

**AQA – Genetics, populations, evolutions and ecosystems – A2 Biology P3**

1. June/2020/Paper\_3/No.3

0 3

In Europe, viruses have infected a large number of frogs of different species. The viruses are closely related and all belong to the Ranavirus group.

Previously, the viruses infected only one species of frog.

0 3 . 1

Suggest and explain how the viruses became able to infect other species of frog.

**[2 marks]**

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Name **two** techniques the scientists may have used when analysing viral DNA to determine that the viruses were closely related.

**[1 mark]**

1 \_\_\_\_\_

2 \_\_\_\_\_

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Determining the genome of the viruses could allow scientists to develop a vaccine.

Explain how.

**[2 marks]**

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Describe how the B lymphocytes of a frog would respond to vaccination against Ranavirus.

You can assume that the B lymphocytes of a frog respond in the same way as B lymphocytes of a human.

Do not include details of the cellular response in your answer.

**[3 marks]**

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