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### Who stole my nest? Weaver nests used as nest lining

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#### Abstract

Birds stealing nest material from a neighbour's nest is well known, but stealing entire nests is less well known. There are nine records of three waterbird species and five raptor species taking nests of four weaver species. Three records were from KwaZulu-Natal in South Africa, and the rest from elsewhere in Africa. Weaver nests included green nests, but most were old nests, and at least one occupied nest (with eggs). Weaver nests were probably taken as a convenient source of plant material, rather than for any specific benefit.

**Keywords:** waterbirds, raptors, weaver bird, nest material, stealing nests

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#### Introduction

Many birds build nests and the main purpose of these nests is to protect their eggs and young (Hansell 2000). Nest building may be energetically costly, and one strategy to slightly reduce these costs could be to steal nest material from a neighbour's nest rather than collect material from further away. Stealing nest material has been recorded in penguins (Moreno et al. 1995), oropendolas, swallows and weavers, amongst others (Mainwaring and Hartley 2013, Hansell 2000). A more extreme step is to take the entire nest of another bird to incorporate in their own nest, either into the main structure or as nest lining. This study reports published records of raptors and waterbirds taking closed

nests of weaverbirds, having searched bird club newsletters, peer reviewed papers, and ornithological books.

Nine records involved three waterbird species and five raptor species. (Table 1). Nests of the Southern Red Bishop *Euplectes orix*, Village Weaver *Ploceus cucullatus*, Southern Masked Weaver *P. velatus*, and Red-billed Quelea *Quelea quelea* were used. Three records were from KwaZulu-Natal, and the rest from sites as far south as the Eastern Cape, north to East Africa. No records from West or central Africa were found. Each record is discussed under the species which took the nest.

**Table 1.** Records of waterbirds and raptors taking complete weaver nests to incorporate in their own nests.

Record	Species taking weaver nest	Weaver species	Notes on weaver nest	Locality	Reference
1	Hamerkop	Southern Red Bishop	Reeds with bishop nests taken	Eastern Cape, South Africa	Davenport (1956)
2	Saddle-billed Stork	Weaver	Weaver's nest taken	Entebbe Botanical Gardens, Uganda	Cornish (2014)
3	Woolly-necked Stork	Possibly Village Weaver	Several abandoned weaver nests	Umtentweni, KwaZulu-Natal, South Africa	Millward (2009)
4	Palm-nut Vulture	Weaver	Green weaver nest	Mtunzini, KwaZulu-Natal, South Africa	Harris et al. (1993)
5	Yellow-billed Kite	Probably Southern Masked Weaver	Kite chick on remnants of a weaver's nest	Mkuzi Game Reserve, KwaZulu-Natal, South Africa	Gush (1963), Gush (1993)
6	Crowned Eagle	Village Weaver	Some weaver's nests, in two seasons	Agristar, near White River, Mpumalanga, South Africa	Batchelor (2020), Batchelor (2021)
7	African Fish Eagle	Weaver	Several globular nests of weaver birds	Bangwe headland, Tanzania	Bangs and Loveridge (1933)
8	African Fish Eagle	Weaver	Very often padded with weaver birds' nests	East Africa	Brown (1980)
9	Eastern Chanting Goshawk	Red-billed Quelea	Unfinished grass nest	Tsavo National Park, Kenya	Smeenk and Smeenk-Enserink (1975)

**Hamerkop *Scopus umbretta***

A Hamerkop used reeds as nest material, including some reeds with nests of Southern Red Bishops attached (Davenport 1956). No locality was given, but presumably near Grahamstown (Makhanda) in the Eastern Cape, the observation being published in the journal of St Andrew's College Natural History Society, Grahamstown.

**Saddle-billed Stork *Ephippiorhynchus senegalensis***

A Saddle-billed Stork in the Entebbe Botanical Gardens was seen carrying a weaver's nest as nesting material (Cornish 2014).

**Woolly-necked Stork *Ciconia episcopus***

A breeding Woolly-necked Stork pair in Umtentweni, KwaZulu-Natal lined their nest with abandoned weaver nests (Millward 2009). The weaver nests are visible in the storks' nest in several photos, and one photo shows a stork delivering an old weaver nest. The rough nests appear to be those of Village Weavers rather than the smaller, neater nests of Eastern Golden Weavers *P. subaureus*.

**Palm-nut Vulture *Gypohierax angolensis***

Harris et al. (1993) recorded a Palm-nut Vulture with a green weaver nest in its talons to use as nest lining for its own nest, in the Mtunzini area, KwaZulu-Natal, South Africa. The weaver colony (species not identified, most likely the nest of a Village Weaver or Eastern Golden Weaver) was probably not in direct association, but not too far away from the vulture nest (Oschadleus 2016). Harris et al. (1994) reported more details on this vulture nest, but did not mention the weaver nest again.

