

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. Unit 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. Unit 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 cyanoacetae 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.

These data were collected while we were conducting research funded by the Baldwin Company through Ogden Environmental and Energy Services (formerly ERCE). We would like to thank John Lovio for assistance in the field, and Patrick J. Mock for review of this manuscript.—**Mark A. Pavelka, Ogden Environmental and Energy Services, 5510 Morehouse Drive, San Diego, CA 92121; John K. Konecny, 1141 Morning View Drive #208, Escondido, CA 92026; Kristine L. Preston and Mary A. Grishaver, Ogden Environmental and Energy Services, 5510 Morehouse Drive, San Diego, CA 92121.**

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

traps were cane baskets with horse hair nooses affixed; the baskets were shaped somewhat like umbrellas. So, it would appear that the most appropriate translation of *bal-chatri* is horse-hair umbrella. This translation does make sense and is the one that should be used.—William S. Clark, 4554 Shetland Green Road, Alexandria, VA 22312.

"GABBOONING" IN PLAINFIELD

How does one become a gabboon? I quote one of Fran Hamerstrom's letters concerning my application to be one: "I have many questions: Is the applicant healthy? Does she eat special food? Is she strong enough to carry a light ladder and climb up to the nest boxes to pull out the falcons to band them etc.? Has she ever taken care of any animals? Wild pets? Other? Has she a driver's license? Does she mind working alone? What does she want to do with her life after she finishes her studies? The research is fascinating, but hard work. Getting up early, heat, mosquitoes, nettles."

Reflecting on these questions and with no inkling of what awaited me, I sat on a bus to Madison, Wisconsin, in April of 1989. The permission to work for the Hamerstroms had reached me in Germany only 10 d earlier. After a 22-hr journey, I was welcomed by Fran and Hammy in Madison—with slight reservation. Immigration technicalities had caused me to be 4 hr late! We set off without further delay for Plainfield. All three of us had probably envisaged a smoother start to our three-month stint of working together on the "kestrel project"—with fewer mishaps and less tension. Nonetheless, we noted with relief that our plans had been realized. On the way to Plainfield, Fran began telling me, in her direct way, that my work would earn me free board and lodging, but that "such things as lipstick you must pay for out of your own pocket." I was just able to mumble that my need of cosmetics was not overwhelming, before falling fast asleep for the rest of the 2-hr drive.

We arrived outside of Plainfield, at this ancient, crooked and at first glance rather chaotic house, in the middle of the night. In a trance, I followed Fran to my room with one thing in mind—more sleep! As I lay on the bed, still rather dazed from the journey, and stared at the unpretentious surroundings and the cracks in wall and ceiling, I thought I would never be able to stay the course—a verdict which was soon overthrown.

The world, next morning, had improved enormously. The sun shone on a wonderful countryside and, after a short "scenic tour" of the enormous Hamerstrom estate, my initiation started—not with fieldwork, but with a reading by Fran from one of her books.

Without loss of time I was confronted by one of the Hamerstroms' guiding principles: research and public service. Much has been written about their contributions to the former, and with this issue of the *Journal of Raptor Research* more honors will be added. But the engagement of the Hamerstroms in public service, and their ability to stir enthusiasm for nature in one and all, cannot be overstated. Nowadays it is more important than ever to sponsor interest in our environment. For decades, Fran and Hammy have contributed to this effort enormously, not only with their lectures and books, but with their "gabboon system."

What is this enigmatic-sounding helper system? In fact it is no great secret. Quite simply, it consists of engaging people of all ages, but principally youngsters, as scientific workers, in which a lack of training is no hindrance. As for "gabboon"—the word stems from an African expression for slave. One quickly learns the essentials for efficient work, for instance distinguishing male raptors from females, banding the birds and writing field notes. Especially in more recent years, nearly all the fieldwork has been undertaken by the gabboons.

As I was fresh out of school, the amount of responsibility given me and the freedom in conducting fieldwork were fascinating. I have since learned to value this all the more, having spent 2.5 years at German universities, interacting with sometimes condescending professors.

Ever since the prairie chicken project, it was necessary for the Hamerstroms to trust their helpers completely, to give them responsible jobs, and to keep explanations and instructions to a minimum. Two persons (not even Fran and Hammy) cannot be everywhere on the booming grounds at all times! As a result, through the years over 7000 helpers were given the opportunity to experience nature first hand and to make the acquaintance of extraordinarily fascinating people.

In exchange, Fran and Hammy have amassed a tremendous knowledge of human nature, together with the ability to evaluate quickly the reliability of the reported observations and to check them themselves if necessary.

For me, work on the kestrel project began by accompanying Fran over the study-area in a VW-Bus. She tested whether I could orient myself to the compass directions and find nests with the aid of a map. We checked a few nestboxes but found no kestrels except for one dead individual at the bottom of a box. I shouted the news to Fran, standing down below, but against the fresh April wind she understood only "kestrel." She decided I needed immediate help and plunged through the ice-cold, knee-high water in a ditch, which I had already crossed, ladylike and dry, using my ladder as a bridge. Going back, we both balanced single-file over the ladder, laughing. Apart from Fran's agility at her advanced age, and her habit of letting off steam, her disregard for inclement temperature is astonishing.