



Ageing by skull ossification

Skulling is a method used to determine the age of a bird indicated by the degree of skull ossification, i.e., the progressing development of the bone structure of the skull. To obtain any form of accuracy, skulling can only be done with a good source of light, so directed that it will reflect off the skull, and a wetting solution for the feathers to ease the examination. A magnifying lens of at least five power is very helpful and highly recommended.

The bird should be held, so that the head can be held still. A wetting agent should be used to part the feathering and hold it down flat. Water is safest, but as feathers repel water, many banders use additives. Alcohol and a solution made of Kodak Photo-flo is often used, but tests have proven that such solutions can be harmful to the bird, particularly to their eyes. This wetting agent, whatever is used, should be used on the skin as well. A moist skin is more transparent. The area which is of greatest interest to the bander is marked in the accompanying drawings with a triangle, from between the eyes, extending backward toward the rear. (Mellencamp, Skull ossification in the White-throated Sparrow, EBBA News, 32: 109-111, 1969)

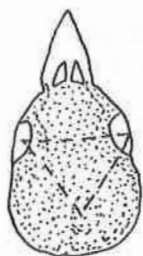


FIG 1a

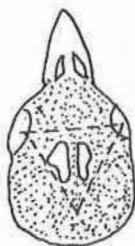


FIG 2a



FIG 3a



FIG 1b



FIG 2b



FIG 3b

When you hold the bird, you should hold it so that its head is between your index finger and thumb. With the field of view prepared, look through the skin. This is where most of the errors are being made in skulling. Too many people look at the skull. If the bird is an adult, you will see a whitish field with small dots, as in figure 1a; if an immature (HY), you'll see a pinkish/reddish field, as in figure 3a. Figure 2a, shows a partially ossified bird.

From Miller, A method of determining the age of live passerine birds, Bird-banding, 17: 33-35, 1946, we quote the following: "The skull of the 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 (see fig. 3b above) when viewed macroscopically. Later, the brain becomes double layered, the outer layer being separated from the inner layer by an air space across which extend numerous small columns of bone. (fig. 1b) 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 or fresh 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."

There are problems in skulling too. Some species or individuals have fat deposits on the skull, some have heavy feathering, some have thick, dark skin and birds in molt present a problem as the field of view becomes smaller due to the numerous feathershafts. Skulling is difficult, make no mistake about that. It is, as Baird states, in his paper, Ageing birds by skull ossification, EBBA News, 27: 162-163, 1964, almost foolproof IF the proper tools are used. Even with a loupe and good light, it is often very difficult, if not impossible.

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FARMERSVILLE STATION, New York - based on a report by Donald F. Clark

Bird banding is conducted on a 46 acre refuge, located in Farmersville Township of Cattaraugus County at 422-0782. On the roadmap, it is about one mile south of Farmersville Station on Hicks Road. The locale is one of scrub land, swamp and woods, nestled in a hollow of the Allegheny foothills. The surrounding land is mainly farmland or abandoned farms. There are three artificial ponds, totalling about five and one half acres of the refuge. In addition, a constantly flowing stream bisecting the property has had numerous beaver ponds established in recent years. Much of this area has become swampy by nature.

About ten acres of the refuge is made up of fair sized trees. These are predominately sugar and red maple, black cherry, gray birch, white ash and dead elm trees. The balance of the property is covered with scrub growth plus new pine and spruce plantings. Only five acres is in meadow or garden plots.

Ten most commonly banded species in 1969 were: Tree Sparrow, 205; Song Sparrow, 120; Slate colored Junco, 118; Black capped Chickadee, 107; White throated Sparrow, 91; Blue Jay, 74; Catbird, 69; Tree Swallow 55; Myrtle Warbler, 50 and Field Sparrow, 48.

