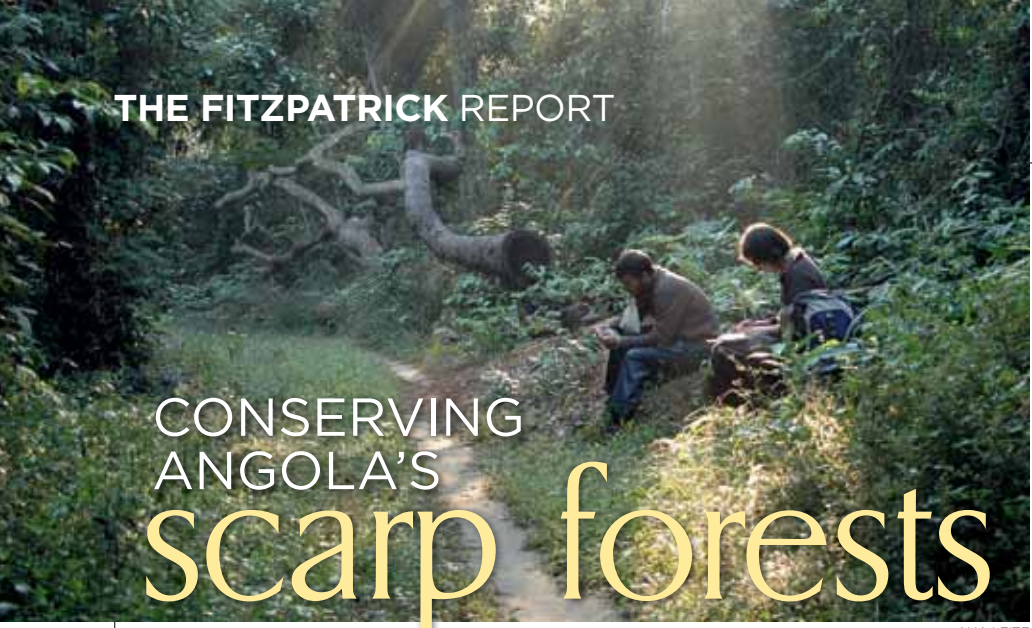
CONSERVING ANGOLA'S scarp forests



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Aimy Cáceres and Hugo Pereira processing birds caught in mist nets set in Kumbira Forest (above, left) to fit Gabela Akalats (above) with radio tags to estimate their home ranges.

Angola is one of the most diverse countries in Africa, but more than 40 years of armed conflict have limited our knowledge of its biodiversity. Following the cessation of hostilities in 2002, rapid economic and human population growth placed increasing pressure on natural areas, threatening species about which there is little information to guide conservation action.

Two of the most important habitats for birds in Angola are the country's escarpment or 'scarp' forests and tiny pockets of Afro-montane forest, which together form the Western Angola Endemic Bird Area. This is the only centre of bird endemism in the country and it is a critical conservation priority. For the past six years, the Afro-montane forests have been the focus of a restoration programme spearheaded by Michael Mills, but until recently the more extensive scarp forests have attracted scant conservation attention.

As part of her PhD, Aimy Cáceres spent four years studying the effects of deforestation and forest degradation on the bird communities of Kumbira Forest. This area is one of the best examples of the central Angolan escarpment forests and it provides a refuge for four of the five threatened bird species endemic to this habitat: Gabela Akalat *Sheppardia gabela*, Pulitzer's Longbill *Macrosphenus pulitzeri*, and Gabela *Laniarius amboimensis* and Monteiro's *Malaconotus monteiri* bush-shrikes.

During the past two decades the Kumbira valley has experienced dramatic land-use changes; when armed conflict in this part of the country ended, people returned to working the land, resulting in four per cent of the forest area being cleared each year. By 2010, almost half of the old-growth forest had been cleared through slash-and-burn agriculture and, more recently, by logging. A large proportion of the old-growth forest has been replaced by secondary growth, dominated by the invasive South American tree *Inga vera*. Secondary forest supports a similar bird community to old-growth forest, apart from the charismatic Gabela Bush-shrike, although most of the endemic species occur at lower densities. The higher levels of canopy cover associated with old-growth forests affected overall species richness and the presence of the Gabela Akalat. However, the factors determining the occurrence of the other endemic birds could not be identified, possibly because species such as Pulitzer's Longbill and Monteiro's Bush-shrike occur at low densities.

To better understand how the forest-endemic birds fare in a landscape that has become a complex mosaic of open fields, secondary growth and old-growth forest, Aimy used radio-telemetry to track the movements of Gabela Akalats. She found that their home ranges (4.3 hectares) were on average larger than estimates for other *Sheppardia* species (0.5–3 hectares per pair). Surprisingly, however, home-range size decreased with human disturbance, possibly because pairs are more constrained in small remnant forest patches. The akalats avoided clearings, which constitute a barrier to their movements. The important question that remains is how much fragmentation this landscape can withstand before it leads to the extinction of forest-dependent birds.

Key conclusions arising from Aimy's thesis include the urgent need to establish a protected area in the scarp forest and to mitigate the impacts of agriculture through wildlife-friendly farming methods, such as re-establishing the abandoned shade coffee plantations, phasing out destructive slash-and-burn clearing and promoting the recovery of degraded areas through a reforestation project with native tree species.

As a first step to implementing these findings, Aimy and Michael Mills are working with Angolan colleagues to coordinate conservation efforts at Kumbira. A project funded by the Conservation Leadership Programme was launched in October 2015 with a workshop to discuss the importance of creating a forest reserve. A nursery, managed by the local community, has been established to grow native trees and an environmental education campaign has been initiated for schoolchildren. The next step will be to assess the economic viability of shade coffee plantations. In parallel with the work at Kumbira, there is an ongoing effort to focus national and international attention on the Angolan scarp forests, the threats they face and their potential as a nature tourism destination.

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