

RECENT BREEDING OF THE MOUNTAIN PLOVER
IN CIMARRON COUNTY, OKLAHOMA

BY THOMAS L. FLOWERS

Populations of the Mountain Plover (*Charadrius montanus*) have dwindled in the years since 1900 when it was considered an important game bird by market hunters (Grinnell, J., *et. al.*, 1918, *The game birds of California*, Univ. California Press, Berkeley; Bent, A. C., 1929, *Life histories of North American shorebirds*, Pt. 2, Bull. U.S. Natl. Mus. 146:267, Wash., D.C.). In those early years of this century, its breeding range extended southward from Canada to Texas and New Mexico, and westward from near the 100th meridian to the continental divide. In recent years, the species' most substantial nesting population has been in a small area on or near the Pawnee National Grasslands in



MOUNTAIN PLOVER

This photo of a male bird on the nest was taken by Walter D. Graul 5 miles south of Limon, east-central Colorado, on 14 May 1976. Note the facial markings and overall coloration.

Weld County, northeastern Colorado (Graul, W. D., and L. E. Webster, 1976, Condor 78:265-267; Ptacek, J., and M. D. Schwilling, 1983, Kansas Orn. Soc. Bull. 34:21-22).

Both Graul and Webster (1976) and Ptacek and Schwilling (1983) listed agricultural practices as a major factor contributing to the demise of native shortgrass prairie so essential to the Mountain Plover for breeding habitat. Two of the most detrimental procedures are the plowing of level grasslands and rangeland "pitting", the latter a strategy intended to reduce surface run-off by digging shallow holes of suitable capacity and distribution on rangelands. Although helping to capture precipitation, this practice also encourages dense areas of tall and midgrasses that are unacceptable plover habitat.

Extensive grass reseeding projects during the 1950's probably increased pastureland significantly in Cimarron County (pers observ.). Contour furrowing, range pitting and waterspreading (use of terraces, dikes, etc., to distribute surface water and increase infiltration), all are practices that decrease shortgrass prairie, but have been applied to only a few acres in the county and thus have little affected Mountain Plover habitat.

Advances in range management, including deferred and rotation grazing, bolstered by normal or above-normal precipitation during the last three decades, may have indirectly contributed to the decline of breeding Mountain Plovers in Cimarron County by increasing the standing biomass, basal area, and canopy cover of the vegetation. Under such conditions, the natural species composition of the flora may be significantly altered with time, rendering it unsuitable for nesting. Conversely, drought and mismanagement (particularly overgrazing) seems to have the opposite effect (Newbauer, J. J., *et al.*, 1980, J. Range Mgmt. 33:246-250; Briske, D. D., and A. M. Wilson, 1978, J. Range Mgmt. 31:174-178).

To gain a broader perspective of the forces that influence grassland conditions in Cimarron County, I discussed the foregoing ideas with Frank Clark, a local rancher and member of the Oklahoma Conservation Commission, and also with K. E. Saunders, a retired U.S. Department of Agriculture Soil Conservation Service employee who lives in Boise City. They revealed that recent uncertainty over the lease renewal of state-owned lands in the Oklahoma Panhandle, especially in Cimarron County, has led to intentional and widespread abuse of these grasslands. When the normal 5-year lease nears time for renewal, these "State School Lands" are frequently overgrazed, and blue grama (*Bouteloua gracilis*) gives way to the shorter buffalograss (*Buchloë dactyloides*), which is ideal Mountain Plover habitat. Graul and Webster (1976, *op. cit.*) have, in fact, found that the prime nesting habitat in Weld County, Colorado, is subjected to heavy summer grazing, which they inferred maintains a disclimax of buffalograss and blue grama conducive to plover nesting.

On the morning of 19 June 1983, Charles A. Ely and I were fortunate to find two nesting sites of the Mountain Plover in Cimarron County. The first, located approximately 14½ miles east and 6 north of Kenton, was in typical shortgrass prairie composed chiefly of buffalograss but with some blue grama, false buffalograss (*Munroa squarrosa*) and ring muhly (*Muhlenbergia torreyi*). Neither forbs nor cholla cactus (*Opuntia imbricata*) made up a significant portion of the vegetation. The land sloped gently to the south. An active black-tailed

prairie dog (*Cynomys ludovicianus*) colony was adjacent to this site. Here, at approximately 0830, an adult and one precocial chick ran from the gravel road southward into shortgrass pastureland. After a brief chase, the chick was captured and examined. It had made no attempt to hide, but its irregular darting movements made the little plover difficult to catch. Its primary feathers were just beginning to develop and measured approximately 1 cm (.4 in) long. During the whole time we handled the chick, the single adult plover injury-feigned in a manner similar to that described by Bent (1929, *op. cit.*) and often approached to within 5 or 10 m (16-33 ft) of us.

