

# Assessment Report

## New Zealand Scholarship Biology 2022

### Standard 93101

#### Part A: Commentary

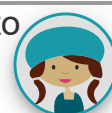
Candidates that considered the information provided and critically analysed the questions with understanding were able to plan and integrate concise and accurate answers and gain higher marks.

Candidates who took the time to unpack the question(s) and understood the relevant biological principals were better able to justify how or why they apply in the context provided. Using the relevant information in their answers, they were able to display in depth understanding relating to key biological concepts in the question.

#### Part B: Report on performance standard

Candidates who were awarded Scholarship with **Outstanding Performance** commonly:

- avoided any unnecessary repetition by planning answers and managing to coherently link different ideas together



- displayed high level literacy skills including clear and concise comparisons
- closely integrated the resource material and prior knowledge into their answers
- comprehensively addressed each aspect of a question, showing perception and insight
- justified in depth the importance of the evidence provided in a question.

#### For Question One

- were able to correctly identify changes brought about by natural selection in penguins and their adaptive advantage
- realised that interspecific competition, and not predation, was the reason for the large penguins' extinction.

#### For Question Two

- were able to correctly link human impact on the ferrets' habitat to their reduction in numbers
- realised that vaccinations would disrupt transmission/spread of disease leading to possible eradication
- explained that habitat would need to be expanded to allow for better survival of both prairie dogs and black-footed ferrets.

#### For Question Three

- correctly discussed the evolution of *Homo floresiensis* in terms of founder effect and allopatric speciation
- realised that many archaic features could be attributed to specific selection pressures on Flores Island and used evidence to justify this idea.

#### Candidates who were awarded **Scholarship** commonly:

- planned answers to ensure they largely avoided unnecessary repetition
- critically analysed the relevance of the evidence they extracted from the resource material
- displayed high levels of literacy, so they could concisely express their ideas
- used biological terminology correctly

- integrated resource information into their answers.

#### For Question One

- correctly identified various processes of evolution and were able to clearly define natural selection
- realised that the availability of vacant niches results in adaptive radiation.

#### For Question Two

- identified the relationship between black-footed ferrets and prairie dogs
- explained how captive breeding programs along with cloning or transgenesis would support conservation efforts of black-footed ferrets.

#### For Question Three

- linked evidence from fossils to the origin of *Homo floresiensis*
- realised that the distance of Flores Island to the mainland required boats/rafts.

#### Candidates who were **not** awarded Scholarship commonly:

- wrote answers without much coherence, demonstrating a lack of planning
- re-wrote the question without supplementary explanations
- ~~only~~ partially addressed questions by writing vague answers
- showed some strength in a limited range of biological concepts
- did not justify why the resource material was relevant to a question.

#### For Question One

- wrote about evolutionary processes without using correct biological terminology
- wrongly assumed the extinction of large penguins was a result of predation.

#### For Question Two

- did not explicitly identify the interspecific relationship between black footed ferrets and prairie dogs as exploitation or predator/prey with additional dependence related to burrow use

- did not link negative effects on black-footed ferrets to their decreasing numbers or reproductive success.
- stated that habitat conservation (without expansion) would suffice to improve ferret's vulnerable status
- misunderstood the importance of vaccinations breaking the spread of disease, leading to possible eradication.

For Question Three

- did not clearly state which model was most supported by the evidence
  - did not relate any anatomical changes to selection pressures on Flores
  - did not integrate the resource material sufficiently into their explanation of *Homo floresiensis*' cultural evolution.
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