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COMMON NIGHTHAWKS IN NEW MEXICO

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*Deceased. This manuscript was in review at the time of Bob's death. NMOS Bulletin Editor Erin Greenlee graciously worked with me to get his work in print. I have minimally edited it for content, and I think Bob would have approved the final product. -- Andrew Johnson, Collection Manager, Division of Birds, Museum of Southwestern Biology, University of New Mexico, Albuquerque, NM 87131; ajohnson@unm.edu.

Abstract- I document the two nesting subspecies and three migrant subspecies of Common Nighthawks (*Chordeiles minor*) in New Mexico including two, *Chordeiles m. minor* and *Chordeiles m. sennetti*, that have not been documented previously in the state. The apparent nesting sympatry in the Middle Rio Grande Valley of subspecies *C. m. howelli* and *C. m. hesperis* are likely due to differences in microhabitat nesting preferences that are obscured by their widely-ranging foraging habits.

The monograph of the genus *Chordeiles* by H. C. Oberholser (1914) recognized nine subspecies of the Common Nighthawk as nesting in North America. Of these forms, *C. m. chapmani* from the southern Florida Peninsula and *C. m. vicinus* of the Bahamas and Puerto Rico are not found in the state. Of the seven remaining, he listed two, *Chordeiles m. howelli* and *Chordeiles m. henryi*, as nesting in New Mexico plus a third, *Chordeiles m. hesperis*, occurring as a migrant. W. W. Cooke (*in* Bailey 1928) adopted Oberholser's (1914) treatment of the subspecies, as did the AOU (1957) in its last edition of the Check-list of North American Birds to include subspecies.

R. K. Selander (1954), in discussing the species in western North America, neither listed nor mapped specimens of *C. m. howelli* from New Mexico, nor did he cite Oberholser's records (without comment) from the state. He mapped specimens of *C. m. henryi* from three sites and plotted "records from the literature" at four other sites. It must be noted that the distribution maps of the ranges of *C. m. howelli* and *C. m. henryi* by Oberholser (1914, p) and Selander (1954, Fig. 4) are so disparate, especially in the light of this study, as to be meaningless! Poulin et al. (1996), in their Birds of North America account, likewise cited only *C. m. henryi* from New Mexico.

The ninth subspecies listed by Oberholser (1914) is the poorly-defined taxon *C. m. aserriensis.* Hubbard (pers. com.) identified a specimen from Lea County in the University of Michigan Museum of Zoology as this form, and it is not treated further herein.

I report on the 107 specimens of the Common Nighthawk in the Museum of Southwestern Biology as of April 2012. This collection has grown substantially through the cooperation of the Wildlife Rescue, Inc. of New Mexico and the Wildlife Center of Espanola (60 of the 107 specimens are from salvage). Therefore, specimens at my disposal are primarily from the middle Rio Grande Valley of New Mexico which includes portions of Bernalillo, Sandoval, and Valencia counties, and span a distance of about 50 miles. This area includes the greater Albuquerque area and the Sandia and Isleta Reservations. It is bounded on the west side by semi-arid grassland, often invaded by juniper (Juniperus spp.), and on the east by the Sandia and Manzano Mountains which reach levels of 10,000 to nearly 11,000 feet. It is a region of interspersed habitats and contains about 680,000 human inhabitants. It is the main source of specimens from Wildlife Rescue, Inc. from whence came a large percentage of these specimens. To aid in the identification of specimens in juvenal plumage, I borrowed additional specimens from The American Museum of Natural History, The Delaware Museum of Natural History, The University of Kansas Museum of Natural History, and the United States National Museum.

RESULTS

Here I confirm the presence in New Mexico of five of the nine recognized subspecies known to occur in the United States, as follows:

C. m. howelli — This subspecies apparently nests in a mosaic pattern, intermixed at least in the northern part of the state with *C. m. henryi. Chordeiles. m. howelli* is the population of the grasslands in lower elevations of the state. Specimens I examined represent 17 adults and 19 hatching year birds. The young are relatively pale and buffy, the first year birds (Fig. 1; see below). Oberholser (1914) cited 13 specimens from New Mexico, and Selander (1954) none.