The second site was about 19 miles east and 4¼ miles north of Kenton. Here, at about 0845, we were investigating an active prairie dog town wherein we had observed several adult Mountain Plovers not long since. We found the plovers standing on top of prairie dog mounds. Except for cholla cactus, the floristic composition and slope were similar to that described above. All at once, we noticed a plover chick approximately 100 m (330 ft) away, running about in the dog town. We pursued it for nearly 1000 meters before finally containing it under a hat. This chick was older than the one we had examined earlier, and its primaries measured about 4 cm (1.6 in) long. Interestingly, none of the adult plovers present attempted to distract us by feigning injury.

Both of these areas had been severely overgrazed, were on State School Land, and had leases that were due to expire during the present year (Clark, pers. comm.). In addition, both sites were closely associated with active prairie dog colonies situated on fairly level ground. C. J. Knowles, *et al.* (1982, *Condor* 84:71-74) also found that Mountain Plovers in Montana selectively inhabited intensively grazed dogtowns on level uplands.

Marvin D. Schwilling told me that, at the nest he discovered north of Boise City in May 1955, the parent bird refused to fly off, even though he drove it from the nest. As he recalls, the nest was in "very short, sparse grass — probably an overused area on a large, flat-topped mesa." He could remember no prairie dogs nearby. That year was the last of a protracted drought in Cimarron County (Clark, pers. comm.) and the rangeland had no doubt deteriorated.

Two days earlier (on 17 June), during early evening and not far north of Boise City, Wesley S. Isaacs, John G. Newell and Hubert Harris had also found adult Mountain Plovers with chicks. In shortgrass pastureland 3½ miles north and 1 mile east of town, they had watched three well-developed chicks following an adult about. As they continued to drive toward town, they happened upon another adult with three chicks at a spot 1½ miles north and 1 mile east of Boise City. Earlier, they had seen two lone adults, one 7 miles north and ¾ mile east of town, the other 5½ miles north and 1 mile east.

Only three breeding records of the Mountain Plover in Oklahoma have previously been documented: in 1860, C. S. McCarthy found a nest "west of Fort Cobb" (Nice, M. M., 1931, *The birds of Oklahoma*, Rev. ed., Publ. Univ. Oklahoma Biol. Surv. 3(1):87); another, reported by R. C. Tate (1923, *Proc. Oklahoma Acad. Sci.* 3:41-51) was discovered near Kenton on 30 June 1910; and Marvin D. Schwilling and Sanford D. Schemnitz found the third nest mentioned above, which contained three eggs, 7 miles north and ½ mile west of Boise City on 17 May 1955 (Sutton, G. M., 1967, *Oklahoma birds*, Univ.

Oklahoma Press, Norman, p. 176). The species nested in Union County, northeastern New Mexico, in June 1974, but there appears to be no evidence of recent breeding in Kansas (Graul and Webster, 1976, *op. cit.*).

THOMAS L. FLOWERS, P. O. BOX 87, MEADE, KANSAS 67864, 1 AUGUST 1983.

GENERAL NOTES

A hybrid quail from Morton County, Kansas.—There have been few documentations of Scaled Quail (*Callipepla squamata*) and Northern Bobwhites (*Colinus virginianus*) interbreeding in the wild. R. A. McCabe (1954, *Auk* 71:293-297) reported that J. A. Loomis shot a hybrid in Concho County, Texas, in January 1890 and that another was produced by a pair of captive quail in Wisconsin in 1940. G. M. Sutton (1963, *Southwest. Nat.* 8:108-111), described in detail two hybrids collected from the vicinity of Aspermont, Stonewall County, northwestern Texas, in January 1959 and alluded to another specimen taken in December 1959 in Motley County, 75 miles northwest of Aspermont.

During latter November or early December of the 1981 hunting season, Lawrence R. Smith shot a hybrid in a sandsage prairie 7½ miles west and 1 mile north of Elkhart, in Morton County, southwestern Kansas. Morton County lies immediately north of western Texas County in the Oklahoma Panhandle. The specimen was frozen and later donated to the Cameron University Museum of Zoology (CUMZ 955). Its measurements (in mm) are: total 251; tail 85; wing 127; tarsus 36; and culmen 7. In overall appearance, the bird closely resembles a *Callipepla*. It has a light slaty-gray general coloration, a scaly breast and abdomen, and the throat is buffy-gray. Only a few buffy feathers are present in the small topknot. The tail is the color of a Scaled Quail's (gray) and a few of its outermost feathers have very narrow light edges subtended by a fine dark line. Some of the lower scapular feathers and a few tertials and coverts in the right wing are typical of *Colinus* but, oddly, there are several of these bobwhite-like tertial and covert feathers in the left wing.

