

1998

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Parkes, Kenneth C. (1998) "Precocious Cranial Pneumatization in a Song Sparrow," *North American Bird Bander*. Vol. 23 : Iss. 1 , Article 1.

Available at: <https://digitalcommons.usf.edu/nabb/vol23/iss1/1>

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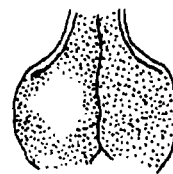
Precocious Cranial Pneumatization in a Song Sparrow

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The extent of cranial pneumatization (often called "ossification" on museum labels) has long been used by bird banders and by preparators of museum specimens to estimate the age of oscine passerines. Full pneumatization requires from four to six months in most species. There is abundant literature on species in which the full pneumatization takes longer than in most: in some cases, one, two or more years, occasionally never (Pyle et al. 1987). In a few small species, the pneumatization is so rapid that its use for aging is confined to a very brief period (R.C. Leberman 1970). In such cases, the bird would normally have completed its first prebasic ("postjuvinal") molt and could be told from older birds only by subtle plumage characters.

A Song Sparrow (*Melospiza melodia*) that had been killed by a cat on 3 September 1975 in Carrick, Allegheny Co., Pennsylvania, was salvaged by Betty Beck, who donated it to the Carnegie Museum of Natural History. It was a female in heavy first prebasic molt. I prepared the bird as a study skin (CM 150439). When I examined the skull, I was surprised to find that the left side of the cranium was partly pneumatized, with a large anterior and smaller posterior "window," somewhat farther advanced than an average Song Sparrow undergoing the first prebasic molt; the right side, however, was *completely* pneumatized. Under a dissecting microscope, the typical whitish spots representing the ends of the pillars between the two layers of cranial bone were plainly visible.

There are only three other Song Sparrow skins in the Carnegie collection that are in a similar stage of first prebasic molt and whose labels bear skull drawings (rather than mere notations in words or abbreviations about extent of pneumatization). The label of a banding casualty at the museum's Powdermill Nature Reserve (near Rector, Westmoreland Co.,



Bar is 10mm

Pennsylvania) on 10 September 1978 (CM 151813), bears a drawing by the preparator, Christopher C. Fichtel, showing that pneumatization had barely begun along the midline of the cranium. Fichtel's drawing for a specimen salvaged on 5 October 1978 at South Kortright, Delaware Co., New York (CM 152207) shows slightly more pneumatization along the midline and at the anterior edge of the cranium. A specimen salvaged on 16 September 1987 in Pittsburgh (CM 168190) showed no cranial pneumatization at all, according to the label drawing by the preparator, Stephen P. Rogers.

I am at a loss to explain this asymmetrical precocious cranial pneumatization, and I have seen no reference in the literature to a similar phenomenon. The cleaned cranium will be stored with study skin 150439, allowing the specimen to be restudied if desired.

ACKNOWLEDGMENTS

I am grateful to Dr. Philip C. Chu, who examined the skull microscopically and agrees with my findings. His suggestions improved an earlier draft of this paper. Also thanks to Robin Panza for the above drawing.

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