HYBRIDS AMONG THE FRINGILLID GENERA *JUNCO-ZONOTRICHIA* AND *MELOSPIZA*

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THE fringillid genera *Junco, Zonotrichia, Passerella,* and *Melospiza* form a closely related group. This relationship is indicated by the lack of distinctive morphological characters, and in part by the abundance of hybrids between *Junco hyemalis* and *Zonotrichia albicollis* (Townsend, 1883; Stone, 1893; Snyder, 1954; Warburton, 1959; and the Hamiltons, 1957). Additional records of hybrids between these two species include an adult male, taken 14 October 1959 at the Kalbfleisch Field Station of the American Museum of Natural History by Wesley E. Lanyon, and a bird (identified by Drs. Alexander Wetmore and John Aldrich) banded and released at Fairfax, Virginia, by Mrs. M. Brantley Peacock on 18 April 1960. Mrs. Brantley kindly furnished a detailed description of the bird she banded, which appears to have been a bird of the year. Further support for the closeness of this relationship is provided by a hybrid between *Zonotrichia leucophrys pugetensis* and *Melospiza melodia morphna* that I collected on 26 June 1959 on the west side of San Juan Island, Washington. The specimen, a juvenile male (University of Minnesota Museum of Natural History 15515), was collected from what appeared to be a family group of young birds. It is in slightly worn, but full juvenile plumage. A juvenile *Zonotrichia leucophrys* was collected the same day. These two specimens were not compared with other juvenile sparrows until I returned to Minneapolis, when the atypical appearance of what I had assumed to be a slightly odd Song Sparrow was realized. The specimen, along with juveniles of the other two species, was sent to Thomas D. Burleigh, who wrote that he considered the specimen to be a well-marked hybrid, and to Alden H. Miller, who wrote "I believe we must acknowledge that it is a hybrid . . . even though there are some unexplained features about it."

The intermediate characters of the hybrid may be clearly seen in the photographs. The hybrid is superficially more similar to the Song Sparrow, being much darker at least above than the White-crowned Sparrow. The most obvious hybrid character is found in the pattern on the head, in which the crown stripe is more pronounced and the superciliary line is fully as light as in *Zonotrichia.* The most striking feature of the hybrid is that the ventral streaking of both parental types is lacking except for a weakly developed mustache mark. The ground tone of the flanks and belly of the hybrid is lighter than the

juvenile *morphna* at hand, but Dr. Miller informs me that some young *morphna* are as light in these regions as is the hybrid. The rectrices are shaped like those of *Melospiza;* however, the second tail feathers are relatively longer, giving the tail a squarer shape as in *Zonotrichia.* The wings are more rounded as in *Melospiza.* The ninth primary is shorter than the third in the hybrid and *Melospiza,*

