

Listening to Echos and Searching for Ghosts

Parrot Conservation on Mauritius by CARL JONES



Carl Jones

It is a wonderful privilege to accept the Carolina Medal for myself, and on behalf of the conservation team on Mauritius, in recognition of our work on the Echo Parakeet. But we should not forget that without the help of the World Parrot Trust we would not have achieved as much.

The conservation work on the Echo Parakeet started in 1974 but due to a shortage of funds did not really take off until 1990 when we were lucky enough to join forces with the World Parrot Trust. Like many important unions our meeting was fortuitous. I was talking at a captive breeding conference. In my presentation I mentioned that the Echo Parakeet had a perilously low population and would likely become extinct, not because we did not know how to save it, but because there was not enough money to make the project work. After my talk Mike Reynolds approached offering the help of the World Parrot Trust. This offer of help was what we had been looking for, since for several years we had battled to save the Echo Parakeet with few resources and little moral support. Mike and his colleagues at

the World Parrot Trust helped mobilise funds including an important grant from the Parrot Society and with this money bought a four-wheel drive vehicle. Since then we have not looked back and the World Parrot Trust have provided us with annual funds and with the wise council of Andrew Greenwood who advises us on avicultural and veterinary problems. In recent years we have also had the able and enthusiastic help of several of Mike's staff from Paradise Park who have worked in the field managing the wild Echo Parakeets and with the hand rearing of baby parakeets.

Listening to Echos

We have learned a lot from the Echo Parakeet, not only how to save this beautiful parrot but also techniques that can be applied to many other species of rare and declining birds. For example some of the techniques used on the Kakapo project in New Zealand have been adapted from our work on the Echo Parakeet and we in turn have taken some of their ideas and used them on our project. Similarly our experiences on Mauritius are being adapted and applied to bird conservation projects in the Seychelles and Hawaii.

Many of the successes with the Echo Parakeet have been due to the application of avicultural techniques to wild birds, taking captive breeding into the field. As a life long aviculturist it gives me much pleasure to think

that the skills and intuition I developed as a schoolboy keeping birds in the back-garden, I am now using to save endangered species. Aviculture has a huge part to play in bird conservation on the global stage, not only by breeding birds in captivity but by the development and application of techniques for use on wild birds.

Aviculturalists manipulate the productivity of their birds and control mortality by good management. The key is to learn how to apply these techniques to wild populations.

When we started our work on the wild Echo Parakeets we worked on a broad front and tried to minimise the problems that they may have been having. We provided them with additional food, improved their nest-holes, controlled nest

predators and restored small patches of native forest. Remarkably all of these techniques have worked and some, such as nest hole improvement and the restoration of small patches of habitat have worked very well and we have parrots living and breeding in and around our restored areas.

In the 1970's and 1980's few birds bred and of those that did lay eggs few succeeded in raising young. In 1987 we only knew of eight wild birds of which there were only two females. Many felt the species was doomed. In the 1990's the birds have been breeding more frequently, due in part to our efforts, and breeding success is much improved. We have guarded nests, keeping a close eye on what happens. As soon as there have been any signs that a nest was going to fail we

have removed the eggs and young for captive rearing, thereby saving many birds that would have otherwise perished. These birds have been used to establish our captive population or have been returned to the wild.

We found that few pairs, if they succeed, rear more than a single baby even though they may lay and hatch three eggs. If birds are left with a whole brood, all the young may be compromised and die, but if we remove young and leave the adults with a single chick there is a good chance they will succeed in rearing it. The young that are harvested in this way are then used to foster to other pairs that have failed to hatch any eggs or they are hand-reared for release when older. Hence in the 1997-1998 breeding season, of eleven pairs of wild Echo Parakeets, ten pairs fledged young. This management and the release of 22 birds, a mixture of captive bred and harvested young has greatly boosted the population. The total free living population is now about 100 birds.

While we feel confident that the Echo Parakeet is well on the way to recovery and hope that they will always fly over the forested mountains and gorges of Mauritius, we must not forget that it is the last native parrot left in the Mascarene Islands. Unfortunately we are too late for many species.

Searching for Ghosts

The forests of Mauritius resonate with the presence of ghosts, the ghosts of the

animals and plants that have become extinct in the four hundred years since man first colonised the island. When a species dies out it may leave an ecological gap, that if not filled may have deleterious effects upon other species. The forest trees may be dependent upon fruit bats and parrots to disperse their fruits and in turn the parrots, fruit bats and many other species need the forest trees to provide them with food. Today on Mauritius the forests are largely silent and many of the large forest trees are dying. But there is much that can be done to revitalise the forest and fill the missing gaps....

