

The Problem of Juvenile and Immature Barn Swallows

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Adult Barn Swallows are, for swallows, so distinctive in the western hemisphere that many birders may not learn the entire suite of features that make the species so distinctive. The rufous-orange forehead, buffy-orange underparts, and the long, forked tail are characters that nearly all birders learn early as they are all unique in Colorado-occurring swallows (Figure 1). Unfortunately, many juvenile and immature Barn Swallows lack all those distinctive features!



Figure 1. *Many of the distinctive features of adult Barn Swallows are easily seen on this bird gathering mud for its nest. These features include the rufous-orange forehead; buffy-orange underparts; and long, forked tail. One distinctive feature that seems unknown to many, and which is true in all plumages, is that the eyes of Barn Swallow are well within the dark (here, steely-blue) head plumage. Another is that the back is unmarked, unlike on Cliff and Cave swallows. Stone Ledge Lake, Wexford County, Michigan. 16 July 2014. Photo by Tony Leukering.*

FIRST-CYCLE PLUMAGES

As one might expect for such an abundant species, the appearance of Barn Swallows in their first plumage cycle is quite variable across individuals. Many appear somewhat adult-like, but others are different enough to encourage misidentification. As juvenile plumage ages, colors become muted: buff and orange fade to whitish and blue plumage turns dull and dark. Additionally, dark-light patterns become more contrasting, a phenomenon that can produce surprisingly Bank Swallow-like appearance. While discerning the precise plumage that a first-cycle Barn Swallow is wearing is not critical to identifying it, knowing the general molt strategy of the species can be helpful.

Juvenile plumage (= first basic plumage): This is the plumage that young birds of altricial species (see Leukering 2019) grow in the nest, the first set of non-downy feathers (Leukering 2010, 2013, 2019). Unlike in most passerine species (e.g., sparrows and warblers), swallows tend to retain much or all of their juvenile plumage for substantial time periods, typically not replacing it until on or near winter grounds (Pyle 1997, Howell et al. 2006). Thus, the problem of juvenile-plumaged swallows is not a problem of short duration.

Immature plumage: I use this term, here, in the first sense of the term as noted by Leukering (2019); that is, an individual not wholly in juvenile plumage and not wholly in an adult plumage. Immature swallows typically sport a mix of juvenile-like and adult-like characters. The more such birds exhibit adult-like characters, the more readily they are correctly identified. Despite that Barn Swallow is, generally, the last species to vacate Colorado in the fall for warmer climes (particularly on the eastern plains), with numbers present into and through October (eBird 2020, Leukering 2016), birds transitioning between plumages in Colorado is very unlikely. That is, most or all of the plumage variation noted in first-cycle Barn Swallows in Colorado is due to effects of wear.

IDENTIFICATION FEATURES

While a print medium is not conducive to getting the point across, all seven regularly occurring swallow species in Colorado have styles of flight that are different from those of the others, and Barn Swallow’s languid, swooping flight is, perhaps, the most distinctive of the lot. Table 1 presents detailed comparison of 11 aspects of Barn Swallow plumage that differ from that of Cliff and Bank swallows.

Table 1. Plumage features of adult and first-cycle Barn Swallows. Characters that are particularly useful for differentiating first-cycle Barn Swallows from other swallow species are in boldface type.

Plumage feature	<u>Barn Swallow</u>		Cliff Swallow ¹	Bank Swallow ¹
	Adult	First-cycle		
Forehead patch	Large, well-defined; rufous to rufous-orange, little color-tone contrast to crown	Small-medium, often ill-defined; white*, buff, pale rufous, often medium-strong color-tone contrast to crown	White, off white, creamy-buff, occasionally lacking or nearly unnoticeable in juveniles	Little or no contrast to crown
Crown and nape	Concolorous steely blue; first-summer females often duller	Concolorous flat dark color with blue aspect to dull, dark brown*	Crown dark, medium-strong contrast with paler nape	Concolorous dark brown
Auriculars	Dark, same color as crown	Dark, same color as crown	Orange-rufous with strong contrast to dark crown in adults; variable in first-cycle birds, some fairly dark	Blackish, weak-medium contrast with browner crown
Back and rump	Shiny, steely blue; first-summer females often duller	Dull steely blue, frequently with very little blue aspect, to dull, dark brown*	Back steely blue to dark with blue aspect; white or whitish streaks; rump buffy-orange	Dark brown, fading to paler, grayish-brown on rump
Tail	Long, deeply forked; particularly long and forked in males	Short-medium, square-tipped; older first-cycle birds in late fall can exhibit distinct, but shallow, forked	Short-medium, square-tipped	Short-medium, notched
Tail spots²	Large, white	Small, off-white to white, often indistinct	Lacking	Lacking
Throat	Rufous to rufous-orange, same color as forehead	Off white*, pale buff, orange-buff, often noticeably paler than throat	White, off white, creamy-buff, often with scattered small white spots	White to off white
Breast band	Greatly variable in extent, ranging from virtually absent to complete, usually limited to extensions from back onto upper sides; dark, some with blue aspect	Variable, but usually of greater extent than most adults	Typically lacking	Typically complete, contrasting strongly with white or off white throat
Belly	Off white, peach, buffy-orange, though off white is somewhat rare in western hemisphere subspecies	Off white, peach, buffy-orange	White to off white	White
Under-tail coverts	Generally same color as belly, unmarked	Generally same color as belly, unmarked	Pale with large, smudgy dark centers	White
Wing linings³	Off white, peach, buffy-orange, generally same color as belly, medium-strong contrast with dark flight feathers	Off white, peach, buffy-orange, generally same color as belly, medium-strong contrast with dark flight feathers	Gray, weak to very weak gray contrast to darker gray flight feathers	Dark brown, weak contrast with paler brown flight feathers

