# BIRD RECORDS AND THE A.O.U. CHECK-LIST RANGES

BY E. M. REILLY, JR.

SINCE June, 1948, the author has been engaged in plotting ranges of North American birds under the direction of Dr. Alexander Wetmore, Chairman of the Committee on Classification and Nomenclature of the American Ornithologists' Union. In the course of this work the extensive material from the files of the Fish and Wildlife Service's Patuxent Research Refuge at Laurel, Maryland, assembled over a period of many years, has been made freely available through the courtesy of Dr. John W. Aldrich in charge of the Service's Section of Distribution of Birds and Mammals and with the assistance and kindnesses of Mr. Arnold Nelson, Director of the Refuge, and Mr. Chandler S. Robbins.

The file consists of clippings from a large percentage of the ornithological books and journals and countless unpublished observations of hundreds of cooperators, both professional and amateur. Many notes have been laboriously copied by hand from works too valuable to clip, others have been photostatted. The material includes therefore the most complete set of records that have been assembled dealing with the distribution, migration, and abundance of North American birds. In addition the writer has consulted many references from the Library of Congress and from the library at Cornell University, where much of the work has been carried on in the Laboratory of Ornithology of the Department of Conservation. Despite the large quantity of data available there have been many difficulties in interpretation imposed by very uneven quality of the data.

In the attempt to plot scientifically accurate modern range maps for our birds using these records, three main difficulties have been encountered: 1. The ranges of many of our birds are not static but are steadily if slowly changing. 2. The ranges are plotted from a network of observations of ornithologists, which is very irregularly spaced both geographically and in time. 3. Many of the records, both sight and specimen, are not as reliable as they might be.

Concerning the first difficulty, nothing can be done but to revise periodically the maps and lists. The second can be adjusted only by interpolation and time. As for the the third, I hope that by pointing out some of the more common errors in method or in fact that I have encountered while plotting ranges, these may be corrected in the future.

In plotting the ranges, both sight and specimen records are used. The museum specimens furnish the framework; and the sight records, other details. If these two complement each other a fairly reasonable plan emerges—but, often, if all records were taken, a monstrosity

would arise. Fortunately the deviations due to error generally are obvious and can be corrected immediately. The less obvious errors are often compounded before they are discovered. Since sight records are more subject to error than specimen records and are, generally, unconfirmable, they have received more than their share of adverse criticism from many quarters. In using sight records to portray parts of ranges more accurately, some method, aside from the experience of the reporter, had to be devised.

Sight records should be most reliable during the breeding season when colors and patterns, particularly of the males, are most distinctive. When commencing this task much credence was placed in observations made during this period, and it was assumed that if an observer listed a bird as breeding in a particular area he was most likely correct. Granting that specific identification was correct, one must consider the criteria used by the observer in determining the actual status of the species in the area. Frequently the sole criterion is a record of one bird seen at a time assumed by the reporter to be the breeding season for that particular species! Seeing the nest in use is a definite breeding record. Other data only indicate, at best, a probable nesting. Records of both male and female seen through a considerable portion of the nesting season constitute very probable breeding records; one bird seen on one day does not. A bird carrying nesting material is a good indication of breeding, but no more. One singing male may indicate *possible* breeding, but the significance of this evidence is dependent on the species in question and other factors. Very recently fledged birds being fed by their parents are an excellent indication of local breeding, but immatures being fed by adults are not necessarily so.

Further complications are noted in those regions where some ornithologist has published a local list of "breeding species," often on the basis of a short-term visit. The amateur, who may be reporting to the Fish and Wildlife Service, will often use such a list as a basis for reporting certain species as breeding year after year, when in fact, as shown by dates of appearances, the bird is more probably a migrant or wanderer. That the bird may nest sporadically in the area is possible; reporting it as a regular breeder on flimsy evidence obscures this important scientific fact.

Few sight records which appear in print are retracted, no matter how obvious an error; this is possibly because of the embarrassment caused by such retractions. A misidentified skin causes less embarrassment, as here the *mistake* is sooner or later discovered; when sight records are questioned, the originator often seems to think that his

*honesty* is being questioned. Compilers are frequently asked why they doubted the word of this or that observer and of others. When a sight record is discarded in compiling the ranges for the Check-List no doubt of the recorder's honesty is ever expressed or implied. The expert and the beginner may make the same error on the sight record, but the beginner is more likely to commit himself publicly. The trouble here is that often we tend to greet such errors, when proven, with laughter and ridicule instead of more proper patience.

In reading the literature, we find many questionable records which the recognized experts of today made in their youth; it is obvious that these experts would not publish the same things today. It is the constant published repetition of questionable reports year after year which gives rise to an odious reputation, rather than a few mistakes made in the beginning.

