

ORNITHOLOGICAL LITERATURE¹

THE WHITE-CROWNED SPARROWS (*ZONOTRICHIA LEUCOPHRYS*) OF THE PACIFIC SEABOARD: ENVIRONMENT AND ANNUAL CYCLE. By Barbara D. Blanchard. University of California Publications in Zoölogy, 46, No. 1: 1-178, 20 plates, 30 figures. Nov. 14, 1941. \$2.00.

This is a notable paper, combining in masterly style field observation and laboratory technique, life history study and histological examinations of collected specimens. It is a systematic analysis of the differences in two races of the White-crowned Sparrow which winter together in Berkeley, California, one of them remaining there to nest, the other migrating to Puget Sound in March. Five years were spent in observation at Berkeley and one nesting season, besides one winter visit, at Friday Harbor, Washington; in both localities nesting birds were color-banded.

As to morphological differences, the northern race (*Z.l.pugetensis*) is lighter in color with "lighter weight, perhaps reflecting smaller body size, but not reflected in the dimensions of the appendages" (p. 10). In comparing winter males, 43 *pugetensis* averaged 26.6 grams and 17 *Z.l.nuttalli* 29.1 grams. The pre-nuptial molt is much more extensive in *pugetensis* than in *nuttalli*, so that "first-year Puget Sound sparrows breed in fully adult plumage, whereas first-year Nuttall sparrows breed in wholly or partially immature plumage."

The nesting cycle of the Nuttall Sparrow is divided into four chief periods: the base level (fall and winter); the rising tide of territorial and sexual instincts; reproductive; subsidence (at the time of the molt). The pair stay on their territory throughout the year, tolerating strangers, but in January the male drives out others with song and pursuit. Nesting starts in March or April, the female builds and incubates, the male helps feed; young are cared for until they are 32 to 35 days old. Sometimes three broods are fledged within 6.3 months.

Reproduction is similar with the Puget Sound Sparrow, but less leisurely; young are cared for only 25-28 days, three broods being attempted in four months.

More than half the volume is devoted to a detailed study of the gonad cycle of the two races. Although these birds are exposed throughout the winter to identical conditions of light, temperature, and other factors, the gonads of the residents reach 5 mm³ in early January and full size (135 mm³) in March; while those of the winter residents reach only 4-5 mm³ (stage 4 or 5) at this date. Dr. Blanchard finds that "temperature is the most important single factor lying at the ultimate source of annual variations of the gonad cycle" (p. 74). She divides the time of increase of the gonads into three periods: I—prior to Dec. 21; II—Dec. 21 to time of attainment of stage 5 (4 to 9 weeks); III—from stage 5 to the first eggs (7 to 8 weeks). There was no correlation with temperature in Period I; high correlation in Period II, but low correlation with precipitation and sunshine; while in Period III correlation with all factors was low. She criticizes the drawing of sweeping conclusions from experiments based on subjecting captive birds to conditions of abnormal lighting. "In fact it seems to me extremely doubtful whether the abundant means which have been discovered for upsetting the physiological balance of captive birds should be accepted as possessing any bearing whatever on the factors which control the cycle under natural conditions" (p. 76).

There is a wealth of valuable material in this volume on territory, relations of mates to each other and their neighbors, flock, and behavior, as well as the physiological and histological research. It is a brilliant piece of work and deserves wide circulation and careful study.—M. M. Nice.

ATTWATER'S PRAIRIE CHICKEN, ITS LIFE HISTORY AND MANAGEMENT. By Valgene W. Lehmann. North American Fauna 57, 1941. v + 65 pp., 14 plates, 4 text figures. \$0.40 (paper), of Superintendent of Documents, Washington, D.C.

Within the last 100 years, the range of the Attwater's Prairie Chicken in Texas

¹ For additional reviews see pages 16 and 24.

has been reduced more than 93 per cent, their numbers an estimated 99 per cent. The process was about as follows: "Development of the coastal territory, as farming, grazing, and the exploiting of oil, crowded prairie chickens into ever smaller areas, where they were more easily found and killed [by hunters]." (p. 44).

Lehmann has done his best work in evaluating the influences of, and devising remedies for, the environmental factors which depress Prairie Chicken populations. The straight life-history material does not quite measure up to this standard of excellence. He has described courtship and mating, nesting; growth, development, and mortality of young; brood size and disintegration; flocking and seasonal movements; and foods. Some of this—nesting and food habits—seems plainly to be based on too little data; at other points—as brooding of young, movements—one cannot be sure of the extent of the supporting data. "Annual increase" is discussed, but is not related to replacement of annual losses. More use might have been made of the literature on the other subspecies, and on closely related species.

