Eye colour change in Red-billed Oxpeckers

J.M.H. Raijmakers [1] & A. Ellmer [2]
1 raijmakersk@telkomsa.net & 2 aellmer@mweb.co.za

Since 2006 we have been involved with the Endangered Wildlife Trust's Operation Oxpecker in the capturing of Red-billed Oxpeckers *Buphagus erythrorhynchus* for translocation. Most of the birds were from the Saamboubrug, Zanzibar and Platjan area in northwest Limpopo Province and approximately 20% were from Skukuza in the Kruger National Park. These birds were translocated to various sites in South Africa, namely to the Eastern Cape, Kwazulu-Natal, Northern Cape and Limpopo Province. A total of 329 birds were moved in four operations from 2006 to 2008. The normal measurements were taken on the birds and ageing was done on the immature birds using the data given in Roberts 7. The birds were also checked for primary moult. Blood samples were taken on approximately 200 of the birds for sex determinations by the National Zoo laboratories in Pretoria.

A phenomenon that was observed during the ringing and measuring procedures was that 5-6% of the birds changed their eye colour during handling. All birds had red eyes initially but some changed the eye colour to yellow or partially yellow when handled. The extent of the colour change varied from partially yellow in one eye to completely yellow in both eyes. The yellow colour would change back to the original red colour when the bird was kept in a holding bag for a while. Our conclusion was that it was stress related and that it had something to do with blood flow to the eye. This colour change is the reverse of that found in the Black-bellied Starling *Lamprotornis corruscus*. We actually found that in many of the oxpeckers the eye colour became lighter and was rather more orange than red.

After a literature search on oxpeckers we could not find any reference to eye colour change in these birds and thus we decided to contact Prof. Adrian Craig on this subject. He had never heard of this phenomenon in oxpeckers and did not know reports in the literature. After some further literature searching, however, he came across a comment by Chapin (1954, Birds of the Belgian Congo) about a Yellow-billed Oxpecker *B. africanus* that was brought to him where the eye colour fluctuated between red and orange and he also suggested that it had something to do with blood flow.

In our literature search on eye colours of the Red-billed Oxpecker we found that most of the publications dealing with southern African birds stated that the eye colour is yellow to red. The only exceptions were Macworth-Pread and Grant in their book "Birds of the southern third of Africa, Volume 2" which states that the eyes are yellow and Oberprieler and Cillie in their book "The Bird Guide of Southern Africa", which gives the eye colour as red. However Fry, Keith and Urban in "The Birds of Africa Volume 7" state that the eye is red and Zimmerman in the book "Birds of Kenya and Northern Tanzania" gives the eye colour as vermillion.

All the illustrations in the books on southern African birds, however, illustrate birds with red eyes. I then decided to look at photo-illustrated books and found the same thing. All Red-billed Oxpeckers had red eyes. As a matter of fact we could find only a

single record in all the photographic material in magazines, books, internet or videos where Red-billed Oxpeckers had an eye colour other than red. Our personal observations in the veld also showed that all the Red-billed Oxpeckers had red eyes.

In conclusion we would like to pose the question: Where does the description of a yellow to red eye colour come from ? Was this possibly due to observing birds that were under stress or does it really occur under normal conditions in the wild?

Fig. 1. Right eye of Red-billed Oxpecker. (Photo: Arno Ellmer)

Fig. 2. Left eye of the same bird as in Fig. 1. (Photo: Arno Ellmer)

Fig. 3. Bird with a completely yellow eye. (Photo: Kobie Raijmakers)

Fig. 4. Normal eye colour for a Red-billed Oxpecker. (Photo: Kobie Raijmakers)