Two recoveries were received from the Bird Banding Laboratory in 1969. Both were reported from locations other than the refuge but were from nearby areas in New York State. An Evening Grosbeak, banded by Dr. Robert P. Yunick near Schenectady on 18 January, 1964, was retrapped at the refuge in a potter trap on 2 March, 1969. Other than the left eye missing, the bird seemed to be in good health. Throughout the year 1969, 2576 birds were netted, 296 were trapped (total 2872) in 6223 net hours.

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BRADLEYS' MARSH, Ontario - Mary June Wolcott

Brandleys' Marsh banding station (422-0822) is in Kent County, Ont., about 20 miles (by road) north of Tilbury, and 20 miles west of Chatham, on the southeast "corner" of Lake St. Clair. It was operated only on week ends from August 30 thru October 26, a total of 18 days. From 13 to 27 nets were used per day with 2520 net hours for the season. 2620 individuals were banded. This comes to roughly 1 bird per net hour. There were 77 different species.

One Song Sparrow has faithfully returned every year except 1966. It was banded in the fall of 1963. We seldomly have returns in the fall, but get a good many in spring. There were about 500 repeats and no foreign retraps.

Wings were routinely measured and birds were weighed whenever possible. As we have no shelter, we are often hampered by weather conditions wet birds or too much wind. Ruth Erickson is the only one of the three regular banders who has mastered the technique of "skulling" and she can process most of the small birds on days when we aren't too rushed.

The three regular banders are: Mary June Wolcott, Ruth Erickson from Royal Oak, Michigan, who drive the 70 miles on Friday evenings in their camper truck to return on Sunday afternoon, and, Mrs. Marian Norris of Pontiac, Michigan, who drives over every morning.

Bradleys' farm covers more than 2000 acres at the mouth of the Thames River, on the southeast corner of Lake St. Clair. Bird watchers discovered its possibilities in 1939. The name Bradleys' Marsh refers to the strip along the lake shore, about three miles long with 1400 acres of dikes, waterways, and rushes, first used as a banding station in 1959. Our net lanes run along some of the dikes and at right angles to them, when the area is above water. As poplars, willows and sumac are getting taller, birds stay higher. We are gradually moving our net lanes. We have a variety of netting habitat, ranging from the large trees and high dikes to cattails in the water below the dikes.

Our best days were: October 11, 12, 18, 25 and 26, with 260 to

308 birds each of those days. Most numerous were the Golden crowned Kinglet (531); Myrtle Warbler (329); Ruby crowned Kinglet (166) and Brown Creeper (159). We banded 24 species of Warblers (781 individuals) and had unusual numbers of certain birds, such as: Hermit Thrush (102); Winter Wren (87); Phoebe (29) and Red breasted Nuthatch (41). We unexpectedly banded two Sharp-shinned Hawks and a Virginia Rail; a Pine Siskin was the first ever banded at the Marsh.

George Garbutt of Jeannette's Creek, Ont., has been banding ducks, coots, herons etc.

PRESQUE ISLE, Erie, Pa. - Ronald F. Leberman

A total of 703 birds were banded, most in October, of 53 species by Mrs. James G. Stull and Mr. and Mrs. Ronald Leberman. Of these 53 species one was new for the year (White eyed Vireo) and the most numerous was White Throated Sparrow (197). Unfortunately, much less time was spent than in previous years. Despite, some interesting results were made. Weather for the most part was very good; little rain occurred except for October 2nd, when we had a steady downpour and banding had to be stopped at noon.

For the second year in a row, few Flycatchers were netted; just one in 1969. The White Eyed Vireo, banded on October 3rd, is unusual for this area, so far north in Pennsylvania.

Most of the birds were fully processed, i.e. they were weighed and measured, aged, sexed and fat counts taken where possible.

