NMOS BULLETIN

New Mexico Ornithological Society

Vol. 36, No. 4 **2008**

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THE NEW MEXICO ORNITHOLOGICAL SOCIETY, INC.

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IDENTIFICATION OF A FEMALE BALTIMORE ORIOLE (*ICTERUS GALBULA*) FROM ROOSEVELT COUNTY, NEW MEXICO

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Abstract.—Of the 30 Baltimore Orioles (*Icterus galbula*) documented for New Mexico between 1990 and mid-2006, 22 were reported as males or apparent males, representing an apparent skewed sex ratio either due to actual occurrences or observer-reporting bias. During the same period, four male Baltimore Orioles had been reported from the North Roosevelt County Migrant Trap. Our paper describes the first known occurrence of a hatch-year female Baltimore Oriole from the North Roosevelt County Migrant Trap and might help observers avoid a potential bias towards not reporting female Baltimore Orioles in the future.

Eastern New Mexico is close to the hybridization zone between Bullock's (*Icterus bullockii*) and Baltimore (*I. galbula*) Orioles that runs north-south through western Kansas and extends to Saskatchewan and central Texas (Sibley and Short 1964). This zone appears to have been stable based on work in western Kansas between the 1960s, 1970s and 1990s (Rising 1983 and 1996). The hybridization zone appears to be the result of different evolutionary pressures acting on either side of the zone rather than from previously allopatric forms that have rejoined (Rising 1970).

Individuals of both species will occasionally be found on the side of the hybridization zone away from most of their con-specifics. In New Mexico, 30 Baltimore Orioles have been documented between 1990 and mid-2006 (NMOS 2007; Table 1). Most of the reported observations of Baltimore Orioles in New Mexico have been males or apparent males (22 of 30; Table 2). Only six females or apparent/probable female Baltimore Orioles have been reported for New Mexico.

The North Roosevelt County Migrant Trap is a small 1.4-ha (3.4-acre) woodlot on State Trust Land, north of U.S. Highway 60, approximately 16 km (10 mi) west of the town of Melrose, New Mexico (Parmeter 2007). Parmeter (2007) reviewed all four observations of Baltimore Orioles previously observed at the North Roosevelt County Migrant Trap. All four birds are reported to have been males, three of them reported as immature males. Our paper describes the first known occurrence of a female Baltimore Oriole from the North Roosevelt County Migrant Trap.

OBSERVATION

On 11 September 2007 we captured, banded, and photographed a hatch-year (HY) female Baltimore Oriole at the North Roosevelt Migrant Trap (Fig. 1). While handling the bird, we recorded no molt in the wings and less than 20 feathers molting on the body. Apart from the wings, the bird had no black in the plumage and relatively little orange on the belly (Fig. 2).

DISCUSSION

The reporting of six female (or apparent/probable female) verses 22 male (or apparent male) Baltimore Orioles is a significant difference if an equal sex ratio is assumed along with random observations ($P < 0.002$; binominal distribution probability). Either there is a skewed sex ratio of Baltimore Orioles that show up in New Mexico or there is an observer bias towards reporting males. A careful review of the oriole reported here might help observers avoid a potential bias towards not reporting female Baltimore Orioles in the future.

Pyle (1997) reports for Bullock's Orioles that pre-basic molt occurs primarily at migration stopover sites or on wintering grounds. For Baltimore Orioles (Pyle 1997, Rohwer and Manning 1990), the pre-basic molt occurs on the summering grounds and early in fall migration. An after-hatch-year (AHY) Bullock's Oriole on 11 September in east-central New Mexico would likely have old worn feathers or be molting because the species molts while on migration and not on their summering grounds; therefore, an AHY Bullock's Oriole with all fresh remiges

TABLE 1. Documented observations of Baltimore Orioles in New Mexico between 1990 and mid-2006 from the *NMOS Field Notes* (2007).

