

ORNITHOLOGICAL LITERATURE

MEXICAN BIRDS . . . FIRST IMPRESSIONS . . . BASED UPON AN ORNITHOLOGICAL EXPEDITION TO TAMAULIPAS, NUEVO LEON, AND COAHUILA . . . WITH AN APPENDIX BRIEFLY DESCRIBING ALL MEXICAN BIRDS. By George Miksch Sutton. University of Oklahoma Press, Norman, 1951:7 × 10 in., xvi + 282 pp., with 16 color plates and 65 pen-and-ink drawings. \$10.00.

This attractively composed book is a record of Sutton's first field expedition to Mexico. The jacket-flap, with more than usual accuracy for jacket-flaps, states that "the first part is an informal account of the author's day-to-day experiences in the field, his intensely subjective thrill at finding a new species, and his cool, objective, and detailed descriptions of the birds he saw . . . Mr. Sutton has written *Mexican Birds* in the form of a personal narrative 'because students of Mexican birds will most likely go through much that I went through in adjusting myself to the fact that many birds there are the same as, or closely related to, those of the United States . . .'" The text is a diary-type account introducing the reader to several ecologic groupings of birds in northeastern Mexico. One of the high points is the experience with the Faisan Real (*Crax*), in which the reader gains insight into the bird *and* into the knowledgeable Mexican guides, the author, and the small drama of the hunt.

From the popular and explicit style of the text, I assume that the author addresses himself to readers with non-technical interest, and it therefore seems quite unnecessary to pepper the pages with scientific names. These are given again in the appendix anyway, along with vernacular names. The text would read more smoothly without the Latin names.

The author makes a considerable effort to suggest vernacular names for Middle American birds poorly named or as yet without such names. This he does in a constructive and sensible way. The topic is one always leaving room for difference of opinion, and recognizing this I would take exception to only one of his usages. Why should the familiar Carolina Wren, the species *Thryothorus ludovicianus*, be called Berlandier's Wren when one watches it in Nuevo León? This name is used by Hellmayr and, like so many others of his, should be ignored. Among other names used by Sutton, some very apt species vernaculars are suggested, and the reviewer believes ornithologists should try to use them.

The second part of this book, an appendix of 71 pages, is a summation of Mexican bird-life, with brief descriptions and clues to field identification, all especially useful now because no other guide is available. For the "tough" families, like the hummers, flycatchers, and finches, the appendix concisely reviews the fauna so that the student can meet the challenge of each family a little more optimistically. Although the title states that *all* "Mexican" birds are mentioned, at least the following are omitted: *Pipilo rutilus*, *Xenospiza baileyi*, *Aechmolophus mexicanus*, and *Amaurospiza relicta*. And of these, the first three are probably not so rare or so restricted in distribution as first thought to be. Sutton *does* list other poorly known species, such as *Neochloe brevipennis*. Certainly the omitted four ought to be included in the appendix if one bothers to mention, as Sutton does, *Vireo bairdi* from Cozumel Island or *Mimodes graysoni* from Socorro Island. Any traveller-ornithologist is less likely to go to some of these islands than to the heart of the mainland, where he stands a chance of meeting *Xenospiza* or *Aechmolophus*.

In the appendix, various problems of distribution and taxonomy are reflected from the

sources, such as Ridgway and Hellmayr, on which the author has relied, and he ventures opinions here and there which point up interesting problems. In the jays, I agree with his comments on *Psilorhinus*, but not with those on *Cissilopha*, in which the species *sambasiana* and *beecheii* occur together in Nayarit, a fact evidently not known to Sutton. To some extent Sutton has slighted, unintentionally I think, the southern part of Mexico, about whose geography his text is vague. He gives the impression that the term Mexican plateau applies to all highland Mexico west of the Isthmus of Tehuantepec. At any rate, *Atlapetes pileatus* is said to be "restricted to the Mexican plateau" (page 57), whereas it occurs in the Sierra Madre del Sur, south of the Mexican plateau proper, in Oaxaca and Guerrero. Both the Scrub and Mexican jays are said to occur "throughout most of the plateau" (page 232), whereas the former also occurs farther south, in the Sierra Madre del Sur.

