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WEAVER NESTS AS NOVEL FOOD SOURCES FOR BIRDS

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AVIAN BIOLOGY**WEAVER NESTS AS NOVEL FOOD SOURCES FOR BIRDS***Derek Engelbrecht*

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Weavers (Ploceidae) can be regarded as keystone species as they create structures, i.e. nests, that may last months or sometimes years and are used by a suite of other species - invertebrates and vertebrates - for breeding, roosting, shelter or protection (Oschadleus 2017). The enclosed nests provide a dark, warm and moist micro-habitat, often with a regular supply of food, e.g. faeces or other organic matter from the occupant. This creates an ideal refuge and breeding habitat for many invertebrates such as spiders, beetles, flies, locusts, cockroaches, fruit chafers and various ectoparasites, amongst others (De Beer 1980; López-Rull and Garcia 2015; Oschadleus 2017). This, in turn, may attract small insectivorous predators such as small reptiles (Maclean 1973; Oschadleus 2012). Nests may also attract predators targeting the occupant, eggs or nestlings, e.g. nest predators such as snakes, birds or small mammals (Engelbrecht 2011; Oschadleus 2017). Here I report on two observations of birds inspecting weaver nests in search of food.

Red-billed Buffalo Weaver *Bubalornis niger* (Fig. 1A-F)

On 16 July 2015, a Green Wood Hoopoe *Phoeniculus purpureus* was seen foraging in a typical wood hoopoe fashion on the exterior of a Red-billed Buffalo Weaver nest in Satara Camp in the Kruger National Park, South Africa. Although it peered into and entered some nest chambers, the resident buffalo weavers didn't seem to be

perturbed and their response was initially limited to some alarm calling with the tail fanned. However, at some stage the wood hoopoe attempted to enter a nest chamber which elicited an aggressive response from two of the birds resulting in physical attack.

Despite the attentions of the buffalo weavers, the wood hoopoe succeeded in entering the nest. It remained in the nest for approximately two minutes, the buffalo weavers constantly harassing it from the outside by tucking at its tail feathers. Eventually the wood hoopoe re-appeared from the chamber and was immediately attacked by the buffalo weavers. It managed to ward off the attacks and settled in the same tree, joined by one of its group members. The shiny appearance of the wood hoopoe's bill and the bill wiping behaviour exhibited by it after exiting the nest, suggests the wood hoopoe must have succeeded in finding some prey item/s in the nest chamber.

Red-billed Buffalo Weavers build large, multi-chambered nests which are defended by resident birds. Males typically own between three and eight such nests and will defend them against intruders. It is unlikely that the aggressive responses by two of the birds were to defend eggs or nestlings as these observations were made in July, which fall outside the known breeding season of buffalo weavers in the Kruger National Park (Tarboton 2011). Green Wood Hoopoes are known to probe or even enter the nests of species nesting in enclosed, ball-shaped nests in search of invertebrates, e.g. Southern Masked Weaver *Ploceus velatus* (Spence 1974a) as well as Cape *Passer melanurus* and House *Passer domesticus* Sparrows (Spence 1974b; De Beer 1980; Newman 1981). In fact, they have been recorded probing nests of Bronze Mannikins and extracting and consuming nestlings (Lay 2013). In this particular instance, it is likely that the buffalo weavers were simply defending a nest chamber occupied by one or both of them at the time, and the Green Wood Hoopoe came too close for comfort.

White-browed Sparrow-weaver *Plocepasser mahali* (Fig. 2A-F)

On 2 July 2017, I noticed a Southern Yellow-billed Hornbill *Tockus leucomelas* staring intently at a cluster of White-browed Sparrow-weaver nests in the Blouberg Nature Reserve, South Africa. Two White-browed Sparrow-weavers were perched nearby, their tails fanned and clearly alarmed by the hornbill's presence. The hornbill approached one of the nests and appeared to listen if the nest was occupied. That seemed to satisfy the hornbill's curiosity and was followed by various attempts to gain access to the nest from all angles. Failing to get access to the nest, it started pecking away at the nest in an attempt to reach the occupant. This must have unnerved the occupant, which turned out to be a female White-browed Sparrow-weaver, and it exploded from the nest. The hornbill continued to peck away but had to deal with attacks from the sparrow-weavers. Nevertheless, the hornbill soon lost interest and continued on to another nest. This sequence was repeated several times and even continued at colonies in other trees.

Once again, these observations were made in July which is outside the breeding season of White-browed Sparrow-weavers. It is therefore unlikely that the female was nesting, but I suspect she was engaged with daily nest maintenance duties when the hornbill arrived. It did not appear if the hornbill was successful in obtaining any food from the nest after the sparrow-weaver left. However, it is not unusual for Southern Yellow-billed Hornbills to inspect or even predate weaver nests. A few years ago, I observed a Southern Yellow-billed Hornbill predated Scaly-feathered Finch *Sporopipes squamifrons* nestlings, interestingly also in the Blouberg Nature Reserve, but was unable to photograph it at the time (Engelbrecht 2011). Hornbills will readily take eggs and nestlings of birds (Jones 1998; Engelbrecht and Mulaudzi 2017).

These observations suggest that in addition to providing breeding, roosting, shelter or protection for the weavers and a great diversity of

other invertebrates and vertebrates, the fauna associated with weaver nests may also serve as a novel source of prey for a variety of predators, including birds.

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Figure 1A) Red-billed Buffalo Weaver passively defending its nest against a Green Wood Hoopoe, B) Green Wood Hoopoe entering and C-D) exiting various nest chambers, E) Red-billed Buffalo Weaver tucking at the tail feathers of the Green Wood Hoopoe, and F) Red-billed Buffalo Weaver physically attacking the Green Wood Hoopoe. (see also PHOTOS of Weaver Nests http://weavers.adu.org.za/phown_vm.php?vm=18384)



Figure 2 A and B) Southern Yellow-billed Hornbill appearing to listen for signs of life in a White-browed Sparrow-weaver nest, C) It must have heard something as it started probing aggressively, D) causing a female White-browed Sparrow-weaver to explode from the nest and starting to attack the hornbill. E and F) The Southern Yellow-billed Hornbill repeating its strategy of listening and probing various nests in different colonies. (see also PHOTOS of Weaver Nests http://weavers.adu.org.za/phown_vm.php?vm=263931 , also 26392, 26393)