

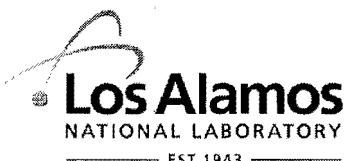
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*Title:* WINTER FEEDING HABITS OF THE MOUNTAIN  
BLUEBIRD (SIALIA CURRUOIDES) IN NORTHERN NEW  
MEXICO

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*Intended for:* New Mexico Ornithological Society



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5        WINTER FEEDING HABITS OF THE MOUNTAIN BLUEBIRD (*SIALIA*  
6                    *CURRUCOIDES*) IN NORTHERN NEW MEXICO  
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1       The Mountain Bluebird (*Sialia currucoides*) is found in western North America  
2       and is known for the blue color that completely covers the male (Martin et al. 1951). The  
3       Mountain Bluebird habitat spans through the Rocky Mountains as well as the Sierra  
4       Cascade regions, but winters in the milder parts of this geographic area which includes  
5       New Mexico (Martin, et al. 1951). However, Mountain Bluebirds in New Mexico are  
6       often permanent residents as well (unpublished data).

7       During the summer breeding months, the Mountain Bluebird consumes 92% of its  
8       diet in insects as well as other animal matter (Bent, 1942). However, little is known  
9       about the diet of Mountain Bluebirds in the winter. From December 2004 through  
10      February 2005, approximately 40 Mountain Bluebirds flocked together in Nambé, New  
11      Mexico (35°55'00", 105°59'20", altitude 1867 meters). The arroyo habitat includes One-  
12      seed Juniper (*Juniperus monosperma*), Silver Sagebrush (*Artemisia cana*), and sparse  
13      Narrowleaf Cottonwood (*Populus angustifolia*). Our focus was to analyze the winter  
14      feeding habits of the Mountain Bluebird in the northern area of New Mexico.

15      We collected a total of 115.97 grams Mountain Bluebirds droppings from the  
16      pond in the study area. We sorted through the droppings to distinguish between different  
17      food types consumed, and found that the winter diet consisted primarily of fruit seeds.  
18      This is supported by Martin et al. (1951) who states that fruits constitute most of the  
19      small proportion of plant material in the diet of the Mountain Bluebird. Power and  
20      Lombardo (1996) who determined from stomach contents obtained over an entire period  
21      of a year the Mountain Bluebird diet consist of grapes, currants, elderberries, sumac  
22      seeds, mistletoe seeds, and hackberry seeds.

1       The main fruit found was that of the One-Seed Juniper which weighed 105.7  
2       grams (91.2 % of material collected). The One-Seed Juniper is one of five of juniper  
3       species found in Northern New Mexico (Foxx and Hoard 1995). The One-Seed Juniper  
4       can be found in the southwestern United States in Texas, New Mexico, and Arizona. It  
5       has a wide variety of elevation tolerances ranging from 3,000 feet to the ponderosa pine  
6       forests at around 7,500 feet (Johnsen 1962). It can be characterized by the purple berries  
7       that shrivel when dried and is very important for providing food during the winter months  
8       for birds that rely on fruits (Johnsen 1962, Martin 1951, Poddar and Lederer 1982). It is  
9       also noted that One-Seed Juniper berries are very palatable to birds because of the sweet  
10      taste, and can provide a lot of energy due to its high calories (Salomonson 1978).

11       The remaining berries that were found were from Russian Olive trees (*Elaeagnus*  
12       *angustifolia*) and weighed 9.6 (8.3% of collected material). Russian-Olive trees  
13       originated from Europe and Asia but have been found in North America prior to 1900  
14       (Borell 1976). At one point the Russian-Olive tree was being planted for land  
15       management purposes to help in soil conservation, improvement of habitat, windbreaks,  
16       and also it was planted in residential areas (Borrel 1951, Knopf and Olson 1984).  
17       Russian-Olives are found in large numbers in Albuquerque as well as in the Rio Grande  
18       Valley area. The fruit grows in the early fall and stays on the tree through the winter.  
19       Thus, the berries are available to wildlife when other food is in short supply in the winter  
20       months (Borrell 1951).

21       Although Russian-olive may provide a plentiful source of edible fruits, it has  
22       been found that bird species richness is higher in riparian areas dominated by native  
23       vegetation and not the exotic Russian-olive (Knopf and Olson 1984). Despite this fact,

1 Borrel (1951) author of “Russian-Olive as a Wildlife Food” observed Mountain  
2 Bluebirds feeding on Russian-olive trees. Also, Russian-olive was used by over one-third  
3 of the bird species in the Gila Valley area of New Mexico as a nesting site—perhaps due  
4 to increased protection as a nesting site due to spines and a thicket-forming growth  
5 pattern (Stoleson and Finch 2001). However, despite these possible benefits, it has been  
6 estimated that 31% of native bird species that depend on native trees for nesting, and  
7 insects, would be harmed by colonization by Russian-olive (Shafroth et al. 1995). An  
8 increase fruits available for passerines in the winter in New Mexico may allow for  
9 resident populations to remain if temperatures in the Southwest increase in the future.

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