MAMMAL SPECIES OF THE WORLD

A Taxonomic and Geographic Reference

THIRD EDITION

Volume 2

Edited by Don E. Wilson
and DeeAnn M. Reeder

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FAMILY SCIURIDAE

by Richard W. Thorington, Jr., and Robert S. Hoffmann

Family Sciuridae Fischer de Waldheim, 1817. Adversaria zoologica, p. 408.

COMMENTS: Ellerman (1940) reviewed the history of sciurid classification. The first modern classification (Pocock, 1923) recognized six subfamilies: Sciurinae, Tamiasciurinae, Funambulinae, Callosciurinae, Xerinae, and Marmotinae. We do not accept the use of Nannosciurinae (Forsyth Major, 1895) as a senior synonym for Callosciurinae (Pocock, 1923), as proposed by McKenna and Bell (1997). Simpson (1945) recognized the same taxa, but all at the tribal level. Ellerman (1940) avoided formal designation, but recognized seven "sections" in the *Sciurus* "group," which often do not conform with the above. Moore (1959) recognized Simpson's six tribes and, in addition, Ratufini and Protoxerini for certain genera that had previously been included in Funambulini. Black (1963) elevated Tamiini to tribal level (previously in Marmotini). Gromov et al. (1965) elevated the ground squirrels to subfamily rank, Marmotinae, which included the tribes Tamiini Black, Otospermophilini Gromov, Citellini Gromov, Marmotini Simpson (part), and Cynomyini Gromov. He also recognized the subfamilies Xerinae and Sciurinae, but did not treat any other groups. Heaney (1985) recommended that the subtribe Hyosciurina of Moore (1959) be discarded because it lacks defining characters, and that the component genera (*Hyosciurus, Prosciurillus, Rubisciurus*, and *Exilisciurus*) be retained in tribe Callosciurini Simpson, 1945. Emry and Thorington (1984) submerged Tamiasciurini in Sciurini and Tamiini in Marmotini. They also (1982) described the oldest known sciurid, *Douglassciurus* (formerly *Protosciurus*), which they interpreted as an arboreal form similar to *Sciurus* from which both flying squirrels and ground squirrels have been derived. These authors treated flying squirrels as a monophyletic sister group to other squirrels, either as a family (Pocock, 1923) or subfamily (other authors). The monophyly of flying squirrels has been both supported (Thorington, 1984) and questioned (Hight et al., 1974). A catalogue of Indian sciurids was presented by Agrawal and Chakraborty (1979). Molecular studies (Mercer and Roth, 2003; Steppan et al., 2004) force a revision of the higher level systematic arrangement of the Sciuridae, which is adopted here.

Table 1

Classification of Sciuridae (51 genera, 278 species) developed here.

Family Sciuridae Fischer de Waldheim, 1817

Subfamily Ratufinae Moore, 1959 (1 genus, 4 species)
Ratufa Gray, 1867 (4)

Subfamily Sciurillinae Moore, 1959 (1 genus, 1 species)
Sciurillus Thomas, 1914 (1)

Subfamily Sciurinae Fischer de Waldheim, 1817 (20 genera, 81 species)

Tribe Sciurini Fischer de Waldheim, 1817 (5 genera, 37 species)
Microsciurus J. A. Allen, 1895 (4)
Rheithrosciurus Gray, 1867 (1)
Sciurus Linnaeus, 1758 (28)
Syntheosciurus Bangs, 1902 (1)
Tamiasciurus Trouessart, 1880 (3)

Tribe Pteromyini Brandt, 1855 (15 genera, 44 species)
Aeretes G. M. Allen, 1940 (1)

Aeromys Robinson and Kloss, 1915 (2)
Belomys Thomas, 1908 (1)
Biswamoyopterus Saha, 1981 (1)
Eoglaucomys A. H. Howell, 1915 (1)
Eupetaurus Thomas, 1888 (1)
Glaucomys Thomas, 1908 (2)
Hylopetes Thomas, 1908 (9)
Iomys Thomas, 1908 (2)
Petaurillus Thomas, 1908 (3)
Petaurista Link, 1795 (8)
Petinomys Thomas, 1908 (9)
Pteromys G. Cuvier, 1800 (2)
Pteromyscus Thomas, 1908 (1)
Trogopterus Heude, 1898 (1)

Subfamily Callosciurinae Pocock 1923 (14 genera, 64 species)
Callosciurus Gray, 1867 (15)
Dremomys Heude, 1898 (6)
Exilisciurus Moore, 1958 (3)
Funambulus Lesson, 1835 (5)
Glyphotes Thomas, 1898 (1)
Hyosciurus Archbold and Tate, 1935 (2)
Lariscus Thomas and Wroughton, 1909 (4)
Menetes Thomas, 1908 (1)
Nannosciurus Trouessart, 1880 (1)
Prosciurillus Ellerman, 1947 (5)
Rhinosciurus Blyth, 1856 (1)
Rubrisciurus Ellerman, 1954 (1)
Sundasciurus Moore, 1958 (15)
Tamiops J. A. Allen, 1906 (4)

Subfamily Xerinae Osborn 1910 (15 genera, 128 species)

Tribe Xerini Osborn 1910 (3 genera, 6 species)
Atlantoxerus Forsyth Major, 1893 (1)
Spermophilopsis Blasius, 1884 (1)
Xerus Hemprich and Ehrenberg, 1833 (4)

Tribe Protoxerini Moore 1959 (6 genera, 30 species)
Epixerus Thomas, 1909 (1)
Funisciurus Trouessart, 1880 (9)
Heliosciurus Trouessart, 1880 (6)
Myosciurus Thomas, 1909 (1)
Paraxerus Forsyth Major, 1893 (11)
Protoxerus Forsyth Major, 1893 (2)

Tribe Marmotini Pocock, 1923 (6 genera, 92 species)
Ammospermophilus Merriam, 1892 (5)
Cynomys Rafinesque, 1817 (5)
Marmota Blumenbach, 1779 (14)
Sciurotamias Miller, 1901 (2)
Spermophilus F. Cuvier, 1825 (41)
Tamias Illiger, 1811 (25)

Subfamily Ratufinae Moore, 1959. Bull. Am. Mus. Nat. Hist. 118, p. 167.
COMMENTS: Moore (1959) recognized the tribe Ratufini. Treated as subfamily Ratufinae by Steppan et al. (2004) on the basis of their molecular evidence and that of Mercer and Roth (2003).

Ratufa Gray, 1867. Ann. Mag. Nat. Hist., ser. 3, 20:273.
TYPE SPECIES: *Sciurus indicus* Erxleben, 1777.
SYNONYMS: *Eosciurus* Trouessart, 1880; *Rukaia* Gray, 1867.
COMMENTS: Tribe Ratufini (Moore, 1959). Reviewed in part by Moore and Tate (1965).

Ratufa affinis (Raffles, 1821). Trans. Linn. Soc. Lond., 13:259.
COMMON NAME: Pale Giant Squirrel.
TYPE LOCALITY: "Singapore Island".
DISTRIBUTION: Malay Peninsula, Sumatra, Borneo, and adjacent small islands.
STATUS: CITES – Appendix II; IUCN – Lower Risk (lc).
SYNONYMS: *albiceps* (Jentink, 1897); *aureiventer* (I. Geoffroy, 1831); *frontalis* Kloss, 1932; *interposita* Kloss, 1932; *johorensis* Robinson and Kloss, 1911; *klossi* J. E. Hill, 1960; *pyrsonota* Miller, 1900; ***bancana*** Lyon, 1906; ***baramensis*** Bonhote, 1900; *banguei* Chasen and Kloss, 1932; *dulitensis* Lönnberg and Mjöberg, 1925; *lumholtzi* Lönnberg and Mjoberg, 1925; *sandakanensis* Bonhote, 1900; ***bunguranensis*** (Thomas and Hartert, 1894); *confinis* Miller, 1906; *nanogigas* (Thomas and Hartert, 1895); *notabilis* Miller, 1902; *sirhassenensis* Bonhote, 1900; ***cothurnata*** Lyon, 1911; *griseicollis* Lyon, 1911; ***ephippium*** (Müller, 1838); *vittata* Lyon, 1911; *vittatula* Lyon, 1911; ***hypoleucos*** (Horsfield, 1823); *arusinus* Lyon, 1907; *balae* Miller, 1903; *catemana* Lyon, 1907; *femoralis* Miller, 1903; *masae* Miller, 1903; *nigrescens* Miller, 1903; *piniensis* Miller, 1903; ***insignis*** Miller, 1903; *bulana* Lyon, 1909; *carimonensis* Miller, 1906; *condurensis* Miller, 1906; *conspicua* Miller, 1903; ***polia*** Lyon, 1906.
COMMENTS: Reviewed by Corbet and Hill (1992); they doubted the validity of a record from Vietnam (Cao, 1984).

Ratufa bicolor (Sparrman, 1778). Samhelle Hand. (Wet. Afd.), 1:70.
COMMON NAME: Black Giant Squirrel.
TYPE LOCALITY: Indonesia, W Java, Anjer.
DISTRIBUTION: E Nepal; SE Tibet to S Yunnan and Hainan (China); Assam (India), Burma, Thailand, Laos, Cambodia, and Vietnam, south through the Malay Peninsula to Java and Bali.
STATUS: CITES – Appendix II; IUCN – Lower Risk (lc).
SYNONYMS: *albiceps* (Desmarest, 1817); *baliensis* Thomas, 1913; *humeralis* (Coulon, 1836); *javensis* (Zimmerman, 1780); *leschnaultii* (Desmarest, 1822); *major* Miller, 1911; *sondaica* (Müller and Schlegel, 1844); ***condorensis*** Kloss, 1920; ***felli*** Thomas and Wroughton, 1916; ***gigantea*** (McClelland, 1839); *lutrina* Thomas and Wroughton, 1916; *macruroides* (Hodgson, 1849); ***hainana*** J. A. Allen, 1906; *stigmosa* Thomas, 1923; ***leucogenys*** Kloss, 1916; *sinus* Kloss, 1916; ***melanopepla*** Miller, 1900; *anambae* Miller, 1900; *angusticeps* Miller, 1901; *dicolorata* Robinson and Kloss, 1914; *fretensis* Thomas and Wroughton, 1909; *penangensis* Robinson and Kloss, 1911; *peninsulae* (Miller, 1913); *tiomanensis* Miller, 1900; ***palliata*** Miller, 1902; *batuana* Lyon, 1916; *laenata* Miller, 1903; ***phaeopepla*** Miller, 1913; *celaenopepla* Miller, 1913; *marana* Thomas and Wroughton, 1916; ***smithi*** Robinson and Kloss, 1922. **Unassigned:** *tennentii* Layard, in Blyth, 1849.
COMMENTS: Reviewed by Corbet and Hill (1992).

Ratufa indica (Erxleben, 1777). Syst. Regn. Anim., 1:420.
COMMON NAME: Indian Giant Squirrel.
TYPE LOCALITY: "in India orientali" [Bombay, India]. Based on "Pennant's Bombay squirrel" (Moore and Tate, 1965:43).
DISTRIBUTION: C and S India, excluding central lowlands.
STATUS: CITES – Appendix II; IUCN – Extinct as *R. i. dealbata*, Vulnerable as *R. i. centralis*, *R. i. indica* and *R. i. maxima*.
SYNONYMS: *bombaya* (Boddaert, 1785); *elphinstoni* (Sykes, 1831); *purpureus* (Zimmermann,

1777); *superans* Ryley, 1913; ***centralis*** Ryley, 1913; ***dealbata*** (Blanford, 1897); ***maxima*** (Schreber, 1784); *bengalensis* (Blanford, 1897); *malabarica* (Scopoli, 1786).

COMMENTS: Pennant (1771:281) described, but did not name this species, and said it "Inhabits Bombay."

Ratufa macroura (Pennant, 1769). Indian Zool., 1, pl. 1.

COMMON NAME: Sri Lankan Giant Squirrel.

TYPE LOCALITY: "Ceylon and Malabar. . . . Malacca . . . Goa and Amboina." Restricted by Phillips (1933) to highlands of Central and Uva Provs., Sri Lanka.

DISTRIBUTION: Sri Lanka and S India.

STATUS: CITES – Appendix II. IUCN – Vulnerable

SYNONYMS: *albipes* (Blyth, 1859); *ceilonensis* (Boddaert, 1785); *ceylonica* (Erxleben, 1777); *macrura* Blanford, 1891; *montana* (Kalaart, 1852); *tennentii* (Blyth, 1849); ***dandolena*** Thomas and Wroughton, 1915; *sinhala* Phillips, 1931; ***melanochra*** Thomas and Wroughton, 1915. **Unassigned**: *zeylanicus* (Ray, 1693).

COMMENTS: Reviewed by Corbet and Hill (1992). Joshua (1996) reported apparent hybridization with *R. indica*, but had no cytogenetic data.

Subfamily Sciurillinae Moore, 1959. Bull. Am. Mus. Nat. Hist. 118:180.

COMMENTS: Moore (1959) recognized the subtribe Sciurillina, noting that "*Sciurillus* is one of the most distinctive genera of squirrels in the world . . . In this measure of divergence . . . they are approached only by the Ratufini." Supporting this prescient observation, recent molecular work places *Sciurillus* as a basal member of the Sciuridae (Mercer and Roth, 2003; Steppan et al., 2004), leading to its recognition as a distinct subfamily, Sciurillinae (Steppan et al., 2004).

Sciurillus Thomas, 1914. Proc. Zool. Soc. Lond., 1914:416.

TYPE SPECIES: *Sciurus pusillus* Desmarest, 1817, as designated by Thomas (= *Sciurus pusillus* E. Geoffroy, 1803).

Sciurillus pusillus (E. Geoffroy, 1803). *In* Cat. Mamm. Mus. Hist. Nat., Paris, p. 178.

COMMON NAME: Neotropical Pygmy Squirrel.

TYPE LOCALITY: French Guiana, Cayenne.

DISTRIBUTION: Brazil, French Guiana, Peru, Suriname.

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: ***glaucinus*** Thomas, 1914; *hoehnei* Miranda Ribeiro, 1941; ***kuhlii*** (Gray, 1867).

COMMENTS: Husson (1978) designated a lectotype. Allelic data first indicated that this species falls outside the clade that contains other New World tree squirrels (Hafner et al., 1994*a*).

Subfamily Sciurinae Fischer de Waldheim, 1817. Adversaria zoologica, p. 408.

COMMENTS: Subfamily modified by Steppan et al. (2004) to include the tribes Sciurini and Pteromyini.

Tribe Sciurini Fischer de Waldheim, 1817. Adversaria zoologica, p. 408.

Microsciurus J. A. Allen, 1895. Bull. Am. Mus. Nat. Hist., 7:332.

TYPE SPECIES: *Sciurus alfari* J. A. Allen, 1895.

COMMENTS: Tribe Microsciurini, according to Moore (1959). Evidence suggests that this genus is polyphyletic (Mercer and Roth, 2003). See Emmons and Feer (1990).

Microsciurus alfari (J. A. Allen, 1895). Bull. Am. Mus. Nat. Hist., 7:333.

COMMON NAME: Central American Dwarf Squirrel.

TYPE LOCALITY: Costa Rica, Jimenez.

DISTRIBUTION: Colombia, Costa Rica, Nicaragua, Panama.

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: ***alticola*** Goodwin, 1943; ***browni*** (Bangs, 1902); ***fusculus*** (Thomas, 1910); ***septentrionalis*** Anthony, 1920; ***venustulus*** Goldman, 1912.

COMMENTS: See Hall (1981:439-440).

Microsciurus flaviventer (Gray, 1867). Ann. Mag. Nat. Hist., ser. 3, 20:432.
COMMON NAME: Amazon Dwarf Squirrel.
TYPE LOCALITY: Brazil. Cabrera (1961) suggested the type locality could be restricted to Pebas, based on Thomas (1928*b*).
DISTRIBUTION: Amazon basin of Colombia, Ecuador, Peru, and Brazil west of the Rios Negro and Jurua.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *manarius* Thomas, 1920; ***napi*** (Thomas, 1900); *avunculus* Thomas, 1914; *florenciae* J. A. Allen, 1914; ***otinus*** (Thomas, 1901); ***peruanus*** (J. A. Allen, 1897); ***rubrirostris*** J. A. Allen, 1914; *rubicollis* Thomas, 1914 [*lapsus* for *rubrirostris*]; ***sabanillae*** Anthony, 1922; ***similis*** (Nelson, 1899); ***simonsi*** (Thomas, 1900).

Microsciurus mimulus (Thomas, 1898). Ann. Mag. Nat. Hist., ser. 7, 2:266.
COMMON NAME: Western Dwarf Squirrel.
TYPE LOCALITY: Ecuador, Esmeraldas, Cachavi, 665 ft. (203 m).
DISTRIBUTION: NW Ecuador, N Colombia, and Panama.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***boquetensis*** (Nelson, 1903); ***isthmius*** (Nelson, 1899); *palmeri* (Thomas, 1909); *vivatus* Goldman, 1912.
COMMENTS: See Hall (1981:440) and Handley (1966*a*).

Microsciurus santanderensis (Hernandez-Camacho, 1957). *In* Borerro and Hernandez-Camacho, Anal. Soc. Biol. Bogota, 7:219.
COMMON NAME: Santander Dwarf Squirrel.
TYPE LOCALITY: Colombia, Santander Dept., Meseta de los Caballeros, NE of La Albania.
DISTRIBUTION: Colombia, between the Magdalena River and the Cordillera Oriental.
STATUS: IUCN – Lower Risk (lc).
COMMENTS: See Eisenberg (1989) and Hernandez-Camacho (1960).

Rheithrosciurus Gray, 1867. Ann. Mag. Nat. Hist., ser. 3, 20:273.
TYPE SPECIES: *Sciurus macrotis* Gray, 1857.
SYNONYMS: *Rhithrosciurus* Hose, 1893.
COMMENTS: Tribe Sciurini according to Moore (1959:177), or *incertae sedis* (Simpson, 1945:78). Recent molecular studies (Mercer and Roth, 2003) support the placement of *Rheithrosciurus* in the tribe Sciurini.

Rheithrosciurus macrotis (Gray, 1857). Proc. Zool. Soc. Lond., 1856:341 [1857].
COMMON NAME: Tufted Ground Squirrel.
TYPE LOCALITY: "Sarawak," [Malaysia].
DISTRIBUTION: Borneo.
STATUS: IUCN – Lower Risk (lc).

Sciurus Linnaeus, 1758. Syst. Nat., 10th ed., 1:63.
TYPE SPECIES: *Sciurus vulgaris* Linnaeus, 1758.
SYNONYMS: *Aphrontis* Schultze, 1893; *Araeosciurus* Nelson, 1899; *Baiosciurus* Nelson, 1899; *Echinosciurus* Trouessart, 1880; *Guerlinguetus* Gray, 1821; *Hadrosciurus* J. A. Allen, 1915; *Hesperosciurus* Nelson, 1899; *Histriosciurus* J. A. Allen, 1915; *Leptosciurus* J. A. Allen, 1915; *Macroxus* F. Cuvier, 1823; *Mesosciurus* J. A. Allen, 1915; *Neosciurus* Trouessart, 1880; *Oreosciurus* Ognev, 1935; *Otosciurus* Nelson, 1899; *Parasciurus* Trouessart, 1880; *Simosciurus* J. A. Allen, 1915; *Tenes* Thomas, 1909; *Urosciurus* J. A. Allen, 1915.
COMMENTS: Tribe Sciurini (Moore, 1959:177); includes *Guerlinguetus*, *Hesperosciurus*, *Otosciurus*, *Sciurus* (Hall, 1981:417-436), *Tenes* (Corbet, 1978*c*:76), *Hadrosciurus* (Cabrera, 1961:374), and *Urosciurus* (Moore, 1959:198) as subgenera. Moore (1959) considered *Guerlinguetus* a distinct genus (*Hadrosciurus*, *Urosciurus* as subgenera) and included *Otosciurus* and *Hesperosciurus* in subgenus *Sciurus*.

Sciurus aberti Woodhouse, 1853. Proc. Acad. Nat. Sci. Philadelphia, 1852, 6:110, 220 [1853].
COMMON NAME: Abert's Squirrel.
TYPE LOCALITY: "... in the San Francisco Mountains, New Mexico" [= Coconino Co., Arizona, USA].

DISTRIBUTION: SE Utah, S and W Colorado, extreme SE Wyoming, W and C New Mexico, and Arizona (USA); Chihuahua, Durango, and Sonora (NW Mexico).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *castanonotus* Baird, 1858; *castanotus* Baird, 1855; *dorsalis* Woodhouse, 1853; *navajo* Durrant and Kelson, 1947; ***barberi*** J. A. Allen, 1904; ***chuscensis*** Goldman, 1931; ***durangi*** Thomas, 1893; *phaeurus* J. A. Allen, 1904; ***ferreus*** True, 1900; *concolor* True, 1894; *mimus* Merriam, 1904; ***kaibabensis*** (Merriam, 1904).
COMMENTS: Subgenus *Otosciurus* (Hall, 1981:434). Reviewed by Nash and Seaman (1977, Mammalian Species, 80) and by Hoffmeister and Diersing, (1978), whose subspecies allocations are followed here. Post-Pleistocene dispersal analyzed by Davis and Brown (1989). Phylogeography was studied by Lamb et al. (1997), who found two major assemblages.

Sciurus aestuans Linnaeus, 1766. Syst. Nat., 12th ed., 1:88.
COMMON NAME: Guianan Squirrel.
TYPE LOCALITY: Surinam.
DISTRIBUTION: Brazil, French Guiana, Guyana, Suriname, and Venezuela.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *bancrofti* Kerr, 1792; *guajanensis* Kerr, 1792; *guerlingus* (Shaw, 1801); *guianensis* Peters, 1863; *olivascens* Illiger, 1815; ***alphonsei*** Thomas, 1903; *roberti* Thomas, 1903; ***garbei*** (Pinto, 1931); ***georgihernandezi*** Barriga-Bonilla, 1966; ***henseli*** Miranda Ribeiro, 1941; ***ingrami*** Thomas, 1901; ***macconnelli*** Thomas, 1901; ***poaiae*** (Moojen, 1942); ***quelchii*** Thomas, 1901; ***venustus*** (J. A. Allen, 1940).
COMMENTS: Subgenus *Guerlinguetus*; see Cabrera (1961:359). Formerly included *gilvigularis*; see Avila-Pires (1964). Subspecies recognized based on Cabrera (1961).

Sciurus alleni Nelson, 1898. Proc. Biol. Soc. Wash., 12:147.
COMMON NAME: Allen's Squirrel.
TYPE LOCALITY: "Monterey, Tamaulipas [=Nuevo Leon]," [Mexico].
DISTRIBUTION: SE Coahuila through C Nuevo Leon, south through W Tamaulipas to extreme N San Luis Potosi (Mexico).
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Sciurus* (Hall, 1981:430). Reviewed by Best (1995*a*, Mammalian Species No. 501).

Sciurus anomalus Gmelin, 1778. Syst. Nat., 13th ed., 1:148.
COMMON NAME: Caucasian Squirrel.
TYPE LOCALITY: "without exact indication of locality" (Ognev, 1966:368). Restricted by Güldenstadt (1785, see Ognev, 1940:423) to Sabeka, 25 km SW of Kutais, Georgia.
DISTRIBUTION: Turkey, Transcaucasia (Armenia, Azerbaijan, Georgia), N and W Iran, Syria, Lebanon, Israel, Palestine, Jordan, and Iraq. Newly reported from Lesbos Isl, Greece (Hecht-Markou, 1995).
STATUS: IUCN – Lower Risk (nt).
SYNONYMS: *caucasicus* Pallas, 1811; *fulvus* Blanford, 1875 ; *russatus* Wagner, 1842; ***pallescens*** (Gray, 1867); ***syriacus*** Ehrenberg, 1828; *historicus* Gray, 1867; *persicus auctorum ignotus* [author unknown; the name *persicus* was assigned by Erxleben, 1777, to S. G. Gmelin's description (1774, p. 379, fig. 43) of *Sciurus persicus*, which was, however, based on a dormouse, *Myoxus glis*. It is still used for *S. anomalus* (cf. Pavlinov et al., 1995)].
COMMENTS: Subgenus *Tenes* (Corbet, 1978*c*:76). Reviewed by Harrison and Bates (1991).

Sciurus arizonensis Coues, 1867. Am. Nat., 1:357.
COMMON NAME: Arizona Gray Squirrel.
TYPE LOCALITY: "Fort Whipple," [Yavapai Co., Arizona, USA].
DISTRIBUTION: C and SE Arizona and WC New Mexico (USA); NE Sonora (Mexico).
STATUS: IUCN – Lower Risk (nt).
SYNONYMS: ***catalinae*** Doutt, 1931; ***huachuca*** J. A. Allen, 1894.
COMMENTS: Subgenus *Sciurus* (Hall, 1981:432). Reviewed by Best and Riedel (1995, Mammalian Species No. 496).

Sciurus aureogaster F. Cuvier, 1829. *In* E. Geoffroy and F. Cuvier, Hist. Nat. Mammifères, pt. 3, 6(59):1-2 "Ecureuil de la Californie".
COMMON NAME: Red-bellied Squirrel.
type locality: "California" Restricted by Nelson (1899*b*:38) to Alta Mira, Tamaulipas, Mexico.
DISTRIBUTION: SW and C Guatemala to Guanajuato to Nayarit and Nuevo Leon (Mexico).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *chrysogaster* Giebel, 1855; *ferruginiventris* Audubon and Bachman, 1841; *hypopyrrhus* Wagler, 1831; *hypoxanthus* I. Geoffroy, 1855; *leucogaster* F. Cuvier, 1831; *maurus* Gray, 1867; *morio* Gray, 1867; *mustelinus* Audubon and Bachman, 1841; *raviventer* Lichtenstein, 1830; *rufiventris* Rovirosa, 1887; ***nigrescens*** Bennett, 1833; *affinis* Alston, 1878; *albipes* Wagner, 1837; *cervicalis* J. A. Allen, 1890; *chiapensis* Nelson, 1899; *cocos* Nelson, 1898; *colimensis* Nelson, 1898; *effugius* Nelson, 1898; *frumentor* Nelson, 1898; *griseoflavus* Gray, 1867; *hernandezi* Nelson, 1898; *hirtus* Nelson, 1898; *leucops* Gray, 1867; *littoralis* Nelson, 1907; *nelsoni* Merriam, 1893; *nemoralis* Nelson, 1898; *perigrinator* Nelson, 1904; *poliopus* Fitzinger, 1867; *quercinus* Nelson, 1898; *rufipes* Fitzinger, 1867; *senex* Nelson, 1904; *socialis* Wagner, 1837; *tepicanus* J. A. Allen, 1906; *varius* Wagner, 1843; *wagneri* J. A. Allen, 1898.
COMMENTS: Subgenus *Sciurus* (Hall, 1981:418). Revised by Musser (1968), who also designated a lectotype and confirmed the type locality restriction (Musser, 1970*c*). Includes *griseoflavus*, *nelsoni*, *poliopus*, and *socialis* (Musser, 1968). Introduced to Elliot Key, Dade County, Florida (USA) (Brown and McGuire, 1975).

Sciurus carolinensis Gmelin, 1788. *In* Linnaeus, Syst. Nat., 13th ed., 1:148.
COMMON NAME: Eastern Gray Squirrel.
TYPE LOCALITY: "Carolina."
DISTRIBUTION: E Texas (USA) to Saskatchewan (Canada) and east to Atlantic Coast. Introduced into Britain, Scotland, Ireland, Italy, Australia, South Africa, and various localities in W North America.
SYNONYMS: ***extimus*** Bangs, 1896; *matecumbei* Bailey, 1937; *minutus* Bailey, 1937; ***fuliginosus*** Bachman, 1839; ***hypophaeus*** Merriam, 1886; ***pennsylvanicus*** Ord, 1815; *hiemalis* Ord, 1815; *leucotis* Gapper, 1830; *migratorius* Audubon and Bachman, 1849.
COMMENTS: Subgenus *Sciurus* (Hall, 1981:417). Reviewed by Koprowski (1994*b*, Mammalian Species No. 480).

Sciurus colliaei Richardson, 1839. Zool. Capt. Beechey's Voy., p. 8.
COMMON NAME: Collie's Squirrel.
TYPE LOCALITY: "San Blas, Tepic, [Nayarit,] Mexico."
DISTRIBUTION: Mexico: WC coast including Sonora, Chihuahua, Sinaloa, Durango, Nayarit, Jalisco, and Colima.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***nuchalis*** Nelson, 1899; ***sinaloensis*** Nelson, 1899; ***truei*** Nelson, 1899.
COMMENTS: Subgenus *Sciurus* (Hall, 1981:421). Includes *sinaloensis* and *truei* (Anderson, 1962). Reviewed by Best (1995*b*, Mammalian Species No. 497).

Sciurus deppei Peters, 1863. Monatsb. K. Preuss. Akad. Wiss. Berlin, 1863:654.
COMMON NAME: Deppe's Squirrel.
TYPE LOCALITY: "Papantla, Veracruz, Mexico." (Nelson, 1899*b*:101).
DISTRIBUTION: Tamaulipas (Mexico) to Costa Rica.
STATUS: CITES – Appendix III (Costa Rica); IUCN – Lower Risk (lc).
SYNONYMS: *taeniurus* Gray, 1867; *tephrogaster* Gray, 1867; ***matagalpae*** J. A. Allen, 1908; ***miravallensis*** Harris, 1931; ***negligens*** Nelson, 1898; ***vivax*** Nelson, 1901.
COMMENTS: Subgenus *Sciurus* (Hall, 1981:426). Reviewed by Best (1995*c*, Mammalian Species No. 505).

Sciurus flammifer Thomas, 1904. Ann. Mag. Nat. Hist., ser. 7, 14:33.
COMMON NAME: Fiery Squirrel.
TYPE LOCALITY: Venezuela, Bolivar, Caura Valley, La Union.
DISTRIBUTION: Venezuela south of Orinoco River from the Colombian border to Cuidad Bolivar.

STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Hadrosciurus*; see Cabrera (1961:374).

Sciurus gilvigularis Wagner, 1842. Arch. Naturgesch., 2:43.
COMMON NAME: Yellow-throated Squirrel.
TYPE LOCALITY: Brazil, Borba, Rio Madeira.
DISTRIBUTION: N Brazil, Guyana, Venezuela.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *gilviventris* Pelzeln, 1883; ***paraensis*** Goeldi and Hagmann, 1904.
COMMENTS: Subgenus *Guerlinguetus*; see Avila-Pires (1964). Cabrera (1961:359) included *gilvigularis* and *paraensis* in *aestuans*.

Sciurus granatensis Humboldt, 1811. Rec. Observ. Zool., 1(1805):8.
COMMON NAME: Red-tailed Squirrel.
TYPE LOCALITY: Colombia, Dept. Bolivar, Cartagena.
DISTRIBUTION: Costa Rica, Colombia, Ecuador, Margarita Isl, Panama, Trinidad, Tobago, Venezuela.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***agricolae*** Hershkovitz, 1947; ***bondae*** J. A. Allen, 1899; ***candelensis*** (J. A. Allen, 1914); ***carchensis*** Harris and Hershkovitz, 1938; ***chapmani*** J. A. Allen, 1899; *quebradensis* J. A. Allen, 1899; *tobagensis* Ogsood, 1910; ***chiriquensis*** Bangs, 1902; ***chrysuros*** Pucheran, 1845; *hyporrhodus* Gray, 1867; *rufoniger* Pucheran, 1845; ***ferminae*** (Cabrera, 1917); ***gerrardi*** Gray, 1861; ***griseimembra*** (J. A. Allen, 1914); ***griseogena*** (Gray, 1867); *klagesi* Thomas, 1914; ***hoffmanni*** Peters, 1863; *xanthotus* (Gray, 1867); ***imbaburae*** Harris and Hershkovitz, 1938; ***llanensis*** Mondolfi and Boher, 1984; ***manavi*** (J. A. Allen, 1914); ***maracaibensis*** Hershkovitz, 1947; ***meridensis*** Thomas, 1901; *tamae* Osgood, 1912; ***morulus*** Bangs, 1900; *baudensis* J. A. Allen, 1915; *choco* Goldman, 1915; *salaquensis* J. A. Allen, 1914; ***nesaeus*** G. M. Allen, 1902; ***norosiensis*** Hershkovitz, 1947; ***perijae*** Hershkovitz, 1947; ***quindianus*** (J. A. Allen, 1914); ***saltuensis*** Bangs, 1898; ***soederstroemi*** Stone, 1914; *rhoadsi* (J. A. Allen, 1914); ***splendidus*** Gray, 1842; *magdalenae* J. A. Allen, 1914; ***sumaco*** (Cabrera, 1917); ***tarrae*** Hershkovitz, 1947; ***valdiviae*** (J. A. Allen, 1915); ***variabilis*** I. Geoffroy St. Hilaire, 1832; ***versicolor*** Thomas, 1900; *inconstans* Osgood, 1921; *leonis* Lawrence, 1933; *milleri* J. A. Allen, 1912; ***zuliae*** Osgood, 1910; *cucutae* J. A. Allen, 1914.
COMMENTS: Subgenus *Guerlinguetus*; see Hall (1981:436) and Nitikman (1985, Mammalian Species, 246). Subspecies recognized according to Cabrera (1961).

Sciurus griseus Ord, 1818. J. Phys. Chim. Hist. Nat. Arts Paris, 87:152.
COMMON NAME: Western Gray Squirrel.
TYPE LOCALITY: "The Dalles of the Columbia" [River, Wasco Co., Oregon, USA].
DISTRIBUTION: C Washington, W Oregon, and California (USA) to Baja California Norte (Mexico).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *fossor* Peale, 1848; *heermanni* Le Conte, 1852; *leporinus* Audubon and Bachman, 1841; ***anthonyi*** Mearns, 1897; ***nigripes*** Bryant, 1889.
COMMENTS: Subgenus *Hesperosciurus* (Hall, 1981:433). Reviewed by Carraway and Verts (1994, Mammalian Species No. 474).

Sciurus ignitus (Gray, 1867). Ann. Mag. Nat. Hist., ser. 3, 20:429.
COMMON NAME: Bolivian Squirrel.
TYPE LOCALITY: Bolivia, near Yungas, upper Rio Beni.
DISTRIBUTION: Argentina, Bolivia, Brazil, and Peru.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *cuscinus* Thomas, 1899; *ochrescens* Thomas, 1914; ***argentinius*** Thomas, 1921; ***boliviensis*** Osgood, 1921; *leucogaster* (J. A. Allen, 1915); ***cabrerai*** Moojen, 1958; ***irroratus*** (Gray, 1867).
COMMENTS: Subgenus *Guerlinguetus*; subspecies according to Cabrera (1961:370-371).

Sciurus igniventris Wagner, 1842. Arch. Naturg., 1:360.
COMMON NAME: Northern Amazon Red Squirrel.
TYPE LOCALITY: Brazil, Amazonas, north of the Rio Negro, Marabitanos.
DISTRIBUTION: Brazil, Colombia, Ecuador, Peru, Venezuela.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *taedifer* Thomas, 1900; ***cocalis*** Thomas, 1900; *zamorae* J. A. Allen, 1914.
Unassigned: *duida* J. A. Allen, 1914; *fulminatus* Thomas, 1926; *manhanensis* (Moojen, 1942).
COMMENTS: Subgenus *Urosciurus*; see Patton (1984). Lawrence (1988:1) restricted *duida* to this species although it has also been referred to *S. spadiceus*; the holotype is a composite.

Sciurus lis Temminck, 1844. Fauna Japonica, 1(Mamm.), p. 45.
COMMON NAME: Japanese Squirrel.
TYPE LOCALITY: "Japan". Restricted by Corbet (1978*c*:78) to Honshu [Japan].
DISTRIBUTION: Honshu, Shikoku, and Kyushu (Japan).
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Sciurus* (Corbet, 1978*c*:77). Oshida et al. (1996*a*), and Oshida and Yoshida (1997) described chromosomes.

Sciurus nayaritensis J. A. Allen, 1890. Bull. Am. Mus. Nat. Hist., 2:7, footnote.
COMMON NAME: Mexican Fox Squirrel.
TYPE LOCALITY: "Sierra Valparaiso, Zacatecas," [Mexico.]
DISTRIBUTION: Jalisco (Mexico) north to SE Arizona (USA).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *alstoni* J. A. Allen, 1889; ***apache*** J. A. Allen, 1893; ***chiricahuae*** Goldman, 1933.
COMMENTS: Subgenus *Sciurus* (Hall, 1981:431). Includes *chiricahuae* and *apache* (Hall, 1981:431; Lee and Hoffmeister, 1963). Reviewed by Best (1995*d*, Mammalian Species No. 492).

Sciurus niger Linnaeus, 1758. Syst. Nat., 10th ed., 1:64.
COMMON NAME: Eastern Fox Squirrel.
TYPE LOCALITY: "in America septentrionalis." Restricted by Thomas (1911*a*:149) to S South Carolina (USA).
DISTRIBUTION: Texas (USA) and adjacent Mexico, north to Manitoba (Canada) east to the Atlantic Coast.
STATUS: U.S. ESA – Endangered as *S. n. cinereus*; nonessential experimental population in Sussex Co., Delaware (USA); IUCN – Data Deficient as *S. n. vulpinus*, Lower Risk (conservation dependent) as *S. n. avicinnia* and *S. n. cinereus*, Lower Risk (nt) as *S. n. shermani*, otherwise Lower Risk (lc) as *S. niger*.
SYNONYMS: *capistratus* Bosc, 1802; ***avicinnia*** A H. Howell, 1919; ***bachmani*** Lowery and Davis, 1942; ***cinereus*** Linnaeus, 1758; *bryanti* Bailey, 1920; *neglectus* (Gray, 1867); ***limitis*** Baird, 1855; ***ludovicianus*** Custis, 1806; *texianus* Bachman, 1839; ***rufiventer*** E. Geoffroy, 1803; *macroura* Say, 1823; *magnificaudatus* Harlan, 1825; *ruber* Rafinesque, 1820; *rubicaudatus* Audubon and Bachman, 1851; *sayii* Audubon and Bachman, 1851; ***shermani*** Moore, 1956; ***subauratus*** Bachman, 1839; *auduboni* Bachman, 1839; ***vulpinus*** Gmelin, 1788; *vicinus* Bangs, 1896.
COMMENTS: Subgenus *Sciurus* (Hall, 1981:427). Reviewed by Koprowski (1994*a*, Mammalian Species No. 479).

Sciurus oculatus Peters, 1863. Monatsb. K. Preuss. Akad. Wiss. Berlin, 1863:653.
COMMON NAME: Peters's Squirrel.
TYPE LOCALITY: "Eastern Mexico." Restricted by Nelson (1899*b*:88) to "near Las Vigas [Veracruz] Mexico."
DISTRIBUTION: Mexico: San Luis Potosi, Hidalgo, Veracruz, Puebla, Mexico, Queretaro and Guanajuato.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *capistratus* Lichtenstein, 1830; *melanonotus* Thomas, 1890; ***shawi*** Dalquest, 1950; ***tolucae*** Nelson, 1898.

COMMENTS: Subgenus *Sciurus* (Hall, 1981:430). Reviewed by Best (1995*e*, Mammalian Species No. 498).

Sciurus pucheranii (Fitzinger, 1867). Sitzb. Math. Naturw. Cl., 55, Abth., 1:487.
COMMON NAME: Andean Squirrel.
TYPE LOCALITY: Colombia, near Bogota.
DISTRIBUTION: Colombian Andes.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *minor* (Alston, 1878); ***caucensis*** Nelson, 1899; ***medellinensis*** (Gray, 1867); *salentensis* (J. A. Allen, 1914).
COMMENTS: Subgenus *Guerlinguetus*; see Cabrera (1961:372) and Eisenberg (1989). Moore (1959) placed *pucheranii* in the genus *Microsciurus*. Subspecies according to Cabrera (1961).

Sciurus pyrrhinus Thomas, 1898. Ann. Mag. Nat. Hist., ser. 7, 2:265.
COMMON NAME: Junín Red Squirrel.
TYPE LOCALITY: Peru, Junin Dept., Vitoc, Garita del Sol.
DISTRIBUTION: E slopes of the Andes of Peru.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *variabilis* Tschudi, 1844.
COMMENTS: Subgenus *Hadrosciurus*; see Cabrera (1961:378). J. A. Allen (1915*b*) placed *pyrrhinus* in the genus *Mesosciurus*.

Sciurus richmondi Nelson, 1898. Proc. Biol. Soc. Wash., 12:146.
COMMON NAME: Richmond's Squirrel.
TYPE LOCALITY: "Escondido River (50 mi. [80 km] above Bluefields) Nicaragua" (Nelson, 1899*b*:100).
DISTRIBUTION: Nicaragua.
STATUS: IUCN – Lower Risk (nt).
COMMENTS: Subgenus *Guerlinguetus* (Hall, 1981:436). Reviewed by Jones and Genoways (1975*b*, Mammalian Species No. 53).

Sciurus sanborni Osgood, 1944. Field Mus. Nat. Hist. Publ., Zool. Ser., 29:191.
COMMON NAME: Sanborn's Squirrel.
TYPE LOCALITY: Peru, Madre de Dios Dept., La Pampa, between the Rio Inambari and Rio Tambopata, 33 km N of Santo Domingo, 570 m.
DISTRIBUTION: Madre de Dios Dept., Peru.
STATUS: IUCN – Lower Risk (nt).
COMMENTS: Subgenus *Guerlinguetus*; see Cabrera (1961:373).

Sciurus spadiceus Olfers, 1818. *In* Eschwege, J. Brasilien Neue Bibliothek. Reisenb., 15(2):208.
COMMON NAME: Southern Amazon Red Squirrel.
TYPE LOCALITY: Brazil, restricted by Hershkovitz (1959*a*) to Cuyabá, Matto Grosso.
DISTRIBUTION: Bolivia, Brazil, Colombia, Ecuador, Peru.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *langsdorffi* Brandt, 1835; ***steinbachi*** J. A. Allen, 1914; ***tricolor*** Tschudi, 1844.
Unassigned: *brunneo-niger* (Gray, 1867); *castus* Thomas, 1903; *fumigatus* (Gray, 1867); *juralis* Thomas, 1926; *morio* Wagner, 1848; *nigratus* (Pinto, 1931); *purusianus* (Moojen, 1942); *pyrrhonotus* Wagner, 1842; *rondoniae* (Moojen, 1942); *taparius* Thomas, 1926; *urucumus* J. A. Allen, 1914.
COMMENTS: Subgenus *Urosciurus*; for subspecies see Patton (1984).

Sciurus stramineus Eydoux and Souleyet, 1841. *In* Vaillant, Voy. autour du monde . . . la Bonite, Zool., 1:73.
COMMON NAME: Guayaquil Squirrel.
TYPE LOCALITY: Peru, Piura Dept., Omatope.
DISTRIBUTION: Extreme NW Peru and SW Ecuador in the area surrounding the Gulf of Guayaquil.
STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *fraseri* (Gray, 1867); *guayanus* Thomas, 1900; *nebouxii* I. Geoffroy St. Hilaire, 1855; *zarumae* J. A. Allen, 1914.

COMMENTS: Subgenus *Guerlinguetus*; see Cabrera (1961:373).

Sciurus variegatoides Ogilby, 1839. Proc. Zool. Soc. Lond., 1839:117.

COMMON NAME: Variegated Squirrel.

TYPE LOCALITY: " . . . west coast of South America." Restricted by Nelson (1899*b*:80) to "[El] Salvador."

DISTRIBUTION: S Chiapas (Mexico), through Central America to Panama.

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *griseocaudatus* Gray, 1843; *pyladei* Lesson, 1842; ***adolphei*** Lesson, 1842; *annalium* Thomas, 1905; ***atrirufus*** Harris, 1930; ***bangsi*** Dickey, 1928; ***belti*** Nelson, 1899; ***boothiae*** Gray, 1843; *fuscovariegatus* Schinz, 1845; *richardsoni* Gray, 1842; ***dorsalis*** Gray, 1849; ***goldmani*** Nelson, 1898; ***helveolus*** Goldman, 1912; ***loweryi*** McPherson, 1972; ***managuensis*** Nelson, 1898; ***melania*** (Gray, 1867); ***rigidus*** Peters, 1863; *austini* Harris, 1933; *intermedius* Gray, 1867; *nicoyana* Gray, 1867; ***thomasi*** Nelson, 1899; ***underwoodi*** Goldman, 1932.

COMMENTS: Subgenus *Sciurus*; includes *goldmani* (Hall, 1981:424). Revised by Harris (1937). Reviewed by Best (1995*f*, Mammalian Species No. 500).

Sciurus vulgaris Linnaeus, 1758. Syst. Nat., 10th ed., 1:63.

COMMON NAME: Eurasian Red Squirrel.

TYPE LOCALITY: "in Europae arboribus." Restricted by Thomas (1911*a*:148) to Uppsala, Sweden.

DISTRIBUTION: Forested regions of Palearctic, from Iberia and Great Britain east to Kamchatka Peninsula and Sakhalin Isl (Russia); south to Mediterranean and Black Seas, N Mongolia, W and NE China.

STATUS: IUCN – Near Threatened.

SYNONYMS: *albonotatus* Billberg, 1827; *albus* Billberg, 1827; *carpathicus* Pietruski, 1853; *europaeus* Gray, 1843; *niger* Billberg, 1827; *rufus* Kerr, 1792; *typicus* Barret-Hamilton, 1899; ***alpinus*** Desmarest, 1822; *baeticus* Cabrera, 1905; *hoffmanni* Valverde, 1967; *infuscatus* Cabrera, 1905; *italicus* Bonaparte, 1838; *meridionalis* Lucifero, 1907; *numantius* Miller, 1907; *segurae* Miller, 1909; *silanus* Hecht, 1931; ***altaicus*** Serebrennikov, 1928; ***anadyrensis*** Ognev, 1929; ***arcticus*** Trouessart, 1906; *jacutensis* Ognev, 1929; ***balcanicus*** Heinrich, 1936; *istrandjae* Heinrich, 1936; *rhodopensis* Heinrich, 1936; ***chiliensis*** Sowerby, 1921; ***cinerea*** Hermann, 1804; ***dulkeiti*** Ognev, 1929; ***exalbidus*** Pallas, 1778; *argenteus* Kerr, 1792; *kalbinensis* Selevin, 1924; ***fedjushini*** Ognev, 1935; ***formosovi*** Ognev, 1935; ***fuscoater*** Altum, 1876; *brunnea* Altum, 1876; *gotthardi* Fatio, 1905; *graeca* Altum, 1876; *nigrescens* Altum, 1876; *russus* Miller, 1907; *rutilans* Miller, 1907; ***fusconigricans*** Dwigubski, 1804; ***leucourus*** Kerr, 1792; ***lilaeus*** Miller, 1907; *ameliae* Cabrera, 1924; *croaticus* Wettstein, 1927; ***mantchuricus*** Thomas, 1909; *coreae* Sowerby, 1921; *coreanus* Kishida, 1924; ***martensi*** Matschie, 1901; *jenissejensis* Ognev, 1935; ***ognevi*** Migulin, 1928; *bashkiricus* Ognev, 1935; *golzmajeri* Smirnov, 1960; *uralensis* Ognev, 1935; ***orientis*** Thomas, 1906; ***rupestris*** Thomas, 1907; ***ukrainicus*** Migulin, 1928; *kessleri* Migulin, 1928; ***varius*** Gmelin, 1789. **Unassigned**: *fuscorubens* Dwigubski, 1804; *nadymensis* Serebrennikov, 1928; *subalpinus* Burg, 1920; *talahutky* Brass, 1911.

COMMENTS: Subgenus *Sciurus*. For discussion of taxonomy, see Sidorowicz (1971), Corbet (1978*c*), Wiltafsky (1978), and Gromov and Erbajeva (1995). Oshida et al. (1993) and Oshida and Yoshida (1997) described chromosomes of *S. v. orientis*.

Sciurus yucatanensis J. A. Allen, 1877. *In* Coues and Allen, Mongr. N Am. Rodentia (U.S. Geol. Geograph. Survey Terr., Rep., 11:705).

COMMON NAME: Yucatan Squirrel.

TYPE LOCALITY: "Merida, Yucatan," [Mexico].

DISTRIBUTION: Yucatan Peninsula (Mexico); N and SW Belize; N Guatemala.

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: ***baliolus*** Nelson, 1901; ***phaeopus*** Goodwin, 1932.

COMMENTS: Subgenus *Sciurus* (Hall, 1981:422). Reviewed by Best et al. (1995, Mammalian Species No. 506).

Syntheosciurus Bangs, 1902. Bull. Mus. Comp. Zool., 39:25.
TYPE SPECIES: *Syntheosciurus brochus* Bangs, 1902.
COMMENTS: Tribe Microsciurini according to Moore (1959). Goodwin (1946) suggested that *Syntheosciurus* might be a subgenus of *Sciurus*; but see Heaney and Hoffmann (1978), Enders (1980), and Hall (1981:438). Moore (1959:179) included *Mesosciurus* (*granatensis*, *pyrrhinus*) as a subgenus, but see *Sciurus*.

Syntheosciurus brochus Bangs, 1902. Bull. Mus. Comp. Zool., 39:25.
COMMON NAME: Bangs's Mountain Squirrel.
TYPE LOCALITY: "Boquete, 7,000 ft." [2134 m, Chiriqui, Panama].
DISTRIBUTION: Costa Rica to N Panama.
STATUS: IUCN – Lower Risk (nt).
SYNONYMS: *poasensis* (Goodwin, 1942).
COMMENTS: Reviewed by Enders (1953:509), and Wells and Giacalone (1985, Mammalian Species, 249). Includes *poasensis* (Hall, 1981:438; Heaney and Hoffmann, 1978; Enders, 1980).

Tamiasciurus Trouessart, 1880. Le Naturaliste, 2(37):292.
TYPE SPECIES: [*Sciurus vulgaris*] *hudsonicus* Erxleben, 1777.
COMMENTS: Tribe Tamiasciurini (*Tamiasciurus* + *Sciurotamias*) according to Moore (1959), but Black (1963) and Thorington et al. (1998) argued that the genus is closely related to *Sciurus*, which has been supported by molecular data (Mercer and Roth, 2003; Steppan et al., 2004).

Tamiasciurus douglasii (Bachman, 1839). Proc. Zool. Soc. Lond., 1838:99 [1839].
COMMON NAME: Douglas's Squirrel.
TYPE LOCALITY: "Shores of Columbia River" Restricted by J. A. Allen (1898:284) to mouth of Columbia River, [Clatsop Co., Oregon, USA].
DISTRIBUTION: Coast and Cascade ranges and Sierra Nevada of SW British Columbia (not Vancouver Isl) (Canada) to S California (USA).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *belcheri* (Gray, 1842); *suckleyi* (Baird, 1855); ***mollipilosus*** (Audubon and Bachman, 1841); *cascadensis* (J. A. Allen, 1898); *orarius* (Bangs, 1897).
COMMENTS: Formerly included *mearnsi*; see Lindsay (1981). Hall (1981:466) suggested that *douglasii* might be conspecific with *hudsonicus*, but Lindsay (1982) showed that apparent hybrids were probably due to character convergence. Reviewed by Steele (1999, Mammalian Species No. 630). Arbogast et al. (2001) found that mitochondrial DNA differed only slightly among the three species of *Tamiasciurus*.

Tamiasciurus hudsonicus (Erxleben, 1777). Syst. Regn. Anim., 1:416.
COMMON NAME: Red Squirrel.
TYPE LOCALITY: "ad fretum Hudsonis" Restricted by A. H. Howell (1936:134) to the mouth of Severn River, Hudson Bay, Ontario, Canada.
DISTRIBUTION: Alaska (USA), throughout Canada (south of tundra); including Vancouver Isl, W USA in mountain states; NE USA, south to NW South Carolina.
STATUS: U.S. ESA – Endangered as *T. h. grahamensis*; IUCN – Critically Endangered as *T. h. grahamensis*; otherwise Lower Risk (lc).
SYNONYMS: *rubrolineatus* (Desmarest, 1822); ***abieticola*** (A. H. Howell, 1929); ***baileyi*** (J. A. Allen, 1898); *columbiensis* A. H. Howell, 1936; ***dakotensis*** (J. A. Allen, 1894); ***dixiensis*** Hardy, 1942; ***fremonti*** (Audubon and Bachman, 1853); *wasatchensis* Hardy, 1950; ***grahamensis*** (J. A. Allen, 1894); ***gymnicus*** (Bangs, 1899); ***kenaiensis*** A. H. Howell, 1936; ***lanuginosus*** (Bachman, 1839); *vancouverensis* (J. A. Allen, 1890); ***laurentianus*** Anderson, 1942; ***loquax*** (Bangs, 1896); ***lychnuchus*** (Stone and Rehn, 1903); ***minnesota*** (J. A. Allen, 1899); *murii* A. H. Howell, 1943; ***mogollonensis*** (Mearns, 1890); *neomexicanus* (J. A. Allen, 1898); ***pallescens*** A. H. Howell, 1942; ***petulans*** (Osgood, 1900); ***picatus*** (Swarth, 1921); ***preblei*** A. H. Howell, 1936; ***regalis***

A. H. Howell, 1936; ***richardsoni*** (Bachman, 1839); ***streatori*** (J. A. Allen, 1898); ***ungavensis*** Anderson, 1942; ***ventorum*** (J. A. Allen, 1898).

COMMENTS: Includes *fremonti*; see Hardy (1950). See also *douglasii*. Reviewed by Steele (1998, Mammalian Species No. 586). Arbogast et al. (2001) found that mitochondrial DNA differed only slightly among the three species of *Tamiasciurus*.

Tamiasciurus mearnsi (Townsend, 1897). Proc. Biol. Soc. Wash., 11:146.

COMMON NAME: Mearns's Squirrel.

TYPE LOCALITY: "San Pedro Martir Mountains, Lower California (altitude about 7,000 feet)" [Baja California Norte, Mexico, 2134 m].

DISTRIBUTION: Sierra San Pedro Martir Mtns (Baja California Norte, Mexico).

STATUS: IUCN – Lower Risk (lc).

COMMENTS: Formerly included in *douglasii*; see Lindsay (1981). Arbogast et al. (2001) found that mitochondrial DNA differed only slightly among the three species of *Tamiasciurus*.

Tribe Pteromyini Brandt, 1855. Beitrage zur nahern Kenntniss der Saugethiere Russland's. Kaiserlich. Akad. Wiss. Méth. Math, Phys. Nat., 7:157.

SYNONYMS: Petauristinae Miller, 1912.

COMMENTS: Flying squirrels are considered a monophyletic group (Thorington 1984) contrary to Black (1963) and Hight et al. (1974). Paleontological evidence (Mein, 1970; Bruijn and Uenay, 1989) has suggested they are not members of the Sciuridae, but molecular studies by Mercer and Roth (2003) and by Steppan et al. (2004) strongly support the view that they are the sister group of the Sciurini. Both morphological studies (Thorington et al., 2002) and molecular studies (Mercer and Roth, 2003) support division into two subtribes. Bibliographies by Lin et al. (1985) and Robins (1998).

Aeretes G. M. Allen, 1940. Nat. Hist. Cent. Asia, II, 2:745.

TYPE SPECIES: *Pteromys melanopterus* Milne-Edwards, 1867.

COMMENTS: Subtribe Pteromyina. *Aeretes* is often dated as G. M. Allen, "p.vii, September 2, 1938," but this is a *nomen nudum*.

Aeretes melanopterus (Milne-Edwards, 1867). Ann. Sci. Nat. Zool., 8:375.

COMMON NAME: Northern Chinese Flying Squirrel.

TYPE LOCALITY: "Les forêts qui couvrent la chaine montagneuse du Tscheli" [= Chihli; old name for Hebei Prov., China].

DISTRIBUTION: Hebei and Sichuan (China).

STATUS: IUCN – Lower Risk (nt).

SYNONYMS: *sulcatus* (A. B. Howell, 1927); ***szechuanensis*** Wang, Tu, and Wang, 1966.

COMMENTS: Known only from two widely separated areas.

Aeromys Robinson and Kloss, 1915. J. Fed. Malay St. Mus., 6:23.

TYPE SPECIES: *Pteromys tephromelas* Günther, 1873.

COMMENTS: Subtribe Pteromyina.

Aeromys tephromelas (Günther, 1873). Proc. Zool. Soc. Lond., 1873:413.

COMMON NAME: Black Flying Squirrel.

TYPE LOCALITY: "Pinang" [Wellesley, Penang Isl, Malaysia].

DISTRIBUTION: Malay Peninsula, Sumatra, and Borneo.

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *bartelsi* (Sody, 1936); ***phaeomelas*** (Günther, 1873).

COMMENTS: Includes *phaeomelas*; see Medway (1977:101).

Aeromys thomasi (Hose, 1900). Ann. Mag. Nat. Hist., ser. 7, 5:215.

COMMON NAME: Thomas's Flying Squirrel.

TYPE LOCALITY: "Silat River, about 70 miles [113 km] south of Claudetown, Eastern Sarawak" [Baram, Sarawak, Malaysia].

DISTRIBUTION: Borneo, except SE.

STATUS: IUCN – Lower Risk (lc).

Belomys Thomas, 1908. Ann. Mag. Nat. Hist., ser. 8, 1:2.
TYPE SPECIES: *Sciuropterus pearsonii* Gray, 1842.
COMMENTS: Subtribe Pteromyina.

Belomys pearsonii (Gray, 1842). Ann. Mag. Nat. Hist., [ser. 1], 10:263.
COMMON NAME: Hairy-footed Flying Squirrel.
TYPE LOCALITY: "India, [Assam,] Dargellan" (= Darjeeling).
DISTRIBUTION: Sikkim and Assam (India) to Hunan, Sichuan, Yunnan, Guizhou, Guangxi, Hainan, Taiwan (China); Bhutan; Indochina, and N Burma (see Agrawal and Chakraborty, 1979).
STATUS: IUCN – Lower Risk (nt).
SYNONYMS: *kaleensis* (Swinhoe, 1863); *trichotis* Thomas, 1908; *villosus* (Blyth, 1847); ***blandus*** Osgood, 1932.
COMMENTS: Subspecies tentatively recognized by Corbet and Hill (1992), who synonymized this monotypic genus with *Trogopterus*.

Biswamoyopterus Saha, 1981. Bull. Zool. Surv. India, 4:331.
TYPE SPECIES: *Biswamoyopterus biswasi* Saha, 1981.
COMMENTS: Subtribe Pteromyina.

Biswamoyopterus biswasi Saha, 1981. Bull. Zool. Surv. India, 4:333.
COMMON NAME: Namdapha Flying Squirrel.
TYPE LOCALITY: "Namdapha, Tirap District, Arunachal Pradesh, India."
DISTRIBUTION: Known only from type locality, western slope, Patkai Range.
STATUS: IUCN – Critically Endangered.
COMMENTS: "Close to *Aeromys*" (Saha, 1981:333).

Eoglaucomys A. H. Howell, 1915. Proc. Bio. Soc. Wash., 28:109.
TYPE SPECIES: *Sciuropterus fimbriatus* Gray, 1837.
COMMENTS: Subtribe Glaucomyina (new name; type genus: *Glaucomys*). Characterized by origin of tibiocarpalis muscle on distal tibial tuberosity, pisiform bone with elevated scapalunate tuberosity but no triquetral process; teeth lacking crosslophs, hypocone usually absent (Thorington et al., 2002).

