Afring News

An electronic journal published by SAFRING, Animal Demography Unit at the University of Cape Town

Afring News accepts papers containing ringing information about birds. This includes interesting ringing trips, interesting captures, faunistic observations relating to ringing, analyses of ringing data, and reports of projects and conferences that had a ringing component.

Editor: H. Dieter Oschadleus

RINGING OF BLUE SWALLOWS *HIRUNDO ATROCAERULEA* AS A RESEARCH AND CONSERVATION TOOL

Steven W. Evans

Recommended citation format: SW Evans. Ringing of Blue Swallows *Hirundo atrocaerulea* as a research and conservation tool. Afring News 40:30-31

URL: http://safring.adu.org.za/afring_news_current.php

Published online: 13 April 2011

- ISSN 2222-341X -

RINGING OF BLUE SWALLOWS *HIRUNDO ATROCAERULEA* AS A RESEARCH AND CONSERVATION TOOL

Steven W. Evans

School of Environmental Sciences and Development, North-West University (Potchefstroom Campus), Private Bag X6001, Potchefstroom 2520, South Africa, e-mail: stevenwe@vodamail.co.za

The global Blue Swallow population, estimated at less than 1 000 pairs, is classified as Vulnerable due to its small and rapidly declining population, resulting from the swift reduction in the quantity and quality of its unique grassland and wetland habitat (BirdLife International 2008; Evans and Bouwman 2010).

The growth rates of 12 nestlings from five nests were determined in order to study the growth rates of Blue Swallow nestlings developing during different weather conditions. Where there was more than one nestling in a nest, a black mark (using a permanent black marker pen) was made on the lower mandible of the first, two black marks for the second nestling, and so forth. This allowed identification of individual nestlings prior to them being old enough to ring. As soon as the nestlings were 12 – 14 days old, they were fitted with SAFRING aluminium rings with a diameter of 1.8 mm (de Beer et al. 2001). The unique number that each ring contains facilitated the identification of each individual nestling during successive visits to the nests to record the mass and measurements of each nestling. From 12 – 14 days of age onwards the black mark(s) made on the lower mandible of the nestlings was no longer easily visible due to the growth of feathers over this area. Without being able to ring and identify each individual nestling it would not have been possible to follow the growth and development of each nestling. In addition it would not have been possible to assess the effects that poor weather conditions, especially prolonged periods of mist and especially rainfall, have on their growth and development. The conservation of the Blue Swallow will in part depend on understanding the factors affecting the populations including the influence of weather on nestling growth, development and survival.

According to the SAFRING Ringers data portal a total of 221 Blue Swallows have been ringed in South Africa and Zimbabwe. A male Blue Swallow ringed as an adult in the Blue Swallow Natural Heritage Site, Kaapsehoop, Mpumalanga, on the 24 March 1989 was recaptured in the same locality on the 15 January 1991 (ring AC08436). The bird was ringed and recaptured by Warwick Tarboton and David Johnson. This elapsed time between capture and recapture was 21 months and 23 days. This indicates that this bird is faithful to the Blue Swallow Natural Heritage Site. This species probably spends the non-breeding season in Uganda (Evans & Bouwman 2010, Wakelin, McKechnie & Woodborne 2011) and over the 21 months and 23 days the above individual made five migrations between South Africa and Uganda, a total distance of approximately 16 500 km. This bird was a minimum of 1.8 years old.

Blue Swallow longevity is currently unknown. This limits our ability to assess the viability of current Blue Swallow populations. It is only through sustained ringing of nestling Blue Swallows and continued efforts to capture them as adults that we will ultimately be able to determine how long Blue Swallows live. Currently no other technique is available to determine the longevity of Blue Swallows or birds in general. Challenges to the method is the difficulty of catching adult Blue Swallows as they have exceptional eyesight and flight capabilities, allowing them to easily evade capture in mist-nets. Coupled to this is their threatened status. Caution needs to be exercised so as not interfere with the Blue Swallows' breeding activities when trapping them on their breeding sites and inadvertently contributing to furthering their population decline.

