

Hobbies (*Falco cuvieri* and *F. subbuteo*) versus bats over Kampala skies

The African Hobby *Falco cuvieri* is widely distributed in the sub-Saharan part of the continent (Ferguson-Lees & Christie 2001). However, it is unaccountably rare in much of the range (Brown *et al.* 1982), making specific observations challenging. One major exception is the area of Kampala, Uganda's capital, where the African Hobby has been regularly recorded for decades (Steyn 1965, Pitman 1966, Carswell *et al.* 2005).

In the course of a wider study of the ecology of the entire 'hobby group' (*sensu* Fuchs *et al.* 2015), we visited Uganda from 29 December 2015 to 7 January 2016. Most of the time we spent in Kampala. However, we also visited Bwindi Impenetrable Forest and Queen Elizabeth National parks in the southwest of the country.

In the Kampala area we observed a minimum of nine African Hobbies and four Eurasian Hobbies *Falco subbuteo*. Five of the African Hobbies could be identified as adults, but four could not be aged due to our distance from the birds. For the Eurasian Hobby, there were two each of adults and first-winter birds.

Both hobby species are said to feed on insects, birds and bats (Brown *et al.* 1982). As far as we could establish, both species spent most of the daytime sitting in the shade

or hunting insects (mostly dragonflies emerging from nearby Lake Victoria), largely out of sight. We only once saw an African Hobby trying to catch birds, on the early morning of 7 January, flying low and at high speed over the houses and gardens of the Kampala suburbs.

The situation changed dramatically during dusk and dawn, when hobbies became noticeable, trying to catch bats. In a short period of about 30 minutes of each twilight time, both species appeared in the skies over Kampala. Bats apparently flew at dusk towards Lake Victoria for feeding and back at dawn to their resting places, making them vulnerable to attacking predators on their comparatively long flights. Altogether, we observed 13 bat kills, nine by the African Hobby and one by the Eurasian Hobby, while in three cases the hobby species could not be identified. Catches were observed between 06:30 and 06:40 in the morning, and between 19:07 and 19:19 in the evening. Hobbies only attacked small to medium-sized bats, whereas they ignored completely the likewise numerous, but obviously too heavy Straw-coloured Fruit-Bat *Idolon helvum*, which weighs from 230 to 350 g.

Although the sample size is small, hobbies seemed to be very successful in catching this rewarding prey type. Fourteen African Hobby hunts at fairly close ranges resulted in five kills, while the falcons had no success on seven occasions and in two cases the outcome was unclear. This amounts to a hunting success rate of about 35–50%, much higher than that reached by Eurasian Hobbies on similar sized birds (<20%; Probst *et al.* 2011, Probst 2013). However, African Hobbies were also reported to be successful predating roosting Barn Swallows *Hirundo rustica* in Nigeria (Bijlsma & van den Brink 2005). Furthermore, Kampala's hobbies often did not drive home an attack, but simply switched to another target if they could not catch a bat immediately. Therefore, hunting success could have been even higher when purposefully chasing an individual target, and approaching the 50% capture success for Eurasian Hobbies on emerging bats in Africa reported by Fenton *et al.* (1994).

Bats may be an important prey for African and Eurasian Hobbies (cf. Haensel & Sömmer 2002, Stanton 2016) and their congeners and ecological counterparts within the tropical zone (Oriental Hobby *Falco severus*; Bat Falcon *F. rufigularis*). Uganda is enormously rich in micro-chiropteran species (Kityo & Kerbis 1996), making them in some regions a profitable prey base. For example, we saw a Bat Hawk *Macheiramphus alcinus* killing three small bats within a few minutes on the evening of 7 January. However, one should be careful about generalization on a larger regional scale as we could not observe hobby–bat interactions at Lake Bunyonyi (evening of 2 January and morning of 3 January), or the Kazinga Channel between Lakes George and Edward (evening of 3 January).

At Kampala we noticed some differences between hunting at dusk and dawn. At dusk, masses – hundreds, if not thousands – of small bats were visible flying in mid-air, while at dawn only a few were seen, typically flying low over the houses and canopies. Probably many of them had already reached their roosts during the hours of darkness. Therefore, bats were much more readily caught in the evening than in the morning. As a result, we estimated individual hobbies to kill two bats per day on a rough average, zero to one in the morning and one to two in the evening. Given a necessary daily intake of an estimated (low) 30 g in the African Hobby (Brown *et al.* 1982), falcons could easily cover their prey needs by catching bats and dragonflies. However, this is not the case when supplying juveniles, as bats are only available for a short time during the day. We can predict that birds might become a major prey component then.

Acknowledgements

We should like to thank Prof. Derek Pomeroy for valuable comments on this manuscript, Roger Skeen for further information on Uganda's hobbies, and our guide Vicent Katwire for a safe journey through the street jungle of Kampala. Finally, we would be happy to receive further unpublished information of observations on the ecology of the two hobby species in Africa.

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Scopus 37(1): 27–29, January 2017

Received 24 February 2016