FRIENDSVILLE, Pa. - Mrs. Claire Gottschall

The Friendsville, Pa. banding station is located twelve miles southwest of Binghamton, N.Y., at 415-0760. The banding station is a ten-acre section of our farm in an area surrounded by several beaver ponds. The area previously pastureland, is now in second-growth stage. The vegetation is mostly white pine, hemlock, speckled alder, blue beech, maple, white ash, viburnums and wild apple, with goldenrod, blackberry, jewelweed, ground pines and blueberries composing the lower growth.

The fall of 1969 was the first time this station took part in Operation Recovery, therefore there are no comparisons for previous years. My main interest in this banding project is to be able to contribute some meaningful information on migration as an inland station.

Most banding was done from dawn to 11.00 A.M. Five or six nets were used each day with a total of 1489 net hours for the period from 11 August to 30 October. 582 Birds of 61 species were banded. Ten hummingbirds were netted and released without band. The most numerous species banded were song sparrow, catbird and indigo bunting(601).

KIPTOPEKE BEACH, Va. - Frederic R. Scott and Walter P. Smith

The Kiptopeke Beach banding station of the Virginia Society of Ornithology was operated for eight weeks during the 1969 fall migration period. Originally opened in 1963 as part of a long-range study of the distribution, abundance, and migration of birds of Virginia's Eastern Shore, the station has been run now for seven successive years. It lies near the southern tip of the Eastern Shore overlooking Chesapeake Bay about 7 miles south of the town of Cape Charles. The site coordinates are 370-0755.

The station was in operation daily for 58 days between August 30 and October 26, inclusive, with a maximum of 42 mist nets being used. A tabulation of some of the station statistics compared with those of 1967 and 1968 is given below.

	<u>1969</u>	<u>1968</u>	<u>1967</u>
New birds trapped	10,576	12,336	8,590
Total species	105	101	96
Total net-hours	18,439	18,634	17,725
Trapping efficiency (new birds/1000 net/hrs)	574	662	484
Days of operation	58	51	50

The station also had 1224 repeats, 6 returns and 3 foreign retraps. The latter will be published in full when all details become available. In cooperation with Operation Recovery, weights and wing-chord measurements were taken of a majority of the birds banded, and attempts to relate banding totals to observed diurnal migration and weather conditions were continued. The principal banders were M. A. Byrd, Mrs. D. P. Curtis, C.W. Hacker, H. B. Hawkins, Mr. and Mrs. Sydney Mitchell, F. R. Scott and W. P. Smith. As in the past, each licensed bander was in charge of the station for a week, though most of them spent considerably more time there assisting the other banders. Mrs. Mitchell, for example, was on hand for over three weeks. There were 78 banding assistants ("band-aids").

No extralimital species were trapped and no birds were collected. The only birds that might be considered rare were some of the warblers that normally migrate down the Appalachians, notably the Golden-winged Warblers on September 11 and October 18, the latter a remarkably late record. The five most numerous birds trapped were Myrtle Warbler, 1977; American Redstart, 1764; Yellowthroat, 743; Black-throated Blue Warbler, 652; and Catbird, 369.

The table above clearly indicates that trapping success was considerably poorer than in 1968. Weather can probably take most of the blame

for this. This was a "feast or famine" year, with fewer cold fronts and very trying periods of NE winds which appeared to blow the migrants inland. The flights that did occur were often too large to handle with the personnel available, and nets had to be prematurely furled on a number of occasions. For example, the normal banding day usually had over 400 net-hours; on September 19, our largest flight day, only 105 net-hours were used to produce 788 new birds. Other especially good flight days occurred on September 10 and October 5, 15, and 23.

