

A day in the Gorges with the Echoes

By JASON MALHAM

For the four members of the Echo Parakeet Field Team the day begins at Plaine Lievre, one of four field stations used by the Mauritian Wildlife Foundation (MWF) within Black River Gorges National Park. Plaine Lievre is situated on the north-eastern corner of the park and is in the heart of Echo Parakeet (*Psittacula eques*) country. Since 1996/97, fifty-four hand-raised birds have been released there. They have come from several sources. Some were chicks produced by captive birds, others were rescued from wild nests, while others were the result of down-sizing wild broods (a technique used to increase productivity by removing surplus chicks that the adults would be unable to rear). The surplus chicks are fostered in the wild or hand-raised. Last season a record 21 Echoes were released and today there are more than 40 birds coming to the supplementary food hoppers in the Plaine Lievre area.

Echoes are not especially early risers, so when Jason and Gareth wandered into the outside kitchen shelter at 04:30, all was quiet. The Echo team does not usually start this early, but today was to be special! This day would see one chick rescued, one swapped between captivity and a nest and one fostered to another nest. Translocating chicks is a serious undertaking and nothing is left to chance. Most of the equipment needed for the day was prepared the previous night, to enable an earlier start.

Coffee and breakfast finished, a final check was made of everything - brooder, batteries and cables, feeding equipment, cell phone, back-up chick heating and carrying equipment, and diesel in the Landrover, before heading off down the bumpy track. As the team departs, the sound of hopper lids "clapping" and the high pitched "wack wack wack..." in Plaine Lievre clearing, signals the morning's first birds arriving for supplemental food. They all have a penchant for Kaytee Exact pellets! Some of these birds don't have far to travel, "Arantxa" and "Balthazar", for example, are raising two chicks in the "Longdrop" nest box on the edge of the clearing, only



Some of the Plaine Lievre release birds waiting for breakfast at food hopper!

20m from the sleeping quarters!

All the known Echo cavities/nest boxes and birds are named. This makes identification easier. To make things a little more interesting, all the different breeding groups have theme names, usually based on the cavity they use. A breeding group consists of one female and between one and five males. Those readers who are familiar with remote field stations may have already guessed where the Longdrop name came from! This nest-box is situated near the longdrop toilet!

The first stop of the day is reached after only five minutes driving and a few minutes walk from the Landrover. Crumpet is one of the older known Echoes, having been rung as an adult in 1996. She and partner Pancake are only the second fully wild pair to use a nest-box. Last year Noah, a three-year-old, and her partner Shaggy caused much excitement when they used a nest box - the first ever fully wild pair to use one! A number of release birds have also chosen nest-boxes. This season a total of six boxes have been used. Crumpet is also one of the few fully wild birds to take supplementary food. This season several wild juveniles and a couple of adult males have been seen either feeding at hoppers or near them. This is exciting news because it suggests that the large number of release birds are attracting other birds, who will more than likely learn to use the food hoppers. Supplementary feeding is an invaluable tool for increasing productivity, especially in seasons of short food supply (common in Mauritius due to severely degraded forest).

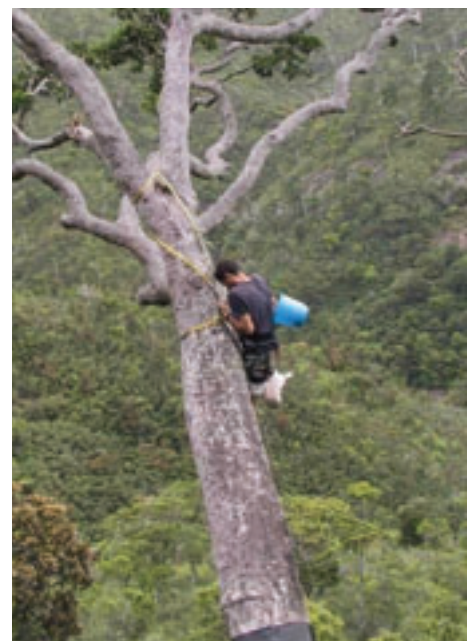
This season Crumpet laid three fertile eggs. Echoes lay one to four eggs, but have never been known to successfully raise more than two chicks. There is not enough food. Since 1998, many Echo broods have been



Male Echo Parakeet.

downsized, with the "surplus" chicks either being fostered to other pairs who have infertile or dead eggs, or taken to the Gerald Durrell Endangered Wildlife Sanctuary (GDEWS) aviaries at Black River. Because females lay on alternate days, the eggs generally hatch at least a day apart. It seems the third and fourth chicks are often smaller and weaker than the first couple. So it proved to be with Crumpet's third chick.

This chick hatched five days after the first, at 7.5g. The average hatch weight for wild chicks is around 8.5g. After two full days in the cavity it had become quite badly



Preparing to place the chicks in the cavity.

dehydrated and had not gained any weight. Meanwhile its siblings were gaining 3-4 grams per day. A chick in this situation will die if left in the nest.

