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### IDENTIFICATION OF MALE *EUPHAGUS* BLACKBIRDS IN FRESH FALL PLUMAGES

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Distinguishing the two species of blackbirds of the genus *Euphagus* represents an identification challenge in North America. Many field guides (e.g., Dunn and Alderfer 2008, Crossley 2011, Sibley 2014) address this problem, but some intermediate plumages are not well covered by the literature or in depictions in field guides.

The Rusty Blackbird (*E. carolinus*) breeds in boreal forest wetlands from Alaska to eastern Canada and winters primarily in the southeastern United States (Avery 2013). It is a casual and declining vagrant to western North America, primarily in fall and winter. Over the two periods in which the California Bird Records Committee (CBRC) has reviewed reports of this species, 1972–1974 and 2006–2017, it has accepted a total of 50 records (McCaskie 1971, McCaskie and Garrett 2005, Tietz and McCaskie 2017). Twenty-two records have been accepted by the Oregon Bird Records Committee (OBRC), which removed this species from its review list in 2014 ([www.orbirds.org](http://www.orbirds.org)). There are several records from elsewhere in the West (Sullivan et al. 2009). The International Union for Conservation of Nature (IUCN) designated the Rusty Blackbird as “vulnerable” (BirdLife International 2016) because of a rangewide population decline of 85–95% over the past 50 years (Greenberg and Droege 1999, Niven et al. 2004, Matsuoka et al. 2010, Greenberg and Matsuoka 2010).

The Brewer’s Blackbird (*E. cyanocephalus*) breeds over much of western North America, east to Michigan and southwestern Ontario, and winters south to southern Mexico and, very locally, in the southeastern United States (Martin 2002). There are numerous records of vagrancy from along the eastern seaboard, including 16 records from New Jersey through 2011 (Hanson et al. 2016) and 18 from New York through 2013 (NYSOA 2013), among others. Given the broad overlap in the two species’ ranges, as winter visitors or as vagrants, and the Rusty Blackbird’s serious decline, accurate identification of these two species is essential for conservation (see also Unitt 2004).

The upper photograph on the outside back cover of this issue features a confusing male Brewer’s Blackbird, photographed by Musher on Southeast Farallon Island, California, on 5 October 2013. Its apparent intermediacy with the Rusty Blackbird prompted us to further explore the identification of *Euphagus* blackbirds in fresh fall plumages. Here we provide a review through analysis of photographs and specimens.

#### MOLT, AGE, AND SEX

Both Brewer’s and Rusty Blackbirds have a nearly complete preformative molt and a complete prebasic molt, each extending from July to September. The preformative molt of both species includes all feathers except the underwing primary coverts and

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Figure 1. Male Brewer's Blackbird at Hillsboro, Oregon, on 21 March 2014 showing a poorly known prealternate molt in some head feathers. Also note this individual's atypically small, straight bill.

*Photo by David S. Irons*

often some distal underwing greater coverts. The retention of these juvenile feathers allows birds in their first plumage cycle to be distinguished from older adults (Pyle 1997). Most (>80%) male Rusty Blackbirds undergo a limited prealternate molt that includes at least some feathers of the head, neck, throat, and flanks (Figure 1; Mettke-Hoffman et al. 2010). In Brewer's Blackbird, the extent of any prealternate molt is poorly known (Pyle 1997), although two specimens collected in Oklahoma in April had heavy molt on their heads (Sutton 1967). Here we provide further confirmation of prealternate molt in this species on the basis of a male photographed by Irons on 21 March 2014 in Hillsboro, Oregon (Figure 1). Its auricular feathers were being replaced symmetrically.

After the brownish gray juvenile plumage is replaced from June to August, males of both species are largely glossy and black, while females are browner or grayer (Pyle 1997). Fresher formative and basic feathers of the head, back, and breast can be lightly to heavily fringed with a browner color, and in Brewer's Blackbird this fringing is most evident in males. Pyle (1997) reported first-cycle males of both species to have heavier fringing than do adults. Our examination of specimens (aged by underwing coverts) confirmed this is the case in Brewer's Blackbird, while in male Rusty Blackbirds the extent of fringing of formative and basic feathers appears to be more similar. In both species, the extent of fringing on fresh fall feathers varies considerably (see below). By spring, males may appear blacker and glossier, primarily because of wearing off of the brownish feather fringing, but also because of replacement of feathers during the prealternate molt (see Figure 1; see also Sutton 1967). Therefore, variation in the extent of fringing in winter is affected by both the initial extent of this fringing and the rate of feather wear.