Eoglaucomys fimbriatus (Gray, 1837). Ann. Mag. Nat. Hist., ser. 1:584.
COMMON NAME: Kashmir Flying Squirrel.
TYPE LOCALITY: "India." Restricted by Robinson and Kloss (1918*a*:184) to "Western Himalayas," and by Ellerman and Morrison-Scott (1955:468) to Simla, Punjab.
DISTRIBUTION: Kashmir and Punjab (India) east to Raniket, Uttar Pradesh (Pasha and Suhail, 1997) from 1800 to 3600 m, mountains of EC and NW Afghanistan, between 1600 and 3500 m.
STATUS: IUCN – Lower Risk (nt) as *E. fimbriatus* and as *Hylopetes baberi*.
SYNONYMS: ***baberi*** (Blyth, 1847).
COMMENTS: Genus included in *Hylopetes* by Ellerman (1947*a*) but see Thorington et al. (1996). Subspecies *baberi* elevated to specific status by Chakraborty (1981), but see Thorington et al. (1996).

Eupetaurus Thomas, 1888. J. Asiat. Soc. Bengal, 57:256.
TYPE SPECIES: *Eupetaurus cinereus* Thomas, 1888.
COMMENTS: Subtribe Pteromyina.

Eupetaurus cinereus Thomas, 1888. J. Asiat. Soc. Bengal, 57:258.
COMMON NAME: Woolly Flying Squirrel.
TYPE LOCALITY: "Gilgit [Valley], . . . about 6000 feet" [Pakistan, 1829 m].
DISTRIBUTION: High elevations from N Pakistan and Kashmir to Sikkim (India) to Tibet and possibly Yunnan (China; Agrawal and Chakraborty, 1970).
STATUS: IUCN – Endangered.
COMMENTS: Reviewed by McKenna (1962). In 1994, the first specimen to be found in " . . . over a century . . . " was obtained in the Gilgit district (Zahler, 1996).

Glaucomys Thomas, 1908. Ann. Mag. Nat. Hist., ser. 8, 1:5.
TYPE SPECIES: *Mus volans* Linnaeus, 1758.
COMMENTS: Subtribe Glaucomyina (see also *Eoglaucomys*). Revised by A. H. Howell (1918); karyotypes and evolution evaluated by Rausch and Rausch (1982).

Glaucomys sabrinus (Shaw, 1801). Gen. Zool., 2:157.
COMMON NAME: Northern Flying Squirrel.
TYPE LOCALITY: Not specified. Restricted by A. H. Howell (1918:33) to the mouth of Severn River, Ontario, Canada.
DISTRIBUTION: Alaska and Canada, NW USA to S California and W South Dakota (Black Hills), NE USA to S Appalachian Mtns.
STATUS: U.S. ESA – Endangered as *G. s. coloratus* and *G. s. fuscus*; IUCN – Endangered as *G. s. griseifrons*, Data Deficient as *G. s. californicus*, Vulnerable as *G. s. coloratus* and *G. s. fuscus*, otherwise Lower Risk (lc) as *G. sabrinus*.
SYNONYMS: *canadensis* (E. Geoffroy, 1803); *hudsonius* Gmelin, 1788; ***alpinus*** (Richardson, 1828); ***bangsi*** (Rhoads, 1897); *bullatus* A. H. Howell, 1915; ***californicus*** (Rhoads, 1897); ***canescens*** A. H. Howell, 1915; ***coloratus*** Handley, 1953; ***columbiensis*** A. H. Howell, 1915; ***flaviventris*** A. H. Howell, 1915; ***fuliginosus*** (Rhoads, 1897); ***fuscus*** Miller, 1936; ***goodwini*** Anderson, 1943; ***gouldi*** Anderson, 1943; ***griseifrons*** A. H. Howell, 1934; ***klamathensis*** (Merriam, 1897); ***lascivus*** (Bangs, 1899); ***latipes*** A. H. Howell, 1915; ***lucifugus*** Hall, 1934; ***macrotis*** (Mearns, 1898); ***makkovikensis*** (Sornborger, 1900); ***murinauralis*** Musser, 1961; ***oregonensis*** (Bachman, 1839); *olympicus* (Elliot, 1899); ***reductus*** Cowan, 1937; ***stephensi*** (Merriam, 1900); ***yukonensis*** (Osgood, 1900); ***zaphaeus*** (Osgood, 1905).
COMMENTS: Reviewed by Wells-Gosling and Heaney (1984, Mammalian Species No. 229). Subspecies according to Hall (1981); also see Arbogast (1999) who presented evidence that a western clade consisting of *oregonensis* and *californicus* may be of full species rank.

Glaucomys volans (Linnaeus, 1758). Syst. Nat., 10th ed., 1:63.
COMMON NAME: Southern Flying Squirrel.
TYPE LOCALITY: "Virginia, Mexico"; restricted by Elliot (1901:109) to "Virginia (U.S.A.)".
DISTRIBUTION: Texas, Kansas, and Minnesota (USA) to Nova Scotia (Canada) and E USA; montane populations scattered from NW Mexico to Honduras.
STATUS: IUCN – Lower Risk (lc) as *G. volans*, Not Evaluated as *G. v. goldmani*, *G. v. guerreroensis*, and *G. v. oaxacensis*.
SYNONYMS: *americana* (Oken, 1816); *cucullatus* (Fischer, 1829); *nebrascensis* (Swenk, 1915); *silus* (Bangs, 1896); *virginianus* (Tiedemann, 1808); *volucella* (Pallas, 1778); ***chontali*** Goodwin, 1961; ***goldmani*** (Nelson, 1904); ***guerreroensis*** Diersing, 1980; ***herreranus*** Goldman, 1936; ***madrensis*** Goldman, 1936; ***oaxacensis*** Goodwin, 1961; ***querceti*** (Bangs, 1896); ***saturatus*** A. H. Howell, 1915; ***texensis*** A. H. Howell, 1915; ***underwoodi*** Goodwin, 1936.
COMMENTS: Reviewed by Dolan and Carter (1973, Mammalian Species, 78). For systematics and distribution of Mesoamerican populations, see Diersing (1980*a*) and Braun (1988). Subspecies according to Hall (1981). A phylogeographic study using mitochondrial DNA showed little divergence between two subspecies (Arbogast, 1999).

Hylopetes Thomas, 1908. Ann. Mag. Nat. Hist., ser. 8, 1:6.
TYPE SPECIES: *Sciuropterus everetti* Thomas, 1908 (= *Sciuropterus spadiceus* Blyth, 1847).
COMMENTS: Subtribe Glaucomyina (see also *Eoglaucomys*). Ellerman (1947*a*) included *Eoglaucomys* in *Hylopetes*, but see McKenna (1962) and Thorington et al. (1996).

Hylopetes alboniger (Hodgson, 1836). J. Asiat. Soc. Bengal, 5:231.
COMMON NAME: Particolored Flying Squirrel.
TYPE LOCALITY: "central and Northern regions of Nipál" [Nepal].
DISTRIBUTION: Nepal and Assam (India) to Sichuan, Yunnan, and Hainan (China) and Indochina.
STATUS: IUCN – Endangered.
SYNONYMS: *leachii* (Gray, 1837); *turnbulli* (Gray, 1838); ***chianfengensis*** Wang and Lu, 1966; *leonardi* (Thomas, 1921); ***orinus*** (G. M. Allen, 1940).

Hylopetes bartelsi (Chasen, 1939). Treubia, 17:185.
COMMON NAME: Bartel's Flying Squirrel.
TYPE LOCALITY: "Tjilondong, Mt. Pangrango, West Java, about 900 metres" [Indonesia].
DISTRIBUTION: Java.
STATUS: IUCN – Lower Risk (nt).
COMMENTS: Formerly included in *Petinomys*; but see Corbet and Hill (1992).

Hylopetes lepidus (Horsfield, 1822). Zool. Res. Java, 5: pl. and 2 unno. pp.
COMMON NAME: Gray-cheeked Flying Squirrel.
TYPE LOCALITY: "..only found in the closest forests of Java," [Indonesia].
DISTRIBUTION: Java and Borneo.
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Formerly called *sagitta* Linnaeus, 1766; see Medway (1977:104). Formerly included *platyurus* (Corbet and Hill, 1992; Hill, 1961*c*; Medway, 1977:104), but see Thorington et al. (1996).

Hylopetes nigripes (Thomas, 1893). Ann. Mag. Nat. Hist., ser. 6, 12:30.
COMMON NAME: Palawan Flying Squirrel.
TYPE LOCALITY: "Puerta Princesa, Palawan" [Philippines].
DISTRIBUTION: Palawan and Bancalan Isls (Philippines).
STATUS: IUCN – Lower Risk (nt).
SYNONYMS: ***elassodontus*** (Osgood, 1918).

Hylopetes phayrei (Blyth, 1859). J. Asiat. Soc. Bengal, 28:278.
COMMON NAME: Indochinese Flying Squirrel.
TYPE LOCALITY: "Rangoon, Merqui" [Burma].
DISTRIBUTION: Burma; Thailand; Laos; S Vietnam; Fukien and Hainan (China).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *anchises* G. M. Allen and Coolidge, 1940; *laotum* (Thomas, 1914); *probus* (Thomas, 1914); ***electilis*** (G. M. Allen, 1925).

Hylopetes platyurus (Jentink, 1890). Notes Leyden Museum 12:147.
COMMON NAME: Jentink's Flying Squirrel.
TYPE LOCALITY: Deli, NE Sumatra.
DISTRIBUTION: Sumatra, Malaysia.
COMMENTS: Formerly included in *lepidus* (Hill, 1962*c*; Pavlinov et al., 1995*a*), but see Thorington et al. (1996). Corbet and Hill (1992) listed *aurantiacus* as a synonym, here placed in *H. spadiceus*.

Hylopetes sipora Chasen, 1940. Bull. Raffles Mus., 15:117.
COMMON NAME: Sipora Flying Squirrel.
TYPE LOCALITY: "Sipora Island, Mentawi Islands, West Sumatra" [Indonesia].
DISTRIBUTION: Sipora Isl (Indonesia).
STATUS: IUCN – Endangered.
COMMENTS: Formerly included in *spadiceus*; see Hill (1962*c*) who noted that an adult specimen is needed to clarify the status of this taxon. Part of the rodent fauna endemic to the Mentawai Archipelago (see comments under *Leopoldamys siporanus*).

Hylopetes spadiceus (Blyth, 1847). J. Asiat. Soc. Bengal, 16:867.
COMMON NAME: Red-cheeked Flying Squirrel.
TYPE LOCALITY: "Arracan" [Arakan, Burma].
DISTRIBUTION: Burma, Thailand, S Vietnam, Sumatra, and Malaysia.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *amoenus* (Miller, 1906); *aurantiacus* (Wagner, 1841); *belone* (Thomas, 1908); *everetti* (Thomas, 1895); *harrisoni* (Stone, 1900); *sumatrae* Sody, 1949; ***caroli*** Gyldenstolpe, 1920.
COMMENTS: Includes *harrisoni*; see Medway (1977:105). Formerly included *sipora*; see Hill (1961*c*). Corbet and Hill (1980:137) listed *spadiceus* in *lepidus*, without comment.

Hylopetes winstoni (Sody, 1949). Treubia Buitenzorg, 20:75.
COMMON NAME: Sumatran Flying Squirrel.

TYPE LOCALITY: "Baleq, E. Atjeh, N. Sumatra, 1200 m," [Indonesia].
DISTRIBUTION: Known only from the type locality.
STATUS: IUCN – Critically Endangered.
COMMENTS: Originally described as a species of *Iomys*, but placed in *Hylopetes* by Corbet and Hill (1992).

Iomys Thomas, 1908. Ann. Mag. Nat. Hist., ser. 8, 1:1.
TYPE SPECIES: *Pteromys horsfieldii* Waterhouse, 1838.
COMMENTS: Subtribe Glaucomyina (see also *Eoglaucomys*). Formerly included *winstoni*, here placed in *Hylopetes*.

Iomys horsfieldii (Waterhouse, 1838) Proc. Zool. Soc. Lond., 1837:87 [1838].
COMMON NAME: Javanese Flying Squirrel.
TYPE LOCALITY: "Either from Java or Sumatra." Restricted by Chasen (1940:114) to Sumatra.
DISTRIBUTION: Malay Peninsula to Java; Borneo.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***davisoni*** (Thomas, 1886); *everetti* (G. M. Allen and Coolidge, 1940) [not Thomas, 1895]; ***penangensis*** Chasen, 1940; ***thomsoni*** Thomas, 1900; *lepidus* Lyon, 1911 [not Horsfield, 1824].
COMMENTS: Formerly included *Iomys sipora* and *Hylopetes winstoni* (Corbet and Hill, 1980, 1986).

Iomys sipora Chasen and Kloss, 1928. Proc. Zool. Soc. Lond., 1927(4):819 [1928].
COMMON NAME: Mentawai Flying Squirrel.
TYPE LOCALITY: "Sipora Island, West Sumatra." [Indonesia].
DISTRIBUTION: Mentawai Isls (Indonesia).
STATUS: IUCN – Vulnerable.
COMMENTS: Part of the rodent fauna endemic to the Mentawai Archipelago (see comments under *Leopoldamys siporanus*).

Petaurillus Thomas, 1908. Ann. Mag. Nat. Hist., ser. 8, 1:3.
TYPE SPECIES: *Sciuropterus hosei* Thomas, 1900.
COMMENTS: Subtribe Glaucomyina (see also *Eoglaucomys*).

Petaurillus emiliae Thomas, 1908. Ann. Mag. Nat. Hist., ser. 8, 1:8.
COMMON NAME: Lesser Pygmy Flying Squirrel.
TYPE LOCALITY: "Baram, E. Sarawak," [Malaysia].
DISTRIBUTION: Sarawak.
STATUS: IUCN – Lower Risk (lc).

Petaurillus hosei (Thomas, 1900). Ann. Mag. Nat. Hist., ser. 7, 5:275.
COMMON NAME: Hose's Pygmy Flying Squirrel.
TYPE LOCALITY: "Baram District, Eastern Sarawak . . . Toyut River" [Malaysia].
DISTRIBUTION: Sarawak.
STATUS: IUCN – Lower Risk (lc).

Petaurillus kinlochii (Robinson and Kloss, 1911). J. Fed. Malay St. Mus., 4:171.
COMMON NAME: Selangor Pygmy Flying Squirrel.
TYPE LOCALITY: Kapar, Selangor, Malaysia.
DISTRIBUTION: Selangor (Malay Peninsula).
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Corbet and Hill (1992) included this form in *hosei*.

Petaurista Link, 1795. Zool. Beytr., 1(2):52, 78.
TYPE SPECIES: *Sciurus petaurista* Pallas, 1766.
SYNONYMS: *Galeolemur* Lesson, 1840.
COMMENTS: Subtribe Pteromyina.

Petaurista alborufus (Milne-Edwards, 1870). C. R. Acad. Sci. (Paris), 70:342.
COMMON NAME: Red and White Giant Flying Squirrel.

TYPE LOCALITY: Moupin [= Baoxing, Sichuan, China].
DISTRIBUTION: Taiwan, S and C China.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *alborusus* (Hilzheimer, 1906); ***castaneus*** Thomas, 1923; ***lena*** Thomas, 1907; *pectoralis* (Swinhoe, 1871); ***leucocephalus*** (Hilzheimer, 1905); ***ochraspis*** Thomas, 1923.
COMMENTS: Includes *lena*, which was treated as a separate species by Kuntz and Ming (1970); see Jones (1975). Provisionally includes *pectoralis* (Corbet and Hill, 1992). Reviewed from the literature by Day (1988). Subspecies provisionally recognized by Corbet and Hill (1992). Chromosomes described by Oshida et al. (1993).

Petaurista elegans (Müller, 1840). *In* Temminck, Verhandl. Nat. Gesch. Nederland. Overz. Bezitt., Zool., Zoogd. Indisch. Archipel, pp. 35, 56 [1840], see comments.
COMMON NAME: Spotted Giant Flying Squirrel.
TYPE LOCALITY: "Java" [Indonesia].
DISTRIBUTION: Nepal, Sikkim (India), Sichuan and Yunnan (China), N and W Burma, Laos, Tonkin (Vietnam), Malay Peninsula, Sumatra, Java (Indonesia), Borneo.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *slamatensis* Sody, 1949; ***banksi*** Chasen, 1933; ***caniceps*** (Gray, 1842); *clarkei* Thomas, 1922; *gorkhali* (Lindsay, 1929); *senex* (Hodgson, 1844); ***marica*** Thomas, 1912; ***punctatus*** (Gray, 1846); ***sumatrana*** Kloss, 1921; ***sybilla*** Thomas and Wroughton, 1916.
COMMENTS: Includes *clarkei* and *marica*; see Ellerman and Morrison-Scott (1966:460-461). This species was described in greater detail by Schlegel and Müller, *in* Temminck, Verh. Nat. Gesch. Nederland. Overz. Bezitt., Zool., Mammalia, pp. 107, 112 [1845]. Corbet and Hill (1992) considered *caniceps* from Nepal, Sikkim, N Burma, and W China, and *sybilla* from a few localities in Burma and W China, as distinct species, sympatric with *elegans* in W Yunnan (China).

Petaurista leucogenys (Temminck, 1827). Monogr. Mamm., 1:27.
COMMON NAME: Japanese Giant Flying Squirrel.
TYPE LOCALITY: " . . . de forêts dans les provinces de Figo." Restricted by Kuroda (1938:50) to "Higo, Kiusiu" [Kyushu, Japan].
DISTRIBUTION: Japan, except Hokkaido.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *tosae* Thomas, 1905; ***hintoni*** Mori, 1923; *thomasi* Kuroda and Mori, 1923 [not Hose, 1900]; *watasei* Mori, 1927; ***nikkonis*** Thomas, 1905; *osiui* Kuroda, 1938; ***oreas*** Thomas, 1905.
COMMENTS: Formerly included *xanthotis*, see Corbet (1978*c*:86). McKenna (1962) and Corbet and Hill (1991:145) considered it distinct. Subspecies follow Corbet (1978*c*). Chromosomal variation studied by Oshida and Obara (1991, 1993). Specimens reported from Korea and Manchuria were purchased in markets (Jones and Johnson, 1965).

Petaurista magnificus (Hodgson, 1836). J. Asiat. Soc. Bengal, 5:231.
COMMON NAME: Hodgson's Giant Flying Squirrel.
TYPE LOCALITY: "central and Northern regions of Nipál" [Nepal].
DISTRIBUTION: Tibet (China), Nepal, Bhutan, Sikkim (India).
STATUS: IUCN – Lower Risk (nt).
SYNONYMS: *hodgsoni* Ghose and Saha, 1981.
COMMENTS: Formerly included *nobilis* (Ellerman and Morrison-Scott, 1966:464); but also see Ghose and Saha (1981:95).

Petaurista nobilis (Gray, 1842). Ann. Mag. Nat. Hist., ser. 1, 10:263.
COMMON NAME: Bhutan Giant Flying Squirrel.
TYPE LOCALITY: "India, Dargellan" [Darjeeling].
DISTRIBUTION: C Nepal, Sikkim (India), Bhutan.
STATUS: IUCN – Lower Risk (nt).
SYNONYMS: *chrysotrix* (Hodgson, 1844); ***singhei*** Saha, 1977.

COMMENTS: Formerly included in *magnificus*; elevated to specific rank by Ghose and Saha (1981:95) and Corbet and Hill (1992).

Petaurista petaurista (Pallas, 1766). Misc. Zool., p. 54.

COMMON NAME: Red Giant Flying Squirrel.

TYPE LOCALITY: Not stated. Restricted by Robinson and Kloss (1918*a*:172, 221) to Preanger Regencies, Western Java, Indonesia.

DISTRIBUTION: E Afghanistan, Kashmir and Punjab east to Assam (India); Yunnan, Sichuan, Fukien (China); Burma; Thailand; Indochina; Malaysia; Sumatra, Java (Indonesia); Borneo.

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *nitida* (Desmarest, 1818); *taguan* (Link, 1795); ***albiventer*** (Gray, 1834); *barroni* Kloss, 1916; *birrelli* Wroughton, 1911; *fulvinus* Wroughton, 1911; *inornatus* (Geoffroy, 1844); ***batuana*** Miller, 1903; ***candidula*** Wroughton, 1911; ***cicur*** Robinson and Kloss, 1914; ***interceptio*** Sody, 1949; ***lumholtzi*** Gyldenstolpe, 1920; ***marchio*** Thomas, 1908; *mimicus* Miller, 1913; ***melanotus*** (Gray, 1837); ***nigrescens*** Medway, 1965; ***nigricaudatus*** Robinson and Kloss, 1918; ***nitidula*** Thomas, 1900; ***penangensis*** Robinson and Kloss, 1918; ***rajah*** Thomas, 1908; ***rufipes*** Sody, 1949; *sodyi* Harris, 1951; ***stellaris*** Chasen, 1940; ***taylori*** Thomas, 1914; ***terutaus*** Lyon, 1907.

COMMENTS: Reviewed by Corbet and Hill (1992), who recognized *philippensis* as distinct and allocated many forms to it that were formerly assigned to *petaurista*; the two species are widely sympatric. Also reviewed from the literature by Day (1988); karyotypic variation reported by Yong and Dhaliwal (1976). Taxonomic revision and comprehensive review of geographic variation needed (Corbet and Hill, 1992). Ghose and Bhattacharya (1995) proposed full species status for *P. fulvinus*, based on limited specimen comparison.

Petaurista philippensis (Elliot, 1839). Madras J. Litt. Sci., 10:217.

COMMON NAME: Indian Giant Flying Squirrel.

TYPE LOCALITY: Near Madras [India].

DISTRIBUTION: Sri Lanka; India, north to Bombay and Rajastan, S Bihar; Burma, Thailand; S China, including Hainan and Taiwan.

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *cinderella* Wroughton, 1911; *griseiventer* (Gray, 1843); *lanka* Wroughton, 1911; *oral* (Tickell, 1842); ***annamensis*** Thomas, 1914; *badiatus* Thomas, 1925; *miloni* Bourret, 1942; ***cineraceus*** (Blyth, 1847); ***grandis*** (Swinhoe, 1863); ***lylei*** Bonhote, 1900; *stockleyi* Carter, 1933; *venningi* Thomas, 1914; ***mergulus*** Thomas, 1922; *primrosei* Thomas, 1926; *reguli* Thomas, 1926; ***yunanensis*** (Anderson, 1875); *hainana* G. M. Allen, 1925; *nigra* Wang, 1981; *rubicundus* A. B Howell, 1927; *rufipes* G. M. Allen, 1925.

COMMENTS: Formerly included in *petaurista*; but see Corbet and Hill (1992), who reviewed the species. Subspecies listed are those recognized by Corbet and Hill (1992), who note that further work is needed on the geographic variation of this species.

Petaurista xanthotis (Milne-Edwards, 1872). Rech. Hist. Nat. Mammifères, p. 301.

COMMON NAME: Chinese Giant Flying Squirrel.

TYPE LOCALITY: Moupin [= Baoxing, Sichuan, China].

DISTRIBUTION: Mountains of W China (Sichuan, Yunnan, E Tibet, Gansu).

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: ~~*buechneri* (Matschie, 1907); *filchnerinae* (Matschie, 1907).~~

COMMENTS: Formerly included in *leucogenys*; but see Corbet and Hill (1992).

Petinomys Thomas, 1908. Ann. Mag. Nat. Hist., ser. 8, 1:6.

TYPE SPECIES: *Sciuropterus lugens* Thomas, 1895.

SYNONYMS: *Olisthomys* Carter, 1942.

COMMENTS: Subtribe Glaucomyina (see also *Eoglaucomys*). Formerly included *bartelsi* and *electilis*, here included in *Hylopetes*; see McKenna (1962:35) and Corbet and Hill (1992).

Petinomys crinitus (Hollister, 1911). Proc. Biol. Soc. Wash., 24:185.
COMMON NAME: Basilan Flying Squirrel.
TYPE LOCALITY: "Basilan Island, Philippines."
DISTRIBUTION: Basilan Island, Philippines.
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Smaller than *Petinomys mindanensis*, with flattened tail. Paratype of *mindanensis* is probably not *P. crinitus* as previously thought, but a distinct species of *Petinomys;* see below.

Petinomys fuscocapillus (Jerdon, 1847). J. Asiat. Soc. Bengal, 16:867.
COMMON NAME: Travancore Flying Squirrel.
TYPE LOCALITY: "S. India" Travancore.
DISTRIBUTION: S India, Sri Lanka.
STATUS: IUCN – Vulnerable as *P. f. fuscocapillus*; otherwise Lower Risk (lc).
SYNONYMS: *layardi* (Kelaart, 1850).

Petinomys genibarbis (Horsfield, 1822). Zool. Res. Java, 4:pl., 6 unno. pp.
COMMON NAME: Whiskered Flying Squirrel.
TYPE LOCALITY: " . . . the forests of Pugar . . . Eastern portion of Java." [Indonesia].
DISTRIBUTION: Malaya to Sumatra, Java, and Borneo.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *borneoensis* (Thomas, 1908); *malaccanus* (Thomas, 1908).
COMMENTS: Perhaps conspecific with *sagitta*; see comment therein, and Medway (1977:102).

Petinomys hageni (Jentink, 1888). Notes Leyden Mus., 11:26.
COMMON NAME: Hagen's Flying Squirrel.
TYPE LOCALITY: "Deli" [North East Sumatra, Indonesia].
DISTRIBUTION: Borneo, Sumatra.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *ouwensi* Sody, 1949.
COMMENTS: Formerly included *lugens* (Chasen, 1940:119); see comments therein. Medway (1977:112) considered the status of *ouwensi* doubtful.

Petinomys lugens (Thomas, 1895). Ann. Mus. Civ. Storia Nat. Geneva, Ser. 2a, 14:666.
COMMON NAME: Sipora Flying Squirrel.
TYPE LOCALITY: Indonesia, Mentawai Isls, Sipora Isl, "Si Oban".
DISTRIBUTION: Sipora and N Pagai Islands (Sumatra, Indonesia).
STATUS: IUCN – Lower Risk (nt).
SYNONYMS: *maerens* (Miller, 1903).
COMMENTS: Formerly included in *hageni*; but see Chasen and Kloss (1927:819) and Jenkins and Hill (1982). Part of the rodent fauna endemic to the Mentawai Archipelago (see comments under *Leopoldamys siporanus*).

Petinomys mindanensis (Rabor, 1939). Philippine Jour. Sci., 69:390.
COMMON NAME: Mindanao Flying Squirrel.
TYPE LOCALITY: Badiangon, Gingoog, Oriental Misamis Province, northern coast of Mindanao, Philippines.
DISTRIBUTION: Dinagat, Siargao, and Mindanao Isls (Philippines; Heaney and Rabor, 1982).
SYNONYMS: *nigricaudus* Sanborn, 1954.
COMMENTS: Holotype of *Hylopetes mindanensis* destroyed during World War II; paratype in National Museum of Natural History is larger than *P. crinitus* with a round, not a flattened tail.

Petinomys sagitta (Linnaeus, 1766). Syst. Nat., 12th ed., 1:88.
COMMON NAME: Arrow Flying Squirrel.
TYPE LOCALITY: Indonesia, Java.
DISTRIBUTION: Java.
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Formerly included in *Hylopetes*; see Medway (1977:102). May be conspecific with *genibarbis*; see Ellerman and Morrison-Scott (1955:31). Medway (1977:102) considered

it inadvisable to synonymize *sagitta* and *genibarbis* until the relationship has been certainly established. Corbet and Hill (1992) considered *sagitta* as *incertae sedis*.

Petinomys setosus (Temminck, 1844). Fauna Japonica, 1(Mamm.), p. 49.
COMMON NAME: Temminck's Flying Squirrel.
TYPE LOCALITY: " . . . Padang, êle de Sumatra" [Indonesia].
DISTRIBUTION: Burma, Thailand, Malaysia, Sumatra, Borneo [Indonesia].
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *morrisi* (Carter, 1942).
COMMENTS: Includes *morrisi*; see Muul and Thonglongya (1971) and Corbet and Hill (1980:137). McKenna (1962) considered *morrisi* assignable to a distinct genus, *Olisthomys*. Oshida and Yoshida (1998) described chromosomes.

Petinomys vordermanni (Jentink, 1890). Notes Leyden Mus., 12:150.
COMMON NAME: Vordermann's Flying Squirrel.
TYPE LOCALITY: "Billiton" [Belitung Isl, Indonesia].
DISTRIBUTION: S Burma, Thailand, Malaya, Borneo.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *phipsoni* (Thomas, 1916).
COMMENTS: McKenna (1962) considered *vordermanni* representative of an undescribed genus, but Muul and Thonglongya (1971) and Hill (1961*c*) retained it in *Petinomys*.

Pteromys G. Cuvier, 1800. Lecon's Anat. Comp., I, tab. 1.
TYPE SPECIES: *Sciurus volans* Linnaeus, 1758.
SYNONYMS: *Sciuropterus* F. Cuvier, 1825.
COMMENTS: Subtribe Pteromyina. *Sciuropterus* was previously employed for this genus by Simpson (1945:80); he believed *Pteromys* to be a synonym of *Petaurista*, but Ellerman and Morrison-Scott (1951:466) presented evidence for the validity of *Pteromys*. However, *Pteromys* may be the sister group to *Petaurista* (Oshida et al., 2000*b*).

Pteromys momonga Temminck, 1844. Fauna Japonica, 1(Mamm.), p. 47.
COMMON NAME: Japanese Flying Squirrel.
TYPE LOCALITY: " . . . les forêts de l'interieur," Restricted by Kishida (in Kuroda, 1938:51) to "Kiusiu" [Kyushu, Japan].
DISTRIBUTION: Kyushu and Honshu (Japan).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *amygdali* (Thomas, 1906); *interventus* (Kuroda, 1941); *momoga* Temminck, 1845.
COMMENTS: The sister species to *P. momonga* is *P. volans* (Oshida et al., 2000*b*). Oshida et al. (1996*b*, 2000*a*) described chromosomes.

