REPORT TO THE SHACKLETON SCHOLARSHIP FUND

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Dietary specialisation and genetic variation among vulnerable Tussac nesting birds in the Falkland Islands: Cobb's Wren (*Troglodytes cobbi*) and Tussac Bird (*Cinclodes antarcticus*).

Cobb's wren (*Troglodytes cobbi*) on Landing Beach, Kidney Island in Dec 2009.


O. Anderson with Falkland thrush (*Turdus falcklandii*) and G. Robb with Cobb's wren (*Troglodytes cobbi*), SeaLion Island, Falkland Islands, Dec 2009.

Report Summary

This report provides details on the December 2009 fieldwork component of our research project. Currently, laboratory analyses are underway at the University of Wyoming and the Smithsonian Institute in New York on samples collected as part of this fieldwork. However, results are not expected until late March/early April 2010 and statistical analyses and report writing will follow 6-9 months after this date. Hence this report is intended as a short synopsis of the fieldwork component of the project and to provide a detailed budget outline of the expenses incurred for this section of the project. Attached to this report are detailed accounts from all expenses incurred from 5-26th December 2009.

In summary, a total of £5,563.29 was spent on the fieldwork component of the project. A total of £2,000 was awarded by the Shackleton Scholarship Fund in April 2009, and this report fulfils the stipulated reporting requirements as per the letter dated 5th May 2009. Attached is a detailed spreadsheet outlining all project expenditure to date.

Fieldwork Summary

Fieldwork was conducted from 5-26th December 2009 and closely followed the projected plan as submitted to FIG ESB in August 2009.

Fieldwork Itinerary:

7 Dec: Attended Cobb's wren stakeholder meeting, Stanley

7 Dec: Departed for first fieldwork site on Kidney Island with Sally Poncet and Ken Passfield (Cobb's Wren Conservation Project) on Porvenir. Participated in shore-based survey of bird life on short transect around the island following established protocols.

8-12 Dec: Sample collection on Kidney Island. Sampled 15 Cobb's wrens, 15 Tussac birds, and various invertebrate and plant samples.

13 Dec: Prepared samples at FIG Fisheries Dept. for appropriate transport to US.

14-19 Dec: Sample collection on SeaLion Island. Sampled 22 Cobb's wrens, 24 Tussac birds, 6 Falkland thrush, and various invertebrate and plant samples.

19 Dec: Prepared samples at FIG Fisheries Dept. for appropriate transport to US.

20-22 Dec: Sample collection on Carcass Island. Sampled 17 Cobb's wrens, 22 Tussac birds, 1 Falkland thrush, and various invertebrate and plant samples.

Activities in the field:

Survey/census of islands

We conducted only one validation line transpect in order to cross-check the methodology already in place by Sally Poncet and the Cobb's Wren Conservation Project. Given that this project has already conducted island surveys on all three islands where we conducted sampling – it was not deemed an efficient use of time to repeat these surveys. Instead, fieldwork focussed on adequate sampling of birds and prey tissues on all three island sites.

Vocalisation recording

We took some vocalisation recordings of various species at different colonies. However, we found that playback proved to be an ineffective method of attracting birds, particularly Cobb's wren, to the mist nets at this time of the breeding cycle, and so it was not necessary to comprehensively use vocalisation recordings in all mist netting and capture events.

Catching birds

We found that all three capture methods we envisaged for the fieldwork were effective. In some instances, one or other method was more effective depending on the species being targeted for capture. For example, ground traps baited with diptera larvae or camel crickets was most effective for Falkland thrushes and tussac birds, while mist nets were also very effective for tussac birds along the shoreline where they were defending territories. Cobb's wren required more encouragement to fly up high enough to become caught in the mist nets – 'twinkling' required in many capture events. It was also necessary to keep the mist net about a foot off the ground in order to prevent Magellanic penguins becoming trapped in and/or tearing the net. This raising of the mist net in some locations, made it seemingly more difficult to capture the often ground-based Cobb's wren. Hand netting also proved an effective method to trap both Cobb's wren and tussac birds, however juvenile tussac birds were the most easily captured by this method – as often adult birds of both species appeared to learn quickly to avoid the hand-netting technique.

Tissue sampling

We sampled feathers and claws from 54 Cobb's wren, 61 tussac birds, and 7 Falkland thrushes across all three island sites. Not all tissues were sampled from all individuals as blood sampling was often difficult in juvenile Cobb's wren, due to the sheer difficulty in locating an appropriate vein or from no blood spotting from the vein after puncture. Individual welfare was always the priority when sampling, hence if an individual failed to bleed upon venal puncture, it was released without further attempts made. Feathers were sampled most often from individuals as this was the easiest tissue to sample without any disturbance to the individual bird.

Prey Sampling

We sampled marine invertebrate prey and algae from the shorelines of all island study locations. We also sampled terrestrial plants and invertebrate prey as available throughout all island study locations. A full list of prey samples collected is available on request. All samples will also be run for stable isotope analyses and the results provided to FIG along with a later report on the results section of the project. All tissue samples were dried prior to shipment to the US and were subject to the correct export and import licenses and protocols.

Monitoring small mammal activity

Given the already ongoing work of the South Atlantic Invasive Species Programme and RSPB Brian Summers, it was decided to avoid duplicating effort in this subject area on the islands covered by this project. Kidney Island, Carcass Island and SeaLion Island all had rodent monitoring stations deployed throughout the period of our fieldwork and so it was not felt necessary to complete further work on this area.