TEXAS TECH UNIVERSITY
Natural Science Research Laboratory

Occasional Papers

Museum of Texas Tech University Number 327 2 October 2014

Revised Checklist of North American Mammals North of Mexico, 2014

Robert D. Bradley, Loren K. Ammerman, Robert J. Baker, Lisa C. Bradley, Joseph A. Cook, Robert C. Dowler, Clyde Jones, David J. Schmidly, Frederick B. Stangl, Jr., Ronald A. Van Den Bussche, and Bernd Würsig

Abstract

The *Checklist of North American Mammals North of Mexico, 2003* has been revised to include recent taxonomic changes and additions, as well as to include new distribution records and introductions for this region. In this revision, 495 species, 180 genera, 48 families, and 12 orders are recognized, resulting in a net gain of 21 species, 14 genera, and 2 families since 2003. Relative to the 1973 version, the change in number of species resulted from 54 taxonomic changes, 12 distribution changes, addition of 27 introduced species, and one extinction. The greatest change since the initial checklist in 1973 has been in the number of genera (+28.4%), followed by species (+22.8%).

Key words: checklist, mammals, North America, taxonomy

Introduction

This checklist was designed to serve as a taxonomic resource and reference for scientists, students, amateur naturalists, and others interested in the extant mammalian fauna of North America (and its adjacent waters) north of Mexico. The first such checklist of scientific and common names was published by Jones et al. (1973) and was updated periodically (Jones et al. 1975, 1979, 1982, 1986, 1992, 1997; Baker et al. 2003) based on the availability of new taxonomic and distributional information. Ten years have elapsed since the last update. During that time-span, numerous taxonomic changes have been implemented by the scientific community, several exotic species have been introduced, and new distribution records have been published, all of which prompted this revision. Species included in this checklist are restricted to those substantiated by published reports; consequently, they meet the criteria of the peer-review process. The contents of this checklist represent a consensus among the authors and other experts in the field; however, it does not imply complete agreement on all issues.

SYNOPSIS OF PAST AND CURRENT CHECKLISTS

Approximately 40 years have passed since the first checklist (Jones et al. 1973) was produced to denote the mammalian fauna of North America north of Mexico. Recently, we have seen the discipline of mammalogy change due to the developing fields of geometric morphology, molecular systematics, and new methods for data analyses. In addition, there has been a moderate conceptual shift from use of the Biological Species Concept (Mayr 1940, 1963) to the Phylogenetic Species Concept (Cracraft 1983), followed by a growing application of the Genetics Species Concept (summarized by Bradley and Baker [2001] and Baker and Bradley [2006]) for determining the status of mammalian species. As a consequence, the number of new species being described world-wide increased dramatically during the past 40 years. Baker and Bradley (2006) estimated that given recent trends in naming new species, perhaps as many as 2,000 additional species of mammals remained unnamed. Reeder et al. (2007) concurred and predicted that the ultimate number of mammal species might approach 7,500; a number they suggested could be achieved by the year 2050. Reeder et al. (2007) estimated that an average of 223 new mammal species are added each decade (average since 1758); further, they noted that the rate actually had increased over the last few decades and predicted that the rate would continue to increase into the foreseeable future. It appears that the number of new species of mammals described in North America (north of Mexico) is increasing at a somewhat slower rate relative to other geographic regions of the planet. This reduced rate may be explained by the intense research efforts in past years, especially in the early and mid-1900s; however, the fact that taxonomic revisions produced a net gain of seven new species (13 new species added and six synonymized) to the checklist since the last update (Baker et al. 2003) indicates that the process of recognizing new species of North American mammals is not complete.

A useful metric for documenting changes to the checklist was provided in tabular form in the last revision (Baker et al. 2003). Following that method of presentation, we have added data (number of orders, families, genera, and species recognized during each revision) collected during this recent endeavor to the data presented in previous checklists (Table 1). From 1973 to 2014, there was an increase in nearly every taxonomic category (orders, 11 to 12; families, 41 to 48; genera, 141 to 180; species, 403 to 495). The greatest percentage change since 1973 was in the number of genera (39 or 28.4%) as a result of taxonomic revisions and erection of new genera to partition newly discovered variation. The increase in the number of species (92, or 22.8%) reflected taxonomic changes (54), distributional changes (12), the addition of introduced, non-native mammals to the list (27), and one extinction.

Major portions of the taxonomic sections were retained from previous checklists (Jones et al. 1973, 1975, 1979, 1982, 1986, 1992, 1997; Baker et al. 2003) to maintain a historical context of the changes impacting the major taxonomic groups and to demonstrate the overall patterns responsible for those changes. New information obtained since the last update (Baker et al. 2003) was added to the end of each of the following sections.

Orders.—Although the overall number of orders (11) remained stable from 1973 to 1982, changes occurred in 1979, when Mysticeti and Odontoceti were recognized as distinct orders (eliminating the order Cetacea), and Pinnipedia was reduced to a suborder of Carnivora. In 1986, the order Cetacea was restored, and Mysticeti and Odontoceti were reduced to suborders. In 1992, Primates and Perissodactyla were added to the checklist. No ordinal level changes were proposed in 1997 or 2003. Although we have ontinued to follow conventional wisdom in recognizing the order Cetacea, recent fossil discoveries and molecular studies show that whales and dolphins evolved from ancestral artiodactyls (Geisler and Uhen 2005). As derivatives of the artiodactyls, a strict adherence to phylogeny in the classification of mammals would require grouping cetaceans and artiodactyls into a single order (Cetartiodactyla); thereby reducing Artiodactyla and Cetacea to suborders and Odontoceti and Mysticeti to infraorders. Many cetologists (see Perrin et al. 2009) are now advocating this arrangement, but not all are in agreement. Although we acknowledge and appreciate the recent paleontological and molecular studies (Murphy et al. 2004; Meredith et al. 2011; O'Leary et al. 2013), given the magnitude of morphological differentiation and adaptations exhibited by cetaceans and artiodactylids,

Table 1. Changes in the number of taxa of North American mammals north of Mexico as recorded in checklists published in the Occasional Papers (O.P.) series of the Museum of Texas Tech University.

Year	O.P. #	Orders	Families	Genera	Species
1973	12	11	41	141	403
1975	28	11	41	141	404
1979	62	11	42	142	412
1982	80	11	42	141	417
1986	107	10	43	148	425
1992	146	12	44	156	447
1997	173	12	45	164	462
2003	229	12	46	166	474
2014	327	12	48	180	495

we are reluctant to combine these forms into a single order. If the combination of Artiodactyla and Cetacea into Cetartiodactyla is followed, then perhaps a rethinking of the recent divisions of Didelphimorphia, Paucituberculata, Microbiotheria, Notoryctemorphia, Dasyuromorphia, Permelemorphia, and Diprotodontia (formerly Marsupialia), Cingulata and Pilosa (formerly Xenarthra), as well as Soricimorpha, Erinaceomorpha, and Afrosoricida (formerly Insectivora), is warranted. Future editions of the checklist will need to weigh the merits of the proposed order Cetartiodactyla, and presumably other ordinal combinations, in order to produce a consistent classification that weighs molecular and morphological divergences.

For the current checklist, we incorporated two ordinal level changes: we used Cingulata instead of Xenarthra for the armadillos and replaced Insectivora with Soricomorpha. Neither of these nomenclatural revisions impacted the total number of orders (12) residing in North America.

Families.—In 1979, the walrus was recognized as a distinct family, Odobenidae. In 1982, Kogiidae was reduced from familial status and Phocoenidae was recognized as belonging in a family distinct from Delphinidae. In 1986, Kogiidae was restored as a family. In 1992, the families Cercopithecidae and Equidae were added to reflect the presence of introduced rhesus monkeys and feral horses and feral asses as part of the North American fauna. Also in 1992, Cricetidae was abandoned as a family, and all New World rats, mice, and voles were placed in the family Muridae. In 1997, skunks were recognized as belonging to a new family, Mephitidae. In 2003, the family Hominidae was added to account for humans.

For the current checklist, we incorporated four familial level changes: Cricetidae was reinstated as a family separate from the Muridae, Dipodidae was recognized in place of Zapodidae as the familial name for the jumping mice, and Nesomyidae was added to reflect the introduction of the northern giant pouched rat; Myocastoridae was changed to Echimyidae. These changes increased the number of families to 48.

Genera.—In 1975, *Idionycteris* was recognized as a distinct genus, and the bobcat and lynx were returned to the genus *Felis*, eliminating the genus *Lynx*. In 1979, the genus *Feresa* was added. In 1982, *Arborimus* was recognized as a distinct genus, *Microsorex* was reduced from generic rank, and *Tamias* was recognized as the generic name for all chipmunks, eliminating the genus *Eutamias*. In the subsequent

checklist, *Arborimus* was not recognized as a distinct genus, but eight new genera were added as the result of taxonomic changes (*Brachylagus*, *Chaetodipus*, *Histriophoca*, *Pagophilus*, and *Pusa*), distributional changes (*Lagenodelphis*), and the addition of exotic species (*Antilope* and *Boselaphus*). Eight additional genera were recognized in 1992; three were added as the result of taxonomic changes (*Lynx*, *Nyctinomops*, and *Panthera*) and five to reflect the presence of introduced mammals (*Capra*, *Equus*, *Hemitragus*, *Macaca*, and *Oryx*). In 1997, taxonomic changes added six genera to the checklist (*Arborimus*, *Axis*, *Dama*, *Herpailurus*, *Leopardus*, and *Puma*), and the discovery of *Molossus molossus* in Florida and reports of *Peponocephala electra* in Florida and Maryland, as well as the Gulf of Mexico, added two more genera. In 2003, the genus *Alopex* was deleted and the genera *Eubalaena*, *Homo*, and *Neotamias* were added.

