RED-RINGED REDWINGED STARLINGS

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In order to catch a Heffalumph, you have to dig a very deep pit just in front of where it will be before it falls into it. Such was the wisdom of A A Milne's Pooh Bear. Those of us bird ringers who use mistnets employ the same philosophy, because, after all, there isn't much point in putting up a net in a space through which no bird is likely to fly. Knowing this, many addicted bird ringers will subconsciously take note of bird flight paths even when they are engaged in more mundane everyday tasks like earning a living or painting the roof or whatever. And sometimes, maybe once in a lifetime, the birds offer an opportunity that simply can't be refused.

So it was with the Glencairn Redwings.

Three years back **TO** moved 1 km from his previous dwelling fronting an increasingly busy road to the relative peace of the mountainside, overlooking False Bay, and coincidentally only a few hundred metres from **MF**'s abode.

Redwinged Starlings are prominent members of the Cape Peninsula avifauna and in some winters had congregated with European Starlings in such large-sized flocks that their sociable vocalization prompted some residents of the Glencairn valley to contact **TO** and complain about the din. Couldn't something be done, they asked, to make these noisy birds go elsewhere (where presumably they could drown out other peoples telephone conversations but leave the complainants in relative quiet)? From this you can gather that the local starling gatherings involved several hundreds of birds. Little did **TO** realise when he changed domicile that his new residence would involve him much more intimately with these flocks.

Every morning of the year, flocks of Redwinged Starlings fly north from Simon's Town along the coast of the Peninsula. Some fly relatively high over the mountain slopes, others follow the railway line and drop down at intervals to hop about amongst the boulders and pools of the intertidal zone, evidently foraging (on what?) before taking wing and proceeding on northwards. In the evening the birds fly southward again, but in smaller flocks, and much lower, literally house-hopping, especially when the notorious Southeaster is blowing, the flocks dipping down into the lee of each building to avoid the buffeting headwind. The Southeaster is primarily a summer phenomenon, and is reminiscent of what Lt. Birdie Bowers describes in the 6th verse of 'The House that Cherry Built'*:

> This is the bracing south wind cool
> Which blows all day (and the next as a rule)."

* The burlesque account of the winter journey to the Emperor Penguin rookery at Cape Crozier by three men of Scott's Expedition, first published in the last number of 'The South Polar Times'.

The Southeaster is the bane of all mistnetters and gardeners and because of it there is, on the steep-sloping southern boundary of **TO**'s property, a high stone wall, built to protect an enclosed garden from the desiccating ravages of this predominant wind. The southbound Redwinged Starling flocks come whipping over the neighbour's roof, dive down into the lee of the high wall then lift over the top of it in a swift climb that takes them over the chimneys of the neighbouring house to the south. Being creatures of habit, they follow this same flight path even when the wind is not blowing.

Most mistnetters who have tried will know that starlings, whatever their ilk, are not the easiest birds to catch (see for example, Craig 1983). Both **MF** and **TO** had caught pairs and singletons in small-mesh nets set for sunbirds and sugarbirds and bulbuls and the other members of the depauperate avifauna of the Peninsula. In fact by the end of 1990 **MF** had already caught and ringed some 44 Redwings at his Glencairn house, albeit at a cost. On one occasion a fast-flying southward-bound flock of seven birds dipped as they crossed his northern fence, putting themselves into an inevitable collision trajectory with a standard 15 mm-mesh net erected at the southern edge of his garden; he rushed to extricate the expected captives only to find a barren net that looked as if it had received a full broadside from a Spanish galleon – seven cannonball-sized holes marking the passage of the starlings. Even when one does succeed in netting these relatively large birds (mean adult body-mass = 140 g) in a small-mesh net, they make strenuous and usually successful efforts to flutter up out of the pocket and fly free as one approaches the net.

Obviously, a larger mesh net is required. **TO** had an old 30 mm-mesh net and contrived one afternoon in January 1991 to set it up on the outside of his tall stone wall. Because of the steep slope, this required the bottom net pole to be five metres high to bring the bottom shelf of the net level with the top of the wall; the top net pole was a standard 3 m height and guyed from the top with the guy strings secured to thin branches of nearby bushes to allow the necessary 'give' so that the pole could lean; the length of the bottom pole conferred similar flexibility.

An adult Redwinged Starling weighing an average 140 g, travelling at 50 kph, has significant kinetic energy – to catch a flock of 30 such birds the net must restrain a collective mass in excess of 4 kg travelling at nearly 14 metres per second. Such an intercept is spectacular – the whole net assembly heels over like a battleship that has fired a full salvo, then (like the ship) rights itself, full of flapping, squawking starlings.