Once Mauritius and the other Mascarene Islands were home to a dozen or more species of parrots. If we could travel back in time we would find an island alive with birds and reptiles, herds of giant tortoises, large lizards, the dodo, flightless rails, as well as a large flightless 'black cockatoo' larger than any parrot alive today, possibly similar to the Black Cockatoos of Australia. This was the Broad-billed Parrot that may have lived in the palm rich forests in the lowlands and fed on palm fruits. There was also another smaller grey crested parrot, which was good to eat. On the other Mascarene islands there were several parakeets; on Rodrigues was a blue-grey one; others were described as having red epaulets and another apparently had a red head and tail. Rodrigues also had a larger all green parrot and Reunion (and also possibly Mauritius) had the Mascarene



Mascarene Grey Parrot *Lophopsittacus bensoni*. Extinct c.1760's. This is the first time a reconstruction of this extinct parrot has been published.

Parrot, a russet brown bird with a lilac head, black forehead and a bright red bill.

Researchers and historians are working through the early accounts and examining sub-fossil bones to try and piece together the identity of several other species known from vague early accounts and a few assorted bits. What is all this work going to tell us? We may well lament the passing of spectacular species but does this have any relevance to the conservation of the living? While the resurrecting of the extinct in a Jurassic Park type fashion is still a long way off and may belong to the realm of science fiction there are other possibilities for filling the gaps left by extinct species.

Can the Echo Replace the Missing Species?

Many of the forest trees in Mauritius produce large fleshy fruits with incredibly hard seeds. These fruits come in different sizes; we know that fruit bats and Echo Parakeets love some of these fruits, often carrying them away to feed on the edible pulp and rejecting the hard seeds. Undoubtedly dispersing the seeds in the process. However, in today's Mauritian forests many fruits fall on the ground and fail to germinate. The result is that the forests are dying due to poor regeneration. While this is a complex problem, I believe that



Mascarane Parrot *Mascarinus mascarinus* which was found on the island of Reunion and maybe also Mauritius died out in the early part of the 19th Century. This is one of only two museum species, from Paris Museum

if we could restore the extinct species we could once again get parts of the forests functioning as they should.

If we know enough about the missing species, there is no reason why other species that can fill the role of the missing species can not be introduced to become ecologically equivalent species or ecological analogues. Perhaps the Echo Parakeet can be introduced to the forests on the neighbouring island of Reunion to replace the parakeet that used to occur there two centuries ago. The Echo Parakeet may also be an appropriate analogue for the extinct parakeets of Rodrigues and Seychelles. And one day we may introduce one of the Black Cockatoos to replace the Broad Billed Parrot.

While these wild speculations may seem like dreaming we will soon be seriously considering replacing the extinct Mauritian Giant Tortoises with closely related and ecologically similar analogues. We hope to introduce these onto offshore islands around Mauritius where they can become important grazers, browsers and seed dispersers. I hope I will one day see analogue species of parrots being introduced into restored forests of Mauritius. It was not so long ago that we were speculating about restoring species and rehabilitating forests and now we are doing both.

We already know enough so that we can save most of the endangered parrots of the world



The Broad-billed Parrot *Lophopsittacus mauritianus* a large cockatoo like bird which may have had similarities with the Black Cockatoos of Australia.

and restore their fragmented and damaged habitats. The day is not far off when we will be able to rebuild whole ecosystems, provided we still have the building blocks. These building blocks are the species and the parrots are keystones in these systems.

Reasons for Optimism

I believe that the work on Mauritius gives us great reasons for optimism. With modest financial resources but with a clear vision and the unlimited drive and dedication of the conservation team we have been able to achieve the following:-

- Establish the Echo Parakeet's entire remaining habitat as Mauritius' first national park
- Restore areas of forest in which the Echo Parakeet feeds and breeds
- Learn how to manage the wild parakeets to improve their productivity
- Establish Echo Parakeets in captivity where they are now breeding.
- Develop release techniques for captive reared birds. Twenty-two birds have been released during the last three seasons.
- Establish released birds in the wild. One of our released birds 'Gabriella' has started breeding and last season reared a fostered chick. Several other birds are showing signs of pairing and breeding.

Much remains to be done but I feel proud of what we have been able to achieve and we must also pay tribute to those that have made this work possible. No one works in isolation and we would not have progressed this far without the help of our supporting organisations. The World Parrot Trust and others. I must also pay tribute to the staff who made all of this happen. I especially thank Kirsty Swinerton who has worked on the project for twelve seasons doing some of the early field work, looking after the captive birds, hand-rearing chicks and supervising field teams. And finally I thank the parakeets that have taught us much.