Pteromys volans (Linnaeus, 1758). Syst. Nat., 10th ed., 1:64.
COMMON NAME: Siberian Flying Squirrel.
TYPE LOCALITY: "in borealibus Europae, Asiae, et Americae." Restricted by Thomas (1911*a*:149) to "Finland." Ognev (1966:268) proposed restriction to "central Sweden," but the species does not occur there (Sulkava, 1978:76).
DISTRIBUTION: Palearctic taiga, from N Finland east to Chukotka (Russia); south to E Baltic shore; S Ural Mtns, Altai Mtns (Russia), Mongolia; N China; Korea; Sakhalin Isl (Russia), and Hokkaido (Japan); perhaps mtns of W China.
STATUS: IUCN – Lower Risk (nt).
SYNONYMS: *aluco* (Thomas, 1907); *anadyrensis* Ognev, 1940; *arsenjevi* Ognev, 1935; *betulinus* Serebrennikov, 1930; *gubari* Ognev, 1935; *incanus* Miller, 1918; *ognevi* Stroganov, 1936; *russicus* Tiedemann, 1808; *sibiricus* Desmarest, 1922; *turovi* Ognev, 1919; *vulgaris* Wagner, 1842; *wulungshanensis* (Mori, 1939); ***athene*** (Thomas, 1907); ***buechneri*** Satunin, 1903; ***orii*** (Kuroda, 1921).
COMMENTS: Chromosomes described by Rausch and Rausch (1982), and Oshida et al. (2000*a*). Subspecies follow Corbet (1978c).

Pteromyscus Thomas, 1908. Ann. Mag. Nat. Hist., ser. 8, 1:3.
TYPE SPECIES: *Sciuropterus pulverulentus* Günther, 1873.

COMMENTS: Subtribe Pteromyina.

Pteromyscus pulverulentus (Günther, 1873). Proc. Zool. Soc. Lond., 1873:413.
COMMON NAME: Smoky Flying Squirrel.
TYPE LOCALITY: "Pinang" [Penang, Malaysia].
DISTRIBUTION: S Thailand to Sumatra; Borneo.
STATUS: IUCN – Lower Risk (nt).
SYNONYMS: ***borneanus*** Thomas, 1908.

Trogopterus Heude, 1898. Mem. Hist. Nat. Emp. Chin., 4(1): 46-47.
TYPE SPECIES: *Pteromys xanthipes* Milne-Edwards, 1867.
COMMENTS: Subtribe Pteromyina. *Belomys* included in *Trogopterus* by Corbet and Hill (1992).

Trogopterus xanthipes (Milne-Edwards, 1867). Ann. Sci. Nat. Zool., 8: 376.
COMMON NAME: Complex-toothed Flying Squirrel.
TYPE LOCALITY: "Les forêts Qui couvrent la chaine montagneuse du Tscheli" [= Chihli, old name for Hebei Prov., China].
DISTRIBUTION: Montane forests, from Yunnan to C and E China.
STATUS: IUCN – Endangered.
SYNONYMS: *edithae* Thomas, 1923; *himalaicus* Thomas, 1914; *minax* Thomas, 1923; *mordax* Thomas, 1914.
COMMENTS: No subspecies recognized (Corbet and Hill, 1992).

Subfamily Callosciurinae Pocock 1923. Proc. Zool. Soc. Lond., 1923: 239.

Callosciurus Gray, 1867. Ann. Mag. Nat. Hist., ser. 3, 20:277.
TYPE SPECIES: *Sciurus rafflesii* Vigors and Horsfield, 1828 (= *Sciurus prevostii* Desmarest, 1822).
SYNONYMS: *Baginia* Gray, 1867; *Erythrosciurus* Gray, 1867; *Hessonoglyphotes* Moore, 1959; *Heterosciurus* Trouessart, 1880; *Tomeutes* Thomas, 1915.
COMMENTS: Tribe Callosciurini according to Moore (1959). Formerly included *Sundasciurus* and *Prosciurillus* (in part; see Moore, 1958) and *Tamiops* (Moore and Tate, 1965). See also Corbet and Hill (1992). Reviewed in part by Chakraborty (1985).

Callosciurus adamsi (Kloss, 1921). J. Str. Br. Roy. Asiat. Soc., 83:151.
COMMON NAME: Ear-spot Squirrel.
TYPE LOCALITY: "Long Mujan, 150 mi. (241 km) up Baram River, Baram, Sarawak,700-900 ft." (213-274 m) (Malaysia). See Corbet and Hill (1992:292).
DISTRIBUTION: Lowlands and hills in Sabah and Sarawak, Borneo, below the altitudinal range of *orestes*.
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Closely related to *orestes*. Distinct from *albescens*; see Medway (1977:93). Chromosomes of "*C. albescens*" from Sabah by Harada and Kobayashi (1980) refer to either this species or *C. orestes*.

Callosciurus albescens (Bonhote, 1901). Ann. Mag. Nat. Hist., ser. 7, 7:446.
COMMON NAME: Kloss's Squirrel.
TYPE LOCALITY: Indonesia, Sumatra, Acheen (= Atjeh).
DISTRIBUTION: Sumatra. Restricted to N Sumatra.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *albiculus* G. Miller, 1942.
COMMENTS: Considered a distinct species by Medway (1977:93). Corbet and Hill (1992:291) considered *albescens* and *albiculus* assignable to *C. notatus*.

Callosciurus baluensis (Bonhote, 1901). Ann. Mag. Nat. Hist., ser. 7, 7:174.
COMMON NAME: Kinabalu Squirrel.
TYPE LOCALITY: Malaysia, Sabah, Mount Kinabalu, Borneo, 1000 ft. (305 m).
DISTRIBUTION: Above 300 m elevation in Sabah and Sarawak, Malaysia.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *baramensis* (Chasen, 1940); *medialis* G. M. Allen and Coolidge, 1940.
COMMENTS: Sometimes considered a subspecies of *prevostii* (see Medway, 1977:86), but often

sympatric with that species (Payne et al., 1985). Corbet and Hill (1992:290-91) placed *prevostii erythromelas* (Temminck, 1853) in this species, with *schlegeli* (Gray, 1867) a synonym.

Callosciurus caniceps (Gray, 1842). Ann. Mag. Nat. Hist., [ser. 1], 10:263.

COMMON NAME: Gray-bellied Squirrel.

TYPE LOCALITY: "Bhotan." Restricted by Robinson and Kloss (1918*a*:206) to N Tenasserim, Burma.

DISTRIBUTION: Thailand, peninsular Burma, peninsular Malaysia, and adjacent islands.

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *epomophorus* (Bonhote, 1901); ***adangensis*** (Miller, 1903); ***bimaculatus*** (Temminck, 1853); *davisoni* (Bonhote, 1901); *milleri* (Robinson and Wroughton, 1911); ***casensis*** (Miller, 1903); ***concolor*** (Blyth, 1856); *erubescens* Cabrera, 1917; ***domelicus*** (Miller, 1903). **Unassigned**: *altinsularis* (Miller, 1903); *bentincanus* (Miller, 1903); *chrysonotus* (Blyth, 1847); *fallax* (Robinson and Kloss, 1914); *fluminalis* (Robinson and Wroughton, 1911); *hastilis* Thomas, 1923; *helgei* (Gyldenstolpe, 1917); *helvus* (Shamel, 1930); *inexpectatus* (Kloss, 1916); *lancavensis* (Miller, 1903); *lucas* (Miller, 1903); *mapravis* Thomas and Robinson, 1921; *matthaeus* (Miller, 1903); *moheius* Thomas and Robinson, 1921; *mohillius* Thomas and Robinson, 1921; *nakanus* Thomas and Robinson, 1921; *panjioli* Thomas and Robinson, 1921; *panjius* Thomas and Robinson, 1921; *pipidonis* Thomas and Robinson, 1921; *samuiensis* (Robinson and Kloss, 1914); *sullivanus* (Miller, 1903); *tabaudius* Thomas, 1922; *tacopius* Thomas and Robinson, 1921; *telibius* Thomas and Robinson, 1921; *terutavensis* (Thomas and Wroughton, 1909).

COMMENTS: Revised by Moore and Tate (1965), and subsequently by Corbet and Hill (1992).

Callosciurus erythraeus (Pallas, 1779). Nova Spec. Quad. Glir. Ord., p. 377.

COMMON NAME: Pallas's Squirrel.

TYPE LOCALITY: Not known; restricted to Assam, India by Bonhote (1901*a*); further restricted to the Garo Hills of Assam by Moore and Tate (1965).

DISTRIBUTION: West of Irrawaddy River in India, Burma, and SE China. East of Irrawaddy River in Burma, Thailand, Peninsular Malaysia, Indochina, S China, and Taiwan. Introduced into Argentina (Aprila and Chicco, 1999).

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *wellsi* Wroughton, 1921; ***atrodorsalis*** (Gray, 1942); ***bartoni*** (Thomas 1914); *careyi* Thomas and Wroughton, 1916; *fryanus* Thomas and Wroughton, 1916; *millardi* Thomas and Wroughton, 1916; *shortridgei* Thomas and Wroughton, 1916; ***bhutanensis*** (Bonhote, 1901); *crumpi* Wroughton, 1916; ***bonhotei*** (Robinson and Wroughton, 1911); ***castaneoventris*** (Gray, 1842); *insularis* (J. A. Allen, 1906); ***erythrogaster*** (Blyth, 1842); *crotalius* Thomas and Wroughton, 1916; *kinneari* Thomas and Wroughton, 1916; *nagarum* Thomas and Wroughton, 1916; *punctatissimus* (Gray, 1867); ***flavimanus*** (G. St. Hilaire, 1831); *bolovensis* Osgood, 1932; *contumax* Thomas, 1927; *dactylinus* Thomas, 1927; *pirata* Thomas, 1929; *quantulus* Thomas, 1927; ***gloveri*** (Thomas, 1921); ***gordoni*** (Anderson, 1871); ***griseimanus*** (Milne-Edwards, 1867); *fumigatus* Bonhote, 1907; *leucopus* Gray, 1867; *phanrangis* Robinson and Kloss, 1922; *vassali* Bonhote, 1907; ***harringtoni*** (Thomas, 1905); *solutus* Thomas, 1914; ***hendeei*** Osgood, 1932; ***hyperythrus*** (Blyth, 1855); ***intermedius*** (Anderson, 1879); *aquilo* Wroughton, 1921; ***michianus*** (Robinson and Wroughton, 1911); *haemobaphes* (G. M. Allen, 1912); ***ningpoensis*** (Bonhote, 1901); ~~*tsingtanensis* (Hilzheimer, 1905);~~ ***pranis*** (Kloss, 1916); ***rubeculus*** (Miller, 1903); *youngi* (Robinson and Kloss, 1914); ***shanicus*** (Ryley, 1914); ***siamensis*** (Gray 1860); *tachin* (Kloss, 1916); ***sladeni*** (Anderson, 1871); *kemmisi* (Wroughton, 1908); *midas* (Thomas, 1914); *rubex* (Thomas, 1914); *vernayi* Carter, 1942; ***styani*** (Thomas, 1894); *albifer* (Hilzheimer, 1906); *canigenus* A. B Howell, 1927; *griseopectus* (Milne-Edwards, 1874); *leucurus* (Hilzheimer, 1905); *woodi* Harris, 1931; ***thai*** (Kloss, 1917); ***thaiwanensis*** (Bonhote, 1901); *centralis* (Bonhote, 1901); *nigridorsalis* Kuroda, 1935; *roberti* (Bonhote, 1901); ***zimmeensis*** Robinson and Wroughton, 1916; *primus* G. M. Allen and Coolidge, 1940. **Unassigned**:

cinnamomeiventris (Swinhoe, 1862); *cucphuongis* Dao Van Tien, 1965; *dabshanensis* Xu and Chen, 1989; *gongshanensis* Wang, 1981; *griseopectus* (Blyth, 1847); *quinlingensis* Xu and Chen, 1989; *tsingtauensis* (Hilzheimer, 1906); *wuliangshanensis* Li and Wang, 1981.

COMMENTS: Includes *sladeni*; see Moore and Tate (1965). Includes *flavimanus* G. St. Hillaire (1831) as a junior synonym (Corbet and Hill, 1992:286); both were previously considered distinct (Moore and Tate, 1965). Subspecies allocations follow Moore and Tate (1965). Chromosomes described (as *flavimanus*) by Nadler et al. (1975*b*). Indian populations reviewed by Agrawal and Chakraborty (1979) and by Oshida et al. (1996*a*, *b*), and Vietnamese populations by Dao (1965).

Callosciurus finlaysonii (Horsfield, 1823). Zool. Res. Java, 7:151.

COMMON NAME: Finlayson's Squirrel.

TYPE LOCALITY: "the Islands called Sichang, in the Gulf of Siam", Koh Si Chang (Gulf of Thailand).

DISTRIBUTION: SC Burma, Thailand, Cambodia, Laos, Vietnam. Introduced into Italy (Bertolino et al., 2000).

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: Insular: ***albivexilli*** (Kloss, 1916); ***folletti*** (Kloss, 1915); ***frandseni*** (Kloss, 1916); ***germaini*** (Milne-Edwards, 1867); ***harmandi*** (Milne-Edwards, 1877); *pierrei* Robinson and Kloss, 1922; ***trotteri*** (Kloss, 1916); Mainland: ***annellatus*** Thomas, 1929; ***bocourti*** (Milne-Edwards, 1867); *cockerelli* Thomas, 1928; *floweri* (Bonhote, 1901); *leucocephalus* (Bonhote, 1901); *leucogaster* (Milne-Edwards, 1867); *prachin* Kloss, 1920; *rajasima* (Kloss, 1920); *tachardi* Robinson, 1916; ***boonsongi*** Moore and Tate, 1965; ***cinnamomeus*** (Temminck, 1853); *herberti* Robinson and Kloss, 1922; *splendens* (Gray, 1861); ***ferrugineus*** (F. Cuvier, 1829); ***menamicus*** Thomas, 1929; ***nox*** (Wroughton, 1908; ***sinistralis*** (Wroughton, 1908); *dextralis* (Wroughton, 1908); *grutei* (Gyldenstolpe, 1917); *lylei* (Wroughton, 1908); ***williamsoni*** Robinson and Kloss, 1922. **Unassigned:** *hyperythrus* Blyth, 1856; *keraudrenii* (Lesson, 1830); *portus* (Kloss, 1915).

COMMENTS: Revised by Moore and Tate (1965). Subsequently revised and expanded to include *ferrugineus* by Corbet and Hill (1992:286-87). Chromosomes described by Nadler et al. (1975*b*).

Callosciurus inornatus (Gray, 1867). Ann. Mag. Nat. Hist., ser. 3, 20:282.

COMMON NAME: Inornate Squirrel.

TYPE LOCALITY: "Loo Mountains." Restricted by Moore and Tate (1965:209) to "Mountains in Laos."

DISTRIBUTION: Laos, N Vietnam, S Yunnan (China).

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *imitator* Thomas, 1925.

COMMENTS: Revised by Moore and Tate (1965); distribution allopatric, separated from *C. canipes* by the Mekong River; sympatric with the larger *C. erythraeus hendeei* (Corbet and Hill, 1992:289).

Callosciurus melanogaster (Thomas, 1895). Ann. Mus. Civ. Stor. Nat. Genova, 14:668.

COMMON NAME: Mentawai Squirrel.

TYPE LOCALITY: Indonesia, Mentawai Isls, Sipora Isl, "Si Oban".

DISTRIBUTION: Mentawai Isls (Indonesia), Siberut, Sipora, and N Pagai.

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: ***atratus*** (Miller, 1903); ***mentawi*** (Chasen and Kloss, 1927).

COMMENTS: Reviewed by Corbet and Hill (1992:292). Part of the rodent fauna endemic to the Mentawai Archipelago (see comments under *Leopoldamys siporanus*).

Callosciurus nigrovittatus (Horsfield, 1823). Zool. Res. Java, 7:149.

COMMON NAME: Black-striped Squirrel.

TYPE LOCALITY: Indonesia, "The island of Java." Restricted to W Java by Kloss (1921).

DISTRIBUTION: Vietnam, Malaysia, peninsular Thailand, Sumatra, Borneo, Java, adjacent small islands.

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *bantamensis* Sody, 1949; *besuki* (Kloss, 1921); *grisei-venter* (Geoffroy, 1831); *madsoedi* Sody, 1929; *phoenicurus* Sody, 1949; *salakensis* Sody, 1949; *tenggerensis* Sody, 1949; ***bilimitatus*** (Miller, 1903); *johorensis* (Robinson and Wroughton, 1911); *microrhynchus* (Kloss, 1908); ***bocki*** (Robinson and Wroughton, 1911); *acraeus* (Miller, 1942); ***klossi*** (Miller, 1900).

COMMENTS: Reviewed by Corbet and Hill (1992:292).

Callosciurus notatus (Boddaert, 1785). Elench. Anim., p. 119.

COMMON NAME: Plantain Squirrel.

TYPE LOCALITY: Indonesia, West Java.

DISTRIBUTION: From peninsular Malaysia and Thailand to Java, Bali, and Borneo; Lombok Isl; Salayer Isl (south of Sulawesi; Musser, 1987*a* considered this population an introduction, possibly from Java); widespread on smaller islands.

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: The following taxa are from Java: *badjing* (Kerr, 1792); *balstoni* (Robinson and Wroughton, 1911); *bilineatus* (Geoffroy St. Hilaire, 1817); *dschinschicus* (Gmelin, 1788); *ginginianus* (Shaw, 1801); *plantani* (Ljungh, 1801); *tamansari* (Kloss, 1921); ***diardii*** (Jentink, 1879); *andrewsii* (Bonhote, 1901); *madurae* (Thomas, 1910); *magnificus* Sody, 1949; *prinsulae* Sody, 1949; *vanheurni* Sody, 1929; *verbeeki* Sody, 1929. The following taxa are from Sumatra: ***vittatus*** (Raffles, 1821); *albescens* (Bonhote, 1901); *albiculus* Miller, 1942; *bivittatus* (Desmarest, 1822); *ictericus* (Miller, 1903); *kalianda* (Sody, 1949); *nicotianicae* (Sody, 1936); *percommodus* (Chasen, 1940); *pretiosus* (Miller, 1903); *rupatius* (Lyon, 1908); *saturatus* (Miller, 1903); *tapanulius* (Lyon, 1907); *tarussanus* (Lyon, 1907); *tedongus* (Lyon, 1906); *toupai* (Lesson, 1827); *ubericolor* (Miller, 1903). The following is from Borneo: ***suffusus*** (Bonhote, 1901). The following taxa are from mainland Malaya, S Thailand, and adjacent islands: ***miniatus*** (Miller, 1900); *aoris* (Miller, 1903); *famulus* (Robinson, 1912); *guillemardi* (Kloss, 1926); *lighti* (Chasen and Kloss, 1924); *pemangiliensis* (Miller, 1903); *peninsularis* (Miller, 1903); *plasticus* (Kloss, 1911); *scottii* (Kloss, 1911); *singapurensis* (Robinson, 1916); *subluteus* (Thomas and Wroughton, 1909); *tenuirostris* (Miller, 1900); *tinggius* Hill, 1960; *watsoni* (Kloss, 1911). Remaining names (most from small islands), not allocated to subspecies: *abbottii* (Miller, 1900); *anambensis* (Miller, 1900); *arendsis* (Lyon, 1911); *atristriatus* (Miller, 1913); *billitonus* (Lyon, 1906); *conipus* (Lyon, 1911); *datus* (Lyon, 1911); *dilutus* (Miller, 1913); *director* (Lyon, 1909); *dulitensis* (Bonhote, 1901); *lamucotanus* (Lyon, 1911); *lautensis* (Miller, 1901); *lunaris* (Chasen and Kloss, 1924); *lutescens* (Miller, 1901); *malawali* (Chasen and Kloss, 1932); *maporensis* (Robinson, 1916); *marinsularis* (Lyon, 1911); *microtis* (Jentink, 1879); *nesiotes* (Thomas and Wroughton, 1909); *pannovianus* (Miller, 1903); *perhentiani* (Kloss, 1911); *poliopus* (Lyon, 1911); *proteus* (Kloss, 1911); *raptor* Hill, 1960; *rubidiventris* (Miller, 1901); *rutiliventris* (Miller, 1901); *seraiae* (Miller, 1901); *serutus* (Miller, 1906); *siriensis* (Lyon, 1911); *stellaris* (Chasen and Kloss, 1924); *stresemanni* (Thomas, 1913); *vinocastaneus* Sody, 1949.

COMMENTS: Corbet and Hill (1992:291) commented on the enormous number of named forms, in contrast to which is the slight degree of geographic variation compared to other widespread species of *Callosciurus*. Chromosomes described by Nadler et al. (1975*b*).

Callosciurus orestes (Thomas, 1895). Ann. Mag. Nat. Hist., ser. 6, 15:529.

COMMON NAME: Borneo Black-banded Squirrel.

TYPE LOCALITY: Malaysia, Sarawak, Mount Dulit, 4000 ft (1219 m).

DISTRIBUTION: Sabah and Sarawak (Borneo), Malaysia, at middle elevations (Payne et al., 1985).

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *canalvus* (Moore, 1959); *venetus* (Chasen, 1940).

COMMENTS: Formerly considered a subspecies of *C. nigrovittatus* (e.g., Medway, 1977:92), but clearly distinct (Payne et al., 1985). Includes *Glyphotes canalvus*, which Moore (1959) placed in subgenus *Hessonoglyphotes*; these names are now synonyms of *Callosciurus*. Closely related to *adamsi* (see comments therein).

Callosciurus phayrei (Blyth, 1856). J. Asiat. Soc. Bengal, 24:472.
COMMON NAME: Phayre's Squirrel.
TYPE LOCALITY: Burma, Martaban, "Sent from Moulmein" (Robinson and Kloss, 1918*a*:225).
DISTRIBUTION: Upper Irrawaddy River and Sittang River eastward to Salween River, S Burma.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *blanfordii* (Blyth, 1862); *heinrichi* Tate, 1954.
COMMENTS: Considered a distinct species by Moore and Tate (1965) instead of a subspecies of *flavimanus*. Closely allied to *caniceps* and *pygerythrus* (Corbet and Hill, 1992:289).

Callosciurus prevostii (Desmarest, 1822). Mammalogie, *in* Encyclop. Méth., p. 335.
COMMON NAME: Prevost's Squirrel.
TYPE LOCALITY: Malaysia, Malacca Prov., "Settlement of Malacca."
DISTRIBUTION: Peninsular Thailand to Sumatra, Borneo, and adjacent small islands; N Sulawesi. Musser (1987*a*) considered the population in Sulawesi as introduced.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: The following taxa are from mainland Malaysia: *humei* (Bonhote, 1901); *indica* (Muller and Schlegel, 1842); *wrayi* (Kloss, 1910). The following taxa are from S Sumatra: ***rafflesii*** (Vigors and Horsfield, 1828); *harrisoni* (Stone and Rehn, 1902); *sumatranus* (Schlegel, 1863). The following are from E Sumatra: ***melanops*** (Miller, 1902); *nyx* (Lyon, 1908); *penialius* (Lyon, 1908). The following are from N Sumatra: ***piceus*** (Peters, 1866); *erebus* (Miller, 1903); *pluto* (Gray, 1867). The following are from Borneo, including Sarawak: ***atricapillus*** (Schlegel, 1863); *armalis* (Lyon, 1911); *carimatae* (Miller, 1906); *pelapius* (Lyon, 1911); *proserpinae* (Lyon, 1906); *sanggaus* (Lyon, 1907); ***sarawakensis*** (Gray, 1867); *caroli* (Bonhote, 1901). **Unassigned**: *atrox* (Miller, 1913); *bangkanus* (Schlegel, 1863); *banksi* (Chasen, 1933); *borneoensis* (Müller and Schlegel, 1842); *caedis* (Chasen and Kloss, 1932); *carimonensis* (Miller, 1906); *condurensis* (Miller, 1906); *coomansi* Sody, 1949; *erythromelas* (Temminck, 1853); *griseicauda* (Bonhote, 1901); *indica* (Müller and Schlegel, 1842) [not *indicus* Erxleben, 1777]; *kuchingensis* (Bonhote, 1901); *mendanauus* (Lyon, 1906); *mimellus* (Miller, 1900); *mimiculus* (Miller, 1900); *navigator* (Bonhote, 1901); *palustris* (Lyon, 1907); *redimitus* (Boon Mesch, 1829); *rufogularis* (Gray, 1842); *rufoniger* (Motley and Dillwyn, 1855); *rufonigra* (Gray, 1842); *schlegeli* (Gray, 1867); *suffusus* (Bonhote, 1901); *waringensis* Sody, 1949.
COMMENTS: Reviewed by Corbet and Hill (1992:289-90). Formerly included *baluensis*; but the two are often sympatric (Payne et al., 1985). Heaney (1978) discussed body size variation in this species. Oshida et al. (1996*b*) described chromosomes.

Callosciurus pygerythrus (I. Geoffroy Saint Hilaire, 1833). Mag. Zool. Paris, vol. 2: p. 5, pl. 4-6.
COMMON NAME: Irrawaddy Squirrel.
TYPE LOCALITY: "from forest of Syriam, near Pegu, Burma" (Moore and Tate, 1965:217).
DISTRIBUTION: Nepal and NE India to Burma, N Vietnam, and Yunnan (China).
STATUS: IUCN – Vulnerable.
SYNONYMS: ***blythii*** (Tytler, 1854); ***janetta*** (Thomas, 1914); ***lokroides*** (Hodgson, 1836); *assamensis* (Gray, 1843); *similis* (Gray, 1867); ***mearsi*** (Bonhote, 1906); *bellona* (Thomas and Wroughton, 1916); *virgo* (Thomas and Wroughton, 1916); ***owensi*** (Thomas and Wroughton, 1916); ***stevensi*** (Thomas, 1908).
COMMENTS: Revised by Moore and Tate (1965:209); reviewed by Corbet and Hill (1992:289).

Callosciurus quinquestriatus (Anderson, 1871). Proc. Zool. Soc. Lond., 1871:142.
COMMON NAME: Anderson's Squirrel.
TYPE LOCALITY: "common at Ponsee, on the Kakhyen range of hills, east of Bhamo, at an elevation of from 2000 to 3000 ft" [Burma].
DISTRIBUTION: NE Burma, Yunnan (China).
STATUS: IUCN – Vulnerable.
SYNONYMS: *beebei* (J. A. Allen, 1911); *sylvester* Thomas, 1926; ***imarius*** Thomas, 1926.
COMMENTS: Included in *C. erythraeus* by Moore and Tate (1965:209); but this distinctly marked species with a very limited range is sympatric with the more widely distributed *C. erythraeus* in W Yunnan (Corbet and Hill, 1992:286).

Dremomys Heude, 1898. Mem. Hist. Nat. Emp. Chin., 4(2):54.
TYPE SPECIES: *Sciurus pernyi* Milne-Edwards, 1867.
SYNONYMS: *Zetis* Thomas, 1908 [Type species *S. rufigenis* Blanford].
COMMENTS: Tribe Callosciurini according to Moore (1959). Reviewed by Moore and Tate (1965), and Corbet and Hill (1992).

Dremomys everetti (Thomas, 1890). Ann. Mag. Nat. Hist., ser. 6, 6:171.
COMMON NAME: Bornean Mountain Ground Squirrel.
TYPE LOCALITY: "Mount Penrisen, West Sarawak," [Malaysia].
DISTRIBUTION: Mountains of N and W Borneo (Kalimantan, Sarawak, Sabah), above 3200 ft (975 m).
STATUS: IUCN – Lower Risk (lc).

Dremomys gularis Osgood, 1932. Field Mus. Nat. Hist., Publ. Zool., 18:284.
COMMON NAME: Red-throated Squirrel.
TYPE LOCALITY: Mt. Fan Si Pan, near Chapa, Tonkin, Vietnam.
DISTRIBUTION: Red River Valley from N Vietnam to SC Yunnan (China) (Zhang et al., 1997).
COMMENTS: This species lives in geographic sympatry with *D. rufigenis*, but at higher altitudes. It resembles *D. pyrrhomerus* in large size of rostrum.

Dremomys lokriah (Hodgson, 1836). J. Asiat. Soc. Bengal, 5:232.
COMMON NAME: Orange-bellied Himalayan Squirrel.
TYPE LOCALITY: "central and Northern regions of Nipál" [Nepal].
DISTRIBUTION: C Nepal east to Salween River; Xizang (China); N Burma; mountains in E India; Bhutan.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *bhotia* Thomas and Wrougton, 1916; ***garonum*** Thomas, 1922; *subflaviventris* Thomas, 1922; ***macmillani*** Thomas and Wroughton, 1916; ***motuoensis*** Cai and Zhang, 1980; ***pagus*** Moore, 1956.
COMMENTS: Revised by Moore and Tate (1965); see also Agrawal and Chakraborty (1979).

Dremomys pernyi (Milne-Edwards, 1867). Rev. Mag. Zool. (Paris), ser. 2, 19:19.
COMMON NAME: Perny's Long-nosed Squirrel.
TYPE LOCALITY: "les montagnes de la principaute de Moupin [Muping]" [= Baoxing, Sichuan, China].
DISTRIBUTION: NE India; N Burma; N Vietnam; Xizang; Sichuan, Yunnan, Guizhou, Hunan, Hubei, Jiangxi, Fujian, Anhui, Taiwan (China).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *griselda* Thomas, 1916; *lentus* A. B. Howell, 1927; ***flavior*** G. M. Allen, 1912; *lichiensis* Thomas, 1922; ***howelli*** Thomas, 1922; *calidior* Thomas, 1916; *chintalis* Thomas, 1916; *modestus* Thomas, 1916; ***imus*** Thomas, 1922; *mentosus* Thomas, 1922; ***owstoni*** (Thomas, 1908); ***senex*** G. M. Allen, 1912.
COMMENTS: Reviewed by Corbet and Hill (1992:298-99); see also G. M. Allen (1940:647-54).