NMOS Database ID Number	**Sex**	**Age**	**County**	***NMOS Field Notes* (Vol.:No.)**
36607	Male	Unknown	Union	33:2
35885	Male	Immature	Eddy	35:2
41665	Male	Adult	Bernalillo	36:2
56709	Male	Unknown	Eddy	37:2
56708	Male	Unknown	Roosevelt	37:2
56710	Male & female	Both unknown	Eddy	37:2
57961	Male	Immature	Doña Ana	38:2
57960	Unknown	Unknown	Union	38:2
59789	Male	Adult	Roosevelt	39:2
60576	Apparent female	Unknown	De Baca	39:4
61265	Male	Adult	Lincoln	40:2
61266	Male	Adult	Eddy	40:2
61948	Probable female	Unknown	Torrance	40:4
61949	Apparent male	Unknown	Eddy	40:4
62689	Male	Adult	Harding	41:2
62690	Male	Young	Roosevelt	41:2
63033	Male	Immature	Eddy	41:3
63464	Male	Adult	Quay	41:4
66433	Female	Young	Colfax	43:2
68661	Male	Unknown	Chaves	43:3
66761	Apparent male	Unknown	Rio Arriba	43:3
67183	Male	Young	Colfax	43:4
67184	Male	Young	Roosevelt	43:4
67185	Male	Young	Doña Ana	43:4
67949	Female	Second year	Doña Ana	44:2
68613	Unknown	Immature	Socorro	44:4
68612	Male	Young	Roosevelt	44:4
69475	Male	Unknown	Chaves	45:2
69476	Female	Young	Hidalgo	45:2

TABLE 2. Sexes for 30 Baltimore Orioles reported between 1990 and mid-2006 (NMOS 2007).

Reported Sex	Total
Apparent female	1
Probable female	1
Female	4
Apparent male	2
Male	20
Unknown	2
Grand total	30

would be very unlikely in eastern New Mexico in early September. This judgment is supported by a review of specimens from across the Great Plains that found no Bullock's Orioles in fresh basic plumage (of any age) among those collected during September (Rohwer and Johnson 1992). Thus, the lack of old flight feathers excludes our 11 September oriole from being an AHY Bullock's Oriole. Similarly, the oriole we captured is not an AHY Baltimore Oriole (after its first pre-alternate molt) because it lacks back feathers with distinct black markings (Pyle 1997, Lee and Birch 1998). Thus, the oriole reported here is a HY bird based on the lack of molt in the flight feathers, all the flight feathers being relatively new, and no distinct black markings on the feathers of the back. Because of the different molt timings between the two species, the following discussion will address only differences between juvenile Bullock's Orioles and first-basic Baltimore Orioles.

Head.—Rising and Williams (1999) report that the head of a juvenile Bullock's Oriole has a pale yellow superciliary stripe. Rising and Flood (1998) say the sides of the heads of first-basic Baltimore Orioles (sexes similar) are similar in color to their crowns but paler and lacking dark markings. The oriole we captured does not show a clear superciliary stripe (Fig. 1). The lack of a superciliary stripe is much more consistent with the bird being a first-basic Baltimore Oriole than with being a juvenile Bullock's Oriole.

FIGURE 1. The lack of any superciliary stripe is a strong indication that this is a Baltimore Oriole rather than a Bullock's Oriole. On the median coverts, the relatively small amount of black protruding into the white tips is further evidence of this being a Baltimore Oriole. The median-covert pattern in this bird gives the white wing bar a relatively smooth-edged appearance from a distance.

FIGURE 2. The relatively extensive orange-yellow color to the breast supports identifying this bird as a female first-basic Baltimore Oriole rather than a juvenile Bullock's Oriole. The pale yellow throughout the belly and flanks with little or no orange supports this identification.

Wings.—Lee and Birch (1998, 2001) document the median covert patterns of both oriole species. In Bullock's Orioles the black intrudes substantially into the white feather tips and creates a serrated appearance. In Baltimore Orioles there is relatively little intrusion of

black into the white feather tips creating the appearance of a smooth edge. The oriole we captured has a wing pattern with a relatively smooth edge between the black and white of the median coverts (Fig. 1). The wing covert pattern is more consistent with that of a first-basic Baltimore Oriole than with a juvenile Bullock's Oriole.