In such instances it is a case of all hands to the net – with visitors and neighbours being pressed into service to act as scribes or merely to hold birds when we had temporarily run out of bags.

Even with the large-mesh net we only managed to secure about half or less of the birds that flew into the net, but in our best session we handled 53 Redwinged Starlings in about 1¾ hours. If any ardent swallow ringers consider this relatively tame, they should try extricating Redwinged Starlings from mistnets – they will find the experience anything but tame. The whole scene is in fact very lively and noisy. The netted birds give vent to their whistled calls (making one realise how appropriate the Afrikaans name 'spreeu' is) as well as other ruder utterances. They also give vent to other things, as

our permanently-stained shirt-fronts will testify. Those starlings that flew over the top of the net, or managed to escape from it, sit on the neighbours' chimney tops and provide vociferous encouragement to their netted kin; the din is enough to attract the attention of the neighbourhood cats, ever alert for an easy meal, and they have to be shooed away, whilst the ringers doing the extractions are also heard to utter gasps, hisses, 'eina's' and other descriptive four-letter words when powerful, sharp starling claws and beaks wreak vengeance on fingers and hands. We haven't actually suffered what the American banders term Grackle Pox, (probably because we don't have the equivalent of poison ivy for the starlings to feed on) but hands remain scarred and tender for several days. Mercifully, the sessions have to be well-spaced, because the sagacious Redwings remember to fly higher for a while and it takes a few weeks before they return to hedge hopping flights.

Is there any rationale to this spree of spreeu ringing, or are we merely having fun and succumbing to what Warwick Tarboton termed 'The Great White Hunter Syndrome' (*Safring News* 17: 77-78, 1988)? Indeed there is a rationale. Aside from Adrian Craig, George Underhill and Roy Earlé, few ringers seem to have made serious attempts to catch and ring starlings. As a result SAFRING has very little in the way of recoveries or recapture data for any of the Sturnidae except the European Starling.

Exploiting the Redwinged Starling flightpath seemed like a good way to remedy this situation. **MF** had put red plastic coil-rings on some of the Redwings he had already caught, and we decided to continue this. As it turned out, this achieved a better response from the general public than any other colour-marking scheme that we are aware of. In fact we've had very encouraging results all round, and gained some quite unforeseen insights into Redwinged Starling behaviour. In the long term this backyard banding project should yield some respectable survival data on Redwinged Starlings. In the meantime, the following interim results are worthy of mention:

Recoveries

Up to 31 October 1992, 21 of our ringed Redwings have been reported to SAFRING; 18 of these involved dead birds; two were caught (and subsequently released) when they entered domestic dwellings and one (along with several unringed birds) was trapped at a Navy installation where the starlings were reputedly "causing a nuisance". The one with the ring was allegedly reprieved and reported as a "Transvaal Black Crow", the provincial qualifier arising because it carried an old ring bearing the Pretoria address.

We had originally assumed that the Redwings were flying from Simon's Town to feed in the Glencairn and Fish Hoek area. The recoveries (Fig. 1) revealed that the flocks ranged right up the eastern side of the Peninsula, with the furthermost bird being recovered in Lakeside 8,6 km north in a straight line, but closer to 12 km overland.

Almost equidistant were the first recoveries from the western side of the Peninsula, three birds (amongst others) being shot whilst plundering an orchard at Noordhoek. A summary of causes of mortality of the 18 birds is of interest:

Road casualties	5
Found dead, cause unknown	5
Shot	3
Killed by domestic cat	2
Fell down chimney	2
Feet tangled in string	1