## IDENTIFICATION CRITERIA

Criteria for distinguishing the Rusty and Brewer's Blackbirds have been summarized by McCaskie (1971), Hamilton (1995), Pyle (1997), and recent field guides. Shape and size can be helpful criteria with individuals in confusing plumages (e.g., photos on this issue's back cover). Brewer's Blackbird averages larger, heavier-billed, longer-legged, and especially longer-tailed than the Rusty (Pyle 1997). By comparison, the Rusty Blackbird often appears daintier, with a straighter and more pointed (often thinner) bill,

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shorter tail, shorter, thinner legs, and shallowly sloped forehead. Although structure can be helpful for field identification, these features overlap and are often difficult to judge, especially from photographs or with lone individuals. A bird's apparent structure may vary with its activity, its angle to the viewer, and individual variation within a species. For example, note the rather small, straight bill of the male Brewer's Blackbird depicted in Figure 1, which appears atypical of this species.

The presence or absence of rust-colored fringing on the wing coverts and tertials is considered a primary plumage character for identifying *Euphagus* blackbirds. Many sources (e.g., Hamilton 1995, Pyle 1997, Dunn and Alderfer 2008, Crossley 2011, Sibley 2014) have stated that only Rusty Blackbirds show rufous edging to the tertials. However, we have found that occasional first-fall male Brewer's Blackbirds, including the one shown in the upper photo on this issue's outside back cover, can have pale brownish fringing to their tertials and wing coverts. While the majority of Brewer's Blackbirds do not have brown fringes to these feathers, occasional first-year males do show pale fringes that may appear rust-colored under certain conditions. Especially in photographs the lighting and angle of view can overemphasize the back and tertial fringing or misrepresent its true color (see Figure 2).

Photos of this Brewer's Blackbird on Southeast Farallon Island show apparent rusty edging to the tertials and mantle, a pale eye, pale supercilium, and dark cheek-patch, implying a male Rusty Blackbird. Some ornithologists viewing these photos, however, questioned whether the thick bill and gray crown were more suggestive of



Figure 2. Two specimens of the Rusty Blackbird (left) and two of Brewer's Blackbird (right). Compare the extent and color of the fringing to the mantle feathers (left to right: AMNH 119407, 9 September 1909; AMNH 52033, 13 November 1919; AMNH 40891, 30 August 1913; AMNH 14264, 16 September 1916). Note how in Brewer's Blackbird the fringing is shorter and grayer brown than the longer rust-colored fringing of the Rusty Blackbird.

Photo by Lukas J. Musher

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Brewer's Blackbird. Through studies of specimens and photographs (e.g., Figure 2 and lower photo on this issue's inside back cover), we have found that edges of the tertials and other feathers on a Rusty Blackbird should be rusty, highly contrasting, and well defined in comparison to those of Brewer's Blackbird, which tend to be more diffuse, blend more with the base color, and be more brownish (see upper photo on this issue's outside back cover).

Although it is well known that both species can show pale fringing to the back feathers, it is less known that fringe color is important. Szantyr (2000) noted that Brewer's Blackbird can show pale fringing, but "rarely as rusty as in Rusty Blackbird." Some field guides mention pale fringing in some Brewer's Blackbirds (Pyle 1997, Dunn and Alderfer 2008, Sibley 2014), and although Sibley (2014) correctly painted a "rare" Brewer's Blackbird with subtle fringing to back and tertial feathers and an extensive dark mask, he called this bird a "drab adult male nonbreeding." Through our study of specimens, however, we have confirmed that fall male Rusty Blackbirds in fresh formative plumage are much more heavily fringed than are fall adult Brewer's Blackbirds, the latter essentially appearing similar (glossy black with little or no fringing) year round.

