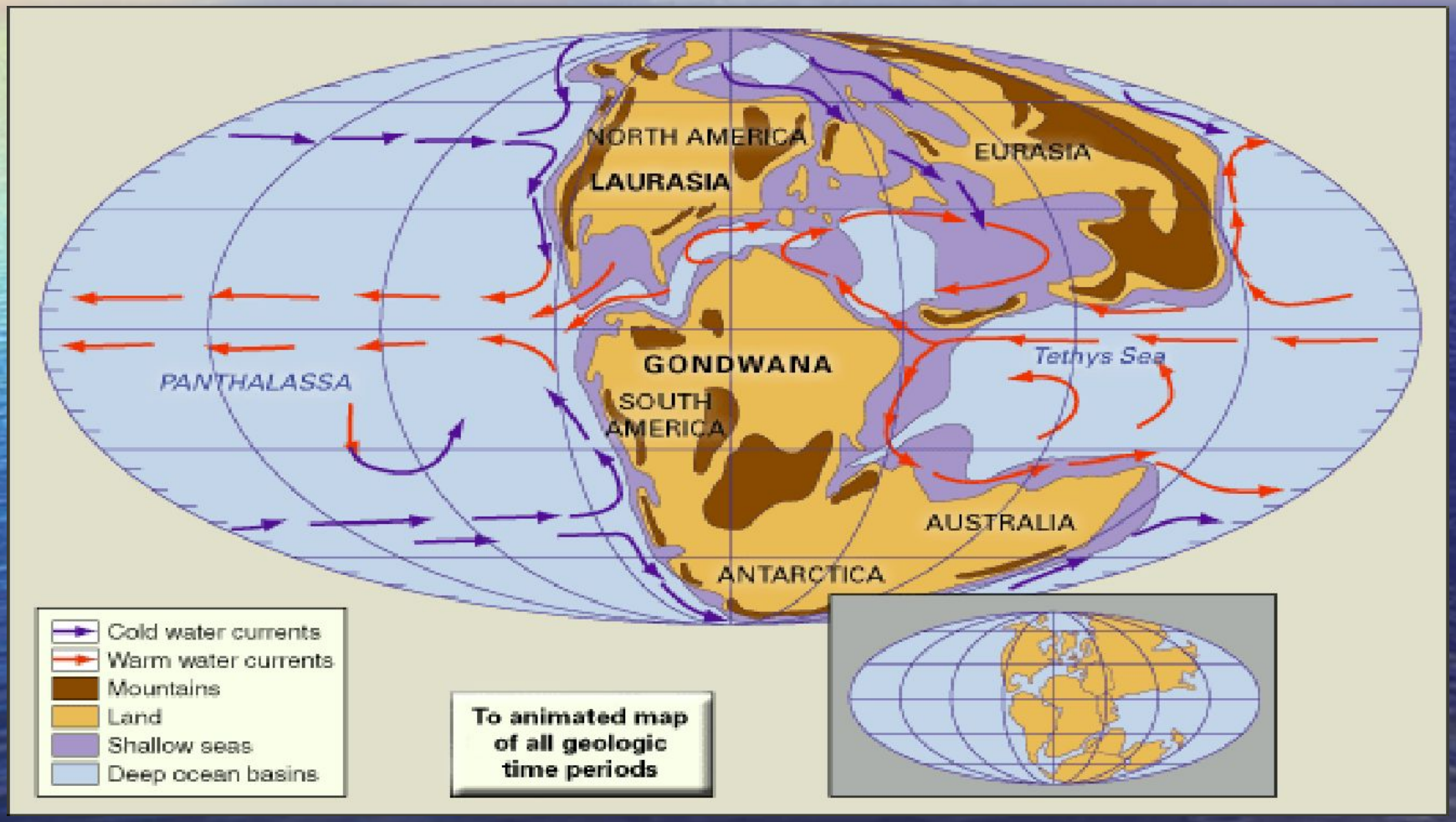
180 million years ago
Middle Jurassic period



- Dinosaurs and other reptiles emerged to dominate the land, sea, and sky.
- The first birds and new varieties of reefbuilding and other invertebrate faunas, provided Jurassic life with added complexity.

