Vigilant robins unlearn anti-predator behaviour with time after translocation into a predator-free ecosanctuary

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Animals acquire predator recognition skills and anti-predator behaviours as an adaptive survival response to predation stress. Recent research shows that, following their translocation to islands free of introduced mammalian predators, native birds unlearn their recognition ability and lose some associated behaviours. However, the loss of behaviour with time after translocations into fenced and restored predator-free sites on the mainland has not yet been fully investigated. Furthermore, the nature and degree of this behaviour in native birds shown towards native avian predators is largely unknown. Our study compared predator recognition between two populations of South Island Robins Petroica australis australis—one translocated into a mammalian predator-free ecosanctuary, and the other a natural population inhabiting predator-dense areas in the district. Specifically, we recorded anti-predator behaviour towards taxidermy models of two introduced mammalian (rats and stoats) and two native avian (morepork and falcon) predators in terms of physical and vocal responses, and willingness to approach and feed in front of the models. Preliminary results show that behaviours towards mammalian predators are rapidly unlearned in the translocated population compared to the natural population. Similarly, the translocated population showed a general wariness to avian predators, whereas the natural population displayed distinct physical and vocal responses. These findings fuel questions on the nature, degree, and rapidity of learning and unlearning behaviour, and the effect of isolation on adaptive and co-evolved responses. Our results also raise concerns about subsequent translocations of birds from protected areas into unmanaged spaces, after being potentially rendered vulnerable to predation.