C. m. henryi—This subspecies nests at higher elevations, in piñon (Pinus edulis), juniper (Juniperus spp), and higher habitats in the state. Although such uplands are more limited in area than the lowlands, C. m. henryi is the most abundant and widespread subspecies in the state as indicated by number of specimens: 68 versus 36 C. m. howelli, and by the number of counties represented in the collection, 15 versus 11 C. m. howelli. Both are found in the Middle Rio Grande Valley. Oberholser cited 13 specimens from New Mexico. The hatching year plumage is the most cinnamon of all subspecies (Dickerman, 1990), but see below.

C. m. sennetti—The pale subspecies of the Great Plains, also reported from eastern Colorado (AOU 1957). It has not been reported from Arizona (Monson and Phillips, 1981) or Utah (Behle, 1985). In New Mexico, it is represented by five specimens, all in hatching year plumage from specimens salvaged from 27 August to 13 September from Bernalillo, Sandoval, Valencia, and Taos counties. I judge one of these five (MSB 21004) to be intermediate with *C. m. henryi*.

C. m. hesperis – Nests in southeastern Oregon, Idaho, eastern California, Nevada, and western Colorado (Selander, 1954). It is represented by two adults; 20 August, Cochiti Lake, Sandoval Co., (MSB 5793) and 30 August, Albuquerque, Bernalillo Co. (MSB 23092). One hatching year from 6 August from Colfax Co. (MSB 27658) was identified as C. m. hesperis and another from 15 September, from Albuquerque (MSB 6497) tentatively identified as C. m. hesperis × C. m. minor. These two subspecies intergrade in western Oregon and Washington (Selander, 1954).

C. m. minor—The darkest of *Chordeiles minor* subspecies nests across North America from the Yukon south to Oregon and Washington, east to Newfoundland, and south in the central portion of the country from Minnesota to Arkansas and thence east to Georgia. Two specimens from New Mexico are identified as *C. m. minor*. Both were found on 26 September, from Sandoval and Bernalillo Counties, in 1994 and 1996 (MSB 18824 and 19606), respectively.

DISCUSSION

Adult specimens of the two nesting subspecies (*C. m. howelli* and *C. m. henryi*) in New Mexico are from 21 May to 7 August (with one 2 September), and birds in hatching year plumage range from 28 July to 19 September. Migrant subspecies (*minor, hesperis* and *sennetti*) only occurred in the fall from 16 August to 26 September, and were only represented by individuals in hatching year plumage.

With 19 specimens of hatching year *C. m. howelli* and 23 *C. m. henryi* in that same plumage at hand, a more definite comparison of the two may be made (Fig 1). *Chordeiles m. howelli* is paler throughout, with less black, particularly in the interscapular region, and is more narrowly barred ventrally. The feathers of the crown and dorsum, including the scapulars and wing coverts, are creamy-buff to pale salmon-tinged. The subspecies are relatively easy to separate by the cinnamon crowns and lesser amount of black on the mid-back in *C. m. howelli*. In contrast, young *C. m. henryi* are darker throughout, with more extensive black in the interscapular area, are more broadly barred ventrally, and have distinctive cinnamon edgings to the dorsal feathers. Some young are very cinnamon buff.

All northbound spring migrants are in adult plumage, having undergone a molt on the wintering grounds. Hatching year birds migrate south in their juvenal plumage (herein called hatching year), and they and adults molt on the wintering grounds.

How is it possible to have two subspecies co-occurring in the middle Rio Grande Valley? I believe that because the habitats that *C. m. howelli* and *C. m. henryi* interdigitate, these two taxa can occur side-by-side as volant individuals, although their habitat preferences for nesting substrates maintains their distinctive phenotypes. I believe that these subspecies' nesting distributions are discrete because of the paucity of intermediate specimens. We also see this in Great Horned Owls *Bubo virginianus* (Dickerman and Johnson 2008). Unfortunately, I have very poor evidence to support

this in *Chordeiles minor*. In fact, of the 107 specimens in the MSB, there is one just-fledged young *C. m. howelli* from "NW Albuquerque" (an area that is predominantly grassland) and two just-fledged young of *C. m. hemyi*; the first from a region of pinyon–juniper and the second from a canyon within the evergreen forests of the Jemez Mountains. However, the two subspecies (both adults and juveniles/immatures) are so intermixed when foraging on the wing as to almost occlude what are currently considered to be allopatric distributions, such as those mapped by Oberholser (1914, p.120). Future work should focus on the levels of gene flow across ecotones that comport with subspecies boundaries.