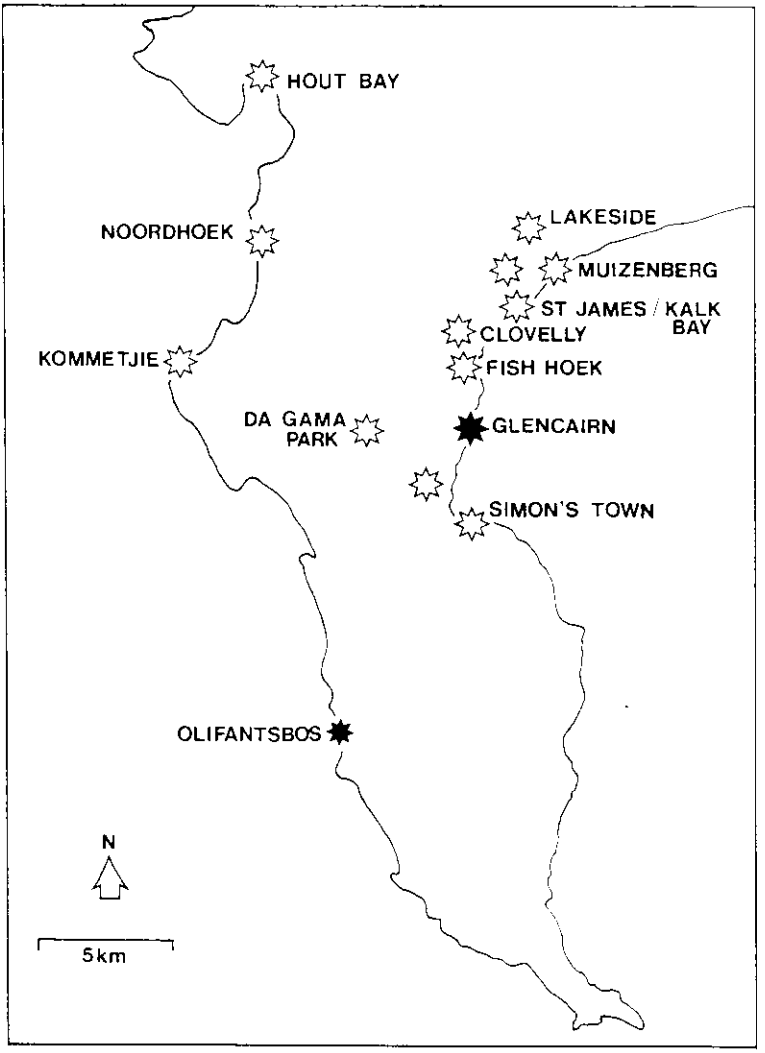

FIGURE 1

MOVEMENTS OF REDWINGED STARLINGS ON THE CAPE PENINSULA

The open stars are reporting locations of birds ringed at Glencairn (large closed star). A bird ringed at Olifantsbos (small closed star) was found dead at Glencairn.

The high frequency of road deaths probably attests to the birds' scavenging habits since at least three of these occurred on roads where collision with speeding traffic was unlikely. One of the chimney deaths involved two other unringed birds and perhaps points to hazards inherent in nest site prospecting.

We had ringed a total of 326 Redwing Starlings up to 31.10.92, so the 21 recoveries represent a 6,44% recovery rate which compares very favourably with the national average of only 1,007% for all rings used.

Resightings

Reports from the general public of sightings of colour-ringed birds have come from Glencairn, Fish Hoek (several localities), Clovelly, St James, Muizenberg and (while this account was being written) the first west coast sightings from Kommetjie, Noordhoek beach and Hout Bay were received. The dispersion of these records is also shown in Fig. 1.

Several of the reports were occasioned by the birds nesting on the building, or frequently perching on a balcony wall (or both). Several joggers reported red-ringed Redwings from Boyes Drive, which runs along the mountainside from Kalk Bay and above St James to Westlake.

Sex ratio

From a sample of 313 birds ringed (to end September 1992) which could be sexed (young immatures are not sexually dimorphic) 170 were males and 143 females. Statistically these proportions are not significantly different so there is no confirmed departure from a 1:1 sex ratio in our population.

Population size

On the basis of proportion of retrapped birds to unringed birds in our late afternoon capture sessions, we were able to estimate the population size (birds travelling to the roost) at over 1 100 birds. Bearing in mind that many birds escaped from the net before we could lay hands on them but that marked birds are more susceptible to capture than unmarked birds (because rings make it difficult for the birds to pull their legs free of the net), our estimates may be conservative. Estimates can also be made when 100 or more of the birds obligingly congregate on the neighbour's roof ridge and one can quickly (?) count the ratio of marked to unmarked birds (especially when they have bright red colour rings) and obtain similar estimates, so we feel reasonably confident that we are dealing with (in winter) a roosting population in excess of 1 000 Redwinged Starlings.

