A resident population of Mountain Plover *Charadrius montanus* in Mexico?

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Charadrius montanus es un raro chorlito que nidifica principalmente en las praderas montanas y desiertos del oeste de los Estados Unidos. La especie pasa el invierno en los Estados Unidos y México, Recientemente han sido observados en Nuevo León, México, durante la temporada de nidificación. Hemos localizado fácilmente algunas aves el 24–26 de abril de 1998 asociadas a los grupos de perros de las praderas en Nuevo León. La mayoría de las aves fueron encontradas en parejas y todas en plumaje nupcial. Registramos varios eventos de cortejo y suponemos que algunos individuos son residentes y nidifican en Nuevo León.

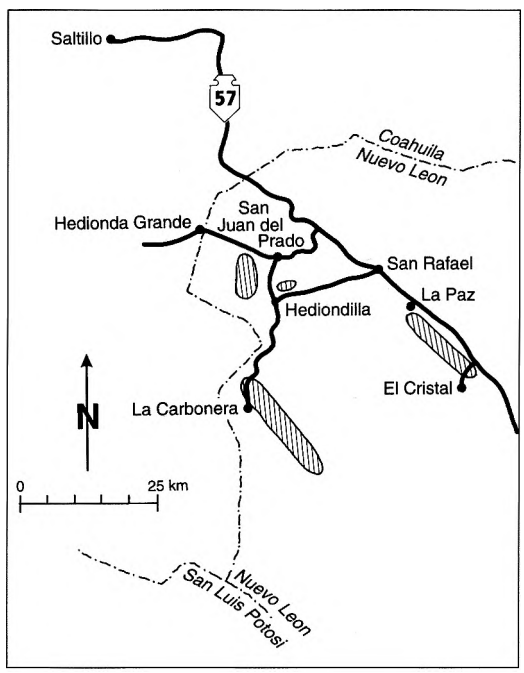
The Mountain Plover *Charadrius montanus* is an upland shorebird that breeds from south Alberta, Canada, south through east-central Montana, Wyoming, south-west Nebraska, east Colorado, south-west Kansas, New Mexico and the Oklahoma panhandle, USA[9]. It also has bred in the Davis Mountains of Texas, east Utah[2] and a single nest was located in east-central Arizona in 1997 (T. Corman pers. comm.). During the breeding season, *C. montanus* frequents habitats varying from heavily grazed shortgrass prairie[6] to xeric shrub[16] and fallow fields[11,18]. Throughout the breeding range it is most predictably found on prairie dog *Cynomys* spp. complexes[12,13,15].

C. montanus winters most predictably in the Sacramento, San Joaquin, and Imperial valleys of California, USA[10] south into Baja California, Mexico[20]. It is also known to winter irregularly in south Arizona[17] and south Texas[14]. The wintering distribution in Mexico is poorly known, with birds reported from Sonora to Tamaulipas south to Zacatecas[7,17] and San Luis Potosí[3]. Habitats during the winter are similar to those used for breeding. In Mexico, prairie dog complexes also appear to be especially attractive as winter habitats[3] and in Baja California, open salt flats, ploughed fields and dry lake beds are utilised (S. N. G. Howell pers. comm.).

In recent years, there have been occasional reports of *C. montanus* in Mexico during the breeding season. Seven birds were seen (J. Gee pers. comm.) in alternate (breeding) plumage near San Juan del Prado, Nuevo León, on 5 July 1994. Six of those birds were in three widely spaced pairs. The seventh was single, but briefly performed a distraction display. That display, when given only briefly, is generally seen just before the eggs hatch in a nest. The display is given almost continuously until the intruder leaves if young chicks are present. More recently, seven individual birds were seen (M. Desmond pers. comm.) on three different prairie dog complexes in the same region of Nuevo León on 16 June 1997. Two of those birds appeared to be a pair.

Based on these sightings of the species in Mexico outside the wintering season and the known breeding by the species near Alpine, Texas, we searched Mexican prairie dog *C. mexicanus* complexes in Nuevo León, during 24–26 April 1998. At this time *C. montanus* was already known to have started nesting in Montana (one nest located on 21 April in Phillips County; J. Grensten pers. comm.) and Colorado (four nests located on 28 April in El Paso County; S. Dinsmore pers. comm.), USA.