¹ While first-cycle Barn Swallows might be confused with other species not presented here, Cliff and Bank swallows are the likeliest confusion species.
² Spots are basal to tail fork on inner webs of all rectrices except for central pair. No other Colorado-occurring swallow species has tail spots.
³ No other Colorado-occurring swallow species has such strongly contrasting wing linings
* Indicates colors more likely on worn plumages

While I have seen the subjects of photos of Barn Swallows misidentified as other species, most of those misidentifications have been as Bank Swallow and, particularly, Cliff Swallow. **Another very important consideration is seasonal timing**, which is an identification feature (Leukering 2016). As Barn Swallow is the latest swallow species to depart the state in fall, for late occurrences of swallows, observers should always consider the possibility of Barn Swallow. After the third week of September, the chance of running across a swallow of a species other than Barn Swallow in Colorado becomes very slim (Figure 2). I also present identification information in the captions of Figures 3-7, the last three of which are on this issue’s back cover.

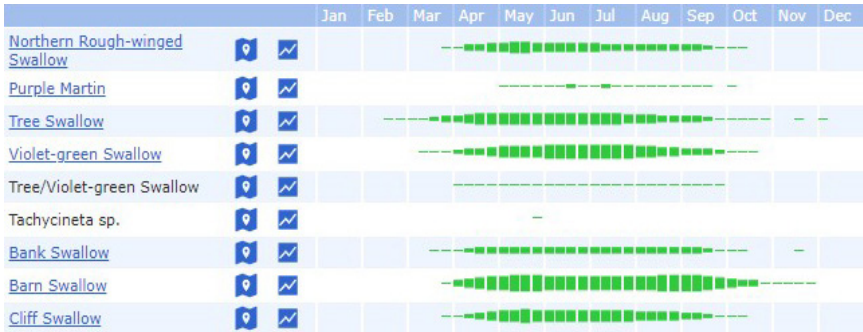


Figure 2. Colorado eBird (2020) data presented as bar charts of temporal occurrence. Note that Barn Swallow becomes the only expected species in the state after the third week (after the 21st) of September.



Figure 3. This adult Barn Swallow exhibits the typical deeply forked tail of the species. However, the bird also exhibits two other features that are definitive, but of which many birders seem unaware. The first is the pale wing linings contrasting strongly with the dark flight feathers (Table 1), while the second is the white tail spots basal to the tail fork (Table 1). Goodwell, Texas County, Oklahoma. 18 June 2017. Photo by Tony Leukering.



Figure 4. This adult Cliff Swallow shows the obvious orange-rufous rump patch typical of the species. Another useful feature is the placement of the eye at the bottom of the dark patch on the head, with the dark rufous auriculars contrasting noticeably with that dark head patch. Note also the contrastingly pale nape. Compare with Figure 1. Near Firestone, Weld County, Colorado. 20 May 2017. Photo by Steven G. Mlodinow.

Figure 5 (back cover, top). This trio of fledgling Barn Swallows present what may be considered typical juvenile plumage in the species. Though they exhibit a rufous forehead patch much smaller than that of adults, which is typical of the plumage, most of the rest of the plumage visible here is very reminiscent of adult Barn Swallows. These three are unlikely to be misidentified in the field. Note that the birds' auriculars are dark, not rufous, and the eyes are well within that dark part of the head plumage. Martinez, Contra Costa County, California. 4 July 2014. Photo by Carole Rose.

Figure 6 (back cover, middle). This juvenile-plumaged Barn Swallow, though superficially similar to the trio in Figure 5, exhibits many important plumage differences that can encourage misidentification. Among these are the paler forehead patch, which is almost whitish; the nearly whitish belly; and the relatively short, square-tipped tail. Note, though, that the auriculars are dark, the dark plumage on the head extends below the gape, and that the eye is well within that dark plumage. Also note the lack of white braces or streaks on the back and that the nape does not contrast in color or tone with either the crown or the back. Cliff Swallow (and Cave Swallow) show a distinct color contrast here (see Figure 4). John Heinz National Wildlife Refuge, Philadelphia County, Pennsylvania. 15 July 2015. Photo by George Armistead.

Figure 7 (back cover, bottom). This immature Barn Swallow exhibits the plumage appearance most likely to cause misidentification as Bank Swallow, as might be expected from the bird's whitish underparts and obvious breast band. However, note the contrastingly pale wing linings and the bits of buff-orange plumage on the underparts. This bird presents the appearance of immature Barn Swallows after extensive wear and bleaching of the juvenile plumage and the initiation of the preformative molt that replaces juvenile plumage, as can be readily discerned by the new, darker inner primaries.

This bird also represents a recent phenomenon of breeding by Barn Swallow in southern South America, an area in which the species was formerly only a boreal-winter resident. The species was first noted breeding on what is the species' winter grounds in Argentina in the 1980s (Winkler et al. 2017 and references therein). Recent research has found that most individuals in that population migrate north to spend the austral winter in northern South America. However, as for other species

of austral migrants (e.g., Fork-tailed Flycatcher), some migrant Barn Swallows overshoot their northward migration and wind up in North America. The immatures that arrive there are in a plumage that is not present in North American-breeding populations at the time of their arrival, as in the depicted bird found in Michigan in what is, essentially, the southern hemisphere's November. The combination of season and plumage greatly encourage misidentification. Immature Barn Swallows that linger late into the fall are often nearly as whitish below as this individual, though they probably do not replace flight feathers, and those that also have a strong breast band are most likely to be confused with Bank Swallow as this plumage is not well represented in field guides. Nayanquing Point State Wildlife Area, Bay County, Michigan. 29 May 2014. Photo by Tony Leukering.

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