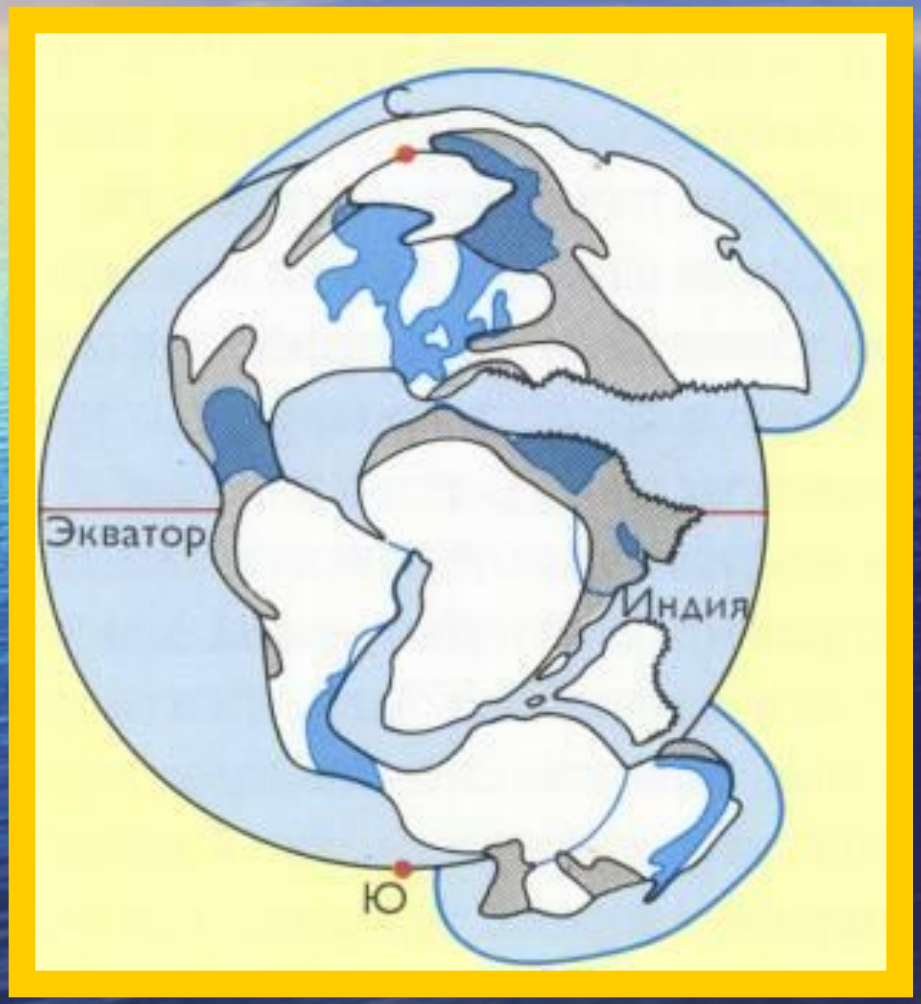
Late Jurassic Epoch:

geochronological map



100 million years ago

Early Cretaceous Period



Later Pangaea began
to break apart.
Its segments Laurasia
and Gondwanaland
gradually receded,
resulting
in the formation
of the Atlantic Ocean.

100 million years ago

Early Cretaceous Period

Two important groups of modern mammals evolved during the Cretaceous.

