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LARK BUNTING NESTING COLONY, SHAWNEE COUNTY, 1964

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Tordoff (1956) and Johnston (1960) both list the Lark Bunting (*Calamospiza melanocorys* Stejneger) as a rare transient in eastern Kansas, and Tordoff notes (without accompanying data) one nesting record from Franklin County. It appears of interest, therefore, to record the following notes concerning a nesting colony of Lark Buntings located in the northwest corner of Shawnee County during the summer of 1964.

On June 11, 1964 I saw an adult male Lark Bunting as it flew to a fence along the Maple Hill-St. Marys county road at a point $3\frac{1}{2}$ miles southeast of St. Marys. Being pressed for time I was unable to check the area for additional birds, but reported the observation to L. B. Carson the following day.

It was not until June 26 that Carson and T. W. Nelson found occasion to check the described area. On that date they saw several male and female Lark Buntings in an alfalfa field perhaps $\frac{1}{2}$ mile south of the original observation. The males were singing almost continuously, but Carson and Nelson made no attempt to locate nests.

Nelson and I returned to the site on June 27 to photograph the birds. We saw several females and at least 20 males. Several birds appeared to be paired, and singing males frequently interrupted their flight-song displays to join females in feeding or nuptial chases around the alfalfa fields. Tall weeds (particularly green pigweed, *Amaranthus hybridus*) and telephone wires were favored as resting perches by the males between flight songs. The phrasing of the typical song was noted as follows (each series of four notes being on a different pitch): *skuh-skuh-skuh-skuh*, *skee-skee-skee-skee*, *tee-tee-tee-tee*, *twur-twur-twur-twur*, *zee-zee-zee-zee*, etc. The singing bird normally flew upward rather rapidly in a curve approaching 90° , reaching the peak of the flight with the second series of notes, then began descending in a slow, swooping, floating-leaf pattern which carried the performer in easy stages to the next perch. Sometimes the exuberant song was continued uninterrupted at the perch, and sometimes the ending phrases were altered by individual improvisations.

While watching the activities of these birds we noted that they appeared to favor open areas spotted at random through the alfalfa, such as those around badger holes or pocket gopher mounds or short, grassy patches (occurring where earlier standing water had slowed the growth of other vegetation). After seeing a pair nervously approaching one particular opening on several occasions, Nelson and I began searching for a nest. We found it almost immediately when the female flew from the center of a short clump of alfalfa about 4 feet from the edge of the bare space.

The nest was neatly constructed with the rim about an inch above the surrounding earth and its cup was depressed slightly below the ground elevation. The basic construction was of coarse grasses and weed stems, which appeared to have been somewhat damp and pliable when placed in the structure. The cup, lined with fine grasses and rootlets, contained five pale blue eggs. Both the male and the female took turns on the nest, and during midday hours the male was found on the nest more frequently than the female. However, he was more easily flushed, and did not tolerate an approach close enough for photographs. Both birds were quite adept at returning to the nest unnoticed by a circuitous approach through the cover of surrounding alfalfa.

On June 29, another female was observed gathering nesting material along the roadside and on July 3, Carson, Nelson and I watched several males and females

carrying food in one of the alfalfa fields, but no additional nests were found. I watched one of the males with a large caterpillar in his beak from a distance of approximately 50 yards, and although I remained motionless for 45 minutes, he did not leave his perch to approach the nest. However, unlike most passerine birds under stress conditions, he did not consume the food himself. He just sat patiently waiting, and it was I who finally yielded to the contest. On July 11 Carson saw a fledgling being fed on the ground where a part of the alfalfa had been cut. On that date most of the adults seen in the area were carrying food. The nest discovered on June 27 was checked again and when we found that the eggs were missing, we collected the remaining structure.