In the current checklist, for bats, we added five new genera (*Artibeus*, *Enchisthenes*, *Erophylla*, *Phyllonycteris*, and *Phyllops*) based on distributional records. Also, we recognized two new genera, as *Pipistrellus* was replaced by *Parastrellus* and *Perimyotis* (Hoofer and Van Den Bussche, 2003; Hoofer et al. 2006). Within the Carnivora, we recognized *Vison* as distinct from *Mustela*, and *Pekania* separate from *Martes*, thereby adding two new genera to the checklist. Additionally, we removed *Monachus*, given the extinction of *M. tropicalis*, and we followed Wozencraft's (2005) opinion that *Herpailurus* be synonymized with *Puma*. We followed Dalebout et al. (2003) in the recognition of *Indopacetus* as a new genus of beaked whale and Musser and Carleton (2005) in the use of *Myodes* in place of *Clethrionomys*. *Cricetomys* was added to the list as a result of introductions into Florida. We followed Helgen et al. (2009) and added six new genera of ground squirrels (*Callospermophilus*, *Ictidomys*, *Otospermophilus*, *Poliocitellus*, *Urocitellus*, and *Xerospermophilus*). We followed Thorington and Hoffmann (2005) in referring all North American chipmunks to the genus *Tamias*, thereby eliminating *Eutamias*, and reversing the decision by Piaggio and Spicer (2001) in recognizing two distinct genera of North American chipmunks. These changes increased the number of genera to 180.

Species.—In 1975, three species were added and two were deleted from the checklist as the result of taxonomic changes. In 1979, 14 species were added to the checklist and six were removed. Twelve additions and eight deletions were made to the 1982 checklist as a result of taxonomic revisions, and one species of cetacean was added based on a new record for North America. In 1986, taxonomic revisions added 12 names to the list and deleted nine; one cetacean was added based on a new record; and four introduced species were added. The total species count rose dramatically from 1986 to 1992 (from 425 to 447); taxonomic revisions accounted for 14 additions and three deletions, and 11 introduced or feral species were added to the list. The 1997 checklist included four additional introduced species and two new species (one bat and one cetacean) based on recent discoveries in North America, and taxonomic revisions added 15 names and deleted six. In 2003, 15 additions and four deletions were reported as the result of taxonomic changes, and the addition of humans to the list added one species.

For the current checklist 28 species were added and 7 were removed: the number of species residing in Didelphimorphia, Sirenia, Cingulata, Primates, and Perissodactyla were unchanged; for Soricomorpha, four species were added and three were removed; for Chiroptera, five species were added; for Carnivora, one species was added and one species was removed due to extinction; for Lagomorpha, one species was added; for Artiodactyla six species were added; for Cetacea, three species were added; and for Rodentia, eight species were added and three were removed. Taxonomic revisions accounted for 13 additions and six deletions, seven were added based on distributional records, one was removed due to extinction, and eight introduced or feral species were added to the list. The net change (21 species added) changed the species total from 474 to 495.

DEPARTURES FROM BAKER ET AL. (2003) AND OTHER NOTES

The changes incorporated since Baker et al. (2003) are presented in the following discussion. Other pertinent comments are included that will assist in interpreting the decisions involved in producing the current list of recognized species. Readers should note that shortly following the last checklist (Baker et al. 2003), contributors to Wilson and Reeder (2005) completed their revisions of *Mammal Species of the World: A Taxonomic and Geographic Reference*. Their revisions included several major taxonomic realignments, addition of new taxa, and distributional changes. Consequently, several discrepancies exist between those two publications. Likewise, several taxonomic changes have occurred following Wilson and Reeder's (2005) latest version. Where possible, we have attempted to realign the format of the checklist to more closely follow Wilson and Reeder (2005). In addition, we note any discrepancies between Baker et al. (2003) and this current checklist. With few exceptions, common names are adapted from Wilson and Reeder (2005) and Wilson and Cole (2000) for terrestrial mammals and Perrin et al. (2009) for marine mammals.

ARMADILLOS

Cingulata.—We followed Gardner (2005) in using Cingulata, instead of Xenarthra, as the ordinal name for the armadillos.

LAGOMORPHS

Leporidae.—We followed Frey et al. (1997) and Ruedas (1998) and recognize *Sylvilagus cognatus* as a species.

INSECTIVORES

Soricomorpha.—In the late 1990s and early 2000s, evidence mounted (summarized by Hutterer 2005) to remove the Soricomorpha (and two other Old World groups), thereby eliminating the all encompassing Insectivora, and to elevate the three groups to ordinal status. Therefore, Soricomorpha is used as the ordinal designation for all North American shrews and moles.

Soricidae.—We followed Genoways and Choate (1998) in recognizing *Blarina peninsulae*. Hutterer (2005) did not recognize *Sorex fontinalis* and we followed their lead. Following Hope et al. (2010), we recognized the Tiny Shrew in Alaska as *S. minutissimus* instead of *S. yukonicus*. The water shrews of North America are now comprised of three species, *S. palustris* (previously recognized), *S. albibarbis* (addition to checklist), *S. navigator* (addition to checklist), and the removal of *S. neomexicanus* following Hope et al. (2014).

BATS

Molossidae.—We changed *Eumops glaucinus* to *E. floridanus* following Timm and Genoways (2004) and McDonough et al. (2008)

Phyllostomidae.—We followed Simmons (2005) in recognizing *Leptonycteris yerbabuenae* in place of *Leptonycteris curasoae* for populations in North America. Also in this family, we added four species (*Artibeus jamaicensis*, *Erophylla sezekorni*, *Phyllonycteris poeyi*, and *Phyllops falcatus*) that are known from a few records in south Florida or the Florida Keys (Marks and Marks 2006). In addition, we included *Enchisthenes hartii* based on a long-ignored record (Irwin and Baker 1967).

Vespertilionidae.—We changed *Pipistrellus* to *Parastrellus* and *Perimyotis* (following Hoofer and Van Den Bussche, 2003; Hoofer et al. 2006) and used common names consistent with Manning et al. (2008) and Ammerman et al. (2012). We changed the common name of *Myotis occultus* to be consistent with Manning et al. (2008) and Ammerman et al. (2012), and we deleted one of the common names (Social Myotis) for *Myotis sodalis* and retained "Indiana Bat" as the common name.

CARNIVORES

Canidae.—There continues to be open debate about the number of species of *Canis* in North America. Studies have shown that the eastern form of wolf,

recognized as *C. lycaon*, is a genetically separate lineage from *Canis lupus* (Wilson et al. 2000, 2003; Kyle et al. 2006, Rutledge et al. 2010). Evidence also supports that the red wolf, *Canis rufus*, is part of this eastern lineage (Wilson et al. 2000, 2012; Kyle et al. 2008). Complicating the issue further is hybridization among all *Canis* in North America (von Holdt et al. 2011; Wilson et al. 2012, among others). At this time, we retain the species arrangement from the previous checklist.

Felidae.—We followed Wozencraft (2005) in removing the jaguarundi from the genus *Herpailurus* and placing it in the genus *Puma*.

Mustelidae.— Abramov (2000) and Kurose et al. (2008) elevated the American mink from *Mustela* to the genus *Neovison*. However, Harding and Smith (2009) challenged the validity of *Neovison*, and recommended that *Vison* be used to represent the American mink and its congeners. Consequently, we use *Vison* as the generic name for the American mink. We also moved the fisher to the genus *Pekania* as proposed by Koepfli et al. (2008) to avoid paraphyly of the genus *Martes* and added *Martes caurina* following the lead of Dawson and Cook (2012).

Phocidae.—The Caribbean Monk Seal has been considered extinct since 1952 (Rice 1998) and was removed from the checklist.

ARTIODACTYLS

Bovidae.—The following five introduced species have established large, feral populations in many parts of North America, consequently, they were added to the checklist: *Eudorcas thomsoni* (Eastern Thomson's Gazelle), *Hippotragus niger* (Sable Antelope), *Oryx dammah* (Scimitar-horned Oryx), *Taurotragus oryx* (Common Eland), and *Ammelaphus imberbis* (Lesser Kudu).

Although it has no impact on the number of species, we followed Groves and Grubb (2011) in using *Ovis vignei* instead of *Ovis aries*.

Cervidae.—We followed Boyeskorov (1999) and recognized *Alces americanus* (Moose) as a species distinct from *Alces alces* (Eurasian elk). We followed Groves (2003) and Groves and Grubb (2011) in treating *Cervus canadensis* (Elk) and *Cervus elaphus* (Red Deer) as separate species; therefore, *Cervus elaphus* was added as an introduced species to North America.

CETACEANS

Balaenidae.—*Eubalaena japonica* (North Pacific Right Whale) was added as a distinct species (Rosenbaum et al. 2000).

Delphinidae.—Four minor updates were made relative to usage of common names.

Ziphiidae.—We followed Dalebout et al. (2003) and recognized *Indopacetus* as a new genus of beaked whale distinct from *Mesoplodon*, *Berardius*, *Hyperoodon*, and *Ziphius*.

We included *Mesoplodon peruvianus* and *Indopacetus pacificus*, based on recent records of occurrence in North American waters off the coast of southern California (Jefferson et al. 2008). In addition, five minor updates were made relative to usage of common names.

RODENTS

Cricetidae.—We followed Musser and Carleton's (2005) opinion (based on a summation of the recent literature) that *Dicrostonyx exsul* should be considered a synonym of *Dicrostonyx nelsoni* and that *Dicrostonyx kilangmiutak* and *Dicrostonyx rubricatus* should be considered synonyms of *Dicrostonyx groenlandicus*. Concerning these taxa, further studies are needed to address conflicting interpretations (Engstrom et al. 1993; Jarrell and Fredga 1993; Eger 1995; MacDonald and Cook 1996; Ehrich et al. 2000) of morphologic, chromosomal, and DNA sequence data.

Following Musser and Carleton's (2005) overview of the genetic and fossil literature, it seemed prudent to use *Myodes* (instead of *Clethrionomys*) as the generic name for the red-backed voles. A recent communication from M. D. Carleton indicated that the most recent information (in press) confirms the validity of *Myodes*.

