is continuing the program of general vertebrate collecting undertaken some years ago in Lower California; Mr. Raymond M. Gilmore is aboard the U. S. S. *Northland* for its season's cruise of the Bering Sea and Arctic coasts of Alaska, to take every opportunity to collect birds and mammals; Misses Annie M. Alexander and Louise Kellogg are visiting type localities of various mammals throughout the Rocky Mountain region; Dr. Jean M. Linsdale is making an ecological study of the vertebrates of the Toyabe Mountains, central Nevada; Dr. Alden H. Miller is exploring the Great Basin and Rocky Mountain regions for juncos; Dr. E. Raymond Hall, Mr. Ward C. Russell, Mr. Robert T. Orr, Mr. J. Kenneth Doutt, and Mr. Donald M. Hatfield are working a series of localities in southern and eastern Nevada, chiefly for mammals; and Mr. and Mrs. Thomas T. McCabe are continuing their field studies upon the birds and mammals of central British Columbia.

Animal distribution is not a matter of fixity or permanence, save perhaps as considered momentarily. Especially are the ranges of *birds* mobile affairs, constantly in flux; and the many factors involved—extrinsic, environmental, and internal, having to do with the bird's own mechanism—are immensely worth a student's while to seek out and to appraise in point of relative importance for different species. These ideas are brought out and emphasized in most convincing fashion by Dr. Herbert Friedmann, Curator of Birds in the United States National Museum, in a recent article of his entitled "Bird Distribution and Bird-Banding" (Bird-Banding, II, April, 1931, pp. 45-51). Dr. Friedmann points out that American students have a unique opportunity at the present time, of finding out the ways in which bird populations spread, by watching the behavior of the newly introduced European Starling. Some subjects of such observation—supplemented, it is suggested, by the bird-banding method—are as follows: Sex-ratio; single versus multiple broods; the actual distance from the original nest-site to the territories, next year, of the young from that nest; the effects of early versus late breeding seasons; the effects of inbreeding; the migration of groups within the species; determination of the extent of the feeding ranges and breeding territories. It is of great importance to the systematist, to the student of faunas, to the general evolutionist, to learn such details as these concerning the process by which the boundaries of birds' ranges extend or retract in various directions and under different sets of conditions.

Since the appearance of Dr. Linsdale's article in May issue of the *Condor*, wherein were made public startling disclosures as to the extent of the use in California of that virulent poison, thallium, against rodents, numerous other facts along the same line have come to our attention. These all bring overwhelming conviction that poisoning of wild animals has come to be a highly destructive practice—when judged in the interests of the country at large. It seems to us now that the only justifying condition for employment of poison against animals other than rodents on cultivated ground, and rats and mice about buildings, is when bubonic plague or rabies or foot-and-mouth disease immediately threatens a locality. The Biological Survey, under whose auspices or with the cooperation of which, all or most of this poisoning is going on, works apparently with the immediate interests, only, of the agriculturist and stock man in view. And close analysis of the problem leads us to suspect that the ultimate best interests of even these minorities of our citizenry are not thereby being conserved. It is possible that the present administration of the government Bureau named, will change its policy, if enough other, less self-centered interests make known their claims for recognition, and especially the factual basis for their views. To this end, we would be glad to learn of further definite cases of, especially, poisoning of *birds*, any species whatsoever and under whatever auspices. Details of fact may be sent to the undersigned.—J. GRINNELL, *Museum of Vertebrate Zoology, Berkeley, California.*

PUBLICATIONS REVIEWED

WETMORE ON THE AVIFAUNA OF THE PLEISTOCENE IN FLORIDA.*—This recent paper by Dr. Wetmore is a major contribution to the avian paleontology of North America. It describes a collection which in wealth of material is second only to the Pleistocene deposits of California and

*The Avifauna of the Pleistocene in Florida. By Alexander Wetmore. Smithsonian Miscellaneous Collections, vol. 85, no. 2, pp. 1-41, 6 plates, 16 figures in text, April 13, 1931.

