

## FEATURED PHOTO

### HYPERMELANISM IN AN AMERICAN PIPIT

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On 1 December 2013, I observed an unusual pipit in a flock of American Pipits (*Anthus rubescens*) at Bedwell Bayfront Park in Menlo Park, San Mateo County, California. The bird appeared structurally similar to the other pipits in the flock, but its plumage was much darker overall (see this issue's back cover). The whitish to buff areas on the face, underparts, and tips of the median and greater wing coverts of a normally pigmented pipit were replaced by dark brown. The legs and bill were also darker than the corresponding bare parts of the nearby pipits. The bird did show what appeared to be normal pale edges on the tertials, but brief glimpses of the rectrices failed to reveal the expected white in the outer tail feathers. I observed this individual again at the same location on 8 December 2013 and obtained several photographs. Although I initially considered the possibility of a vagrant pipit species, the structural characteristics and other field marks identify the bird as an aberrantly colored American Pipit, the only species of pipit expected in the area. In particular, the essentially concolorous upperparts and underparts of this bird rule out even dark pipit species such as the Rock Pipit (*Anthus petrosus*), which still have a contrastingly lighter breast and belly.

Melanin pigments in feathers and other tissues are responsible for most of the black, gray, brown, buff, and chestnut colors that we perceive in birds (McGraw 2006). Melanins are complex and incompletely characterized organic polymers derived from the amino acid tyrosine. Melanins can be divided into eumelanin, responsible for blackish coloration, and pheomelanin, responsible for reddish brown coloration. Hypermelanism (sometimes simply called melanism) has been defined as "abnormally high melanin concentrations in the plumage, skin, eyes, or all three areas" (Davis 2007). Although chemical analysis of this bird's feathers would be required for the nature of the plumage aberration to be characterized definitively, the diffuse increase in both dark gray and brown in the feathers and bare parts suggests that concentrations of both eumelanin and pheomelanin were elevated in this hypermelanistic pipit. The cause of such hypermelanism is unclear, but recent molecular studies have shown that mutations in the melanocortin-1 receptor gene (MC1R) are responsible for the dark morphs of several species, including the Snow Goose (*Chen caerulescens*) and Parasitic Jaeger (*Stercorarius parasiticus*) (Mundy 2005). Although the increase in melanin concentration in hypermelanistic birds is abnormal by definition, the mechanism responsible for the increase may be the same as that for normal dark morphs.

In birds, hypermelanism appears to be substantially less common than the abnormal lack of pigment (variously called leucism, amelanism, or albinism) (Sage 1963, 1964, Gross 1965). I am not aware of any recent summary of hypermelanism in birds. In an older review on the subject involving birds in the British Isles, Sage (1964) noted instances of "melanism" in two species of wagtail, which are in the same family (Motacillidae) as the pipits. I am unaware of published records of hypermelanism in North American motacillids or of published cases of melanism in *Anthus* pipits in general (Gross 1965, Deane 1876, 1879, 1880).

The presence of a molt limit (two generations of feathers) in the greater coverts, with the inner three replaced, indicates that the bird was in its first year. Little is known about either the survival of aberrantly plumaged birds or fidelity to wintering sites in this species (Hendricks and Verbeek 2012). It will therefore be of some interest if this "marked" individual returns to this location the following winter.

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We look forward to seeing you in San Diego!



“Featured Photo” by © Ken R. Schneider of San Francisco, California: hypermelanistic American Pipit (*Anthus rubescens*) at Menlo Park, California, 8 December 2013. Such excessive melanin in the plumage is an abnormality much less frequent than abnormal deficiency of melanin.