Between 18h15 and 19h35 on 24 April, we easily located *C. montanus* 1–2 km south of San Juan del Prado in Nuevo León. The habitat was a xeric grass/shrub association with shrubs being widely scattered and <25cm in height, and was inhabited, at low densities, by prairie dogs. These observations included three birds in one flock that appeared to represent a pair and an unpaired bird (Table 1). The male gave a low-intensity nest-scraping[4] advertise-



Map of the study area

ment towards the female. In this display, the male places his breast on the scrape site and kicks dirt backwards alternately with his feet while simultaneously 'flagging' his spread tail toward the female. We have only seen this display previously in areas where *C. montanus* breeds. A second pair was located nearby and the male of this pair gave a high-intensity nest-scraping display. Three additional birds were located, but performed no breeding displays as the evening was getting dark. In the distance, we heard a bird give the courtship *wee-wee* call[5]. This call is also one we have only previously heard on the breeding grounds.

Between 16h00 and 18h15 on 25 April, we located *C. montanus* on a large prairie dog complex along the west side of Highway 57 between the towns of El Cristal and La Paz (89 km south of Saltillo). Of the six birds seen on this complex, two were singles, two were paired, and the other two were territorial males. One of the singles gave the falling-leaf display which includes rising into the air uttering the *wee-wee* call as it slowly descends to the ground. This display is given in territorial advertisement by males. The other two males were also sexed behaviourally based upon their performing the parallel-run display in which birds run parallel to each other c.1 m apart. This display is performed by males when establishing breeding territory boundaries.

Between 09h55 and 12h00 on 26 April, we located three *C. montanus* on a prairie dog complex just east of the town of Hediondilla. Two of these were foraging and moving together as a pair and the third was a single. No breeding behaviour was observed. Later that day, we located two additional pairs of *C. montanus* between 12h30 and 14h15 on a massive prairie dog complex south-east of the town of Carbonera on the Llano de la Soledad. As with the Hediondilla birds, these two pairs were not performing breeding displays. We attribute the lack of displays on 26 April as a consequence of our finding the birds at midday. Breeding behaviour is usually much more prevalent during morning and evening hours.

C. montanus has been seen in numbers on the Mexican prairie dog complexes and surrounding grazed lands of Nuevo León during winter (V. Estelle pers. comm.). The plumage of birds in the winter season is comparatively drab and nondescript relative to that of breeding birds. All birds seen in late April were in breeding plumage characterised by a mottled to solid black forecrown and a black loral stripe that connects the base of the bill to the eye, imparting the image that the bill, line, and eye are one structure. The birds also showed the greater contrast between the sandy brown back and white underparts typical of breeding plumage. Because *C. montanus* is known to breed in its first year (S. Dinsmore pers. comm.) it is unlikely that the birds we recorded in 1998 were non-breeders.

The political and conservation significance of *C. montanus* apparently breeding in Mexico is considerable. The US Fish and Wildlife Service has prepared a draft proposal to list the species as Threatened under the US Endangered Species Act. Even a small breeding population of breeding *C. montanus* in Mexico could provide a buffer if the USA population continues in decline. However, within Mexico, the Mexican prairie dog has a limited distribution and is considered Endangered[1]. Recent population declines of the Mexican prairie dog[19] presumably have had a concomitant impact upon the apparently preferred habitat of the Mexican population of *C. montanus*. Given the ease with which we found birds in Nuevo León during the breeding season, the fact that all plovers were in breeding plumage, and the observation of a variety of breeding behaviours, we hypothesise that *C. montanus* is resident in north-east Mexico.

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Table 1. Locations and behaviours of Mountain Plovers seen 24–26 April 1998 in Nuevo León, Mexico.

Site	No. of plovers	Location		Behaviour	
San Juan del Prado	3	25°02'68N	100°44'02W	Pair (male nest-scraping) Single (inactive)	(24 April 1998)
	2	25°02'18N	100°44'26W	Pair (male nest-scraping)	
	3	25°02'20N	100°44'26W	(Inactive)	
	1	25°02'21N	100°44'22W	Single (singing)	
El Cristal	2	24°53'53N	100°24'50W	Males (parallel-run display)	(25 April 1998)
	1	24°56'27N	100°28'21W	Male (falling-leaf display)	
	2	24°56'45N	100°28'66W	Pair (inactive)	
	1	24°55'45N	100°27'83W	Flew	
Hediondilla	3	24°58'16N	100°42'16W	Pair, single (foraging together)	(26 April 1998)
Carbonera	2	24°54'98N	100°44'08W	Pair (inactive)	(26 April 1998)
	2	24°51'95N	100°44'25W	Pair (inactive)	