Smith (pers. comm.) had shot three other hybrid quail in Morton County in the 10 years or so prior to 1981. The first he killed a few miles west of Elkhart in the early 1970's, and it resembled a Northern Bobwhite except that the wings were gray and the breast scaled. The second and third hybrids were killed during the late fall of 1980 in a sandsage grassland next to a field of milo (*Sorghum vulgare*) 10½ miles east and a half mile south of Elkhart. Both birds came from the same covey, both were rather small, and both were decidedly Scaled Quail-like in appearance. Except for their prominent topknots, they were similar to the Cameron specimen.

Scaled Quail usually spend the daytime in shortgrass areas or around piles of fenceposts, machinery, or similar "junk", while Northern Bobwhites prefer to loaf and dust beneath trees or in brushy places. R. Reid (1979, *Proc. Ann. Conf. S.E. Assoc. Fish & Wildl. Agencies* 33:146-153) stated that these two quail are sympatric in several areas of western Texas. Extensive agricultural changes there have decreased available habitat, forcing the two species to compete for the remaining resources. Similarly, farm practices in the High Plains of south-

western Kansas have replaced or removed most of the natural cover, forcing Northern Bobwhites to occupy marginal areas with short vegetative cover. This brings them into direct competition with Scaled Quail for breeding habitat. Smith has observed that the two species frequently roost not far apart, but in different types of habitat.

The hybrids are probably sterile. At the State Game Farm near El Reno, Oklahoma, five male and two female Scaled Quail × Northern Bobwhite hybrids were produced and reared in captivity (Wint, G. B., 1960, Proc. Oklahoma Acad. Sci. 40:151-152). Attempts to breed the crosses with other hybrids and with their parents were unsuccessful, for not a single embryo developed in any of the nearly 200 eggs laid.

To date, no hybrid quail from Oklahoma has been validated, although reports of them are not uncommon. Along the western edge of the state and in the Panhandle, where these two quail are sympatric, hybrids are to be looked for. Those most likely to encounter them will be quail hunters.—Lori J. Smith Coles, Box 841, Elkhart, Kansas 67950, 5 March 1985.

Black-necked Stilts in Oklahoma during May and June.—The Black-necked Stilt (*Himantopus mexicanus*) is a rare “summer visitant” in Oklahoma (Sutton, G.M., 1967, Oklahoma birds, Univ. Oklahoma Press, Norman, p. 208). However, records on file from 1943 to 1979 show occurrences only in expected spring and fall migration periods: 14 dates from 13 April through 27 May and six dates from 31 August through 22 September (Sutton Summary of Bird Records, Stovall Mus. Sci. & Hist., Univ. Oklahoma, Norman). In July 1901, the species was collected (male and female, UOMZ old nos. 3395, 3394) and reported to be “common” along the Red River in “Old Greer County”, i.e., along the southern border of present-day Harmon and Jackson counties (Nice, M. M., 1931, The birds of Oklahoma, Rev. ed., Publ. Univ. Oklahoma Biol. Surv. 3(1):43,95).

On 24 May 1983 I drove from Roman Nose State Park, Blaine County, northward on State Highway 51A to where the road traversed a playa lake of perhaps two acres. In the smaller body of water north of the highway, I saw two Black-necked Stilts, a species that I had never before encountered in Oklahoma. From 1145 to 1200, I watched them intermittently rest and feed. While I watched the stilts, one flock of about 30 and another of 40 White-rumped Sandpipers (*Calidris fuscicollis*) briefly alighted nearby.

The next day at about 1000, I arrived at Black Mesa State Park, Cimarron County, and discovered one Black-necked Stilt standing on the southeast shore of Lake Carl Etling. No other migrant shorebirds did I observe at the lake. There is one other record for the county: on 9 and 10 May 1973, J. G. Newell, V. J. Vacin and several other members of the Oklahoma Ornithological Society saw a single bird at the sewerponds in Boise City (J. G. Newell field notes).