One of the obstacles to the perfect understanding of any report is the use (or misuse) of language. For obvious reasons some of the records on file at the Fish and Wildlife Service are not clipped from the books but are transcribed by hand. Where an author states that "a specimen was seen singing . . ." it has often been written on the file cards as "specimen" with date. Usually specimens are found only in museums. There are many more appropriate words which may be used in referring to living birds than the word "specimen" which should be confined to the dead bird.

It should be pointed out here that errors in transcription are not the sole province of the Fish and Wildlife Service which, in fact, does the work with a remarkably low percentage of such mistakes. Far more common and injurious are the misquotations in literature. Many times an author has cited another author as the source of a *breeding* record when, in fact, the writer cited only reported a summer sight record. In one case a species was listed in four separate papers as breeding in an isolated spot some 200 miles south of its normal range. Each paper cited an earlier paper till in the fifth and earliest paper in the chain the original quotation was found to read, ". . . these birds seemed to be contemplating nesting here." This type of mistake makes it necessary for the compiler to trace each such record back to its original source in order to be accurate.

Other points of confusion arise in the use of purely comparative terms as: common, rare, casual, accidental, etc. All these may be used relative to all other birds, relative within the one species, relative to the time of the year, etc. Actual numbers are best used but too infrequently obtainable. If numbers are not used, all such relative terms should be clearly defined in the report. In the Check-List

work, numbers are not obtainable or practical so such terms are used in relation to the species itself, but, even here, the use of the adjective "common" seems out of place in describing a species such as Bachman's Warbler.

Some purists have recently confused usage which was formerly quite clear. The term "summer resident," for example, is not completely accurate, but even more confusing is the use of the term "summer visitant" in its place to describe a breeding species. Visitant has been used in ornithological literature to denote a wandering individual; thus summer visitant indicates, to most observers, wandering unmated young or adults straying after their regular breeding season elsewhere is over. Why not simply use the very accurate word "breeds"?

Many authors have been using trinomials in reporting sight records simply because a certain form is taken most often in the area or is *supposed* to be found in the area. If these records are transcribed, as mentioned above, as specimen records, much inaccuracy may result. Even without the possible error added in transcription, the use of trinomials should indicate that specimens, accurately determined by a taxonomist, repose in some museum. Very few subspecies can be certainly identified in the field and, even in the cases of these few, there is much chance of error. There is a harmful effect which results from this slipshod use of scientific categories because many workers, both amateur and professional, do not understand the full meaning of subspecies. Many apparently assume that sharp morphological differences and distinct geographical boundaries exist between subspecies. Data indicating the width of the areas of intergradation are much confused by this arbitrary assigning of sight records to subspecies. Many professionals, not taxonomically minded, have assigned specimens in their collections to subspecies on the same assumptions without using comparative material.

One can hardly defend the use of sight records for defining ranges and in the same paper, as has been done, make sight identifications to subspecies of the birds in an area. If trinomials must be used it should be clearly indicated, "*Turdus migratorius* probably subspecies *migratorius*." The use of common names to designate subspecies is to be decried in the same way. Such common names in popular use by the untrained amateur can only result in confusion and make necessary a synonymy of common names, because amateurs make vast and valuable contributions to our literature.

It is possible to be invited into the field to observe a subspecies not known in one's home region. This experience would be fine if it were possible to note some difference in morphology, habit, habitat, or song

between the two forms, but this is seldom possible. What good is a series of names, the very listing of which implies that differences were noted, when no differences were observed? This accent on subspecies in the life list has led to a lamentable number of worthless and confusing records in literature.

A peculiar fact noted in plotting spring and, particularly, fall migrations, those periods when much uncomfortable weather prevails, is that some species breeding commonly in the northeastern states are listed as rare to very rare migrants throughout the entire tier of southern states. These species must cross this tier somewhere in considerable numbers. Quite possibly this anomaly might be explained by factors such as: night migration, too few observers in the area, or birds flying over generally inaccessible terrain; but more likely bad weather keeps the observers indoors. One would not expect that the fall flight, when the bird population is swollen by the young of the year, would be smaller than the spring migration, but such may be indicated by the plottings. There may be a Gulf Coast hiatus, but I doubt that it covers the entire southern states. We definitely need more bad-weather and fall observations.

Almost every time a species is seen and reported in literature from some area outside its natural range, the author of the note seems to feel that the note must be accompanied by a wealth of details about the observer's field experience, the type and size binoculars used, the ground cover, descriptions of other species with which the bird in question could have been confused (but wasn't) and the description of the bird seen. Many of these reports very apparently contain quoted descriptions from Peterson, Chapman, or others without giving credit, when the reporter should have quoted his own field notes. Seldom does one see actual field notes used as the basis for identification. The record may be perfectly valid, but the method of presenting the evidence taxes credulity. Such a note should contain the species name and the date seen, the observer's name, the locality, notes which indicate the proper identification was made, mention of song or call notes if these aided in the identification, weather, feeding notes, and other comments which may have scientific value.

