Question 30 (7 marks)

Geological and biological history of New Zealand

Event	*Time*
Australia and New Zealand separated cont.	85–65 million years ago
New Zealand drifted east and subsided, its land mostly under seawater (most fossils are marine)	85–22 million years ago
Mammals became abundant worldwide spont. con.	60 million years ago
Earliest migratory bird fossils	55 million years ago
New land created by volcanoes in New Zealand	22 million years ago to present
Many new, unique species of birds appear in the fossil record spon	20 million years ago to present
Islands completely devoid of mammals. Birds occupied niches that were usually occupied by mammals div	700 years ago

convergent
divergent
evolutionary
continental drift
spontaneous

Use this information and other relevant knowledge to demonstrate how the practice of biology has led to the validation of current theories of evolution. **7**

Biology has had many theorists try to explain theories of evolution through varied accounts of fossils from plants and animals. These theories of evolution involve the understanding of convergent, ~~and~~ divergent, evolutionary and spontaneous theories of evolution which are supported by geological and biological history and fossils.

Continental drift was evident ~~in~~ between 85 ~~and~~ to 65 million years ago which is supported by similarities between most fossils. About 60 million years ago, mammals became abundant

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Question 30 (continued)

world wide and would be supported by the spontaneous evolutionary theory.

Many new and unique species of birds were ~~existed~~ starting to appear in the fossil record, approximately 20 million years ago to present and supports the divergent evolutionary theory which deals with the break away from species from similarities and differences between species. Islands completely devoided of mammals are another example of this.

Through this, Biology has led to the knowledge and validations of current theories of evolution.

End of Question 30