On the early afternoon of 2 June, I re-entered Oklahoma from Colorado, determined to recheck the Blaine County pond before dark, if possible. I reached it some minutes after sunset and heard several stilts calling loudly from the south side of the road, another from the north side: the sharp, yelping cry was still fairly fresh in my mind from hearing it on 24 May. I finally spotted one

bird on the north side, "hunkered down" and difficult to see in the failing light. It was hard to separate the voices of all the birds that were calling from the south side of the road, but I am confident that more than two stilts were. On an impulse, I drove back northwestward to another location where water covered both sides of the road; here I heard loud call notes from at least two more stilts. Regrettably, my schedule did not permit me to return the next day. When the Blaine County ponds were visited by John G. Newell and John S. Shackford on 11 June, they found no stilts; the lake had risen significantly, so that water overlapped the very edge of the blacktop.

The 2 June record is the latest spring date for the state. The species is not known to breed in Oklahoma, but there are "occasional" breeding records near Clayton, in northeastern New Mexico, fewer than 15 miles southwest of Cimarron County, Oklahoma (Hubbard, J. P., 1978, Revised check-list of the birds of New Mexico, New Mexico Ornith. Soc. Publ. No. 6, p. 27).—W. Marvin Davis, *School of Pharmacy, University of Mississippi, University, Mississippi 38677, 18 October 1983.*

The lined snake as food for the Great Horned Owl.—On 6 June 1982, state game ranger Dean Elliott was called to rescue a Great Horned Owl (*Bubo virginianus*) that had become entangled with kite string in a large elm tree southeast of Tecumseh in Pottawatomie County, central Oklahoma. Subsequently, he brought the subadult owl to me for treatment of wounds on its wings and legs. The bird was kept for three days, then released.

As the nylon string was being removed from its wings, the owl regurgitated a solid mass of lined snakes (*Tropidoclonion lineatum*). After I had separated them, I counted 13, including several that were too badly decomposed for accurate measurement. Six were adults and ranged from 320 to 370 mm in total length (TL); four were young (ca. 100 mm TL); and three were intermediate in size (ca. 200 mm TL). Dried grasses, one complete body and the head of a June beetle (*Phyllophaga* sp.) were also separated from the gastric mass.

The lined snake is a small, primarily nocturnal species that may be found beneath rocks, boards, and debris. It is quite common throughout the oak woodland-prairie ecotone of central Oklahoma. *Tropidoclonion* is especially tolerant of urban areas. Edith R. Force (Copeia 1931 (2):51) found the lined snake to be abundant in Tulsa, Oklahoma, and Black (1976, Bull. Oklahoma Orn. Soc. 9:17-18) stated that it is the most common species of snake within the city limits of Shawnee; he estimated one population in that city to be between 233 and 249 individuals in a 523 m² (625 yd²) area.

This snake is a source of food for several birds in Oklahoma. Rusty Grimpe (1984, Bull. Oklahoma Herp. Soc. 9:27) observed a Brown Thrasher (*Taxostoma rufum*) attacking one in Tulsa, and Black (1976, *op. cit.*) found that Loggerhead Shrikes (*Lanius ludovicianus*), Blue Jays (*Cyanocitta cristata*), meadowlarks (*Sturnella* spp.), and American Kestrels (*Falco sparverius*) utilized them as prey in Pottawatomie County. G. M. Sutton (1967, Oklahoma birds, Univ. Oklahoma Press, Norman, p. 257; and 1977, Fifty common birds of Oklahoma, Univ. Oklahoma Press, Norman, p. 16) listed a wide variety of animals known to have been consumed by the Great Horned Owl, including several genera of

small mammals, cottontails (*Sylvilagus* spp.), striped skunks (*Mephitis mephitis*), free-tailed bats (*Tadarida brasiliensis*), ducks, hawks, American Coots (*Fulica americana*), Greater Yellowlegs (*Tringa melanoleuca*), meadow-larks, snakes, frogs, fish, crayfish and beetles. The lined snake can now be added to the list.—Jeffrey H. Black, *Department of Biology, Oklahoma Baptist University, Shawnee, Oklahoma 74801, 10 April, 1985.*

Brown Towhee in Quartz Mountain State Park.—On the afternoon of 19 March 1976, Brooks and Thula Parkhill and I were studying birds below the dam of Lake Altus in Quartz Mountain State Park which is located 7 miles southeast of Granite in Greer County, southwestern Oklahoma. As we approached the dam from the west, we noticed several birds on a rocky, well-thicketed hillside to one side of the trail. A very active bird about the size of a Gray Catbird (*Dumetella carolinensis*) caught our attention for, unlike the others, it kept on or near the ground. We observed it closely for several minutes through our binoculars, noting its plain brown back and tail, russet cap, and buffy throat that was faintly streaked. All soon agreed that the bird was a Brown Towhee (*Pipilo fuscus*). Twice the next day we attempted to find it again, but were unsuccessful. Both the bird's behavior and the habitat where we found it were typical of Brown Towhees I had previously observed at lower elevations of the Sandia Mountains of New Mexico and in the Big Bend country of southwest Texas. In those places, it is common and has become quite tame.