Like the small boy saving a bit of decorative cake frosting till last, I come to the illustrations. These are superb. The color plates are well reproduced and display the high level of Sutton's ability and versatility. The pen-and-ink sketches catch the spirit of the living bird remarkably well. They have an ease and simplicity of line that indicates Sutton's first-hand, competent acquaintance with birds as subjects. The confidence shown by his drawings is fully justified.—Frank A. Pitelka.

THE DEVELOPMENT OF ORNITHOLOGY. FROM ARISTOTLE TO THE PRESENT. (DIE ENTWICKLUNG DER ORNITHOLOGIE. VON ARISTOTELES ZUM GEGENWART.) By Erwin Stresemann. F. W. Peters, Berlin W15, 1951: xiv + 431 pp., 15 plates. 32 DM.

For many years Dr. Stresemann has contributed articles to journals in his own and other countries on the history of ornithology. Now he presents the fruits of his extensive studies in an impressive and scholarly volume.

The first section of the book deals with the period from the foundations of ornithology to the seventeenth century, the second and longest section with the development of systematics and the study of evolution, and the final section with the development of bird biology.

Aristotle raised bird study to the level of a science; for two thousand years he remained the chief authority. No significant new contribution was made until the thirteenth century when Frederick II of Hohenstaufen composed his remarkable "Art of Falconry," which, to the great loss of ornithology, remained unknown due to the hostility of the Church. Albertus Magnus, in the Middle Ages, and Gesner, in the Renaissance, transcribed the information of their predecessors from the Ancients down; both possessed the spirit of inquiry and omitted or questioned much that was fabulous.

At first biology and systematics traveled together; from the time of Aristotle ornithologists had tried to classify birds according to biological characters and thus they learned much about ecology and habits. This system, however, became increasingly unsatisfactory, especially because of the exotic species that were being discovered. In 1676, Willughby and Ray presented their system based, not on function, but on form, namely, structure of bill and feet and size of body. The history of many schemes of classification from that time to the present is traced in fourteen chapters with much attention given to explorations and amassing of collections, special chapters being devoted to Levaillant, Temminck, Bonaparte, and Finsch. The profound effect of Darwin's "Origin of Species" is described. There is an outline of the history of trinomial nomenclature as it was instituted by Schlegel, adopted by the American Ornithologists' Union in 1885

through the influence of Baird, Ridgway, J. A. Allen, and Coues, then reintroduced into Europe, despite opposition, by Hartert.

Attention is drawn to two little known eighteenth-century pioneer students of the living bird, Pernau and Zorn. Both were teleologists, but teleology had given rise to more advances in knowledge than the causal school, because chemistry and physiology were largely undeveloped. It was Darwin who was able to reconcile Aristotelian teleology and mechanism; instincts were as important as bodily form and depended on inherited modification of the brain; inherited variation and selection brought about fitness. During the nineteenth century field study advanced, then stagnated again. The last chapter deals with present day research: the study of migration and populations with the aid of banding; study of life history and behavior with color banding; experiments on orientation and homing; laboratory experiments on physiology, metabolism, and the migratory impulse; ecological investigations and the researches in behavior of Lorenz. Systematists and geneticists are now occupying themselves with biological problems.

Dr. Stresemann has presented a vast amount of information, most interestingly written with quotations from works of the writers' and vivid characterizations of the different men. His book is far more than a narrative; the quality of an individual's work and its influence are appraised and the various philosophical points of view described. There are six pages of selected bibliography, thirty-five pages of appendix containing 126 notes, indices of subjects and persons, and fifteen well-chosen photographs.

This is a masterly work, an illuminating history of our science; it gives a background to present day students and an appreciation of the problems that confronted our predecessors. It will serve as an incentive to be worthy of our heritage, an inspiration to a keen and dedicated search for truth.—Margaret M. Nice.

CRIP, COME HOME. By Ruth Thomas. Harper & Brothers, New York, 1952: 5¼ × 7½ in., 175 pp., 1 plate. \$2.50.

This charming book is based on the most comprehensive study that has been made of the behavior of the Brown Thrasher (*Toxostoma rufum*). It contains much material not known previous to Mrs. Thomas' observations of color-banded individuals that returned to her home for many successive years. Written in part in diary form, it has warmth, pathos, and beauty. The reader glimpses the members of the household, the wildlings and domestic creatures, and the environment of a hill-top country home in Arkansas.

