



Long-term Occupancy (1900–2015) of an Egyptian Vulture Nest

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have been true for the Cedar Island pair in VA. However, the unanticipated onset of high ambient temperatures at the time of hatching in 2014 indicated there are costs associated with ground-nesting in warm coastal environs, especially on low sand dunes where shade and exposure to daytime breezes are limited. In 2014, the second nesting attempt was 5 wk after the average egg-laying date for the population (27 March, $n = 13$ territories), pushing the brood-rearing period into the hotter summer conditions.

Artificial structures on the barrier islands and lagoon system are becoming limited as storms and natural decay degrade fishing shacks and duck blinds where falcons have nested since reintroduction. Agreements with landowners preclude erecting additional nesting structures. We assume the floater population of peregrines is high in this region, as nest cameras routinely document intruder adult and subadult falcons invading occupied territories during the nesting season (Mojica et al. 2014). The shortage of usable nesting structures and large floater population could explain why this pair of falcons chose to nest in an exposed ground location on a barrier island.

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LONG-TERM OCCUPANCY (1900–2015) OF AN EGYPTIAN VULTURE NEST

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KEY WORDS: *Egyptian Vulture*; *Neophron percnopterus*; *breeding; nest; occupancy*.

Long-lived birds, particularly territorial raptors, are known to occupy territories for long periods of time. However, little is known of long-term occupancy of nests (see Newton 1979, Burnham et al. 2009). Nest emplacements are valuable resources for raptors because they can provide a signaling function for conspecifics, and owner-

ship of alternative sites may reduce competition with other species and reduce nest ectoparasites (Newton 1979, Hiraldo et al. 1995, Ontiveros et al. 2008, Jiménez-Franco et al. 2014). Their significance can be even greater for hole-nesting birds because cavities meeting species-specific requirements may be in short supply (Newton 1994, Cockle et al. 2011). Thus, high-quality nests of cliff-nesting raptors are sometimes occupied for long periods of time, but documented examples of this are very scarce. Perhaps the most striking case is that of a Gyrfalcon (*Falco rusticolus*) eyrie in Greenland, which has been occupied

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over at least 2,500 yr as was demonstrated by means of ^{14}C analyses of fecal material (Burnham et al. 2009). Similar techniques applied to twigs from the foundation of the nest revealed that a Golden Eagle (*Aquila chrysaetos*) nest in western North America was constructed more than 500 yr ago (Ellis et al. 2009).

The Egyptian Vulture (*Neophron percnopterus*) normally breeds in cliff cavities, but on occasion, because predators are rare on many islands, it sometimes nests on the ground (Gangoso and Palacios 2005). The species was well-known by the ornithologists of the 19th and early 20th centuries (see Bannerman 1963), but detailed accounts of nests are almost nonexistent. Harris (1901) described a breeding location shown to him by local residents in 1900 on the island of Fuerteventura. Harris stated: "We had still some distance to go when we came in sight of a steep volcanic mountain standing out by itself, a sight common enough in these islands. As we drew near to this mountain we saw one of the birds whose nest we had come to seek sailing majestically round and round in widening circles ... On reaching the rock we found that the cave was easily accessible from below, and with a little care it would be quite possible to photograph the nest, though there was very little light inside. I first went along to the cave, in which I found two eggs; they turned out to be quite fresh, and were of a dirty white colour, marked very sparingly and indistinctly with dark reddish brown. There was a sort of nest made of a little wool; the cave also contained one or two bleached bones ... I took the eggs, as I thought it was the only Vulture's nest I was ever likely to get up to, and then we descended, both birds wheeling high in the air and watching us off the premises before returning to the nesting site." The author includes a photograph showing the two eggs lying on a thin crust of wool and sticks (Fig. 1).

An intensive long-term monitoring program carried out in Fuerteventura since 1998 revealed that this nest is still occupied by Egyptian Vultures. The nest was found in a territory located almost at the center of the island (Tuineje municipality). A pair of Egyptian Vultures has occupied this territory in an ancient volcano 150 m above the surrounding plains since 2006. The current pair has two distinct nests, separated by 51 m. One of these nests is the one described by Harris (1901). It is in the upper third of the crater on a small cliff <3 m high, inside a cavity of approximately 1.5 m long and 1 m high. Both the location of the nest platform and the morphology of the rock surrounding the nest are identical to that photographed by Harris, so we are certain that it is the same nest (Fig. 1). The nest has been occupied continuously between 2007 and 2015, with the pair raising one fledgling per year in 2007, 2008, 2010, 2011, and 2014. Clutches in 2012 and 2013 failed, possibly because of disturbance caused by people hiking to the summit of the volcano.

We do not know if this nest was occupied in the decades immediately preceding 1998. It may have been abandoned after the well-documented population decline occurred in the second half of the 20th century (see Palacios 2000).



Figure 1. Above: nest of Egyptian Vulture as photographed on Fuerteventura Island by Harris (1901) in 1900. Below: the same nest in 2014 with a nestling approximately 65 d old (Photo: Juan Ramírez).

More recently, the territory may have been reoccupied following the latest population increase; the number of occupied territories in Fuerteventura grew from 21 to 56 between 1998 and 2015 (J. Ramírez, J. Roldán, M. de la Riva, and J.A. Donázar, unpubl. data).

Our findings suggest that some breeding places may provide important resources for long-lived birds and that long-term occupancy could be useful to identify high-quality habitats. Preserving these resources may be critical for maintaining populations (Margalida and García 1999, Edworthy et al. 2012).

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PREDATION OF DAWN-SWARMING BATS BY EURASIAN HOBBY (*FALCO SUBBUTEO*)

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KEY WORDS: *Eurasian Hobby*; *Falco subbuteo*; *bat*; *diet*; *predation*.

The Eurasian Hobby (*Falco subbuteo*) has a wide distributional range and most individuals are migratory, with western birds wintering in Africa and eastern birds in southern Asia (BirdLife International 2015). It is an uncommon passage migrant and scarce summer visitor in Hong Kong (Carey et al. 2001). This small falcon usually feeds on flying insects and small birds that it catches and eats on the wing (White et al. 1994, MacKinnon et al. 2000, Ferguson-Lees and Christie 2001, BirdLife International 2015), but bats are a known prey item in Hong Kong (Carey et al. 2001, Turnbull et al. 2004, Carey et al. 2010, Welch 2012). Hobbies are usually diurnal, but they can be crepuscular and even nocturnal on migration (Ferguson-Lees and Christie 2001).

I observed a Eurasian Hobby preying on a bat on 3 June 2013, while I was conducting surveys for breeding herons in a large area of commercial fish ponds in the Northwest New Territories, Hong Kong Special Administrative Region (22°29.92'N, 114°03.64'E). Approximately 20 min before official sunrise (0540 H per Hong Kong Observatory), I observed between 70 and 100 small bats swarming at a height of approximately 50 m above one of the fish ponds. I assumed the bats were Japanese pipistrelle (*Pipistrellus abramus*) based on size, general behavior, and their relative abundance in this habitat. The closest known Pipistrelle roost to the location of swarming bats was approximately 400 m to the south. The purpose of this swarming was not known. I had not observed such high numbers of bats over a single fish pond previously, but bats are frequently seen feeding across this habitat type prior to sunrise. After approximately 5 min, the Eurasian Hobby arrived within the swarm, took one of the bats in its talons, and promptly ate the bat on the wing. It appeared to

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