Oregon. The fossils from eight localities in Florida have been taken from sedimentary rocks near sea level or from caves. From this assemblage sixty-five forms have been identified, of which only three are extinct species, namely, *Querquedula floridana* Shufeldt, *Meleagris tridens* Wetmore, and *Teratornis merriami* L. Miller, thus indicating the stability of bird species through the Quaternary.

Several modern types present in the Pleistocene do not occur now in Florida. Perhaps the most outstanding of these is the California Condor which with *Teratornis* must have had a wide range, hitherto unknown, in the eastern part of the continent. The Wood Rail, *Aramides cajanea*, the Jabiru, and the Mexican Turkey Vulture, *Cathartes aura aura*, are tropical forms which occurred formerly in Florida. The subspecific identification of *C. a. aura* from the St. Petersburg locality is made on the basis of size; *C. a. septentrionalis* occurs in other of the horizons. The Manx Shearwater, Trumpeter Swan, Whooping Crane, and an indeterminate species of the South American *Geranoaëtus* are other birds not found in the state today.

Most of the species identified are water birds, many of them of large size. Only five passerine birds are recorded, these being large corvids and icterids.

The fact that twenty-six of the types listed have not been reported before from the Pleistocene indicates the increase in knowledge as a result of this paper. Particularly is this fossil collection valuable in that it widens geographically our vision of the Pleistocene avifauna, representing adequately for the first time an eastern bird fauna of this period.

The bulk of the paper is devoted to an annotated list of the species with mention of the material and the places of occurrence. It would have been of great value to other workers in the field if more discussion of diagnostic characters used in identification had been included. These characters quite evidently, and of necessity, have been determined by the author and, although one does not feel the need of them as proofs for the identifications, it would have been useful to others to have placed certain of the osteological data on record.

Wetmore finds it necessary to use the name *jamaicensis* in place of the familiar *borealis* for the Red-tailed Hawk, on the grounds of the synonymy of the two names and of page priority of *jamaicensis*. Regardless of the question of validity of this proposed change, it is disturbing to think of relinquishing the well-known name *borealis* for this common species.

The conservatism shown in the naming of new fossil types and in certain of the specific and subspecific identifications is, in the reviewer's estimation, admirable and leaves one with a feeling of security. Three supposed fossil species named by other writers have been found by Wetmore to be referable to modern species, thus aiding in the reduction of the number of dubious names that often encumber lists of fossil birds. The original description of *Meleagris tridens* appearing in this paper is based on one set of metatarsal spurs. Questions that might arise as to the advisability of naming a turkey on the spur characteristics of a single specimen seem to be fully anticipated by the author.—ALDEN H. MILLER, *May 6, 1931.*

S. PRENTISS BALDWIN AND BIRD-BANDING.*—After the lapse of a decade the Cleveland Museum has felt it worth while to devote the fifth number of its splendidly-appareled series to reprinting these classics of the experimental era of the study of birds by trapping and banding. Technical methods have come and often gone, the bander's horizon has expanded, but the sound common sense of these early papers has never been bettered, and, today as yesterday, after the old official "Instructions" and the newer "Manual", which, back in 1920, took their origin from Baldwin's doctrines as expounded to Lincoln at Thomasville, these papers remain the best philosophy of banding we have. Probably through someone's generosity, the present publication may be had by banders without cost, from the Biological Survey.—T. T. MCCABE, *May 23, 1931.*

*Bird-banding by Systematic Trapping | by | S. Prentiss Baldwin | [Monogram] | Scientific Publications | of the | Cleveland Museum of Natural History | Vol. 1, No. 5, pp. 125-168; plates XIX-XXV | Issued, April 15, 1931 | Cleveland, Ohio | [to which is appended, without notice on cover or title-page, The Marriage Relations of the House Wren (Troglodytes a. aedon) by S. Prentiss Baldwin]. The first paper is reprinted from the Abstract of the Proceedings of the Linnaean Society of New York, No. 31, for 1918-1919, the second from the Auk, vol. XXXVIII, no. 2, April, 1921.