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AVIAN BIOLOGY

FRIENDLY NEIGHBOURS? WHITE-BROWED SPARROW-WEAVER NESTING IN ASSOCIATION WITH GREATER KESTREL

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Birds nesting in close proximity to other bird species or occupying the same nesting space is fairly well known but often poorly understood (Joubert 1932, Quinn and Ueta 2008). This commensalism usually implies that one or both species may benefit from the close association. Two primary reasons for these kinds of nesting associations are usually as a nest defence strategy (providing protection) or mutual vigilance helping to warn of impending threat (Quinn and Ueta 2008).

On 20 November 2016, while conducting a SABAP2 survey in Rooifontein Nature Reserve, outside Kimberley, a single White-browed Sparrow-weaver (*Plocepasser mahali*) nest was seen lodged at the base of an active Greater Kestrel (*Falco rupicoloides*) nest (Figure 1). The entrance to the nest can be seen clearly in Figure 1. The kestrel nest, which is an old Pied Crow (*Corvus albus*) nest and been active in the reserve for at least 10 years, is situated at the cross junction of two wooden poles that constitute the frame of a powerline pylon; the line runs close to the eastern boundary of the reserve. For the time permitted to observe the kestrel nest (2-3 minutes) no sparrow-weavers were observed flying in or out of the nest so it was not possible to ascertain the status of the nest but it was assumed to be active based on the activity of other sparrow-weaver colonies in the area. The record has been submitted to

PHOWN (PHOTOS of Weaver Nests) and the locality details are provided at http://weavers.adu.org.za/phown_vm.php?vm=24740.



Figure 1. A single White-browed Sparrow-Weaver nest lodged at the base of a Greater Kestrel nest, 20 November 2016. A juvenile kestrel can be seen raising its head from the nest. (Photo: DM Harebottle).

I revisited the nest site on 29 November 2016 and for a period of 45 minutes (16:45 – 17:15) no sparrow-weaver activity was observed. Two recently fledged kestrel chicks were seen on the pylon poles and were actively moving around the nest site or seen in the nest (Figures 2 and 3). On closer inspection of the sparrow-weaver nest, and particularly of the nest entrance, it seems as if the nest has been abandoned. There were numerous twigs and small branches from the kestrel nest that were covering the entrance which had now also seemed to have been dislodged and become less visible (Figure 4) – this was probably due to the movements of the kestrel chicks, and perhaps wind.



Figure 2. Two Greater Kestrel siblings on the top pylon pole, 29 November 2016 (Photo: B. Culver).



Figure 4. White-browed Sparrow-weaver nest from below showing the twigs and branches covering the entrance.



Figure 3. Greater Kestrel chick in the nest (Photo: B Culver).



Figure 5. Nests, and the large guano marks on the pole.

Based on the condition of the grasses used to build the nest, it seems probable that the nest was constructed at least within the last six months to one-year (D. Oschadleus *in litt.*) and that it was intended to be used by the sparrow-weaver pair. Large guano deposition marks on the pole adjacent to the nest is most likely from the kestrel chicks or the adult kestrels (Figure 5).

Although no active breeding or use of the nest was found, this is likely the first known documented case of a White-browed Sparrow-weaver making use of a nest structure of another species as a foundation from which to construct its own nest. Steyn (1982), Harrison *et al.* (1997a,b) and Hockey *et al.* (2005), do not document any breeding associations between these two species.

Discussion

In southern Africa, other examples of nesting associations between different bird species include: weavers building nests close to various raptor nests (including buzzards and kites) (Joubert 1932), weavers building and hanging nests below vulture nests (Mundy *et al.* 1992), warblers building nests below weaver nests in reedbeds (Oschadleus 2016), and weavers building and hanging nests below cormorant colonies (Krochuck and Oschadleus 2016). There are a number of raptor species that have built their nests on top of Sociable Weaver (*Philetarius socius*) nests, including Spotted Eagle-Owl (*Bubo africanus*) (de Swardt 2014), Verreaux's Eagle (*Aquila verreauxii*) (<http://vmus.adu.org.za/?vm=PHOWN-3048>; pers, obs) and White-backed Vulture (<http://vmus.adu.org.za/?vm=PHOWN-24347>) (*Gyps africanus*).

There are two documented cases of Greater Kestrels nesting in association with other species. Steyn (1982) mentions a breeding pair occupying a nest of a Lappet-faced Vulture (*Torgos tracheliotos*), nesting a mere 65 cm away from the vulture clutch;

another pair, nested about three metres away from a White-faced Owl (*Ptilopsis spp.*) nest.

In the case presented here, it is interesting that a single pair of sparrow-weavers have selected this kestrel nest as a place in which to construct their own nest – there are no shortage of large thorn trees (their preferred nesting sites) in the area in which many other sparrow-weaver colonies are present. The closest White-browed Sparrow-weaver colony is less than 500 m from the kestrel nest. This then suggests a possible nest defence strategy employed by these birds, perhaps wanting to benefit by the protection of a raptor nest that 'surrounds' its own nest. This would then deter potential predators, such as crows and perhaps other aerial predators. Greater Kestrels have been observed actively chasing predators away from their nests (Steyn 1982).

An alternative hypothesis is that the sparrow-weavers may just have utilised a suitable structural space (i.e. the kestrel nest) as a foundation in which to construct a nest with neither species perhaps concerned about deriving any benefit from each other. In a review of 62 studies of nesting associations involving birds (in which at least one species was a bird), Quinn and Ueta (2008) found that most of the associations between birds and another species (including non-avian species) were purely commensal with no particular benefit to either species. Krochuck and Oschadleus (2016) also found this to be the case with no response from either weavers or waterbirds when faced with a potential threat (e.g. an over-flying raptor). The Verreaux's Eagle/Sociable Weaver association cited above also seems to suggest direct evidence of one species (the eagle) simply using a suitably available structure (Sociable Weaver nest) as an alternate nest site, this in absence of large cliffs in the surrounding landscape (J. Claassen *in litt*, pers. obs.).

It may well be that it is a combination of both protection/safety from predators and structural aspects that persuaded the sparrow-weavers to utilise the kestrel nest. However, neighbourly relations

may not always be mutually beneficial. It is important to bear in mind that this association may well have had negative outcomes for the sparrow-weavers in terms of predation by the kestrel and why the nest may be abandoned. Although the kestrels' main diet consists of arthropods, they have known to feed on birds (Steyn 1982, Maclean 1993). The presence of chicks in the sparrow-weaver nest may provide a quick and easy meal for the kestrels and their developing chicks. Pygmy Falcons (*Polihierax semitorquatus*) which roost and breed in Sociable Weaver nest chambers, and are primarily lizard and insect hunters (Steyn 1982, Hockey *et al.* 2005), are known to feed on Sociable Weaver chicks (Spiby 2014, Maclean 1985). However, Maclean (1993) described this as a rare event. As uncommon as this may be, opportunistic predation by the kestrel on the sparrow-weaver chicks cannot be ruled out given the close nesting association recorded here.

The nest site will continue to be monitored for further sparrow-weaver activity and further observations noted should the sparrow-weavers make use of the nest for further breeding attempts.

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