These are minor criticisms and would not apply were this not, presumably, a completed study.

The discussion of environmental relationships is packed with sound life-history and ecological material (perhaps there is a parallel here with the best of "functional" architecture). One section is devoted to habitat requirements: "Optimum prairie chicken range apparently consists of well-drained grassland, with some weeds or shrubs, the cover varying in density from light to heavy; and with surface water available in summer; diversification within the grassland type is essential." (ii.) Another treats of limiting factors, both natural (rainfall, drought, spread of woody vegetation, predation, etc.) and artificial (agriculture, burning, over-grazing, hunting, etc.). One of the most important of the natural limiting factors is rainfall in May: while rain cannot be regulated by man, he can take account of it in setting the times and places of hunting seasons. In the main, the man-made limiting factors have done far more damage than the natural.

The final section, on management, shows what environmental manipulations are needed and in what seasons they are effective. These recommendations, wisely, are of two orders of intensity: a set of procedures for those interested in moderate improvement of the habitat, and another for those who wish to go still farther. He has made it plain that the welfare of Prairie Chickens depends on the land-owner, and further believes that large Federal or State refuges are absolutely essential.

The current catch-word "too little and too late" could fairly be applied to the attempts to save the Heath Hen. Because of a host of conflicting interests, too little was ever done; when really serious work was begun, it was begun too late. It remains to be seen whether the Attwater's Prairie Chicken, sometimes called the Heath Hen of the South, will fare better. Lehmann's work is a major step in the development of methods, and a timely one.—F. N. Hamerstrom, Jr.

SHORT PAPERS

- ALLEN, DURWARD L. A Method for Recording Place Locations in the Field. *Jour. Mammalogy*, 22, No. 4, Nov., 1941: 454-6.
- AUSTIN, O. L., M.D. Status of the Cape Cod Terns in 1941 from the Standpoint of Conservation. *Bull. Mass. Aud. Soc.*, 25, No. 8, Dec., 1941: 175-182, illus.
- BARBOUR, ROGER W. Winter Habits of the Red-eyed Towhee in Eastern Kentucky. *Amer. Midl. Nat.*, 26, No. 3, Nov., 1941: 593-5.
- BARTHOLOMEW, GEORGE A., JR. The Fishing Activities of Double-crested Cormorants on San Francisco Bay. *Condor*, 44, No. 1, Jan., 1942: 13-21, fig. 7.
- BAUMGARTNER, F. M. An Analysis of Waterfowl Hunting at Lake Carl Blackwell, Payne County, Oklahoma, for 1940. *J. Wildlife Management*, 6, No. 1, Jan., 1942: 83-91.
- BEALS, MARIE V. and J. T. NICHOLS. Further Data from the Elmhurst, Long Island, Bird-Banding Station, *Birds of Long Island*, No. 4, Dec., 1941: 88-114.