The narrative centers around Crip, the first Brown Thrasher the author banded in April 1937, and then watched through ten summers and four winters. For the first three seasons he returned with the same mate. In his fourth summer, he suffered a broken wing which healed in an abnormal position. Although he escaped predators and eventually regained awkward flight, he did not migrate the following two autumns (1940, 1941). He migrated in October of 1942 and 1943, returning in March. But he spent the winters of the next two years (1944, 1945) at the Thomas home, disappearing finally in October, 1946.

In addition to the detailed story of this remarkable bird, other Brown Thrashers that lived as neighbors or mates of Crip make pertinent bird history. Red, another male, lived on Crip's Hill five seasons; Greta also lived there five seasons, the first two as Crip's mate and the other three as Red's mate. In late summer, after nesting, she became a pre-migration companion of Crip in the latter years. Of particular interest is the final

Mrs. Crip who was his mate in 1944, 1945, and 1946. She was a late arrival each spring. In 1945 and 1946, Crip had already won a mate and was busy with nest-building when Mrs. Crip came from the south. In both years, she drove off the newcomer and resumed her place as Crip's mate on the old nesting territory. In 1945, she laid her eggs in the completed nest of the vanquished female.

Details of Brown Thrasher territorial and mating behavior, care of the young, severance of the pair bond in summer or early autumn, and arrival and departure dates are given.

Types of song are described including the introduction by Crip of songs of other species into his repertory, and the singing of the female. Also described is a territory-boundary-line maneuver or dance like that of the Mockingbird, the wing-lifting display of juveniles, and the wing-lifting of adults at sight of a dead snake.

The book may be read for enjoyment of a beautiful piece of nature writing, then used for study or reference. The frontispiece is a photograph of Crip; end papers show sketches of Crip's Hill.—Amelia R. Laskey.

AN ANALYSIS OF THE DISTRIBUTION OF THE BIRDS OF CALIFORNIA. By Alden H. Miller. University of California Publications in Zoology, Vol. 50, No. 6, University of California Press, Berkeley and Los Angeles, 1951: 6¾ × 10¼ in., pp. 531-644, plates 32-40, 5 figs. in text. \$1.50.

The birds of California have been studied intensively over a period of several decades with a wealth of data having accumulated. The last summary of the distribution of the species geographically within the state was presented in 1944 by Grinnell and Miller (*Pacific Coast Avifauna*, No. 27:1-608). At that time it was projected that some generalizations and analyses arising from the work should be included. This, however, did not prove to be practicable. They appear at long last in the present publication. Incidentally, since the two are companion volumes, the names, both vernacular and scientific, are, with few exceptions, the same. A synopsis of the few changes in taxonomy and distribution is given in an appendix of the present work.

With respect to certain difficulties encountered in an effort to develop broad distributional principles, the author comments (p. 531) that "we are unable to resolve distributional patterns into a neat system comparable to the periodic table of chemistry, the chromosome map of genetics, or even the imperfect phyletic taxonomy of the systematist. There is no single sequential organization of distributional data. We are confronted with the end results of an array of delicate and complicated equilibria, in which the spatial balance of each species is a phenomenon peculiar to itself because of heritable differences interacting with the influences of many other species and of inorganic factors." The three general plans for handling distributional information on the terrestrial animals in North America are the life zone, biome, and biotic province systems. An evaluation is given of each of these and their applicability to California birds is considered at length. As a result some modifications of the plans are suggested and some coordination effected.

As pertains to life zones, 260 species are tabulated, being placed in the one or more zones where they are known to occur. Comparisons between the avifauna of the various adjoining zones are made on several bases. It is concluded that "for purposes of showing zonal relations and importance in California we may justifiably group the three cool zones (Canadian, Hudsonian, and Alpine-Arctic) as subzones of an inclusive Boreal Zone, as has frequently been done, but heretofore without well-defined basis." A major division occurs in California between the Upper Sonoran and Transition zones.