Patton et al. (2007) revised the *Neotoma lepida* group and provided evidence that *Neotoma bryanti* is the correct name for woodrats occurring along the southern coast of California southward to Baja Califor-

nia. In addition, their study provided evidence that *N. bryanti*, *N. devia*, and *N. lepida* are readily distinguishable using morphologic and genetic data.

Hanson et al. (2010) examined DNA sequence variation in marsh rice rats from the southern United States and Mexico. Their study demonstrated the presence of two distinct genetic clades in *O. palustris*. They referred individuals from the southeastern United States to *O. palustris*, whereas populations from the south-central regions of the United States were referred to *O. texensis*.

Bradley et al. (submitted) examined DNA sequence variation in white-ankled mice from the southern United States and Mexico. They concluded that *Peromyscus pectoralis laceianus* warranted specific recognition. Consequently, *P. laceieanus* replaces *P. pectoralis*.

Dipodidae.—The familial status of jumping mice continues to be problematic. The basic question of whether *Zapus* and allies form a family (Zapodidae) distinct from Dipodidae remains unresolved. In the interim, we followed Holden and Musser (2005) in recognizing Dipodidae as the familial name for the jumping mice.

Echimyidae.—Recent studies by Galewski et al. (2005) and Upham and Patterson (2012) demonstrated that the nutria rat (*Myocastor coypus*) is phylogenetically aligned with the spiny rats in the family Echimyidae. Therefore, we have removed the family Myocastoridae and added the family Echimyidae to the checklist.

Geomyidae.—Data presented in three recent studies (Sudman et al. 2006; Genoways et al. 2008; Chambers et al. 2009) indicated that three additional species of pocket gophers warrant recognition. First, based on DNA sequence and chromosomal data, *Geomys tropicalis* is distinct from other members of the *Geomys personatus* group. Second, data from studies of hybrid zones, chromosomes, DNA sequences, and biogeography provided evidence that *Geomys jugossicularis* and *Geomys lutescens* are specifically distinct from *Geomys bursarius*.

Heteromyidae.—We followed the revision by Riddle et al. (2014) and recognized *Perognathus mollipilosus* as a species distinct from *Perognathus parvus*.

Muridae.—Two recent studies have documented the presence of the Asian Roof Rat (*Rattus tanezumi*) in the panhandle of Florida (Lack et al. 2012) and on the east side of the San Francisco Bay in California (Conroy et al. 2013). Although we refer to this taxon as *R. tanezumi*, the taxonomy of *Rattus*, especially the *R. rattus* species complex, is poorly understood.

Nesomyidae.—Given the introduction of the Northern Giant Pouched Rat (*Cricetomys gambianus*) to Florida (Perry et al. 2006) and perhaps other regions of the southeastern United States, we have included Nesomyidae as an introduced family. In some areas, this introduced species has become quite problematic and eradication efforts are underway.

Sciuridae.—Thorington and Hoffmann (2005) referred all North American chipmunks to the genus *Tamias* despite the argument by Piaggio and Spicer (2001) and others for the recognition of *Eutamias*. The dataset by Piaggio and Spicer (2001) and Banbury and Spicer (2007) may be problematic due to high levels of mitochondrial introgression (presumably as a product of hybridization) in chipmunks (Sullivan et al. 2014) and the lack of statistical support for a *Neotamias* clade. Until this scenario is resolved, we have placed all chipmunks in the genus *Tamias*.

Helgen et al. (2009) revised the ground squirrels of the genus *Spermophilus* and determined that the genus was paraphyletic. They argued that to produce monophyly, seven genera (*Callospermophilus*, *Ictidomys*, *Otospermophilus*, *Poliocitellus*, *Spermophilus*, *Urocitellus*, and *Xerospermophilus*) were required. We concurred and followed their proposed taxonomy.

Based on molecular data, Harrison et al. (2003) and Heron et al. (2004) split *Spermophilus mexicanus* into two species (*S. mexicanus* and *S. parvidens*, now residing in *Ictidomys* sensu Helgen et al. 2009). In these revisions, populations occurring in northern Mexico and the United States were referred to *I. parvidens*, whereas populations restricted to south-central Mexico were referred to *I. mexicanus*. Consequently, we removed *I. mexicanus* from the checklist and added *I. parvidens*.

CHECKLIST

We have chosen to depart somewhat from the format used in previous versions of the checklists (Jones et al. 1973, 1975, 1979, 1982, 1986, 1992, 1997; Baker et al. 2003) and to follow the sequence of orders as presented in Wilson and Reeder (2005). In addition, families, genera, and species are listed alphabetically within their respective higher taxonomic rank. These departures provide for more consistency and easier comparison between the two publications. Non-native species (domesticated or introduced) are identified by an asterisk.

ORDER DIDELPHIMORPHIA – Opossums
- Family Didelphidae – Opossums
  - *Didelphis virginiana* ..... Virginia Opossum

ORDER SIRENIA – Sea Cows
- Family Trichechidae – Manatees
  - *Trichechus manatus* ..... West Indian or Caribbean Manatee

ORDER CINGULATA – Armadillos
- Family Dasypodidae – Armadillos
  - *Dasypus novemcinctus* ..... Nine-banded Armadillo

ORDER PRIMATES – Primates
- Family Cercopithecidae – Old World Monkeys
  - *Macaca fuscata** ..... Japanese Macaque
  - *Macaca mulatta** ..... Rhesus Macaque
- Family Hominidae – Great Apes and Humans
  - *Homo sapiens* ..... Humans

ORDER LAGOMORPHA – Pikas, Hares, and Rabbits
- Family Leporidae – Hares and Rabbits
  - *Brachylagus idahoensis* ..... Pygmy Rabbit
  - *Lepus alleni* ..... Antelope Jackrabbit
  - *Lepus americanus* ..... Snowshoe Hare
  - *Lepus arcticus* ..... Arctic Hare
  - *Lepus californicus* ..... Black-tailed Jackrabbit
  - *Lepus callotis* ..... White-sided Jackrabbit
  - *Lepus europaeus** ..... European Hare
  - *Lepus othus* ..... Alaska Hare
  - *Lepus townsendii* ..... White-tailed Jackrabbit
  - *Oryctolagus cuniculus** ..... European Rabbit
  - *Sylvilagus aquaticus* ..... Swamp Rabbit
  - *Sylvilagus audubonii* ..... Desert Cottontail
  - *Sylvilagus bachmani* ..... Brush Rabbit
  - *Sylvilagus cognatus* ..... Manzano Mountain Cottontail

Sylvilagus floridanus ..... Eastern Cottontail
Sylvilagus nuttallii ..... Mountain Cottontail
Sylvilagus obscurus ..... Appalachian Cottontail
Sylvilagus palustris ..... Marsh Rabbit
Sylvilagus robustus ..... Davis Mountains Cottontail
Sylvilagus transitionalis ..... New England Cottontail

Family Ochotonidae – Pikas

Ochotona collaris ..... Collared Pika
Ochotona princeps ..... American Pika

ORDER SORICOMORPHA – Insectivores

Family Soricidae – Shrews

Blarina brevicauda ..... Northern Short-tailed Shrew
Blarina carolinensis ..... Southern Short-tailed Shrew
Blarina hylophaga ..... Elliot's Short-tailed Shrew
Blarina peninsulae ..... Everglades Short-tailed Shrew
Cryptotis parva ..... Least Shrew
Notiosorex cockrumi ..... Cockrum's Desert Shrew
Notiosorex crawfordi ..... Crawford's Desert Shrew
Sorex alaskanus ..... Glacier Bay Water Shrew
Sorex albibarbis ..... Eastern Water Shrew
Sorex arcticus ..... Arctic Shrew
Sorex arizonae ..... Arizona Shrew
Sorex bairdii ..... Baird's Shrew
Sorex bendirii ..... Pacific Water or Marsh Shrew
Sorex cinereus ..... Cinereus or Masked Shrew
Sorex dispar ..... Long-tailed or Rock Shrew
Sorex fumeus ..... Smoky Shrew
Sorex gaspensis ..... Gaspé Shrew
Sorex haydeni ..... Hayden's or Prairie Shrew
Sorex hoyi ..... American Pygmy Shrew
Sorex jacksoni ..... St. Lawrence Island Shrew
Sorex longirostris ..... Southeastern Shrew
Sorex lyelli ..... Mt. Lyell Shrew
Sorex maritimensis ..... Maritime Shrew
Sorex merriami ..... Merriam's Shrew
Sorex minutissimus ..... Holarctic Least Shrew
Sorex monticolus ..... Dusky or Montane Shrew
Sorex nanus ..... Dwarf Shrew

Sorex navigator……..... Western Water Shrew
Sorex ornatus ..... Ornate Shrew
Sorex pacificus ..... Pacific Shrew
Sorex palustris ..... American Water Shrew
Sorex preblei ..... Preble's Shrew
Sorex pribilofensis ..... Pribilof Island Shrew
Sorex sonomae ..... Fog Shrew
Sorex tenellus ..... Inyo Shrew
Sorex trowbridgii ..... Trowbridge's Shrew
Sorex tundrensis ..... Tundra Shrew
Sorex ugyunak ..... Barren Ground Shrew
Sorex vagrans..... Vagrant Shrew

Family Talpidae – Moles

Condylura cristata ..... Star-nosed Mole
Neurotrichus gibbsii..... American Shrew Mole
Parascalops breweri ..... Hairy-tailed Mole
Scapanus latimanus ..... Broad-footed Mole
Scapanus orarius ..... Coast Mole
Scapanus townsendii..... Townsend's Mole
Scalopus aquaticus ..... Eastern Mole

