

Scavenging birds of Kampala: 1973–2009

Richard Ssemmanda and Derek Pomeroy

Summary

Scavenging birds are very conspicuous in Kampala and a number of counts have been made of their numbers since the 1970s. Between the 1970s and mid-2000s the breeding population of Marabou Storks *Leptoptilos crumeniferus* increased from about 100 pairs to nearly a thousand, whilst roost counts of Black Kites *Milvus migrans* also showed large increases. Numbers of Pied Crows *Corvus albus* and Hooded Vultures *Necrosyrtes monachus*, also counted as they came into communal roosts, showed lower rates of increase; from mid to late 2000s however, Hooded Vultures seem to be decreasing. These increases perhaps reflect the four-fold increase in the human population over the same period, considerably adding to the refuse upon which these birds mainly feed. In view of alarming declines of scavengers elsewhere, especially vultures, we plan to continue monitoring these Kampala birds.

Introduction

Scavenging birds are a conspicuous feature of Kampala, where they live very close to people, who, most of the time, simply accept them as part of life. Their abundance and closeness to man make them an obvious subject of study. Many scavenging birds have adapted to living in harmony with man, even where the environment has been greatly altered through a multiplicity of human activities (Pomeroy 1975). The area of this study, Kampala City, is located in the heart of southern Uganda and its human population increased from about 331,000 in 1969 to 1,300,000 in 2002 (www.UBOS.org) and is probably now approaching two million. Different City Council regimes have taken over responsibility of cleaning the city but the size of the population and the impact of increasing incomes on the production of garbage create a good source of food for scavengers. During the 1970s, the largest numbers of scavenging birds in Kampala were at the rubbish tips near Lugogo and Natete, and the abattoir in the Industrial Area. Changing procedures in the 2000s reduced the availability of offal at the abattoir; the biggest concentrations of birds are now at the Kitezi rubbish tip, 12 km north of the city centre.

The main scavenging birds in Kampala, which are the ones considered in this study, are the Marabou Stork *Leptoptilos crumeniferus*, Pied Crow *Corvus albus*, Hooded Vulture *Necrosyrtes monachus* and Black Kite *Milvus migrans*. The latter are mainly *M. m. parasitus*, sometimes called African Yellow-billed Kites, but the nominate race also occasionally occurs (Carswell 1986). This contrasts markedly with the situation in Kenya where the Marabou Stork, Black Kite and Pied Crow are common in Nairobi, but not in Mombasa where the Indian House Crow *Corvus splendens* is the major scavenger; Sacred Ibis *Threskiornis aethiopicus* occurs at some sites in both cities (M. Reid and F.Ng'weno, *pers. comm.*). As urban birds, Hooded Vultures in Kenya are

confined to a few western towns such as Kisumu (D.A. Turner, *pers. comm.*).

Pomeroy (1975) classified scavenging birds into obligate and facultative scavengers. Obligate scavengers feed exclusively on dead animal matter and examples include the Hooded Vulture. Facultative scavengers have a more catholic diet and among these are the Black Kites, Pied Crows and Marabou Storks. As integral parts of a complex ecosystem, they all play an important ecological role in consuming organic matter within urban centres that would otherwise rot and harbour disease-causing pathogens (Sekercioglu 2006). Scavenging birds occur all over East Africa in a variety of habitats. In urban areas, they almost always roost communally, sometimes as mixed species, although in isolated cases Hooded Vultures have been found to roost individually (Ssemmanda 2005). Pomeroy (1975) counted the principal bird scavengers inhabiting Kampala and its suburbs. Another census was carried out by Chemonges (1991), who identified the communal roost sites for all species. In 2005-06 we repeated the roost counts to record the changes in populations over this period. Another count of Hooded Vultures was made in 2009, following observations that seemed to suggest a decline in their numbers.

All these scavengers frequently occur in close proximity to man, especially at feeding sites, with none seemingly directly affected by the presence of the other. However, the demise in India of urban vulture populations (Prakash *et al.* 2003) and the Marabou Stork's Asian congeners—the Adjutant Storks *Leptoptilos dubius*—highlight the value of periodic monitoring of scavengers. Like other animals in the city, urban scavengers have fallen prey to poisons either directly or indirectly (e.g., through stray dogs poisoning). Moreover, with tall trees being cut down for construction and other purposes, scavenging birds are gradually losing an important part of their habitat, and hence the monitoring of these species is useful. We begin by reviewing the individual species occurring in Kampala before assessing trends in their numbers between 1973 and 2009.

