Biodiversity Observations

http://bo.adu.org.za

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

The scope of Biodiversity Observations consists of papers describing observations about biodiversity in general, including animals, plants, algae and fungi. This includes observations of behaviour, breeding and flowering patterns, distributions and range extensions, foraging, food, movement, measurements, habitat and colouration/plumage variations. Biotic interactions such as pollination, fruit dispersal, herbivory and predation fall within the scope, as well as the use of indigenous and exotic species by humans. Observations of naturalised plants and animals will also be considered. Biodiversity Observations will also publish a variety of other interesting or relevant biodiversity material: reports of projects and conferences, annotated checklists for a site or region, specialist bibliographies, book reviews and any other appropriate material. Further details and guidelines to authors are on this website.

Paper Editor: H. Dieter Oschadleus

MAXIMUM LONGEVITIES AND CAUSES OF DEATH IN KINGFISHERS FROM SAFRING DATA

Sanjo Rose

Recommended citation format:
Rose S 2017. Maximum longevities and causes of death in kingfishers from SAFRING data. Biodiversity Observations, Vol 8.48: 1-4

URL: http://bo.adu.org.za/content.php?id=343

Published online: 10 October 2017

– ISSN 2219-0341 –

AFRING NEWS

MAXIMUM LONGEVITIES AND CAUSES OF DEATH IN KINGFISHERS FROM SAFRING DATA

Sanjo Rose

South African Bird Ringing Unit, University of Cape Town Rondebosch 7701
sanjojenkins@gmail.com

Abstract

There are 10 species of kingfisher in southern Africa. This note aims to summarize the longevity values of these species, as well as investigate the main causes of death. All except Mangrove Kingfishers have longevity values. The greatest elapsed time is for the Giant Kingfisher at 8.01 years whilst the shortest lived is the Striped Kingfisher at 1.97 years. On average, the most ringed species is the Malachite Kingfisher with 3471 initial ringing records. The species with the greatest reporting rate is the Brown-hooded at 21.7%. A total of 67 recovery records have cause of death assigned to them. 21 of these are caused by collisions with man-made structures whilst 24 have cause of death listed as 'unknown' or 'found dead'. The high collision risk is especially of concern as it typically occurs during migration and at night, colliding with lit-windows. Overall, ringing effort has been relatively poor but despite this, the reporting rate is relatively high which is optimistic for future ringing efforts.

Introduction

There are ten species of kingfishers that occur in southern Africa. These species belong to families Cerylidae (Pied Kingfisher *Ceryle rudis*), Alcedinidae (Half-collared Kingfisher *Alcedo semitorquata*, Malachite Kingfisher *A. cristata* and African Pygmy-Kingfisher *Ispidina picta*) and Dacelonidae (Giant Kingfisher *Megaceryle maxima*, Brown-hooded Kingfisher *Halcyon albiventris*, Woodland Kingfisher *H. senegalensis*, Striped Kingfisher *H. chelicuti*, Mangrove Kingfisher *H. senegaloides* and Grey-headed Kingfisher *H. leucocephala*). Woodland Kingfisher, Grey-headed Kingfisher and African Pygmy-Kingfisher are intra-African migrants. Mangrove Kingfisher might migrate between breeding and non-breeding sites in South Africa although this is not clear. The other kingfisher species are mainly resident (Hockey et al. 2005).

This note aims to summarise the ringing data of kingfishers with a specific focus on the longevities of kingfishers using data from the South African Bird Ringing Scheme (SAFRING). Bird ringing data can provide important information regarding migration, longevity and site fidelity. Bird ringing started in 1948 in Southern Africa, and SAFRING now coordinates a large part of bird ringing activity in Africa. Furthermore, the main causes of death are also summarised and a crude estimate of reporting rate is calculated. The data is largely biased to southern Africa although SAFRING does coordinate ringing in other parts of Africa as well.

Methods

The top three longevity records for each species (where available) were identified and verified in September 2017. Where there were no hardcopies of the records, records were verified by contacting the ringers directly. Ringing records from all locations within Africa were considered. Longevity is roughly defined as the greatest time elapsed in years between the initial date of ringing and the retrap or recovery date. 'Recovery' refers to a situation where the dead bird was found while 'retrap' assumes that the bird was alive but the ring was read in-hand.

The number of retraps, total ringed and recovered individuals were noted. A reporting rate referring to the percentage of ringed individuals located again as retraps or recoveries. A single value was calculated for each species. The causes of death are also

summarized. Where ambiguous or not verifiable, the record was excluded from analysis.

Results

The oldest individual was a Giant Kingfisher, age 8.01 years (ring PA04160). The shortest lived individual was a Striped Kingfisher at 1.97 years (ring 439982). At 3471 ringing records, the Malachite Kingfisher is the most ringed kingfisher. The least ringed is the Mangrove Kingfisher with 11 ringing records. The Mangrove Kingfisher is the only kingfisher species with no retrap or recovery records and as a result there were no longevity records for Mangrove Kingfisher.

The overall average reporting rate is relatively high at 12%. 21.7% of ringed Brown-hooded Kingfisher and 18.3% Giant Kingfisher were located again.

For 67 records there was an indication of how the individual died. The most common cause of death was collision with either windows or buildings (n = 21). 24 of the 67 records had cause of death listed as 'unknown'. Three individuals were shot and one was a victim of a hailstorm.