ORDER CHIROPTERA – Bats

Family Molossidae – Free-tailed Bats

Eumops floridanus ..... Florida Bonneted Bat
Eumops perotis..... Western Bonneted Bat
Eumops underwoodi ..... Underwood's Bonneted Bat
Molossus molossus..... Velvety Free-tailed Bat
Nyctinomops femorosaccus..... Pocketed Free-tailed Bat
Nyctinomops macrotis..... Big Free-tailed Bat
Tadarida brasiliensis ..... Brazilian Free-tailed Bat

Family Mormoopidae – Leaf-chinned Bats

Mormoops megalophylla ..... Ghost-faced Bat

Family Phyllostomidae – New World Leaf-nosed Bats

Artibeus jamaicensis..... Jamaican Fruit-eating Bat
Choeronycteris mexicana..... Mexican Long-tongued Bat
Diphylla ecaudata..... Hairy-legged Vampire Bat
Enchisthenes hartii ..... Little Fruit-eating Bat
Erophylla sezekorni ..... Buffy Flower Bat
Leptonycteris yerbabuenae..... Lesser Long-nosed Bat

Leptonycteris nivalis ..... Mexican Long-nosed Bat
Macrotus californicus ..... California Leaf-nosed Bat
Phyllonycteris poeyi ..... Cuban Flower Bat
Phyllops falcatus ..... Cuban Fig-eating Bat

Family Vespertilionidae – Vesper Bats

Antrozous pallidus ..... Pallid Bat
Corynorhinus rafinesquii ..... Rafinesque's Big-eared Bat
Corynorhinus townsendii ..... Townsend's Big-eared Bat
Eptesicus fuscus ..... Big Brown Bat
Euderma maculatum ..... Spotted Bat
Idionycteris phyllotis ..... Allen's Big-eared Bat
Lasionycteris noctivagans ..... Silver-haired Bat
Lasiurus blossevillii ..... Western Red Bat
Lasiurus borealis ..... Eastern Red Bat
Lasiurus cinereus ..... Hoary Bat
Lasiurus ega ..... Southern Yellow Bat
Lasiurus intermedius ..... Northern Yellow Bat
Lasiurus seminolus ..... Seminole Bat
Lasiurus xanthinus ..... Western Yellow Bat
Myotis auriculus ..... Southwestern Myotis
Myotis austroriparius ..... Southeastern Myotis
Myotis californicus ..... California Myotis
Myotis ciliolabrum ..... Western Small-footed Myotis
Myotis evotis ..... Long-eared Myotis
Myotis grisescens ..... Gray Myotis
Myotis keenii ..... Keen's Myotis
Myotis leibii ..... Eastern Small-footed Myotis
Myotis lucifugus ..... Little Brown Myotis
Myotis occultus ..... Southwestern Little Brown Myotis
Myotis septentrionalis ..... Northern Long-eared Myotis
Myotis sodalis ..... Indiana Bat
Myotis thysanodes ..... Fringed Myotis
Myotis velifer ..... Cave Myotis
Myotis volans ..... Long-legged Myotis
Myotis yumanensis ..... Yuma Myotis
Nycticeius humeralis ..... Evening Bat
Parastrellus hesperus ..... American Parastrelle
Perimyotis subflavus ..... American Perimyotis

ORDER CARNIVORA – Carnivores

Family Canidae – Dogs, Foxes, and Wolves

*Canis familiaris** ..... Domestic Dog
Canis latrans ..... Coyote
Canis lupus ..... Gray Wolf
Canis lycaon ..... Eastern Timber Wolf
Canis rufus ..... Red Wolf
Urocyon cinereoargenteus ..... Common Gray Fox
Urocyon littoralis ..... Island Gray Fox
Vulpes lagopus ..... Arctic Fox
Vulpes macrotis ..... Kit Fox
Vulpes velox ..... Swift Fox
Vulpes vulpes ..... Red Fox

Family Felidae – Cats

*Felis catus** ..... Domestic Cat
Leopardus pardalis ..... Ocelot
Leopardus wiedii ..... Margay
Lynx canadensis ..... Canada Lynx
Lynx rufus ..... Bobcat
Panthera onca ..... Jaguar
Puma concolor ..... Mountain Lion, Cougar, or Puma
Puma yagouaroundi ..... Jaguarundi

Family Mephitidae – Skunks

Conepatus leuconotus ..... White-backed Hog-nosed Skunk
Mephitis macroura ..... Hooded Skunk
Mephitis mephitis ..... Striped Skunk
Spilogale gracilis ..... Western Spotted Skunk
Spilogale putorius ..... Eastern Spotted Skunk

Family Mustelidae – Weasels, Otters, and Badgers

Enhydra lutris ..... Sea Otter
Gulo gulo ..... Wolverine
Lontra canadensis ..... Northern River Otter
Martes americana ..... American Marten
Martes caurina ..... Pacific Marten
Mustela erminea ..... Ermine or Short-tailed Weasel
Mustela frenata ..... Long-tailed Weasel
Mustela nigripes ..... Black-footed Ferret
Mustela nivalis ..... Least Weasel

*Mustela putorius** ..... European Ferret
Vison vison ..... American Mink
Pekania pennanti ..... Fisher
Taxidea taxus ..... American Badger
Family Odobenidae – Walrus
Odobenus rosmarus ..... Walrus
Family Otariidae – Eared Seals
Arctocephalus townsendi ..... Guadalupe Fur Seal
Callorhinus ursinus ..... Northern Fur Seal
Eumetopias jubatus ..... Northern or Steller Sea Lion
Zalophus californianus ..... California Sea Lion
Family Phocidae – Earless, True, or Hair Seals
Cystophora cristata ..... Hooded Seal
Erignathus barbatus ..... Bearded Seal
Halichoerus grypus ..... Gray Seal
Histriophoca fasciata ..... Ribbon Seal
Mirounga angustirostris ..... Northern Elephant Seal
Pagophilus groenlandicus ..... Harp Seal
Phoca largha ..... Spotted Seal
Phoca vitulina ..... Harbor Seal
Pusa hispida ..... Ringed Seal
Family Procyonidae – Raccoons, Ringtails, and Coatis
Bassariscus astutus ..... Ringtail
Nasua narica ..... White-nosed Coati
Procyon lotor ..... Northern Raccoon
Family Ursidae – Bears
Ursus americanus ..... American Black Bear
Ursus arctos ..... Grizzly or Brown Bear
Ursus maritimus ..... Polar Bear
ORDER PERISSODACTYLA – Odd-toed Ungulates
Family Equidae – Horses and Asses
*Equus asinus** ..... Feral Ass
*Equus caballus** ..... Feral Horse
ORDER ARTIODACTYLA – Even-toed Ungulates
Family Antilocapridae – Pronghorn
Antilocapra americana ..... Pronghorn
Family Bovidae – Cattle, Antelope, Sheep, Goats, and African Exotics
*Ammelaphus imberbis** ..... Lesser Kudu

*Ammotragus lervia** ..... Barbary Sheep or Aoudad
*Antilope cervicapra** ..... Blackbuck
Bos bison ..... American Bison
*Bos taurus** ..... Domestic Cattle
*Boselaphus tragocamelus** ..... Nilgai
*Capra hircus** ..... Domestic Goat
*Capra ibex** ..... Ibex
*Eudorcas thomsoni** ..... Eastern Thomson's Gazelle
*Hemitragus jemlahicus** ..... Himalayan Tahr
*Hippotragus niger** ..... Sable Antelope
Oreamnos americanus ..... Mountain Goat
*Oryx dammah** ..... Scimitar-horned Oryx
*Oryx gazella** ..... Gemsbok
Ovibos moschatus ..... Muskox
*Ovis vignei** ..... European Mouflon Sheep or Red Sheep
Ovis canadensis ..... Bighorn Sheep
Ovis dalli ..... Dall's or Stone Sheep
*Taurotragus oryx** ..... Common Eland

Family Cervidae – Deer

Alces americanus ..... Moose
*Axis axis** ..... Axis Deer
Cervus canadensis ..... Wapiti or Eastern Red Deer
*Cervus elaphus** ..... Elk or Western Red Deer
*Cervus nippon** ..... Sika
*Cervus unicolor** ..... Sambar
*Dama dama** ..... Fallow Deer
Odocoileus hemionus ..... Mule and Black-tailed Deer
Odocoileus virginianus ..... White-tailed Deer
Rangifer tarandus ..... Caribou or Reindeer

Family Suidae – Pigs

*Sus scrofa** ..... Feral Pig or Wild Boar

Family Tayassuidae – Peccaries

Pecari tajacu ..... Collared Peccary

ORDER CETACEA – Whales

Family Balaenidae – Right Whales

Balaena mysticetus ..... Bowhead Whale
Eubalaena glacialis ..... North Atlantic Right Whale
Eubalaena japonica ..... North Pacific Right Whale

Family Balaenopteridae – Rorquals

Balaenoptera acutorostrata ..... Common Minke Whale
Balaenoptera borealis ..... Sei Whale
Balaenoptera brydei ..... Bryde's Whale
Balaenoptera musculus ..... Blue Whale
Balaenoptera physalus ..... Fin Whale
Megaptera novaeangliae ..... Humpback Whale

Family Delphinidae – Dolphins

Delphinus capensis ..... Long-beaked Common Dolphin
Delphinus delphis ..... Short-beaked Common Dolphin
Feresa attenuata ..... Pygmy Killer Whale
Globicephala macrorhynchus ..... Short-finned Pilot Whale
Globicephala melas ..... Long-finned Pilot Whale
Grampus griseus ..... Risso's Dolphin
Lagenodelphis hosei ..... Fraser's Dolphin
Lagenorhynchus acutus ..... Atlantic White-sided Dolphin
Lagenorhynchus albirostris ..... White-beaked Dolphin
Lagenorhynchus obliquidens ..... Pacific White-sided Dolphin
Lissodelphis borealis ..... Northern Right-whale Dolphin
Orcinus orca ..... Killer Whale
Peponocephala electra ..... Melon-headed Whale
Pseudorca crassidens ..... False Killer Whale
Stenella attenuata ..... Pantropical Spotted Dolphin
Stenella clymene ..... Clymene Dolphin
Stenella coeruleoalba ..... Striped Dolphin
Stenella frontalis ..... Atlantic Spotted Dolphin
Stenella longirostris ..... Spinner Dolphin
Steno bredanensis ..... Rough-toothed Dolphin
Tursiops truncatus ..... Common Bottlenose Dolphin

