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GROUND NESTING BY EGYPTIAN VULTURES (*NEOPHRON PERCNOPTERUS*) IN THE CANARY ISLANDS

Ground nesting is a relatively rare occurrence in raptors, except for areas lacking any elevated nesting substrates (e.g., tundra habitats), or islands devoid of mammalian predators (Newton 1979, Population ecology of raptors, Buteo Books, Vermillion, SD U.S.A.). Moreover, this behavior has not been described for large diurnal raptors with long

breeding cycles that typically breed in protected cavities of cliffs, a trait presumably favored because it provided security against adverse weather.

The Egyptian Vulture (*Neophron percnopterus*) is a medium-sized scavenger living mainly in open landscapes of arid and rugged regions of Eurasia and Africa. Although strongly migratory, this species also includes sedentary populations on several archipelagos such as The Balearic Islands, Cape Verde, Canary Islands, and Socotra. Breeding takes place in cavities or caves of cliffs of variable height and nests are usually reused year after year. Occasionally, alternative sites are occupied within the same territory (Cramp and Simmons 1980, The birds of the western Palearctic, Vol. 2, Oxford Univ. Press, Oxford, U.K.).

Egyptian Vultures have been extensively studied in Spain since the late 1970s. More than 1000 breeding attempts have been monitored. Most of them were in inaccessible nesting places, with only a few (<5%) in caves with easy access to large mammals, including humans. No nest was located directly on the ground (Donázar and Ceballos 1988, *Ardeola* 35:3–14). In this paper, we describe the first recorded case of ground nesting in Canarian Egyptian Vultures (*Neophron percnopterus majorensis*).

Fuerteventura (1662 km^2) is the most eastern island of the Canary archipelago. It is relatively flat with a dry climate (<100 mm rain annually; Donázar et al. 2002, *J. Raptor Res.* 36:17–23). The island harbors the last population of an endangered endemic subspecies of the Egyptian Vulture, with no more than 130 individuals and 25 breeding pairs (Donázar et al. 2002, *Biol. Cons.* 107:89–97).

Twenty, 23, 21, 25, and 27 breeding territories have been monitored in 1998, 1999, 2000, 2001, and 2002, respectively. On 29 March 2002, we visited the breeding territory of one of these pairs, which had bred successfully in a cave on a hillside between 1998–2001. The old nest, easily accessible by foot, was unoccupied, but ca. 600 m away, we discovered an adult Egyptian Vulture incubating an egg on the ground. The new nest site was placed on a flat and exposed surface, with scattered shrubs (*Launaea arborescens*). On 13 July 2002, we visited the nest to mark and measure the chick, which fledged successfully at the beginning of August. In 2003, the pair moved back to the cave it used in previous years and bred successfully there.

Nesting in accessible caves is common for this species in Fuerteventura (in 2002, 41% of the nest sites were accessible by foot, $N = 27$), although inaccessible sites are not a limiting factor on the island (pers. observ.). Terrestrial predators were not existent on the island until the human colonization, 2500 yr ago. Currently, the only carnivores present are feral dogs and cats, in very low numbers. In addition, the dry climate may favor open nesting. Furthermore, human density has been always extremely low (1000–3000 habitants before the European colonization; Cabrera 1996, La prehistoria de fuerteventura: un modelo insular de adaptación, Servicio de Publicaciones del Cabildo Insular de Fuerteventura, Puerto del Rosario, Islas Canarias). However, during the last several decades the human population in the island has increased sharply (11 668 in 1900, 69 260 in 2000; Anonymous 2001, Anuario estadístico de fuerteventura, Cabildo Insular de Fuerteventura, Puerto del Rosario, Islas Canarias), around a million tourists visit the island every year, and the number of pets has presumably increased too. These factors may lead to the loss of a number of nesting territories accessible to potential predators and, consequently, have a negative affect on this endangered population.

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