Ringing at Ngulia to map avian migration

BY RUPERT WATSON

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Soon after Ngulia Lodge opened on the edge of an escarpment in Tsavo West National Park, in 1969, ornithologists discovered that a combination of moonless nights, midnight mist and bright lodge lights, attracted migrating birds down to ground level.

It was December, and these were southward-bound migrants from Eurasia, and for the bird people, there was only one obvious next step -- catch as many as possible, and put rings on their legs to try and learn more about where they had come from, where they were going, and how they got there.

Ringing quickly started in earnest and 48 years later, with on-going help from Kenya Wildlife Service and the Ngulia Lodge, still continues. Today, the dramatic edge of the escarpment still remains the premier site for ringing Eurasian (or more accurately "Palaearctic") migrants on their way through Africa.

Never having had the privilege of witnessing this programme in action, I introduced myself to the organisers at the Ornithology Department of the Nairobi Museum, and made the necessary bookings. Then at the end of last year I set off to see what happened, in the hope that at least on balance I could be more of a help than a hindrance.

My first evening there I met up with the dramatis personae involved, and a collection of more committed individuals it is hard to imagine. The group was headed by revolving representatives from Nature Kenya and the Museum, all of whom had put their hands in their own pockets to be down there, and towards the end of the month, the reassuring skills of Colin Jackson from A Rocha, the international network of environmental organizations, were added to the pot.

LEFT PAGE: Basra Reed Warblers have probably flown from the marshes of southern Iraq.

TOP: Bagging up ringed birds ready for release.

BELOW: Ngulia Lodge.

The Kenyans were joined by a core of such as Ian, Phil and Martin from England, Niko and Nicole from Germany and Julia from Russia, all of whom had paid their travel and accommodation, as well as using their own holiday allowance for the fascination of birds, a desire to contribute to original research and surely a love of Kenya too.

TRAP AND RING

Being untrained in any ringing skills, I would have to begin by spectating, but spectating what? With good mist and bright lights, several hundred birds a night may cannon into the nets sited close to the lodge -- actually just beyond the tree where a goat leg attracts a leopard in the early evenings. From these they are extracted, with remarkable lack of difficulty if your hands are trained and careful, and then placed gently into a cotton bag. Most of the birds are small -- warbler or

Mist coming down on the hills - could be a good night for ringing

Bird ringing or bird banding is the attachment of a small, individually numbered metal or plastic tag to the leg or wing of a wild bird to enable individual identification. This helps in keeping track of the movements of the bird and its life history.

nightingale size -- and two or three go into a bag, handfuls of which then need carrying up to the ringing tables inside on the hotel veranda.

There, each bird is identified and measured, before special pliers close a ring onto its leg. As this continues, the two or three ringers are each continually dictating to the table's scribe details of identification, age, maybe sex if this is ascertainable, weight (established for the smaller birds by turning them head first into a film canister on little scales), wing length and the state of flight feather moult. After assessment, each bird is placed into a larger bag, and when this has a good few in it, the contents are released gently back into the night. (In the daytime, the process is simpler, with freshly ringed and recorded birds being released straight into the air by the ringer.)

With a good mist and little moon, ringing activity might start by midnight or even earlier, and continue through to near dawn. Then little more than half an hour later, as the sun rises up over the vast plains below, it is time to open more extensive morning nets to catch the birds that dropped into the bushes during the night.

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This involves all available person-power with the same routine except that the area of net to be monitored is much greater as can be the number of birds.

Morning ringing might go on until 10 o'clock or even later if there are plenty of helpers, all of which plays havoc with the body clock, especially if one is trying to fit in a couple of hours out in the park in the afternoon. One night we had very little mist and so did almost no night or sunrise ringing. This gave a chance to try and catch some migrating Barn Swallows in mid-morning. Swallow nets are set higher, and the birds' long pointed wings are less prone to getting entangled in the mesh, making them a good bird for beginners to work on extracting.

With guidance from Colin Jackson, I was taught first to lift the mesh gently over a bird's head and once this was free, to slowly unhook its legs and claws -- something for which one of my colleagues actually kept a fingernail uncut. I was also taught to avoid wearing shirts with buttons, which can take just as much unhooking from the mesh as passerine feet!

So much for the process, but what is the point? When Johann Frisch tied red thread round the legs of German swallows their return the following year, thread intact, demonstrated with near certainty, the homing abilities of the birds. To those who were aware of his experiment in the mid 1750s, the intact thread laid another ghost to rest. It dispelled any lingering doubts as to

whether, when birds disappeared in late summer, it was to winter underwater, or otherwise metamorphose into some unrecognisable form in which they passed the cold, leafless northern months undetected. Since then ringing techniques have improved enormously to enable detailed investigations into bird movements and much more.

