

15. A discussion on a proposed release of Malleefowl at Taronga Western Plains Zoo

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Abstract

Taronga Western Plains Zoo has managed a population of Malleefowl as part of a breed for release program for nearly two decades. The release program has now ended but management has been competent and the population of 16 birds remains genetically healthy. An experimental release into the zoo grounds is proposed. Taronga Western Plains Zoo is a mosaic of suitable habitat and capacity, survivorship, and dispersal, could be monitored in a well-studied and managed landscape. Predators are controlled within the zoo perimeter and naturally occurring populations are nearby, and the release is proposed as a translocation.

Introduction

Taronga Western Plains Zoo (TWPZ) in Dubbo, NSW, has managed a population of Malleefowl as part of a breed for release program for over two decades. The population is of NSW origin with founders from Goonoo National Park and Yalgogrinn district, and in the period 1993 to 2006, 458 captive bred birds were released at Yathong and Nombinnie NR (central NSW).

The release element ended in 2006 but population management continued and the population remains genetically healthy. In the absence of a formal captive component to recovery initiatives, an experimental release into the zoo grounds was proposed at the 5th Malleefowl Forum held at TWPZ (2014). This proposal was subsequently endorsed by the Recovery Team and a translocation proposal is now being prepared. It is envisaged that birds might be released in early 2016.

TWPZ is a mosaic of suitable habitat and capacity. Survivorship and dispersal could be monitored in a well-studied and managed landscape. Predators are controlled within the zoo perimeter and naturally occurring populations are nearby (19km to Goonoo NP), and the release is proposed as a translocation. The release would be directly into the environment (the 'Sanctuary') and as close to hatching as possible (usually within a couple of hours but never more than 24 hours). Monitoring is not proposed except as an additional research component: the rationale behind this proposal is that a maximum number of chicks are released directly in to the wild at minimum cost and maximum efficiency.

There would continue to be some predator control in the Sanctuary but the perimeter is not predator proof, and it is acknowledged that attrition in young would be high though perhaps slightly less high than attrition in the wild. It is envisioned that over time Malleefowl will establish themselves within the zoo grounds and that this free living population will be a precursor to the next wave of adaptations which will see chicks dispersing out of the zoo grounds. Birds could eventually make their way to surrounding habitat such as Goonoo, while quite possibly adapting to local semi-rural areas around Dubbo much the same way as Australian Brush-turkeys have adapted to the Sydney suburbs and, over a period of 10 years or so, have moved as far as the Mosman suburbs surrounding Taronga Zoo.

Rationale

Recent history has shown that megapodes can be extremely adaptable: the recent invasion of Darwin by Orange-footed Scrubfowl and the invasion of Sydney by Australian Brush-turkey are two examples of this adaptability. Whether this adaptability is behavioural plasticity in the individual megapode or rapid selection for traits improving fitness in newly exploited environments is a question that the release of captive bred birds in to a novel environment at TWPZ could answer. The only certainty is that there can be no adaptive transmission from parents to offspring in such an aggressively precocial species and that this life history lends itself to a low resource release program.

The analogy for behavioural plasticity might be seen in tramp-colonising Rallidae in the Pacific, where large numbers disperse and the few that arrive on a previously uninhabited island are able to exploit any resource, whether tidal, mangrove or forest. Indeed the same species might exploit quite different habitats on different islands.

Previous attempts to release birds given a 'head start' has probably been counterproductive because whichever of the two scenarios (plasticity or selection) accounts for behavioural adaptability a 'head start' in a captive environment is likely to lead to the release of birds that do very well in a captive environment. Wild Malleefowl hatch and leave their mound without any parental assistance, being fit and fully equipped to immediately fend for themselves. This includes avoidance of foxes (or at least those birds that can avoid foxes are selected through their survival). It can be argued that the released birds that were "grown on" at the zoo were in fact selected for life at the zoo and that by the time they were released after several months on an easily procured captive diet they lacked much of the initial fitness that they hatched with.

Release strategy

This proposal suggests that birds can be captive bred at Western Plains Zoo and be released immediately into the zoo grounds on the day of their hatch. They will be at least as physically fit as their wild-hatched counterparts and be equally adaptive as a wild hatched chick. It is acknowledged that, as with wild hatched chicks, there will be a high mortality, but those chicks surviving will be adapted for living in the zoo grounds including the ability to cope with a moderate fox population, rather than being adapted for life in captivity through being reared in an aviary until several months of age.

Pairs will be set up in aviaries at TWPZ in the same manner as during previous breed for release attempts. Mounds will be monitored and after chicks hatch they will be released into the zoo grounds. Chicks will not be individually identified (applying leg bands will not be possible as they would out-grow these, and micro-chipping would require the involvement of veterinary staff, a cost and inefficiency that would compromise the program).

The current Malleefowl round takes about an hour per day with basic cleaning and feeding. Managing the birds for successful breeding will require a higher degree of attention to the aviaries and the environment, daily provision of leaf-litter for them to build their mounds, closer monitoring of aviaries for the presence of hatched chicks etc. It is estimated that this will increase the round by at least an hour per day.

The project has the potential for Aboriginal cultural engagement with assistance in tasks such as collection of leaf litter through Taronga based social programs.