

# Abstracts of papers presented at the Ornithological Society of New Zealand, Inc., AGM and Conference, 2 June 2001, Rotorua, New Zealand

## Papers

### Kaharoa kokako (*Callaeas cinerea wilsoni*)

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Public concern about destruction of kokako habitat near Rotorua resulted by 1984 in Crown purchase and protection of 381 ha of 'cut over' forest locally known as "Aislabie's". A 1982 survey had found 31 kokako. Kaharoa (Aislabie's) was 1 of 3 forest areas intensively studied between 1990 and 1997 as part of a Research by Management programme; the outcome indicating that mammalian pests, particularly possums (*Trichosurus vulpulus*) and ship rats (*Rattus rattus*), were the primary causes of kokako population decline. There were 26 kokako at Kaharoa, and no chicks had been reared for 2 breeding seasons before 1997 when the Kaharoa Kokako Trust (KKT) was established. The KKT uses funds from a range of sources to actively manage this kokako population, in particular by controlling mammalian pests. The Trust relies heavily on voluntary efforts of the local community. The success of the initial efforts has led to an extension of the Trust's activities into surrounding protected forest and to a focus on whole ecosystem management. The results of monitoring of the kokako population and the abundance of pest mammals provide a basis for the Trust's management decisions and are communicated to sponsors and volunteers in a feedback loop that ensures an ongoing commitment from the community.

### Kokako (*Callaeas cinerea wilsoni*) dialects and management implications

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The North Island kokako is an endemic forest passerine that uses song (duetting) to help maintain territory all year round. Collectively kokako have distinctive dialects which have delineated boundaries. Adults do not change

dialects but young may, and soon abandon all natal song phrases. There have been problems when attempting to introduce new blood lines to a failing kokako population. The new birds with different dialects have not formed pairs with the established birds, regardless of the age of the introduced birds. With the introduction of kokako to Kapiti Island it was noted that birds from different sources did not form pairs but that the young born on the island would. It has also been observed that kokako have a homing instinct which complicates mainland translocations. To overcome the homing instinct, kokako have been kept in aviaries at Mt Bruce and Boundary Stream with the chicks bred at the sites to be released to the surrounding reserves. These birds should be site specific. At Mt Bruce provoking song and encouraging duetting overcame problems experienced with captive rearing from forced pairings of birds with different dialects. The resulting song was played back and bonding behaviour was then observed. Subsequent mating produced offspring thus preserving the rare Taranaki gene pool. I thank Dr. Joe Waas, University of Waikato, for his contributions on song characteristics.

### Impact of management on the nesting success of northern NZ dotterel (*Charadrius obscurus* *aquilonius*) on Matakana Island

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The nesting success of northern New Zealand dotterels on Matakana Island, Bay of Plenty, was determined over 8 seasons (1992/93 to 1999/00) in managed and unmanaged areas. Management to enhance nesting success included shifting nests to reduce the risk of flooding during spring tides and storms, and reducing predator populations (possum, cat, Norway rat, stoat, and black-backed gull) at dotterel nesting areas. In addition, a variety of measures was taken to reduce the incidence of disturbance by people on nesting dotterels. Overall, 35.6% of 278 nesting attempts resulted in

broods hatching. The 5 main causes of nest failure during incubation were flooding by high tides or storms (22.3%), unidentified predators (14.0%), black-backed gulls (13.4%), cats (11.7%) and people (10.1%). The proportion of eggs that hatched was fairly stable during the 1993/94 to 1997/98 seasons at 27.8 to 31.7%, but was 72.5 and 53.7% in the past 2 years. This sudden improvement in nesting success was attributed to the increased duration of pest control. Nesting success during incubation in managed habitat (47.2%) was significantly greater than in unmanaged habitat (19.5%), mainly as a result of fewer losses by flooding and predation. Overall, 52.6% of hatched chicks fledged. The number of chicks fledged per season (5–33), and fledglings produced per breeding pair (0.26–1.08) increased through the study. However, although fledgling productivity was greater in managed habitat (57.2%) than unmanaged habitat (47.5%), the difference was not significant.

### State of the play with hihi (stitchbird) (*Notiomystis cincta*) recovery

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Recovery of hihi is currently at a standstill. Only 1 population, on Little Barrier Island, is self-sustaining and 20 years of effort to establish other self-sustaining populations has failed. Three translocated populations have gone extinct and the 3 surviving translocated populations along with the single captive population all require intervention to persist. Hihi are therefore still at risk of extinction from a single catastrophic event such as the introduction of predators or disease to Little Barrier Island. A synopsis of the hihi recovery programme is given, with particular attention to the question of why translocated hihi populations have failed to establish. Research questions that still need to be answered are outlined and future management options that might answer some of these questions are proposed.

### UV reflectance, bill colour, and territory defence in blackbirds (*Turdus merula*)

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The visual properties of conspicuous male ornaments may be important in social-signalling during intra-sexual

interactions. In this study, we used intruder models to examine the effect of altering the UV reflectance and colour of a single male ornament on intra-sexual interactions of the blackbird, *Turdus merula*. We presented stuffed models of male blackbirds with brown, yellow, or orange bills to residents in their natural habitat, and altered UV reflectance from the bills by applying nail varnish. We found no evidence to suggest that UV reflectance from the bills of male blackbirds affected the response of resident males to a simulated territory intruder under natural signal and viewing conditions. However, models with brown bills received less attention from resident males than models displaying carotenoid-based colouration (yellow and orange). The brown bill is typical of first year males and may be an effective signal of subordinate status, reducing aggression from adult males. Furthermore, resident males came closer to orange-billed than to yellow-billed models during presentations, suggesting that orange-billed models may be perceived by residents as more of a threat to territory ownership. Bill colour may be a reliable status signal used for revealing competitive ability between as well as within age classes of blackbirds, but UV reflectance does not appear to play an important role during intra-sexual interactions.

### Post-fledging mortality in black-fronted terns (*Sterna albobriata*): does fledging equal success?

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Black-fronted terns (*Sterna albobriata*), are listed globally as endangered and are in decline primarily as a result of the impacts of introduced mammalian predators. Mortality rates are high for black-fronted tern eggs (60%) and chicks (70%), but little is known about the impact of predation at other lifestages. In this study, I attached radio transmitters to black-fronted tern chicks before fledging to monitor rates and causes of mortality in the immediate post-fledging period. Minimum mortality rates for the first month after fledging were 31% ( $n=13$ ), 22% ( $n=18$ ) and 13% ( $n=32$ ) in the 1998, 1999, and 2000 breeding seasons, respectively. Introduced predators such as feral cats (*Felis catus*) and Norway rats Ten years studying grey-faced petrel (*Pterodroma macroptera gouldi*) at Mauao/Motuotau

We investigated whether Norway rats (*Rattus norvegicus*) were responsible for a minimum of 75% of all deaths. Additional causes of mortality included starvation and necrotising enteritis. All except 1 of the juveniles that died did so within the first week after fledging, all other juveniles survived until they dropped