On July 23, I visited the area again and found that the property owners had completed the cutting of the alfalfa and were in the process of raking and baling the hay. Flocks of Lark Buntings, including several fledglings, were feeding in the stubble with Upland Plovers, Killdeers, Cowbirds, Grasshopper Sparrows, and Meadowlarks. This was my last visit to the site.

There were doubtless several nests exposed or destroyed while the alfalfa was being harvested, but the several fledglings seen would indicate a fair nesting success.

We can only speculate as to the conditions which resulted in the selection of this Shawnee County site for nesting. Other reports of Lark Buntings seen in eastern Kansas, eastern Nebraska, and Missouri during the spring of 1964 suggest a general eastward shift in the migration, perhaps resulting from prevailing winds or other meteorological conditions during the critical period. The alfalfa fields in the nesting area had been partially submerged during locally heavy rains in May and the ponding of water in scattered areas apparently held back the growth of normal vegetation. Grasses which followed the drying of these low areas acted as open spaces in the surrounding alfalfa and, together with the badger diggings and pocket gopher mounds, perhaps simulated short grass prairie conditions suitable to the requirements of Lark Buntings. It is doubtful that such a coincidence of favorable conditions will occur again in the near future.

LITERATURE CITED

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Topeka, Kansas, November 28, 1964.

MID-WINTER BIRD COUNT FOR 1964

JAMES D. RISING

Twenty-one midwinter bird censuses were taken by members of the Kansas Ornithological Society between December 20 and January 3; 207,621 individuals of 103 species were reported from the state (excluding the Kansas City, Mo.-Kan. count). The counts show certain trends in distribution. For example, no Red-breasted Nuthatches or Red Crossbills were reported from the state this year, and only one flock of Cedar Waxwings (Clay Center) was reported. Native sparrows were uniformly seen in unusually low numbers. Some of the more unusual birds reported were: White Pelican (Manhattan), White-fronted Goose (Quivira Refuge), Blue-winged Teal (Holton), Pileated Woodpecker (Ellis Co.), Townsend Solitaire (Baldwin and Manhattan), Vesper Sparrow (Topeka), Smith Longspur (Topeka), and Chestnut-collared Longspur (Quivira Refuge). The Oldsquaw, Goshawk, and Pine Warbler were seen at Kansas City.

Two counts (Labette and Neosho cos., and Strong City) have been excluded from the official table this year because they were less than eight hours in duration. Their finds are, however, included in the table in the column giving the total individuals for each species. The Kansas City, Mo.-Kan. count has been excluded from the table because many sightings made in Missouri are reported therein. These three censuses are summarized beneath the locality résumés.

Baldwin (same as previous years). December 28; 8½ hours (7:30 a.m. to 5:00 p.m.); open grassland 15%, cultivated fields 15%, brush 35%, woodland 30%, lake or

river 5%; temperature 40°F.; clear in a.m., cloudy in p.m., wind SW 12 mph., no snow cover, lakes mostly frozen; miles: 148 by car, 11 by foot; 11 observers: Mr. and Mrs. I. L. Boyd, Roger Boyd, Marian Constantinescu, Charles Ford, Mrs. R. G. Garrett, Nancy Hay, Katherine Kelly, Mrs. Marno McKaughan, R. F. Miller, Vernon Wilson, Amelia J. Betts (compiler). Additional species seen during count period: Winter Wren.

Barton Co. (Arkansas River and Cheyenne Bottoms Refuge). January 1; 9 hours (8:00 a.m. to 6:00 p.m.); open grassland 5%, cultivated fields 30%, brush 35%, woodland 20%, lake or river 10%; temperature 40°F.; cloudy, wind NE 15 mph., no snow cover; miles: 50 by car, 5 by foot; 2 observers: Marvin Schwilling, Larry Nossaman (compiler).

Clay Center (same as previous years). January 2; 8 hours; temperature 21 to 35°F.; clear, wind N 7 mph.; miles: 80 by car, 4½ by foot; 2 observers: Carol Anderson, Ted Anderson (compiler).