There were many cross currents in the banding totals this year, and although the over-all total was 14% less than in 1968, there were still many specific increases over the previous year. The most notable of these were House Wrens--222 in 1969 versus 134 in 1968, with a peak of 25 on September 29; Black-throated Blue Warblers--652 versus 369, with a peak of 64 on October 13; and American Redstarts--1764 versus 979, with a remarkable peak of 401 on September 19. The species showing the greatest numerical decline from 1968 was the Myrtle Warbler, which went from 3325 to 1977. No significance can be placed on this, however, since the peak of this bird's migration often does not come until after the station is closed. The same cannot be said, however, of the precipitous decline in the numbers of the transient thrushes over those of 1968. Comparable figures for these were Wood Thrush, 14 in 1969 versus 46 in 1968; Swainson's Thrush, 126 versus 794; Gray-cheeked Thrush, 109 versus 650; and Veery, 277 versus 519. The Hermit Thrush actually increased from 114 to 160, but the same remarks made above about the Myrtle Warbler also apply to this species.

The reasons for the decline in thrush captures are probably many and varied, but the weather was certainly a major cause. There is enough evidence in one case that clearly documents how weather can effect banding results. A cold front passed through the area on September 25 for the first time in a week. Previous experience here had indicated that in such a situation the fall's greatest flight of Swainson's Thrushes could be expected the following morning. During the night, however, a low-pressure area moved up the coast, and winds shifted from NW to NE. As a result, there was only a minor flight on the 26th, with no Swainson's Thrushes. West of Chesapeake Bay, however, observers reported a heavy nocturnal thrush flight at Williamsburg and Newport News the previous night, thus suggesting strongly that the wind shift had caused the migrating birds to move inland. (May I suggest that other station leaders examine their records in the same light and report the results to me? Ed.)

One interesting observation also made in previous years was that some species of diurnally migrating birds did not reach their peak numbers on what would normally be considered a flight day. For example, the best flight of Eastern Kingbirds, 540 birds, passed over the banding station on September 2, a very poor banding day, and the best falcon flight occurred on September 21, which was only a moderately good day for banding.

This last day saw 2 Peregrines, 30 Pigeon Hawks and 487 Sparrow Hawks pass over.

It is hoped this banding station will again be in operation during the fall of 1970 for at least eight weeks. Banders wishing to assist in the station operation or to pursue their own projects at the station are urged to contact one of the authors.

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ALLEGHENY FRONT - Dr. George A. Hall

The twelfth year of Bird-banding on Allegheny Front Mountain turned out to be only a moderately good season. The station was manned on 22 days in September and 6 days in October. However, hard rains and dense fog forced the total suspension of operation on 5 days in September. These circumstances, coupled with a fall migration that never really developed at this station were not conducive to a large number of captures.

A total of 1469 birds were banded in a station effort of 1501 net-hours giving a capture rate of 979 birds per 1000 net-hours. Only one bird, a Dark-eyed Junco, that had been banded in previous years was recaptured this year. On September 26, a female Sharp-shinned Hawk was captured that had been banded on September 12, 1968 at Point Pelee National Park, Ontario. This is the first foreign retrap at this station. In December 1968 a Blue Jay that had been banded on the Front in 1966 was recovered in North Tonawanda, New York.

One new species was added to the station list, Blue winged Warbler, bringing the total species captured to 103. A total of 15,389 birds have now been banded. Except for the rains, the weather was mild and we escaped the usual subfreezing nights. There were however, only three pronounced peaks of migration (as represented by the number of birds captured). On only three days did the number of birds handled exceed 100: September 7 (100); September 15 (146) and September 27 (189). The three days September 26-28 represented the height of the flight with 367 birds caught during that period.

Only 57 species were caught this year, one of the lowest totals ever. Of particular interest was the very small number of captures of Swainson's Thrush; the total absence of Gray-cheeked Thrushes. The number of Tufted Titmice caught exceeded the total of all previous years and leads to speculation about possible migrations in this species.

Unfortunately the weekend of September 19-21 was in the period of heavy rains. Not only was this the weekend in which many visitors came

to the station but it was also the weekend on which many of the other banding stations reported extremely heavy flights.

Besides the project leaders, Ralph Bell and George Hall, other banders who participated were Cora Williams, Connie Katholi, Ann Shreve and Jack Linehan. As usual many other members of the Brooks Bird Club and others provided help and companionship. It is not possible to mention each by name, but we do wish to express our thanks for their services.