- BEER, JAMES and WAYNE TIDYMAN. The Substitution of Hard Seeds for Grit. *J. Wildlife Management*, 6, No. 1, Jan., 1942: 70-82. (By Crow and 9 species of gallinaceous birds).
- BENNETT, WALTER W. Walter Melvin Rosene—Naturalist 1880-1941. *Iowa Bird Life*, 11, Dec., 1941: 62-66, 2 photos.
- BLANCHARD, BARBARA. Migration in Pacific Coast White-crowned Sparrows. *Auk*, 59, No. 1, Jan., 1942: 47-63.
- BROOKS, ALLAN. Additions to the Distributional List of the Birds of British Columbia. *Condor*, 44, No. 1, Jan., 1942: 33-34.
- BROOKS, MAURICE. Recent West Virginia Bird Notes. *Cardinal*, 5, No. 7, Jan., 1942: 161-4.
- BROOKS, MAURICE and WILLIAM C. LEGG. Swainson's Warbler in Nicholas County, West Virginia. *Auk*, 59, No. 1, Jan., 1942: 76-86.
- COOKE, MAY T. Returns from Banded Birds: Some Longevity Records of Wild Birds. *Bird Banding*, 13, No. 1, Jan., 1942: 34-37 (to be cont'd).
- CHRISTY, B. H. The Great Blue Heron at Pymatuning. *Cardinal*, 5, No. 7, Jan., 1942: 167-9, 1 pl.
- CRUTENDEN, JOHN R. Additional Nesting Data on the Birds of Churchill. *Oologist*, 58, No. 6, June, 1941: 62-64.
- DALE, FRED H. Influence of Rainfall and Soil on Hungarian Partridge and Pheasants in Southeastern Michigan. *J. Wildlife Management*, 6, No. 1, Jan., 1942: 17-18.
- DAVIS, DAVID E. The Number of Eggs Laid by Cowbirds. *Condor*, 44, No. 1, Jan., 1942: 10-12.
- DE SCHAUENSEE, R. M. Rare and Extinct Birds in the Collections of the Academy of Natural Sciences of Philadelphia. *Proc. Acad. Nat. Sci. Phila.*, 93, 1941: 281-324.
- DICKEY, SAM S. Further Notes on the White-eyed Vireo. *Cardinal*, 5, No. 7, Jan., 1942: 164-7, 1 pl.
- DOWNES, THEODORE and JOHN BREUKELMAN. Birds of Lyon County and Vicinity. *Trans. Kans. Acad. Sci.*, 44, 1941(1942): 389-99. (Kansas).
- DUNSHEATE, M. H. and C. C. DONCASTER. Some Observations on Roosting Birds. *Brit. Birds*, 35, No. 7, Dec., 1941: 138-48, 3 photos. (Treats 9 species).
- FISCHER, RICHARD B. The Insect Net as a Tool of the Bird Bander. *Bird Banding*, 13, No. 1, Jan., 1942: 31-33.
- FISHER, HARVEY I. The Pterylosis of the Andean Condor. *Condor*, 44, No. 1, Jan., 1942: 30-32.
- FISHER, JAMES and GEORGE WATERSTON. The Breeding Distribution, History and Population of the Fulmar (*Fulmarus glacialis*) in the British Isles. *J. Animal Ecol.*, 10, No. 2, Nov., 1941: 204-272, pls. 4-8.
- GREY, JOHN H., JR. The Breeding Birds of Pea Island, *Chat*, 5, No. 4, Sept., 1941: 50-4. (North Carolina).
- GRIMM, WILLIAM C. Water-fowl in Washington County. *Cardinal*, 5, No. 7, Jan., 1942: 157-8. (Pennsylvania).
- GRISCOM, LUDLOW. The Barn Owls of Marthas Vineyard. *Bull. Mass. Aud. Soc.*, 25, No. 9, Jan., 1942: 191-96, illus.
- HESSELSCHWERDT, ROBERT E. Use of Den Boxes in Wildlife Restoration on Intensively Farmed Areas. *J. Wildlife Management*, 6, No. 1, Jan., 1942: 31-37, pls. 1-4. (Illinois).
- HOPKINS, G. H. E. The Mallophaga as an Aid to the Classification of Birds. *Ibis*, 1942, Jan: 94-106.
- HUBBARD, DOUGLASS H. Sparrow Hawk Preys on Cottontail. *Jour. Mammalogy*, 22, No. 4, Nov., 1941: 454. (Texas).
- JACKSON, BETTY. Birds of Montezuma Castle. *Nat. Park Service, Spec. Rept. No.* 28, Nov., 1941. 20 pp. (mimeo.). (Montezuma Castle Nat. Monument, Ariz.).
- JENNINGS, DOLF. Fall Food Habits of the Bobwhite Quail in Eastern Kansas. *Trans. Kans. Acad. Sci.*, 44, 1941 (1942): 420-26.