Family Eschrichtiidae – Gray Whale

Eschrichtius robustus ..... Gray Whale

Family Kogiidae – Pygmy Sperm Whales

Kogia breviceps ..... Pygmy Sperm Whale
Kogia sima ..... Dwarf Sperm Whale

Family Monodontidae – Beluga and Narwhal

Delphinapterus leucas ..... White Whale or Beluga
Monodon monoceros ..... Narwhal

Family Phocoenidae – Porpoises
Phocoena phocoena ..... Harbor Porpoise
Phocoenoides dalli ..... Dall's Porpoise
Family Physeteridae – Sperm Whales
Physeter macrocephalus ..... Sperm Whale
Family Ziphiidae – Beaked Whales
Berardius bairdii ..... Baird's Beaked Bottlenose Whale
Hyperoodon ampullatus ..... Northern Bottlenose Whale
Indopacetus pacificus ..... Longman's Beaked Whale
Mesoplodon bidens ..... Sowerby's Beaked Whale
Mesoplodon carlhubbsi ..... Hubbs' Beaked Whale
Mesoplodon densirostris ..... Blainville's Beaked Whale
Mesoplodon europaeus ..... Gervais's Beaked Whale
Mesoplodon ginkgodens ..... Ginkgo-toothed Beaked Whale
Mesoplodon mirus ..... True's Beaked Whale
Mesoplodon perrini ..... Perrin's Beaked Whale
Mesoplodon peruvianus ..... Pygmy Beaked Whale
Mesoplodon stejnegeri ..... Stejneger's Beaked Whale
Ziphius cavirostris ..... Cuvier's or Goose-beaked Whale

ORDER RODENTIA – Rodents
Family Aplodontidae – Mountain Beaver
Aplodontia rufa ..... Sewellel or Mountain Beaver
Family Castoridae – Beavers
Castor canadensis ..... American Beaver
Family Cricetidae – New World Mice, Rats, and Voles
Arborimus albipes ..... White-footed Vole
Arborimus longicaudus ..... Red Tree Vole
Arborimus pomo ..... Sonoma Tree Vole
Baiomys taylori ..... Northern Pygmy Mouse
Dicrostonyx groenlandicus ..... Peary Land Collared Lemming
Dicrostonyx hudsonius ..... Labrador or Ungava Collared Lemming
Dicrostonyx nelsoni ..... Nelson's Collared Lemming
Dicrostonyx nunatakensis ..... Ogilvie Mountains Collared Lemming
Dicrostonyx richardsoni ..... Richardson's Collared Lemming
Dicrostonyx unalascensis ..... Unalaska Collared Lemming
Lemmiscus curtatus ..... Sagebrush Vole
Lemmus trimucronatus ..... Brown Lemming
Microtus abbreviatus ..... Insular Vole

Microtus breweri ..... Beach Vole
Microtus californicus ..... California Vole
Microtus canicaudus ..... Gray-tailed Vole
Microtus chrotorrhinus ..... Rock Vole
Microtus longicaudus ..... Long-tailed Vole
Microtus mogollonensis ..... Mogollon Vole
Microtus miurus ..... Singing Vole
Microtus montanus ..... Montane Vole
Microtus ochrogaster ..... Prairie Vole
Microtus oeconomus ..... Tundra or Root Vole
Microtus oregoni ..... Creeping Vole
Microtus pennsylvanicus ..... Meadow Vole
Microtus pinetorum ..... Woodland Vole
Microtus richardsoni ..... North American or Water Vole
Microtus townsendii ..... Townsend's Vole
Microtus xanthognathus ..... Yellow-cheeked or Taiga Vole
Myodes californicus ..... Western Red-backed Vole
Myodes gapperi ..... Southern Red-backed Vole
Myodes rutilus ..... Northern Red-backed Vole
Neofiber alleni ..... Round-tailed Muskrat
Neotoma albigula ..... Western White-throated Woodrat
Neotoma bryanti ..... Bryant's Woodrat
Neotoma cinerea ..... Bushy-tailed Woodrat
Neotoma devia ..... Arizona Woodrat
Neotoma floridana ..... Eastern Woodrat
Neotoma fuscipes ..... Dusky-footed Woodrat
Neotoma lepida ..... Desert Woodrat
Neotoma leucodon ..... White-toothed Woodrat
Neotoma macrotis ..... Big-eared Woodrat
Neotoma magister ..... Allegheny Woodrat
Neotoma mexicana ..... Mexican Woodrat
Neotoma micropus ..... Southern Plains Woodrat
Neotoma stephensi ..... Stephens's Woodrat
Ochrotomys nuttalli ..... Golden Mouse
Ondatra zibethicus ..... Common Muskrat
Onychomys arenicola ..... Chihuahuan or Mearns's Grasshopper Mouse
Onychomys leucogaster ..... Northern Grasshopper Mouse
Onychomys torridus ..... Southern Grasshopper Mouse

Oryzomys couesi ..... Coues's Rice Rat
Oryzomys palustris ..... Marsh Rice Rat
Oryzomys texensis ..... Texas Marsh Rice Rat
Peromyscus attwateri ..... Texas Deermouse
Peromyscus boylii ..... Brush Deermouse
Peromyscus californicus ..... California Deermouse
Peromyscus crinitus ..... Canyon Deermouse
Peromyscus eremicus ..... Cactus Deermouse
Peromyscus fraterculus ..... Baja Deermouse
Peromyscus gossypinus ..... Cotton Deermouse
Peromyscus gratus ..... Saxicoline Deermouse
Peromyscus keeni ..... Northwestern Deermouse
Peromyscus laceianus ..... Lacey's White-ankled Deermouse
Peromyscus leucopus ..... White-footed Deermouse
Peromyscus maniculatus ..... North American Deermouse
Peromyscus melanotis ..... Black-eared Deermouse
Peromyscus merriami ..... Merriam's Deermouse
Peromyscus nasutus ..... Northern Rock Deermouse
Peromyscus polionotus ..... Oldfield Deermouse
Peromyscus truei ..... Piñon Deermouse
Phenacomys intermedius ..... Western Heather Vole
Phenacomys ungava ..... Eastern Heather Vole
Podomys floridanus ..... Florida Deermouse
Reithrodontomys fulvescens ..... Fulvous Harvest Mouse
Reithrodontomys humulis ..... Eastern Harvest Mouse
Reithrodontomys megalotis ..... Western Harvest Mouse
Reithrodontomys montanus ..... Plains Harvest Mouse
Reithrodontomys raviventris ..... Salt-marsh Harvest Mouse
Sigmodon arizonae ..... Arizona Cotton Rat
Sigmodon fulviventer ..... Tawny-bellied Cotton Rat
Sigmodon hispidus ..... Hispid Cotton Rat
Sigmodon ochrognathus ..... Yellow-nosed Cotton Rat
Synaptomys borealis ..... Northern Bog Lemming
Synaptomys cooperi ..... Southern Bog Lemming

Family Dipodidae – Jumping Mice

Napaeozapus insignis ..... Woodland Jumping Mouse
Zapus hudsonius ..... Meadow Jumping Mouse
Zapus princeps ..... Western Jumping Mouse
Zapus trinotatus ..... Pacific Jumping Mouse

Family Echimyidae – Coypus
*Myocastor coypus** ..... Nutria or Coypu
Family Erethizontidae – New World Porcupines
Erethizon dorsatum ..... North American Porcupine
Family Geomyidae – Pocket Gophers
Cratogeomys castanops ..... Yellow-faced Pocket Gopher
Geomys arenarius ..... Desert Pocket Gopher
Geomys attwateri ..... Attwater's Pocket Gopher
Geomys breviceps ..... Baird's Pocket Gopher
Geomys bursarius ..... Plains Pocket Gopher
Geomys jugossicularis ..... Hall's Pocket Gopher
Geomys knoxjonesi ..... Jones's Pocket Gopher
Geomys lutescens ..... Sand Hills Pocket Gopher
Geomys personatus ..... Texas Pocket Gopher
Geomys pinetis ..... Southeastern Pocket Gopher
Geomys streckeri ..... Strecker's Pocket Gopher
Geomys texensis ..... Llano or Central Pocket Gopher
Geomys tropicalis ..... Tropical Pocket Gopher
Thomomys bottae ..... Botta's Pocket Gopher
Thomomys bulbivorus ..... Camas Pocket Gopher
Thomomys clusius ..... Wyoming Pocket Gopher
Thomomys idahoensis ..... Idaho Pocket Gopher
Thomomys mazama ..... Western Pocket Gopher
Thomomys monticola ..... Mountain Pocket Gopher
Thomomys talpoides ..... Northern Pocket Gopher
Thomomys townsendii ..... Townsend's Pocket Gopher
Thomomys umbrinus ..... Southern Pocket Gopher
Family Heteromyidae – Pocket Mice and Kangaroo Rats
Chaetodipus baileyi ..... Bailey's Pocket Mouse
Chaetodipus californicus ..... California Pocket Mouse
Chaetodipus eremicus ..... Chihuahuan Desert Pocket Mouse
Chaetodipus fallax ..... San Diego Pocket Mouse
Chaetodipus formosus ..... Long-tailed Pocket Mouse
Chaetodipus hispidus ..... Hispid Pocket Mouse
Chaetodipus intermedius ..... Rock Pocket Mouse
Chaetodipus nelsoni ..... Nelson's Pocket Mouse
Chaetodipus penicillatus ..... Desert Pocket Mouse
Chaetodipus rudinoris ..... Baja California Pocket Mouse
Chaetodipus spinatus ..... Spiny Pocket Mouse