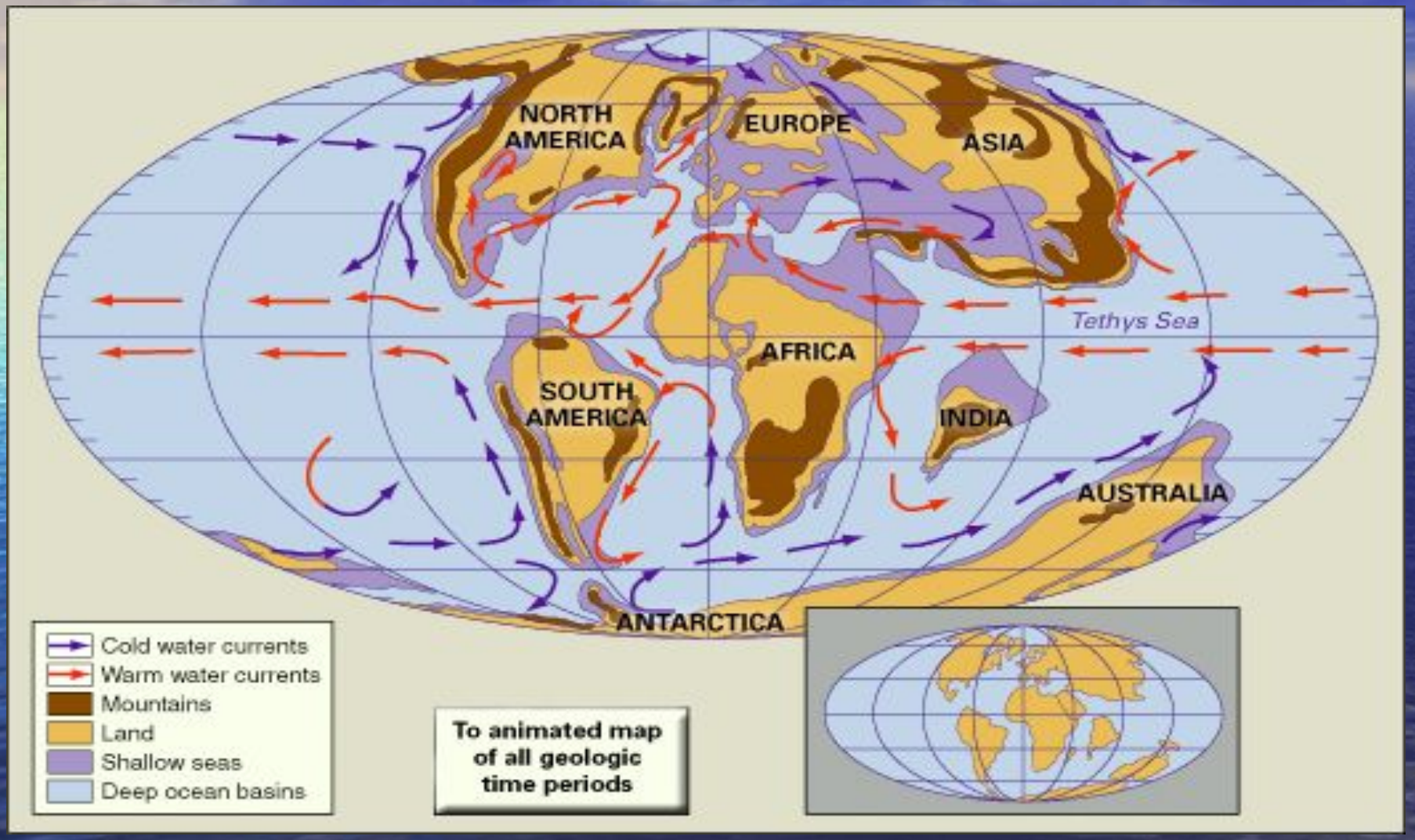
Cretaceous placentals, smaller than those of present-day ones, were poised to take over the terrestrial environments as soon as the dinosaurs vanished.

100 million years ago

Early Cretaceous Period

Another mammal group, the marsupials, evolved during the Cretaceous as well. This group includes the native species of Australia, kangaroos, koalas, and the North American opossum.