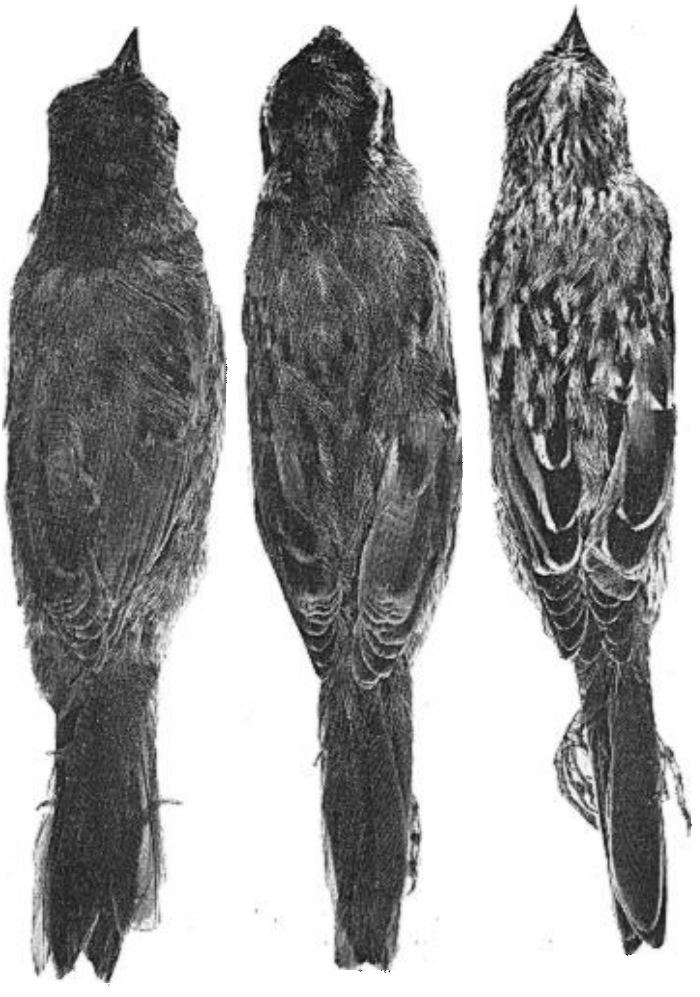

Figure 1. Dorsal view of juvenile sparrows, from left to right: *Melospiza melodia*, hybrid *Melospiza melodia* x *Zonotrichia leucophrys*, and *Zonotrichia leucophrys*.

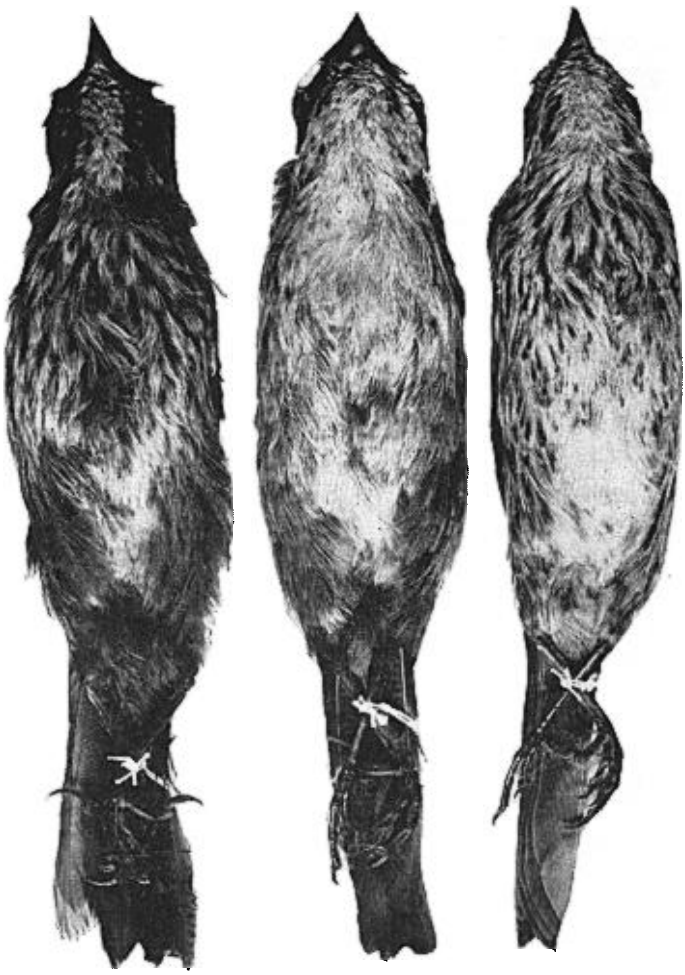

Figure 2. Ventral view of juvenile sparrows, same order as Figure 1.

and it is longer than the third in *Zonotrichia.* The eighth primary is shorter than the fifth in the hybrid and *Melospiza,* and equal to the fifth in *Zonotrichia.* The hybrid measures: wing, 66 mm.; tail, 64 mm.; tarsus, 21.3 mm. The wing and tail measurements fall in the lower portion of these measurements for 13 juvenile male Song Sparrows of the local race that measured 66 to 70 mm. and 62 to 69 mm., respectively. The tarsus of the hybrid is shorter than any of the juveniles of *morphna* (21.8-23.8), and within the range of the six juvenile male *pugetensis* (21.0-22.7). The bill of the hybrid is abnormal, resembling

