

MELANISTIC ADULT MALE NORTHERN HARRIER WINTERING IN IDAHO

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Melanism (dark coloration) is a condition resulting from a greater than normal expression of the eumelanin pigments in the plumage (Gill 1990). The dark coloration can be advantageous to raptors by increasing the feathers' resistance to bacterial degradation (Goldstein et al. 2004). Conversely, abnormally dark pigmentation can reduce success in pairing by disguising key species-identification cues (Garcia 2003) and decrease lifetime reproductive success by increasing mortality (Krüger and Lindström 2001).

Polymorphism in color, of which melanism is one example, occurs in at least 3.5% of avian species worldwide and in 22% of raptors of the family Accipitridae (harriers, hawks, eagles, kites, and Old World vultures; Galeotti et al. 2003). Galeotti et al. (2003) reported that polymorphism is more prevalent in species that are terrestrial, occupy diverse habitats, carnivorous, active day and night, or nomadic, suggesting that polymorphisms are under selective pressure.

Mundy et al. (2004) traced melanism in the Parasitic Jaeger (*Stercorarius parasiticus*) and Snow Goose (*Chen caerulescens*) to mutations within the melanocortin-1 receptor (MC1R) gene, finding the degree of melanism is correlated with the number of copies of the mutated allele. Manceau et al. (2010) illustrated how convergent phenotypes, such as those due to melanism, can arise via different mechanisms even in closely related species. It would therefore be unwise to assume melanism occurs the same way in all raptors, even though the selective pressures may be similar.

We report a new observation of a melanistic Northern Harrier (*Circus cyaneus hudsonius*) in southwest Idaho. While surveying for raptors from a vehicle we observed a melanistic adult male Northern Harrier (Figure 1) on 9 January 2012 at 13:23 at approximately 43.358° N, 116.314° W, along the boundary of the Morley Nelson Snake River Birds of Prey National Conservation Area and the U.S. National Guard's Orchard Training Area. The bird was perched on the ground in a dense stand of Big Sagebrush (*Artemisia tridentata*; >25% ground cover) approximately 5 m west of the road. As our vehicle approached, the bird flushed from the ground and flew west approximately 100 m to land once again within dense sagebrush. The bird lacked the distinctive white rump patch expected on all age and sex classes of this species (Figure 1; Smith et al. 2011). For definitive identification and photographs we approached the bird again.

We observed the low, buoyant flight style and strong dihedral expected for this species (Clark and Wheeler 2001). Characteristics identifying the bird as an adult male included black wing tips, dark trailing edge to the wing, and a black-tipped tail (Clark



Figure 1. Melanistic adult male Northern Harrier in southwestern Idaho, 9 January 2012.

Photos by Robert A. Miller

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and Wheeler 2001). The bird had a yellow iris, characteristic of an adult (Hamerstrom 1968 via Smith et al. 2011).

Simmons (2000) reported melanism in at least eight of the world's 16 species of harriers, including the Northern Harrier and its Old World representative, the Hen Harrier (*C. c. cyaneus*). However, the distribution of melanistic harriers is generally localized and often near the edge of the species' natural range (Simmons 2000).

We are aware of three previous reports of melanistic Northern Harriers: an adult male in California (Howell et al. 1992), an adult female in Montana (Olson and Osborn 2000), and a juvenile male in Utah (Liguori 2009). Most likely, the bird we observed had developed a new mutation within the MC1R gene or related pathway, resulting in its unique plumage (Mundy et al. 2004). Alternatively, genes for melanism may be maintained within a small fraction of the western population of the Northern Harrier, consistent with the three previous observations. The bird might even have been a long-distance vagrant from a population where melanism is more prevalent, though no such population is known.

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