Late Cretaceous Epoch:
geochronological map

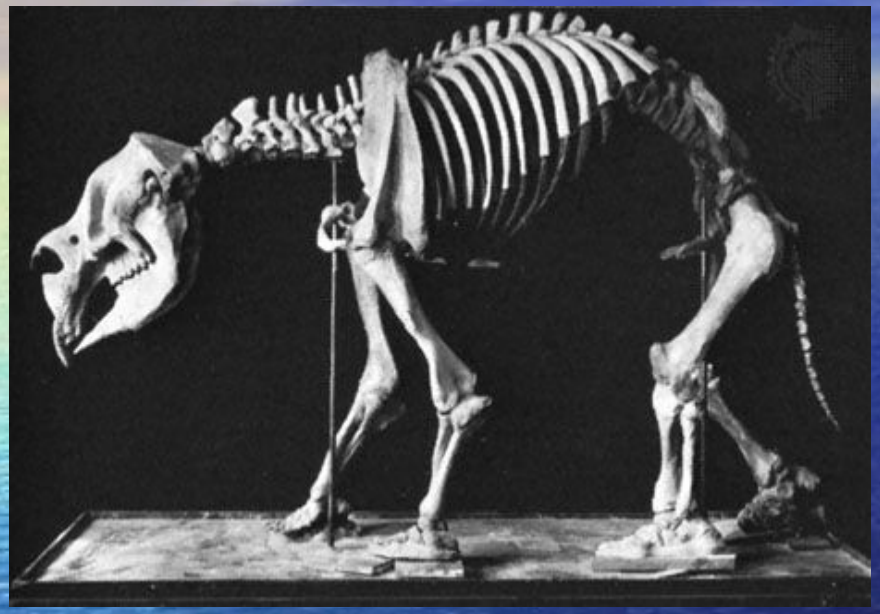


70 million years ago

The end of Cretaceous Period

The Late Cretaceous record is much more complete. It is known, for instance, that during the Late Cretaceous many dinosaur types lived in relationships like the present-day terrestrial mammals.

Diprotodon

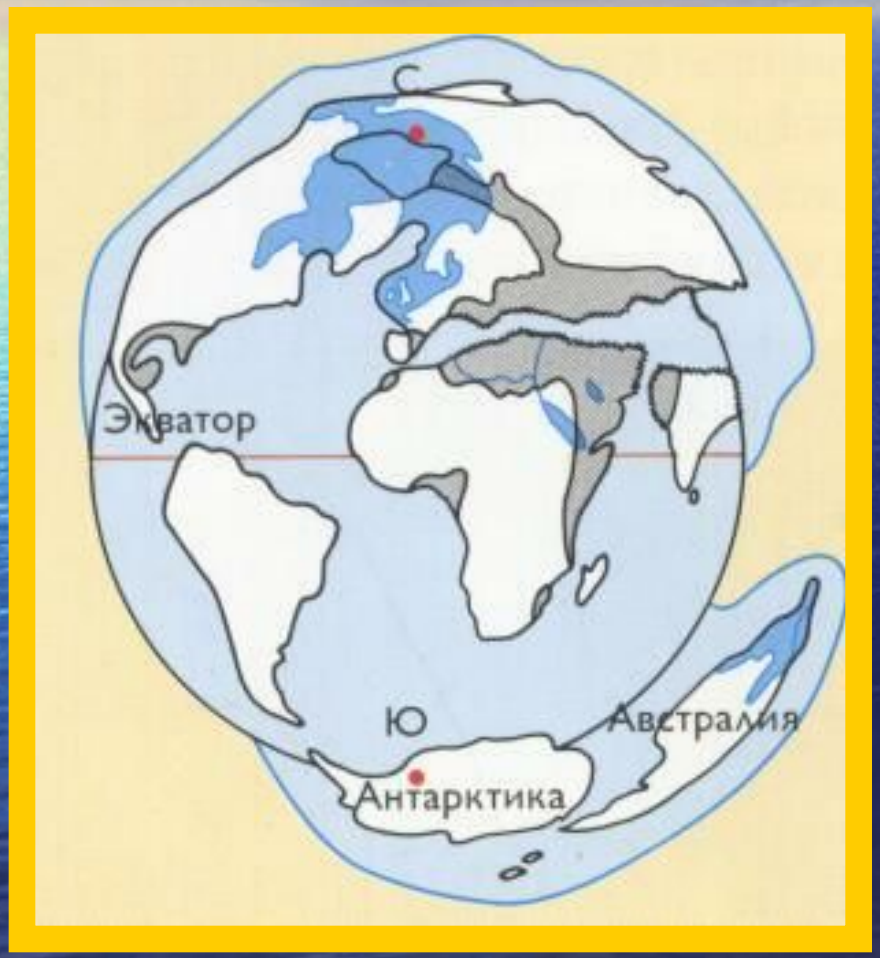


extinct marsupial mammals existed 30 - 10,000 years ago in Australia.

- characterized by a wombat-like body the size of a large rhinoceros.
- massively constructed skeleton to support its imposing bulk.
- well developed teeth of gnawing animals.
- herbivorous
- distantly related to kangaroos and wombats.