In classifying and describing avian distribution in terms of ecological formations there is the problem of the degree to which subdivisions would be useful. Miller has selected 21 situations which are intermediate between the broad plant formations or biomes and the plant associations. His selections are based more on the life form of the plant cover or physical aspects of rock and aquatic habitats than on succession. The characteristics of each formation and its zonal and geographical distribution in the state are given and those birds known to occur in each formation are listed. Based on known conditions of their summer habitat 274 species are so classified ecologically. Since most occur in more than one ecologic formation, all these formations that a particular bird is known to occur in are indicated by abbreviations of the name of the formation. Furthermore a superior number is used to show whether the affinity to the particular formation is of first, secondary, or lesser importance. The ratings are "based on the greatest concentrations of the species and on the provision of the most critical and limiting factor from the standpoint of existence of the bird concerned." The author fully realizes the subjective nature of the ratings and the lack of precise equivalence and comments that in the earlier book (Grinnell and Miller, *op. cit.*) the true picture of ecologic occurrence is given individually by species in the description of habitat. Miller has devised a relationship score to show something of the affinity of one formation to another with respect to their significance to birds. These are tabulated and expressed graphically as well as discussed. Comparisons are made of zones and formations from which Miller concludes that "zonal and formational systems are partly independent, each expressing a set of distributional facts, one often supplementing the other. For one group of species one appears more adequate than the other and for another group the opposite is true. More precision in general is registered by the formational system, partly because it is more finely divided, as here employed, and partly because it reflects climatic factors in addition to temperature; but its greater utility is not universally true. If, as contended, each system has its values and its set of factors to register or emphasize and the two are in a measure supplementary, there is little point in debating which is superior. The important thing is to know the values of each and to avoid improperly magnifying them."

In his discussion of faunal groups, the author refers to an earlier critique of the biotic province concept (Johnson, Bryant, and Miller, *Univ. Calif. Publ. Zool.*, 48, 1948:221-376). The present analysis is based on four major avifaunas "delimited admittedly somewhat arbitrarily, on the basis of strong or repeated association of species which have similar centers of distribution and probably often similar areas of origin." Three (Boreal, Great Basin, and Sonoran) center in areas beyond the state and are intrusive in California. The other, which he terms California, is endemic. Each of these groups contains subfaunas which occupy different areas within the state. The avifaunas of each are described and the species and races occurring in each are listed. The subfaunas are evaluated objectively by determining the actual degree of difference in make-up between them by matching lists of members of the fauna from two areas on a numerical basis. The total count is an index of difference reflecting not only limits of occurrence within boundaries but also the forms that have differentiated within the areas. This objective test of the distinctness of the geographic biotic provinces led to the recognition of different ranks of areal subdivision, so that provinces, districts and areas are units of decreasing importance. A list of species that do not fit into this scheme is attached. It includes chiefly species of marine environments and forms of continental or holarctic distribution.

In his concluding discussion, Miller relates the wealth of data pertaining to California

to the ultimate objective of the study of distribution which is to explain the mechanism of avian evolution. He correlates the zonal and formational ranges with differentiation, weighs the role of historic factors operative in California and discusses the factors of climate and isolation in relation to microevolution. Thus not only is this paper a summary and supplement to the earlier work on the distribution of the birds of California, but it contains a scholarly presentation of the concepts of evolution of birds in the state. Furthermore the data are expressed in an objective form that will allow comparisons with distributional features in other areas when such are similarly summarized.

All those ornithologists who have worked on the birds of California can take pride in this work, for even though it is a rare individual who has the comprehension and skill for such an undertaking, the summary is made possible only by the gradual accumulation of facts of distribution by many individuals over a long period of time. This treatise shows the complexity of the problem of distribution and the value in greater or lesser degree of the several distributional concepts. It would appear that extreme positions such as renouncing life zones are untenable.—William H. Behle.

GRÖNLANDS FUGLE. THE BIRDS OF GREENLAND. Part 3. By Finn Salomonsen. Ejnar Munksgaard, Copenhagen, 1951: 9 × 13 in., pp. 349–608, 15 color plates and numerous black and white sketches by Gitz-Johansen, and a separate map, 15½ × 22½ in., in color. \$42 for the three volumes and map. Decorative bindings obtainable at extra cost from the publisher.