- JENNINGS, DOLF. The Food of Twenty-two Mourning Doves Taken During the 1940 Hunting Season. *Trans. Kans. Acad. Sci.*, 44, 1941 (1942): 427-8.
- JONES, STERLING P. The European Tree Sparrow [Part II is a list of birds of St. Louis region]. (16 pp.) Publ. by St. Louis Bird Club. (\$.10 postpaid of Mrs. H. R. Grummann, Sec., 7330 Dorset, University City, Mo.).
- KENDEIGH, S. CHARLES. Analysis of Losses in the Nesting of Birds. *J. Wildlife Management*, 6, No. 1, Jan., 1942: 19-26.
- KUERZI, RICHARD G. Life History Studies of the Tree Swallow. *Proc. Linn. Soc. N. Y.*, No. 52-53, Dec., 1941: 1-52.
- LAFFOON, JEAN. Late Fall and Winter Bird Records, 1938 to 1941, in the Sioux City Area. *Iowa Acad. Sci.*, 48, 1941: 425-436.
- LASKEY, AMELIA R. An Instance of Mockingbird Bigamy. *Migrant*, 12, No. 4, Dec., 1941: 65-7.
- LASKEY, AMELIA R. Brown Thrasher Defense of the Nest. *Migrant*, 12, No. 4, Dec., 1941: 70.
- LUDWIG, FREDERICK E. Migration of Caspian Terns Banded in the Great Lakes Area. *Bird Banding*, 13, No. 1, Jan., 1942: 1-9, map.
- MCCLURE, H. ELLIOTT. Mourning Dove Production in Southwestern Iowa. *Auk*, 59, No. 1, Jan., 1942: 64-75.
- MCILHENNY, E. A. Results of 1940 Bird Banding at Avery Island, Louisiana, with Special Account of a New Method. *Bird Banding*, 13, No. 1, Jan., 1942: 19-28.
- MCKEEVER, CHRISTOPHER K. Distribution and Habitat Selection of Some Local Birds. *Proc. Linn. Soc. N. Y.*, No. 52-53, 1941: 84-112. (Valuable notes on Pied-billed Grebe, Blue-winged Teal, Wood Duck, Florida Gallinule, Barn Owl, Prairie Horned Lark, Carolina Wren, Hermit Thrush, Black-throated Blue Warbler, Louisiana Water-thrush, Chat, Canada Warbler, Bobolink, Orchard Oriole, and Cardinal in New York City region).
- MARSHALL, WILLIAM H. and LYNDON J. LEATHAM. Birds of Great Salt Lake Islands. *Auk*, 59, No. 1, Jan., 1942: 35-45, map.
- MARTIN, PATRICK W. Notes on Some Pelagic Birds of the Coast of British Columbia. *Condor*, 44, No. 1, Jan., 1942: 27-29, fig. 10.
- MASON, EDWIN A. Relative Abundance and Sex Ratios of Warblers. *Bird Banding*, 13, No. 1, Jan., 1942: 13-18. (Massachusetts).
- MAYR, ERNST. Red-wing Observations of 1940. *Proc. Linn. Soc. N. Y.*, No. 52-53, Dec., 1941: 73-83, figs. 1-2.
- MILLER, LOYE. Some Tagging Experiments with Black-footed Albatrosses. *Condor*, 44, No. 1, Jan., 1942: 3-9, figs. 1-6. (Off southern California).
- MITCHELL, EARL T. An Isolated Ruddy Duck Colony. *Flicker*, 13, Nos. 3 & 4, Dec., 1941: 23-4. (At Minneapolis).
- MONTAGNA, WILLIAM. Failure of Horned Larks to Nest in March. *Bird Banding*, 13, No. 1, Jan., 1942: 29-30.
- MOORE, HILARY B. Notes on the Distribution of Oceanic Birds in the North Atlantic 1937-1941. *Proc. Linn. Soc. N. Y.*, No. 52-53, Dec., 1941: 53-62, figs. 1-5.
- MOORE, ROBERT T. Notes on *Toxostoma curvirostre* of Mexico, with Description of a New Race. *Proc. Biol. Soc. Wash.*, 54, Dec. 8, 1941: 211-216. (*T. c. celsum* subsp. nov. from Chihuahua).
- MUNRO, J. A. Studies of Waterfowl in British Columbia. The Grebes. *Occ. Papers Brit. Columbia Prov. Museum*, No. 3, Dec. 31, 1941. (71 pp., 9 pls.; lithoprint).
- NEFF, JOHNSON A. The Influence of Birds on Local Grasshopper Outbreaks in California. *Trans. 5th N. Amer. Wildlife Conf.*, 1940 (1941): 189-95.
- NESTLER, RALPH B. and WOODROW W. BAILEY. Bobwhite Quail Propagation. *Conservation Bulletin*, 10, (50 pp., 43 figs.) 1941. (\$.10 of Supt. Doc., Wash. D.C.).
- NETHERSOLE-THOMPSON, CAROLINE and DESMOND. Egg-shell Disposal by Birds. *Brit. Birds*, 35, No. 8, Jan., 1942: 162-9, 1 photo. (To be cont'd.).