Dremomys pyrrhomerus (Thomas, 1895). Ann. Mag. Nat. Hist., ser. 6, 16:242.
COMMON NAME: Red-hipped Squirrel.
TYPE LOCALITY: "Ichang, Yang-tse-kiang [river] [Hupei, China]."
DISTRIBUTION: C and S China, extreme N Vietnam, Hainan Isl (China).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *melli* Matschie, 1922; ***riudonensis*** J. A. Allen, 1906.
COMMENTS: Moore and Tate (1965) treated *pyrrhomerus* as a species separate from *rufigenis* based on evidence of geographic parapatry, and relative rostral length. Corbet and Hill (1992) listed *gularis* as a separate species, but considered other forms of *pyrrhomerus* to be conspecific with *rufigenis*, whereas Zhang et al. (1997) followed Moore and Tate (op. cit.), providing additional Chinese locality records showing sympatry of the two taxa at 10 localities in Yunnan, 3 in Guangxi, and one each in Hunan and Anhui provinces.

Dremomys rufigenis (Blanford, 1878). J. Asiat. Soc. Bengal, 47(2):156.
COMMON NAME: Asian Red-cheeked Squirrel.

TYPE LOCALITY: Burma, Tenasserim, Mt. Mooleyit.
DISTRIBUTION: NE India, N and C Burma; Anhui, Hunan, Guangxi and Yunnan (China), Laos, south through Vietnam, Thailand, peninsular Malaysia.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *laomache* Thomas, 1921; ***adamsoni*** Thomas, 1914; *opimus* Thomas and Wroughton, 1916; ***belfieldi*** (Bonhote, 1908); ***fuscus*** (Bonhote, 1907); ***ornatus*** Thomas, 1914.
COMMENTS: Formerly included *pyrrhomerus*; but see Moore and Tate (1965), and comments under *D. pyrrhomerus*. Chromosomes described by Nadler and Hoffmann (1970).

Exilisciurus Moore, 1958. Am. Mus. Novit., 1914:4.
TYPE SPECIES: *Sciurus exilis* Müller, 1838.
COMMENTS: Tribe Callosciurini according to Moore (1959). The species included in *Exilisciurus* were formerly included in *Nannosciurus*; see Moore (1958, 1959) and Heaney (1985).

Exilisciurus concinnus (Thomas, 1888). Ann. Mag. Nat. Hist., ser. 6, 2:407.
COMMON NAME: Philippine Pygmy Squirrel.
TYPE LOCALITY: Philippines, Zamboanga Prov., Basilan Isl, Isabela.
DISTRIBUTION: Mindanao faunal region (Heaney et al., 1987) including Mindanao, Basilan, Biliran, Bohol, Dinagat, Leyte, Samar, and Siargao Isls (Heaney, 1985).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *luncefordi* (Taylor, 1934); *samaricus* (Thomas, 1897); *surrutilus* (Hollister, 1913).
COMMENTS: Revised by Heaney (1985).

Exilisciurus exilis (Müller, 1838). Tijdschr. Nat. Gesch. Physiol., 5:138.
COMMON NAME: Least Pygmy Squirrel.
TYPE LOCALITY: Indonesia, Kalimantan, Kapuas River Basin, Tanah Laut (see Medway, 1977, and Heaney, 1985).
DISTRIBUTION: Borneo and Banggi Isl.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *retectus* (Thomas, 1910); *sordidus* (Chasen and Kloss, 1928).

Exilisciurus whiteheadi (Thomas, 1887). Ann. Mag. Nat. Hist., ser. 5, 20:127.
COMMON NAME: Tufted Pygmy Squirrel.
TYPE LOCALITY: Malaysia, Sabah, Mt Kinabalu.
DISTRIBUTION: Mountains of Sabah and Sarawak (Malaysia), above 900 m, and adjacent parts of West Kalimantan, Indonesia (Medway, 1977).
STATUS: IUCN – Lower Risk (lc).

Funambulus Lesson, 1835. Illustr. Zool., pl. 43.
TYPE SPECIES: *Sciurus indicus* Lesson, 1835 (= *Sciurus palmarum* Linnaeus, 1776).
SYNONYMS: *Palmista* Gray, 1867; *Prasadsciurus* Moore and Tate, 1965; *Tamiodes* Pocock, 1923.
COMMENTS: Tribe Funambulini according to Moore (1959:170). Reviewed by Moore (1960) and Moore and Tate (1965). Includes *Funambulus* and *Prasadsciurus* as subgenera. Prasad (1957) proposed a separate subfamily for the genus, based on the supposedly unique anatomy of the male reproductive tract. Trends in evolution of karyotypes analyzed by Aswathanarayana (1987). Grouped with African squirrels by Moore (1959). However, recent molecular studies suggest that *Funambulus* is a basal member of the Callosciurinae (Mercer and Roth, 2003), as suggested earlier on the basis of bacular morphology (Pocock, 1923: 239).

Funambulus layardi (Blyth, 1849). J. Asiat. Soc. Bengal, 18:602.
COMMON NAME: Layard's Palm Squirrel.
TYPE LOCALITY: "Upland districts" [Sri Lanka]. Restricted by Thomas (1924*a*:241) to "Ambigamoa Hills . . . Central Province (7° N., 80° 3′E.). . . . "
DISTRIBUTION: S and C Sri Lanka, and mountains of S India.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *signatus* Thomas, 1924; ***dravidianus*** Robinson, 1917.
COMMENTS: Subgenus *Funambulus*. The presence of this species in S India is based on very few specimens.

Funambulus palmarum (Linnaeus, 1766). Syst. Nat., 12th ed., 1:86.
COMMON NAME: Indian Palm Squirrel.
TYPE LOCALITY: "in America, Asia, Africa." Restricted by Wroughton (1905*a*:409) to E coast of Madras, India.
DISTRIBUTION: C and S India, Sri Lanka.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *bellaricus* Wroughton, 1916]; *comorinus* Wroughton, 1905; *gossei* Wroughton and Davidson, 1919; *indicus* (Lesson, 1835) [not Erxleben, 1777]; *penicillatus* (Leach, 1814); ***brodiei*** (Blyth, 1849); *favonicus* Thomas and Wroughton, 1915; *kelaarti* (Layard, in Blyth, 1851); *matugamensis* Lindsay, 1926; *olympius* Thomas and Wroughton, 1915; ***robertsoni*** Wrougton, 1916; *bengalensis* Wroughton, 1916.
COMMENTS: Subgenus *Funambulus*. Distribution largely allopatric with that of *F. pennantii*, but limited area of sympatry in Central Provinces and along W coast of India, south of 16° N lat. (Corbet and Hill, 1992; Moore, 1960).

Funambulus pennantii Wroughton, 1905. J. Bombay Nat. Hist. Soc., 16:411.
COMMON NAME: Northern Palm Squirrel.
TYPE LOCALITY: "Mandvi Taluka of Surat District," Guzerath (= Gudjerat), India.
DISTRIBUTION: SE Iran through Pakistan to Nepal and N and C India. Perhaps adjacent Afghanistan. Introduced to Andaman Isls and vicinity of Perth in Western Australia.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *lutescens* Wroughton, 1916; ***argentescens*** Wroughton, 1905.
COMMENTS: Subgenus *Prasadsciurus* (Moore and Tate, 1965:71). Reviewed by Agrawal and Chakraborty (1979), and Corbet and Hill (1992).

Funambulus sublineatus (Waterhouse, 1838). Proc. Zool. Soc. Lond., 1838:19.
COMMON NAME: Dusky Palm Squirrel.
TYPE LOCALITY: India, Madras, Nilgiri Hills.
DISTRIBUTION: SW India, C Sri Lanka.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *delesserti* (Gervais, 1841); *trilineatus* (Kelaart, 1852); ***obscurus*** (Pelzeln and Kohl, 1886); *kathleenae* Thomas and Wroughton, 1915.
COMMENTS: Subgenus *Funambulus*.

Funambulus tristriatus (Waterhouse, 1837). Mag. Nat. Hist. [Charlesworth's], 1:499.
COMMON NAME: Jungle Palm Squirrel.
TYPE LOCALITY: " . . . the more southern parts of Hindostan." Restricted by Wroughton (1905*a*:411) to Travancore; further restricted by Moore and Tate (1965:89) to Western Ghats, south of 12 deg. N. lat. (India).
DISTRIBUTION: West coast of India, from below 20° N to southern tip.
STATUS: IUCN – Lower Risk (nt).
SYNONYMS: *annandalei* Robinson, 1917; *dussumieri* (Milne-Edwards, 1867); *wroughtoni* Ryley, 1913; ***numarius*** Wroughton, 1916; *thomasi* Wroughton and Davidson, 1919.
COMMENTS: Subgenus *Funambulus*.

Glyphotes Thomas, 1898. Ann. Mag. Nat. Hist., ser. 7, 2:251.
TYPE SPECIES: *Glyphotes simus* Thomas, 1898.
COMMENTS: Tribe Callosciurini according to Moore (1959). Corbet and Hill (1992) placed this genus in *Callosciurus*. Both Payne et al. (1985) and Corbet and Hill (1992) considered *Hessonoglyphotes* Moore (1959), originally described as a subgenus of *Glyphotes*, to be a junior synonym of *Callosciurus*.

Glyphotes simus Thomas, 1898. Ann. Mag. Nat. Hist., ser. 7, 2:251.
COMMON NAME: Sculptor Squirrel.
TYPE LOCALITY: "Mount Kina Balu, N. Bórneo" [Sabah, Malaysia].
DISTRIBUTION: Mountains of Borneo; Sabah and Sarawak (Malaysia), 1000 to 1700 m.
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Reviewed by Hill (1959).

Hyosciurus Archbold and Tate, 1935. Am. Mus. Novit., 801:2.
TYPE SPECIES: *Hyosciurus heinrichi* Tate and Archbold, 1935.
COMMENTS: Tribe Callosciurini according to Moore (1959:174).

Hyosciurus heinrichi Archbold and Tate, 1935. Am. Mus. Novit., 801:2.
COMMON NAME: Montane Long-nosed Squirrel.
TYPE LOCALITY: "Latimodjong Mtns., central Celebes, 2300 meters" [C Sulawesi, Indonesia].
DISTRIBUTION: Restricted to mountains of C Sulawesi (Musser and Dagosto, 1987:44).
STATUS: IUCN – Vulnerable.
COMMENTS: Formerly included *ileile* (Tate and Archbold, 1936:1); see comments therein.

Hyosciurus ileile Tate and Archbold, 1936. Am. Mus. Novit., 846:1.
COMMON NAME: Lowland Long-nosed Squirrel.
TYPE LOCALITY: "Ile-ile, North Celebes, 1700 meters" [N Sulawesi, Indonesia].
DISTRIBUTION: Mountains of Sulawesi.
STATUS: IUCN – Vulnerable.
COMMENTS: Formerly considered a subspecies of *heinrichi* (Tate and Archbold, 1936), but see Musser (1987*a*).

Lariscus Thomas and Wroughton, 1909. Proc. Zool. Soc. Lond., 1909:389.
TYPE SPECIES: *Sciurus insignis* F. Cuvier, 1821.
SYNONYMS: *Laria* Gray, 1867 [not Scopoli, 1763]; *Paralariscus* Ellerman, 1947.
COMMENTS: Tribe Callosciurini according to Moore (1959:173). Includes *Paralariscus*, treated as a genus by Ellerman (1947*b*:259) and Moore (1959:173).

Lariscus hosei (Thomas, 1892). Ann. Mag. Nat. Hist., ser. 6, 10:215.
COMMON NAME: Four-striped Ground Squirrel.
TYPE LOCALITY: "Batu Sang Mount [Mt. Batu Song], Baram River, N. Borneo (5000 feet)" [Baram Dist., Sarawak, Malaysia, 1524 m].
DISTRIBUTION: Mountains of Sarawak and Sabah (Malaysia).
STATUS: IUCN – Vulnerable.
COMMENTS: Sometimes put in the genus *Paralariscus*; see Ellerman (1947*b*:259); but also see Medway (1977:97).

Lariscus insignis (F. Cuvier, 1821). *In* E. Geoffroy St. Hilaire and F. Cuvier, Hist. Nat. Mammifères, Pt. 2, 4(34):2 pp.
COMMON NAME: Three-striped Ground Squirrel.
TYPE LOCALITY: "Sumatra," [Indonesia]. Restricted by Sody (1949*a*:113) to Lampongs, S Sumatra.
DISTRIBUTION: Peninsular Malaysia and Thailand, Sumatra, Java, Borneo, adjacent isls.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***diversus*** (Thomas, 1898); ***javanus*** (Thomas and Wroughton, 1909); *murianus* Sody, 1937; ***peninsulae*** (Miller, 1903); *fornicatus* Robinson, 1917; *meridionalis* Robinson and Kloss, 1911; ***rostratus*** (Miller, 1903); *atchinensis* Sody, 1949; *diversoides* Sody, 1949; *jalorensis* (Bonhote, 1903). **Unassigned**: *castaneus* (Miller, 1900); *saturatus* Chasen, 1935.
COMMENTS: Formerly included *niobe*, and *obscurus*; see Chasen (1940:145-146); but see also Corbet and Hill (1992:300); see comments under *niobe*.

Lariscus niobe (Thomas, 1898) Ann. Mag. Nat. Hist., ser. 7, 2:249.
COMMON NAME: Niobe Ground Squirrel.
TYPE LOCALITY: "Pajo, Sumatra" [Sumatra, Indonesia]. Restricted by Robinson and Kloss (1918*b*:37) to Pajokombo, Padang Highlands, West Sumatra.
DISTRIBUTION: Mountains of Sumatra, and Java (Idjen Mtns).
STATUS: IUCN – Lower Risk (nt).
SYNONYMS: ***vulcanus*** Kloss, 1921.
COMMENTS: Given full specific status by Moore (1959); but see Chasen (1940:145). The subspecies *vulcanus* is restricted to Java.

Lariscus obscurus (Miller, 1903). Smithson. Misc. Coll., 45:23.
COMMON NAME: Mentawai Three-striped Squirrel.
TYPE LOCALITY: Indonesia, Mentawai Isls, "South Pagi Island, Sumatra".
DISTRIBUTION: Siberut, Sipora, N and S Pagai Island (Sumatra, Indonesia).
STATUS: IUCN – Lower Risk (nt).
SYNONYMS: ***auroreus*** Sody, 1949; ***siberu*** Chasen and Kloss, 1928.
COMMENTS: Formerly included in *insignis* (Chasen, 1940) or *niobe* (Chasen and Kloss (1927). Part of the rodent fauna endemic to the Mentawai Archipelago (see comments under *Leopoldamys siporanus*).

Menetes Thomas, 1908. J. Bombay Nat. Hist. Soc., 18:244.
TYPE SPECIES: *Sciurus berdmorei* Blyth, 1849.
COMMENTS: Tribe Callosciurini according to Moore (1959:173). Reviewed by Moore and Tate (1965).

Menetes berdmorei (Blyth, 1849). J. Asiat. Soc. Bengal, 18(30):603.
COMMON NAME: Indochinese Ground Squirrel.
TYPE LOCALITY: "Thougyeen district" [Tenasserim, Burma].
DISTRIBUTION: S Vietnam, Cambodia, S Laos, Thailand, S Yunnan (China) to C Burma.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *amotus* (Miller, 1913); ***consularis*** Thomas, 1914; *koratensis* (Gyldenstolpe, 1917); ***decoratus*** Thomas, 1914; ***moerescens*** Thomas, 1914; ***mouhotei*** (Gray, 1861); ***peninsularis*** Kloss, 1919; *rufescens* Kloss, 1916; *umbrosus* Kloss, 1916; ***pyrrocephalus*** (Milne-Edwards, 1867).
COMMENTS: For taxonomic history, see Moore and Tate (1965:294). Chromosomes described by Nadler and Hoffmann (1970). Corbet and Hill (1992) opined "Although there is considerable geographic variation . . . it is unlikely that discrete subspecies can be recognized."

Nannosciurus Trouessart, 1880. Le Naturaliste, p. 292.
TYPE SPECIES: *Sciurus melanotis* Müller, 1840.
COMMENTS: Tribe Callosciurini according to Moore (1959). Formerly included the species now placed in *Exilisciurus*; see Moore (1958) and Heaney (1985).

Nannosciurus melanotis (Müller, 1840). *In* Temminck, Verh. Nat. Gesch. Nederland. Overz. Bezitt., Zool., Zoogd. Indisch. Archipel., p. 35 [1840], see comments.
COMMON NAME: Black-eared Squirrel.
TYPE LOCALITY: "Borneo". Restricted to Java by Lyon (1906) and by lectotype designation of Heaney (1985).
DISTRIBUTION: Sumatra, Java, Borneo, adjacent small islands.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *soricinus* (Waterhouse, 1838) [*nomen nudum*]; ***bancanus*** Lyon, 1906; ***borneanus*** Lyon, 1906; *pallidus* Chasen and Kloss, 1928; ***pulcher*** Miller, 1902; *sumatranus* Lyon, 1906.
COMMENTS: This species was further described by Müller and Schlegel, *in* Temminck, Verh. Nat. Gesch. Nederland. Overz. Bezitt., Zool., Mammalia, pp. 87, 88, 98 [1844], pl. 14, fig 4, 5 [1841] (from which this species is often cited). Reviewed by Heaney (1985).

Prosciurillus Ellerman, 1947. Proc. Zool. Soc. Lond., 117:259.
TYPE SPECIES: *Sciurus murinus* Müller and Schlegel, 1844.
COMMENTS: Tribe Callosciurini according to Moore (1959); closely related to *Sundasciurus* (see Heaney, 1985). Reviewed by Moore (1958), who transferred *leucomus* from *Callosciurus* to this genus.

Prosciurillus abstrusus Moore, 1958. Am. Mus. Novit., 1890:3.
COMMON NAME: Secretive Dwarf Squirrel.
TYPE LOCALITY: " . . . 1500 meters elevation, Gunong Tanke Salokko, 'Mengkoka Geb.' [Mekongqa Gebirgte], in the southeastern peninsula of Celebes, latitude 3° 40′ S., longitude 121° 13′ E.," [Sulawesi, Indonesia].

DISTRIBUTION: Known only from the type locality in SE Sulawesi.
STATUS: IUCN – Vulnerable.
SYNONYMS: *obscurus* Moore, 1959.
COMMENTS: Includes *obscurus*, probably a *nomen nudum*; see Moore (1959:203).

Prosciurillus leucomus (Müller and Schlegel, 1844). *In* Temminck, Verh. Nat. Gesch. Nederland. Overz. Bezitt., Zool., Mammalia, p. 87 [1844].
COMMON NAME: Whitish Dwarf Squirrel.
TYPE LOCALITY: "Celebes." Restricted by Meyer (1898) to Minahassa, NE Celebes [Sulawesi, Indonesia].
DISTRIBUTION: Sulawesi; and neighboring islands, Buton and E Kabaena.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***hirsutus*** (Hayman, 1946); *sarasinorum* (Meyer, 1898); ***occidentalis*** (Meyer, 1898); ***tonkeanus*** (Meyer, 1896); *elbertae* (Schwarz, 1911); *mowewensis* (Roux, 1910); *topapuensis* (Roux, 1910).
COMMENTS: Formerly included in *Callosciurus*; see Moore (1958).

Prosciurillus murinus (Müller and Schlegel, 1844). *In* Temminck, Verh. Nat. Gesch. Nederland. Overz. Bezitt., Zool., Mammalia, p. 87 [1844].
COMMON NAME: Celebes Dwarf Squirrel.
TYPE LOCALITY: "Celebes." Restricted by Sody (1949*a*) to NE Celebes [Sulawesi, Indonesia].
DISTRIBUTION: NE and C Sulawesi.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *evidens* (Miller and Hollister, 1921); ***griseus*** (Sody, 1949); ***necopinus*** (Miller and Hollister, 1921).
COMMENTS: For authority and date, see comments under *Rubrisciurus rubriventer*.

Prosciurillus rosenbergii (Jentink 1879). Notes Leyden Mus. 1:37.
COMMON NAME: Sanghir Squirrel
TYPE LOCALITY: "Sangi-islands, Siao".
DISTRIBUTION: Sanghir Island
SYNONYMS: *tingahi* (Meyer, 1896)
COMMENTS: Full species status accorded by Feiler (1990) and follwed by Flannery (1995*b*).

Prosciurillus weberi (Jentink, 1890). Weber's Zool. Ergebn. 1:115.
COMMON NAME: Weber's Dwarf Squirrel.
TYPE LOCALITY: Indonesia, C Celebes, Luwu (near Palopo).
DISTRIBUTION: C Sulawesi (Indonesia).
STATUS: IUCN – Lower Risk (nt).
COMMENTS: Elevated to specific status by Corbet and Hill (1992).

Rhinosciurus Blyth, 1856. J. Asiat. Soc. Bengal, 14:477.
TYPE SPECIES: *Sciurus laticaudatus* Müller, 1840. *Rhinosciurus tupaioides* Blyth (=*Sciurus laticaudatus* Müller, 1840).
COMMENTS: Tribe Callosciurini according to Moore (1959:173).

Rhinosciurus laticaudatus (Müller, 1840). *In* Temminck, Verh. Nat. Gesch. Nederland. Overz. Bezitt., Zool., Zoögd. Indisch. Archipel., p. 34 [1840], see comments.
COMMON NAME: Shrew-faced Squirrel.
TYPE LOCALITY: "Pontianak" [W Kalimantan, Indonesia].
DISTRIBUTION: Malay Peninsula, Sumatra, Borneo, and small adjacent islands.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *tupaioides* Gray, 1843 [*nomen nudum*]; *tupaioides* Blyth, 1856; ***alacris*** (Thomas, 1908); *leo* Thomas and Wroughton, 1909; *peracer* Thomas and Wroughton, 1909; *robinsoni* Thomas, 1908; ***saturatus*** Robinson and Kloss, 1919. **Unassigned**: *incultus* Lyon, 1916; *rhionis* Thomas and Wroughton, 1909.
COMMENTS: This species was further described by Müller and Schlegel, *in* Temminck, Verh. Nat. Gesch. Nederland. Overz. Bezitt., Zool., Mammalia, pp. 87, 100 [1844], pl. 15 [1841] (from which this species is often cited).

Rubrisciurus Ellerman, 1954. *In* Laurie and Hill, Land Mammals of New Guinea, Celebes, and Adjacent Islands, p. 94.
TYPE SPECIES: *Sciurus rubriventer* Müller and Schlegel, 1844.
COMMENTS: Tribe Callosciurini according to Moore (1959:174). Sometimes considered a subgenus of *Callosciurus*; see Laurie and Hill (1954:93) and Corbet and Hill (1992); but see also Moore (1959) and McLaughlin (1984:273), who considered it a distinct genus.

Rubrisciurus rubriventer (Müller and Schlegel, 1844). *In* Temminck, Verh. Nat. Gesch. Nederland. Overz. Bezitt., Zool., Mammalia, p. 86 [1844].
COMMON NAME: Sulawesi Giant Squirrel.
TYPE LOCALITY: "Celebes" [Minahassa, NE Sulawesi, Indonesia].
DISTRIBUTION: N, C, and SE Sulawesi.
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Ellerman (1940:375) dated the species description as 1839, and ascribed it to Forsten, who was listed by Müller and Schlegel as the author, but Forsten was the collector, not the author.

Sundasciurus Moore, 1958. Am. Mus. Novit., 1914:2.
TYPE SPECIES: *Sciurus lowii* Thomas, 1892.
SYNONYMS: *Aletesciurus* Moore, 1958.
COMMENTS: Tribe Callosciurini according to Moore (1959:173). Reviewed in part by Heaney (1979). Includes *Aletesciurus* and *Sundasciurus* as subgenera (Moore, 1958:3). Ellerman (1940) placed *Sundasciurus* in *Callosciurus*, and Chasen (1940), in *Sciurus*. Corbet and Hill (1992) recognized seven species.

Sundasciurus brookei (Thomas, 1892). Ann. Mag. Nat. Hist., ser. 6, 9:253.
COMMON NAME: Brooke's Squirrel.
TYPE LOCALITY: "Mount Dulit, N. Borneo" [Sarawak, Malaysia].
DISTRIBUTION: Mountains of Borneo, from 600 to 1500 m.
STATUS: IUCN – Lower Risk (nt).
COMMENTS: Subgenus *Sundasciurus*. Status discussed by Corbet and Hill (1992).

Sundasciurus davensis (Sanborn, 1952). Fieldiana Zool., 33:117.
COMMON NAME: Davao Squirrel.
TYPE LOCALITY: "Madaum, 25 feet [8 m] altitude, Tagum Municipality, Davao Province, Mindanao Island, Philippines Islands."
DISTRIBUTION: Known only from the type locality.
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Aletesciurus*. May be conspecific with *mindanensis*, *philippinensis*, and *samarensis* (Heaney et al., 1987; Corbet and Hill, 1992).

Sundasciurus fraterculus (Thomas, 1895). Ann. Mus. Civ. Storia Nat. Genova, Ser. 2a, 14:669.
COMMON NAME: Fraternal Squirrel.
TYPE LOCALITY: Indonesia, Mentawai Isls, Sipora Isl, "Sereinu".
DISTRIBUTION: Sipora Isl, Siberut Isl, and S Pagai Isl (Sumatra, Indonesia).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *pumilus* (Miller, 1903); *siberu* (Chasen and Kloss, 1928).
COMMENTS: Subgenus *Sundasciurus* formerly included in *lowii* (Chasen, 1940:144); but see Moore (1959). Geographic variation reviewed by Jenkins and Hill (1982). Part of the rodent fauna endemic to the Mentawai Archipelago (see comments under *Leopoldamys siporanus*).

Sundasciurus hippurus (I. Geoffroy, 1831). *In* Bélanger (ed.), Voy. Indes Orient., Mamm., 3(Zoologie):149.
COMMON NAME: Horse-tailed Squirrel.
TYPE LOCALITY: "Java." Restricted by Robinson and Kloss (1918*a*:226) to Malacca, Malaysia.
DISTRIBUTION: S Vietnam, S to Malay Peninsula, Sumatra, and Borneo.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *rufogaster* (Gray, 1842); ***borneensis*** (Gray, 1867); *grayi* (Bonhote, 1901); *hippurellus* (Lyon, 1907); ***pryeri*** (Thomas, 1892); *inquinatus* (Thomas, 1908); ***hippurosus*** (Lyon, 1907); ***ornatus*** Dao and Cao, 1990.

COMMENTS: Subgenus *Aletesciurus*. Corbet and Hill (1992: 297) recognized four subspecies on Borneo, including *hippurellus* and *inquinatus*.

Sundasciurus hoogstraali (Sanborn, 1952). Fieldiana Zool., 33:115.
COMMON NAME: Busuanga Squirrel.
TYPE LOCALITY: "Dimaniang, Busuanga Island, Calamianes group, Philippine Islands."
DISTRIBUTION: Busuanga Isl (Philippines).
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Aletesciurus*. Member of the *steerii* group; see comment under *steerii*. Placed in *moellendorffi* by Corbet and Hill (1991:140), without comment.

Sundasciurus jentinki (Thomas, 1887). Ann. Mag. Nat. Hist., ser. 5, 20:128.
COMMON NAME: Jentinck's Squirrel.
TYPE LOCALITY: "Mount Kina-Balu," [Sabah, Malaysia].
DISTRIBUTION: Mountains of N Borneo.
STATUS: IUCN – Vulnerable.
SYNONYMS: *subsignanus* (Chasen, 1937).
COMMENTS: Subgenus *Sundasciurus*. Chromosomes described by Harada and Kobayashi (1980).

Sundasciurus juvencus (Thomas, 1908). Ann. Mag. Nat. Hist., ser. 8, 2:498.
COMMON NAME: Northern Palawan Tree Squirrel.
TYPE LOCALITY: "the islands of Palawan. . . . Puerto Princesa [Philippines]".
DISTRIBUTION: N Palawan Isl.
STATUS: IUCN – Endangered.
COMMENTS: Subgenus *Aletesciurus*. Member of the *steerii* group; see comment under *steerii*.

Sundasciurus lowii (Thomas, 1892). Ann. Mag. Nat. Hist., ser. 6, 2:253.
COMMON NAME: Low's squirrel.
TYPE LOCALITY: "Lumbidan, on the mainland opposite Labuan" [Sarawak, Malaysia].
DISTRIBUTION: Malay Peninsula, Sumatra, Borneo, and adjacent small islands.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***balae*** (Miller, 1903); *piniensis* (Miller, 1903); ***bangueyae*** (Thomas, 1910); ***humilis*** (Miller, 1913); *vanakeni* (Robinson and Kloss, 1916); ***natunensis*** (Thomas, 1895); *lingungensis* (Miller, 1901); ***robinsoni*** (Bonhote, 1903); *alacris* (Thomas, 1908); ***seimundi*** (Thomas and Wroughton, 1909).
COMMENTS: Subgenus *Sundasciurus*. Formerly included *fraterculus* and *pumilus* (Chasen, 1940:144).

Sundasciurus mindanensis (Steere, 1890). List of the Birds and Mammals collected by the Steere Expedition to the Philippines. Ann Arbor, Mich., p. 29.
COMMON NAME: Mindanao Squirrel.
TYPE LOCALITY: "Mindanao," [Philippines].
DISTRIBUTION: Mindanao and adjacent small islands (Philippines).
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Aletesciurus*. May be conspecific with *davensis*, *philippinensis*, and *samarensis* (Heaney et al., 1987; Corbet and Hill, 1992).

Sundasciurus moellendorffi (Matschie, 1898). Sitzb. Gesell. Naturf. Fr., Berlin, 5:41.
COMMON NAME: Culion Tree Squirrel.
TYPE LOCALITY: "Calamianes. . . . von Culion" [Calamian Isls, Philippines].
DISTRIBUTION: Calamian Isls other than Busuanga.
STATUS: IUCN – Lower Risk (nt).
SYNONYMS: *albicauda* (Matschie, 1898).
COMMENTS: Subgenus *Aletesciurus*. The form *albicauda* was listed as a distinct species by Corbet and Hill (1980:132) without comment, but included in *mollendorffi* by Corbet and Hill (1986:149), as was *hoogstraali* (in Corbet and Hill, 1991:140) without comment. Spelling of name changed in accordance with Art. 32.5.2.1 of the International Code of Zoological Nomenclature (International Commission on Zoological Nomenclature, 1999).

