

NORTHWARD MIGRATION OF AN ADULT NORTHERN HARRIER (*Circus cyaneus*)

A nesting male Northern Harrier (*Circus cyaneus*) banded in San Diego, California (32°30'N 116°50'E) was found dead near Klamath Falls, Oregon (42°00'N 121°40'E) 47 d later, a straight line distance of 1175 km. Assuming the carcass was 7 d old (B. Waterbury pers. comm.) and that the harrier followed the most direct path northward, the average daily flight would have been a minimum of 29 km. Harriers are known to migrate south into San Diego County during the fall (P. Unitt 1984, *The Birds of San Diego County*, Memoir No. 13, San Diego Society of Natural History, San Diego, CA). Recent band recoveries indicate that juveniles may disperse northward to cooler climates (P.H. Bloom pers. comm.) as has been demonstrated for juvenile Bald Eagles (W.G. Hunt et al. 1992, *J. Raptor Res.* 26:19-23). Similar movements by adults have not been documented.

A pair of Northern Harriers was first detected in the lower Otay River Valley, 4 km north of the Mexican border on 8 April 1991, when a male was observed transferring food to a female. On 6 May, a nest was found in a dense stand of Black Mustard (*Brassica nigra*) on the south-facing slope of the river valley. It contained one egg and four young, the oldest young was estimated at 5-7 d of age (M.B. Saunders and G.L. Hansen 1989, *Can. J. Zool.* 67:1824-1827). Using minimum estimates of one egg hatching each day and a 31 d incubation period (F. Hamerstrom 1969, Pages 367-383 in J.J. Hickey [ED.], *Peregrine Falcon populations: their biology and decline*, University of Wisconsin Press, Madison, WI) the nest initiation date was estimated to be on or before 1 April, the earliest recorded in San Diego County (P. Unitt 1984, op. cit.). On 11 May, the female was brooding three young with no additional eggs in the nest suggesting either partial nest predation, cannibalism, or that the egg or small young had died and was removed from the nest by the parent.

The male harrier was trapped at 0800 H on 12 May 1991, 15 m from its nest using a *dho-gaza* trap with a juvenile Red-tailed Hawk (*Buteo jamaicensis*) as a lure (F. Hamerstrom 1963, *Proc. Int. Ornithol. Congr.* 13:866-869). The following measurements were taken: weight 365 grams, wing chord 340 mm, tail length 196 mm and tarsus length 793 mm. The bird was fitted with a color band and a U.S. Fish and Wildlife Service lock-on metal band on the right leg, and two color bands on the left leg. An 11 g tail mounted transmitter (AVM Electronics Inc., Livermore, CA) was attached to the number one and number two right rectrices using nylon ties and cyanoacetate glue. Total handling time was approximately 40 min.

The nest was checked again on 13 May and contained three young with both adults in attendance. The male harrier was last detected in the nesting area on 16 May 1991. On that date the female was perched near the nest while the male, initially located using telemetry, was hunting away from the nest for approximately 2 hr. A final check on 23 May revealed no juvenile or adult harriers in the vicinity of the nest and the three young were presumed to have been preyed upon. There was no evidence of intrusion by ground predators, however Red-tailed Hawks and Great Horned Owls (*Bubo virginianus*) were nesting in close proximity.

On 27 June 1991, the male harrier was found dead 11 km southeast of Klamath Falls, Oregon and taken to the Oregon Department of Fish and Wildlife. The bird was reported to be in deteriorated condition, dried out and picked clean by insects. It was estimated to have been dead a minimum of 1-2 wk. No cause of death could be determined. The bands were intact but the transmitter and the two tail feathers to which it was attached were missing.

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ON THE ETYMOLOGY OF THE NAME *Bal-Chatri*

The *bal-chatri* (pronounced ball chat-ree) is a trap used widely to capture birds of prey for banding, thanks to the descriptions given by D.D. Berger and H.C. Mueller (1959, *Bird Banding* 30:18-26). Various modifications have been reported by other authors (e.g., D.D. Berger and F. Hamerstrom 1962, *J. Wildl. Manage.* 26:203-206; W.S. Clark 1967, *Eastern Bird Banding Assoc. News* 30:147-149).

Berger and Mueller (1959, op. cit.) mention that this trap was developed and used in India many years ago and that, according to F. Craighead and J. Craighead (1942, *Nat. Geog.* 81:247), the name *bal-chatri* means boy's umbrella.

I was recently in India teaching raptor capture techniques to Indian biologists. As the translation given above did not make much sense to me, I asked my Indian colleagues what the name *bal-chatri* means. The answer given was very logical. *Chatri* indeed means umbrella in Hindi (and most of the related languages spoken in northern India), but *bal* means hair, especially horse hair. When I inquired further, I found that it could also mean boy. The original