Ringing could aid in determining were Blue Swallows from their breeding sites in South Africa migrate to, possibly Uganda, during the non-breeding season. Unfortunately the limited number of ringers and difficulty involved in catching adult Blue Swallows means that catching a ringed bird on their non-breeding range seems highly unlikely. Unlike determining longevity, there are other techniques

available to determine where Blue Swallows migrate to during the non-breeding season. These methods are currently being used (Wakelin et al. 2011), however, all of them require catching birds, in order to collect feathers and blood, on their breeding and non-breeding ranges.

All Blue Swallows captured are ringed, it therefore remains an improbable and consequently all the more attractive and exciting prospect to keep trying to catch Blue Swallows on their non-breeding range after they were initially ringed on their breeding range, and visa versa.

References

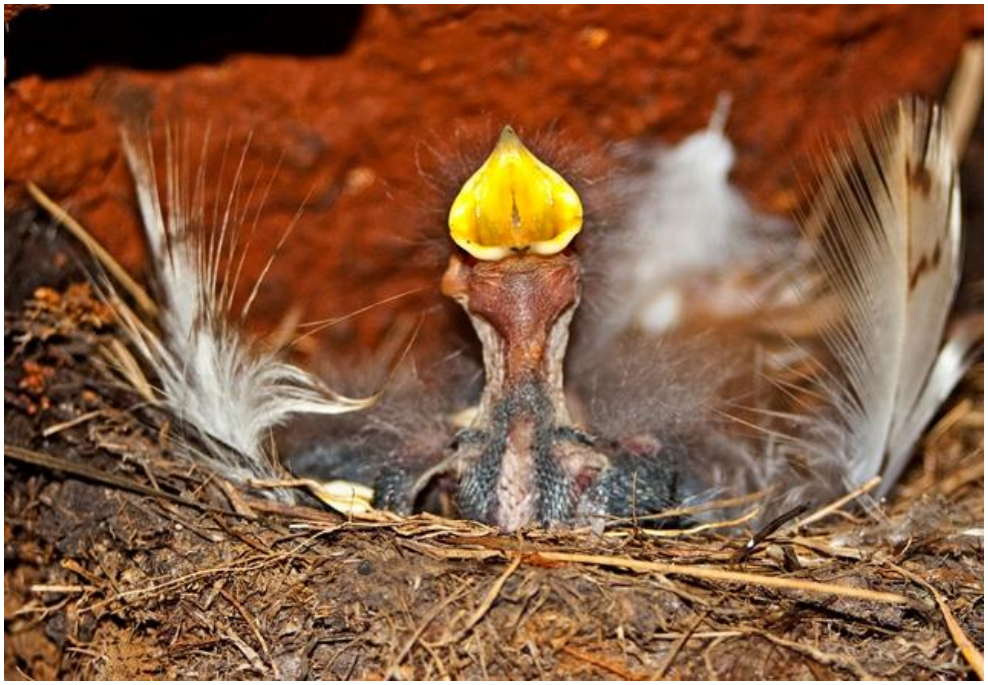
BirdLife International. 2008. *Hirundo atrocaerulea*. In: IUCN 2008. 2008 IUCN Red List of Threatened Species. <www.iucnredlist.org>.

De Beer, S.J., Lockwood, G.M., Raijmakers, J.H.F.A., Raijmakers, J.M.H., Scott, W.A., Oschadleus, H.D. & Underhill, L.G. 2001. ADU Guide 5: SAFRING Bird Ringing Manual. Avian Demography Unit. Cape Town. p. 95.

Evans SW, Bouwman H. 2010. Historical and current distribution, population size, and possible migration routes of the Blue Swallow *Hirundo atrocaerulea* in Africa. Bird Conservation International 20(3): 240 – 254.

Wakelin, J., McKechnie, A.E. & Woodborne, S. 2011. Stable isotope analysis of migratory connectivity in a threatened intra-African migrant, the Blue Swallow (*Hirundo atrocaerulea*). J. Ornithol. 152: 171 – 177.

Figure 1. A hungry four day old Blue Swallow nestling (©SW Evans).



Editor's note: view the retrap record here:

http://afring.adu.org.za/m3/retrap_process.php?ringno=AC08436&inscription=SAFRING