45 million years ago

The beginning of Cenozoic era

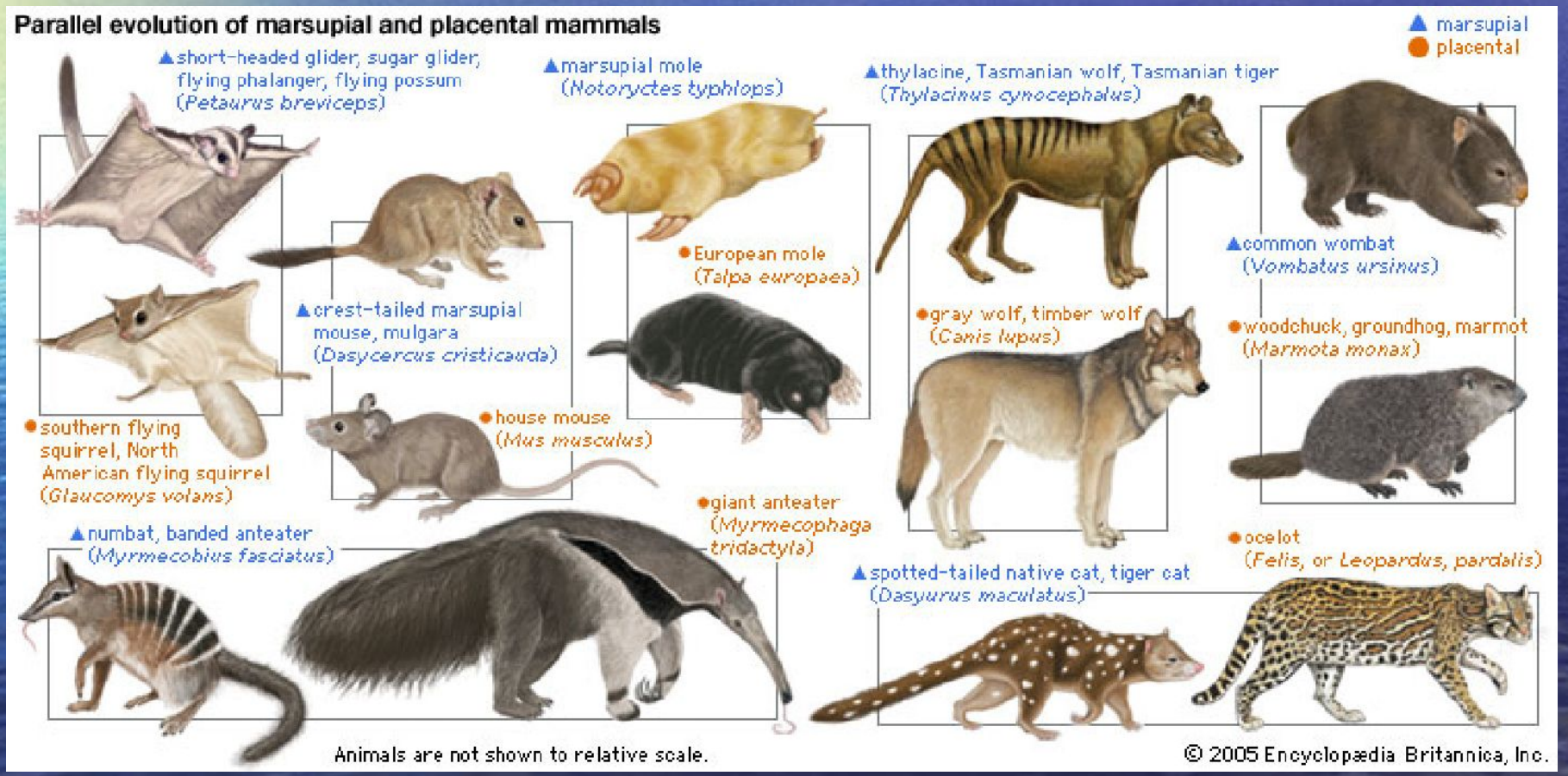


By that time Australasia was isolated from all other continental masses, here marsupials evolved into many diverse forms.