Discussion

In general the resident kingfisher species have a greater reporting rate. This could simply be as a result of the fact that resident species might be more likely to be retrapped in the same area by ringers who are regularly ringing in the vicinity. Ringers tend to return to the same locations to ring if previous trips were successful, so retraps are more likely. Migrant kingfisher species also have a high risk of mortality through collisions etc. so survival might be lower and affect the chance of ringed individuals being located again. The resident species that did not conform to this pattern was the Pied Kingfisher with a very low reporting rate of 4.69% (Table 2). Interestingly, this species also had relatively low longevity values indicating perhaps that survival is low for this species.

The high reporting rate for Brown-hooded Kingfisher is not surprisingly given that these birds are relatively common garden birds in certain areas and so it relatively likely to be located again. This is also a frequently ringed species (Table 2). The high reporting rate (18.2%, Table 2) for Half-collared Kingfisher is slightly surprising. This species is typically secretive and lives in secluded habitats so the prediction was that these ringed individuals would be difficult to locate again. The high reporting rate could be a result of repeated ringing sessions at set locations by ringers.

The main cause of mortality appears to be collisions (n=21, Table 1). This is a concern and highlights the risk posed to migrating species. It seems from the records that collision often occurs at night, with kingfishers flying into well-lit windows. Although currently species such as the African Pygmy-Kingfisher is listed as 'least concern' with a 'stable' population (IUCN Red List, 2017), increasing urban sprawl could place pressure on these species in the long term in terms of increased mortality.

Overall the fact that all kingfisher species (except the Mangrove Kingfisher) have at least one longevity records is encouraging. There is room, however, for ringing effort to increase and hopefully yield more results in terms of migration and population numbers.

References

BirdLife International. 2016. *Ispidina picta*. The IUCN Red List of Threatened Species 2016.
Available at: http://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22683165A92977099.en. Downloaded 10 October 2017.

Hockey PAR, Dean WRJ, Ryan, PG. (eds) 2005. Roberts Birds of Southern Africa. 7th edn. The Trustees of the John Voelcker Bird Book Fund, Cape Town.

Table 1. Summary of known causes of death for kingfishers recovery records at SAFRING.

Cause of death	Pied Kingfisher	Malachite Kingfisher	African Pygmy-Kingfisher	Half-collared Kingfisher	Giant Kingfisher	Woodland Kingfisher	Grey-headed Kingfisher	Brown-hooded Kingfisher	Striped Kingfisher
Unknown	1	7	2		2	2		9	1
Shot		2					1		
Drowned	1 (in net)	1 (in net)						1	
Poisoned								2	
Animal		3	1						
Collision	1	2	7	1	1	1	1	6	1
Sick, died		2			1			1	
Ringing Activities			3		2				
Weather								1	
Total	**3**	**17**	**13**	**1**	**6**	**3**	**2**	**20**	**2**

Table 2. Longevities for kingfishers in the SAFRING database. (X) denotes a recovery record, other records are retrap records. The total number ringed, retrapped, and recovered is shown. The reporting rate is given in the last column.

Species	Ring number	Longevity (years)	Date	Total ringed	Total retrapped	Total recovered	Reporting rate (%)
Pied Kingfisher	E28968	4.13	2001/07/28 - 2005/09/12 (X)	490	20	3	4.7
	E39214	2.75	2011/04/25 - 2014/01/21				
	E39056	1.98	2004/12/18 - 2006/12/10				
Giant Kingfisher	PA04160	8.01	2003/04/29 - 2011/04/29	262	42	6	18.3
	614469	7.93	1990/12/30 - 1998/12/04 (X)				
	6A01801	4.52	2005/05/07 - 2009/11/11				
Woodland Kingfisher	E34901	8.04	2006/12/16 - 2014/12/28	773	82	3	10.9
	439945	6.08	1983/03/10 - 1989/04/06				
	4A46395	5.77	2010/02/26 - 2015/12/03				
Mangrove Kingfisher		0.00		11	0	0	n/a
Grey-headed Kingfisher	4A39419	4.96	2009/03/16 - 2014/03/01	290	242	2	9.0
	439995	4.92	1984/01/28 - 1988/12/29				
	439157	3.92	1985/02/11 - 1989/01/13				
Brown-hooded Kingfisher	E29991	6.34	2005/11/12 - 2012/03/14	2844	596	22	21.7
	4H05510	6.06	1997/02/01 - 2003/02/23 (X)				
	4A34297	5.04	2008/01/26 - 2013/02/09				
Striped Kingfisher	E07527	3.55	2000/04/24 - 2003/11/11	190	16	3	10.0
	480552	2.78	1989/02/12 - 1991/11/22 (X)				
	439982	1.97	1983/12/13 - 1985/12/02				
Half-collared Kingfisher	E31580	4.04	2006/03/07 - 2010/03/21	203	36	1	18.2
	E29992	4.04	2006/03/08 - 2010/03/20				
	E24354	3.62	2010/11/19 - 2014/07/03				
Malachite Kingfisher	E16147	6.39	2008/09/25 - 2015/02/14	3471	582	18	17.3
	E41655	6.36	2006/07/28 - 2012/12/04				
	E07345	6.20	1983/02/07 - 1989/04/19				
African Pygmy-Kingfisher	Y00280	3.87	1984/05/23 - 1988/04/04	2342	152	13	7.1
	E14919	3.80	1988/12/31 - 1992/10/17 (X)				
	Y01963	3.35	2005/11/16 - 2009/03/23				