

FOUR KESTRELS DEFEND NEST BOX CONTAINING EYASSES

by

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Although the pre-nesting association of the American Kestrel (*Falco sparverius*) may initially be characterized by promiscuous matings (Cade 1955, Balgooyen 1976), monogamous pairs form several weeks prior to egg-laying (Cade 1982). Wegner (1976) observed 2 male kestrels alternately bringing prey to the same female at a nest containing 5 young in New York; a possible deviation to monogamy by this species. However, he did not comment on nest defense, and to my knowledge, no one has previously documented defense of the same nest by more than 2 kestrels. Defense of the nest and young was described in detail by Balgooyen (1976), who noted that humans at kestrel nests were attacked more vigorously by male than female kestrels during incubation, but the reverse was true after eggs hatched. This report describes the behavior of 4 free-flying kestrels that defended a nest box containing 3 downy young.

As part of a study of kestrel use of reclaimed surface mines in West Virginia and Pennsylvania (Wilmers 1982), 3 nest boxes (1 in 1980, 2 in 1981) were available on the Lazzelle Cemetery Mine (2.5 mi. southwest of Maidsville, West Virginia). This 30 ha site, reclaimed to grassland in 1976, was surrounded primarily by woodland, although some old-field habitat and pasture land were proximal (see Wilmers 1982:26-27 for a detailed site description). Natural cavities suitable for kestrels were lacking on both the mine and adjacent areas. Nesting by kestrels did not occur on this mine in 1980.

On 17 May 1981, I visited this mine and found 1 nest box (no. 16) empty, but the other box (no. 30) contained a clutch of kestrel eggs that had broken due to a faulty nest box floor. Defense of this nest was not observed, although 2 kestrels were seen nearby. I repaired the box's floor and removed the broken eggs.

I revisited the mine on 28 May (copulation observed) and twice during June, but did not climb to either nest box because if the pair had renested, incubation would be in progress, and they may have been sensitive to human-caused disturbance during this period (Fyfe and Olendorff 1976). On 17 July 1981, I climbed to both boxes. Box no. 16 contained a single kestrel pellet but was otherwise empty. At box no. 30 (1731 hr) a silent female kestrel made 3 wide circles above the nest, using the flutter-glide motion (see Willoughby and Cade 1964). No kestrels were heard or seen as I ascended the nest box tree. Three kestrel nestlings (considerable down was present on their bodies) and 1 unhatched egg were inside. A silent male kestrel dove within about 1 m of my head, and then began klee-calling (Willoughby and Cade 1964). At least 1 male kestrel then made about 10 close passes within a 2 min. period. I thought that 2 males were involved in defense of the nest, and climbed to the upper tree canopy to determine the location of the birds. I observed 4 kestrels perched within 10 m of each other on dead limbs of a large ash (*Fraxinus americana*), less than 200 m from the nest box. One left its perch, dove past me twice, and returned to the ash. At least 2 birds were now klee-calling. About 1 minute later, the 4 kestrels departed from the ash, and 3 of them made close dives (within 5 m of me); 2 were males, the other a female. The fourth made a less vigorous dive about 20 m from the nest; its sex was not determined. Three of the birds flew back to the ash after a single dive; but 1 of the males made 5-6 successive dives, and then flew back to join the other birds. After approximately 15 sec. 1 of the kestrels made a direct flight of at least 1 km over an adjacent woodland, and disappeared. A second one flew to the edge of the mine, and was last seen perched there. The other 2 kestrels remained perched in the ash tree. The time was now 1752 hr.

Prior to 17 July 1981, I did not observe more than 2 kestrels on the Lazzelle mine, and for this reason, I believe that only 2 birds reared the young. The 2 "extra" kestrels that defended the nest might have been juveniles that dispersed onto the Lazzelle site from nests on mines nearby. Four of 7 kestrel nests on 4 mines situated within 5 km of the Lazzelle site were successful in 1981, producing 12 young (all fledged prior to 21 June). Certainly the date (17 July) was late enough for these young to have dispersed from the mines where they were born. After fledging, family groups of kestrels composed of adults and their young remained together for 3 weeks in Utah, and then dispersed (Smith et al. 1973). In California, dispersal of juveniles from nesting territories occurred as early as 2 weeks after formation of family groups (Cade 1955). Adult kestrels of both sexes tolerate the intrusion of dispersing juveniles into their territory (Balgooyen 1976).

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