West Coffey Co. (15 mi. circle, center 3 mi. N and E Hartford). December 20; 9½ hours (7:30 a.m. to 5:00 p.m.); open grassland 50%, cultivated fields 4%, brush 10%, woodland 35%, lake or river 1%; temperature 12 to 38°F.; cloud cover 20%, wind NE 5 mph., 5% snow cover; miles: 59 by car, 12 by foot; 3 observers: Marc Marcellus, David Parmelee, Edward J. Ryan (compiler).

Ellis Co. (Fort Hays State College campus, Agricultural Experimental Station, Wann Madden Lake, vicinity). December 30; 8 hours (8 a.m. to 5 p.m.); open grassland 30%, cultivated fields 55%, brush 5%, woodlands 8%, lake or river 2%; temperature 14 to 30°F.; cloud cover 0 to 15%, no wind, no snow cover; miles: 30 by car, 5 by foot; 8 observers: Ken Albright, A. E. Swanson, E. K. Schroder, M. E. Rolfs, Jerry Walker, Tony Mollhagen, Gerald Tomanek, Ross Lock (compiler).

Fostoria (vicinity of Fostoria and the Blue River). December 29; 8 hours (9 a.m. to 5 p.m.); open grassland 55%, cultivated fields 13%, brush 25%, woodland 5%, lake or river 2%; temperature 28°F.; cloud cover 100%, wind NW 12 mph., no snow cover; miles: 55 by car, 4 by foot; 6 observers: Dan Hunt, Iva Eisenbach, Louise Latschar, Eunice Webster and Mabel Willes (co-compilers).

Halstead (15 mi. circle, center 3½ mi. NE Halstead). December 26; 8½ hours (7:30 a.m. to 5:30 p.m.); open grassland 10%, cultivated fields 14%, hedges 16%, woodland 22%, river 38%; temperature 16°F.; cloud cover 50%, wind N 16 mph., 2% snow cover; miles: 141 by car, 12 by foot; 9 observers: Roy Auernheimer, Ronnie Auernheimer, Joan Challans, Kent Challender, Addie Remp, Elsie Remp, Ruth Rose, Alma and Edna Ruth (co-compilers). Additional species seen during count period: Red-winged Blackbird.

Holton (15 mi. circle, center courthouse square). December 28; 8 hours (8 a.m. to 5 p.m.); open grassland 10%, cultivated fields 15%, brush 25%, woodland 25%, lake or river 25%; temperature 38°F.; cloud cover 25%, wind SE 15 mph., no snow cover; miles: 50 by car, 5 by foot; 2 observers: Roy McKinsey, D. Eugene Enos (compiler).

Junction City (15 mi. circle, center SW Junction City). December 27; 11 hours (7 a.m. to 6 p.m.); grassland 50%, evergreen woods 15%, deciduous woods 15%, brush 10%, streams and rivers 5%; temperature 22 to 26°F.; heavy to light cloud cover, wind SE 10 to 20 mph.; miles: 235 by car, 12 by foot; 5 observers: Bob LaShelle, Phil Marvin, Tom Shane, Mrs. Ralph White, John LaShelle (compiler). Additional species seen during count period: Canada Goose, Lesser Scaup, Common Merganser, Sharp-shinned Hawk, Cooper Hawk, Golden Eagle, Mourning Dove, Great Horned Owl, Short-eared Owl, Red-headed Woodpecker, Red-breasted Nuthatch.

Kingman Co. (Kingman County Game Management Area). December 30; 9 hours (7:30 a.m. to 5:30 p.m.); open grassland 60%, cultivated fields 2%, brush 8%, woodland 10%, lake or river 20%; temperature 50°F.; cloud cover 99%, wind S 5 mph., no snow cover; miles: 37 by car, 6 by foot; 4 observers: Joe Burkett, John Boyer, Danny Walker, Byron Walker (compiler). Additional species seen during count period: Bald Eagle, Cooper Hawk, Herring Gull, Eastern Bluebird, Golden-crowned Kinglet, Lincoln Sparrow, Lapland Longspur.