Sundasciurus philippinensis (Waterhouse, 1839). Proc. Zool. Soc. Lond., 1839:117.
COMMON NAME: Philippine Tree Squirrel.
TYPE LOCALITY: "Mindanado" [Mindanao Isl, Philippines].
DISTRIBUTION: S and W Mindanao, and Basilan (Philippines).
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Aletesciurus*. May be conspecific with *davensis*, *mindanensis*, and *samarensis* (Heaney et al., 1987; Corbet and Hill, 1992).

Sundasciurus rabori Heaney, 1979. Proc. Biol. Soc. Wash., 92:281.
COMMON NAME: Palawan Montane Squirrel.
TYPE LOCALITY: "Magtaguimbong, Mt. Mantalingajan, Palawan Isl, Republic of the Philippines, Island between 3600 and 4350 ft [1097 and 1326 m] elevation . . . approximately 8° 48′N, 117° 40′E."
DISTRIBUTION: Above 800 m in mountains on Palawan (Philippines).
STATUS: IUCN – Vulnerable.
SYNONYMS: *cagsi* (Meyer, 1890).
COMMENTS: Subgenus *Aletesciurus* (see Heaney, 1979).

Sundasciurus samarensis (Steere, 1890). List of the Birds and Mammals Collected by the Steere Expedition to the Philippines. Ann Arbor, Mich., p. 30.
COMMON NAME: Samar Squirrel.
TYPE LOCALITY: "Samar and Leyte," [Philippines].
DISTRIBUTION: Samar and Leyte Isls (Philippines).
STATUS: IUCN – Vulnerable.
COMMENTS: Subgenus *Aletesciurus*. May be conspecific with *davensis*, *mindanensis*, and *philippinensis* (Corbet and Hill, 1992; Heaney et al., 1987).

Sundasciurus steerii (Günther, 1877). Proc. Zool. Soc. Lond., 1876:735 [1877].
COMMON NAME: Southern Palawan Tree Squirrel.
TYPE LOCALITY: "Balabac" [Isl, Philippines].
DISTRIBUTION: Balabac and S Palawan Isls in lowlands (Philippines).
STATUS: IUCN – Lower Risk (nt).
COMMENTS: Subgenus *Aletesciurus*. Member of the *steerii* group, which contains 1-3 species; see Heaney (1979).

Sundasciurus tenuis (Horsfield, 1824). Zool. Res. Java, 1824:153.
COMMON NAME: Slender Squirrel.
TYPE LOCALITY: Singapore.
DISTRIBUTION: Malay Peninsula, Sumatra, Borneo and adjacent small islands.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *gunong* (Robinson and Kloss, 1914); *sordidus* (Kloss, 1911); *surdus* (Miller, 1900); *tahan* (Bonhote, 1908); ***bancarus*** (Miller, 1903); ***modestus*** (Müller, 1840); *altitudinus* (Robinson and Kloss, 1916); ***parvus*** (Miller, 1901); ***procerus*** (Miller, 1901).
Unassigned: *batus* (Lyon, 1916); *mansalaris* (Miller, 1903); *sianticus* (Chasen and Kloss, 1928); *tiomanicus* (Robinson, 1917).
COMMENTS: Subgenus *Sundasciurus*. The name *pumilus* (see synonym in *fraterculus*) was previously assigned to *tenuis* (Robinson and Kloss, 1918*a*:229); but see Chasen (1940:144).

Tamiops J. A. Allen, 1906. Bull. Am. Mus. Nat. Hist., 22: 475.
TYPE SPECIES: *Tamiops macclellandi hainanus* J. A. Allen, 1906 (= *T. maritimus hainanus*).
COMMENTS: Tribe Callosciurini according to Moore (1959:173). Revised by Moore and Tate (1965).

Tamiops mcclellandii (Horsfield, 1840). Proc. Zool. Soc. Lond., 1839:152 [1840].
COMMON NAME: Himalayan Striped Squirrel.
TYPE LOCALITY: "Bengal as well as Assam" [India]. Restricted by Ellerman (1940:354) to Assam.
DISTRIBUTION: E Nepal through Assam and Mizoram (India); N and C Burma, and Yunnan (China), and south through Thailand, Vietnam, Laos, and Cambodia to the S Malay Peninsula.

STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *manipurensis* (Bonhote, 1900); *pembertoni* (Blyth, 1842); ***barbei*** (Blyth, 1847); ***collinus*** Moore, 1958; ***inconstans*** Thomas, 1920; ***kongensis*** (Bonhote, 1901); ***leucotis*** (Temminck, 1853); *novemlineatus* Miller, 1903.

Tamiops maritimus (Bonhote, 1900). Ann. Mag. Nat. Hist., ser. 7, 5:51.
COMMON NAME: Maritime Striped Squirrel.
TYPE LOCALITY: "Foochow, province of Fokien" [Fukien, China].
DISTRIBUTION: Hubei, Anhui and Zhejiang, south through Guangxi and Guangdong (China), to S Vietnam and Laos; Hainan and Taiwan (China).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *formosanus* (Bonhote, 1900); *sauteri* J. A. Allen, 1911; ***hainanus*** J. A. Allen, 1906; *laotum* Robinson and Kloss, 1922; *riudoni* J. A. Allen, 1906; ***moi*** Robinson and Kloss, 1922; ***monticolus*** (Bonhote, 1900).

Tamiops rodolphii (Milne-Edwards, 1867). Rev. Mag. Zool. Paris, ser. 2, 19:227.
COMMON NAME: Cambodian Striped Squirrel.
TYPE LOCALITY: "Cochin China near Saigon," [Vietnam].
DISTRIBUTION: E Thailand, Cambodia, S Laos, S Vietnam.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *dolphoides* Kloss, 1921; *holti* (Ellerman, 1940) [to replace *lylei*, preoccupied]; *liantis* Kloss, 1919; *lylei* Thomas, 1920; ***elbeli*** Moore, 1958.

Tamiops swinhoei (Milne-Edwards, 1874). Rech. Hist. Nat. Mammifères, 1:308.
COMMON NAME: Swinhoe's Striped Squirrel.
TYPE LOCALITY: "Moupin [Muping]," [= Baoxing, Sichuan, China]. Restricted by G. M. Allen (1940:673) to "Hongchantin . . . about 6000 feet [1829 m]."
DISTRIBUTION: Extreme SW Gansu south through Tibet, Sichuan and Yunnan (China) to N Burma and N Vietnam; isolated population in Hebei (China).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *clarkei* Thomas, 1920; *forresti* Thomas, 1920; ***olivaceus*** Osgood, 1932; ***spencei*** Thomas, 1921; *chingpingensis* Lu and Qyan, 1965; *russeolus* Jacobi, 1923; ***vestitus*** Miller, 1915.
COMMENTS: The form *forresti* was originally named as a subspecies of *T. maritimus*, but assigned to *swinhoei* by Moore and Tate (1965:248).

Subfamily Xerinae Osborn, 1910. The Age of Mammals: 535.

Tribe Xerini Osborn, 1910. The Age of Mammals: 535.

Atlantoxerus Forsyth Major, 1893. Proc. Zool. Soc. Lond., 1893:189.
TYPE SPECIES: *Sciurus getulus* Linnaeus, 1758.
COMMENTS: Placed in Subfamily Xerinae by Gromov et al. (1965:70), but in tribe Xerini by Moore (1959). *Atlantoxerus* was originally a subgenus of *Xerus*, and later raised to full generic rank by Thomas (1909*a*). Closely related to *Xerus* (Corbet, 1978*c*:79).

Atlantoxerus getulus (Linnaeus, 1758). Syst. Nat., 10th ed., 1:64.
COMMON NAME: Barbary Ground Squirrel.
TYPE LOCALITY: "in Africa." Restricted by Thomas (1911*a*:149) to "Barbary;" and by Cabrera (1932:217) to Agadir, Morocco.
DISTRIBUTION: Grand and Middle Atlas south to Agadir and N edge of Sahara (Morocco), NW Algeria.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *praetextus* Wagner, 1842; *trivittatus* (Gray, 1842); see Corbet (1978*c*:79).

Spermophilopsis Blasius, 1884. Tageblatt. Versamml. Deutsch. Naturf. Magdeburg, 57:325.
TYPE SPECIES: *Arctomys leptodactylus* Lichtenstein, 1823.
COMMENTS: Placed in Subfamily Xerinae by Gromov et al. (1965:70), but in tribe Xerini by Moore (1959).

Spermophilopsis leptodactylus (Lichtenstein, 1823). Naturh. Abh. Eversmann's Reise, p. 119.
COMMON NAME: Long-clawed Ground Squirrel.
TYPE LOCALITY: "Vicinity of Kara Ata, 140 km northwest of the Old Town of Bukhara" [Uzbekistan] (Ognev, 1966:394).
DISTRIBUTION: SE Kazakhstan, Turkmenistan, Uzbekistan, W Tajikistan, NE Iran, NW Afghanistan.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *schumakovi* (Satunin, 1908); *turcomanus* (Eichwald, 1834); ***bactrianus*** (Scully, 1888); ***heptopotamicus*** Heptner and Ismagilov, 1952.
COMMENTS: Related to African xerine squirrels (*Atlantoxerus* and *Xerus*) (Nadler and Hoffmann, 1974; Nadler et al., 1969).

Xerus Hemprich and Ehrenberg, 1833. Symb. Phys. Mamm., vol. 1, sig. Ee, pl. 9.
TYPE SPECIES: *Sciurus* (*Xerus*) *brachyotus* Hemprich and Ehrenberg, 1832 (= *Sciurus rutilus* Cretzchmar, 1828).
SYNONYMS: *Euxerus* Thomas, 1909; *Geosciurus* Smith, 1834.
COMMENTS: Tribe Xerini according to Simpson (1945:79). Includes *Euxerus*, *Geosciurus*, and *Xerus* as subgenera (Amtmann, 1975; Ellerman, 1940; Moore, 1959).

Xerus erythropus (E. Geoffroy, 1803). *In* Cat. Mamm. Mus. Hist. Nat., Paris, p. 178.
COMMON NAME: Striped Ground Squirrel.
TYPE LOCALITY: Senegal (neotype). Origin of original type unknown. "Inconnue."
DISTRIBUTION: SE Morocco, S Mauritania, Senegal, Gambia, Guinea Bissau, Guinea, Sierra Leone, Côte d'Ivoire, S Mali, Burkina Faso, Ghana, Togo, Benin, SE Niger, Nigeria, Cameroon, NE Republic of Congo, SE Chad, NE Central African Republic, Sudan, Dem. Rep. Congo, NW Uganda, Rwanda, W Ethiopia, W Kenya, N Tanzania.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *agadius* (Thomas and Hinton, 1921); *albovittatus* (Desmarest, 1817); *lessonii* (Fitzinger, 1867) [new name for *marabutus* Lesson]; *maestus* (Thomas, 1910); *marabutus* (Lesson, 1838) [preoccupied]; *prestigiator* (Lesson, 1838); ***chadensis*** (Thomas, 1905); ***lacustris*** (Thomas, 1905); ***leucoumbrinus*** (Rüppell, 1835); ***limitaneus*** (Thomas and Hinton, 1923); ***microdon*** Thomas, 1905; *fulvior* (Thomas, 1905).
COMMENTS: Placed in *Euxerus* which is considered a subgenus of *Xerus* by Ellerman (1940), Moore (1959), and Amtmann (1975). The spelling *erythopus* was used by E. Geoffroy, 1803; Shinz, 1845, used the spelling *erythropus*. Opinion 945 of the International Commission on Zoological Nomenclature (1971*b*) ruled that *erythopus* Geoffroy, 1803 be changed to *erythropus* as an incorrect original spelling; the proper latin root is "erythro", and in the last 100 years nearly all authors have used the spelling *erythropus*. In the interest of orthographic stability we advocate that the specific name be spelled *erythropus*. It is not desirable to perpetuate the lapsus in spelling by early workers.

Xerus inauris (Zimmermann, 1780). Geogr. Gesch. Mensch. Vierf. Thiere, 2:344.
COMMON NAME: South African Ground Squirrel.
TYPE LOCALITY: South Africa, Kaffirland, 100 mi. (160 km) N of Cape of Good Hope. "Bewohnt die Cafferen, über hundert Meilen nordwärts des Vorgebürges der guten Hofnung . . . ".
DISTRIBUTION: S Angola, Namibia, Botswana, W Zimbabwe, South Africa.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *africanus* (Shaw, 1801); *capensis* (Kerr, 1792); *dschinshicus* (Gmelin, 1788); *ginginianus* (Shaw, 1801); *levaillantii* (Kuhl, 1820); *namaquensis* (Lichtenstein, 1793); *setosus* (Smuts, 1832).
COMMENTS: Subgenus *Geosciurus*. Distinction from *X. princeps* supported by minor chromosomal differences reported by Robinson et al. (1986).

Xerus princeps (Thomas, 1929). Proc. Zool. Soc. Lond., 1929:106.
COMMON NAME: Damara Ground Squirrel.
TYPE LOCALITY: N Namibia, C Koakoveld, Otjitundua.
DISTRIBUTION: W Namibia, S Angola, restricted to the Kaokoland escarpment of Namibia and Angola as far north as 14°10′S 16°0′E.

STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Geosciurus*. Distinction from *X. inauris* supported by minor chromosomal differences reported by Robinson et al. (1986).

Xerus rutilus (Cretzschmar, 1828). *In* Rüppell, Atlas Reise Nordl. Afr., Zool. Säugeth., p. 59.
COMMON NAME: Unstriped Ground Squirrel.
TYPE LOCALITY: Ethiopia, eastern slope of Abyssynia. "Der östliche Abhang Abyssiniens, wo es häufig vorkommmt." Probably Massawa, according to Mertens (1925:26) " . . . wahrsheinlich Massaua".
DISTRIBUTION: SE Sudan, E and S Ethiopia, Djibouti, Eritrea, Somalia, Kenya, NE Uganda, NE Tanzania.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *abessinicus* (Gmelin, 1788); *brachyotis* (Hemprich and Ehrenberg, 1833); *fuscus* (Huet, 1880); ***dabagala*** Heuglin, 1861; ***dorsalis*** Dollman, 1911; ***intensus*** Thomas, 1904; ***massaicus*** Toschi, 1945; ***rufifrons*** Dollman, 1911; ***saturatus*** (Neumann, 1900); ***stephanicus*** Thomas, 1906.
COMMENTS: Subgenus *Xerus*. Chromosomes described by Nadler and Hoffmann (1974). Reviewed by O'Shea (1991, Mammalian Species, 370).

Tribe Protoxerini Moore, 1959. Bull. Am. Mus. Nat. Hist. 118, p. 168.

Epixerus Thomas, 1909. Ann. Mag. Nat. Hist., ser. 8, 3:472.
TYPE SPECIES: *Sciurus wilsoni* Du Chaillu, 1860 (=*Sciurus ebii* Temminck, 1853).
COMMENTS: Tribe Protoxerini (Moore, 1959).

Epixerus ebii (Temminck, 1853). Esquisses Zool. sur la Côte de Guine, p. 129.
COMMON NAME: Palm Squirrel.
TYPE LOCALITY: Ghana. " . . . les grandes forêts de la Guiné, et se trouve dans les mêmes localités que l'espèce précédente, [. . . les confins du pays des Fantes . . .] mais parait être moins abondante dans les parties boisées de Dabocrom."
DISTRIBUTION: Sierra Leone, Liberia, Côte d'Ivoire, Ghana, Cameroon, Rio Muni, Gabon.
STATUS: CITES – Appendix III (Ghana); IUCN – Lower Risk (nt) as *E. ebii* and as *E. wilsoni*.
SYNONYMS: ***jonesi*** Hayman, 1954; ***wilsoni*** (Du Chaillu, 1860); *mayumbicus* Verheyen, 1959.
COMMENTS: *E. ebii* and *E. wilsoni* were formerly considered distinct species by Perret and Aellen (1956), Verheyen (1959), and Rosevear (1969), but Kuhn (1964) revised the genus and concluded that they are conspecific.

Funisciurus Trouessart, 1880. Le Naturaliste, 2(37):293.
TYPE SPECIES: *Sciurus isabella* Gray, 1862.
COMMENTS: Tribe Funambulini according to Moore (1959). Raised to full generic rank by Thomas (1897*b*). This treatment follows Amtmann (1975), and Kingdon (1997). Recent molecular work suggests that *Funisciurus* is not closely related to *Funambulus* (Mercer and Roth, 2003). Instead, it should be considered a member of the Tribe Protoxerini, according to Steppan et al. (2004).

Funisciurus anerythrus (Thomas, 1890). Proc. Zool. Soc. Lond., 1890:447.
COMMON NAME: Thomas's Rope Squirrel.
TYPE LOCALITY: Uganda, "Buguera", S of Lake Albert.
DISTRIBUTION: Nigeria, Cameroon, Gabon, Central African Republic, NE Dem. Rep. Congo, Uganda, SW Dem. Rep. Congo and N Shaba Prov. (Dem. Rep. Congo).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *niapu* J. A. Allen, 1922; *ochrogaster* Cabrera and Ruxton, 1926; ***bandarum*** Thomas, 1915; ***mystax*** de Winton, 1898; ***raptorum*** Thomas, 1903.

Funisciurus bayonii (Bocage, 1890). J. Sci. Math. Phys. Nat. Lisboa, ser. 2, 2:3.
COMMON NAME: Lunda Rope Squirrel.
TYPE LOCALITY: N Angola, " . . . du Duque de Bragança . . . "
DISTRIBUTION: NE Angola, SW Dem. Rep. Congo.
STATUS: IUCN – Lower Risk (lc).

Funisciurus carruthersi Thomas, 1906. Ann. Mag. Nat. Hist., ser. 7, 18:140.
COMMON NAME: Carruther's Mountain Squirrel.
TYPE LOCALITY: Uganda, "Ruwenzori East, 6500' (1900 m)."
DISTRIBUTION: Ruwenzori (S Uganda), Rwanda, Burundi.
STATUS: IUCN – Vulnerable.
SYNONYMS: ***birungensis*** Gyldenstolpe, 1927; ***chrysippus*** Thomas, 1923; ***tanganyikae*** Thomas, 1909.

Funisciurus congicus (Kuhl, 1820). Beitr. Zool. Vergl. Anat. Abt., 2:66.
COMMON NAME: Congo Rope Squirrel.
TYPE LOCALITY: "Congo". No specific locale given, probably Angola (Hill and Carter, 1941:71).
DISTRIBUTION: Dem. Rep. Congo, Angola, Namibia.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *damarensis* (Roberts, 1938); *flavinus* Thomas, 1904; *interior* Thomas, 1916; *oenone* Thomas, 1926; *olivellus* Thomas, 1904; *poolii* (Jentink, 1906); *praetextus* Wagner, 1843.

Funisciurus isabella (Gray, 1862). Proc. Zool. Soc. Lond., 1862:180.
COMMON NAME: Lady Burton's Rope Squirrel.
TYPE LOCALITY: Cameroon, " . . . from the Camaroon Mountains, 7000 feet (2100 m) above the level of the sea . . . "
DISTRIBUTION: Cameroon, Equatorial Guinea, Gabon, Central African Republic, Republic of Congo.
STATUS: IUCN – Lower Risk (nt).
SYNONYMS: *duchaillui* Sanborn, 1953; ***dubosti*** Eisentraut, 1969.

Funisciurus lemniscatus (Le Conte, 1857). Proc. Acad. Nat. Sci. Philadelphia, p. 11.
COMMON NAME: Ribboned Rope Squirrel.
TYPE LOCALITY: Equatorial Guinea, Rio Muni. " . . . from Western Africa."
DISTRIBUTION: S of Sanaga River (Cameroon), Equatorial Guinea, Gabon, Central African Republic, Dem. Rep. Congo.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *sharpei* (Gray, 1873); ***mayumbicus*** Kershaw, 1923.

Funisciurus leucogenys (Waterhouse, 1842). Ann. Mag. Nat. Hist., [ser. 1], 10: 202.
COMMON NAME: Red-cheeked Rope Squirrel.
TYPE LOCALITY: Equatorial Guinea, Bioko " . . . brought from Fernando Po".
DISTRIBUTION: Ghana, Togo, Benin, Nigeria, Cameroon, Central African Republic, Rio Muni, Bioko.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *erythrogenys* (Waterhouse, 1843); ***auriculatus*** (Matschie, 1891); *beatus* (Thomas, 1910); *boydi* (Thomas, 1910); ***oliviae*** (Dollman, 1911).
COMMENTS: Waterhouse (1842[1843]) renamed this species *erythrogenys*, "red-cheeked" in an attempt to replace the inappropriate name *leucogenys*, "white-cheeked". This is an unjustified emendation.

Funisciurus pyrropus (F. Cuvier, 1833). *In* E. Geoffroy and F. Cuvier, Hist. Nat. Mammifères, vii, No. 66, "Ecureuil aux pieds roux," 2 unno. pp and pl. [1833]; Tab 4:240 [1842].
COMMON NAME: Fire-footed Rope Squirrel.
TYPE LOCALITY: Gabon. " . . . et elle venoit de l'île Fernandopô, dans le gulfe de Guinée . . . "
DISTRIBUTION: Gambia, S Senegal, Guinea Bissau, W Guinea, Sierra Leone, Liberia, S Côte d'Ivoire, SW Ghana, Nigeria, W Cameroon, Rio Muni (Equatorial Guinea), W Republic of Congo, Uganda, Rwanda, Burundi, Dem. Rep. Congo, NW Angola.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *erythrops* (Gray, 1867); *rubripes* (Du Chaillu, 1860); ***akka*** de Winton, 1895; *emini* (de Winton, 1895) [not Stuhlman, 1894]; *victoriae* G. M. Allen and Loveridge, 1942; *wintoni* Neumann, 1900; ***leonis*** Thomas, 1905; ***leucostigma*** (Temminck, 1853); ***mandingo*** Thomas, 1903; ***nigrensis*** Thomas, 1909; ***niveatus*** Thomas, 1923; ***pembertoni*** Thomas, 1904; ***talboti*** Thomas, 1909.
COMMENTS: Cuvier wrote, "Je donnerai à cet Écuriel le nom de *Pyrropus*, á cause de la couleur

rousse de ses pieds." Schinz (1845) spelled the species name *pyrrhopus* with no mention of the previous spelling. This constitutes an unjustified emendation. Not found on Bioko, Equatorial Guinea (= "Fernandopô", see type locality), and since the animal was a pet, it probably was captured on the mainland (Thomas, 1890:447).

Funisciurus substriatus de Winton, 1899. Ann. Mag. Nat. Hist., ser. 7, 4:357.
COMMON NAME: Kintampo Rope Squirrel.
TYPE LOCALITY: Ghana. " . . . near Kintampo, Gold Coast hinterland, 800 feet (240 m)."
DISTRIBUTION: S Ghana, Togo, Benin, Burkina.
STATUS: IUCN – Lower Risk (lc).

Heliosciurus Trouessart, 1880. Le Naturaliste, 2nd year, 1:292.
TYPE SPECIES: *Sciurus gambianus* Ogilby, 1835 as designated by Opinion 464 of the International Commission on Zoological Nomenclature (1957*d*) in which *Sciurus annulatus* Desmarest, 1822 was suppressed.
COMMENTS: Tribe Protoxerini (Moore, 1959). Reviewed in part by Grubb (1982*b*).

Heliosciurus gambianus (Ogilby, 1835). Proc. Zool. Soc. Lond., 1835:103.
COMMON NAME: Gambian Sun Squirrel.
TYPE LOCALITY: Gambia, possibly near Ft. St. Mary. " . . . brought from the Gambia . . . " "Through . . . Mr. Rendall, who has lately arrived from the Gambia, where his brother is lieutenent-governor of Fort St. Mary and the other British possessions in that neighbourhood . . . "
DISTRIBUTION: Senegal, Gambia, Guinea Bissau, Guinea, Sierra Leone, Liberia, Côte d'Ivoire, Burkina Faso, Ghana, Togo, Benin, Nigeria, Chad, Central African Republic, Sudan, Ethiopia, Uganda, Kenya, Burundi, Tanzania, Dem. Rep. Congo, Angola, Zimbabwe, Zambia.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *albina* (Gray, 1867); *annularis* (Schinz, 1845); *annulatus* (Desmarest, 1822); *simplex* (Lesson, 1838); ***abassensis*** (Neumann, 1902); ***bongensis*** Heuglin, 1877; ***canaster*** Thomas and Hinton, 1923; ***dysoni*** (St. Leger, 1937); ***elegans*** Thomas, 1909; ***hoogstraali*** Setzer, 1954; ***kaffensis*** (Neumann, 1902); ***lateris*** (Thomas, 1909); ***limbatus*** Schwarz, 1915; ***loandicus*** Thomas, 1923; ***madogae*** (Heller, 1911); ***multicolor*** (Rüppell 1835); ***omensis*** (Thomas, 1904); ***rhodesiae*** (Wroughton, 1907); ***senescens*** Thomas, 1909.

Heliosciurus mutabilis (Peters, 1852) Bericht Verhandl. K. Preuss Akad. Wiss., Berlin, 17:273.
COMMON NAME: Mutable Sun Squirrel.
TYPE LOCALITY: Mozambique, Boror, 19 km NW of Quelimane, 17°S . "Africa orientalis, Boror, 17° Lat. Austr."
DISTRIBUTION: Malawi; Zambia; S and SW highlands, Tanzania; NW of the Zambezi River near Beira (Mozambique); Chirinda Forest, Melsetter Dist., Sabi/Lundi River confluence, Vumba, Umtali (SE Zimbabwe).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***beirae*** Roberts, 1913; ***chirindensis*** Roberts, 1913; ***shirensis*** (Gray, 1867); *smithersi* (Lundholm, 1955); ***vumbae*** Roberts, 1937.
COMMENTS: G. M. Allen (1939) considered *mutabilis* a distinct species. Ellerman (1940) treated it as a subspecies of *H. gambianus* following Ingoldby (1927). Rosevear (1963), followed by Amtmann (1975), treated it as a subspecies of *H. rufobrachium*. Grubb (1982*b*) again treated *H. mutabilis* as a distinct species and recognized the five subspecies above.

Heliosciurus punctatus (Temminck, 1853) Esquisses Zool. sur la Côte de Guiné, p. 138.
COMMON NAME: Small Sun Squirrel.
TYPE LOCALITY: Guinea coast, no exact locality given. " . . . dans toutes les forêts de la Guiné . . . " Given by Ingoldby (1927) as Ghana: "Secondi and Bibiani, Gold Coast."
DISTRIBUTION: Sierra Leone, E Liberia, S Côte d'Ivoire, S Ghana (E to Lake Volta).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***savannius*** Thomas, 1923.

COMMENTS: Treated as a subspecies of *H. gambianus* by Ingoldby (1927), Ellerman (1940), Rosevear (1969), and Amtmann (1975). Considered a distinct species by G. M. Allen (1939), and Roth and Thorington (1982).

Heliosciurus rufobrachium (Waterhouse, 1842). Ann. Mag. Nat. Hist., [ser. 1], 10:202.
COMMON NAME: Red-legged Sun Squirrel.
TYPE LOCALITY: Equatorial Guinea, Bioko " . . . brought from Fernando Po . . . ".
DISTRIBUTION: Senegal, W Gambia, W Guinea Bissau, W Guinea, Sierra Leone, Liberia, S Côte d'Ivoire, S Ghana, S Togo, Benin, S Nigeria, Cameroon, Bioko and Rio Muni (Equatorial Guinea), SW Central African Republic, SE Sudan, Uganda, Rwanda, Burundi, SW and SE Kenya, Dem. Rep. Congo.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *acticola* Thomas, 1923; *rufo-brachiatus* (Waterhouse, 1843); ***arrhenii*** (Lönnberg, 1917); ***aubryi*** (Milne-Edwards, 1867); ***benga*** Cabrera, 1917; ***brauni*** St. Leger, 1935; ***caurinus*** Thomas, 1923; ***coenosus*** (Thomas, 1909); ***emissus*** Thomas, 1923; ***hardyi*** Thomas, 1923; ***isabellinus*** (Gray, 1867); ***keniae*** (Neumann, 1902); ***leakyi*** Toschi, 1946; ***leonensis*** Thomas, 1923; ***lualabae*** Thomas, 1923; ***maculatus*** (Temminck, 1853); *aschantiensis* (Neumann, 1902); *libericus* (Miller, 1900); *waterhousii* (Gray, 1867); ***medjianus*** J. A. Allen, 1922; ***nyansae*** (Neumann, 1902); ***obfuscatus*** Thomas, 1923; ***occidentalis*** (Monard, 1941); ***pasha*** (Schwann, 1904); ***rubricatus*** J. A. Allen, 1922; ***semlikii*** Thomas, 1907.
COMMENTS: Inclusion of *aubryi* and *emissus* questioned (Amtmann, 1975; Grubb, 1978:158).

Heliosciurus ruwenzorii (Schwann, 1904). Ann. Mag. Nat. Hist., ser. 7, 13:71.
COMMON NAME: Ruwenzori Sun Squirrel.
TYPE LOCALITY: E Dem. Rep. Congo, Ruwenzori, Wimi Valley.
DISTRIBUTION: Ruwenzori Mtns in E Dem. Rep. Congo; Rwanda; Burundi; SW Uganda.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***ituriensis*** (Prigogone, 1954); ***schoutedeni*** (Prigogine, 1954); ***vulcanius*** Thomas, 1909.
COMMENTS: Formerly included in *Aethosciurus*, which is here included in *Paraxerus* following Moore (1959).

Heliosciurus undulatus (True, 1892) Proc. U.S. Natl. Mus., 15:465.
COMMON NAME: Zanj Sun Squirrel.
TYPE LOCALITY: Tanzania, Mt. Kilimanjaro. "Male. Mount Kilima-Njaro, June 12, 1888. 6,000 feet (1800 m). Female. Kahé, south of Mount Kilima-Njaro, September 6, 1888."
DISTRIBUTION: SE Kenya; NE Tanzania, including Mafia and Zanzibar Isls.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *daucinus* Thomas, 1909; *dolosus* Thomas, 1909; *marwitzi* Müller, 1911; *shindi* (Heller, 1914).
COMMENTS: Considered a subspecies of *H. rufobrachium* by Amtmann (1975), but treated as a separate monotypic species by Grubb (1982*b*).

