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## PLUMAGE COLOR CHANGES IN A NIHOA MILLERBIRD (*ACROCEPHALUS FAMILIARIS*)

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On 15 August 1981 at 06:30, while censusing birds on the east slope of Miller Valley on Nihoa Island, Hawaiian Islands, I saw a predominantly white Nihoa Millerbird (*Acrocephalus familiaris*) at a distance of about 150 m. Upon relocating the bird at close (about 4 m) range a few minutes later, I saw that it had been banded with a plastic color band and a U.S. Fish and Wildlife Service aluminum band. A check of the band combination in my records showed that I had banded the bird on 10 June 1980 within 50 m of where I saw it the next year. My records also showed that the bird was an adult (based on complete skull ossification), of normal color (dull brown above, whitish below), and of unknown sex. Its weight and wing length were within the usual range of adult measurements (Conant, unpubl. data). That the bird was singing when I rediscovered it in August 1981 indicates that it was a male, based on my observations of banded birds at 33 active nests. (None of the birds behaviorally identified as females ever sang.) The present individual's plumage was entirely white except for several brown feathers or small patches of feathers on the back. Its iris was dark, probably the dark brown characteristic of this species. I again saw this individual, with an unbanded female, in approximately the same spot on 20 April 1983 for about one minute. On this occasion the bird's plumage was again predominantly brown, but patches of white remained on its flanks, back, and outer primaries. The iris was dark, and the legs and mandibles were grayish to dark brown. According to Harrison (1963) this bird would be considered "leucistic," a condition in which melanin pigments are produced, appearing in the iris and soft parts, but not in the feathers.

At least three cases of loss of plumage color in wild (non-domesticated) birds have been documented. Two of these cases involve American Robins (*Turdus migratorius*), one a banded bird that showed patches of white two years after it had been seen with normal plumage (Frazier 1952). The second robin was a normally-colored captive bird that acquired some white plumage (Koch 1877). Root (1944) reported recapturing a Song Sparrow (*Melospiza melodia*) with extensive patches of white only months after it was banded and in normal plumage. I have found no published reports of loss and subsequent recovery of plumage color in a wild bird, such as I observed in a Nihoa Millerbird.

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Although the Sylviinae is not a group in which frequent incidences of albinism have been reported (Sage 1963, Gross 1965), some island populations of *Acrocephalus* (e.g., *A. caffer*, *A. vaughani*) are actually noted for this (Nicoll 1904; Ogilvie-Grant 1913a, b; C. J. O. Harrison, pers. comm.). A recent examination of specimens of *A. atypha* in the American Museum of Natural History by P. L. Bruner (pers. comm.) revealed the presence of several leucistic or albinistic individuals.

The occurrence of partial albinism in wild island populations where inbreeding is naturally high lends credence to Sage's (1962) suggestion that this phenomenon is hereditary. However, the loss and subsequent recovery of plumage color by the Nihoa Millerbird reported here indicates that some environmental factor, e.g., nutrition or a pathological condition, could be a cause of change in plumage color. The Nihoa Millerbird is not noted for frequent occurrence of albinistic or leucistic individuals, and this was the only such individual I saw during about seven months of intensive observation, including banding, of this small population. The case lends support to the idea that plumage color can be changed by environmental rather than genetic causes. Other evidence supporting the hypothesis that the environment or stress can cause change in plumage color has been reviewed by Sage (1962).

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