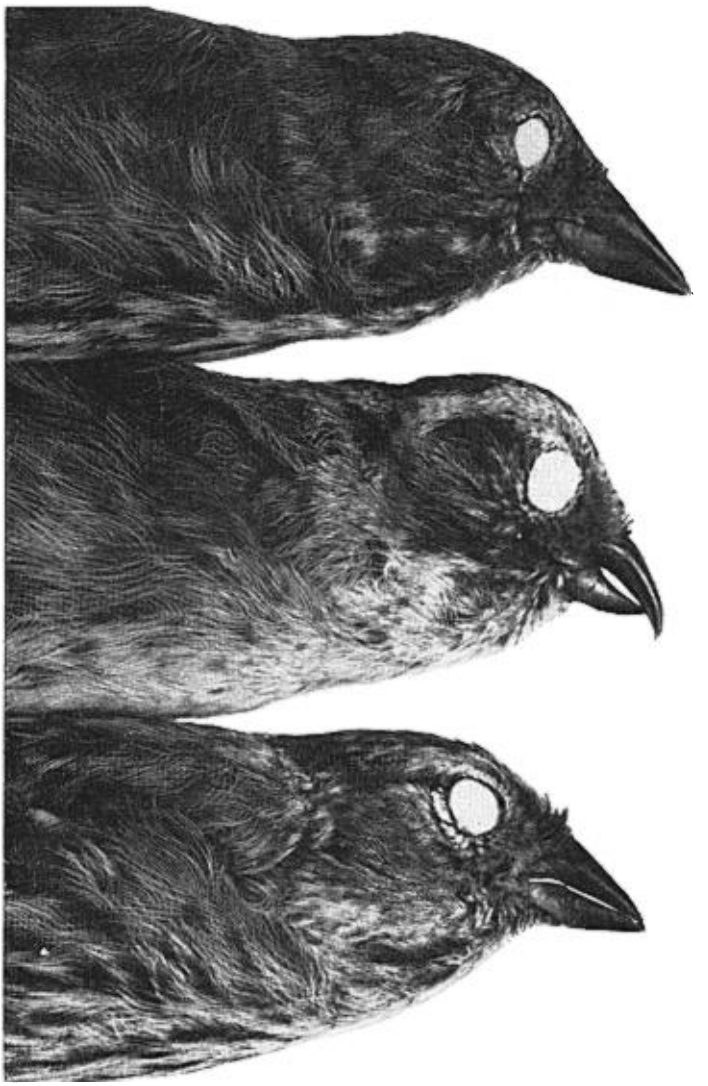

Figure 3. Portraits of juvenile sparrows, top to bottom same order as in Figure 1.

that of a young crossbill, possibly indicating a type of developmental or hereditary incompatability of this type of cross. It should also be noted that the bill of the *Junco* x *Zonotrichia* hybrid collected at Dalton, Georgia (the Hamiltons, 1957) is also abnormal. However, the bills of the other *Junco* x *Zonotrichia* hybrids are apparently normal.

On San Juan Island the White-crowned Sparrow is a common breeding bird of the brushy field edges. The Song Sparrow is generally slightly less common and more restricted to the more moist habitats in forest openings and along brushy swales and streamsides. The hybrid was collected from brush at the base of a low bluff along a large tidal bay. Open hayfields, bordered by woods, lie above the bluffs, providing suitable habitat for both species.

The relative frequency with which hybrids within the *Junco-Zonotrichia-Melospiza* group are being found indicates a close relationship among these genera not indicated by their arrangement in the A.O.U. *Check-list* (Fifth Edition, 1957). In the *Check-list,* the genus *Spizella* separates *Junco* from the latter two genera, and *Passerella,* obviously close to if not congeneric with *Melospiza,* but farther from the core group, is between *Melospiza* and *Zonotrichia. Spizella* should be shifted to a place in front of *Aimophila,* to which some authors believe it related. The alternative would be to place it near *Emberiza,* to which others consider it related. However, the structure of the palatomaxillaries (Tordoff, 1954) would seem to make the latter placement less tenable. Hence the following arrangement might better illustrate the generic relationships of this group of New World fringillids.

Spizella
Aimophila
Amphispiza
Junco
Zonotrichia
Melospiza
Passerella

I wish to thank Alden Miller and Thomas Burleigh for examining the hybrid specimen for me and giving their critical comments. Alexander Wetmore and Wesley Lanyon kindly gave me information on additional hybrid specimens that had not been previously recorded.

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