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Dome Rebuilding by Clapper Rails.—In a typical Clapper Rail (*Rallus longirostris*) nest the eggs are held in a shallow bowl suspended above the ground by a column of marsh grass (*Spartina alterniflora*). A dome is woven from blades of living grass that extends over the nest, thus concealing the eggs. Although some have reported the dome use as camouflage from aerial predators (Johnson, 1973, *Observations on the ecology and management of northern Clapper Rail, Rallus longirostris crepitans* in Nassau County, New York, Ph.D. diss. Cornell Univ., Ithaca, New York) others suggest that it probably aids to contain the eggs within the nest during tidal inundation (Andrews, 1980, *Nest-related behavior of the Clapper Rail (Rallus longirostris)*, Ph.D. diss., Rutgers Univ., New Brunswick, New Jersey).

I studied Clapper Rails at Corson's Inlet (near Ocean City, Cape May County, New Jersey) from May to July in 1977 and 1980. To test whether or not these rails would rebuild the dome, and to examine dependence of rebuilding upon nesting stage, I opened the woven dome above the nest cup and folded it back along the outside of the nest platform at each of 15 nests. Experimental manipulation was done at low tide and checked 24 h later for signs of rebuilding. All nests were located along natural creeks with a mean nest distance (creek side vegetation to nest) of 3.5 m (range: 1.8 to 6.0 m). Mean nest height (ground to nest cup rim) was 21.4 cm (range: 10 to 33 cm). All nests had similarly built domes. If 5 or more blades of grass were interwoven, the dome was considered rebuilt. Such manipulations were done during laying (those nests having 1–5 eggs), incubation or late laying (those nests having 8–12 eggs), and late incubation (first day an egg was pipped). Experiments were done on 5 nests for each of the 3 nesting stages.

Chi square analysis ($df = 2$, $\chi^2 = .50$, $P > .05$) revealed that the stage of nesting did not influence dome rebuilding more than would be expected by chance. Eighty percent (12 of 15 nests) of the dome-manipulated nests were rebuilt within 24 h (those not rebuilt included; 2 early, and 1 during mid-incubation). Of 3 nests where the domes were not rebuilt, one nest was abandoned with no eggs found in the area of the nest, the second was lost to predation of all eggs by crows, and the third nest proceeded through normal hatching without egg loss and without a dome.—PAUL A. KOSTEN, *1217 New York Avenue, Cape May, New Jersey 08204*. Received 29 Apr. 1983; accepted 18 Apr. 1984.

Attacks on a Human by a Nesting American Kestrel.—Attacks by falconiformes on humans are generally uncommon and usually are in defense of nests or nesting territories (Brown 1976:130). However, it is not at all unusual for accipiters like the Northern Goshawk (*Accipiter gentilis*) and larger falcons such as the Peregrine (*Falco peregrinus*) to strike humans in defense of their nests (Craighead and Craighead 1956, Snyder 1974, Ratcliffe 1980:229). In this note I report attacks on a human intruder by a nesting female American Kestrel (*Falco sparverius*).

On 21 May 1982, I was checking a kestrel nest in Boone County, Missouri. The nest was 5 m high in a hollow beam at the end of a tool shed and contained 6 nestlings ranging in age from 2 days to 1 week. Initially both adult kestrels soared and hovered 10–20 m above while vocalizing incessantly. Suddenly the female stooped on me in a series of 12 successive dives, missing my head by centimeters. The last stoop culminated in the kestrel raking my scalp with her talons.

Her attacks occurred again on 27 May when I was struck 8 times, on 2 June when I banded the 6 nestlings and was struck 4 times, and on 14 June when I collected pellets from the nest. The intensity of her aggression was less during this last visit and I was struck only once.

In 1983, this female kestrel repeated her aggressive nest defense, striking me 13

times on 4 occasions. When this pair raised a second brood during the last half of the summer, no nest defense behavior occurred. Intense 38°C heat during this time may have inhibited this energy-taxing behavior. The male never approached any closer than 3 m during his dives.

I captured, banded, and color-marked this female in February 1982 and found her length (31 cm), wingspan (62 cm), and weight (168 g) greater than any others captured in my study area. She regularly snatched prey aggressively from her mate with her feet rather than participating in the normal "mannered" beak-to-beak transfer of prey. This exceptionally large and aggressive kestrel raised and successfully fledged 13 young from 16 eggs during the 2 breeding seasons.

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Territorial Dispute Between Female American Kestrels.—On 12 April 1980, from a blind 100 m away, I watched 2 American Kestrels (*Falco sparverius*) over a 4 ha fallow pasture in Berks County, in eastern Pennsylvania, going through what I thought to be courtship displays. I then noticed that there were 3 kestrels, 2 females and one male. The females were chasing each other over the pasture. The male sat perched in a row of trees at the edge of the pasture, watching the movements of the females. A nesting box which kestrels had used over the past 3 years was in the same row of trees, about 50 m from where the male was perched.

On 15 April, I watched a pair of kestrels perched in the tree with the nesting box, when a second female made a steep dive and hit the perched female in the back. The perched female was knocked head over tail 2 or 3 times before recovering and flying to a nearby tree. She seemed shaken, but unharmed. The second female flew away, never stopping after hitting the perched female. The male just sat and watched.

About an hour later, I watched a pair of kestrels copulating in the nest tree, on the branch where the 2 kestrels had perched before. A second female started making fast, close dives at them, calling "killy, killy" while doing so. She made 4 dives and then left the area. The pair never stopped copulation and completed shortly after the second female flew away. The entire action took place in about 30 sec.

About 45 min later, the male was sitting on top of a dead tree, 75 m from the nesting box and the female he copulated with was sitting on a utility wire that crossed the pasture 25 m in front of the nesting box. A second female came into the area again and made a dive at the first female, physically knocking her off of the wire. The strike was done with talons out, but it did not seem that they took hold. This started an aerial duel. The females chased each other through dives, climbs, rolls, and through and around trees. Whenever there was a pause in the chase, one of the females would go into the nesting box, seeming to claim it as hers. Each time this started the chase over again with renewed vigor. Since the kestrels were not marked, I am not sure if one or both females went into the nesting box. As before, the male sat perched and watched. If one of the females tried to go near the male, the other female was fast after her.

These interactions went on for about 6 h. Towards the end, there was an obviously dominant female in the pasture; the other female stayed out of the area around the nesting box and the male. In the end, the apparently beaten female sat in a tree about 200 m