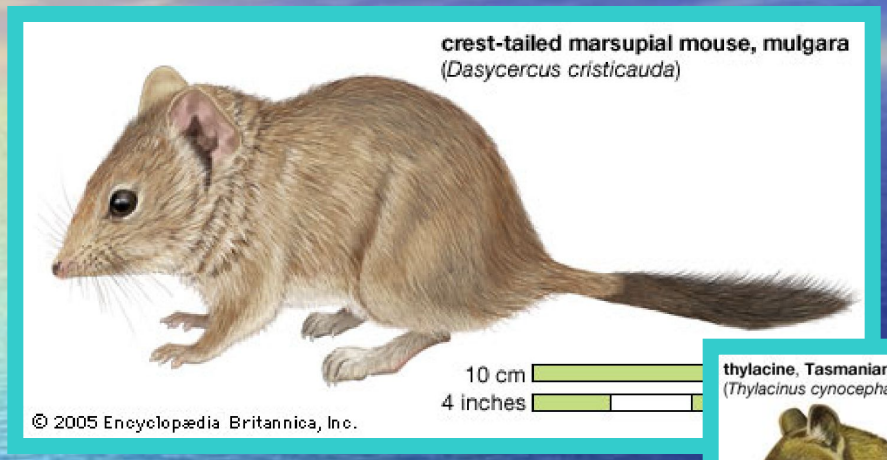
In South America they survived alongside placentals, forming the

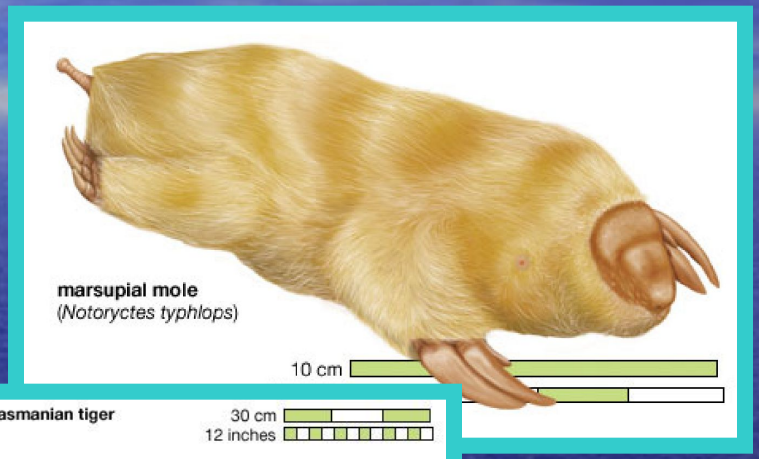
Structural and behavioral parallels with placental mammals

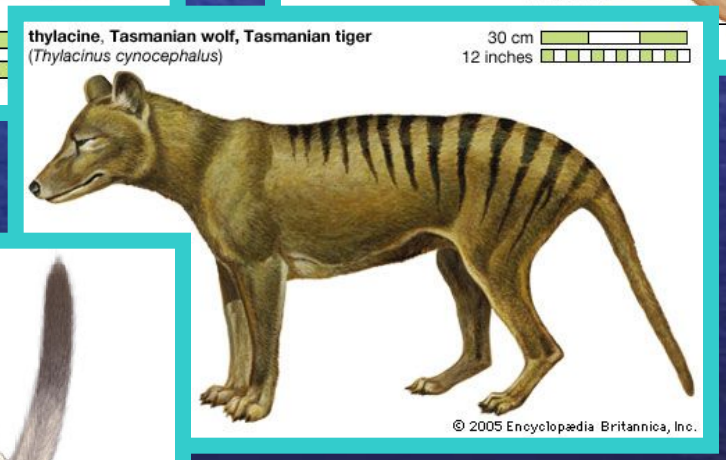
are in some cases quite striking.

