CHECKLIST OF NEW MEXICO MAMMALS

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OVERVIEW

New Mexico has a rich diversity of fauna, including mammals (Fig. 1, Patterson et al., 2007; Jenkins et al., 2015). New Mexico ranks as the third most speciose state in the United States with 180 recognized mammalian species. Only California and Texas have more species, largely due to their inclusion of marine mammals (Fig. 2A) and larger land areas. California is the only state with more terrestrial species than New Mexico. Arizona, New Mexico, and Texas have similar numbers of volant species (bats). Within New Mexico, faunal composition includes 10 orders, 30 families, and 91 genera. Rodents are especially diverse in New Mexico (Figs. 1, 2B).

Evaluating the causes of high mammalian diversity in New Mexico has been a focus of several generations of mammalogists that are constantly deploying new techniques and tools to measure geographic variation, but often returning to re-evaluate the historic specimens. Through these efforts, several themes have emerged that help explain the elevated mammalian diversity in New Mexico, including:

1) Location – New Mexico is at the junction of several important biotic zones, including the southern Great Basin, southern Rocky Mountains, western Great Plains, the northern Sierra Madre Occidental, the northeastern Sonoran and the northwestern Chihuahuan deserts.

2) Topographic and Habitat Complexity – New Mexico is one of the most topographically heterogeneous areas in North America spanning 3145 m in elevation (highest: Wheeler Peak, 4011 m; lowest: Red Bluff Reservoir, 866 m) with elements of the cold deserts of the Basin and Range and Colorado Plateau, Rocky Mountain boreal forests, grasslands on the Llano Estacado, and deserts interspersed with volcanic sky islands, all separated east-west by the Río Grande and other smaller rivers.

3) Time – climatic oscillations of the late Pleistocene shifted biotic zones back and forth across the landscape and up and down mountains and valleys (elevation), enabling diversification through evolutionary species pumps primed by vicariance and isolation of populations, in addition to cyclical dispersal and colonization of new regions.

Mammalian diversity of the region has long been appreciated by diverse indigenous peoples as perhaps most eloquently documented by Mimbreño pottery. Written documentation of mammalian diversity in New Mexico began with a US military expedition into the Rocky Mountains led by Major Stephen Harriman Long in 1820, and included the naturalists Thomas Say and Titian Ramsey Peale, but no known mammalian specimens were collected from New Mexico. Edgar Mearns and Frank Holzner collected several species along the proposed US-Mexico boundary during 1893-95 (Mearns, 1907). Vernon Bailey, under the direction of C. Hart Merriam, was the first to conduct comprehensive specimen-based studies of mammals from New Mexico for the US Bureau of Biological Survey and provided the first summary of mammalian diversity for the state (Bailey, 1931). Later, Arthur Harris (Harris, 1959) provided the first comprehensive checklist. Based largely on Harris’s work, Mammals of New Mexico (Findley et al., 1975) provided an assessment of geographic distributions, taxonomy, and comparison of mammals for the Land of Enchantment.

Compared with a growing series of publications on particular groups of mammals, many completed by graduate students at the University of New Mexico, these works laid the groundwork for our understanding of biogeography, geographic variation, taxonomy and systematics, and the broad ecology and evolution of mammals in New Mexico. More recently, specimens have been essential to our understanding of the impacts of a century of climate change and land use (Moritz et al., 2008; Rowe et al., 2009; McCain et al., 2021). Ongoing and projected alterations to habitats and climates are restructuring biodiversity (Ceballos et al., 2017, 2020) and will require focused, specimen-based efforts to document changes in mammalian populations and provide the next generation of biologists the biodiversity samples necessary to derive essential insights (Schindel and Cook, 2018).