Jason and Gareth are on the ground below the box at 05:20, to see Crumpet go back into the nest just minutes after arriving! They are forced to wait another hour before Crumpet emerges again to be fed by Pancake. The team follows a protocol of minimal disturbance with the wild birds and almost always wait for the female to emerge from the cavity when she is ready. Although this can mean long waits (four hours or more during incubation and early stages of chick brooding) the chance of nest abandonment through human disturbance is virtually eliminated. Several of the females who have been managed for a number of years, seem to leave the cavity just for the team! They almost invariably exit the cavity entrance within minutes of the staff arriving. They obviously have exceptional hearing. There is one wild female who sits on a perch just 1.5m away while the chick is weighed. She "talks" to the chick with soft mewing sounds and shows no sign of distress. These Echoes really are wonderful birds!

So the chick in question is pulled from the box just before 07:00. It is carried for the complete journey in the Curfew portable brooder that the World Parrot Trust kindly donated to the programme a couple of years ago. This brooder is excellent for egg and chick translocations and Jason used a bit of Kiwi ingenuity, setting it up with a portable battery so that it can be carried away from the vehicle (it normally runs off the cigarette lighter plug) and out to nest cavities. At the Landrover a few millilitres of warmed Lactated Ringers Solution with Zoolyte (glucose) added, is fed to the chick. By far the majority of chicks that are translocated these days are given fluids as required (ie when the crop empties), during the journey. It significantly reduces dehydration and ensures the chick arrives at its destination in as healthy a state as possible. This is especially important when fostering to another nest.

The drive down the winding, hilly Chamarel road to Black River takes a little over an hour. The team and precious cargo are met at the GDEWS aviaries by Amanda, one of the three full time hand-rearers on the team. Amanda places the chick in its own brooder to settle, before feeding it more fluids as the re-hydration process continues.

For Gareth and Jason there is no time to dally because Miracle, a seven-day-old chick that was assisted from its egg, is ready to go back to the wild. Amanda has just fed Miracle so there is no need to give fluids en-route. Miracle is to be fostered to



Female Echo Parakeet.

Crumpet's box, in a chick swap. The team arrives at 09:50, and has to wait for 40 minutes before Crumpet leaves the box. This is when the portable brooder is useful; with two 12 volt 18 amp-hour batteries, it can be run continuously for around 12 hours.

Miracle is weighed before being placed in the nest. It is swapped with Crumpet's first chick, which is later named Kaya. Kaya is 1.5 times heavier than Miracle and would probably out-beg and trample Miracle when they are being fed. So the plan is to leave the second chick (who is two-thirds heavier than Miracle), with Miracle and move Kaya to another site called the Woodstock cavity.

Brood upsizing

At Woodstock, Nancy has just one chick, about the same age and size as Kaya. It's a perfect opportunity for an augmentation foster - otherwise known as brood upsizing. The augmenting of broods is one of many intensive techniques used to increase productivity. The team augment broods as the situation arises and judges each potential situation on its risks. It is usually only attempted when the pair is known to be capable and experienced, ie, they should be able to raise two chicks. A technique more commonly used is downsizing -- removing one or two chicks when they are

still healthy so that each pair have only one or sometimes two chicks to rear. The extra chicks are fostered to other wild pairs or hand raised.

The first priority for the Echo team is to maximise egg and chick survival and the second priority for the "wild" team is to maximise the number of chicks that fledge in the wild. The team even fosters aviary-produced chicks in wild nests when the situation arises. Echo chicks can only safely be fostered before they have feather growth (there is a risk the female won't accept a feathered chick, as we have recorded with some captive birds) and the optimum age for fostering is four to eight days.

Kaya has a half-full crop and doesn't require any fluids until arrival at the Parakeet trail car park, about 25 minutes drive from Crumpet's nest box. For all transfers the team carries a kit with the necessary items for keeping a chick healthy during transit. The brooder has a good thermostat and can be run at the optimum temperature. With very young ones it is 36-37 deg C. Kaya is seven days old and is quite comfortable with a temperature around 32 deg C.

Feeding a chick is quite simple and takes a few minutes. Lactated Ringers Solution is warmed in a small glass bowl, in a larger bowl of filtered hot water, to about 40 deg

C. The chick is fed using a plastic pipette, with a small piece of silicon tube as a nozzle. Usually a chick will beg well and take the fluid enthusiastically.

Jason and Gareth have a 20-minute walk down the Parakeet trail, down a long ridge with commanding views down Grande Gorge to the villages of Black River and Tamarin on the coast. But the track is exposed to the hot tropical sun and the almost sheer-sided "South Scarp" face below the Grande Gorge side of the ridge funnels heat up onto the track. This day is a typical scorcher. Kaya is quite happy in the brooder; it is probably cooler inside than out! To get to Woodstock requires a descent down the South Scarp. For this part of the journey Kaya is transferred to a wide-mouthed thermos flask, which will be much easier to manage on the very steep slippery slope.