This, the final part of Salomonsen's opus, contains full writeups on seven alcids, one eagle, two falcons, two owls, and ten passerine birds; a systematic list of all Greenland birds (224 numbered forms); an extensive bibliography; and an index of scientific, Danish, Eskimo, and English names. The writeups on the Great Auk (*Pinguinus impennis*), Atlantic Guillemot (*Uria a. aalge*), Short-eared Owl (*Asio f. flammeus*), Fieldfare (*Turdus pilaris*), American Water Pipit (*Anthus spinoletta rubescens*), Meadow Pipit (*A. pratensis*), and White Wagtail (*Motacilla a. alba*) are rather short—evidence that these birds have never been very common on the island. The last four of these actually breed in small numbers, however; *Uria aalge* also breeds very locally; and the Great Auk "possibly bred in mediaeval times." The Short-eared Owl, contrary to popular belief (see A.O.U. Check-List, 1931, p. 171), does not breed; the 33 records for it fall into spring (May-June) and autumn (October-December) groups, just as do records for the two races of Green-winged Teal (*Anas crecca*) and the two golden plovers, *Pluvialis apricaria* and *P. dominica*.

The author's treatment of *Acanthis flammea* is exceptional: although regarding all redpolls as one species he nevertheless presents a full writeup on each of the two subspecies found in Greenland—*Acanthis flammea rostrata* (Greenland Redpoll) and *A. f. hornemanni* (Hornemann's Redpoll). He believes that the "life habits . . . in the breeding season" of these two forms (of all redpolls, for that matter) "are identical." Calling them the same species does not, however, seem to satisfy him completely. He is aware of the fact that in certain other parts of the Arctic the range of the stub-billed, white-rumped form does not strictly complement that of the proportionately longer-billed, streaked-rumped form, and that in these areas the two birds "behave like sympatric species, breeding together in the same locality without interbreeding." Having witnessed this sympatric breeding myself at Churchill, Manitoba, I cannot help believing that the two are full species; that their ecology is not precisely the same; and that behavior differences will come to light as careful field observations continue. Salomonsen's treatment

of the gyrfalcons is quite different from that which he accords the redpolls. Although believing that three "phases" of *Falco rusticolus* inhabit the great island, he nevertheless discusses them all in one major writeup. Whether he considers these "phases" to be actual subspecies is not quite clear; he discusses the dark, gray, and white "phases" as, respectively, the *obsoletus*, *holboelli*, and *candicans* types. The dark and gray phases are southern, "being gradually replaced by the white phase to the north. However they do not form an ordinary cline, but what may be called a trimorph ratio cline."

As in Parts 1 and 2, much space is given details of distribution. Particularly is this true of the alcids. The whereabouts of virtually every Razor-bill (*Alca torda*), Little Auk (*Plotus alle*), Puffin (*Fratercula arctica*), and Brünnich's Guillemot (*Uria lomvia*) colony in Greenland is given, together with careful estimates as to the size of many of the colonies. The Black Guillemot (*Cepphus grylle*) breeds so widely and often in such small colonies that it receives more general treatment. The Razor-bill, we are told, "always joins colonies of other sea-birds, either auks or gulls." In these mixed colonies there usually is no real competition for nest sites because the several species nest in different sorts of places—the Razor-bill in fissures, the Puffin in burrows in turf, the Little Auk among piles of rocks, the gulls on open ledges, etc.; but "on the coast of small islands, in rough talus of large blocks or in crevices in the firm rock, usually near the water's edge," *Alca*, *Plotus*, *Fratercula*, and *Cepphus* all may breed "indiscriminately amongst each other, apparently without competition."

Of interest are the discussions of food habits—the strikingly different ways in which the various alcids bring food in for their young; the Gyrfalcon's virtually exclusive use of lemmings when that mammal is abundant; the Peregrine's (*Falco peregrinus*) method of holding a puffin back-down when feeding, and of leaving the wings (often also the head) untouched and attached to the clean-picked sternum.

It will surprise many readers to learn that young Brünnich's Guillemots, when about three weeks old and still wholly unable to fly, jump "out from the ledge at the call from the parents, which swim in the water below the cliff." Though the ledge may be three hundred feet high, down the young ones go. Usually they strike the water. Some "end the jump on rocks . . . but this does not apparently hurt them."