Myosciurus Thomas, 1909. Ann. Mag. Nat. Hist., ser. 8, 3:474.
TYPE SPECIES: *Sciurus minutus* Du Chaillu, 1860 (= *Sciurus pumilio* Le Conte, 1857).
COMMENTS: Tribe Funambulini according to Moore (1959). The recent molecular study of Mercer and Roth (2003) places *Myosciurius* with the other African tree squirrels, to the exclusion of *Funambulus*.

Myosciurus pumilio (Le Conte, 1857). Proc. Acad. Nat. Sci. Philadelphia, 9:11.
COMMON NAME: African Pygmy Squirrel.
TYPE LOCALITY: Gabon. " . . . the head waters of the Ovenga River . . . ".
DISTRIBUTION: SE Nigeria, Cameroon, Gabon, Rio Muni (Equatorial Guinea).
STATUS: IUCN – Vulnerable.
SYNONYMS: *minutulus* Hollister, 1921; *minutus* (Du Chaillu, 1860).
COMMENTS: Reviewed by Gharaibeh and Jones (1996, Mammalian Species No. 523).

Paraxerus Forsyth Major, 1893. Proc. Zool. Soc. Lond., 1893:189.
TYPE SPECIES: *Sciurus cepapi* A. Smith, 1836.
SYNONYMS: *Aethosciurus* Thomas, 1916; *Montisciurus* Eisentraut, 1976; *Tamiscus* Thomas, 1918.
COMMENTS: Tribe Funambulini according to Moore (1959). Originally a subgenus of *Xerus*; includes *Aethosciurus* (with the exception of *ruwenzorii*, here included in *Heliosciurus*), *Montisciurus*, and *Tamiscus*. Recent molecular work of Mercer and Roth (2003) suggests that *Paraxerus* is not closely related to *Funambulus*, but to the rest of the African squirrels, in which case, it should be placed in the tribe Protoxerini.

Paraxerus alexandri (Thomas and Wroughton, 1907). Ann. Mag. Nat. Hist., ser. 7, 19:376.
COMMON NAME: Alexander's Bush Squirrel.
TYPE LOCALITY: Dem. Rep. Congo, Gudima, River Iri, Upper Welle.
DISTRIBUTION: NE Dem. Rep. Congo, Uganda.
STATUS: IUCN – Lower Risk (nt).

Paraxerus boehmi (Reichenow, 1886). Zool. Anz., 9:315.
COMMON NAME: Boehm's Bush Squirrel.
TYPE LOCALITY: S Dem. Rep. Congo, Marungu. "Marungu (Inner-Afrika)."
DISTRIBUTION: S Sudan, N and E Dem. Rep. Congo, Uganda, W Kenya, NW Tanzania, N Zambia.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***antoniae*** Thomas and Wroughton, 1907; ***emini*** (Stuhlman, 1894) [not de Winton, 1895]; *lunaris* (Thomas, 1918); *tanganyikae* (Thomas, 1918); *ugandae* (Neumann, 1902); *vulcanorum* (Thomas, 1918); ***gazellae*** (Thomas, 1918).

Paraxerus cepapi (A. Smith, 1836). Rept. Exped. Exploring Central Africa, p. 43.
COMMON NAME: Smith's Bush Squirrel.
TYPE LOCALITY: South Africa, North West Prov., Rustenberg Dist., Marico River.
DISTRIBUTION: S Angola, Zambia, SE Dem. Rep. Congo, Malawi, SW Tanzania, Mozambique, N Namibia, N Botswana, Zimbabwe, NE South Africa.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *cepate* [*lapsus* for *cepapi*; Gray, 1843]; ***bororensis*** Roberts, 1946; ***carpi*** Lundholm, 1955; ***cepapoides*** Roberts, 1946; ***chobiensis*** Roberts, 1932; *kalaharicus* Roberts, 1932; *maunensis* Roberts, 1932; ***phalaena*** Thomas, 1926; ***quotus*** Wroughton, 1909; ***sindi*** Thomas and Wroughton, 1908; ***soccatus*** Wroughton, 1909; ***yulei*** (Thomas, 1902).

Paraxerus cooperi Hayman, 1950. Ann. Mag. Nat. Hist., ser. 12, 3:262.
COMMON NAME: Cooper's Mountain Squirrel.
TYPE LOCALITY: Cameroon, Kumba Div., Rumpi Hills, 5°N, 9°15'E.
DISTRIBUTION: Cameroon.
STATUS: IUCN – Vulnerable.
COMMENTS: Eisentraut (1976) put *cooperi* in a separate genus, *Montisciurus*.

Paraxerus flavovittis (Peters, 1852). Bericht Verhandl. K. Preuss. Akad. Wiss. Berlin, 17:274.
COMMON NAME: Striped Bush Squirrel.
TYPE LOCALITY: NE Mozambique, Mocímboa, 11°S on the coast. "Africa orientalis, Mossimboa, Quitangonha, a 11° ad 15° Lat. Austr."
DISTRIBUTION: S Kenya, Tanzania, N Mozambique.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***exgeanus*** (Hinton, 1920); ***ibeanus*** (Hinton, 1920); ***mossambicus*** (Thomas, 1919).
COMMENTS: Commonly spelled *flavivittis* but this was an unjustified emendation by Peters (1852).

Paraxerus lucifer (Thomas, 1897). Proc. Zool. Soc. Lond., 1897:430.
COMMON NAME: Black and Red Bush Squirrel.
TYPE LOCALITY: Malawi, Kombe Forest, Misuku Mtns, 9°43'S, 33°31'E.
DISTRIBUTION: N Malawi, SW Tanzania.
STATUS: IUCN – Lower Risk (lc).

Paraxerus ochraceus (Huet, 1880). Nouv. Arch. Mus. Hist. Nat. Paris, ser. 2, 3:154.
COMMON NAME: Ochre Bush Squirrel.
TYPE LOCALITY: Tanzania, Bagamoyo, (6°25′S, 38°54′E). "Cette petite espèce provient de Bagamoyo, station de nos missionnaires, sur la côte de Zanguebar, . . . "
DISTRIBUTION: S Ethiopia, Kenya, Tanzania.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *salutans* Thomas, 1909; ***affinis*** (Trouessart, 1897); *percivali* Dollman, 1911; ***animosus*** Dollman, 1911; ***aruscensis*** (Pagenstecher, 1885); *augustus* Dollman, 1911; *pauli* Matschie, 1894; ***electus*** Thomas, 1909; ***ganana*** (Rhoads, 1896); ***jacksoni*** (de Winton, 1897); *capitis* (Thomas, 1909); ***kahari*** Heller, 1911.

Paraxerus palliatus (Peters, 1852). Bericht Verhandl. K. Preuss. Akad. Wiss., Berlin, 17:273.
COMMON NAME: Red Bush Squirrel.
TYPE LOCALITY: Mozambique, mainland near Mocambique Isl "Africa orientalis, Quintangonha, 15° Lat. Austr."
DISTRIBUTION: S Somalia, E Kenya, E Tanzania, Malawi, Mozambique, Zimbabwe, KwaZulu-Natal (South Africa).
STATUS: IUCN – Vulnerable.
SYNONYMS: *suahelicus* (Neumann, 1902); ***bridgemani*** Dollman, 1914; *auriventris* Roberts, 1926; *tongensis* Roberts, 1931; ***frerei*** (Gray, 1873); *lastii* Thomas, 1906; ***ornatus*** (Gray, 1864); ***sponsus*** Thomas and Wroughton, 1907; ***swynnertoni*** Wroughton, 1908; ***tanae*** (Neumann, 1902); *barawensis* (Neumann, 1902).
COMMENTS: Kingdon (1974*b*) recognized three subspecies in the northern part of the range, Viljoen (1989) recognized four in the southern part.

Paraxerus poensis (A. Smith, 1830). S. Afr. Quart. J., 2:128.
COMMON NAME: Green Bush Squirrel.
TYPE LOCALITY: Equatorial Guinea, Bioko "Fernando Póo."
DISTRIBUTION: Sierra Leone, SE Guinea, Liberia, Côte d'Ivoire, Ghana, Cameroon, Equatorial Guinea, Gabon, Republic of Congo, W Dem. Rep. Congo.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *affinis* (Rhoads, 1896); *musculinus* (Temminck, 1853); *olivaceus* (Milne-Edwards, 1867); *subviridescens* (Le Conte, 1857).
COMMENTS: Subgenus *Aethosciurus* according to Moore (1959).

Paraxerus vexillarius (Kershaw, 1923). Ann. Mag. Nat. Hist., ser. 9, 11:591.
COMMON NAME: Swynnerton's Bush Squirrel.
TYPE LOCALITY: Tanzania, Usambara, Lushoto, Wilhelmsthal.
DISTRIBUTION: C and E Tanzania.
STATUS: IUCN – Vulnerable.
SYNONYMS: ***byatti*** (Kershaw, 1923); *laetus* (G. M. Allen and Loveridge, 1933).
COMMENTS: It is possible that *vexillarius* and *byatti* are separate species, as treated by G. M. Allen (1939) and Ellerman (1940). Amtmann (1975) combined them but stated that they may be distinct species.

Paraxerus vincenti Hayman, 1950. Ann. Mag. Nat. Hist., ser. 12, 3:263.
COMMON NAME: Vincent's Bush Squirrel.
TYPE LOCALITY: Mozambique, Namuli Mtn, north of the Zambezi River, (15°21′S, 37°4′E). " . . . collected at Namuli Mountain, Portuguese East Africa (15°21′S, 37°4′E), at 5000 ft (1500 m) . . . "
DISTRIBUTION: N Mozambique.
STATUS: IUCN – Vulnerable.

Protoxerus Forsyth Major, 1893. Proc. Zool. Soc. Lond., 1893:189.
TYPE SPECIES: *Sciurus stangeri* Waterhouse, 1842.
SYNONYMS: *Allosciurus* Conisbee, 1953.
COMMENTS: Tribe Protoxerini (Moore, 1959). Includes *Allosciurus* (replaced *Myrsilas* Thomas, 1909, which was preoccupied by *Myrsilas* Stål, 1865 [Hemiptera]) and *Protoxerus* as subgenera. Originally a subgenus of *Xerus*, raised to full generic rank by Thomas (1897*b*).

Protoxerus aubinnii (Gray, 1873). Ann. Mag. Nat. Hist., ser. 4, 12:65.
COMMON NAME: Slender-tailed Squirrel.
TYPE LOCALITY: Ghana, Ashanti Prov., Fanti. "Fantee".
DISTRIBUTION: Liberia, Côte d'Ivoire, Ghana.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***salae*** (Jentink, 1881).
COMMENTS: Subgenus *Allosciurus*.

Protoxerus stangeri (Waterhouse, 1842). Ann. Mag. Nat. Hist., [ser. 1], 10:202 (footnote).
COMMON NAME: Forest Giant Squirrel.
TYPE LOCALITY: Equatorial Guinea, Bioko. " . . . brought from Fernando Po . . . ".
DISTRIBUTION: Sierra Leone, Liberia, Côte d'Ivoire, W Ghana, Togo, Nigeria, Cameroon, Rio Muni, Bioko (Equatorial Guinea), Gabon, E Republic of Congo, N Angola, S Central African Republic, Dem. Rep. Congo, Uganda, Rwanda, Burundi, W Kenya, N Tanzania.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *nordhoffi* (Du Chaillu, 1860); *subalbidus* (Du Chaillu, 1860); ***bea*** Heller, 1912; ***centricola*** (Thomas, 1906); *moerens* Thomas, 1923; *notabilis* Thomas, 1923; *torrentium* Thomas, 1923; ***cooperi*** Kingdon, 1971; ***eborivorus*** (Du Chaillu, 1860); *calliurus* (Peters, 1874); *dissonus* Thomas, 1923; ***kabobo*** Verheyen, 1960; ***kwango*** Verheyen, 1960; ***loandae*** (Thomas, 1906); ***nigeriae*** (Thomas, 1906); ***personatus*** Kershaw, 1923; ***signatus*** Thomas, 1910; ***temminckii*** (Anderson, 1879); *caniceps* (Temminck, 1853).
COMMENTS: Subgenus *Protoxerus*.

Tribe Marmotini Pocock, 1923. Proc. Zool. Soc. Lond., 1923:240.

Ammospermophilus Merriam, 1892. Proc. Biol. Soc. Wash., 7:27
TYPE SPECIES: *Spermophilus leucurus* Merriam, 1892.
COMMENTS: Tribe Otospermophilini (Gromov et al., 1965), Marmotini, or Ammospermophilini. Formerly included in *Spermophilus* (Hershkovitz, 1949*b*); Bryant (1945) considered *Ammospermophilus* a distinct genus. Recent sequence, biochemical and chromosomal data support Bryant's recognition of generic status and basal position among ground squirrels (Harrison et al., 2003).

Ammospermophilus harrisii (Audubon and Bachman, 1854). Viviparous Quadrupeds of North America, 3:267.
COMMON NAME: Harris's Antelope Squirrel.
TYPE LOCALITY: Unknown. Restricted by Mearns (1896:444) to Santa Cruz Valley at the Mexican boundary, Santa Cruz Co., Arizona [USA].
DISTRIBUTION: Arizona to SW New Mexico (USA) and adjoining Sonora, Mexico.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***saxicolus*** (Mearns, 1896); *kinoensis* Huey, 1937.
COMMENTS: See *A. insularis*; reviewed by Best et al. (1990*c*, Mammalian Species No. 366).

Ammospermophilus insularis Nelson and Goldman, 1909. Proc. Biol. Soc. Wash., 22:24.
COMMON NAME: Espiritu Santo Island Antelope Squirrel.
TYPE LOCALITY: "Espiritu Santo Island, Lower California [=Baja California Sur], Mexico."
DISTRIBUTION: Known only from the type locality.
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Considered a distinct species (Hall, 1981:381); may be most closely related to *A. harrisii* (Mascarello and Bolles, 1980). Reviewed by Best et al. (1990*a*, Mammalian Species No. 364).

Ammospermophilus interpres (Merriam, 1890). N. Am. Fauna, 4:21.
COMMON NAME: Texas Antelope Squirrel.
TYPE LOCALITY: "El Paso, [El Paso Co.], Texas [USA]."
DISTRIBUTION: New Mexico and W Texas (USA) to Coahuila, Chihuahua, and Durango (Mexico).
STATUS: IUCN – Lower Risk (lc).

COMMENTS: Most divergent species of the genus (Bolles, 1981), and probable primitive sister-species to remainder (Hafner, 1981). Reviewed by Best et al. (1990*b*, Mammalian Species No. 365).

Ammospermophilus leucurus (Merriam, 1889). N. Am. Fauna, 2:19.
COMMON NAME: White-tailed Antelope Squirrel.
TYPE LOCALITY: "San Gorgonio Pass, [Riverside Co.], California [USA]."
DISTRIBUTION: E California and SE Oregon to Colorado and New Mexico (USA), south to Baja California Sur (Mexico).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *vinnulus* (Elliot, 1904); ***canfieldiae*** Huey, 1929; ***cinamomeus*** (Merriam, 1890); ***escalante*** (Hansen, 1955); ***extimus*** Nelson and Goldman, 1929; ***notom*** (Hansen, 1955); ***peninsulae*** (J. A. Allen, 1893); ***pennipes*** A. H. Howell, 1931; ***tersus*** Goldman, 1929.
COMMENTS: Reviewed by Belk and Smith (1990, Mammalian Species No. 368).

Ammospermophilus nelsoni (Merriam, 1893). Proc. Biol. Soc. Wash., 8:129.
COMMON NAME: Nelson's Antelope Squirrel.
TYPE LOCALITY: "Tipton, San Joachin Valley [Tulare Co.], California [USA]."
DISTRIBUTION: San Joaquin Valley (S California, USA).
STATUS: May now be restricted to southern half of its former range (Hafner, 1981). IUCN – Endangered.
SYNONYMS: *amplus* Taylor, 1916.
COMMENTS: Most closely related to *interpres* (Hafner, 1981). Reviewed by Best et al. (1990*d*, Mammalian Species No. 367).

Cynomys Rafinesque, 1817. Am. Mon. Mag., 2:43.
TYPE SPECIES: *Cynomys socialis* Rafinesque, 1817 (= *Arctomys ludoviciana* Ord, 1815).
SYNONYMS: *Arctomys* Ord, 1815; *Cynomomus* Osborn, 1894; *Leucocrossuromys* Hollister, 1916; *Mamcynomiscus* Herrera, 1899; *Monax* Warden, 1819.
COMMENTS: Tribe Cynomyini (Gromov et al., 1965), or Marmotini (McKenna and Bell, 1997). Revised by Pizzimenti (1975). Clark et al. (1971) published a key to the genus. Includes *Cynomys* and *Leucocrossuromys* as subgenera. Relationships of *Cynomys* to other ground squirrels are in flux. While generally regarded as monophyletic, and a sister-group to North American *Spermophilus*, recent evidence suggests that *Cynomys* may be most closely related to the subgenera *Ictidomys and Xerospermophilus*, making genus *Spermophilus* paraphyletic (Hafner, 1984:17; Harrison et al., 2003). Goodwin (1995) reviewed the biogeographic history of the genus.

Cynomys gunnisoni (Baird, 1855). Proc. Acad. Nat. Sci. Philadelphia, 7:334.
COMMON NAME: Gunnison's Prairie Dog.
TYPE LOCALITY: "Cochitope [Cochetopa] Pass of Rocky Mountains." (Saguache Co., Colorado, USA).
DISTRIBUTION: SE Utah, SW Colorado, NE Arizona, and NW New Mexico (USA).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***zuniensis*** Hollister, 1916.
COMMENTS: Subgenus *Leucocrossuromys* (Hall, 1981). Reviewed by Pizzimenti and Hoffmann (1973, Mammalian Species No. 25) and Pizzimenti (1976).

Cynomys leucurus Merriam, 1890. N. Am. Fauna, 3:59.
COMMON NAME: White-tailed Prairie Dog.
TYPE LOCALITY: "Fort Bridger, [Uinta Co.] Wyoming" (Merriam, 1890:33).
DISTRIBUTION: SC Montana, W and C Wyoming, NE Utah, and NW Colorado (USA).
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Leucocrossuromys* (Hall, 1981). Reviewed by Clark et al. (1971, Mammalian Species No. 7) and Pizzimenti (1976).

Cynomys ludovicianus (Ord, 1815). *In* Guthrie, New Geogr., Hist. Coml. Grammar, Philadelphia, 2nd ed., 2:292.
COMMON NAME: Black-tailed Prairie Dog.

TYPE LOCALITY: "vicinity of the Missouri." Restricted by Hollister (1916*a*:14) to "Upper Missouri River" (USA).
DISTRIBUTION: Saskatchewan (Canada); Montana to E Nebraska, W Texas, New Mexico, and SE Arizona (USA); NE Sonora, and N Chihuahua (Mexico).
STATUS: U.S. ESA – Candidate taxon; IUCN – Lower Risk (nt).
SYNONYMS: *cinereus* Richardson, 1829; *grisea* Rafinesque, 1817; *latrans* (Harlan, 1825); *missouriensis* (Warden, 1819); *pyrrotrichus* Elliot, 1905; *socialis* Rafinesque, 1817; ***arizonensis*** Mearns, 1890.
COMMENTS: Subgenus *Cynomys*. Intraspecific variation reviewed by Chesser (1983). Reviewed by Hoogland (1996, Mammalian Species No. 535).

Cynomys mexicanus Merriam, 1892. Proc. Biol. Soc. Wash., 7:157.
COMMON NAME: Mexican Prairie Dog.
TYPE LOCALITY: "La Ventura, Coahuila, Mexico."
DISTRIBUTION: Coahuila, and San Luis Potosi; perhaps Nuevo Leon, and Zacatecas (NC Mexico).
STATUS: CITES – Appendix I; U.S. ESA – Endangered; IUCN – Endangered.
COMMENTS: Subgenus *Cynomys* (Hall, 1981:412); reviewed by Ceballos-G. and Wilson (1985, Mammalian Species No. 248) and Treviño-V. (1991).

Cynomys parvidens J. A. Allen, 1905. Mus. Brooklyn Inst. Arts and Sci., Sci. Bull., 1:119.
COMMON NAME: Utah Prairie Dog.
TYPE LOCALITY: USA, "Buckskin Valley, Iron County, Utah."
DISTRIBUTION: SC Utah (USA).
STATUS: U.S. ESA – Threatened; IUCN – Lower Risk (conservation dependent).
COMMENTS: Subgenus *Leucocrossuromys* (Hall, 1981). Reviewed by Pizzimenti and Collier (1975, Mammalian Species No. 52) and Pizzimenti and Nadler (1972).

Marmota Blumenbach, 1779. Hand. Hilfsb. Nat., 1:79.
TYPE SPECIES: *Mus marmota* Linnaeus, 1758.
SYNONYMS: *Arctomys* Schreber, 1780; *Glis* Erxleben, 1777; *Lagomys* Storr, 1780; *Lipura* Storr, 1780; *Marmotops* Pocock, 1922; *Petromarmota* Steppan et al., 1999.
COMMENTS: Tribe Marmotini (Moore, 1959). North American species reviewed by A. H. Howell (1915); Eurasian species revised by Gromov et al. (1965); amphiberingian species reviewed by Hoffmann et al. (1979); phylogeny tested by Steppan et al. (1999). Frase and Hoffmann (1980) provided a key to North American species.

Marmota baibacina Kastschenko, 1899. Rezul't. Altaisk. Zool. Exp. 1898, p. 62.
COMMON NAME: Gray Marmot.
TYPE LOCALITY: " . . . Multa River, near Nizhne-Uimon in the Altai Mountains" [Altaisk. Krai, Russia] (Ognev, 1963*a*:252). Alternatively, Aktol' River near Cherga, Gorno-Altaisk. A.O. (Kuznetsov, *in* Ellerman and Morrison-Scott, 1951:514).
DISTRIBUTION: Altai and Tien Shan Mtns, SW Siberia (Russia), SE Kazakhstan, Kyrgyzstan; Mongolia; Xinjiang (China). Introduced into Caucasus Mtns (Dagestan, Russia; Gromov et al., 1965:360).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *aphanasievi* Kuznetsov, 1965; *lewisi* (Audubon and Bachman, 1854) [*nomen oblitum*]; *ognevi* Scalon, 1950; ***centralis*** (Thomas, 1909); ***kastschenkoi*** Stroganov and Yudin, 1956.
COMMENTS: Subgenus *Marmota* (Steppan et al., 1999). Placed by Ellerman and Morrison-Scott (1951:514) in *marmota*, and by Corbet (1978*c*:81) in *bobak*; Kapitonov (1966) analyzed purported hybridization between *baibacina* and *bobak*, while Nikol'skii (1974) and Nikol'skii et al. (1983) found species-specific vocalizations. Most Russian authors retain both as distinct species (Gromov et al., 1965:337-387; Zholnerovskaya et al., 1990; Zimina, 1978) and include *centralis* in this species. Steppan et al.(1999) found that *bobac* and *baibacina* are sister species. Kapitonov (1966) indicated that the population called *aphanasievi* is included in this species; but also see Corbet (1978*c*:81). Includes *lewisi*, a *nomen oblitum* (Hoffmann, 1977); *baibacina* (Brandt, 1843) is a *nomen nudum*. See also *bobak*, *sibirica*.

Marmota bobak (Müller, 1776). Linné's Vollstand. Natursyst. Suppl., p. 40.
COMMON NAME: Bobak Marmot.
TYPE LOCALITY: "Poland." Restricted by Ognev (1963*a*:221) to "right [W] bank of the Dnepr [River]", Ukraine.
DISTRIBUTION: Steppes of E Europe, east through Belarus, Ukraine, and Russia to N and C Kazakhstan.
STATUS: Regaining parts of former range (Bibikov, 1991). IUCN – Lower Risk (conservation dependent).
SYNONYMS: *bobac* (Schreber, 1780); *arctomys* (Pallas, 1779); *baibac* (Pallas, 1811); ***tschaganensis*** Bazhanov, 1930; *kozlovi* Fokanov, 1966.
COMMENTS: Subgenus *Marmota* (Steppan et al., 1999). See comments under *baibacina*, *himalayana*, and *sibirica*. Includes *kozlovi* (Fokanov, 1966) and *tschaganensis* (Gromov et al., 1965).

Marmota broweri Hall and Gilmore, 1934. Canadian Field Nat., 48:57.
COMMON NAME: Alaska Marmot.
TYPE LOCALITY: USA, "Point Lay, Arctic Coast of Alaska" Restricted by Rausch (1953:117) to head of Kukpowruk River, Alaska.
DISTRIBUTION: Brooks Range of N Alaska (USA) from near coast of Chukchi Sea to Alaska-Yukon border; perhaps also N Yukon (Canada).
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Marmota* (Steppan et al., 1999). Regarded as a synonym of *caligata* (Hall, 1981) but Rausch and Rausch (1965, 1971) and Hoffmann et al. (1979) considered *broweri* a distinct species. Steppan et al. (1999) found that *broweri* is more closely related to the Old World *caudata* than to Nearctic marmots.

Marmota caligata (Eschscholtz, 1829). Zool. Atlas, Part 2, p. 1, pl. 6.
COMMON NAME: Hoary Marmot.
TYPE LOCALITY: Not specified (?). Restricted by J. A. Allen (1877:927) to near Bristol Bay, Alaska, USA.
DISTRIBUTION: C Alaska (USA), Yukon and Northwest Territories (Canada) south to W and NE Washington, C Idaho, and W Montana (USA).
STATUS: IUCN – Data Deficient as *M. c. sheldoni* and *M. c. vigilis*; otherwise – Lower Risk (lc).
SYNONYMS: *sheldoni* A. H. Howell, 1914; *vigilis* Heller, 1909; ***cascadensis*** A. H. Howell, 1914; *raceyi* Anderson, 1932; ***okanagana*** (King, 1836); *nivaria* A. H. Howell, 1914; *oxytona* Hollister, 1914; *sibila* Hollister, 1912.
COMMENTS: Subgenus *Petromarmota* (Steppan et al., 1999).

Marmota camtschatica (Pallas, 1811). Zoogr. Rosso-Asiat., p. 156.
COMMON NAME: Black-capped Marmot.
TYPE LOCALITY: "Kamchatka" [Kamchatsk. Obl., Russia].
DISTRIBUTION: E Siberia from Transbaikalia to Chukotka and Kamchatka (Russia), in several geographically isolated populations (Nikol'skii et al., 1991).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***bungei*** (Kastschenko, 1901); *cliftoni* (Thomas, 1902); ***doppelmayri*** Birula, 1922.
COMMENTS: Subgenus *Marmota* (Steppan et al., 1999). Regarded as a synonym of *marmota* (Ellerman and Morrison-Scott, 1951; Rausch, 1953). Hoffmann et al. (1979) reviewed this and related species, and affirmed its specific status. Kapitonov (1978) concluded that morphological differences justified independent specific status for *doppelmayeri*, but Nikol'skii et al. (1991) showed similarity of vocalization between it and *bungei*, while the nominate form differed, and recommended that *doppelmayeri* be retained provisionally in this species. Boyeskorov et al. (1999) then showed that *camtschatica* and *doppelmayeri* were most divergent morphologically and immunologically, but the geographically intermediate Yakutian subspecies was also intermediate in these characters, and referred to the group as a whole as a superspecies. Steppan et al. (1999) found *himalayana* and *sibirica* to be sister species, and in the same clade as *camtschatica*. Lyapunova et al.(1992) regarded *camtschatica* as closely related to Nearctic marmots based on pattern of chromosome evolution, as had Hoffmann et al. (1979) based on morphology, but molecular data do not support this interpretation.

Marmota caudata (Geoffroy, 1844). *In* Jacquemont, Voy. dans l'Inde, 4, Zool., p. 66.
COMMON NAME: Long-tailed Marmot.
TYPE LOCALITY: "Hombur [Ghombur] area, upper reaches of the Indus in Kashmir [India]" (Ognev, 1963*a*:284).
DISTRIBUTION: W Tien Shan through the Pamirs (Kyrgyzstan, Tajikistan) to Hindu Kush (Afghanistan), Pakistan, Kashmir (India), and mountains of extreme W Xinjiang and Xizang (China).
STATUS: CITES – Appendix III (India); IUCN – Lower Risk (nt).
SYNONYMS: ***aurea*** (Blanford, 1875); *flavina* (Thomas, 1909); *littledalei* (Thomas, 1909); ***dichrous*** (Anderson, 1875); *stirlingi* Thomas, 1916.
COMMENTS: Subgenus *Marmota* (Steppan et al., 1999). Includes *dichrous* (Corbet, 1978*c*:82); but also see Gromov et al. (1965:440) who listed it as a distinct species.

Marmota flaviventris (Audubon and Bachman, 1841). Proc. Acad. Nat. Sci. Philadelphia, 1:99.
COMMON NAME: Yellow-bellied Marmot.
TYPE LOCALITY: "Mountains between Texas and California" Restricted by A. H. Howell (1915) to Mt. Hood (Oregon, USA).
DISTRIBUTION: SC British Columbia and S Alberta (Canada) south to N New Mexico, S Utah, Nevada, and California (USA).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *fortirostris* Grinnell, 1921; *sierrae* A. H. Howell, 1915; ***avara*** (Bangs, 1899); *parvula* A. H. Howell, 1915; ***dacota*** (Merriam, 1889); ***luteola*** A. H. Howell, 1914; *campioni* Figgins, 1915; *warreni* A. H. Howell, 1914; ***nosophora*** A. H. Howell, 1914; *engelhardti* J. A. Allen, 1905; ***notioros*** Warren, 1934; ***obscura*** A. H. Howell, 1914.
COMMENTS: Subgenus *Petromarmota* (Steppan et al., 1999). Reviewed by Frase and Hoffmann (1980, Mammalian Species No. 135).