Breast.—Rising and Williams (1999) report that juvenile Bullock's Orioles have yellow breasts. Rising and Flood (1998) report that underparts of first-basic Baltimore Orioles are pale orange or orange-yellow, brightest on sides of throat, breast and crissum. Lee and Birch (1998) suggest juvenile Bullock's Orioles have more white and less orange in the breast than first-basic Baltimore Orioles, especially male Baltimore Orioles. The oriole we captured shows a substantial amount of orange-yellow in the breast (Fig. 2), suggesting that the bird is a first-basic Baltimore Oriole rather than a juvenile Bullock's Oriole.

Belly.—Rising and Williams (1999) report that juvenile Bullock's Orioles have yellowish white to grayish bellies. Lee and Birch (1998) explain that first-basic female Baltimore Orioles might have pale yellow bellies, whereas the similar aged males have more extensive orange on the belly. Lee and Birch (1998) caution that the first-basic female Baltimore Orioles can have very pale bellies similar to juvenile female Bullock's Orioles. The pale yellow through the belly of the oriole we encountered (Fig. 2) suggests that the bird is a first-basic Baltimore Oriole rather than that of a juvenile Bullock's Oriole.

Flanks.—Lee and Birch (1998) suggest that the flanks of juvenile Bullock's Orioles are usually white and not infused with yellow. They show a male Baltimore Oriole with orange-yellow flanks and state that the yellow flank color usually doesn't "bleed onto the flanks" in immature Bullock's Orioles. The oriole we captured clearly has a meaningful amount of yellow on its flanks (Fig. 2) providing further evidence that it is a first-basic Baltimore Oriole and not a juvenile Bullock's Oriole.

The premise for our identification of the oriole captured on 11 September 2007 at the North Roosevelt Migrant Trap is the knowledge that Baltimore Orioles molt before fall migration while Bullock's Orioles molt during and after fall migration. For the western Great Plains during mid-September, all orioles in fresh plumage are likely Baltimore Orioles after their pre-basic molt (Rohwer and Johnson 1992). Bullock's

Orioles have generally departed from the Great Plains by mid-September. The lack of old flight feathers excludes an AHY Bullock's Oriole from consideration at this time of the year. Any AHY Baltimore Oriole would have back feathers with distinct black markings. The lack of a superciliary stripe, relatively smooth edge to the black along the white tips of the median coverts, breast that is relatively orange, and belly and flanks with yellow collectively show that our bird was a HY female Baltimore Oriole.

ACKNOWLEDGEMENTS

Special thanks go to Jeanne Fair (master bander for the project), Mary Ristow, Bruce Panowski, Gail Owings, Michael Hilchey, Bill Wittman, Ashli Maruster, Larry Gorbet, Isella Diaz, and Daniel Tenez who assisted with the constant-effort mist-netting project that found the oriole reported in this paper. Also, thanks go to Robert Doster, Chuck Hathcock, Bernard Foy, and Hira Walker for providing helpful comments on an earlier draft of this paper.

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WINTER DIET OF THE MOUNTAIN BLUEBIRD (*SIALIA CURRUCOIDES*) IN NORTHERN NEW MEXICO

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The Mountain Bluebird (*Sialia currucoides*) is found in western North America and is known for the striking blue plumage of the male (Power and Lombardo 1996). Mountain Bluebird breeding range spans the Rocky Mountains as well as the Sierra Cascade region, including northeast New Mexico south to the south-central part of the state (Hubbard 1978). It winters at lower elevations such as valleys in this geographic area, including much of New Mexico and winter habitat includes grasslands with scattered trees, bushes, and agricultural areas (Power and Lombardo 1996).

During the breeding season, 92% of the Mountain Bluebird's diet is insects and other animal matter (Bent 1942, Power and Lombardo 1996). Little is known about the diet of Mountain Bluebirds in the winter, although Power and Lombardo (1996) list small fruits, seeds and insects when available. The objective of our study was to document the winter diet of Mountain Bluebirds in northern New Mexico.