Dipodomys agilis ..... Agile Kangaroo Rat
Dipodomys californicus ..... California Kangaroo Rat
Dipodomys compactus ..... Gulf Coast Kangaroo Rat
Dipodomys deserti ..... Desert Kangaroo Rat
Dipodomys elator..... Texas Kangaroo Rat
Dipodomys heermanni ..... Heermann's Kangaroo Rat
Dipodomys ingens..... Giant Kangaroo Rat
Dipodomys merriami ..... Merriam's Kangaroo Rat
Dipodomys microps ..... Chisel-toothed Kangaroo Rat
Dipodomys nitratoides..... Fresno Kangaroo Rat
Dipodomys ordii..... Ord's Kangaroo Rat
Dipodomys panamintinus ..... Panamint Kangaroo Rat
Dipodomys simulans..... Dulzura Kangaroo Rat
Dipodomys spectabilis ..... Banner-tailed Kangaroo Rat
Dipodomys stephensi ..... Stephen's Kangaroo Rat
Dipodomys venustus ..... Narrow-faced Kangaroo Rat
Liomys irroratus..... Mexican Spiny Pocket Mouse
Microdipodops megacephalus ..... Dark Kangaroo Mouse
Microdipodops pallidus ..... Pale Kangaroo Mouse
Perognathus alticolus ..... White-eared Pocket Mouse
Perognathus amplus..... Arizona Pocket Mouse
Perognathus fasciatus..... Olive-backed Pocket Mouse
Perognathus flavescens..... Plains Pocket Mouse
Perognathus flavus..... Silky Pocket Mouse
Perognathus inornatus..... San Joaquin Pocket Mouse
Perognathus longimembris ..... Little Pocket Mouse
Perognathus merriami ..... Merriam's Pocket Mouse
Perognathus mollipilosus..... Great Basin Pocket Mouse
Perognathus parvus ..... Columbia Plateau Pocket Mouse

Family Muridae – Old World Mice and Rats

*Mus musculus**..... House Mouse
*Rattus norvegicus**..... Norway or Brown Rat
*Rattus rattus**..... Black Rat
*Rattus tanezumi** ..... Asian Roof Rat

Family Nesomyidae – African Pouched Rats

*Cricetomys gambianus**..... Northern Giant Pouched Rat

Family Sciuridae – Squirrels

Ammospermophilus harrisii..... Harris's Antelope Squirrel

Ammospermophilus interpres ..... Texas Antelope Squirrel
Ammospermophilus leucurus ..... White-tailed Antelope Squirrel
Ammospermophilus nelsoni ..... Nelson's Antelope Squirrel
Callospermophilus lateralis ..... Golden-mantled Ground Squirrel
Callospermophilus saturatus ..... Cascade Ground Squirrel
Cynomys gunnisoni ..... Gunnison's Prairie Dog
Cynomys leucurus ..... White-tailed Prairie Dog
Cynomys ludovicianus ..... Black-tailed Prairie Dog
Cynomys parvidens ..... Utah Prairie Dog
Glaucomys sabrinus ..... Northern Flying Squirrel
Glaucomys volans ..... Southern Flying Squirrel
Ictidomys parvidens ..... Rio Grande Ground Squirrel
Ictidomys tridecemlineatus ..... Thirteen-lined Ground Squirrel
Marmota broweri ..... Alaska Marmot
Marmota caligata ..... Hoary Marmot
Marmota flaviventris ..... Yellow-bellied Marmot
Marmota monax ..... Woodchuck
Marmota olympus ..... Olympic Marmot
Marmota vancouverensis ..... Vancouver Marmot
Otospermophilus beecheyi ..... California Ground Squirrel
Otospermophilus variegatus ..... Rock Squirrel
Poliocitellus franklinii ..... Franklin's Ground Squirrel
Sciurus aberti ..... Abert's Squirrel
Sciurus arizonensis ..... Arizona Gray Squirrel
*Sciurus aureogaster** ..... Mexican Gray Squirrel
Sciurus carolinensis ..... Eastern Gray Squirrel
Sciurus griseus ..... Western Gray Squirrel
Sciurus nayaritensis ..... Mexican Fox Squirrel
Sciurus niger ..... Eastern Fox Squirrel
Tamias alpinus ..... Alpine Chipmunk
Tamias amoenus ..... Yellow-pine Chipmunk
Tamias canipes ..... Gray-footed Chipmunk
Tamias cinereicollis ..... Gray-collared Chipmunk
Tamias dorsalis ..... Cliff Chipmunk
Tamias merriami ..... Merriam's Chipmunk
Tamias minimus ..... Least Chipmunk
Tamias obscurus ..... California Chipmunk
Tamias ochrogenys ..... Yellow-cheeked Chipmunk

Tamias palmeri..... Palmer's Chipmunk
Tamias panamintinus ..... Panamint Chipmunk
Tamias quadrimaculatus..... Long-eared Chipmunk
Tamias quadrivittatus..... Colorado Chipmunk
Tamias ruficaudus ..... Red-tailed Chipmunk
Tamias rufus..... Hopi Chipmunk
Tamias senex ..... Allen's Chipmunk
Tamias siskiyou ..... Siskiyou Chipmunk
Tamias sonomae..... Sonoma Chipmunk
Tamias speciosus..... Lodgepole Chipmunk
Tamias striatus ..... Eastern Chipmunk
Tamias townsendii..... Townsend's Chipmunk
Tamias umbrinus..... Uinta Chipmunk
Tamiasciurus douglasii ..... Douglas's Squirrel
Tamiasciurus hudsonicus ..... Red Squirrel
Urocitellus armatus ..... Uinta Ground Squirrel
Urocitellus beldingi ..... Belding's Ground Squirrel
Urocitellus brunneus..... Idaho Ground Squirrel
Urocitellus canus ..... Columbia Plateau Ground Squirrel
Urocitellus columbianus ..... Columbian Ground Squirrel
Urocitellus elegans ..... Wyoming Ground Squirrel
Urocitellus mollis..... Great Basin Ground Squirrel
Urocitellus parryii ..... Arctic Ground Squirrel
Urocitellus richardsonii..... Richardson's Ground Squirrel
Urocitellus townsendii ..... Townsend's Ground Squirrel
Urocitellus washingtoni..... Washington Ground Squirrel
Xerospermophilus mohavensis..... Mohave Ground Squirrel
Xerospermophilus spilosoma ..... Spotted Ground Squirrel
Xerospermophilus tereticaudus..... Round-tailed Ground Squirrel

ACKNOWLEDGMENTS

The authors thank M. S. Corley, M. R. Mauldin, E. K. Roberts, L. Lindsey, and C. Dunn for comments on previous versions of this manuscript. Special thanks to Dr. Eileen Johnson for serving as Guest Editor, and to four anonymous reviewers for providing valuable comments concerning recent taxonomic revisions.

LITERATURE CITED

Abramov, A. V. 2000. A taxonomic review of the genus *Mustela* (Mammalia, Carnivora). Zoosystematica Rossica 8:357–364.

Ammerman, L. K., C. L. Hice, and D. J. Schmidly. 2012. Bats of Texas. Texas A&M University Press, College Station. 305 pp.

Baker, R. J., L. C. Bradley, R. D. Bradley, J. W. Dragoo, M. D. Engstrom, R. S. Hoffmann, C. A. Jones, F. Reid, D. W. Rice, and C. Jones. 2003. Revised checklist of North American mammals north of Mexico, 2003. Occasional Papers, Museum of Texas Tech University 229:1–23.

Baker, R. J., and R. D. Bradley. 2006. Speciation in mammals and the Genetic Species Concept. Journal of Mammalogy 87:643–662.

Banbury, J. L., and G. S. Spicer. 2007. Molecular systematics of chipmunks (*Neotamias*) inferred by mitrochondrial control region sequences. Journal of Mammalian Evolution 14:149–162.

Boyeskorov, G. 1999. New data on moose (*Alces*, Artiodactyla) systematics. Saügetierkundliche Mitteilungen 44:3–13.

Bradley, R. D., and R. J. Baker. 2001. A test of the Genetic Species Concept: Cytochrome-*b* sequences and mammals. Journal of Mammalogy 82:960–973.

Bradley, R. D., D. J. Schmidly, B. R. Amman, R. N. Platt II, K. M. Neumann, H. M. Huynh, R. Muñiz-Martínez, C. López-González, and N. Ordóñez-Garza. Submitted. Molecular and morphological data reveal multiple species in *Peromyscus pectoralis*. Journal of Mammalogy.

Chambers, R. R., P. D. Sudman, and R. D. Bradley. 2009. A phylogenetic assessment of pocket gophers (*Geomys*): evidence from nuclear and mitochondrial genes. Journal of Mammalogy 90:537–547.

Conroy, C. J., K. C. Rowe, K. M. C. Rowe, P. L. Kamath, K. P. Aplin, L. Hui, D. K. James, C. Moritz, and J. L. Patton. 2013. Cryptic genetic diversity in *Rattus* of the San Francisco Bay region, California. Biological Invasions 15:741–758.

Cracraft, J. 1983. Species concepts and speciation analysis. Pp. 159–187 in Current Ornithology, Vol. 1. Plenum Press, New York.

Dalebout, M. L., G. J. B. Ross, C. S. Baker, R. C. Anderson, P. B. Best, H. L. Hinsz,V. M. Peddemors, and R. L. Pitman. 2003. Appearance, distribution, and genetic distinctiveness of Longmans' beaked whale, *Indopacetus pacificus*. Marine Mammal Science 19:321–461.

Dawson, N. G., and J. A. Cook. 2012. Behind the genes: Diversification of North American marten (*Martes americana* and *Martes caurina*). Pp. 23–38 in Biology and conservation of marten, sables and fisher. A new synthesis (K. Aubry, W. J. Zielinski, M. G. Raphael, G. Proulx, and S. W. Buskirk, eds.). Cornell University Press, Ithaca, New York.