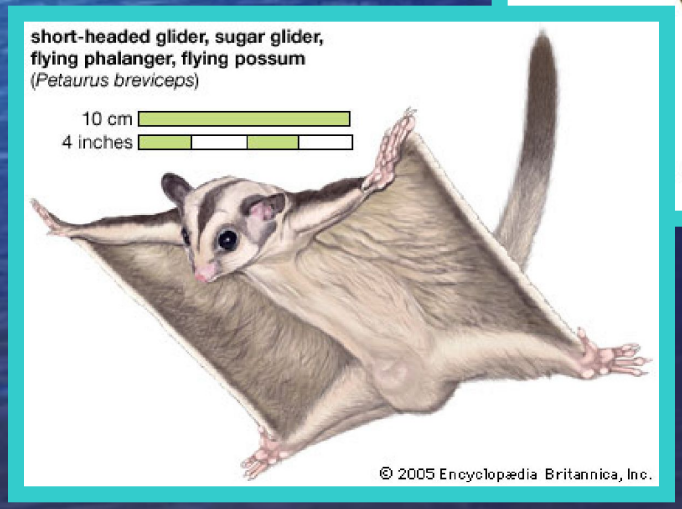


There are marsupials that look remarkably like moles, shrews, squirrels, mice, dogs, and hyenas.









The koala and the kangaroo are the most well-known marsupials.

Marsupials

Spotted-tailed quoll,
or native cat

Long-nosed bandicoot

Marsupials

Virginia,
or opossum

Marsupials

Red kangaroo

–

Wallaby

Western grey kangaroo

Marsupials

Kangaroo Rat

Dunnart,
a marsupial
mouse

Marsupials

Tasmanian Devil

Wombat

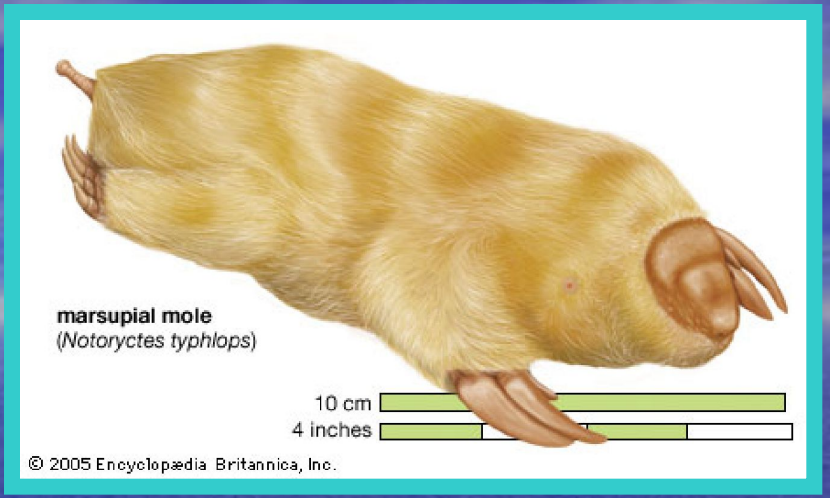
Marsupials

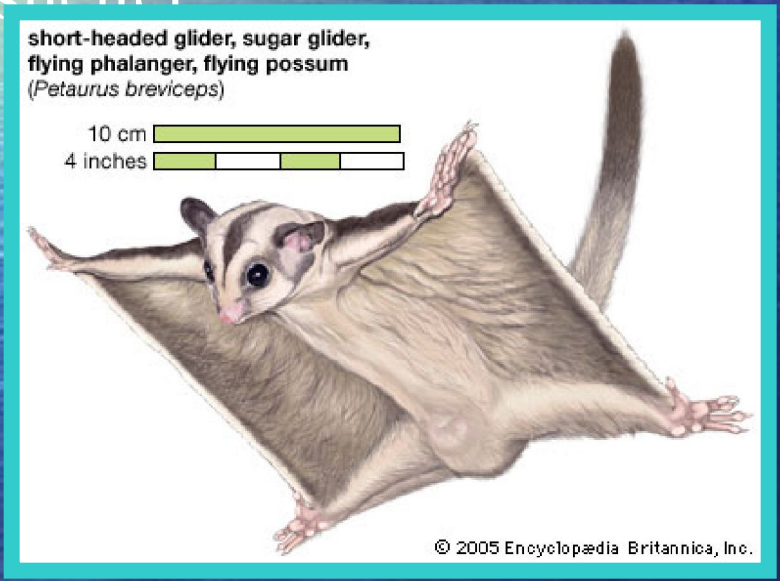
The niches that marsupials fill

are closely associated with structure.

The diets of marsupials are as varied as the niches they occupy.