Labette and Neosho cos. (15 mi. S Parsons and St. Paul Refuge). December 31; 5 hours (9 a.m. to 2 p.m.); open grassland 30%, cultivated fields 40%, brush 10%,

woodland 10%, lake or river 10%; temperature 35°F.; cloud cover 50%, wind N 5 mph., no snow cover; miles: 35 by car, 1 by foot; 3 observers: Lucille Blackburn, Duane Monroe, Jr., Fern Monroe (compiler). Species seen: 1,200 Mallard, 1 American Widgeon, 4 Pintail, 1 Shoveler, 5 Red-tailed Hawk, 5 Marsh Hawk, 3 Sparrow Hawk, 40 Mourning Dove, 210 Rock Dove, 6 Yellow-shafted Flicker, 4 Red-bellied Woodpecker, 2 Red-headed Woodpecker, 2 Downy Woodpecker, 190 Horned Lark, 5 Blue Jay, 15 Common Crow, 9 Carolina Chickadee, 14 Tufted Titmouse, 1 Tree Creeper, 3 Mockingbird, 4 Eastern Bluebird, 46 Starling, 126 House Sparrow, 104 Eastern Meadowlark, 16 Cardinal, 29 Slate-colored Junco, 4 Tree Sparrow, 40 Harris Sparrow, 4 Song Sparrow; 2,094 individuals; 29 species.

Lawrence (15 mi. circle, center on US 40 W of Iowa Street). December 27; 10 hours (7 a.m. to 5 p.m.); temperature 14 to 32°F.; cloud cover 33%, wind SW 10 mph., 0.1% snow cover; miles: 80 by car, 7 by foot; 13 observers: George Caldwell, Mr. and Mrs. Bert Chewning, Ann Condit, Ruth Fahl, Martha Fahl, Henry Fitch, Mr. and Mrs. E. R. Hall, Lorelei Johnston, Carol Martin, Ethel Martin, Mrs. John Nelson, Richard F. Johnston (compiler).

Longton (15 mi. circle, center in Longton). January 3; 10 hours (7:30 a.m. to 5:30 p.m.); cultivated fields 15%, brush 10%, woodland 10%, lake or river 10%, open grassland 55%; temperature 32 to 45°F.; no cloud cover, wind N to S, 5 to 10 mph.; miles: 61 by car, 4 by foot; 2 observers: H. L. Albright, Silvia Albright (compiler). Additional species seen during count period: Bewick Wren, Cedar Waxwing, White-throated Sparrow.

Kansas City, Mo.—Kan. (15 mi. circle, center in Argentine).—January 3; warm and clear; 28 observers. Species seen: 5 Pied-billed Grebe, 1 Canada Goose, 10,061 Mallard, 7 Black Duck, 4 Pintail, 3 American Widgeon, 1 Shoveler, 1 Redhead, 3 Lesser Scaup, 35 Common Goldeneye, 4 Bufflehead, 1 Oldsquaw (Wyandotte County Lake), 500 Common Merganser, 1 Goshawk, 2 Sharp-shinned Hawk, 1 Cooper Hawk, 25 Red-tailed Hawk (2 "Harlan"), 1 Red-shouldered Hawk, 2 Rough-legged Hawk, 18 Sparrow Hawk, 49 Bobwhite, 1 Mourning Dove, 2 Screech Owl, 7 Great Horned Owl, 4 Belted Kingfisher, 183 Yellow-shafted Flicker, 3 Red-shafted Flicker, 97 Red-bellied Woodpecker, 5 Red-headed Woodpecker, 8 Yellow-bellied Sapsucker, 26 Hairy Woodpecker, 111 Downy Woodpecker, 85 Horned Lark, 423 Blue Jay, 425 Common Crow, 352 Black-capped Chickadee, 100 Tufted Titmouse, 6 White-breasted Nuthatch, 7 Tree Creeper, 1 Winter Wren, 14 Carolina Wren, 37 Mockingbird, 34 Robin, 53 Eastern Bluebird, 8 Golden-crowned Kinglet, 2 Ruby-crowned Kinglet, 61 Cedar Waxwing, 9 Loggerhead Shrike, 1,797 Starling, 1 Myrtle Warbler, 1 Pine Warbler, 1,240 House Sparrow, 52 Meadowlark sp., 29 Red-winged Blackbird, 1 Common Grackle, 457 Cardinal, 1 Purple Finch, 248 American Goldfinch, 7 Rufous-sided Towhee (3 "spotted"), 531 Slate-colored Junco, 7 Oregon Junco, 247 Tree Sparrow, 63 Harris Sparrow, 14 White-crowned Sparrow, 8 White-throated Sparrow, 6 Fox Sparrow, 27 Lincoln Sparrow, 12 Swamp Sparrow, 110 Song Sparrow, 18 Lapland Longspur; 17,666 individuals; 70 species (includes birds recorded in Missouri).