HALF A MILLION BIRDS RINGED

I think there were three main practical aims, each of which contributes to a greater understanding of any particular species. First, netting birds gives an idea of the species composition of the passing migrants. Since its inception, the programme has ringed well over half a million birds, most of them small, inconspicuous species and unlikely to fill any casual observer's binoculars -- and even if they do will be extremely difficult to identify in the field. One species has even been added to the Kenyan list as a result of appearing in the nets -- Savi's Warbler, of which one was ringed in 1975 and another in 1986.

The composition of the catch is fascinating and I defy anyone to imagine the most-netted birds at Ngulia. Looking at figures for 1969–2012, during which almost exactly half a million birds were ringed, over 40 per cent of these were Marsh Warblers, with Sprossers and Common Whitethroats a close second and third at around 20 per cent each. So the percentages remain today.

These are followed far behind in descending order by Barn Swallows (mostly daytime ringed), River Warblers, Iranias, Willow Warblers, Red-backed and Isabelline Shrikes, then a host of other warblers, Barred, Garden, Olive-tree, Olivaceous and Basra Reed.

TOP: A Common Whitethroat ready for release.

BELOW: Marsh Warblers are the birds most netted at Ngulia.

500,000

The number of birds ringed at Ngulia between 1969 and 2012.

In total, over 60 different species of Palearctic migrants have found themselves in the Ngulia nets, nearly 15 of these only once or twice (e.g. Eleonora's Falcon, Levant Sparrowhawk and Great Snipe). Assuming a consistent programme, comparing these species compositions over the years enables assessments of general population trends. Also important is the age composition of different species, most of which break down into roughly two thirds first year birds and one third older ones. Monitoring these allows for estimates of both breeding success and survival.

The second aim is to catch birds which someone else, somewhere else has already caught and ringed. In the 2016 two-week session, there were three such recoveries, a Sprosser ringed in Sweden and two Marsh Warblers, one previously caught in Germany and the other in the Czech Republic. The third hope is that birds ringed in Ngulia will be netted or otherwise identified elsewhere -- although recoveries may also be of dead birds. Occasionally details of rings on the legs of larger birds can be read through binoculars -- often the case with waders pecking around on the seashore.

Afrotropical species like this Harlequin Quail are often caught in daytime nets.

SWALLOWS FROM ASIA OVERFLY TSAVO

This practical data of numbers ringed and recovered can contribute to a much deeper knowledge of life, behaviour, longevity, migration routes and thus conservation. So it seems that most of the Ngulia birds have stopped off in Ethiopia for some weeks to gather up energy for the rest of their southward journey.

This is invaluable information, particularly if translated into a heightened degree of protection for identified stop-over areas. Of over 25,000 swallows ringed, none has been recovered in Europe -- nor have any Red-backed Shrikes -- suggesting that all the swallows overflying Tsavo derive from Asian populations. It is no surprise that the Chokpak ringing station in Kazakhstan has so far netted four Barn Swallows ringed in Ngulia. The Sprossers and Marsh Warblers on the other hand are recovered far and wide, showing their numbers to come from a broad breeding range.

On the nights I was there, the three main species dominated the catches, but spiced up by a Eurasian Nightjar, Eurasian Scops Owl, two Gambaga Flycatchers and a nocturnal Wattled Starling. Daytime visitors to the nets often include Afrotropical species, in this case, Jacobin Cuckoos, Jameson's Firefinch and Common Buttonquail.

So how does a helper shift gear from spectator to participant? Extracting birds from nets at night is not for the beginner; but once netters have accumulated a few bags, they need relieving of these and the birds taken up to the ringers; this can be accomplished by anyone willing to act as porter, as can resupplying fresh bags. Moving up to the next level of help is learning to scribe — taking down the notes of rings and birds. This is a critical skill but mastered more quickly than the actual extracting or ringing, as is releasing ringed birds into the night.

Actually there is something deeply humbling in handling these tiny creatures, which have travelled so far, and may have much farther to go. I pick a first year Basra Reed Warbler out of the bag and cradle it in my palm, thinking "Where you were hatched is no secret - surely the marshes of the troubled lands of southern Iraq. From there you crossed the desert wastes of Saudi Arabia, perhaps resting up in the Ethiopian highlands before heading for Tsavo. Trapping, handling and ringing must have been traumatic, but if that helps protect your descendants, surely worth it. Here, go well into the night, you wonderful creature".