ALBERT FRONEMAN

chilling IN THE KALAHARI

Namaqua Doves keep their cool

Namaqua Doves *Oena capensis* are among the most common of the Kalahari Desert's avian denizens, but these charming little birds all too often fade into the background when a visitor encounters the visual delights of species such as Crimson-breasted Shrikes and Lilac-breasted Rollers. Yet the careful observer paying close attention to the doves on a sweltering midsummer afternoon will notice something peculiar. As the air temperature soars, most birds retreat to the deepest shade they can find and look visibly heat stressed, panting rapidly against a backdrop of shimmering heat waves. The doves, in contrast, take the oppressive heat in their stride, remaining in the open and most strikingly of all, virtually never panting.

Birds rely on evaporation to offload heat and keep their body temperatures at sub-lethal levels during very hot weather. In dry desert air, the cooling power of evaporation – liquid water changing to vapour – can be significant. Many thirsty veterans of road travel in places such as Namibia know that the fastest way to chill a can of warm beer without a fridge is to hang the can from a vehicle's wing mirror in a sock kept wet while driving. The combination of low humidity and the rapid evaporative heat loss associated with the moving air ensures that the beer is soon cooled to a more agreeable temperature.

Panting, the mechanism on which most birds rely to dissipate heat in high temperatures, works in precisely the same way: the moist respiratory surfaces of the mouth and throat are analogous to the wet sock and the panting action ventilating these surfaces is akin to air movement while driving. There is a catch, however, in that panting also involves the production of heat associated with the repeated contraction of muscles. But as long as more heat is being dissipated by evaporation than is being produced by panting, there is a net cooling benefit to the bird.

MANY THIRSTY VETERANS OF ROAD TRAVEL IN PLACES SUCH AS NAMIBIA KNOW THAT **THE FASTEST WAY TO CHILL A CAN OF WARM BEER WITHOUT A FRIDGE** IS TO HANG THE CAN FROM A VEHICLE'S WING MIRROR IN A SOCK KEPT WET WHILE DRIVING

Columbids (pigeons and doves) have an extra card to play during hot weather. They are not reliant on panting, but instead can rapidly evaporate water through their skins, allowing them to 'chill' in more than one sense. This ability seems to be more pronounced in columbids than other groups of birds and is a far more efficient avenue of heat loss than panting because there is no heat production associated with muscle activity. The cooling capacity of some species is nothing short of remarkable. Namaqua Doves are a prime example: under very hot conditions they can offload heat up to three times faster than they produce it, making them the feathered equivalents of miniature mobile air-conditioning units. When other birds are looking decidedly frazzled during sweltering weather, Namaqua Doves strut their stuff without so much as a hint of heat stress.

So the next time you spend a hot midsummer's day patiently scanning a Kalahari waterhole for raptor action, take a moment to appreciate these little doves that you ticked off your list a very, very long time ago. They might not be particularly rare or visually striking, but they are quite possibly the coolest birds in the Kalahari.

MAXINE WHITFIELD & ANDREW McKECHNIE

above *Namaqua Doves rely heavily on water for dealing with the desert heat, evaporating large amounts in order to keep cool.*