The editors of ornithological journals cannot be expected to check the validity of each statement in each note. It is up to the author to check each item in his note before submission. One annoying, but not too serious, shortcoming is found in those frequent notes in which a bird's appearance is described as the first record for the region. Proper use of the indices to the major journals would have shown, in many cases, that the writer had the second or third "first" record

Apparently many writers rely on word-of-mouth information on this point, and this is a shaky procedure.

If a bird appears for the first time in a place well outside its usual range, it is best to collect it. Indiscriminate collecting is not to be condoned, but certain facts should be pointed out to those who decry collecting of stray individuals. Authentication of the record is only one consideration. The bird has wandered for some cause: climatic, physiological, or psychological; were it collected and preserved in alcohol or formalin it might be possible to discover the reason by anatomical or histological study. If we could find out why one bird wandered far off its course, we might have additional clues to the riddle of migration. One bird well out of its normal range is not likely to start an extension of the breeding range. A stray individual way out of its range will probably not survive long in the alien territory, particularly if out of season. In both cases the bird dies, so science is better served by having the bird collected and saved as a specimen. For various reasons very few sight records of accidentals can be used in the Check-List ranges.

In plotting the ranges for the A.O.U. Check-List many state and local lists are used. In general these lists are complied by local ornithologists who have the advantage of knowing the countryside and the local observers. These lists should be invaluable. That these lists are not always helpful has been a sad discovery. One trouble arises because they use so many local place names which are impossible to locate in standard gazeteers or atlases or on maps available to researchers. Not enough local lists include gazeteers of the area covered and some have maps which are far from adequate. Townships are not included in many atlases and, further, their boundaries are subject to change. Sometimes places have been listed as 40 miles from some large city, leaving the reader 360 degrees of direction to choose from.

Local lists often include a "hypothetical" list of species reported from neighboring territories and thus "may be expected at some time in this area." It is amazing how such suggestions often lead to a spate of sight records of the species listed soon after the paper is published. Some state works have listed the subspecies occurring within their borders, describing one form as occupying the northern half while the other form breeds only in the southern half. Amateurs using such lists have apparently taken this too literally and report sight records to subspecies according to which precise half of the state they were in. When trinomials are used in local lists, they should indicate that the author used properly identified specimens. If lack of space was the main reason for omitting a few definite localities, it would be more appropriate to omit subspecies altogether.

Difficulty is also experienced in using some specimen records for plotting subspecific ranges. The troubles most frequently come from the synonymy. The A.O.U. Committee on Classification and Nomenclature examines each newly named race from the North American province and accepts or rejects it for the Check-List by a majority vote. This is not binding on the individual taxonomist. For clarity, the systematist generally states whether or not he is following the rulings and gives his reasons. If this procedure were followed at all times, things would be much simpler. Many papers do not even include the Committee's ruling in the synonymy. The result is that one may find many specimens listed in the literature, which are useless in attempting to work out subspecies ranges for the Check-List. Some taxonomists have named new subspecies, giving general ranges for the new forms and lists of specimens used—unfortunately skins listed as "10 specimens from Alabama" are not very helpful in plotting detailed ranges.

Taxonomists have listed localities but omitted dates. If all specimens are listed as breeding specimens the criteria used in making this determination is not noted. In deciding that a specimen was that of a breeding bird, arbitrary dates are sometimes used which, as pointed out above, may be quite wrong. The size of the gonads is a better criterion, but this is too often left off the labels; nor is it infallible as pathological conditions may affect gonad size.

It may please the sentimentalists that very few birds are collected along with their nests (or this information may be omitted purposely). It would help delimit the breeding ranges of subspecies were this done a bit more often. Some collectors will not shoot a bird while on or near its nest but will collect the same bird some distance away. The nest will be lost in either case either way, so it may as well be saved for science.

At times new subspecies have been named from a particular state by a provincially minded ornithologist who does not examine specimens from neighboring areas, or at least does not mention them in his paper. The new race may, as has happened, split the range of another subspecies into two widely separated parts.

Finally it might be pointed out that sight records and specimen records complement each other in working out the Check-List ranges. The main purpose of this paper has been to point out the more common errors on both sides by showing their harmful effects. For obvious reasons specific references have been omitted.

It would be impossible for the author to thank all who have helped him write this paper. Dr. Alexander Wetmore has been my helpful

guide and overseer in the task of plotting the ranges and has read the manuscript before submission. Dr. A. A. Allen, Dr. O. H. Hewitt, Dr. E. C. Raney, and Dr. W. H. Hamilton, Jr. of the Cornell University Department of Conservation, all have read the paper and made helpful suggestions as have several of the graduate students in the Department of Conservation, Mr. W. C. Dilger, Dr. K. C. Parkes, and Mr. C. R. Robins. Mr. Chandler Robbins of the Fish and Wildlife Service, Section of Distribution of Birds and Mammals, at the Patuxent Research Refuge, Laurel, Maryland, has also read the manuscript.

*New York State Museum, Albany 1, N. Y., December 4, 1952.*