Our study site was a small pond located in Nambé, Santa Fe County, New Mexico (35.917° N, 105.989° W, elevation 1867 m). The arroyo habitat surrounding the pond includes one-seed juniper (*Juniperus monosperma*), silver sagebrush (*Artemisia cana*), and sparse narrowleaf cottonwood (*Populus angustifolia*). From December 2004 through February 2005, a flock of approximately 40 wintering Mountain Bluebirds occupied this site.

In order to analyze the winter diet of these Mountain Bluebirds, we collected a total of 115.97 g of Mountain Bluebird droppings from around the pond on 20 February 2005. Droppings were collected from a bench where the Mountain Bluebirds sat next to the pond and were easily scraped into bags due to the large amount of droppings. No other bird species were observed utilizing the bench. We dried and then

sorted through the droppings to distinguish between different food types consumed. Seeds in the droppings were identified using seeds collected and maintained at Los Alamos National Laboratory.

We found that the winter diet consisted primarily of seeds. The dominant seed was one-seed juniper; total biomass was 105.7 g (91.2% of material collected). The remaining diet was composed of Russian olive (*Elaeagnus angustifolia*) berries; total biomass was 9.6 g (8.3% of collected material). Russian olive seeds were primarily intact with little digestion and the fruit of the one-seed juniper ranged from almost fully digested to fully intact.

Although Martin et al. (1951) found that only a small proportion of Mountain Bluebird diet was composed of plant material, our finding that fruit comprised the entire winter diet of Mountain Bluebirds is consistent with their findings that fruits constituted most of that plant material. Beal (1915) determined from stomach contents obtained over an entire period of a year that the small amount of vegetative matter in the overall diet (8% of the contents) of Mountain Bluebirds consisted of grapes, currants, elderberries, sumac seeds, mistletoe seeds, and hackberry seeds.

One-seed juniper, the predominant food source for wintering Mountain Bluebirds, is one of five juniper species found in northern New Mexico (Foxx and Hoard 1995). The one-seed juniper produces purple berries that dry on the tree and are very important food for wintering frugivores (Johnsen 1962, Martin et al. 1951, Poddar and Lederer 1982). One-seed juniper berries are very palatable to birds and have high caloric content (Salomonson 1978).

Russian olive, the remaining food source, was introduced to North America from Europe and Asia prior to 1900 (Borell 1976), planted for soil conservation, habitat improvement, windbreaks, and as ornamentals (Borell 1951, Knopf and Olson 1984). Its fruit grows in the early fall and stays on the tree through the winter, making berries available to wildlife when other food is in short supply (Borell 1951). Mountain Bluebirds have been observed feeding on Russian olive fruits, and Russian olives were used as nesting sites by over one-third of the bird species in the Gila Valley in New Mexico—perhaps due to increased protection provided by spines and a thicket-forming growth pattern (Stoleson and Finch 2001).

ACKNOWLEDGMENTS

We thank L.K. Marsh for assistance in collecting bluebird droppings and E. Powell and H. Hinojosa for editing and reviewing comments. We thank Sam Loftin for assistance in seed identification. We are also grateful to L. Maestas, C. Hathcock, and D. Keller for assistance in the field. Laboratory analysis was completed at Los Alamos National Laboratory in conjunction with the Avian Nestbox Monitoring Project with funding by the Environmental Restoration Program.

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REVIEWERS FOR VOLUME 36

The New Mexico Ornithological Society and the Editor of the *NMOS Bulletin* would like to thank the following individuals who served as reviewers for manuscripts that appeared in Volume 36 of the *Bulletin.*

William H. Howe, Janet M. Ruth, Giancarlo Sadoti, Hira A. Walker, and Sartor O. Williams III.

NMOS 47th ANNUAL MEETING ANNOUNCEMENT

25 April 2009
Fuller Lodge
2132 Central Avenue
Los Alamos, New Mexico

The 47th Annual Meeting of the New Mexico Ornithological Society will occur on Saturday, 25 April 2009 at Fuller Lodge, located at 2132 Central Avenue in the historic district of Los Alamos. This meeting will include an NMOS business meeting and an NMOS general science session. The NMOS evening banquet, also at Fuller Lodge, will feature a keynote presentation by Dr. Natasha Kotliar, Research Ecologist, USGS Fort Collins Science Center, Colorado, who will speak about her research on forest fire ecology and effects on birds. The Call for Papers appears in this issue of the *NMOS Bulletin* while registration information will appear in the next issue. Details will also be posted on the NMOS web site, www.nmbirds.org, as they become available.

