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Anthony Lowney and Liam D. Charlton

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AVIAN BIOLOGY

CHEETAHS *ACINONYX JUBATUS* UTILISING SOCIABLE WEAVER *PHILETAIRUS SOCIUS* STRUCTURES AT TSWALU KALAHARI RESERVE

Anthony Lowney[1] and Liam D. Charlton[2]

1 DST-NRF Centre of Excellence, FitzPartick Institute of African Ornithology, University of Cape Town, South Africa
2 Tswalu Kalahari, Northern Cape, South Africa

Corresponding Author: anthonym.lowney@gmail.com

Sociable Weavers *Philetairus socius* build large extensive colonies that are iconic in the Kalahari landscape. These structures are home to hundreds of individuals (Maclean 1973). They also host a wide range of other species, avian and non-avian. In southern Africa, Pygmy Falcons *Polihierax semitorquatus* depend entirely on these structures for nesting and roosting (Maclean 1973; Mendelson & Anderson 1997). Rosy-faced Lovebirds, *Agapornis roseicollis*, also nest (Ndithia et al. 2007), Acacia Pied Barbets, *Tricholaema leucomelas*, roost (Maclean 1973), and Cape Cobras, *Naja nivea*, forage in these colonies (Maclean 1973; Covas 2002). Kalahari Tree Skinks, *Trachylepi spilogaster*, have a strong association with trees containing these structures (Rymer et al. 2014). The colonies provide thermal benefits for those that use them, acting as a buffer from harsh Kalahari temperatures (van Dijk et al. 2014; Leighton & Echeverri 2014). This all suggests that Sociable Weavers are potential ecosystem engineers.

Here we observe that Cheetahs, *Acinonyx jubatus*, in Tswalu Kalahari Reserve also use these structures as look-out perches. We have observed cheetahs on top of colonies and have camera trap footage of them climbing the trees that contain these structures. Cheetahs are observed frequently and life histories of certain individuals are fully recorded. This includes the life histories of the Cheetahs observed using Sociable Weaver colonies.

Figure 1. *Two male cheetahs on Sociable Weaver colony 42 at Tswalu Nature Reserve (PHOWN 25499).*

Tswalu Kalahari is a large private reserve in the Northern Cape province, South Africa (27°13′30″S and 22°28′40″E), situated between the towns of Hotazel and Van Zylsrus. At Tswalu Kalahari over 250 Sociable Weaver colonies have been mapped in a study area that covers less than 10% of the reserve area (Robert Thomson unpublished data, see PHOWN (http://weavers.adu.org.za/phown.php). The observations described all occur within this study area.

Figure 2. *Sociable Weaver colony 79 with two male cheetahs resting on top (PHOWN 25500).*

Records

On 31 December 2015 two male cheetahs were observed on colony 42 (Fig. 1). These two individuals are brothers and were discovered already on the nest. Here they appear to use it as a vantage point.

Figure 3*. Adult female cheetah ascending colony 81 (PHOWN 22501).*

During the morning of the 22 April 2016, LDC observed the same two adult males on top of colony 79 (Fig. 2). Here they stayed for approximately 45 minutes using it as a vantage point. They appeared to be actively looking for prey. Once they climbed down they walked for a short while before lying down to rest.

Figure 4. *Three cheetahs at Sociable Weaver colony 76, two are on the ground while one is climbing the tree (PHOWN 25502).*

Camera trap footage from the 21 April 2016 recorded an adult female with three adolescent cubs all climbing a tree that supports colony 81 (Fig. 3). The female of this group is collared making her easy to identify. At 9:27 she is the first to climb the tree, the others follow. The positioning of the camera trap does not enable viewing of the top of the colony. However, as each cheetah ascends it is clear from the photographs that the weight of these individuals flexes the branch reducing the height of this colony. The female has returned to the ground by 9:50 and then climbs again at 10:32. All the cheetahs have returned to the ground by 10:34 and subsequently leave the area.

On the 3 May 2016 at 18:26 three cheetahs were captured on a camera trap at colony 76. These are believed to be the three adolescent cubs that were observed at colony 81 on the 21 April. However, the mother was not captured on the camera. One of these can be seen climbing the tree (Fig. 4).

Figure 5. *Male cheetahs return to colony 79 (PHOWN 25503)*

On the 11 June 2016 LDC again observed the same two male cheetahs that were seen on 22 April. Again, they climbed the colony 79. They were observed approaching the colony and climbing the tree (Fig. 5), one male was seen scent marking the top of the nest.

These individuals stayed on top for approximately five minutes, before climbing down and walking away.

Conclusion

Here we have shown that Cheetahs at Tswalu Kalahari are using Sociable Weaver colonies. At least one further observation is known from 2011 (R. Thomson pers comm.) of a different individual to those mentioned in these observations. The colonies likely provide vantage points and refuge from potential interspecific agnostic interactions. Cheetahs are just one of many species that utilise these structures, showing their importance to the local species community.

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