Gareth takes the lead with the thermos sitting in the top of his pack. Fortunately there are plenty of guava trees to hold on to. The dry, loose soil is like ball-bearings to walk on and one slip could have disastrous consequences for the precious package on Gareth's back. However he moves very cautiously and smoothly, with Jason following, struggling with the brooder amongst the "tight" overhanging guava. They periodically stop so Jason can open the thermos and check the chick. On a couple of occasions it is panting - a sign of overheating. However this is easily fixed by exposing the open thermos to a gentle breeze coming up the hill.

Woodstock is reached after 20 minutes of careful scrambling. A long wait is ahead. Nancy is very dedicated and broods her chick for long periods in between regular feeds by her partner Aztec. During the breeding season the role of a male Echo is to care for the female during the incubation and brooding period. So he comes in every two to five hours and, depending on the pair, will either call the female off the nest and feed her in a nearby tree or, in some cases, feed the female inside the cavity. As the chicks grow, the demand for food increases and both the male and female forage and feed the chicks.

Weighed daily

Kaya is fed three times during the wait for Nancy to exit the cavity. The brooder is holding a constant temperature, and humidity is kept high with a dampened foam insert. At the two-hour mark Gareth leaves to climb back up to Parakeet trail and go to check the chick at the UEA cavity. Until they are 10 days old all chicks are weighed daily and their weights plotted on a graph with maximum, minimum, average and 20% below average weight



Kaya about to be placed in the portable brooder.

lines on it. If a chick is not gaining much weight and the line veers towards or below the 20% line the team will consider removing the bird. Chicks that are on a definite "downward trend" don't recover in the nest and need the specialist care offered by the hand-raising team.

After ten days most chicks are weighed every second day until they reach 150g, when visits are reduced to three times per week. Sometimes their weights will decline even when they are much more than ten days old. In these situations they are checked daily until a definite trend is obvious.

Got to stay awake!

Finally after more than four hours of watching the cavity entrance (which is 10m above the ground), reading and struggling to stay awake (thanks to the early start!), Jason hears the sound he's been waiting for. It's Aztec doing his typical awesome, downward spiral from high up the South Scarp. His wings are semi-folded and he's gliding at a terrific speed, making a single "wack.....wack....wack..." call as he descends. Wings are flared at the last possible moment for a perfect landing in the nearby call tree. A brilliant display of flying skills and one of the many moments that makes the job so enjoyable!

Aztec only has to call twice before Nancy flies out to meet him; she (and her chick) must be hungry! They fly to a nearby tree where Aztec feeds and preens her. While all this happens Jason has carefully placed Kaya in a rigid container, inside his nest kit bag. To reach the cavity he climbs a 10m wire caving ladder (which has aluminium rungs). A climbing harness is worn and at the top Jason clips his karabiner to a webbing sling, which is attached to a rung of the ladder. Now he can safely let go and hang, suspended with hands free. This cavity has a separate access hatch that was

cut in the side of the tree with a chainsaw. By removing the wooden block, the brood can be reached easily. The first job is to remove the chick called Elvis, placing him in a bucket slung around Jason's neck. The wood shavings in the cavity are removed and replaced with fresh ones that have been treated with a fungicide and an insecticide. In the past Echo chicks have died from Aspergillosis caused by inhaling fungi spores, and from nest fly infestations. The larvae of these flies feed on blood in the bird's nostrils. Treated shavings significantly reduce the likelihood of such problems occurring.

Both chicks are weighed and given a quick health check before being placed in the cavity. The whole process takes 15 minutes, before Jason descends the ladder to again wait. Nancy flies straight into the cavity just a few minutes later. Jason only has a wait of about an hour before Aztec returns. Nancy exits again without hesitation. Jason climbs up and checks the chicks. Both have bulging full crops, meaning of course that Kaya has been accepted!

It's with a satisfied feeling of lightness that Jason makes the steep ascent back to the Parakeet trail. A successful mission like today's puts one on a natural high! Jason meets Gareth near the top of South Scarp. He has had success at UEA; Maya is a very good weight for her age and looking very healthy. As they cruise up the track the guys reflect on what has been a long but very successful day. They arrive back at Plaine Lievre at 7pm, in time to share a celebratory gin and tonic (an Echo team tradition!) with the rest of the team, before sitting down to an excellent camp cooked meal!

Huge population increase

In the past two breeding seasons the Echo population has increased by about eighty birds! About half of these birds have fledged in the wild and the rest have been released to the wild. The programme is fully evolved now, with the three facets of management (managing wild nests, captive breeding and handraising) refined almost as much as they can be. At the end of the 2002/2003 season there were an estimated 170 birds in the wild, and a further 21 birds in the captive population at the GDEWS in Mauritius. Based on current population growth we estimate there are only four or five more seasons of intensive management left before we can reduce the management to a less intensive level. At that stage the population should be semi self-sustaining (ie, will still need managing to a degree). The Echo programme relies on outside help for sponsorship or donations. Anyone interested in helping contribute to funding the programme or donating equipment should contact WPT at the usual address.

