

Re-introduction of endemic birds in the Seychelles: a response – *in reply*

The article *Where guidelines can help: a history of re-introductions in Seychelles* in *Re-introduction NEWS* No: 22 purports to demonstrate by example the benefits of re-introduction guidelines. However, the article is filled with inaccuracies and contradictions, and omits important information, resulting in a misleading account of the role of re-introduction in the Seychelles. We do not intend to refute all inaccuracies and false claims; this would be too time consuming but we do intend to provide a broader context of the role of re-introductions and address some of the larger omissions and inaccuracies.

The context of avian conservation and island management

The article misinforms because it fails to place re-introduction into the context of conservation options and priorities within the granitic Seychelles. Eleven species of endemic land birds occur within the granitic islands, eight of these are listed as being of global conservation concern; of these four are classed as Critically Endangered. The majority of endangered birds are listed in B and D categories; indicative of small range, fragmented populations and small populations, for example the Seychelles magpie robin (*Copsychus sechellarum*) Critical D1, D2., Seychelles warbler (*Acrocephalus sechellensis*) Vulnerable D2., Seychelles paradise flycatcher (*Terpsiphone corvina*) Critical B1+2c, D1, D2., Seychelles white-eye (*Zosterops modestus*) Critical B1+2c, D1; D2. and Seychelles fody (*Foudia sechellarum*) Vulnerable D2 . There can be little doubt that loss of native habitat and the introduction of alien predators are the primary factors accounting for the decline and in some cases extinction of native land birds. Given that the ranges of the majority of endemic land birds are highly fragmented and that many are or were restricted to one or a few smaller islands, the potential for natural expansion even when the causes for decline are alleviated is extremely limited. Most endemic landbirds are poor dispersers having only limited powers of flight and examples of inter-island movement have been recorded infrequently (Shah & Parr, 1999). The probability therefore of most endemic passerines dispersing to a suitable island in sufficient numbers to establish a population is slight. Therefore re-introduction of endemic birds has been used to increase the ranges and numbers of several native birds: the Seychelles magpie robin (1–4 islands), Seychelles Warbler (1-3 islands), Seychelles white-eye (2-3 islands) and Seychelles fody (3-4 islands) within the granitic archipelago.

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Recent research and conservation

Recent research and conservation action including re-introductions has been undertaken in the context of a great deal of research unlike what is stated in the article. Between 1999 and 2001 the GEF-financed Avian Ecosystems Restoration Project implemented by Nature Seychelles undertook three research projects related to the conservation of endemic birds, and in-depth biodiversity surveys and assessment of conservation potential of inner Seychelles islands. In addition, an enormous amount of research has been undertaken on the Seychelles magpie robin, initiated in the 1980's by Birdlife International and WWF and research is still continuing. In 2001, National Species Action Plans for endangered birds were written, and endorsed by the Seychelles Government. In some instances such as for the magpie robin and the Seychelles fody, the Action Plans clearly propose re-introduction.

The science behind the magpie robin recovery program

The article gives a highly distorted account of the recovery program and the role of re-introductions. Some of the most important and successful actions, and significantly the large amount of research that has driven the program, are omitted completely giving the impression that re-introductions have been conducted on some sort of ad-hoc basis. The recovery program was initiated in 1990, with a population of 23 birds on just one island. Initial actions concentrated on Fregate Island which held the last surviving population. The work took a dual approach of research in parallel with conservation management; a wide array of methods and tools such as the provision of nestboxes, habitat creation, supplemental feeding and alien predator control resulted in an increase in the population and yielded sufficient stock to attempt re-introduction. In 1995 brown rats (*Rattus norvegicus*) became established on Fregate and in 2000 were eradicated in a collaborative project implemented by the island management, the Seychelles Government and Nature Seychelles. The project involved the aerial application of rodenticide and the captive management of the entire population of magpie robins and over 300 Seychelles fodies (Shah, 2001). The island remains free of rodents and the growing population there is now in excess of 50 magpie robins.

The article argues that assessments of food availability are wrong, and that there is some evidence to suggest that food supplies on Aride, in the dry season, may be poorer than on Fregate. In reality, there is now a large amount of evidence to suggest that we have ecologically relevant methods for assessing habitat quality in magpie robins. Komdeur (1986) clearly demonstrated a direct link between invertebrate abundance in the litter and soil and reproductive output in robins. Food limitations on reproduction were confirmed by food supplementation experiments. Subsequent work has built on this and has shown that food abundance in the litter and soil, is strongly correlated with the order in which territories were settled on Cousin when re-introductions took place, and that there is a strong, asymptotic relationship between food abundance within a territory (Njoroge, 2002). The evidence collected on Aride indicated that the island could support a viable population and that supplementary feeding would be advantageous for birds released onto Aride to maintain high levels of reproductive output (Njoroge, 2002).

