

## Assessment Report

# New Zealand Scholarship Biology 2017

### Standard 93101

#### Part A: Commentary

Successful candidates were able to integrate their biological knowledge with information provided in the unfamiliar context of the question.

Many candidates needed to address all aspects of a question equally, and not focus on only one part. Some candidates would have benefited from effective planning.

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#### Part B: Report on performance standard

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

- planned coherent responses which integrated biological concepts
- provided in-depth responses to all parts of each question
- demonstrated highly developed knowledge of biological concepts by making inferences that were not immediately apparent from the information provided
- applied knowledge of the changes in the land mass of New Zealand that may have contributed to evolution of the kiwi and were able to link these to evolutionary processes causing the mode of speciation
- gained perception and insight from the map to extrapolate that mountain building results in glaciers and rivers that acted as geographical barriers as there was no east west division of species
- demonstrated a high degree of precision in their responses such as stating that selection pressures for flightlessness was a lack of large ground dwelling predators rather than just one of these aspects
- identified opportunities to add depth to their response such as stating what life process(es) the energy saved from being flightless could be redirected towards or that predatory birds were likely to be visual hunters
- showed perception and insight by analysing knowledge of genome analysis and biological processes to identify the value in looking for rare alleles in the Fiordland birds.

Candidates who were awarded **Scholarship** commonly:

- addressed one aspect of each question in-depth or both aspects of two questions in-depth
- organised relevant evidence into a well-planned discussion that demonstrated logical development, for example, discussing the timespans in question three chronologically
- supported their answers with information from the resource material such as the graph
- used biological terminology correctly such as gene and allele

- demonstrated precision in their responses by referring to specific species of kiwi in relation to named geographic barriers, or hominin and tool culture in relation to different timespans
- applied the concepts of competitive exclusion and niche differentiation
- demonstrated knowledge of genome analysis and considered the potential of techniques such as CRISPR-Cas 9
- understood the significance of genetic drift in small populations and how it relates to genetic diversity
- understood that bipedalism was well developed by the time of Homo erectus.

Other candidates

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

- demonstrated understanding of only one question or parts of two questions
- demonstrated limited planning
- restated the resource material without adding new biological concepts, or copied resource material into their answers without processing or analysis
- wrote without justifying ideas
- made imprecise reference to kiwi rather than specific species
- referred to interbreeding rather than inbreeding and gene rather than allele
- demonstrated limited ability to name basic New Zealand geographic features such as the Cook Strait
- demonstrated incorrect biological knowledge such as the timing of bipedalism.

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