Manhattan (15 mi. circle, center Kansas State University campus). January 2; 10 hours (7:30 a.m. to 5:30 p.m.); open grassland 35%, cultivated fields 5%, brush 30%, woodland 10%, lake or river 15%, town 5%; temperature 35°F.; 5 to 10% cloud cover, wind NW 5 to 10 mph., no cloud cover; miles: 226 by car, 20 by foot; 22 observers: Mrs. F. Bartow, M. Border, J. Craig, H. Gier, W. Gier, Eugene Lewis, Eulalia Lewis, P. Lewis, J. LaShelle, P. Marvin, G. R. Marzolt, D. Mitchell, M. Ruff, T. Shane, B. Taylor, M. Walker, P. Watt, E. Webster, Mrs. Ralph White, M. Willis, J. L. Zimmerman (compiler).

Olathe (15 mi. circle, center Gardner Lake). January 1; 8½ hours (7:30 a.m. to 5:00 p.m.); open grassland 25%, cultivated fields 40%, brush 10%, woodland 25%; temperature 52 to 60°F.; 98% cloud cover, wind SW 10 to 20 mph., ¼ inch rain; miles: 126 by car, 12 by foot; 10 observers: Barbara Boyd, Mr. and Mrs. I. Boyd, Roger Boyd, Dean Crane, Gene Crane, Mark Crane, Mrs. Marno McKangkin, Joe Saunders, Ray Wackley (compiler).

Quivira Refuge (15 mi. circle, center Quivira National Wildlife Refuge headquarters). December 23; 10 hours (7:15 a.m. to 5:30 p.m.); native tall grasses, marsh grasses,

cottonwood and willow groves, cultivated fields, open water; temperature 42 to 55°F.; partly cloudy to cloudy, wind SW 0 to 15 mph.; miles: 105 by car, 6½ by foot; 2 observers: Wayne Dale, Joshua Harman (compiler).

Strong City (15 mi. circle, center 2½ mi. E Strong City). December 27; 3½ hours (8:00 to 12:00 a.m.); miles: 6 by foot; 1 observer: Donald E. Stout. Species seen: 3 Red-tailed Hawk, 2 Marsh Hawk, 2 Sparrow Hawk, 13 Greater Prairie Chicken, 26 Bobwhite, 3 Rock Dove, 1 Screech Owl, 3 Great Horned Owl, 11 Yellow-shafted Flicker, 10 Red-bellied Woodpecker, 5 Downy Woodpecker, 185 Horned Lark, 19 Blue Jay, 7 Common Crow, 27 Black-capped Chickadee, 2 Tree Creeper, 1 Mockingbird, 8 Robin, 5 Eastern Bluebird, 3 Loggerhead Shrike, 38 Starling, 43 House Sparrow, 30 Eastern Meadowlark, 10 Red-winged Blackbird, 23 Cardinal, 8 American Goldfinch, 22 Slate-colored Junco, 36 Oregon Junco, 15 Harris Sparrow; 590 individuals; 30 species.