The difference in the apparent color of the fringing may depend in many cases on the lighting, especially in photographs. Birds in warm sunset lighting, such as the Brewer's Blackbird in the upper photo on this issue's outside back cover, could appear rustier, whereas very low lighting may make rusty edges look grayish. A blackbird photographed in Sonoma County on 18 November 2010 (lower photo on this issue's outside back cover) similarly appears intermediate between the Rusty and Brewer's Blackbirds. Although it was initially accepted by the CBRC as a Rusty Blackbird, that decision was subsequently overturned (Rottenborn et al. 2016). The mantle and tertial edging appear pale though grayish brown, perhaps because of the very diffuse lighting and an effect of the photograph. Alternatively, the mantle fringing looks slightly warmer than the fringing of the underside, possibly because of warm lighting from above. The difference between the Rusty and Brewer's Blackbirds in mantle-fringe color, however, appears to be very reliable when viewed correctly under neutral lighting. In a sample of 88 specimens of male Brewer's Blackbirds in formative plumage in fall and early winter, we found that some show some pale gray-brown fringing to little fringing, whereas 41 Rusty Blackbirds in the same plumage all had well-defined rust-colored fringing.

As mentioned, the extent of pale fringes decreases over time because of routine feather wear. Although the fringes of the Rusty Blackbird average much more extensive than those of Brewer's Blackbird from October through December (most adult Brewer's Blackbirds show none), by January or February the edging partially or largely wears off, causing a Rusty Blackbird to appear more like a Brewer's Blackbird. The narrow mantle and tertial fringes seen on the bird depicted in the lower photo on this issue's back cover appear to be too thin for a Rusty Blackbird in mid-November, and the brown color of this fringing further supports the identification as a Brewer's Blackbird. Although the strongly contrasting edges of the tertials suggest the Rusty Blackbird, they can occasionally be shown by first-winter Brewer's Blackbirds as well.

A dark mask contrasting with a pale iris and a well-defined supercilium is another frequently cited criterion for Rusty Blackbird identification (Crossley 2011). Some field guides (e.g., Dunn and Alderfer 2008, Sibley 2014) illustrate a male Brewer's Blackbird in formative plumage with an indistinct dark mask, and the bird photographed on Southeast Farallon Island (upper photo, outside back cover) provides an example of a Brewer's Blackbird with a dark mask and paler supercilium. From study of specimens and photographs of males in formative plumage, it appears that when Brewer's Blackbirds show a dark mask it tends to be more expansive in the auriculars and to contrast less with the supercilium and malar region than the dark eye patch of some Rusty Blackbirds (compare the photos of the Brewer's Blackbirds

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on the outside back cover with that of the Rusty Blackbird shown in the upper photo on this issue's inside back cover).

## CONCLUSION

With the Rusty Blackbird on the decline (Greenberg and Droege 1999, Greenberg and Matsuoka 2010, Matsuoka et al. 2010), accurate field identification is critical for documenting its changing status and for successful conservation and management. Although Brewer's Blackbirds show pale fringing on the mantle and tertial feathers less often than Rusty Blackbirds do, some first-winter males have fairly extensive fringing and can appear remarkably similar to male Rusty Blackbirds in basic plumage. To identify these confusing individuals properly, observers should focus careful attention on the exact color of the edging, rustier in the Rusty Blackbird and duller brown in Brewer's Blackbird, and how well the fringing is defined. These features should be used in combination with the species' differences in structure and head plumage.

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Rusty Blackbird (*Euphagus carolinus*)  
Photo by © David S. Irons of Beaverton, Oregon.  
Hillsboro, Washington Co., Oregon, 28 November 2013.  
Male in fresh formative plumage.



Brewer's Blackbird (*Euphagus cyanocephalus*)  
Photo by © Joseph Morlan of Pacifica, California.  
Bodega Head, Sonoma Co., California, 13 November 2011.  
In this male in fresh plumage, the pale fringes to the back feathers and tertials and the dark mask suggest a Rusty Blackbird, but the bill and tail structure, glossiness of the flight feathers, and color of the fringes indicate the bird is a Brewer's Blackbird.



“Featured Photos” by © Lukas J. Musher of New York, New York (upper), and Dan Brown of Sacramento, California (lower): Fresh-plumaged male Brewer’s Blackbirds (*Euphagus cyanocephalus*) at Southeast Farallon Island, San Francisco Co., California, 5 October 2013 (upper) and in Sonoma County, California, 18 November 2010. Both have the plumage extensively edged brown, leading to possible confusion with the Rusty Blackbird (*E. carolinus*), especially when seen or photographed in low light.