Furthermore, Wagner (2001) has shown that invertebrate abundance on Aride, measured during the 2001 dry season, was approximately double that found on Fregate. Wagner also showed that dietary composition on Cousin is more diverse than previously documented: discarded fish or spilled fish from seabirds, reptiles and seabird eggs contribute up to 80% of the dietary wet weight. Aride supports larger seabird colonies than Cousin and hence has large amounts of these foods available to magpie robins during the main seabird breeding season: the dry monsoon.

Selection of sites to establish new populations

Apart from the extensive ecological studies mentioned, a range of factors has been considered prior to the selection

of new sites. These include the assessment of alien mammalian and avian predators on potential release sites, the area of available habitat and importantly island management and protected status of potential islands. Management of islands and legal protection are important considerations for the long term prognosis of re-introduced populations given the vulnerability of magpie robins to secondary pesticide poisoning, accidental death and the risks of alien predator introduction where large volumes of cargo are imported. Aride, like Cousin is a very good choice for re-introduction based on these criteria.

Improvements in the science

The article argues that the situation on Aride may have been better if IUCN guidelines had been followed, but fails to explain how. In fact, every attempt was made within the recovery program to collect and apply relevant data, and react to problems that appeared. For example, re-introductions were 'hard' released prior to 2000 and this raised concerns that birds on Aride may have been stressed making them more vulnerable to infection, which in turn might have led to increased mortality. As a result, the recent re-introduction in 2002 was based on a 'soft' or delayed release. It included intensive post-release management and supplemental feeding. In addition, a numerically larger re-introduction, based on demonstrated food and habitat availability, was used to account for anticipated mortality during establishment, and the stock included juvenile birds that generally adapt better to a new location.

Mortality of magpie robins

Mortality rates post-release on Aride were expected and the situation is distorted by the article. Similarly the article is misleading on the productivity of the re-introduced population. Four breeding attempts have produced juveniles, three of which survive and seven translocated birds are extant. Similarly, the need for follow up management had been identified and a dedicated staff member manages and monitors the birds. Veterinary consultants are on call and contingency plans are in place. Success indicators were included in the re-introduction proposal: the short term indicator (0 – 12 months) included 50% mortality for juveniles and 25% mortality for adults. Mortality has exceeded this target by 16%; however, other short term indicators such as juveniles raised to independence have been achieved. At one year post re-introduction a small population of 10 birds appears to have established and appears to be stable (only one loss in 6 months). It is too early to declare the re-introduction attempt a failure or a success; however the long term (>5 years) success indicator *self sustaining population with reduced conservation management* appears attainable.

The Seychelles fody re-introduction

In 2002, a stock of 65 fodies was re-introduced to Aride. Once again a number of statements are false: a re-introduction plan was indeed produced and a Memorandum of Understanding was signed by the relevant parties and supported by the Seychelles Government. The ridiculous concept mentioned in the article of a planned release at sea is not backed by any proof and is not worthy of any further comment. Concerns raised by the article that the species is a significant egg predator of seabirds or the Seychelles warbler appear unfounded as these birds have all increased

on Fregate, Cousin and Cousine islands in the presence of large, relatively high density populations of fodies. The statement that no post-release program is in place is completely false as a permanent staff member and a PhD student monitor the re-introduced population. A three year project studying the ecology and diet of the Seychelles fody (Nature Seychelles, RSPB and Reading University) is ongoing.

Conclusion

In our response we placed the role of re-introduction in the context of avian conservation options in the granitic Seychelles. We have demonstrated that re-introductions undertaken as a part of the Seychelles magpie robin recovery program have been supported by a large amount of solid data gathered over many years and have been undertaken in a planned manner using a range of adaptive methods and tools and with stakeholder agreement. We have also provided evidence to demonstrate the efficacy of the Seychelles fody re-introductions. We have thus demonstrated that the rationale of the article is flawed.

References

- Komdeur, J. 1986. Breeding of the Seychelles Magpie Robin and Implications for its Conservation. *Ibis*. 138: 485-498
- Njoroge, P. 2002. The Seychelles magpie robin: Territory Quality,

Demography and Conservation of a Threatened Species. *Ph.D. Thesis, University of Reading, UK.*

Shah, N.J. & Parr, S. 1999. Inter-island Movement of Seychelles Magpie robins: Attempts at Re-colonisation? *Bird Conservation International*. 9: 283 – 286.

Shah, N.J. 2001. Eradication of Alien Predators in the Seychelles: an Example of Conservation Action on Tropical Islands. *Biodiversity and Conservation* 10: 1219 – 1220.

Wagner, L. 2001. Assessing Habitat Quality of two Potential Islands for the Translocation of the Critically Endangered Seychelles Magpie robin, *Copsychus sechellarum*. *MSc. Thesis, University of Reading, UK.*

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