Specimen-based sampling is the foundation to our understanding of all aspects of mammalian ecology and evolutionary diversity, providing the retrospective sampling necessary to more completely evaluate environmental change (Suarez and Tsutsui, 2004; McLean et al., 2016; Cook and Light, 2019), and provides raw data for forecasting future biodiversity change (Funk, 2018; Schindel and Cook, 2018). Traditional methods for preparing mammalian specimens have evolved over the past few decades and now include the holistic preparations that maximize the kinds of studies possible on each specimen (Cook et al., 2017). For example, Art Harris, while a graduate student at MSB, pioneered the now-standard practice of preparing skins plus full skeletal specimens, instead of the traditional skin and skull specimens (Hafner et al., 1984). That practice has now been adopted by many other museums in the United States and elsewhere. Holistic specimens now include the traditional vouchers (e.g., fluid, skin and skeleton) but also incorporate associated ancillary materials (e.g., multiple kinds of ultrafrozen tissues), preserved endo- and ecto-parasites, and gastrointestinal microbiomes (Dunnock and Cook, 2012; Galbreath et al., 2019). This broad array of material allows for more intensive and integrated investigations of the biology of these organisms (Cook et al., 2020; Dunnock et al., 2020), taking advantage of recent advances in technology (e.g., genomics, stable isotopes, microCT scans) and analyses (e.g., ecological niche modeling; Cook and Light, 2019).

Within New Mexico there are nine natural history collections curating mammal specimens from across the state (Dunnock et al., 2018). As of November 2020, 165,931 digitized specimen records have been published by some of these museums and there are an additional 55 other publishers (mostly museums) to online databases (i.e., GBIF; https://doi.org/10.15468/dl.3xscrm). Of those records, 162,621 (98.0%) have a documented year of collection and 127,204 (76.6%) have a georeference (Fig. 3). Approximately 75% of published specimen records from New Mexico are web-accessible on the Arctos database (arctos.database.museum). While overall rates of adding new mammalian specimens to museums are in decline (Malaney and Light, 2019), new insights on species distributions, taxonomy, and natural history, among others, continue to emerge, and the necessity of continued collection efforts cannot be over stressed. Photo documentation or other observation-based initiatives are poor substitutes for well-developed specimen infrastructure that future scientists will depend on.

Revisiory work resulting in new taxonomic designations for some mammals, as well as novel records not previously recorded for the state, necessitate periodic updates of the
Checklist of New Mexico Mammals (Frey, 2004; Frey et al., 2006; Bradley et al., 2014). We detect at least 30 changes within the last two decades (Table 1). This checklist comprises all native and non-native free-ranging mammalian species that occur or recently occurred (within the last ca. 150 years) in New Mexico. Scientific and common names generally follow The Handbook of the Mammals of the World (Volumes 1-3, 6-9) and reflect updated taxonomy recognized by the Mammal Diversity Database (MDD, 2020) and Burgin et al. (2018).

Orders and families are arranged according to phylogenetic relationships (Upham et al., 2019), but species are listed alphabetically within families. Following each scientific name, the author(s) who first described the species and the year of publication is cited. Parentheses indicate that the species has since been assigned to another genus despite retaining the specific epithet.

Notes following common names indicate:
(I) Introduced in the state (excludes domestic species but includes feral domestic and game species)
(R) Reintroduced
(B) Includes both native and introduced populations
(E) Presumed extirpated from the state

FIGURE 1. Mammalian diversity and species richness across North America and within New Mexico for all mammals and 6 orders. Note: Cingulata, Didelphimorphia, and Primates are excluded.
FIGURE 2. A, Mammalian diversity in New Mexico is among the highest in the United States with 180 species. B, Faunal composition is composed of 10 orders, 30 families, and 91 genera with C, rodents composed of nine families and 82 species (45% of all NM Mammals).

(V) Not validated with a voucher specimen
(P) Protected species in New Mexico with subscripts indicating game (g), furbearer (u), plus state (s) and/or federally (f) listed, and (c) species of greatest conservation need (SGCN) listed in the State Wildlife Action Plan (NMDGF, 2016).