Eger, J. L. 1995. Morphometric variation in the Nearctic collared lemming (*Dicrostonyx*). Journal of the Zoological Society of London 235:143–161.

Ehrich, D., V. B. Federov, N. C. Stenseth, C. J. Krebs, and A. Kenny. 2000. Phylogeography and mitochondrial DNA (mtDNA) diversity in North American collared lemmings (*Dicrostonyx groenlandicus*). Molecular Ecology 9:329–337.

Engstrom, M. D., A. J. Baker, J. L. Eger, R. Boonstra, and R. J. Brooks. 1993. Chromosomal and mitochondrial DNA variation in four laboratory populations of collared lemmings (*Dicrostonyx*). Canadian Journal of Zoology 71:42–28.

Frey, J. K, R. D. Fischer, and L. A. Ruedas. 1997. Identification and restriction of the type locality of the Manzano Mountains cottontail, *Sylvilagus cognatus* Nelson, 1907 (Mammalia: Lagomorpha: Leporidae). Proceedings of the Biological Society of Washington 110:329–331.

Galewski, T., J.-F. Mauffrey, Y. L. R. Leite, J. L. Patton, and E. J. P. Douzery. 2005. Ecomorphological diversification among South American spiny rats (Rodentia: Echimyidae): A phylogenetic and chronological approach. Molecular Phylogenetics and Evolution 34:601–615.

Gardner, A. L. 2005. Order Cingulata. Pp. 94–99 in Mammal species of the world: A taxonomic and geographic reference, 3rd edition (D. E. Wilson and D. M. Reeder, eds.). Johns Hopkins University Press, Baltimore, Maryland.

Geisler, J. H., and M. D. Uhen. 2005. Phylogenetic relationships of extinct cetartiodactyls: Results of simultaneous analyses of molecular, morphological, and stratigraphic data. Journal of Mammalian Evolution 12:145–160.

Genoways, H. H., and J. R. Choate. 1998. Natural history of the southern short-tailed shrew, *Blarina carolinen-*

sis. Occasional Papers, Museum of Southwestern Biology 8:1–43.

Genoways, H. H., M. J. Hamilton, D. M. Bell, R. R. Chambers, and R. D. Bradley. 2008. Hybrid zones, genetic isolation, and systematics of pocket gophers (Genus *Geomys*) in Nebraska. Journal of Mammalogy 89:826–836.

Groves, C. P. 2003. Taxonomy of ungulates of the Indian Subcontinent. Journal of the Bombay Natural History Society 100:341–362.

Groves, C., and P. Grubb. 2011. Ungulate taxonomy. Johns Hopkins University Press, Baltimore, Maryland, 317 pp.

Hanson, J. D., J. L. Indorf, V. J. Swier, and R. D. Bradley. 2010. Molecular divergence within the *Oryzomys palustris* complex: Evidence for multiple species. Journal of Mammalogy 91:336–347.

Harding, L. E., and F. A. Smith. 2009. *Mustela* or *Vison*? Evidence for the taxonomic status of the American mink and a distinct biogeographic radiation of American weasels. Molecular Phylogenetics and Evolution 52:632–642.

Harrison, R. G., S. M. Bogdanowicz, R. S. Hoffmann, E. Yensen, and P. W. Sherman. 2003. Phylogeny and evolutionary history of the ground squirrels (Rodentia: Marmotinae). Journal of Mammalian Evolution 10:249–276.

Helgen, K. M., F. R. Cole, L. E. Helgen, and D. E. Wilson. 2009. Generic revision in the Holarctic ground squirrel genus *Spermophilus*. Journal of Mammalogy 90:270–305.

Herron, M. D., T. A Castoe, and C. L. Parkinson. 2004. Sciurid phylogeny and the paraphyly of Holarctic ground squirrels (*Spermophilus*). Molecular Phylogenetics and Evolution 31:1015–1030.

Holden, M. E., and G. G. Musser. 2005. Family Dipodidae. Pp. 871–893 in Mammal species of the world: A taxonomic and geographic reference, 3rd edition (D. E. Wilson and D. M. Reeder, eds.). Johns Hopkins University Press, Baltimore, Maryland.

Hoofer, S. R., and R. A. Van Den Bussche. 2003. Molecular phylogenetics of the chiropteran family Vespertilionidae. Acta Chiropterologica, 5 (Supplemental):1–63.

Hoofer, S. R., R. A. Van Den Busssche, and I. Horacek. 2006. Generic status of the American pipistrelles (Vespertilionidae) with description of a new genus. Journal of Mammalogy 87:981–992.

Hope, A. G., N. Panter, J. A. Cook, S. L. Talbot, and D. Nagorsen. 2014. Multi-locus phylogeography and systematic revision of North American water shrews (genus: *Sorex*). Journal of Mammalogy 95:722–738.

Hope, A. G., E. Waltari, N. E. Dokuchaev, S. Abramov, T. Dupral, H. Henttonen, S. O. MacDonald, and J. A. Cook. 2010. Diversification of the Eurasian least shrew and Alaska tiny shrew (Soricidae) at high latitudes. Journal of Mammalogy 91:1041–1057.

Hutterer, R. 2005. Order Soricomorpha. Pp. 220–311 in Mammal species of the world: a taxonomic and geographic reference, 3rd edition (D. E. Wilson and D. M. Reeder, eds.). Johns Hopkins University Press, Baltimore, Maryland.

Irwin, D. W., and R. J. Baker. 1967. Additional records of bats from Arizona and Sinaloa. The Southwestern Naturalist 12:195.

Jarrell, G. H., and K. Fredga. 1993. How many kinds of lemmings? A taxonomic overview. Pp. 46–57 in The biology of lemmings (N. C. Stenseth and R. A. Ims, eds.). Linnean Society Symposium Series 15, Academic Press, London.

Jefferson, T. A., M. A. Webber, and R. L. Pitman. 2008. Marine mammals of the World. Elevier/Academic Press, Amsterdam. 573 pp.

Jones, C., R. S. Hoffmann, D. W. Rice, M. D. Engstrom, R. D. Bradley, D. J. Schmidly, C. A. Jones, and R. J. Baker. 1997. Revised checklist of North American mammals north of Mexico, 1997. Occasional Papers, Museum of Texas Tech University 173:1–19.

Jones, J, K., Jr., D. C. Carter, and H. H. Genoways. 1973. Checklist of North American mammals north of Mexico. Occasional Papers, Museum of Texas Tech University 12:1–14.

Jones, J, K., Jr., D. C. Carter, and H. H. Genoways. 1975. Revised checklist of North American mammals north of Mexico. Occasional Papers, Museum of Texas Tech University 28:1–14.

Jones, J, K., Jr., D. C. Carter, and H. H. Genoways. 1979. Revised checklist of North American mammals north of Mexico, 1979. Occasional Papers, Museum of Texas Tech University 62:1–17.

Jones, J, K., Jr., D. C. Carter, H. H. Genoways, R. S. Hoffmann, and D. W. Rice. 1982. Revised checklist of North American mammals north of Mexico, 1982. Occasional Papers, Museum of Texas Tech University 80:1–22.

Jones, J, K., Jr., D. C. Carter, H. H. Genoways, R. S. Hoffmann, D. W. Rice, and C. Jones. 1986. Revised checklist of North American mammals north of

Mexico, 1986. Occasional Papers, Museum of Texas Tech University 107:1–22.

Jones, J, K., Jr., R. S. Hoffmann, D. W. Rice, C. Jones, R. J. Baker, and M. D. Engstrom. 1992. Revised checklist of North American mammals north of Mexico, 1991. Occasional Papers, Museum of Texas Tech University 146:1–23.

Koepfli, K.-P., K. A. Deere, G. J. Slater, C. Begg, K. Begg, L. Grassman, M. Lucherini, G. Veron, and R. K. Wayne. 2008. Multigene phylogeny of the Mustelidae: Resolving relationships, tempo and biogeographic history of a mammalian adaptive radiation. BMC Biology 6:10. doi:10.1186/1741-7007-6-10.

Kurose, N. K., A. V. Abramov, and R. Masuda. 2008. Molecular phylogeny and taxonomy of the genus *Mustela* (Mustelidae, Carnivora), inferred from mitochondrial DNA sequences: New perspectives on phylogenetic status of the back-striped weasel and American mink. Mammal Study 33:25–33.

Kyle, C. J., A. R. Johnson, B. R. Patterson, P. J. Wilson, K. Shami, S. K. Grewal, and B. N. White. 2006. Genetic nature of eastern wolves: Past, present and future. Conservation Genetics 7:272–283.

Kyle, C. J., A. R. Johnson, B. R. Patterson, P. J. Wilson, and B. N. White. 2008. The conspecific nature of eastern and red wolves: Conservation and management implications. Conservation Genetics 9:699–701.

Lack, J. B., D. U. Greene, C. J. Conroy, M. J. Hamilton, J. K. Braun, M. A. Mares, and R. A. Van Den Bussche. 2012. Invasion facilitates hybridization with introgression in the *Rattus rattus* species complex. Molecular Ecology 21:3545–3561.

MacDonald, S. O., and J. A. Cook. 1996. The land mammal fauna of southeast Alaska. The Canadian Field Naturalist 110:571–598.

Manning, R. W., C. Jones, and F. D. Yancey, II. 2008. Annotated checklist of recent land mammals of Texas, 2008. Occasional Papers, Museum of Texas Tech University 278:1–20.

Marks, C. S., and G. E. Marks. 2006. Bats of Florida. University Press of Florida, Gainesville.

Mayr, E. 1940. Speciation phenomena in birds. American Naturalist 74:249–278.

Mayr, E. 1963. Animal species and evolution. Harvard University Press, Cambridge, Massachusetts. 797 pp.