**Yellow-billed Kite *Milvus aegyptius***

In Mkuzi Game Reserve, KwaZulu-Natal, South Africa, a Yellow-billed Kite nest contained the remnants of a weaver's nest as well as several pieces of hyaena faeces at the edge of the nest and around the young bird (Gush 1963, Gush 1993). The weaver nest was most probably that of a Southern Masked Weaver as Gush (1963, 1993) noted six kite nests (as well as some vulture and crow nests) that all had Southern Masked Weaver colonies in association. The nest was probably collected as a complete nest, but broken up by the nestling kite.

**Crowned Eagle *Stephanoaetus coronatus***

A video camera set up at the nest of a Crowned Eagle pair near White River, showed that the nest was lined with fresh leaves, and weaver nests were added in two successive seasons, in 2019-2020 (Batchelor 2020) and in 2020-2021 (Batchelor 2021). A photo in Batchelor (2021) shows the weaver nest and the photo caption describes it as a Village Weaver nest. The author presumed that the raptors were feeding on chicks in the nests. However, the author's description makes it clear that it is not a case of predation. Although several weaver species nest in association with the Crowned Eagle (Chapin 1932), I have found no records of predation by this raptor on any weaver.

**African Fish Eagle *Haliaeetus vocifer***

There are two separate records of African Fish Eagles using weaver nests as lining. Bangs and Loveridge (1933) recorded water weeds and several globular nests of weaver birds in the lining of an eagle nest (with two fresh eggs) near Ujiji Bay in Tanzania.

Leslie Brown stated that in East Africa, nests of the African Fish Eagle are very often padded with weaver birds' nests or papyrus heads. He also observed an African Fish Eagle taking an occupied weaver nest (that was attached to the eagle's nest) as lining for its own nest (Brown 1980).

**Eastern Chanting Goshawk *Melierax poliopterus***

In Tsavo National Park East, Kenya, the female of a pair of Eastern Chanting Goshawk brought an unfinished grass nest of a Red-billed Quelea to her nest, after she had been incubating her addled egg for more than six weeks (Smeenk and Smeenk-Enserink 1975). Interestingly, the quelea nest was gradually removed as nest material by Cut-throat Finches *Amadina fasciata*, who also robbed the goshawks' nest of downy feathers and small twigs.

In the case of the Hamerkop, taking bishop nests may have been accidental (or possibly the bird took reeds with bishop nests deliberately as this would bulk up its own nest). In the other records, it appears that the weaver nests were taken deliberately, and used as nest lining. Raptors and waterbirds are more likely to take a weaver nest where there is a colony near their nest. It is noteworthy that a Crowned Eagle pair took weaver nests in two consecutive seasons.

Weaver nests included green nests, old nests as well as at least one occupied nest (with eggs). Some birds specifically use green plant material as nest lining (Dubiec et al. 2013). The two main hypotheses for passerine birds using green material are the Courtship hypothesis (to attract females to nests), and the Nest Protection and Chemical Defence hypothesis (to deter nest ectoparasites). Dubiec et al. (2013) list, without discussion, a further eight hypotheses for raptors (which could apply to large waterbirds too) using green nest material to: 1. Enhance nest camouflage, 2. insulate eggs and nestlings, 3. reduce desiccation rate of eggs, 4. signal nest occupancy, 5. function in nest sanitation, 6. provide shade for nestlings, 7. strengthen the nest, and 8. cover debris (aesthetic function). Since not only green nests were selected, the weaver nests were probably taken as a source of plant material, rather than for any specific benefit relating to fresh material. An advantage of taking a weaver nest is that a larger amount of nest material is obtained at one time. Weaver nests could potentially aid any of the eight functions listed above.

The impact on weavers of having nests taken as nest lining is low, especially as colonial weavers have many empty nests (see also Brown 1980). Rarely, active nests may be taken, causing the loss of the clutch or brood.

Green weaver nests are expected to have few or no invertebrates, while old nests may harbour some invertebrates (Hicks 1959), many of which are not parasitic and thus are unlikely to have a large impact on raptor or stork nestlings. Old breeding nests of weavers, however, may hold nest mites, e.g. *Pellonyssus reedi* (Zumpt 1961). While these nest mites show some host specificity, they certainly bite non-related hosts. For example, they are known to bite humans, pers. obs., and are also found on Diederik Cuckoos *Chrysococcyx caprius*, a common brood parasite of weavers (Lindholm et al. 1998).

In conclusion, there are relatively few published examples of complete weaver nests being taken by large birds but this may be more common than supposed. While weaver nests may simply be a source of plant material, where raptors or waterbirds are nesting near weavers, cases of nest theft should be examined more closely.

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