Pipilo fuscus is a resident of the rough country adjacent to the Black Mesa in far northwestern Oklahoma (Sutton, G. M., 1974, A check-list of Oklahoma birds, *Stovall Mus. Sci. & Hist., Univ. Oklahoma, Norman, p. 44*). J. D. Tyler (1979, *Birds of southwestern Oklahoma, Stovall Mus. Sci. & Hist., Univ. Oklahoma, Norman, p. 51*) considered it to be accidental in the 13 counties (including Greer County) encompassed in his publication and listed only two other sight records, both in the Wichita Mountains National Wildlife Refuge.—Henry Walter, *8201 Northwest 36th St., Bethany, Oklahoma 73008, 28 March 1977.*

Early date for Rufous-crowned Sparrow nest in Oklahoma. — At about 1000 on 7 April 1985, while Allen Ratzlaff and I were walking down a small rocky canyon on the West Range of the Fort Sill Military Reservation in Comanche County, southwestern Oklahoma, we flushed a sparrow from a tussock of little bluestem grass (*Schizachyrium scoparium*) about five feet in front of us. Positive identification of the bird could not be made, but closer inspection of the spot where it flushed revealed a neat, compact nest that contained four newly-hatched, naked chicks. The nest bowl was lined with fine stems and rootlets, measured $2\frac{3}{4}$ inches inside diameter, 2 inches in depth, and was sunk into the grass at the base of the tussock. Grass standing eight or nine inches above the nest shaded it on the west and south sides. A good-sized granite stone lying a few inches northeast of it protected the nest on that quarter, and to the east (downslope), it was open.

We returned on 10 April with Louis and Janet McGee. After about five minutes of observation, a Rufous-crowned Sparrow (*Aimophila ruficeps*) carrying insects in its bill appeared on a branch about 35 yards southeast of the

nest. Although we kept it in view for approximately 25 minutes, this bird refused to approach the nest. We retreated to a distance of about 60 or 70 yards and watched for another half hour, but no visit to the nest was observed. The chicks by now were largely covered with down.

When I returned on 12 April, I hid about 20 yards east of and above the nest. Soon, two Rufous-crowned Sparrows began foraging alongside the small, clear stream flowing about 18 feet from the nest. I was able to keep both parent birds in sight most of the time. Once, one of the pair perched on a small blackjack oak about 15 feet away from the nest, holding a caterpillar in its bill. It remained there for at least 25 minutes! Finally, after some 2½ hours of observation, I saw one of the adult birds, its beak crammed with insects, cautiously sneak through the grass to the nest and feed the chicks.

Jack D. Tyler, Kevin McCurdy and I paid the nest another visit on 17 April. All the chicks were gone, apparently having fledged. The length of incubation and time required to fledge after hatching are not known for this species (Bent, A. C., *et al.*, 1968, Life histories of North American birds, USNM Bull. 237, Pt. 2, p. 935, Wash., D.C.). Previously, the earliest breeding date for the Rufous-crowned Sparrow in Oklahoma was 17 April 1954, when G. M. Sutton collected a female with well-developed brood patch and observed several adults carrying food in the Arbuckle Mountains (Sutton, G. M., 1967, Oklahoma birds, Univ. Oklahoma Press, Norman, p.614). J. D. Tyler (1979, Birds of southwestern Oklahoma, Stovall Mus. Sci. & Hist., Univ. Oklahoma, Norman, p. 52) listed only a single Comanche County nesting record: on 10 July 1965, a nest containing three eggs was discovered in the Wichita Mountains Wildlife Refuge by D. Allen and C. Nicely. — Jay K. Banta, *DEH, Fish and Wildlife Branch, Fort Sill, Oklahoma 73503, 16 April 1985.*

FROM THE EDITOR.—Because of higher publication costs, John Newell and John Shackford graciously volunteered to pay for the Lesser Goldfinch color plate fronting the March 1985 issue of the O.O.S. Bulletin. For their generous support we should all be thankful. It would indeed be a shame to have to sacrifice the color photo that has always accompanied the spring Bulletin.

The membership is also indebted to Dr. Walter D. Graul of Fort Collins, Colorado, for furnishing the Mountain Plover halftone used in this issue. Dr. Graul, who is a recognized authority on the species, also proofread the lead paper. Sam Orr of Lawton lent technical assistance in preparing the photo for publication, and for this the society is grateful.

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