McDonough M. M., L. K. Ammerman, R. M. Timm, H. H. Genoways, P. A. Larsen, and R. J. Baker. 2008. Speciation within bonneted bats (Genus *Eumops*): The complexity of morphological, mitochondrial, and nuclear datasets in systematics. Journal of Mammalogy 89:1306–1315.

Meredith, R. W., et al. 2011. Impacts of the Cretaceous terrestrial revolution and KPg extinction on mammal diversification. Science 334:521–524.

Murphy, W. J., P. A. Pevzner, and S. J. O'Brien. 2004. Mammalian phylogenomics comes of age. Trends in Genetics 20:631–639.

Musser, G. G., and M. D. Carleton. 2005. Superfamily Muroidea. Pp. 894–1531 in Mammal species of the world: a taxonomic and geographic reference, 3rd edition (D. E. Wilson and D. M. Reeder, eds.). Johns Hopkins University Press, Baltimore, Maryland.

O'Leary, M. A., et al. 2013. The placental mammal ancestor and the post-K-Pg radiation of placentals. Science 339:662–667.

Patton, J. L., D. G. Huckaby, and S. T. Alvarez-Castañeda. 2007. The evolutionary history and a systematic revision of woodrats of the *Neotoma lepida* group. University of California Publications in Zoology, Vol. 135, University of California Press, Berkeley. xx+411 pp.

Perrin, W. F., B. Würsig, and J. G. M. Thewissen. 2009. Marine Mammal Species. Pp. 1259–1261 in Encyclopedia of marine mammals, Ed 2. Elsevier/Academic Press, Amsterdam.

Perry, N. D., B. Hanson, W. Hobgood, R. L. Lopez, C. R. Okraska, K. Karem, I. K. Damon, and D. S. Carroll. 2006. New invasive species in southern Florida: Gambian Rat (*Cricetomys gambianus*). Journal of Mammalogy 87:262–264.

Piaggio, A. J., and G. S. Spicer. 2001. Molecular phylogeny of the chipmunks inferred from mitochondrial cytochrome *b* and cytochrome oxidase II gene sequences. Molecular Phylogeny and Evolution 20:335–350.

Reeder, D. M., K. M. Helgen, and D. E Wilson. 2007. Global trends and biases in new mammal species discoveries. Occasional Papers, Museum of Texas Tech University 269:1–34.

Rice, D. W. 1998. Marine mammals of the world: Systematics and distribution. Society of Marine Mammalogy, Special Publication 4:1–231.

Riddle, B. R., T. Jezkova, M. E. Eckstut, V. Oláh-Hemmings, and L. N. Carraway. 2014. Cryptic divergence and revised species taxonomy within the Great Basin pocket mouse, *Perognathus parvus* (Peale, 1848), species group. Journal of Mammalogy 95:9–25.

Rosenbaum, H. C., R. L. Brownell, Jr., M. W. Brown, C. Schaeff, V. Portway, B. N. White, S. Malik, L. A. Pastene, N. J. Patenaude, C. S. Baker, M. Gotto, P. B. Best, P. J. Clapham, P. Hamilton, M. Moore, R. Payne, V. Rowntree, C. T. Tynan, J. L. Bannister, and R. DeSalle. 2000. World-wide genetic differentiation of *Eubalaena*: Questioning the number of right whale species. Molecular Ecology 9:1793–1802.

Ruedas, L. A. 1998. Systematics of *Sylvilagus* Gray, 1867 (Lagomorpha, Leporidae) from southwestern North America. Journal of Mammalogy 79:1355–1378.

Rutledge, L. Y., K. I. Bos, R. J. Pearce, and B. N. White. 2010. Genetic and morphometric analysis of sixteenth century *Canis* skull fragments: Implications for historic eastern and gray wolf distribution in North America. Conservation Genetics 11:1273–1281.

Simmons, N. B. 2005. Chiroptera. Pp. 312–529 in Mammal species of the world: A taxonomic and geographic reference, 3rd edition (D. E. Wilson and D. M. Reeder, eds.). Johns Hopkins University Press, Baltimore, Maryland.

Sudman, P. D., J. K. Wickliffe, P. Horner, M. J. Smolen, J. W. Bickham, and R. D. Bradley. 2006. Molecular systematics of pocket gophers of the genus *Geomys*. Journal of Mammalogy 87:668–676.

Sullivan, J., J. R. Demboski, K. C. Bell, S. Hird, B. Sarver, N. Reid, and J. M. Good. 2014. Divergence with gene flow within the recent chipmunk radiation (*Tamias*). Journal of Heredity 113:185-194.

Thorington, R. W., and R. S. Hoffmann. 2005. Family Sciuridae. Pp. 754–841 in Mammal species of the world: A taxonomic and geographic reference, 3rd edition (D. E. Wilson and D. M. Reeder, eds.). Johns Hopkins University Press, Baltimore, Maryland.

Timm, R. M., and H. H. Genoways. 2004. The Florida bonneted bat, *Eumops floridanus* (Chiroptera: Molossidae): Distribution, morphometrics, systematics, and ecology. Journal of Mammalogy 85:852–865.

Upham, N. S., and B. D. Patterson. 2012. Diversification and biogeography of the Neotropical caviomorph lineage Octodontoidea (Rodentia: Hystricognathi). Molecular Phylogenetics and Evolution 63:417–429.

vonHoldt, B. M., J. P. Pollinger, D. A. Earl, J. C. Knowles, A. R. Boyko, H. Parker, E. Geffen, M. Pilot, W. Jedrzejewski, B. Jedrzejewska, V. Sidorovich, C. Greco, E. Randi, M. Musiani, R. Kays, C. D. Bustamante, E. A. Ostrander, J. Novembre, and R. K. Wayne. 2011. A genome-wide perspective on the evolutionary history of enigmatic wolf-like canids. Genome Research 21:1294–1305.

Wilson, D. E., and F. R. Cole. 2000. Common names of mammals of the world. Smithsonian University Press, Washington, D.C. 204 pp.

Wilson, D. E., and D. M. Reeder. 2005. Mammal species of the world: A taxonomic and geographic reference, 3rd edition. Johns Hopkins University Press, Baltimore, Maryland. xxxv + 2,142 pp.

Wilson, P. J., S. Grewal, I. D. Lawford, J. N. M. Heal, A. G. Granacki, D. Pennock, J. B. Theberge, D. R. Voigt, W. Waddell, R. E. Chambers, P. C. Paquet, G. Goulet, D. Cluff, and B. N. White. 2000. DNA profiles of the eastern Canadian wolf and the red wolf provide evidence for a common evolutionary history independent of the gray wolf. Canadian Journal of Zoology 78:2156–2166.

Wilson, P. J., S. Grewal, T. McFadden, R. C. Chambers, and B. N. White. 2003. Mitochondrial DNA extracted from eastern North American wolves killed in the 1800s is not of gray wolf origin. Canadian Journal of Zoology 81:936–940.

Wilson, P. J., L. Y. Rutledge, T. J. Wheeldon, B. R. Patterson, and B. N. White. 2012. Y-chromosome evidence supports widespread signatures of three-species *Canis* hybridization in eastern North America. Ecology and Evolution 2:2325–2332.

Wozencraft, W. C. 2005. Family Canidae. Pp. 532–628 in Mammal species of the world: A taxonomic and geographic reference, 3rd edition (D. E. Wilson and D. M. Reeder, eds.). Johns Hopkins University Press, Baltimore, Maryland.

Addresses of authors:

ROBERT D. BRADLEY

Department of Biological Sciences
Museum of Texas Tech University
Texas Tech University
Lubbock, TX 79409-3131
robert.bradley@ttu.edu

LOREN. K. AMMERMAN

Department of Biology
Angelo State University
San Angelo, TX 76909-0890
loren.ammerman@angelo.edu

ROBERT J. BAKER

Department of Biological Sciences
Museum of Texas Tech University
Texas Tech University
Lubbock, TX 79409-3131
rjbaker@ttu.edu

LISA C. BRADLEY

Museum of Texas Tech University
Texas Tech University
Lubbock, TX 79409-3191
lisa.bradley@ttu.edu

JOSEPH A. COOK

Museum of Southwestern Biology
University of New Mexico
Albuquerque, NM 87131-1091
cookjose@unm.edu

ROBERT. C. DOWLER

Department of Biology
Angelo State University
San Angelo, TX 76909-0890
robert.dowler@angelo.edu

CLYDE JONES

Museum of Texas Tech University
Texas Tech University
Lubbock, TX 79409-3191
cjmajones@aol.com

DAVID J. SCHMIDLY

Department of Biology
University of New Mexico
Albuquerque, NM 76090
djschmid@unm.edu

FREDERICK B. STANGL, JR.

Department of Biology
Midwestern State University
Wichita Falls, TX 76308
frederick.stangl@mwsu.edu

RONALD A. VAN DEN BUSSCHE

Department of Zoology
Oklahoma State University
Stillwater, OK 74078
ron.van_den_bussche@okstate.edu

BERND WÜRSIG

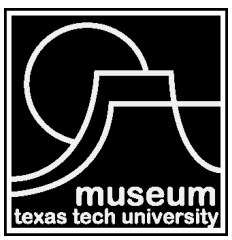
Department of Marine Biology
Texas A&M University at Galveston
Galveston, TX 77553
wursigb@tamug.edu

Editor for this manuscript was Eileen Johnson, Executive Director, Museum of Texas Tech University

Publications of the Museum of Texas Tech University

Institutional subscriptions to Occasional Papers are available through the Museum of Texas Tech University, attn: NSRL Publications Secretary, Box 43191, Lubbock, TX 79409-3191. Individuals may also purchase separate numbers of the Occasional Papers directly from the Museum of Texas Tech University.

Series Editor: Robert D. Bradley
Production Editor: Lisa Bradley



ISSN 0149-175X

Museum of Texas Tech University, Lubbock, TX 79409-3191