ARTIODACTYLA—even-toed ungulates

Suidae
Wild Boar or Feral Hog (I) Sus scrofa Linnaeus, 1758

Tayassuidae
Collared Peccary (Pg) Pecari tajacu (Linnaeus, 1758)

Cervidae
Moose (I, V, P) Alces alces (Linnaeus, 1758)
Wapiti or Elk (B, Pg) Cervus canadensis (Erxleben, 1777)
Mule Deer (Pg) Odocoileus hemionus (Rafinesque, 1817)
White-tailed Deer (Pg) Odocoileus virginianus (Zimmermann, 1780)

Antilocapridae
Pronghorn (Pg) Antilocapra americana (Ord, 1815)

FIGURE 3. Heat map of the density of 127,204 georeferenced mammal specimens from New Mexico. Cooler colors indicate poorly documented regions of the state.

Bovidae
Aoudad or Barbary Sheep (I, Pg) Ammotragus lervia (Pallas, 1777)
American Bison (I, E, Pg) Bos bison (Linnaeus, 1758)
Persian Ibex (I, Pg) Capra aegagrus (Erxleben, 1777)
Siberian Ibex (I, E, Pg) Capra sibirica (Pallas, 1776)
Himalayan Tahr (I) Hemitragus jemlahicus (C. H. Smith, 1826)
Gemsbok or Oryx (I, Pg) Oryx gazella (Linnaeus, 1758)
Red Sheep (I) Ovis aries Linnaeus, 1758
Bighorn Sheep (R, Pc,g) Ovis canadensis Shaw, 1804

DIDELPHIMORPHIA—American opossums

Didelphidae
Virginia Opossum (B) Didelphis virginiana Kerr, 1792

CINGULATA—armadillos

Dasypodidae
Nine-Banded Armadillo Dasypus novemcinctus Linnaeus, 1758

PRIMATES—primates

Hominidae
Modern Humans Homo sapiens Linnaeus, 1758

RODENTIA—rodents

Sciuridae
Harris’s Antelope Squirrel Ammospermophilus harrisi (Audubon and Bachman, 1854)
Texas Antelope Squirrel Ammospermophilus interpres (Merriam, 1890)
White-tailed Antelope Squirrel Ammospermophilus leucurus (Merriam, 1889)
Golden-maned Ground Squirrel Callospermophilus lateralis Say, 1823
Gunnison’s Prairie Dog (Pc) Cynomys gunnisoni (Baird, 1855)
Black-tailed Prairie Dog (Pc) Cynomys ludovicianus (Ord, 1815)
Mexican Ground Squirrel Ictidomys mexicanus (Erxleben, 1777)
Thirteen-lined Ground Squirrel  
*Ictidomys tridecemlineatus* (Mitchell, 1821)

Long-tailed Vole  
*Microtus longicaudus* (Merriam, 1888)

Yellow-bellied Marmot (P)  
*Marmota flaviventris* (Audubon and Backman, 1841)

Mogollon Vole  
*Microtus mogollonensis* (Mearns, 1890)

Gray-footed Chipmunk  
*Neotamias canipes* (V. Bailey, 1902)

Montane Vole (Pc,s-part)  
*Microtus montanus* (Peale, 1848)

Gray-collared Chipmunk  
*Neotamias cinereicollis* (J. A. Allen, 1890)

Prairie Vole  
*Microtus ochrogaster* (Wagner, 1842)

Cliff Chipmunk  
*Neotamias dorsalis* (Baird, 1855)

Southern Red-backed Vole  
*Myodes gapperi* (Vigors, 1830)

Least Chipmunk (Pc,s-part)  
*Neotamias minimus* (Bachman, 1839)

White-throated Woodrat  
*Neotoma albigula* Hartley, 1894

Botta's Pocket Gopher  
*Neotamias quadridivittatus* (Say, 1823)

Bushy-tailed Woodrat  
*Neotoma cinerea* (Ord, 1815)

Flammulated Pocket Gopher  
*Neotamias incanus* (Henderson, 1831)

Mexican Woodrat  
*Neotoma mexicana* Baird, 1855

Merriam's Pocket Mouse  
*Neotamias niger* (Say, 1823)

Southern Plains Woodrat  
*Neotoma micropus* Baird, 1855

Silky Pocket Mouse  
*Neotamias penicillatus* (Audubon and Backman, 1841)

