

Vultures feel the heat



High above the madding crowd, Jamshed Chaudhry records the behaviour of vultures at Manutsa.

Africa's vultures seldom come under the spotlight from FitzPatrick staff and students, but this has changed with two recent MSC projects, supervised by Rob Simmons, which have brought the conservation of these birds into sharper focus.

Namibia's Cape Vultures *Gyps coprotheres* are almost extinct. In recent years, several old male birds have been captured and followed, using satellite-tracking technology, by conservationist Maria Diekmann and her fellow-workers. Their study shows that the males are now nesting successfully in trees, but are paired with female White-backed Vultures *G. africanus* – the first time this has been recorded.

But even this might not last for long: Namibia's remaining Cape Vultures comprise only two or three mixed pairs that breed around (but no longer on) the high cliffs of the Waterberg Plateau in east-central Namibia. The hour-by-hour distributional data that Maria collected over several years allowed Conservation Biology student Pippa Schultz to ask the question: how do vultures locate their food in the dense thickets of trees around them?

While their favoured carcass types (kudu, eland and gemsbok) are numerous around the Waterberg Conservancy, access to these has become increasingly difficult because of the *Acacia* thicket that surrounds the plateau. The tracking data, however, show that vultures continue

Bush encroachment is influencing the ability of these big vultures to find food

to forage over this woodland and, by back-tracking birds that obviously went to ground to eat or drink up to three months before her study started, Pippa was able to find and identify remains from old meals. She discovered that the birds did not descend into areas where there were more than 2 600 trees per hectare. Around the Waterberg, tree densities currently range from about 1 000 to 10 000 trees per hectare, which means that much of the habitat is already more treed than the vultures would like.

To establish the reason, she undertook a series of experiments in which she placed offal in woodlands of differing tree densities to see if the vultures would

descend. They did, but took longer to find food placed in tree-encroached areas, and found none of the food placed in areas with more than 2 600 trees per hectare. She concluded that bush encroachment is influencing the vultures' ability to find food and that increased vegetation (arising partly from increasing CO₂ levels) may explain why they have slowly abandoned this northerly colony.

Moving east, another Conservation Biology student, Jamshed Chaudhry, used different observation techniques to assess the effect of heat on the behaviour of Cape Vultures at three different colonies (one north-facing, two south-facing). Vultures in both Africa and Pakistan (previously studied by Jamshed) perform a curious head-drooping behaviour. This was first interpreted as a sign of sickness before it was realised that healthy birds also do this when stressed by high temperatures.

Jamshed spent thousands of hours watching breeding birds in three colonies exposed to different levels of heat and sunlight. He found, as expected, that those at the north-facing Limpopo Province colony (Manutsa) exhibited more head-drooping and wing-spreading behaviour than those at the south-facing Kransberg colony, also in Limpopo. He did not observe this behaviour at the cooler, south-facing Potberg colony on the south coast.

Temperature, aspect and exposure to direct sunlight all affected the incidence of heat-stressed behaviours in both nestling and adult vultures: they were only evident on sunny days with temperatures above 20 °C and were confined to vultures in direct sunlight. Given that some north-facing colonies in Limpopo Province are already extinct, it is plausible that increasing temperatures are contributing to decreased numbers of Cape Vultures, especially in the north of their range. These findings have considerable significance for how we address vulture conservation. □

Visit the FitzPatrick website: <http://www.fitzpatrick.uct.ac.za>

Percy FitzPatrick Institute of African Ornithology (a DST/NRF Centre of Excellence), University of Cape Town, Rondebosch 7701, Cape Town, South Africa. Tel. (021) 650 3290; fax (021) 650 3295; e-mail fitz@uct.ac.za