Oberholser (1914) recorded the specimens from New Mexico as he identified them (*howelli* p.63; *henryi* p. 60), but mapped their ranges as being disjunct. Selander (1954), chose to ignore the New Mexico specimens, possible because they did not fit his idea of allopatric subspecies distributions. Mosaic distribution resolves this problem.



Figure 1: Dorsal and ventral views of 2 specimens each of *Choridiles minor howellii* and *C.m. henryi*, showing about maximum degree of variation in each series.

Table 1.	Summarizing	New	Mexico	Common	Nighthawk	(Chordeiles	minor)	specimens	in	the
Museum	of Southweste	rn Bio	ology.							

Subspecies No. (no. from salvage)		Dates of occurrence	No. total counties for ssp. against (no. counties) by ssp. age class	No. specimens from Middle Rio Grande Valley region					
C. minor howelli									
Adult	17 (6)	21 May–21 July	(11)	3					
Hatch year	19 (6)	28 July–17 September	(11)	14					
C. minor benryi									
Adult	35 (18)	15 May–7 August	(15)	7					
Hatch year	23 (19)	8 August–19 September	(8)	16					
	C. minor minor								
AdulT	2 (2)	26 and 26 September	(2)	2					
C. minor sennetti									
Hatch year	6 (6)1	16 August–17 September	(1)	5					
C. minor hesperis									
Adult	3 (1)	20 August, 30 August	(3)	1					
Hatch year	$2 (2)^2$	1 September	(1)	1					
Totals	N = 107 (60)	—		N = 49					

¹Two of these are possibly *sennetti* × *hesperis.*, ²One of these is possibly *hesperis* × *henryi*.

ACKNOWLEDGMENTS

First, I thank John P. for his advice and consultation on this project, especially our discussions of the mosaic theory of distribution. I would like to thank the curators of the American Museum of Natural History (New York), Delaware Museum of Natural History (Wilmington), the University of Kansas Natural History Museum and Biodiversity Center (Lawrence), and the U. S. Museum of Natural History (Washington, DC) for the loan of specimens, and the latter for permission to compare birds in that collection. Once again I would like to acknowledge the contribution of wildlife rehabilitators, especially Wildlife Rescue Inc, of Albuquerque and The Wildlife Center of Espanola, which adds to our knowledge of the New Mexico avifauna.

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- Selander, R. K. 1954. A systematic review of the booming nighthawks of western North America. Condor 56:57–82

* * *

RECENT ORNITHOLOGICAL LITERATURE

The following is a list of publications pertaining to ornithology in New Mexico and adjacent areas that appeared in 2013 - 2014. Efforts were made to provide a comprehensive listing, however it is likely that citations were omitted. To aid in the development of future annual literature compilations, please submit relevant citations to the editor.

- Brand, L.A., M.D. Dixon, T. Fetz, J.C. Stromberg, S. Stewart, G. Garber, D.C. Goodrich, D.S. Brookshire, C.D. Broadbent, and K. Benedict. 2013. Projecting avian responses to landscape management along the Middle Rio Grande, New Mexico. The Southwestern Naturalist 58: 150-162.
- Cartron, J-L.E., D.M. Finch, D.L. Hawksworth, and S.H. Stoleson. 2013. Nesting ecology and nest success of the Blue Grosbeak along two rivers in New Mexico. Western Birds 44: 33-44.
- DeLong, J.P., N.S. Cox, S.W. Cox, Z.M. Hurst, and J.P. Smith. 2013. DNA sequencing reveals patterns of prey selection in migrating Sharp-shinned Hawks. The Condor 115:40-46.
- Ganey, J.L., S.C. Kyle, T.A. Rawlinson, D.L. Apprill, and J.P. Ward, Jr. 2014. Relative abundance of small mammals in nest core areas and burned wintering areas of Mexican Spotted Owls in the Sacramento Mountains, New Mexico. Wilson Journal of Ornithology 126: 47-52.
- Ganey, J.L., D.L. Apprill, T.A. Rawlinson, S.C. Kyle, R.S. Jonnes, and J.P. Ward, Jr. 2014. Breeding dispersal of Mexican Spotted Owls in the Sacramento Mountains, New Mexico. Wilson Journal of Ornithology 126:516-524.
- Ganey, J.L., G.C. White, J.P. Ward Jr., S.C. Kyle, D.L. Apprill, T.A. Rawlinson, and R.S. Jonnes. 2014. Demography of Mexican Spotted Owls in the Sacramento Mountains, New Mexico. Journal of Wildlife Management 78:42-49.
- Hathcock, C.D. and J.M. Fair. 2014. Hazards to birds from open metal pipes. Western North American Naturalist 74:228-230.
- Hayes, F.L. 2014. Inland records of the Black Skimmer in the western United States. Western Birds 45:327-331. (includes records from NM).
- Howe, W.H. and S.O. Williams III. 2014. First nesting of the California Gull in New Mexico. Western Birds 45: 199-203.