Ord's Deer Mouse  
*Peromyscus leucopus* (Thomas, 1887)

Southern Rock Mouse  
*Peromyscus truei* (Shufeldt, 1885)

Apache Pocket Mouse  
*Peromyscus crinitus* (Merriam, 1892)

Western Heathier Vole  
*Phenacomys intermedius* Merriam, 1889

Brown-footed Mouse  
*Peromyscus arizonensis* Coues, 1867

Fulvous Harvest Mouse  
*Peromyscus aztecus* (Audubon and Bachman, 1902)

Merriam’s Kangaroo Rat  
*Dipodomys merriami* Mearns, 1890

Western Harvest Mouse  
*Reithrodontomys fulvescens* J. A. Allen, 1894

Ord’s Kangaroo Rat  
*Dipodomys ordii* Woodhouse, 1853

Western Harvest Mouse  
*Reithrodontomys megalotis* (Baird, 1857)

Banner-tailed Kangaroo Rat  
*Dipodomys spectabilis* Merriam, 1890

Plains Harvest Mouse  
*Reithrodontomys montanus* (Baird, 1855)

Apache Pocket Mouse  
*Perognathus apache* Merriam, 1889

Arizona Cotton Rat  
*Sigmomus arizonae* Mearns, 1890

Plains Pocket Mouse  
*Perognathus flavescens* Merriam, 1889

Tawny-bellied Cotton Rat  
*Sigmomus crinitus* (Shufeldt, 1885)

Silky Pocket Mouse  
*Perognathus flavus* Baird, 1855

White-throated Cotton Rat  
*Sigmomus crinitus* (Merriam, 1891)

Merriam’s Pocket Mouse  
*Perognathus merriami* J. A. Allen, 1892

Western Cotton Rat  
*Sigmomus crinitus* (Merriam, 1891)

Geomyidae  

Myotis californicus* Gray, 1837

Myotis townsendii* Bachman, 1839

Chihuahuan Grasshopper Mouse  
*Onychomys arenicolus* Mearns, 1896

Western Grasshopper Mouse  
*Onychomys montanus* (Wied-Neuwied, 1841)

Southern Grasshopper Mouse  
*Onychomys torridus* (Coues, 1874)

Western Grasshopper Mouse  
*Onychomys leucogaster* (J. A. Allen, 1891)

Brush Mouse  
*Peromyscus boylii* (Baird, 1855)

Canyon Mouse  
*Peromyscus crinitus* (Merriam, 1891)

Cactus Mouse  
*Peromyscus eremicus* (Baird, 1857)

Osgood's Mouse  
*Peromyscus gratus* Merriam, 1898

Southern Deer Mouse  
*Peromyscus leucopus* ( Rafinesque, 1818)

Sonoran Deer mouse  
*Peromyscus sonoriensis* (Le Conte, 1853)

Northern Rock Mouse  
*Peromyscus nelsoni* (J. A. Allen, 1891)

White-ankled Mouse  
*Peromyscus pectoralis* Osgood, 1904

Piñon Mouse  
*Peromyscus truei* (Shufeldt, 1885)

Western Weather Vole  
*Phenacomys intermedius* Merriam, 1889

Fulvous Harvest Mouse  
*Reithrodontomys fulvescens* J. A. Allen, 1894

Western Harvest Mouse  
*Reithrodontomys megalotis* (Baird, 1857)

Plains Harvest Mouse  
*Reithrodontomys montanus* (Baird, 1855)

Arizona Cotton Rat  
*Sigmomus arizonae* Mearns, 1890

Tawny-bellied Cotton Rat  
*Sigmomus fulviventer* J. A. Allen, 1889

Hispid Cotton Rat  
*Sigmomus hispidus* Say and Ord, 1825

Yellow-nosed Cotton Rat  
*Sigmomus ochrognathus* V. Bailey, 1890

Muridae  

House Mouse (I)  
*Mus musculus* Linnaeus, 1758

Brown Rat (I)  
*Rattus norvegicus* (Berkenhout, 1769)