Topeka (Shawnee Co.). December 27; 9 hours (8 a.m. to 5 p.m.); open grassland 30%, cultivated fields 20%, brush 10%, woodland 30%, lake or river 10%; temperature 20 to 35°F.; cloud cover 50%, wind S 10 mph., no snow on ground; miles: 199 by car, 4 by foot; 16 observers: Elizabeth Fisher, Roberta Foote, John H. Greene, Mrs. Reid Green, Grace Holcombe, Mr. and Mrs. Eugene Lewis, Tim Lewis, Pearl Maus, Esther Miller, T. W. Nelson, Orville O. Rice, Mrs. Emma Thompson, Joyce Thompson, L. B. Carson (compiler).

Udall (15 mi. circle, center Udall water tower). December 27; 9 hours (7:30 a.m. to 4:30 p.m.); river bottoms 50%, fields and roadsides 50%; temperature 18 to 39°F.; wind SE 17 mph., partly cloudy; miles: 74 by car, 3 by foot; 1 observer: Max C. Thompson. Additional Species seen during count period: Common Merganser.

Wichita (15 mi. circle, center at the confluence of the Arkansas and Little Arkansas rivers). December 26; 8 hours (8 a.m. to 5 p.m.); open grassland 10%, cultivated fields 20%, brush 10%, woodland 10%, lake or river 50%; temperature 16 to 31°F.; wind N 15 mph., cloud cover 20%; miles: 198 by car, 17 by foot; 17 observers: Pearlanna Briggs, J. Walker Butin, Phil W. Butin, Rick Butin, Wallace H. Champeny, Don E. Ferguson, David W. Holmes, Dean R. Love, Eugenia Love, Nathan McDonald, Hester Packer, Jim Pierce, Jimmy Pierce, Charlotte Wiley, Ralph H. Wiley, George S. Williams, Carl S. Holmes (compiler). Additional species seen during count period: Yellow-bellied Sapsucker, Common Grackle, Brown-headed Cowbird.

Museum of Natural History, The University of Kansas, Lawrence, February 4, 1965.

The Birds of Arizona. Allan Phillips, Joe Marshall, and Gale Monson. 1964. Tucson, Univ. Arizona Press, v + 212 pp. color front., 12 color paintings, 51 color photos, 8 black and white photos, 1 highway map, 126 range maps, index. Price, \$15.00.—Students of the ornithology of Arizona have long awaited a comprehensive summary of the birdlife of that state, and the present volume will certainly receive much attention and enjoy wide acceptance as that comprehensive summary.

The Birds of Arizona is prefaced by a note by Guy Emerson that contains a history of the conception and the preparation of the book. This is followed by a table of contents and an explanation of the abbreviations used in the text. A statement of purpose, an explanation of terminology used, and a list of acknowledgments are contained in the introduction. A brief summary of the historical use and changes of the land is presented in the section, "Historical Changes and Conservation of Arizona Habitats," a discussion that will be especially stimulating to conservation-minded people. The body of the book consists of accounts of 424 species recorded from Arizona. The historical and present status and distribution of each species is treated as fully as available information allows.

Preceding the accounts of species in each family of birds represented on the Arizona list is a brief summary of the biology and diagnostic characters of the family. Herein are some strange and perhaps misleading statements that are possibly the result of condensing volumes of information into a single, nontechnical paragraph. For example, "Pelicans belong to a group of water birds, the order Pelecaniformes, which on our Arizona list includes those species from the tropic-birds through the Anhinga and the frigates. These [pelicans, frigates, or pelecaniform birds?] dive for their food of fishes . . . (p. 3)." Of vultures it is said, "They are long-lived birds with

small clutches and few young at a time, as is natural in a bird with few enemies, and depend on fortuitous meals." This is a curious and archaic interpretation of such a phenomenon, and indeed is untenable in light of Lack's views (*Ibis*, 89:302-352; 90:25-45, 1947-48) on the adaptive significance of clutch-size. The vague statement, "Perching birds . . . are considered to be the most highly developed birds . . . (p. 76)" must mean that these seem to be the most recently derived birds.