Some background information on the focal species

Black Kites

Brown *et al.* (1982) recorded three sub-species of Black Kites in tropical Africa, namely *Milvus m. migrans*, *M. m. parasitus* and *M. m. aegyptius*. Only *M. m. parasitus* is common in Kampala where *M. m. aegyptius* has not been recorded (Carswell *et al.* 2005). Black Kites are valuable scavengers and are extremely agile and highly manoeuvrable in catching live prey. They are carrion feeders found frequently around towns and villages (Mackworth-Praed & Grant 1952). During his counts, Chemonges (1991) did not find any marked seasonal changes in Black Kite numbers at feeding sites. He recorded several roosting sites, all of which were still in use in 2005. They sometimes move in flocks of 10 to 30 birds when coming to roost, and either rest on buildings and trees, or circle at varying heights, before eventually converging to their roosts.

Pied Crows

This species is described as resident (Mackworth-Praed & Grant 1952) and is

therefore not expected to show any marked seasonal changes. Pied Crows are widespread and versatile scavengers in Africa, eating any animal of suitable size, as well as fruits, grains, seeds and any kind of insects, and have been recorded feeding on offal at abattoirs (Chemonges 1991). Benson & Benson (1971) recorded that in Malawi they are rare or absent where there are no human dwellings but locally very abundant in townships; the same is true in Uganda (Carswell *et al.* 2005). Like Black Kites, Pied Crows do not show any marked seasonal changes in numbers at feeding sites in Kampala, though Chemonges (1991) recorded the highest numbers in June and July and the lowest numbers in April. Smaller numbers are found at feeding sites compared to roosts, since they feed in widely dispersed areas. They generally fly high during their return to roosts while flying low near to feeding sites. Only one roosting site was recorded for this species in Kampala, which was exclusively on *Eucalyptus* spp. near Wandegeya Post Office.

Hooded Vultures

Hooded Vultures are widespread in East Africa (Mackworth-Pread & Grant 1952) and like other scavengers, they occur in appropriate habitats all over Uganda, although they may now be declining here as well as elsewhere in Africa (Thiollay 2007). They have been observed to roost in close proximity to their feeding sites, differing from other scavengers that fly considerably longer distances to feed (Ssemmanda 2005). They congregate at carcasses during feeding and parties of nearly 70 have been recorded at the same site. Little information is available about their breeding in Uganda. However, their numbers clearly increased significantly over the years up to 2005, but a suspected decline led us to making a new census in 2009.

Marabou Storks

Pomeroy (1975) recorded a monthly average of 277 Marabous in Kampala while Chemonges (1991) had a monthly average of 324. Although these birds have been targets of poisoning and nest destruction, they exhibit high tolerance and success in surviving in urban areas and their numbers have continued to increase up to the present (DP, *unpubl. data*).

Methods

The number of all scavenging birds was recorded by making total counts. Marabous nest colonially and their breeding populations in Kampala have been estimated since 1970 by counting occupied nests (Nansikombi & Pomeroy 2002). The method used for counting the other scavengers was adapted from that used by Gwahaba (1971) and Dranzoa (1986). The other species in this study nest singly but they all roost communally as well and their roosts in Kampala are conspicuous and well-known. Repeat counts were made of birds arriving to roost. In 2004-5, the counts lasted for a period of about two months from early November to mid-January for the Black Kites and Pied Crows and were conducted by F. Okiror and M. Akoko respectively, while RS conducted those of the Hooded Vultures between 5 November and 12 December 2004 and again from 10 - 21 June 2009. Each roost was visited thrice for both Pied Crows and Black Kites, while the different roosts for the vultures were visited between two and four times, depending on the number of vultures at the site.