* * *

NEW MEXICO CHRISTMAS BIRD COUNTS

The National Audubon Society has conducted Christmas Bird Counts (CBC) since 1900. For one calendar day between 14 December and 5 January, volunteers from across North America and beyond spend the day in the field to record every bird species and individual bird encountered within a designated 15-mile diameter circle. These records now comprise an extensive ornithological database that aids in monitoring of winter bird populations. For a complete list of the CBCs in New Mexico for the 109th Count period, including compiler contact information for each count, see the web listing provided by Audubon New Mexico at nm.audubon.org, or by following the link on the NMOS web page (www.nmbirds.org).

NMOS 47th ANNUAL MEETING
CALL FOR PAPERS – GENERAL SCIENCE SESSION

The New Mexico Ornithological Society will hold its 47th Annual Meeting on Saturday, 25 April 2009 at Fuller Lodge in Los Alamos, New Mexico. Oral presentations will be allotted 15 minutes, with an additional five-minute period for questions. Papers may range from technical reports of original research to general observations. Poster presentations are also encouraged. Poster sizes should be no larger than 91 cm H x 122 cm W.

Please submit abstracts containing the following information:

- TITLE (in all capital letters) of no more than 20 words.
- Names and addresses of author(s) in the following form:

  Bear, V. L. and C. Finch, Dept. of Ornithology,
  University of Central New Mexico, Birdsville, NM 88666

- Body of abstract as one single-spaced paragraph, not to exceed 250 words.
- Include e-mail address and/or phone number of presenting author.

Please submit your abstract in the body of an e-mail, not as an attachment. This will prevent any problems with incompatible word processing formats. Abstracts should be e-mailed to both Martha Desmond, session chair (mdesmond@nmsu.edu; 505-646-1217), and Roland Shook (shookr@wnmu.edu; 575-388-3441) on or before 15 March 2009.

Abstracts for the NMOS General Science Session will be distributed at the meeting and will also be published in the *NMOS Bulletin*.

NMOS RESEARCH GRANTS

The New Mexico Ornithological Society announces two $1000 grants to support research on New Mexico birds, available through the Ryan Beaulieu Research Grant Program.

The criteria for the grants are: 1) the grant money must be spent while conducting research on birds in New Mexico; 2) the recipient must either present a paper based on the research at an annual NMOS Meeting or submit an article based on the research to the *NMOS Bulletin*; and 3) preference will be given to student applicants.

A short research proposal (two pages maximum) must be submitted describing the nature of the project and how the funds would be spent (e.g., on fuel, tape recording, specific equipment, etc.). Each proposal should include two letters of reference, one of which should be from a graduate advisor if the applicant is a graduate student. References should comment on the applicant's commitment to New Mexico ornithology and ability to design and carry out creative, independent research. Please submit your electronic proposal, with "NMOS Grant" in the subject line, to:

Dr. Roland Shook
Western New Mexico University
Silver City, NM 88061
shookr@wnmu.edu

Research proposals must be received by 15 March 2009. All applications will be acknowledged upon receipt. If no acknowledgement is received, it is the applicant's responsibility to follow-up with their submission to ensure consideration. Grant awards will be announced at the NMOS Annual Meeting on 25 April 2009.

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This issue of the *NMOS Bulletin* published 3 December 2008.
Printed on 100% recycled paper.

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.

NMOS BULLETIN

The *Bulletin* is published quarterly; subscription is by membership in NMOS. The *Bulletin* serves two primary purposes: (1) to publish articles of scientific merit concerning the distribution, abundance, status, behavior, and ecology of the avifauna of New Mexico and its contiguous regions; and (2) to publish news and announcements deemed of interest to the New Mexico ornithological community.

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.

www.nmbirds.org

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