

LETTERS

INTRASPECIFIC NEST DEFENSE BY PRAIRIE FALCONS

A west facing cliff in Sunol Regional Park, Sunol, California, supported an active Prairie Falcon (*Falco mexicanus*) eyrie in 1991. Nesting at this eyrie has been recorded for the preceding six years by the author and for many years prior by local falconers and birdwatchers. Historically, this site was occupied by Peregrine Falcons (*Falco peregrinus*).

I recorded observations of a resident pair of adult Prairie Falcons nesting at this site on 7 March 1991, as they defended their eyrie from an intruding female Prairie Falcon, not identified as to age. The intruding bird approached the cliff from the southwest. The resident male and female stooped at the intruding falcon repeatedly. She responded by rolling upside-down, presenting talons in defense, and by stooping at the resident female. The intruder was pursued and harassed by the resident male as she continued to make aerial advances toward the cliff face. Vocalizations were made by more than one bird, but particularly by the resident female.

The resident female appeared heavy and sluggish. Her undertail coverts were drooping and she may have been carrying an egg. This presumption matched with egg laying dates later deduced from hatching dates. She flew to a ledge near the nest cavity. Even though aggressively pursued by the resident male, the intruding female flew to the cliff and landed near the resident female. Both birds were facing each other and were screaming. Their bodies were crouched down in a posture similar to that described as the "horizontal threat display" by D.A. Ratcliffe (1980, *The Peregrine Falcon*, Buteo Books, Vermillion, SD). The intruder took a few steps toward the resident female when the latter advanced and while still vocalizing, placed her head under the chest of the intruder and, lifting upwards, forced her to take flight. During these events, the male was still flying near the cliff. When the intruding female was again airborne, the male pursued her vigorously and within 5 sec, had turned her flight away from the cliff and to the southwest. The male pursued her in a tail chase for 5–6 sec, covering a distance of about 200 m. The intruding female flew from the area, never changing her direction from southwest even after the male had ended his pursuit.

Having returned to the cliff, the male made several flights past the ledge where the resident female had been sitting. He then perched above the nest cavity. Shortly thereafter, the female left her perch for another where her solicitation to the male quickly led to a brief copulation. Immediately following, the female flew to the nest cavity and, after scraping the ground briefly and peering over her shoulder, lay down with her head facing west. During the subsequent observation period, from 1115 to 1310 H, there were no further interactions involving this pair.

I wish to thank Hans Peeters and Kevin Shea for their review and editing of this manuscript.—**Joseph E. DiDonato, East Bay Regional Park District, 2950 Peralta Oaks Court, Oakland, CA 94605.**

NESTLING RED-TAILED HAWK IN OCCUPIED BALD EAGLE NEST

On 1 June 1990 we approached a Bald Eagle (*Haliaeetus leucocephalus*) nest, located north of Merrit, Michigan, to band and draw blood from a nestling eagle for contaminant analysis. Two nestling eagles were visible from the ground. Nest height was 13.7 m in a 21.0 m Quaking Aspen (*Populus tremuloides*) with a DBH of 57.1 cm. J.B. Holt climbed to the nest and discovered a nestling Red-tailed Hawk (*Buteo jamaicensis*) in addition to the two nestling eagles. We aged one of the nestling eagles as approximately 7.5 wk old, using an eighth primary length of 175 mm and equations previously derived for nestling growth rates (G.R. Bortolotti, 1984, *J. Field Ornithol.* 55:467–481). The nestling hawk was downy and approximately 3.5 wk old. It was in excellent condition, with no apparent signs of abuse by the adult or nestling eagles.

The nestling hawk was removed from the nest and taken to the Small Animal Veterinary Clinic at Michigan State University. There it was temporarily cared for and then placed into a local Red-tailed Hawk nest.

The presence of a nestling hawk in a Bald Eagle nest is unexplained, but at least two possible scenarios may apply. One possibility is brood parasitism by the parent hawks. Although brood parasitism has been documented in five avian families: Anatidae, Cuculidae, Indicatoridae, Icteridae, and Ploceidae, (J.C. Welty, 1975, *The Life of Birds*, W.B. Saunders Co., New York) it has never been recorded in the family Accipitridae.

For brood parasitism to have occurred, a female Red-tailed Hawk had to enter the eagle nest, contend with an adult Bald Eagle with newly hatched nestlings, and lay its egg. The egg then had to be incubated for approximately 30 days (F.L. Beeby, 1976, *Hawks, Falcons and Falconry*, Hancock Home Publisher, Ltd., New York) by either the adult eagles, the nestlings or both. This scenario is unlikely.

A second explanation is non-lethal predation followed by parental care. One of the adult eagles may have captured the nestling hawk and failed to kill it during capture and transport. The nestling hawk had a full crop when we discovered it, suggesting that either the adult eagles had fed it, or that it had recently been transported to the nest and still had a full crop from its natural parents. Corroborating this is the presence of other raptor species in an analysis of Bald Eagle prey items collected at nests in the midwest (K.D. Kozié and R.K. Anderson, 1991, *Archives of Environmental Contaminants and Toxicology* 20:41-48; W.W. Bowerman IV and J.P. Geisy, Jr., 1991, *Ecology of Bald Eagles on the Au Sable, Manistee, and Muskegon Rivers*, Michigan State University, East Lansing, MI). We believe that this scenario is a more likely explanation than brood parasitism.

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TALON GRAPPLING BY APLOMADO FALCONS AND BY GOLDEN EAGLES

On 31 January 1979, while observing raptors of seven species along a fire line in central Venezuela, I saw various chasing and stooping interactions between some of the five Aplomado Falcons (*Falco femoralis*) present. One of these stoops I fortuitously photographed. A juvenile (by plumage) female (by size) made a long, shallow stoop on an adult (by plumage) male (by size) perched about 20 m above the ground in the upper canopy of a tree. The defensive response of the male was so quick that the episode was little more than a blur to the unaided eye. Fortunately, the camera (Fig. 1) captured the critical detail. From the photograph and knowledge of the birds' positions just before and after the incident, it was clear that the male sprang into the air, thrust his feet upward, grasped the female's foot, and, impelled by the female's momentum, whirled at least half a revolution before the birds separated. This may be the first published account of grappling and whirling for the Aplomado Falcon. It provides detail on the mode of contact of the birds during the bout, something that is seldom determinable for any species.

The second observation is an extreme example of grappling and whirling for the Golden Eagle (*Aquila chrysaetos*). Grappling is common for some eagles (L. Brown and D. Amadon, 1968, *Eagles, Hawks and Falcons of the World*, McGraw-Hill Book Co., New York), but rare for the golden (D.H. Ellis, 1979, *Wildlife Monographs* No. 70; A.R. Harmata, 1982, *Raptor Research* 16:103-109). On 18 March 1985, I observed three adult Golden Eagles flying along an elevated cliff rim in southeastern Arizona. The largest bird (presumably a female) was attended by two smaller birds (presumably males) that emphatically stooped at one another. I observed this combat from 1317-1323 H when the two males bound together and whirled at least 19 revolutions before disappearing from view beneath the forest canopy. I estimated that the two fell at least 100 m during the bout, but could not determine whether the eagles actually collided with the ground. The female swooped twice above the combatants on the ground, then drifted away from the