

# Ewen lab hihi research update

May 2014



## ACCEPTED PAPERS, MEDIA & OUTREACH

- No new papers this month

## PRESENTATIONS, VISITS & NEWS *conference presentations, visits to and from group members etc*

- **Anna Santure, John** and **Patricia** have made it through the first round of the Marsden Research Grant application on a project hoping to use genomic sequencing tools to predict that adaptive potential of hihi.
- **Congratulations to Victoria Franks** who is a new hihi PHD student supervised by **Rose Thorogood** and based at the University of Cambridge and with **John** as co-supervisor (brief project proposal featured below).
- Both of **Leila's** recently accepted papers are already available, open access online.
- **David** is working on the second manuscript from his MSc thesis on supplementary feeding hihi on Kapiti island.

## FEATURE STORY: Summary of Victoria Franks PHD proposal.

### ***Social interactions and the development of adaptive information use in juvenile hihi***

In a natural environment, animals must learn new behaviours to adapt to changes in their surrounding environment and maximise their chances of survival. Information to help perform these behaviours may be acquired from different, potentially conflicting, sources. For example, an animal may have its own personal experience, or may be exposed to social cues through a social network, which describes the overall extent and frequency of interactions between members of a social group. Thus, an animal must be capable of making a trade-off between the relative benefits and disadvantages of each information source when determining the best to use. How an individual develops such a decision-making process is unclear, but is important to consider because understanding the underlying mechanisms could help to predict the outcome when animals must change behaviours under other circumstances.

My proposed research project aims to investigate the adaptive trade-off of information use by determining the characteristics of a social network which facilitate information spread, and manipulating available sources of information. In particular, three questions will be addressed: 1) What is the importance of a social network in the spread of a novel behaviour? 2) How does early life affect information use? 3) How does the trade-off between social and private information change in a novel environment? To investigate these questions, I will undertake field experiments involving the modification of food resources available to juvenile hihi on Tiritiri Matangi Island. Using radio frequency identification (RFID) passive integrated transponder (PIT) tag technology, I will be able to elucidate fine-scale social interactions and behaviour spread in the wild, which is not possible in other animal systems.

In the case of the hihi, the results obtained will help in maximising the success of conservation efforts for this threatened bird, by developing a novel food-accessing behaviour that is unique to the hihi population and by determining the importance of social cues in survival for populations translocated to new areas. There is also likely to be the possibility to determine the importance of the social network for disease spread, which will help inform future management schemes to maximise the viability of monitored populations. The findings will also be applicable in a wider context to animals surviving in social groups, and may suggest how capable animals may be of adapting behaviours when human activity causes both environmental and population changes.

## FUNDING *our major funders and new funding news*

### ***CURRENT AND PAST FUNDING – thank you!***

+ British Research Council + Royal Society + Leverhulme Trust + Department of Conservation + AXA-fund + NERC + SoTM + ASAB + Massey University + NZ Safety Ltd.

## STAFF AND STUDENT CONTACTS

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