The burrowing species have powerful foreclaws with which they can tunnel into the ground for food and for shelter

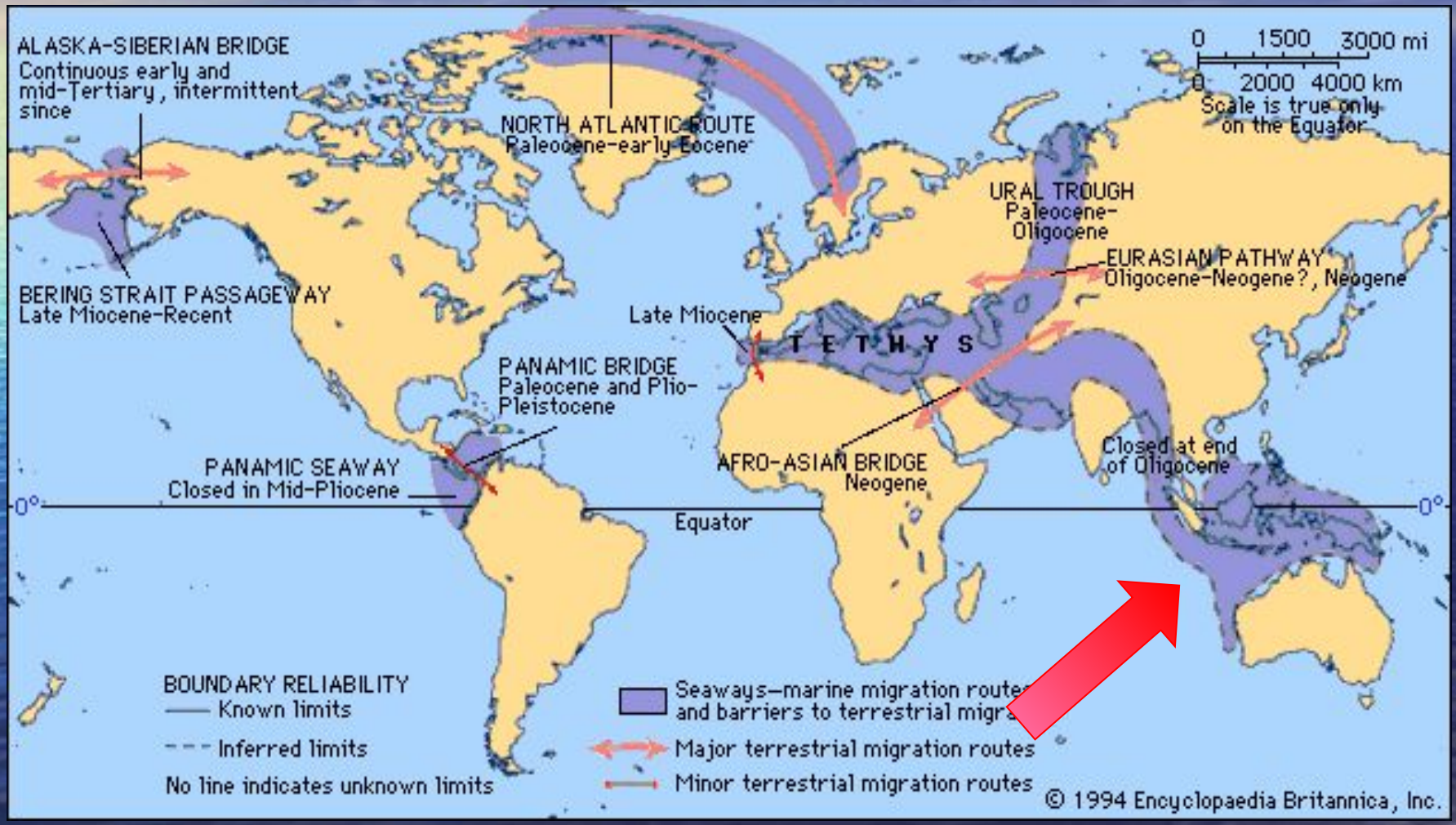




The gliders have a membrane along either flank, attached to the forelegs and hind legs, that enables the animals to glide down from a high perch

Cenozoic Era:

faunal migration routes and barriers



The earliest isolation of Australia from all the other continents made its fauna unique

Literature

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