Age Determination Of The Western Silvereye By Skull Ossification

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Early in January of this year, John Liddy sent me a reprint of a paper by James Baird (1963) entitled 'On Ageing Birds by Skull Ossification'. This method consists of examining the skull through the skin of the head with a X10 lens. The feathers of the head are wetted and parted, the skin of the skull being slightly stretched between finger and thumb and moved gently (fig. 1).

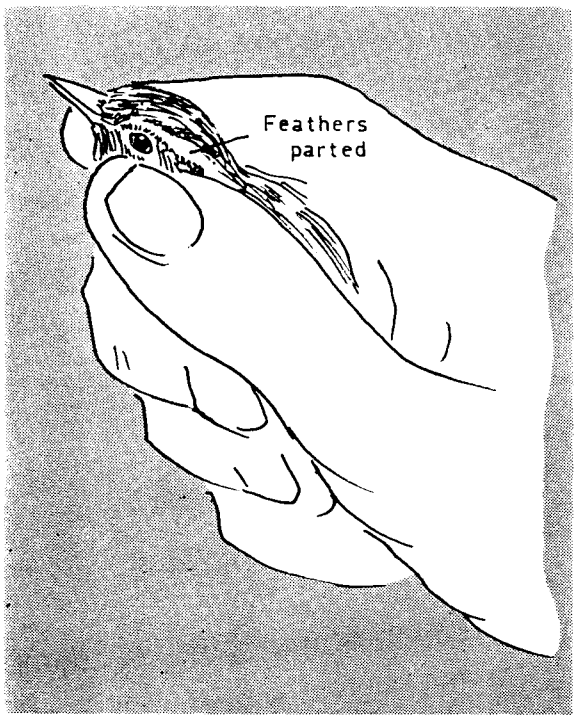

Figure 1

The skull of the young bird consists of a single layer of bone in the area over the brain. As the bird matures the skull usually becomes double layered, the outer layer being separated from the inner layer by small columns of bones and air spaces.

When examined through a hand lens the skull of young birds appears pink and clear. The skull of adults appears whitish and spotted white.

On 12 January 1967, I started this method and found it very easy to use. The skull must be examined with a powerful hand lens. I found that by moistening the finger and rubbing it gently along the side of the bird's skull the feathers could be easily parted and the skull examined through the hand lens.

Being left handed I hold the bird in my right hand, with its head between thumb and forefinger (fig. 1). By stretching the skin slightly it is very easy to see if the skull is single layered (denoting a juvenile) or double layered (denoting an adult).

If in doubt I always examine the back of the skull. The demarcation of single layered skull and double layered skull can be seen easily.

The single layered area appears always as a clear pink, the double layer a yellowish colour with white frecklings (fig. 2).

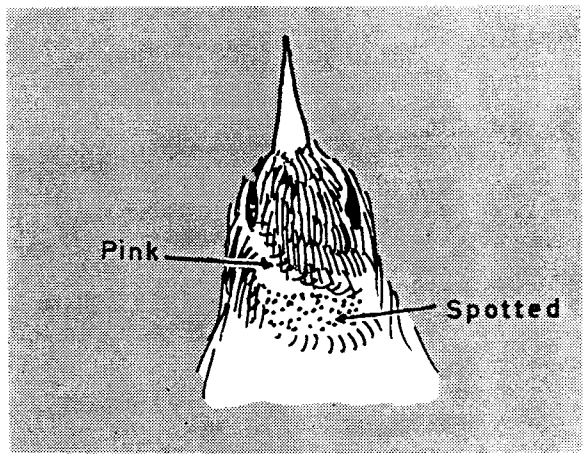

Figure 2

I have classified the birds as follows:

Juvenile—little or no ossification

Immature—ossification about ½ to ¾ of skull

Advanced immature—ossification almost complete (see fig. 3.).