House (Black or Roof) Rat (I)  
*Rattus rattus* (Linnaeus, 1758)

Erethizontidae  

North American Porcupine  
*Erethizon dorsatum* (Linnaeus, 1758)

Capromyidae  

Coyote or Nutria (I, Pu)  
*Myocastor coypus* (Molina, 1782)

LAGOMORPHA—lagomorphs  

Ochotonidae  

American Pika (Pc,g)  
*Ochotona princeps* (Richardson, 1828)

Leporidae  

Snowshoe Hare  
*Lepus americanus* Erxleben, 1777

Black-tailed Jackrabbit  
*Lepus californicus* Gray, 1837

White-sided Jackrabbit (Pc,s-part)  
*Lepus calotis* Wagler, 1830

White-tailed Jackrabbit  
*Lepus townsendii* Bachman, 1839

Desert Cottontail  
*Sylvilagus audubonii* (Baird, 1857)
Manzano Mountain Cottontail  
Sylvilagus cognatus Nelson, 1907

Eastern Cottontail  
Sylvilagus floridanus (Allen, 1890)

Holzer’s Cottontail  
Sylvilagus holznneri (Mearns, 1896)

Mountain Cottontail  
Sylvilagus nuttallii (Bachman, 1837)

Robust Cottontail  
Sylvilagus robustus (Bailey, 1905)

EULIPOTYPHLA—shrews

Soricidae

North American Least Shrew (Pc,s)  
Cryptotis parva (Say, 1823)

Crawford’s Gray Shrew  
Notiosorex crawfordi (Coutes, 1877)

Arizona Shrew (Pc,s)  
Sorex arizonae Diersing and Hoffmeister, 1977

Cinerea Shrew  
Sorex cinereus Kerr, 1792

Merriam’s Shrew  
Sorex merriami Dobson, 1890

Dusky Shrew  
Sorex monticola Merriam, 1890

Dwarf Shrew  
Sorex nanus Merriam, 1895

Western Water Shrew  
Sorex navigator Richardson, 1828

Preble’s Shrew  
Sorex preblei Jackson, 1922

CHIROPTERA—bats

Phyllostomidae

Mexican Long-tongued Bat (Pc)  
Choeronycteris mexicana Tschudi, 1844

Mexican Long-nosed Bat (Pc,s,f)  
Leptonycteris nivalis (Saussure, 1860)

Lesser Long-nosed Bat (Pc,s)  
Leptonycteris yerbabuenae Miller, 1900

Molossidae

Western Mastiff Bat  
Eumops perotis (Schinz, 1821)

Pocketed Free-tailed Bat  
Nyctinomops femorosaccus (Merriam, 1889)

Big Free-tailed Bat  
Nyctinomops macrotis (Gray, 1840)

Brazilian Free-tailed Bat  
Tadarida brasiliensis (Geoffroy, 1824)

Vespertilionidae

Hoary Bat  
Aeroestes cinereus Palisot de Beauvois, 1796

Pallid Bat  
Antrozous pallidus (Le Conte, 1856)

Townsend’s Big-eared Bat (Pc)  
Corynorhinus townsendi (Cooper, 1837)

Western Yellow Bat (Pc,s)  
Daubentonia xanthinus Thomas, 1897

Big Brown Bat  
Eptesicus fuscus (Beauvois, 1796)

Spotted Bat (Pc,s)  
Euderma maculatum (Allen, 1891)

Allen’s Big-eared Bat  
Idionycteris phyllotis (Allen, 1916)

Silver-haired Bat  
Lasionycteris nootkagans (Le Conte, 1831)

Southern Red Bat  
Lasiurus collapsus (Lesson and Garnot, 1826)

Eastern Red Bat  
Lasiurus borealis (Müller, 1776)

Southwestern Myotis  
Myotis auricularis (Baker and Stains, 1955)

California Myotis  
Myotis californicus (Audubon and Bachman, 1842)

