

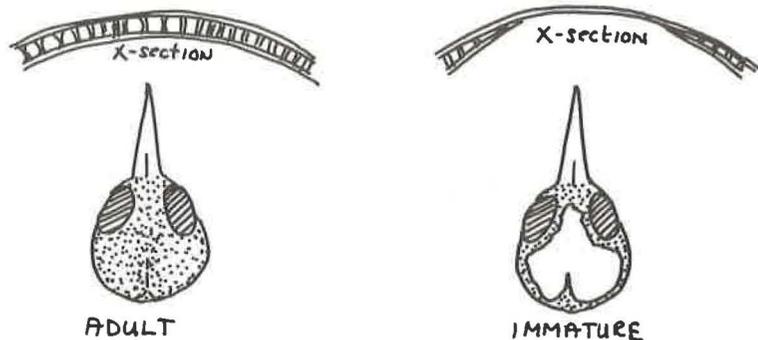
AGEING BIRDS BY SKULL OSSIFICATION

By James Baird

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In the January 1961 issue of Bird-Banding (32:55-57), Dr. Robert A. Norris presented banders with an almost foolproof method of ageing small birds in the late summer, fall and early winter. This simple technique requires only a hand lens (10X) and good light, and can be applied to nearly all passerines. The following is basically an abstract of Norris' paper.

"The skull of a passerine bird when it leaves the nest is made up of a single layer of bone in the area overlying the brain; at least, the covering appears single when viewed microscopically. Later the brain case becomes double-layered, the outer layer being separated from the inner layer by an air space across which extend numerous small columns of bone. It is not necessary to section the bone to determine the condition. Externally the skull of the immature bird appears uniform and pinkish in live and freshly-killed specimens. The skull of the adult is whitish, due to the air space, and also it is finely speckled as a result of the dense white bony columns between the layers." (ed.-Miller, Bird-Banding 17:33-35, 1946)



Miller points out that "the double condition is attained progressively and in some species, more rapidly than in others." He says further that "in many passerine species of the north temperate region one may rely on evidence of immaturity persisting in the skull through September and October. Often they may be detected later. Experience must be gained separately with each species in order fully to evaluate the evidence." In the English Sparrow (Passer domesticus), Nero (Wilson Bull., 63:84-88, 1951) found that the double condition

"Had been attained in one specimen 181 days old, but (that) another specimen 221 days old still showed small clear areas." In some species (such as the Pigmy Nuthatch, Sitta pygmaea) the clear areas may have diminished to small size (2 or 3 mm. in diameter) by the first week in November. In others (such as the Savannah Sparrow, Passerculus sandwichensis) comparable diminution in size is not seen, as a rule, until early December.

Miller's method involved cutting the skin, Norris' method was to pluck the feathers and look through the skin, but it was soon discovered that in most instances all that was required was to wet the feathers on the side of the head, part them and then look through the skin.



If the bird's head is held between the thumb and the index finger, the loose skin can be moved back and forth thus enabling one to see, with the use of a hand lens, the many white dots of the adult or the boundary between the whitish ossified and the clear pink unossified areas in the immature. The use of a hand lens is essential, if the results are to be as accurate as the potential of the technique. Since the ossification proceeds centripetally and anteriorly, be sure to examine the area between the eyes of all birds with ossified skulls, to make sure they aren't "advanced" immatures.

(Editor's note: Use of a jeweler's loupe, which clips to the frame of eyeglasses, instead of a hand lens, will free both hands for holding the bird and manipulating its scalp. The loupe can be swung up out of line-of-vision between uses, and is easily attached or detached from the earpiece of glasses--or empty frames for those who don't require glasses.)