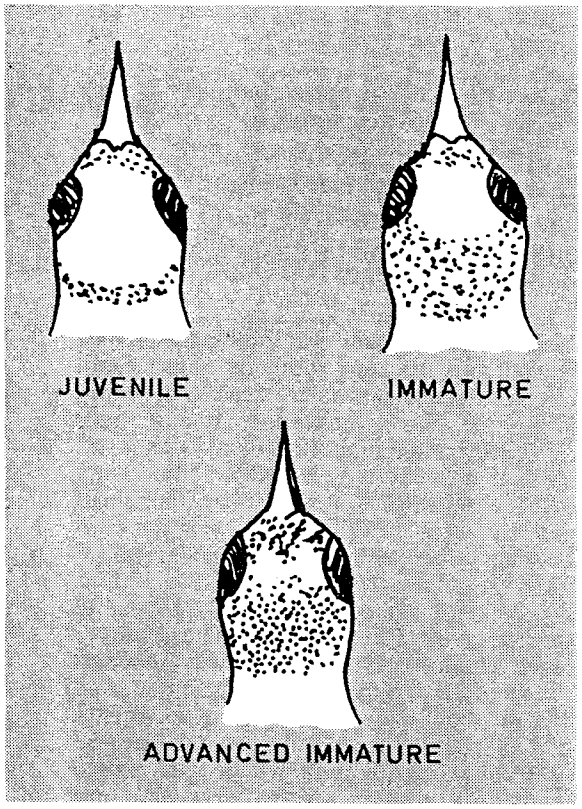

Figure 3

In conjunction with this method, I have kept a record of eye colour, where possible, in the hope that this would be a reliable guide to age. I have found that the eye of the Western Silvereye *(Zosterops lateralis gouldi)* varies between pale grey, pale brown, yellow brown, grey brown, dark brown and dark grey, the majority being pale brown or dark brown.

The table shows the relationship between eye colour and age. I have simplified grey and grey brown eye colours as dark and the light brown, yellow brown and pale grey as light eye colour.

Eye Colour in Western Silvereye

Adult Birds		Immature Birds		Juvenile Birds	
Dark	Light	Dark	Light	Dark	Light
35	15	36	24	17	27
70%	30%	60%	40%	38.6%	61.4%

Eye colour in some species is an accurate age characteristic. However, if the corresponding figures for juvenile and immature birds are added, there are 53 with dark eyes and 51 with light eye colours—an almost equal distribution. The sample is small and further numbers need to be examined.

It is obvious from the figures for adult birds that the majority are dark eyed. However, because of the high proportion or dark eyed juvenile and immature birds, this cannot be taken as a reliable guide to age.

A further interesting factor to emerge is that of the 177 birds trapped from January to April 1967 only 50 have been adults and the remaining 127 either juvenile or immature birds.

This poses an interesting problem. Do the flocks of silvereyes at autumn consist mainly of young birds? If so, where do the adults go?

Retraps indicate that no birds from last autumn have remained in the district. Could the adults banded this autumn be the wanderers who pick a mate from the flock, and remain together as an isolated pair for their remaining years. Only more intensive banding can give the answer.

Acknowledgements

I am indebted to John Liddy for sending me a reprint of the reference paper and for suggesting this study.

Reference

Baird, J. (1963), 'On Ageing Birds by Skull Ossification', *The Ring*, 37:253-255.

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This very useful method of ageing is recommended to banders. It is easily learned and is equally successful with zosterops in eastern Australia as well as with other species. However, it is more difficult with most species of honeyeaters due to their thicker skin. Dr J. A. Keast (per. com.) said that complete ossification in silvereyes takes about five months.— **Asst. Editor.**

BANDERS

You are reminded of the need for banding breeding adult and nestling Silvereyes. Any bander may participate in the Co-operative Silvereye Project by notifying the Secretary ABBS of his/her desire to do so.

Your attention is drawn to vol. 4 no. 4 p. 73-75 (Dec. 1966).