Regrettably, Salomonsen does not discuss the flightless period adult alcids presumably live through while undergoing their postnuptial molt. Having myself collected flightless Black Guillemots in northern Hudson Bay, I know something about the behavior of that species during this molt. But what of the Little Auk? Does it pass the flightless period in rafts composed of thousands of birds out at sea—or does it, indeed, become flightless at all? Another matter I had hoped to find information on: the behavior of resident birds at high latitudes in the dead of winter. The Black Guillemot, Gyrfalcon, Snowy Owl (*Nyctea scandiaca*), and Raven (*Corvus corax*) are known to winter, at least to some extent, very far north. How do they behave when darkness shuts down? What is their 'daily routine' at this season?

Finally, a word about the color plates. From the standpoint of technique I find them remarkably satisfying. Obviously primitive, they look as if they might have been drawn on the walls of caves. My enthusiasm for them must not be interpreted as professional generosity or mere broadmindedness. Some art critics glory in proclaiming their power to see beauty where the "layman" certainly cannot see it; balance where no weight of any sort seems to exist; "dynamic symmetry" where all one can see is a lot of meaningless shapes. This sort of mumbo-jumbo I abhor. But I do admire any artist with drive and bravery enough to put down unconventional concepts he considers worth recording. Gitz-

Johansen could never have done this long series of drawings without loving Greenland and its birds. With an eye for color and color-contrasts, and with great skill in laying down paint and keeping it fresh, he made these pictures in *Greenland*. As a group, I like them. But comparing them with "average" bird illustrations would be silly. They were not made as charts of birds, *i.e.*, detailed studies on which descriptions could be based. They are not bird portraits in any ordinary sense of the phrase. They are Greenland, seen by a lover of birds through Greenland air.—George Miksch Sutton.

PREDATOR CONTROL IN THE LIGHT OF RECENT WILDLIFE MANAGEMENT CONCEPTS

Control of predators, both avian and mammalian, has long been predicated on the hypothesis that a "good" predator was a dead predator and that each one killed meant the certain survival of additional numbers of the prey species for the everlasting enjoyment of the naturalist or the increased bag of the hunter. This belief dominates the thinking of many—both administrators and ornithologists—and controls the action policy of many state and federal agencies.

Let us examine three specific cases in point:

American mergansers gather in winter on waters providing the best fishing for them, and sometimes these are the best waters for man's fishing as well. Hence, thousands are to be found on the reservoirs of the arid Southwest. Their fish-eating activities on these bodies of water, especially Elephant Butte Reservoir in New Mexico, have caused the state department of conservation to secure federal permits to kill them by the thousands with shot guns fired from motor boats. This legalized slaughter of a species protected elsewhere as game has been justified by brief, unpublished studies of merganser food habits, which leave some doubt as to how conclusive are the data concerning the proportion of game fishes being taken, the ages of these fishes, and the significance of their numbers. With overwhelming evidence accruing on every side showing that most impoundments are teeming with slow-growing, stunted fishes resulting from overcrowding with fish too small to be catchable, the significance of fishes taken by such predators as mergansers, herons, and pelicans is completely changed. Perhaps the productivity of many waters would profit in actual pounds of catchable fish if significant predation on the lower age-classes could be induced. Evidence for this has been shown by George Bennett of the Illinois Natural History Survey (*Trans. 12th. North Amer. Wildl. Conf.*, pp. 276-285). He points out that Reelfoot Lake which has taken from it over 400,000 pounds of fish per year by birds alone also provides an average daily take per fisherman of five pounds, a yield exceeded by few, if any, other lakes in this country.

Perhaps in the future we may learn that to manage for an increase of fish-eating birds by attracting nesting colonies is also the best fish management.

It should further be pointed out that the merganser slaughter on Elephant Butte Reservoir has not accomplished any noticeable reduction in the number of mergansers found there. This means that more birds must be moving in and replacing the thousands killed. It then seems very doubtful that the control is accomplishing the claimed reduction in the numbers of fish eaten. Furthermore, what is the effect on the merganser population of the flyway? Is this lake, teeming with fish, to serve as a permanently baited trap to eliminate mergansers? Or, is this increased harvest more likely to stimulate the reproductive success of the mergansers so that the population may actually increase, or at least keep its present level of numbers?