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Abstract

Museum study-skins are an important though under-utilised resource for studying the biology of endangered species. This study compares the bill and cere morphology of female and male kākāpō (*Strigops habroptilus*) from three provenances: 1) "historical wild-origin" museum specimens collected from the North and South islands of New Zealand over 100 years ago; 2) the "modern wild-origin", predominantly ex-Stewart Island Kākāpō Recovery Program founder population; and 3) the "modern non-wild" descendants of the founder population raised and managed under the conservation management of the KRP. Bill length and gape was found to be smaller in the historical wild-origin birds than in the two contemporary groups. In comparison, historical wild-origin male kākāpō had larger bills than both contemporary groups. As bird bills can show rapid morphological adjustment to diet over generational scales, we evaluate whether bill size differences measured could be due to differences in the nutritional environment experienced by the birds either across their life-times or over recent evolutionary time. We also discuss how regional variation in sexual selection might account for the provenance related variation in cere size.

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