The roosts were visited from the time birds began arriving until all had settled. Counts were conducted using a pair of binoculars (8x42). In the cases where numerous birds that were not easily countable by one person were encountered, the tree was divided into several sections and several people conducted the counts, in some cases with the unaided eye. All small-sized roosts were counted by a single person to increase accuracy and reduce repetition. However, the counts were conducted with some difficulty, especially in the case of Pied Crows, which do not settle at the roosts until it is almost dark. As the Black Kites approached their roosts close to those of the Pied Crows, the crows would sometimes scatter necessitating a repeat count.

Results

Counts of populations of roosting Pied Crows, Black Kites and Hooded Vultures are shown in Table 1 and Figure 1. The Marabou Stork was not counted in 2004/05, but as the nest counts in Table 1 show, this species has also increased rapidly. From 2005 to 2009, the average number of nests in Kampala was about 900 and, since Marabous are about six years old when they first breed, there is a large non-breeding population too. By 2004, the total number of Marabous in Kampala was at least 2000 (R. Katebaka, *pers. comm.*) and it continued to increase given that the average number of young fledged per nest is 1.6 (Nansinkombi & Pomeroy 2002), and many of the fledglings remain around the natal area. The main refuse dump for Kampala (Kireka) can attract over a thousand Marabous at any one time (but less than ten Hooded Vultures).

Table 1. Population changes of four scavenger species in Kampala. Estimates are of total populations, except for Marabou Storks, which were counted at the nest.

Species	1973-4 ^a	1991-2	2004-6	2008-09	% increase: 1973-2006/9
Marabou Stork	60 ^a	350 ^a	741 ^b	986	1543
Black Kite	212	608	2889		1262
Pied Crow	735	907	1800		145
Hooded Vulture	212	298	430	276	30

^aPomeroy (1975), Chemonges (1991); ^bR. Katebaka (*pers. comm.*) – data for 2005-6; ^cPomeroy (1975) used a different census technique for the 1973-4 counts

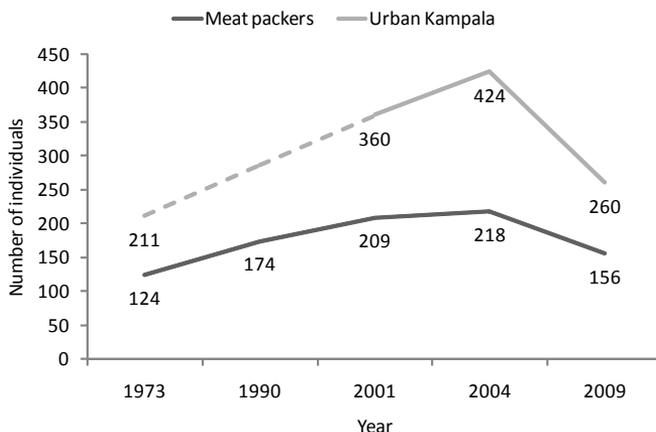


Figure 1. Numbers of Hooded Vulture at Kampala Meat Packers and urban Kampala in various years between 1972 and 2009.

Discussion

All the species included in this study are widely distributed throughout Kampala, scavenging from abattoirs to the smallest refuse tips, and frequently using taller buildings as perches. Our data show a considerable increase in the numbers of scavenging birds as a whole in Kampala over the past three decades, despite some differences in methods and periods of censusing. The number of roost sites has also significantly increased. Chemonges (1991) recorded only one roost site at the Wandegeya area while we found seven roosting sites in 2009, four within Makerere University and others at Mulago, Katanga and Wandegeya. The Wandegeya site still holds large numbers of Pied Crows, although the biggest population was recorded at the new site at Makerere University.

Black Kites increased more than tenfold between 1973 and 2005. None of the five kite roosts recorded by Chemonges in 1991 were still in use in 2005. We recorded two new sites, Makerere University and Lubiri. The old roosting sites were visited and most of these gave suggestive clues as to the cause of their abandonment such as extensive defoliation due to branch cutting and tree felling for building sites. Like the Pied Crows, Black Kites also shared roosts with other scavengers although they preferred trees with dense foliage.

