BLACK HARRIERS
In synch and in trouble?

As winter envelops southern Africa and unusual weather patterns produce snow in Namibia and floods in the Eastern Cape, we look forward to emerging from the bleakness and a spring full of courting birds.

Many of the larger species have already begun that process: Martial Eagles are displaying in the Karoo, Verreaux's Eagles are on their cliff nests in the mountains and, the winter extreme, Bearded Vultures are laying eggs in the frozen highlands of Lesotho. As the days lengthen after the winter solstice, the breeding hormones of the smaller raptors will kick in too, driving them to compete for territories and nesting sites. The vulnerable Black Harrier *Circus maurus* – a pair superbly captured here in synchronous display by photographer André Demblon – is just one example of a species driven to continue the natural cycle.

But the changing climate is a challenge that could work against these rare birds in coming generations. The Black Harrier's intolerance of warm temperatures is apparent in its attachment to coastal areas and the high mountains of the Western Cape for breeding. Elsewhere in its range, where summer temperatures are hotter, it prefers to nest on the cooler southern slopes of renosterveld-covered hillsides in transformed landscapes of the Overberg. As southern Africa warms and the long-term forecast predicts progressively drier springs in the harrier's core breeding areas in the west, the species is likely to show retractions in its breeding range.

Data from the tracking of Black Harriers by means of small satellite tags have recently added to the evidence that this species seeks cooler climates even after the breeding cycle has been completed. Two of five adult birds that were monitored with Argos satellite technology after they bred successfully in the summers of 2010 and 2011 followed a migration route previously unsuspected for the species.

Each fitted with a miniature 12.5-gram solar-powered transmitter, the two females flew rapidly from the lowlands of South Africa's West Coast across the arid Karoo and to the foothills of Lesotho. The distances covered were impressive: both harriers flew the first 1 000 kilometres in four to five days, with the maximum distance travelled each day exceeding 300 kilometres. At the end of the first stage of their journey in February (when it is hottest in the interior), they headed into the cool highlands of Lesotho. The complete flight of one of the birds, Moraea, which had nested in the saltmarshes surrounding Langebaan Lagoon on the West Coast, took her to the highest point in southern Africa, Thabana Ntleyana, at 3 482 metres above sea level. There she has stayed for two months, foraging over the hills surrounding the Mokhotlong River in eastern Lesotho.

These new findings pose intriguing questions: why do the birds fly across the hot Karoo to a highland plateau some 1 200 kilometres away for the summer? What do they do there? What do they eat in these high-altitude grasslands? And what proportion of the population undertakes this journey? Finding the answers will exercise the minds of students of Black Harrier behaviour in the months to come, and a better understanding of the factors that limit this species' population size will inform a conservation strategy in our rapidly warming world.

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