

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 (*Buchloe 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, north-eastern 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-