Roost sites have differed between years and it is possible that some smaller ones may have been missed, particularly for Hooded Vultures, which now forage more widely than in the 1970s (DP, *pers. obs.*). However, the upward trend in numbers is reasonably clear until 2005 with approximately 450 vultures at four major roosting sites and with the prime roost at Celtel House occasionally holding up to 280 birds. But in June 2009, this species showed a sizeable decrease in numbers to about 280, a total previously recorded at a single site in 2005. This reduction in numbers can probably be attributed to habitat modification, particularly caused by the ever-growing construction industry. Though other smaller abattoirs have been opened in the suburbs of Kampala, with over 50 vultures already in these areas, this does not account for the large fall in the total number recorded since 2005. The numbers of birds roosting behind the abattoir and those at Celtel House appeared to fluctuate, which should be investigated in more detail. Unlike Black Kites and Pied Crows, Hooded Vultures appeared not to move long distances between feeding and roosting sites with many birds seen roosting within 100 m of their feeding sites. Uganda-wide counts also suggest a decline in Hooded Vultures from the 1960s to the 2000s (DP & M. Virani, *unpubl. data*). There is no evidence of Hooded Vultures being poisoned in Kampala. In National Parks and some pastoral areas, vultures are indirect victims of lion and other predator poisonings, but Hooded Vultures are uncommon in these areas and hence unlikely to be greatly affected by this.

All the scavenging birds in this study seemingly enjoy a good relationship with man, both at feeding and roosting sites, with none reacting to the presence of the other. The human population increase in Kampala provides more refuse and dumping sites despite the City Council's efforts to clean up the city. Thus enormous amounts of food are available to the scavenger population and its removal is an advantage to the human population since the avenue

for pathogenic multiplication is greatly reduced by these birds consuming rotting material. Nevertheless, the growing quest for land is impacting on the roosting sites of these birds with pruning of trees near power lines and felling for construction being key factors in the reduction of available roosting sites.

Acknowledgements

We thank Steven Fred Okiror and Moses Akoko for their 2005 dissertations on Black Kites and Pied Crows respectively and the African Bird Club for supporting them. We also thank Crisper Bazaalaki for her support during this work. Two referees contributed helpful improvements to the manuscript.

References

- Benson, C.W. & Benson, F.M. 1977. *The birds of Malawi*. MontFort Press, Limbe, Malawi.
- Brown, L., Urban, E.K. & Newman, K. 1982. *Birds of Africa, Volume 1*. Princeton University Press, U.S.A.
- Carswell, M. 1986. Birds of the Kampala Area. *Scopus special supplement number 2*. East Africa Natural History Society, Nairobi, Kenya.
- Carswell, M., Pomeroy, D., Reynolds, J. & Tushabe, H. 2005. *The Bird Atlas of Uganda*. British Ornithologists' Club, Oxford, UK.
- Chemonges, J.K. 1991. *The role of scavenging birds in clearing up the refuse disposed of in Kampala*. M.Sc. thesis, Makerere University. Kampala, Uganda.
- Mackworth-Praed, C.W. & Grant, C.H.B. 1952. *African Handbook of Birds, Series 1, Vols. 1&2, 2nd Edition*. Longmans, London.
- Nansikombi, J. & Pomeroy, D. 2002. Breeding of the Marabou Stork in Kampala. *Uganda Journal*, 48: 121-126.
- Pomeroy, D.E. 1975. Birds as scavengers of refuse in Uganda. *Ibis* 117: 69.
- Prakash, V., Pain, D.J., Cunningham, A.A., Donald, P.F., Prakash, N., Verma, A. & Gargi, R. 2003. Catastrophic declines of Indian white-backed *Gyps bengalensis* and long-billed *G. indicus* vulture populations. *Biological Conservation* 109:381-390.
- Sekercioglu, C.H. 2006. Increasing awareness of avian ecological function. *Trends of Ecology and Evolution* 21: 464-471.
- Ssemmanda, R. 2005. An apparent increase in Hooded Vulture *Necrosyrtes monachus* numbers in Kampala, Uganda. *Vulture News* 53.
- Thiollay, J. M. 2007. Raptor population decline in West Africa. *Ostrich* 78: 405-413.

Richard Ssemanda

Makerere University, Institute of Environment and Natural Resources P.O. Box 7298
Kampala, Uganda; Email: ssemmarich@yahoo.com

Derek Pomeroy*

Makerere University, Institute of Environment and Natural Resources P.O. Box 7298
Kampala, Uganda; *Email for correspondence: derek@imul.com