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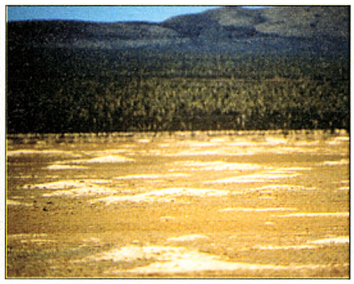

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Figure 1. Mountain Plover *Charadrius montanus* in breeding plumage at the nest in Colorado. All plovers seen in Nuevo León, 26–28 April were in this plumage (Fritz L. Knopf).

Figure 2. Mountain Plover *Charadrius montanus* in wintering plumage on the Carbonera prairie dog town, January 1998 (Renée Rondeau)

Figure 3. The Carbonera prairie dog town (Renée Rondeau)

References

1. Ceballos, G., Mellink, E. & Hanebury, L. R. (1993) Distribution and conservation status of prairie dogs *Cynomys mexicanus* and *Cynomys ludovicianus* in Mexico. *Biological Conserv.* 63: 105–112.
2. Day, K. S. (1994) Observations on Mountain Plovers (*Charadrius montanus*) breeding in Utah. *Southwestern Naturalist* 39: 298–300.
3. Gomez de Silva G., H., Medellin Legorreta, R. A. Amin, M. A. & Aguilar, S. (1996) A concentration of Mountain Plovers *Charadrius montanus* in San Luis Potosí, Mexico. *Cotinga* 5: 74–75.
4. Graul, W. D. (1973) Adaptive aspects of the Mountain Plover social system. *Living Bird* 12: 69–94.
5. Graul, W. D. (1974) Vocalizations of the Mountain Plover. *Wilson Bull.* 86: 221–229.
6. Graul, W. D. (1975) Breeding biology of the Mountain Plover. *Wilson Bull.* 87: 6–31.
7. Howell, S. N. G. & Webb, S. (1995) *A guide to the birds of Mexico and northern Central America*. Oxford: Oxford University Press.
8. Knopf, F. L. (1994) Avian assemblages on altered grasslands. *Studies in Avian Biol.* 15: 247–257.
9. Knopf, F. L. (1996) Mountain Plover (*Charadrius montanus*). In Poole, A. & Gill, F.(eds.) *The birds of North America*. Philadelphia: The Academy of Natural Sciences, Philadelphia & Washington DC: American Ornithologists' Union.
10. Knopf, F. L. & Rupert, J. R. (1995) Habits and habitats of Mountain Plovers in California. *Condor* 97: 743–751.
11. Knopf, F. L. & Rupert, J. R. (in press) The use of crop fields by breeding Mountain Plovers. In Vickery, P. & Herkert, J. (eds.) Ecology and conservation of grassland birds. *Studies in Avian Biol.*
12. Knowles, C. J., Stoner, C. J. & Gieb, S. P. (1982) Selective use of black-tailed prairie dog towns by Mountain Plovers. *Condor* 84: 71–74.
13. Knowles, C. J. & Knowles, P. R. (1984) Additional records of Mountain Plovers using prairie dog towns in Montana. *Prairie Naturalist* 16: 183–186.
14. Oberholser, H. C. (1974) *The bird life of Texas*, 1. Austin: University of Texas Press.
15. Olson, S. L. & Edge, D. (1985) Nest site selection by Mountain Plovers in Northcentral Montana. *J. Range Management* 38: 280–282.
16. Parrish, T. L. (1988) Mountain Plover habitat selection in the Powder River Basin, Wyoming. M.Sc. Thesis. Laramie: University of Wyoming.
17. Phillips, A. R., Marshall, J. T. & Monson, G. (1964) *The birds of Arizona*. Tucson: University of Arizona Press.
18. Shackford, J. S. (1991) Breeding ecology of the Mountain Plover in Oklahoma. *Bull. Oklahoma Orn. Soc.* 24: 9–13.
19. Treviño-Villarreal, J. (1997) Geographical range of the endangered Mexican prairie dog (*Cynomys mexicanus*). Acapulco: Proc. Seventh Internat. Theriological Congress.
20. Wilbur, S. R. (1987) *Birds of Baja California*. Berkeley: University of California Press.

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