It is stated in the introduction that "This book contains the original thinking of Allan Phillips. He is responsible for the scientific names and classification used," and indeed the nomenclature, as it reflects Phillips' concept of relationships and his appraisal of the literature, is one of the stimulating parts of the book. Many of the taxonomic and nomenclatorial departures from A.O.U. Check-list usage are already widely used by taxonomists. Others, however, are controversial. For example, the genus *Lophodytes* is included in the genus *Mergus*, and the genera *Casmerodius* and *Leucophoyx* are included in the genus *Ardea*. Such groupings reflect mainly behavioral, and to a lesser degree structural, similarities. Yet the Mourning Dove is still placed in *Zenaidura*, in spite of recent studies that have shown it to be behaviorally and structurally close to *Zenaida*. The validity of the genus *Muscivora* is not questioned even though it is said that "The Scissor-tailed Flycatcher is nothing but a Western Kingbird with pinkish belly and long tail streaming behind. Even the call note is similar (p. 80)." In the discussion of the taxonomy of jays, the crest is questioned as a good generic character for separating *Cyanocitta* and *Aphelocoma* because an "intermediate" species (*Cissilopha san-blasiana*) exists, and it is said that ". . . genera should be based on morphological differences . . ." not merely color differences; and in discussing certain genera of sparrows Phillips stresses the importance of "structural characters" in delineating generic groups. By these criteria, *Muscivora* and *Tyrannus* (and for that matter many of the genera of sparrows) would seem, to this reviewer, to be congeneric. However, genera are at best subjective and useful groups, and philosophical consistency is neither required nor desirable in determining them.

Many groups, formerly considered specifically distinct, are regrouped in *The Birds of Arizona*. For example, *Junco hyemalis*, *J. oreganus*, *J. caniceps*, and *J. aikenii* are all treated as being conspecific, and *Helminthophila* (= *Vermivora*) *virginiae* is included with *H. ruficapilla*. Many, but unfortunately not all, of these changes are explained in the text, and only some of the recent and appropriate discussions are cited. Full explanation of the nomenclature in a book such as *The Birds of Arizona* would be tedious and out of place, yet it seems equally inappropriate to include, without special note, many changes that are still controversial.

The format of *The Birds of Arizona* is handsome. The frontispiece is by William J. Schaldach, Sr., depicting a pair of Masked Bobwhites is fitting, but inferior to the twelve excellent paintings by George M. Sutton, and the fifty-one photographs by Elliot Porter. These, and especially the latter, show many species of Arizona birds in characteristic habitat. Range maps showing the location of specimens taken are included for all species that are not found throughout Arizona, and a large map showing the counties and major highways in the state is included. There is no map showing the more frequently cited localities, but information adequate to locate these is given in the text. Keys are included in connection with certain accounts. A key to the western hummingbirds will be useful for field and specimen determinations, and a key to the *Empidonax* flycatchers of Arizona will be helpful in identifying specimens of these birds. Unfortunately, in this latter key, there is no explanation of how measurements should be taken, and this reduces utility. Adequate citations to pertinent literature appear in the species accounts, but there is no terminal bibliography.

The Birds of Arizona is composed in a light and nontechnical vein, and while many vague sentences make the book read as though it were hurriedly written, these are only occasionally hard to interpret. Most bird lovers and ornithologists will find this book useful and will praise Phillips, Marshall, and Monson for a job well done.—J. D. Rising.