- NICE, MARGARET MORSE. The Role of Territory in Bird Life. *Amer. Midl. Nat.*, 26, No. 3, Nov., 1941: 441-487.
- PETTINGILL, OLIN S., JR. Bird Walks the Year Around. *Biol. Briefs*, 4, No. 3, Oct. 1941: 18-20, 3 photos.
- REEF, CHARLES B. Minnesota Nesting Record, 1941. *Flicker*, 13, Nos. 3 & 4, Dec., 1941: 27-31.
- SELBY, GERTRUDE P. A Contribution to the Life History of the Prairie Horned Lark on Long Island. *Birds of Long Island*, No. 4, Dec., 1941: 81-88, 111-112.
- SLIPP, JOHN W. and MARTHA R. FLAHAUT. On the Swimming of Great Blue Herons. *Murrelet*, 22, No. 3, Sept.-Dec., 1941: 55-56, photo.
- SMITH, STUART. The Instinctive Nature of Nest Sanitation. *Brit. Birds*, 35, No. 6, Nov., 1941: 120-4.
- STABLER, ROBERT M. and NELSON D. HOY. Measurements of Tarsal Circumferences from Living Raptorial Birds. *Bird Banding*, 13, No. 1, Jan., 1942: 9-12.
- STEVENSON, HENRY M., JR. Summer Residents of the Highlands, North Carolina, Region. *Oriole*, 6, No. 4, Dec., 1941: 41-8.
- STEVENSON, JAMES O. Whooping Cranes in Texas in Summer, *Condor*, 44, No. 1, Jan., 1942: 40-41.
- STILES, BRUCE F. The Northern Cliff Swallow in Western Iowa. *Iowa Bird Life*, 11, Dec., 1941: 58-61.
- STODDARD, HERBERT L. and ED. V. KOMAREK. The Carrying Capacity of South-eastern Quail Lands. *Trans. 6th N. Amer. Wildl. Conf.*, 1941: 148-155.
- STODDARD, HERBERT L. and ED. V. KOMAREK. Predator Control in Southeastern Quail Lands. *Trans. 6th N. Amer. Wildl. Conf.*, 1941: 288-293.
- SUTTON, GEORGE M. Is Sutton's Warbler a Valid Species? *Cardinal*, 5, No. 7, Jan., 1942: 151-154, 2 pls. (Reprints may be obtained from the author).
- SUTTON, GEORGE M. and OLIN S. PETTINGILL, JR. Birds of the Gomez Farias Region, Southwestern Tamaulipas. *Auk*, 59, No. 1, Jan., 1942: 1-34, pls. 1-6 (one colored).
- VAN ROSSEM, A. J. Four New Woodpeckers from the Western United States and Mexico. *Condor*, 44, No. 1, Jan., 1942: 22-26, figs. 8-9. (Two forms of *Centurus uropygialis* and two of *Dryobates scalaris* from the Southwest).
- VAN ROSSEM, A. J. A Western Race of the Tooth-billed Tanager. *Auk*, 59, No. 1, Jan., 1942: 87-89. (*Piranga flava zimmeri* subsp. nov. from southern Sonora, north to Ariz.).
- WALKINSHAW, L. H. A List of the Birds Which Have Been Observed on the Bernard W. Baker Sanctuary Area. *Jack-Pine Warbler*, 19, No. 4, Oct., 1941: 106-128. (Calhoun Co., Mich.).
- WARD, JUSTUS C., MALCOLM MARTIN, and WARREN ALLRED. The Susceptibility of Sage Grouse to Strychnine. *J. Wildlife Management*, 6, No. 1, Jan., 1942: 55-57.
- WETMORE, A. New Forms of Birds from Mexico and Colombia. *Proc. Biol. Soc. Wash.*, 54, Dec. 8, 1941: 203-210. (Mexican forms are: *Oreopeleia lawrencii carrikeri* and *Pampa pampa excellens* subsp. nov. from Veracruz).
- WETMORE, A. Notes on the Birds of North Carolina. *Proc. U. S. Nat. Mus.*, 90, 1941: 483-530. (Many notes on taxonomy and distribution; description of *Dryobates borealis hylonomus* subsp. nov. from 7 mi. SW. of Kissimmee, Fla.)
- WHEELER, C. M., JR., J. R. DOUGLAS, and F. C. EVANS. The Role of the Burrowing Owl and the Sticktight Flea in the Spread of Plague. *Science*, 94, Dec. 12, 1941: 560-1.
- YOUNG, CHARLES G. "Duetting" in Birds. *Ibis*, 1942, Jan. :110-111.