Yellowstone Little Brown Myotis  
Myotis carinatus Thomas, 1904

Western Small-footed Myotis*  
Myotis ciliolabrum (Merriam, 1886)

Long-eared Myotis  
Myotis evotis (Allen, 1864)

Arizona Myotis  
Myotis occultus Hollister, 1909

Fringed Myotis  
Myotis thysanodes Miller, 1897

Cave Myotis  
Myotis velifer (Allen, 1890)

Long-legged Myotis  
Myotis volans (Allen, 1866)

Yuma Myotis  
Myotis yumanensis (Allen, 1864)

Evening Bat  
Nycticeius humeralis (Rafinesque, 1818)

Canyon Bat  
Parastrellus hesperus Allen, 1864

Tricolored Bat  
Perimyotis subflavus Cuvier, 1832

* Note: Myotis ciliolabrum and Myotis melanorhinus (Dark-nosed Small-footed Myotis) are considered conspecific because not all authorities recognize Myotis melanorhinus as distinct from Myotis ciliolabrum (Ammerman et al., 2016).

CARNIVORA—carnivores

Felidae

Canada Lynx (R, V, Pf)  
Lynx canadensis Kerr, 1792

Bobcat (Pu)  
Lynx rufus (Schreber, 1777)

Jaguar (Pc,f)  
Panthera onca (Linnaeus, 1758)

Cougar, Puma or Mountain Lion (Pg)  
Puma concolor (Linnaeus, 1771)

Canidae

Coyote  
Canis latrans Say, 1823

Gray Wolf (R, Pc,s,f)  
Canis lupus Linnaeus, 1758

Gray Fox (Pu)  
Urocyon cinereoargenteus (Schreber, 1775)

Kit Fox (Pu)  
Vulpes macrotis Merriam, 1888

Swift Fox (Pu)  
Vulpes velox (Say, 1823)

Red Fox (B, Pu)  
Vulpes fulva (Desmarest, 1820)

Ursidae

American Black Bear (Pg)  
Ursus americanus Pallas, 1780

Brown or Grizzly Bear (E, Pf)  
Ursus arctos Linnaeus, 1758

Mustelidae

Wolverine (V)  
Gulo gulo (Linnaeus, 1758)

North American River Otter (I, R, Pc)  
Lontra canadensis (Schreber, 1777)

Pacific Marten (Pc,s)  
Martes caurina (Merriam, 1890)

Siost or Ermine (Pu)  
Mustela richardsonii Linnaeus, 1758

Black-footed Ferret (E, Pc,f)  
Mustela nigripes (Audubon and Bachman, 1851)

Long-tailed Weasel (Pu)  
Neogale frenata Lichtenstein, 1831

American Mink (Pc)  
Neogale vison (Schreber, 1777)

American Badger (Pu)  
Taxidea taxus (Schreber, 1777)

Mephitidae

American Hog-nosed Skunk  
Conedatus leucotous (Lichtenstein, 1832)

Hooded Skunk  
Mephitis macroura Lichtenstein, 1832

Striped Skunk  
Mephitis mephitis (Schreber, 1777)

Rocky Mountain Spotted Skunk  
Spilogale graciosis Merriam, 1890

Desert Spotted Skunk  
Spilogale leucoparia Merriam, 1890

Procyonidae

Ringtail (Pu)  
Bassariscus astutus (Lichtenstein, 1830)

White-nosed Coati or Coatimundi (Pc)  
Nasua narica (Linnaeus, 1766)

Northern Raccoon (Pu)  
Procyon lotor (Linnaeus, 1758)

