

Recognizable Forms

Morphs of the White-throated Sparrow

by
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White-throated Sparrows (*Zonotrichia albicollis*) exhibit two distinct colour morphs. Lowther (1961) named the morphs the "white-striped morph" and the "tan-striped morph" based on the colour of the median crown stripe. The (dull) tan-striped birds also differ from the (bright) white-striped birds in having duller black crowns, duller and less extensive yellow lores, less white on the throat, with heavier markings and more streaking on the breast (sometimes forming a distinct spot). Earlier field guides (Peterson 1947) mistakenly led us to believe that white-striped birds were adults while the tan-striped birds were immatures. Today, we know that isn't true, but there are some interesting complications in fully understanding these forms.

To know the difficulties of correctly identifying the two morphs, it is necessary to understand the plumages and moults of the White-throated Sparrow, and how the morphs vary with age and plumage. I will trace the development of a young bird to adult plumage, in order to explain the situation.

The first plumage (seen on the breeding grounds) is the juvenile plumage. This streaked plumage is well-illustrated in the National Geographic Guide (Scott 1987). The two morphs are indistinguishable in juvenile plumage. Juveniles moult

into first winter plumage on the breeding grounds before fall migration. First winter plumage is held through the fall and winter. First winter birds are similar to adults in winter plumage. However, most white-striped morphs do *not* express (show) their plumage brightness in first winter plumage, and thus resemble tan-striped morphs. There are also many individuals which exhibit intermediate plumage (Atkinson and Ralph 1980). Therefore, only birds showing white-striped morphology can be identified with certainty in fall and winter.

In spring (March to May), first winter birds moult into first summer plumage. This plumage closely resembles adult breeding plumage. In first summer plumage, the two morphs now exhibit a bimodal distribution. That is, most birds are clearly either white-striped or tan-striped, with very few intermediates. Therefore, both morphs can be distinguished with a high degree of certainty during the breeding season.

White-throated Sparrows attain their first adult plumage in their second year, when they moult on the breeding grounds from first summer to adult winter plumage. However, many adult winter white-striped morphs do not express plumage brightness, appearing intermediate or similar to tan-striped birds. Following

the moult to adult breeding plumage (March to May), the genetically bright birds now strongly express their white-striped morphology.

In addition to their plumage variation, the two morphs also exhibit some other interesting differences. Lowther (1961) first noted that the two morphs mate selectively; that is, "white-striped birds of either sex usually pair with tan-striped birds of the opposite sex" (Knapton *et al.* 1984). Also, white-striped males defend territories in "open" habitat whereas tan-striped males occupy territories in a broader range of habitat, from "open" to "dense" (Knapton and Falls 1982).

Summary

There are two morphs of the White-throated Sparrow -- the white-striped and tan-striped morphs. The two morphs are most distinctive in the breeding season when very few intermediates occur in the population. In fall and winter, most first winter and some adult winter birds of the white-striped morph do not express plumage brightness, appearing intermediate or like tan-striped birds. Therefore, only birds which appear to be white-striped morphs can be identified with certainty in fall and winter.

Clearly, there is more to the "familiar" White-throated Sparrow than meets the eye!

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