



*European Bee-eater
Merops apiaster*

PERCY FITZPATRICK INSTITUTE OF AFRICAN ORNITHOLOGY

BEE-EATERS DO IT DIFFERENTLY IN AFRICA – and seem to be getting it wrong...

Like the Booted Eagle and the White Stork, the European Bee-eater is unusual in having two discrete populations, one that breeds in the Palaearctic, the other in southern Africa. Both bee-eater populations are migratory, converging on tropical latitudes during the non-breeding season, but there is no evidence of interchange between them.

For the past three years, Isabelle Török has been studying the breeding biology of these birds at colonies in South Africa and in the Camargue, France. The primary aim of this study has been to assess whether these birds have evolved different breeding behaviour in response to different environmental conditions in Europe and Africa. In other words, just how adaptable can a single species be in terms of its breeding strategy? The differences between the two populations have turned out to be far greater than anyone anticipated, and at least one difference may be unique in the bird world.

The African bee-eaters are much more likely to experience food shortages during the breeding season – this arises because their aerial prey are both scarcer and smaller than in France. As a result, while the European birds regularly rear four chicks, pairs in South Africa are rearing, on average, only one chick. Interestingly, the South African birds have not responded to this pressure by laying fewer eggs in a clutch – they lay just as many as European birds but many of their chicks die of starvation in the nest. Incubation behaviour is also quite different between the two populations – typical incubation shifts in France last between 10 and 60 minutes, whereas in Africa incubation shifts of two to three hours are normal. Furthermore, in Africa both parents spend the night in the nest chamber, whereas in France only one, the female, does so.

We are still trying to establish whether these differences in incubation behaviour can explain an

extraordinary phenomenon – the one that may be unique among birds. The incubation period in France is fairly normal for a bird of this size – about 21–28 days. In South Africa, by contrast, the incubation period can be as short as 13 days. Given the food shortage in South Africa, the reduced incubation period could be explained as adaptive in that it shortens the total breeding period, thus minimizing the risk of experiencing extreme food shortage. However, although we understand why the birds might do this, we do not as yet understand how they do it.

The very low breeding success in South Africa may be a recent occurrence. The evidence in support of this is that the African population of European Bee-eaters appears to be collapsing. Sites that have held bee-eater colonies for years, or even decades, are now empty. Many colonies have totally disappeared and others are shrinking by the year. We are attempting to document

this phenomenon over as large an area as possible. If you have information about European Bee-eater colonies that have disappeared, shrunk in size, remained unchanged or, indeed, are new colonies, please could you let us know? Please send the information to Isabelle Török, either by fax (021) 650 3295 or e-mail itorok@botzoo.uct.ac.za

If our perceptions of this collapse are correct, within a few years the southern African breeding population of European Bee-eaters could find itself listed as 'threatened' in the Red Data Book. □

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

**Percy FitzPatrick Institute of African Ornithology,
University of Cape Town,
Rondebosch 7701,
Cape Town, South Africa.
Phone (021) 650-3290;
fax (021) 650-3295;
e-mail birds@botzoo.uct.ac.za**