The fall of 1969 brings to a close the formal phase of Operation Recovery as sponsored by the Bureau of Sport Fisheries and Wildlife. It is intended to carry on the studies of fall migration on this mountain, however, for an indefinite time. We probably will change the name of our project (from: Allegheny Front Operation Recovery) to something such as the Allegheny Front Bird Migration Station or the Dolly Sods Bird Observatory. (Regretfully, the remainder of this fine report cannot be printed due to lack of space. Ed)

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HOMESTEAD, Florida - Erma J. Fisk

My banding station is in abandoned farm land which this year was well grown up to weed trees. Schinus (Brazilian Pepper), baccharius (Saltbush), sumac and leadtree predominate, but many young trees and shrubs are growing up among them. Food is abundant, a small pond an attraction. We have four habitats - pine woods with heavy understory; pond edge; an open lane and the overgrown fields. As I work alone, nets were placed close to my cottage, as much in rows as possible so I needed only look down them to see if there were birds. I ran, eventually, 15 nets as opposed to last year's 10, for the same 40 days, although I began and ended four days earlier - September 26-November 6. Some nets were unproductive, but as they took an occasional whippoorwill or cuckoo I left them up.

My final tally was 1763 new birds, 83 returns from previous years, 68 species in 6122 net hours. My busiest day was October 12 with 102 new birds. I was never really rushed except when redwings flocked in to drink. The three most abundant species were catbirds 392 versus 221 last year; painted buntings 157 versus 154 (We northerners would give our right arm for just one. Ed.); and black throated blue warblers which jumped from 39 to 147. Rare for peninsular Florida were one Canada Warbler, five Blackpolls, a Swainson's Warbler, five Philadelphia Vireos and three Traill's Flycatchers. Really rare were a Yellow belled Flycatcher and a Green-backed hybrid warbler that showed characteristics of a blue-winged, brewster's and lawrence's. Except for redwings all birds were aged, weighed sexed and fattened where possible.*** **

Corrigendum

In the previous edition of Atlantic Flyway Review, EBBA News 33: 111-2, report on Island Beach, N.J., it was erroneously conveyed that the dangers of banding large amounts of birds had a direct relationship to the Island Beach station. Had the correct punctuation been inserted, the reader would have realized that the second part of the last paragraph on page 111, served as a warning what could happen if the work was done in a hurried manner.

The correct way this paragraph should have been written is as follows:

"Island Beach State Park, N.J., is the site of the largest banding station by way of numbers. 1969 however, was one of the lowest seasons for this station.

In any station, it is encouraged that banders stop and think about what they are banding. It seems to me that at a high rate of capture, there is always the possibility that some banders may tend to become undated by sheer numbers. It is possible, that banding at such a rate, becomes a race against time. Birds are not mere blobs of feathers to be tagged but they are to be appreciated for the beauty they bring to man's world. Fortunately, at Island Beach, this problem has not been encountered. So much for the 'editor's note'."

It was good of Mrs. Warburton, former station leader of Island Beach to point out that Island Beach is indeed the largest station, rather than one of the largest stations. I wish to apologize to the banders of this station for what seemed an accusing attack on their efforts. It was the furthest thing from my mind to berate the members of this fine station.

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NEXT ISSUE: We would like to run a review of the results of this year's spring migration banding operations. Short reviews showing the highlights of each station, interesting species, early(late) dates, western/southern influx of species, exceptional numbers, returns, recoveries, etc., can easily be accommodated in this issue. Any station (not only former O.R. or 1970 AMFO stations) may send in something. This is particularly true for stations south of Virginia where we have at best, only spotty coverage. Comments on difficulties in ageing and sexing are also encouraged. Your reports need not be formal; a couple of notes on a slip of paper will do.