PERISSODACTYLA—odd-toed ungulates

Equidae

Ass or Burro (I, E)  
Equus asinus Linnaeus, 1758

Horse (I)  
Equus caballus Linnaeus, 1758

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We gratefully recognize the original peoples of New Mexico, including the Navajo Nation, Fort Sill Apache Tribe, Jicarilla Apache Nation, Mescalero Apache Tribe, and the 19 Pueblos composed of Acoma, Cochiti, Isleta, Jemez, Kewa, Laguna, Nambe, Ohkay Owingeh, Picuris, Pojoaque, Sandia, San Felipe, San Ildefonso, Santa Ana, Santa Clara, Taos, Tesuque, Zuni and Zia. We honor their deep connections to the land throughout the generations. We also recognize previous and current researchers, and Arthur Harris, in particular, who have valued and built the specimen-based biodiversity infrastructures that many scientists depend on today. We thank Dave Hafner and one anonymous reviewer for critical feedback. This checklist is derived from efforts to improve our understanding of the species
TABLE 1. Revisionary work since Bradley et al., 2014 and Frey et al., 2006, has led to at least 30 distributional and taxonomic (nomenclature, systematic) changes altering our understanding of mammals occurring in New Mexico.

<table>
<thead>
<tr>
<th>This study</th>
<th>Bradley et al., 2014</th>
<th>Frey et al., 2006</th>
<th>Difference; citation</th>
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<td><em>Alces americanus</em></td>
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<td><em>Capra hircus</em></td>
<td><em>Capra hircus</em></td>
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<td><em>Tamias quadrivittatus</em></td>
<td><em>Tamias quadrivittatus</em></td>
<td>revision of <em>Tamias</em>; Patterson and Norris, 2016</td>
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<tr>
<td><em>Otospermophilus variegatus</em></td>
<td><em>Otospermophilus variegatus</em></td>
<td><em>Spermophilus variegatus</em></td>
<td>revision of <em>Spermophilus</em>; Helgen et al., 2009</td>
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<tr>
<td><em>Tamiasciurus fremonti</em></td>
<td><em>Tamiasciurus hudsonicus</em></td>
<td><em>Tamiasciurus hudsonicus</em></td>
<td><em>fremonti</em> split from <em>hudsonicus</em> and subspecies elevated; Hope et al., 2016</td>
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<tr>
<td><em>Xerospermophilus spilosoma</em></td>
<td><em>Xerospermophilus spilosoma</em></td>
<td><em>Spermophilus spilosoma</em></td>
<td>revision of <em>Spermophilus</em>; Helgen et al., 2009</td>
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<tr>
<td><em>Zapus luteus</em></td>
<td><em>Zapus hudsonius</em></td>
<td><em>Zapus hudsonius</em></td>
<td><em>luteus</em> split from <em>hudsonius</em> and subspecies elevated; Malaney et al., 2017</td>
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<tr>
<td><em>Microtus drummondii</em></td>
<td><em>Microtus pennsylvanicus</em></td>
<td><em>Microtus pennsylvanicus</em></td>
<td><em>drummondii</em> split from <em>pennsylvanicus</em> and subspecies elevated; Jackson and Cook, 2020</td>
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<tr>
<td><em>Neotoma albigula</em></td>
<td><em>Neotoma leucodon</em></td>
<td><em>Neotoma leucodon</em></td>
<td><em>leucodon</em> synonymized with and demoted back to subspecies of <em>albigula</em>; Derieg, 2020</td>
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<tr>
<td><em>Peromyscus labecula</em></td>
<td><em>Peromyscus maniculatus</em></td>
<td><em>Peromyscus maniculatus</em></td>
<td><em>labecula</em> split from <em>maniculatus</em> and subspecies elevated; Bradley et al., 2019, Greenbaum and Honeycutt, 2019</td>
</tr>
<tr>
<td><em>Peromyscus sonoriensis</em></td>
<td><em>Peromyscus maniculatus</em></td>
<td><em>Peromyscus maniculatus</em></td>
<td><em>sonoriensis</em> split from <em>maniculatus</em> and subspecies elevated; Bradley et al., 2019, Greenbaum and Honeycutt, 2019</td>
</tr>
</tbody>
</table>
TABLE 1 (continued). Revisionary work since Bradley et al., 2014 and Frey et al., 2006, has led to at least 30 distributional and taxonomic (nomenclature, systematic) changes altering our understanding of mammals occurring in New Mexico.