Body-Mass

Males are on average 5% heavier than females and adults are substantially heavier than immature birds as shown below (bracketed figures represent sample size; average mass in grams is followed by range):

Adult male (27)	142,9	133-158
Adult female (18)	136,1	125-149
Imm. male (10)	128,6	123-138
Imm. female (12)	121,4	113-130

We will have to look at mass increment from immature to adult stages. Immature birds have sooty brown-black feathers, easily distinguished from the glossy blue-sheened black feathers of mature birds; young immatures also have a yellowish rather than a pale pink gape. The problem arises once the immatures have moulted into glossy adult-type plumage. Are the small

'adults' (1st year birds = merely small individuals)? Retraps will hopefully provide us with data on mass increment in individual birds as well as plumage and bare-part colour changes. At present it appears that immature birds weigh on average 15 g less than adults of the same sex. When is this deficit made up?

Moult

In southern Africa Redwinged Starlings moult mainly in mid-summer (Craig 1988). All adult birds caught in January were moulting their primaries (mean primary score of 28.1 for males (range 21-37; n=16) and 29.3 (range 22-36; n=11) for females). We have no retraps of moulting birds to assess the rate of moult. However, on the basis of these birds and of a female caught in late February with all new primaries (score = 50), we may surmise that primary moult takes about 10 weeks. None of the 62 birds checked for moult between March and October was moulting. We have not caught any birds in November and December, when moult would commence. This is a gap which we will try and plug in due course.

Age-related flight times

Immature birds return to the roost earlier than adults. The first hour of netting yields a few adults but some 95% of the birds are immature. The last 45 minutes tends to be adults only. Does this mean that the adults range further from the roost? We don't know, but the 'immatures' first, adults last' capture sequence has proved invariable.

DISCUSSION

What we (or, at least, the birds) have shown here is that colour-ringing is not such a pointless exercise. This project has certainly produced results, most of them unsolicited, well beyond our expectations, particularly when compared with similar marking schemes involving other species. The one request for sightings (Fraser *et al.* 1991) produced a few records, but not out of proportion to the number received without prompting.

Requests for sightings of over 2 000 colour-ringed sugarbirds and sunbirds has produced only one from a member of the public (*i.e.* not fellow ringers or active birders threatened with dire consequences if they do not scrutinise the legs of every nectarivore they see). This probably reflects the often mountainous and infrequently visited (by humans) habitat occupied by the birds and the relative difficulty of seeing their legs as they feed in protea inflorescences. No such excuses can be made for Cape Bulbuls. At Rondevlei 560 have been colour-ringed (including, in one year, putting bright red on *both* legs) and not a single report has been received, despite the fact that the ringing site is in an essentially suburban area. Ringers must clearly choose their study species carefully.

Why the Redwinged Starling should have produced such spectacular (relatively) results is not difficult to answer. Being accustomed to man and being virtually commensal certainly contributes to the high reporting rate. Having long, dark legs, on which the rings are highly conspicuous also helps. All in all, the perfect study species!

What this project has essentially achieved so far is to demonstrate that Redwinged Starlings do travel. As well as being of general interest, and certainly very satisfying for the ringer, this has an important conservation implication – that of dispersal of alien

seeds. Redwinged Starling diet at the Cape of Good Hope Nature Reserve on the southern tip of the Peninsula comprises a high percentage of *Acacia cyclops* seeds. The birds thus have the potential to spread this invasive alien into uninfested Fynbos vegetation, particularly when they feed concurrently on protea nectar (notably from Yellow Pincushion *Leucospermum conocarpodendron*) in spring and early summer. *Acacia cyclops* pods open in mid-summer to reveal black seeds with attached, bright-orange funicles. Pods and uneaten seeds remain on the bushes and are available to the birds all year round. Bird-dispersal of alien fruits compounds the difficulties already experienced in eliminating alien invasives (Fraser 1990). As frugivores however, Redwinged Starlings also seek fruits of indigenous trees and shrubs such as *Chrysanthemoides*, *Cassine*, *Compressum*, *Lycium* and *Apodytes*, to name but a few genera and play a beneficial role in dispersing these as well.

Our ringing may also help to elucidate the movements of a perceived agricultural pest – the species is an enthusiastic guzzler of grapes and other soft fruits, which does little to endear it to the farmer or smallholder. Is shooting the birds going to have any real impact either on the bird population or on the welfare of the crop? What other control measures can be investigated?

The Redwinged Starling may become a nuisance by fouling buildings where it roosts or nests. Its predilection for nesting on buildings and its generally messy habits thereon may have consequences for public health, though there is no known case of disease transmission from this species.

All in all, an interesting study species and one which can be approached realistically in terms of results rather than ringing for its own sake. Essentially, what we need to do now is ring more birds! If any other ringer is keen to mark Redwings, please contact SAFRING before using colour-rings to avoid duplication of colours and combinations.

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