- Larsson, L.C., C.L. Pruett, D.H. Wolfe, and M.A. Patten. 2013. Fine-scale selection of habitat by the Lesser Prairie-Chicken. The Southwestern Naturalist 58:135-149.
- Rutt, C.R., P. Pyle, P.W. Collins, M.L. Brady, J.R. Tietz, and J.L. Dunn. 2014. The nominate subspecies of the Purple Finch in California and western North America. Western Birds 45:284-295. (includes records from NM)
- Sechrist, J., D.D. Ahlers, K.P.Zehfuss, R.H. Doster, E.H. Paxton, and V.M. Ryan. 2013. The range and use of habitat of Western Yellow-billed Cuckoos on the Middle Rio Grande, New Mexico. Southwestern Naturalist 58:411-419.
- Stahlecker, D.W., E.P. MacKerrow, H.A. Walker, J.P. Batkin, and B.R. Foy. 2014. Persistence of the Boreal Owl in New Mexico: 1987-2012. Western Birds 45: 166-175.
- Walters, J.R., D.M. Brosnan, J.M. Reed and J.M. Scott. 2014. A vision for an expanded role of ornithological societies in conservation. The Condor 116:278-289

MUSEUM OF SOUTHWESTERN BIOLOGY INVITATION SUNDAY, DECEMBER 6, 2015 UNM CERIA BUILDING

3:00 - 6:00 PM

The Museum of Southwestern Biology invites members of NMOS to visit a one-timeonly showcase of collections-based research on birds on *Sunday, Dec. 6, 2015, 3-6 PM*. The event is by invitation only to NMOS members and parties interested in ornithology in New Mexico, and will be held at the University of New Mexico in the CERIA building (building #83 on the UNM Campus map). The entrance to CERIA faces the fountain on the Yale Mall, just north of the intersection of Yale and Central. Most campus parking options will be free on that day.

* * *

NEW MEXICO ORNITHOLOGICAL SOCIETY 54th ANNUAL MEETING SAVE THE DATE 9 APRIL 2016

The New Mexico Ornithological Society (NMOS) will hold its 54th Annual Meeting on Saturday, 9 April 2016 at the Crown Plaza Hotel in Albuquerque, NM.

* * *

RETRACTION

We have discovered that the date of Robert Dickerman's death published in his obituary in Volume 43 Issue 2 of The Bulletin was incorrect and we wish to correct this error. Bob Dickerman passed away on the 25 April, 2015.

MEMBERSHIP DUES REMINDER

Please take the opportunity now to pay your 2015 NMOS membership dues. To pay for membership, please download the membership form from our website (www.nmbirds.org), fill out, and mail to the following address, providing a check made out to "NMOS". Not sure if your membership needs renewing? Check the date of your membership printed in the address field of the most recent NMOS Bulletin/Field Notes mailing. Thank you!

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NEW MEXICO ORNITHOLOGICAL SOCIETY

— Founded 1962 —

The New Mexico Ornithological Society was organized to gather and disseminate accurate information concerning the bird life of New Mexico; to promote interest in and appreciation of the value of birds, both aesthetic and economic, to further effective conservation of the state's avifauna; to facilitate opportunity for acquaintance and fellowship among those interested in birds and nature; and to issue publications as a means of furthering these ends.

Membership and Subscriptions: Membership in the New Mexico Ornithological Society is open to anyone with an interest in birds. Memberships are for a calendar year and annual dues are payable 1 January. Dues are: Regular Membership \$20; Family \$30; Student \$10; Supporting \$50; Life \$500. Address for the New Mexico Ornithological Society: Post Office Box 3068, Albuquerque, NM 87190-3068.

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NMOS members are encouraged to submit articles and news. Articles received are subject to review and editing. Published articles are noted in major abstracting services. Please submit articles in double-spaced electronic format, such as a Microsoft Word document, by e-mail to the Editor (see inside front cover). Refer to recent issues of the *Bulletin* for examples of style. News items may be submitted to the Editor by way of e-mail.

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