<table>
<thead>
<tr>
<th>This study</th>
<th>Bradley et al., 2014</th>
<th>Frey et al., 2006</th>
<th>Difference; citation</th>
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</thead>
<tbody>
<tr>
<td><em>Sorex monticola</em></td>
<td><em>Sorex monticolus</em></td>
<td><em>Sorex monticolus</em></td>
<td>monticola is invariable noun in apposition; Woodman 2012, 2018</td>
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<tr>
<td><em>Sorex monticola</em></td>
<td><em>Sorex monticolus</em></td>
<td><em>Sorex neomexicanus</em></td>
<td>monticola reverted to monticola; Demboski and Cook, 2001, Woodman, 2018</td>
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<td><em>Sorex navigator</em></td>
<td><em>Sorex navigator</em></td>
<td><em>Sorex palustris</em></td>
<td>navigator split from palustris and subspecies elevated; Hope et al., 2014, Nagorsen et al., 2017</td>
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<td><em>Leptonycteris yerbabuenae</em></td>
<td><em>Leptonycteris yerbabuenae</em></td>
<td><em>Leptonycteris nivalis</em></td>
<td>yerbabuenae split from nivalis and subspecies elevated; Simmons and Wetterer, 2002; Cole and Wilson, 2006a</td>
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<td><em>Leptonycteris curasoae</em></td>
<td><em>Leptonycteris curasoae</em></td>
<td><em>Leptonycteris nivalis</em></td>
<td>curasoae, only occurs in South America; Cole and Wilson, 2006b</td>
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<td><em>Aeoretes cinereus</em></td>
<td><em>Lasiurus cinereus</em></td>
<td><em>Lasiurus xanthonis</em></td>
<td>revision of Lasiurus; Baird et al., 2015, 2017</td>
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<td><em>Lasiurus xanthonis</em></td>
<td><em>Lasiurus xanthonis</em></td>
<td>revision of Lasiurus; Baird et al., 2015, 2017</td>
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<td><em>Myotis carissima</em></td>
<td><em>Myotis lucifugus</em></td>
<td><em>Myotis lucifugus</em></td>
<td>carissima split from lucifugus and subspecies elevated; Morales and Carstens, 2018</td>
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<td><em>Nycticeius humerals</em></td>
<td>N/A</td>
<td>N/A</td>
<td>first record of species in NM; Andersen et al., 2017</td>
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<td><em>Parastrellus hesperus</em></td>
<td><em>Pipistrellus hesperus</em></td>
<td>revision of Pipistrellus; Hoofer and Van Den Bussehe, 2003, Hoofer et al., 2006</td>
</tr>
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<td><em>Perimyotis subflavus</em></td>
<td><em>Pipistrellus subflavus</em></td>
<td>revision of Pipistrellus; Hoofer and Van Den Bussehe, 2003, Hoofer et al., 2006</td>
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<td><em>Vulpes fulva</em></td>
<td><em>Vulpes vulpes</em></td>
<td><em>Vulpes vulpes</em></td>
<td>fulva split from vulpes and subspecies elevated; Statham et al., 2014</td>
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<td><em>Martes americana</em></td>
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<td><em>Mustela erminea</em></td>
<td><em>Mustela erminea</em></td>
<td>richardsonii split from erminea and subspecies elevated; Colella et al., 2021</td>
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<td><em>Mustela frenata</em></td>
<td><em>Mustela frenata</em></td>
<td>revision of Mustela; Patterson et al., 2021</td>
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<td><em>Neovison vison</em></td>
<td><em>Neovison vison</em></td>
<td>revision of Neovison; Patterson et al., 2021</td>
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<td><em>Spilogale gracilis</em></td>
<td><em>Spilogale gracilis</em></td>
<td>leucoparia split from gracilis and subspecies elevated; Medonough et al., 2020</td>
</tr>
</tbody>
</table>
REFERENCES


Dertig, K.M., 2020, Mitonuclear discordance in woodrats (Genus Neotoma) points to historical mitochondrial introgression. [M.S. Thesis]: Albuquerque, University of New Mexico, 202 p.


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