Marmota himalayana (Hodgson, 1841). J. Asiat. Soc. Bengal, 10:777.
COMMON NAME: Himalayan Marmot.
TYPE LOCALITY: "Himalaya . . . and sandy plains of Tibet"; "potius Tibetensis" (Hodgson, 1843). Restricted by Blanford (1875*a*) to "the Kachar of Nepal."
DISTRIBUTION: Montane regions of W China, Nepal, and N India to Ladak.
STATUS: CITES – Appendix III (India); IUCN – Lower Risk (lc).
SYNONYMS: *hemachalana* (Hodgson, 1843); *hodgsoni* (Blanford, 1879); *tataricus* (Jameson, 1847); *tibetanus* (Gray, 1847); ***robusta*** (Milne-Edwards, 1872).
COMMENTS: Subgenus *Marmota* (Steppan et al., 1999). Placed in *bobak* (Ellerman and Morrison-Scott, 1951:515; Corbet, 1978*c*:81), but geographically separated from that species; evidence for specific status in Gromov et al. (1965); sister species of *sibirica*; see also comment under *baibacina* and *sibirica*.

Marmota marmota (Linnaeus, 1758). Syst. Nat., 10th ed., 1:60.
COMMON NAME: Alpine Marmot.
TYPE LOCALITY: "in alpibus Helveticis" Restricted by Thomas (1911*a*:147) to Swiss Alps.
DISTRIBUTION: Swiss, Italian, and French Alps; W Austria; S Germany; Carpathian (Romania) and Tatra Mtns (Czech Republic, Poland); introduced into French Pyrenees, E Austria and N Serbia and Montenegro.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *alba* (Bechstein, 1801); *alpina* Blumenbach, 1779; *marmotta* Trouessart, 1904; *nigra* (Bechstein, 1801); *tigrina* (Bechstein, 1801); ***latirostris*** Kratochvil, 1961.
COMMENTS: Subgenus *Marmota* (Steppan et al., 1999). Formerly included *baibacina*, *broweri*, *caligata*, *camtschatica*, and *menzbieri* (Ellerman and Morrison-Scott, 1951; Rausch, 1953).

Marmota menzbieri (Kashkarov, 1925). Trans. Turk. Sci. Soc., 2:47.
COMMON NAME: Menzbier's Marmot.
TYPE LOCALITY: "Chigyr-Tash, in the headwaters of the Ugam River, Talass Ala Tau" [Yuzhno-Kazakhstansk. Obl., Kazakhstan].
DISTRIBUTION: W Tien Shan Mtns, in S Kazakhstan and NW Kirgizia.
STATUS: IUCN – Vulnerable.

SYNONYMS: ***zachidovi*** Petrov, 1963.

COMMENTS: Subgenus *Marmota* (Steppan et al., 1999). Regarded by Ellerman and Morrison-Scott (1951:514) as a probable synonym of *marmota*; but see Corbet (1978*c*:81). Steppan et al. (1999) found *menzbieri* to be the sister species to *caudata*.

Marmota monax (Linnaeus, 1758). Syst. Nat., 10th ed., 1:60.

COMMON NAME: Woodchuck.

TYPE LOCALITY: "in America septentrionalis." Restricted by Thomas (1911*a*:147) to Maryland (USA).

DISTRIBUTION: Alaska (USA) through S Canada to S Labrador to NE and SC USA; south in Rocky Mtns, possibly to N Idaho.

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *bunkeri* Black, 1935; ***canadensis*** (Erxleben, 1777); *empetra* (Pallas, 1778); *johnsoni* Anderson, 1943; *melanopus* (Kuhl, 1820); *ochracea* Swarth, 1911; *petrensis* A. H. Howell, 1915; *sibila* (Wolf, 1808); ***ignava*** (Bangs, 1899); ***rufescens*** A. H. Howell, 1914; *preblorum* A. H. Howell, 1914.

COMMENTS: Subgenus *Marmota* (Steppan et al., 1999). Reviewed by Kwiecinski (1998, Mammalian Species No. 591).

Marmota olympus (Merriam, 1898). Proc. Acad. Nat. Sci. Philadelphia, 50:352.

COMMON NAME: Olympic Marmot.

TYPE LOCALITY: "From Timberline at head of Soleduc River, Olympic Mountains, [Olympic Nat. Park] Washington [USA]."

DISTRIBUTION: Olympic Mtns of W Washington (USA).

STATUS: IUCN – Lower Risk (lc).

COMMENTS: Subgenus *Petromarmota*; basal to the *caligata-vancouverensis* clade (Steppan et al., 1999). Considered a subspecies of *marmota* by Rausch (1953), but reviewed by Hoffmann et al. (1979) who confirmed its specific status. Also see Edelman (2003, Mammalian Species No. 736).

Marmota sibirica (Radde, 1862). Reise in den Suden von Ost-Sibierien, p. 159.

COMMON NAME: Tarbagan Marmot.

TYPE LOCALITY: "Kulusutai, near Lake Torei-Nor, southeast Transbaikal" [Chitinsk Obl., Russia].

DISTRIBUTION: SW Siberia, Tuva, Transbaikalia (Russia); N and W Mongolia; Heilungjiang and Inner Mongolia (China).

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *dahurica* (Dybowski, 1922); ***caliginosus*** Bannikov and Skalon, 1949.

COMMENTS: Subgenus *Marmota* (Steppan et al., 1999). Placed (with *baibacina*) in *bobak* (Ellerman and Morrison-Scott, 1951:515; Corbet, 1978*c*:81). Gromov et al. (1965) and Zimina (1978) provided evidence of specific distinctness and included *caliginosus* in this species; see comment under *baibacina* and *sibirica*. Steppan et al. (1999) found *sibirica* and *himalayana* to be sister species. Nikol'skii (1974) and Smirin et al. (1985) analyzed contact between *baibacina* and *sibirica* in Tuva and the Mongolian Altai; Sokolov and Orlov (1980:329) also indicated sympatry in NW Mongolia; limited hybridization is possible.

Marmota vancouverensis Swarth, 1911. Univ. California Publ. Zool., 7:201.

COMMON NAME: Vancouver Island Marmot.

TYPE LOCALITY: "Mt. Douglas (altitude 4,200 feet [1280 m]), twenty miles [32 km] south of Alberni, Vancouver Island, British Columbia" [Canada].

DISTRIBUTION: Mountains of Vancouver Isl (British Columbia, Canada).

STATUS: U.S. ESA – Endangered; IUCN – Endangered.

COMMENTS: Subgenus *Petromarmota*; sister species to *M. caligata* (Steppan et al., 1999). Considered a subspecies of *marmota* by Rausch (1953). Reviewed by Hoffmann et al. (1979) who confirmed its specific status, and by Nagorsen (1987, Mammalian Species No. 270).

Sciurotamias Miller, 1901. Proc. Biol. Soc. Wash., 14:23.
TYPE SPECIES: *Sciurus davidianus* Milne-Edwards, 1867.
SYNONYMS: *Rupestes* Thomas, 1922.
COMMENTS: Includes *Rupestes* and *Sciurotamias* as subgenera; reviewed by Moore and Tate (1965). *S. davidianus* has a penile duct and Cowper's glands, and its glans and baculum are similar to those of *Ratufa*; therefore, Callahan and Davis (1982) removed this taxon from the Tamiasciurini (Moore, 1959:182) or Tamiini (Gromov et al., 1965:124) and tentatively referred it to Ratufini. Molecular studies now support its placement in Tamiini (Steppan et al., 2004), as does morphology (Thorington et al., 1998).

Sciurotamias davidianus (Milne-Edwards, 1867). Rev. Mag. Zool. Paris, ser. 2, 19:196.
COMMON NAME: Père David's Rock Squirrel.
TYPE LOCALITY: "Mountains of Peking," Hebei Prov., China.
DISTRIBUTION: S Gansu to Hebei and Shandong to S Liaoning, Shanxi, Shaanxi, Ningxia, Henan, Hubei, Guizhou, Guangxi, Anhui and SW Sichuan (China) (Zhang et al., 1997).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *latro* Heude, 1898; *owstoni* J. A. Allen, 1909; *saltitans* Heude, 1898; ***consobrinus*** (Milne-Edwards, 1868-1874); *thayeri* G. M. Allen, 1912. **Unassigned**: *collaris* Heude, 1898.
COMMENTS: Subgenus *Sciurotamias*. Distribution shown by Corbet and Hill (1992) is more restricted than that of Zhang et al. (1997).

Sciurotamias forresti (Thomas, 1922). Ann. Mag. Nat. Hist., ser. 9, 10:399.
COMMON NAME: Forrest's Rock Squirrel.
TYPE LOCALITY: "Mekong-Yangtze Divide on 27° 20′ N 7000-9000′." [=Hengduan Shan] Yunnan Prov., China.
DISTRIBUTION: Yunnan Province,(China). See Zhang et al. (1997).
STATUS: IUCN – Vulnerable.
COMMENTS: Subgenus *Rupestes* (Moore and Tate, 1965). Apparently parapatric with *davidianus* ESE of Kunming.

Spermophilus F. Cuvier, 1825. Dentes des Mammiferes, p. 255.
TYPE SPECIES: *Mus citellus* Linnaeus, 1766.
SYNONYMS: *Anisonyx* Rafinesque, 1817; *Arctomys* Schreber, 1780; *Callospermophilus* Merriam, 1897; *Citellus* Oken, 1816; *Citillus* Lichtenstein, 1830; *Colobates* Milne-Edwards, 1874; *Colobotis* Brandt, 1844; *Ictidomoides* Mearns, 1907; *Ictidomys* J. A. Allen, 1877; *Notocitellus* A. H. Howell, 1938; *Otocolobus* Brandt, 1844; *Otospermophilus* Brandt, 1844; *Poliocitellus* A. H. Howell, 1938; *Spermatophilus* Wagler, 1830; *Spermophilis* Richardson, 1839; *Urocitellus* Obolenskij, 1927; *Xerospermophilus* Merriam, 1892.
COMMENTS: Tribe Marmotini (Moore, 1959). *Citellus* Oken, 1816 has been widely used, but is invalid (Corbet, 1978*c*:82; Hershkovitz, 1949*b*). Includes *Otospermophilus*, *Xerospermophilus*, *Ictidomys*, *Poliocitellus*, *Callospermophilus*, and *Spermophilus* as subgenera (Hall, 1981:382); Gromov et al. (1965) gave the first three taxa generic rank, and considered *Poliocitellus* a subgenus of *Ictidomys*, while placing *Callospermophilus* and *Otospermophilus* as sister subgenera under genus *Otospermophilus*. North American species revised by A. H. Howell (1938). Eurasian species revised by Gromov et al. (1965) who also recognized *Colobotis* and *Urocitellus* as subgenera; but see Hall (1981:382), who included them in subgenus *Spermophilus*. Holarctic species reviewed by Nadler et al. (1982, 1984). A key to the genus was given by Rickart and Yensen (1991).

Spermophilus adocetus (Merriam, 1903). Proc. Biol. Soc. Wash., 16:79.
COMMON NAME: Tropical Ground Squirrel.
TYPE LOCALITY: "La Salada, 40 miles [64 km] south of Uruapan, Michoacan, Mexico."
DISTRIBUTION: E Jalisco, Michoacan, and N Guerrero (WC Mexico).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *arceliae* Villa-R., 1942; ***infernatus*** Alvarez and Ramírez-P., 1968.
COMMENTS: Subgenus *Notocitellus* (A. H. Howell, 1938) or *Otospermophilus* (Hall, 1981:399); but see also Birney and Genoways (1973) who suggested it is closer to subgenus

Ictidomys. Molecular sequence data indicate that *adocetus* and *annulatus* are sister species (Harrison et al., 2003), and basal to all other spermophiline ground squirrels, except *Ammospermophilus*. Reviewed by Best (1995*g*, Mammalian Species No. 504).

Spermophilus alashanicus Büchner, 1888. Wiss. Res. Przewalski Cent. Asien Zool. I:(Säugeth.):11.
COMMON NAME: Alashan Ground Squirrel.
TYPE LOCALITY: "Southern Ala Shan" [Desert, China] (Ognev, 1963*a*:150).
DISTRIBUTION: SC Mongolia; Ala Shan and E Nan Shan (N China).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *dilutus* (Formozov, 1929); *obscurus* Büchner, 1888; *siccus* (G. M. Allen, 1925).
COMMENTS: Subgenus *Spermophilus* (Gromov et al. 1965:208). Placed by Corbet (1978*c*) in *dauricus*; Orlov and Davaa (1975) provided evidence of specific distinctness. Molecular sequence data (Harrison et al., 2003) suggest a sister species relationship with *pallidicauda*.

Spermophilus annulatus Audubon and Bachman, 1842. J. Acad. Nat. Sci. Philadelphia, 8:319.
COMMON NAME: Ring-tailed Ground Squirrel.
TYPE LOCALITY: "Western prairies." Restricted by A. H. Howell (1938:163) to Manzanillo, Colima, Mexico.
DISTRIBUTION: Nayarit to N Guerrero (Mexico).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***goldmani*** Merriam, 1902.
COMMENTS: Subgenus *Notocitellus* (A. H. Howell, 1938:162) or *Otospermophilus* (Hall, 1981:403). See *adocetes*, above. Reviewed by Best (1995*h*, Mammalian Species No. 508).

Spermophilus armatus Kennicott, 1863. Proc. Acad. Nat. Sci. Philadelphia, 15:158.
COMMON NAME: Uinta Ground Squirrel.
TYPE LOCALITY: "In the foothills of the Uinta Mountains, near Fort Bridger, [Uinta Co.] Wyo[ming]." [USA].
DISTRIBUTION: SC Utah to S Montana, SE Idaho to W Wyoming (USA).
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Spermophilus* (Hall, 1981:386). Largely allopatric with its sister species, *beldingi* (Harrison et al., 2003). Reviewed by Eshelman and Sonnemann (2000; Mammalian Species No. 637).

Spermophilus atricapillus W. Bryant, 1889. Proc. California Acad. Sci., ser. 2, 2:26.
COMMON NAME: Baja California Rock Squirrel.
TYPE LOCALITY: "Comondu, Lower California" [Baja California Sur, Mexico].
DISTRIBUTION: Baja California (Mexico).
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Otospermophilus* (Hall, 1981:402). Sister species to *beecheyi* (Harrison et al., 2003). Reviewed by Alvarez-Casteñeda et al. (1996, Mammalian Species No. 521).

Spermophilus beecheyi (Richardson, 1829). Fauna Boreali-Americana, 1:170.
COMMON NAME: California Ground Squirrel.
TYPE LOCALITY: "neighborhood of San Francisco and Monterey, in Calfornia." Restricted by Grinnell (1933) to Monterey, Monterey Co., California, USA.
DISTRIBUTION: W Washington (USA) to Baja California Norte (Mexico).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***douglasii*** (Richardson, 1829); ***fisheri*** Merriam, 1893; ***nesioticus*** (Elliot, 1904); ***nudipes*** (Huey, 1931); ***parvulus*** (A. H. Howell, 1931); ***rupinarum*** (Huey, 1931); ***sierrae*** (A. H. Howell, 1938).
COMMENTS: Subgenus *Otospermophilus* (Hall, 1981:401).

Spermophilus beldingi Merriam, 1888. Ann. N.Y. Acad. Sci., 4:317.
COMMON NAME: Belding's Ground Squirrel.
TYPE LOCALITY: "Donner, [Placer Co.,] California [USA]."
DISTRIBUTION: E Oregon, SW Idaho, NE California, N Nevada, and NW Utah (USA).
SYNONYMS: ***creber*** (Hall, 1940); ***oregonus*** Merriam, 1898.

COMMENTS: Subgenus *Spermophilus* (Hall, 1981:387). Reviewed by Jenkins and Eshelman (1984, Mammalian Species No. 221).

Spermophilus brevicauda Brandt, 1843. Bull. Acad. Sci., St. Petersbourg, pp. 364.
COMMON NAME: Brandt's Ground Squirrel.
TYPE LOCALITY: "Habitat, ut videtur, in provincis Altaicis australiorbis versus lacum Balchasch" (Ognev, 1947:83). Ellerman and Morrison-Scott (1966:508) however, cite "Zaisan basin", after Kuznetsov (1944).
DISTRIBUTION: Zaisan depression south and westward along the Tien Shan mountains to the vicinity of Almaty, on both sides of the Kazakh-Chinese border (see Ma et al., 1987).
SYNONYMS: *carruthersi* (Thomas, 1912); *intermedius* (Brandt, 1844); *ilensis* (Belyaev, 1945); *saryarka* (Selevin, 1937); *selevini* (Argyropolu, 1941).
COMMENTS: Subgenus *Colobotis* according to Gromov et al. (1965:315), but see Hall (1981:381) who included *Colobotis* in subgenus *Spermophilus*. See comments in *erythrogenys*, of which *brevicauda* was long considered a subspecies. A phylogeny based on molecular sequence data separates *brevicauda* from *erythrogenys*, *pallidicauda*, and *alashanicus* (Harrison et al., 2003).

Spermophilus brunneus (A. H. Howell, 1928). Proc. Biol. Soc. Wash., 41:211.
COMMON NAME: Idaho Ground Squirrel.
TYPE LOCALITY: "New Meadows, Adams County, Idaho [USA]."
DISTRIBUTION: WC Idaho (USA), in three isolated areas; north of Payette River to Hitt and Cuddy Mtns; between Cuddy and Seven Devils Mtns, and east of West Mtns.
STATUS: " . . . limited ranges and small breeding populations . . . vulnerable . . . " (Yensen, 1991:597). U.S. ESA – Candidate taxon as *S. b. endemicus*, Threatened as *S. b. brunneus*; IUCN - Critically Endangered as *S. b. brunneus*, Vulnerable as *S. b. endemicus*; otherwise Endangered as *S. brunneus*.
SYNONYMS: *endemicus* Yensen, 1991.
COMMENTS: Subgenus *Spermophilus* (Hall, 1981:385). Includes *endemicus*, which "may be reaching species-level separation" (Yensen, 1991:597). Included in clade which also contains *canus* and *mollis*. Population genetics analyzed by Gavin et al., 1999. Reviewed by Yensen and Sherman (1997, Mammalian Species No. 560).

Spermophilus canus Merriam, 1898. Proc. Biol. Soc. Wash., 12:70.
COMMON NAME: Merriam's Ground Squirrel.
TYPE LOCALITY: "Antelope, Wasco County, Oregon." [USA].
DISTRIBUTION: USA: E Oregon, except NE and SE corners; extreme NW Nevada; W side of Snake River in WC Idaho.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *vigilis* (Merriam, 1913).
COMMENTS: Subgenus *Spermophilus* (Hall, 1981:383). Includes *vigilis* (see Vorontsov and Lyapunova, 1970; Nadler et al., 1984, wherein that junior synonym was employed as the species name). Formerly considered a subspecies of *townsendii* (Hall, 1981:383-384), but differs in diploid chromosome number (Nadler et al., 1984). No hybridization between *canus* (2n=46) and adjacent *mollis* (2n=38) or *townsendii* (2n=36) has been reported (Rickart et al., 1985). Reviewed (in part) by Rickart (1987), as *S. townsendii*.

Spermophilus citellus (Linnaeus, 1766). Syst. Nat., 12th ed., 1:80.
COMMON NAME: European Ground Squirrel.
TYPE LOCALITY: "Austria"; restricted by Martino and Martino (1940) to "Wagram, Niederosterrich" (Bauer, 1960:254).
DISTRIBUTION: SE Germany, Czech Republic, SW Poland through SE Europe to European Turkey, Moldovia and W Ukraine.
STATUS: IUCN – Vulnerable.
SYNONYMS: *citillus* (Pallas, 1779); ***gradojevici*** (Martino, 1929); *karamani* (Martino, 1940); ***istricus*** (Calinescu, 1934); *laskarevi* (Martino, 1940); ***martinoi*** (Peshchev, 1955); *balcanicus* (Markov, 1957); *thracius* (Mursaloglu, 1964). Not allocated to subspecies: *macedonicus* Fraguedakis-Tsolis and Ondrias, 1977.

COMMENTS: Subgenus *Spermophilus*. Formerly included *dauricus* and *xanthoprymnus* as in Ellerman and Morrison-Scott (1951:506); but see Gromov et al. (1965:208, 237), Vorontsov and Lyapunova (1970), and Orlov and Davaa (1975). Cytogenetics described by Belcheva and Peshev (1985) and Soldatovic et al. (1984); *xanthoprymnus* is now considered to be more closely aligned with *suslicus* and *dauricus* (Harrison et al., 2003).

Spermophilus columbianus (Ord, 1815). *In* Guthrie, New Geogr., Hist., Coml. Grammar, Philadelphia, 2nd ed., 2:292.

COMMON NAME: Columbian Ground Squirrel.

TYPE LOCALITY: "Between the forks of the Clearwater and Kooskooskie rivers," [Idaho Co., Idaho, USA].

DISTRIBUTION: SE British Columbia and W Alberta (Canada) to NE Oregon, C Idaho, and C Montana (USA).

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *albertae* (J. A. Allen, 1903); *brachiura* (Rafinesque, 1817); *erythrogluteia* (Richardson, 1829); ***ruficaudus*** (A. H. Howell, 1928).

COMMENTS: Subgenus *Urocitellus* according to Gromov et al. (1965:196), but Hall (1981:381) included *Urocitellus* in subgenus *Spermophilus*. Chromosomes described by Nadler et al. (1975*a*). Reviewed by Elliot and Flinders (1991, Mammalian Species No. 372).

Spermophilus dauricus Brandt, 1843. Bull. Phys. Math. Acad. Sci. St. Petersbourg, 2:379.

COMMON NAME: Daurian Ground Squirrel.

TYPE LOCALITY: " . . . circa Torei lacum exiccatum Dauuriae et ad Onon Bursa rivum." Torei-Nor (Lake), Chitinsk. Obl., Russia.

DISTRIBUTION: Transbaikalia (Russia), Mongolia, N China.

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *mongolicus* (Milne-Edwards, 1867); *ramosus* (Thomas, 1909); *umbratus* (Thomas, 1908); *yamashinae* (Kuroda, 1939).

COMMENTS: Subgenus *Spermophilus* (Gromov et al., 1965:244). Corbet (1978*c*:83) tentatively included *alashanicus* in this species, but see Orlov and Davaa (1975) who provided evidence of specific distinctness. See comment under *alashanicus*. Ellerman and Morrison-Scott (1951:506) included *dauricus* in *citellus*; but see Gromov et al. (1965:244) who considered *dauricus* a distinct species. Molecular sequence data suggest a sister species relationship with *xanthoprymnus* (Harrison et al., 2003).

Spermophilus elegans Kennicott, 1863. Acad. Nat. Sci. Philadelphia, p. 158.

COMMON NAME: Wyoming Ground Squirrel.

TYPE LOCALITY: "Fort Bridger," [Uinta Co., Wyoming, USA].

DISTRIBUTION: NE Nevada, SE Oregon, S Idaho, and SW Montana to C Colorado and W Nebraska (USA).

STATUS: IUCN – Data Deficient as *S. e. nevadensis*; otherwise Lower Risk (lc).

SYNONYMS: ***aureus*** (Davis, 1939); ***nevadensis*** (A. H. Howell, 1928).

COMMENTS: Subgenus *Spermophilus* (Hall, 1981:385). Regarded by A. H. Howell (1938) and Hall (1981:385) as a subspecies of *richardsonii*; but Nadler et al. (1971*a*), Robinson and Hoffmann (1975), Koeppl et al. (1978) and Fagerstone (1982) provided evidence of specific distinctness and included *aureus* and *nevadensis* in *elegans*. Sequence data (Harrison et al., 2003) support this. Reviewed by Zegers (1984, Mammalian Species No. 214).

Spermophilus erythrogenys Brandt, 1841. Bull. Acad. Sci. St. Petersbourg, p. 43.

COMMON NAME: Red-cheeked Ground Squirrel.

TYPE LOCALITY: " . . . vicinity of Barnaul" [Altaisk Krai, Russia] (Ognev, 1963*a*:60).

DISTRIBUTION: E Kazakhstan, SW Siberia (Russia). Formerly included an isolated population (*pallidicauda*) in Mongolia and Inner Mongolia (China), which is here given full species status along with *brevicauda*.

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *brunnescens* (Belyaev, 1943); *heptneri* (Vasil'eva, 1964); *ungae* (Martino, 1923).

COMMENTS: Subgenus *Colobotis* according to Gromov et al. (1965:315), but see Hall

(1981:381) who included *Colobotis* in subgenus *Spermophilus*. Ellerman and Morrison-Scott (1951:508, 511) regarded *brevicauda*, *intermedius* and *carruthersi* as synonyms of *pygmaeus*, and *pallidicauda* as a full species. Sludskii et al. (1969) considered *intermedius* (= *brevicauda*) a full species; while Corbet (1978*c*:84) provisionally included these taxa in *major*; but see Gromov et al. (1965:315), Vorontsov and Lyapunova (1970), and Nikol'skii (1984) for evidence of specific distinctness from *major*. The names *ungae* (Martino, 1923), *ilensis* (Belyaev, 1945), and *heptneri* (Vasil'eva, 1964) are particularly unstable. Ognev (1947) placed *ungae* in *erythrogenys*, and omitted *ilensis*, as did Ellerman and Morrison-Scott (1955). Gromov et al. (1965) placed *ungae*, and the newly described *heptneri*, in *major*, but *heptneri* was considered a junior synonym of *ungae*; *ilensis* was placed in *brevicauda*, but considered invalid because it is infrasubspecific. Pavlinov and Rossolimo (1987) placed all three, as well as *brevicauda*, in *erythrogenys*, without comment. Finally, Hoffmann et al. (1993) placed *ilensis* in *erythrogenys*, and *ungae* plus *heptneri* in *major*. The present treatment was reached after plotting the type localities of all taxa on distribution maps of the three species (*brevicauda*, *erythrogenys*, and *major*); *ungae* and *heptneri* fall within the range of *erythrogenys*, while *ilensis* is within *brevicauda*.

Spermophilus franklinii (Sabine, 1822). Trans. Linn. Soc. Lond., 13:587.

COMMON NAME: Franklin's Ground Squirrel.

TYPE LOCALITY: None specified. Restricted by Preble (1908:165) to Carlton House, Saskatchewan, Canada.

DISTRIBUTION: N Great Plains; Alberta, Saskatchewan, and Manitoba (Canada), south to Kansas, Illinois, and Indiana (USA).

STATUS: IUCN – Vulnerable.

COMMENTS: Subgenus *Poliocitellus* (Hall, 1981:397). Molecular sequence data (Harrison et al., 2003) group this species with *Xerospermophilus*, *Ictidomys* and *Cynomys*. Reviewed by Ostroff and Finck (2003, Mammalian Species No. 724).

Spermophilus fulvus (Lichtenstein, 1823). Naturh. Abh. Eversmann's Reise, p. 119.

COMMON NAME: Yellow Ground Squirrel.

TYPE LOCALITY: "near the Kuvandzhur River, east of Mugodzhary Mountains, north of Aral Sea" [Kazakhstan] (Ognev, 1963*a*:29).

DISTRIBUTION: Kazakhstan, from the Caspian Sea and the Volga River to Lake Balkash; south through Uzbekistan, W Tajikistan and Turkmenistan to NE Iran, and N Afghanistan; W Xinjiang (China).

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *concolor* (Fischer, 1829); *concolor* I. Geoffroy, 1831; *giganteus* (Fischer, 1829); *maximus* (Pallas, 1778); *nanus* (Fischer, 1829); ***hypoleucos*** (Satunin, 1909); *parthianus* (Thomas, 1915); ***oxianus*** (Thomas, 1915); *nigrimontanus* (Antipin, 1942).

COMMENTS: Subgenus *Colobotis* according to Gromov et al. (1965:276), but see Hall (1981:381) who included *Colobotis* in subgenus *Spermophilus*. See also *major*, which may be the sister species to *fulvus* (Harrison et al., 2003); *fulvus* occurs sympatrically with *major* in the southern third of the latter's range, where sporadic hybridization occurs south of Saratov (Ermakov, 1996).

Spermophilus lateralis (Say, 1823). *In* Long, Account Exped. Pittsburgh to Rocky Mtns, 2:46.

COMMON NAME: Golden-mantled Ground Squirrel.

TYPE LOCALITY: "near Cañon City." Restricted by Merriam (1905:163) to Arkansas River, about 26 mi. [42 km] below Canyon City, Fremont Co., Colorado (USA).

DISTRIBUTION: Montane W North America, from C British Columbia to S New Mexico in the Rocky Mtns, and the Columbia River south to S California and Nevada.

STATUS: IUCN – Data Deficient as *S. l. wortmani*; otherwise Lower Risk (lc).

SYNONYMS: ***arizonensis*** (V. Bailey, 1913); ***bernardinus*** Merriam, 1898; *brevicauda* Merriam, 1893 [not Brandt, 1843]; ***castanurus*** (Merriam, 1890); *caryi* (A. H. Howell, 1917); ***certus*** (Goldman, 1921); ***chrysodeirus*** (Merriam, 1890); ***cinerascens*** (Merriam, 1890); ***connectens*** (A. H. Howell, 1931); ***mitratus*** (A. H. Howell, 1931); ***tescorum*** (Hollister, 1911); ***trepidus*** (Taylor, 1910); ***trinitatus*** (Merriam, 1901); ***wortmani*** (J. A. Allen, 1895).

COMMENTS: Subgenus *Callospermophilus* (Hall, 1981:382-406). Gromov et al. (1965:70;150), in contrast to Hall (1981) considered *Callospermophilus* a subgenus of the genus *Otospermophilus*. Reviewed by Bartels and Thompson (1993, Mammalian Species No. 440).

Spermophilus madrensis (Merriam, 1901). Proc. Washington Acad. Sci., 3:563.
COMMON NAME: Sierra Madre Ground Squirrel.
TYPE LOCALITY: "from Sierra Madre, near Guadalupe y Calvo, Chihuahua, Mexico (7,000 feet [2134 m] altitude)."
DISTRIBUTION: SW Chihuahua (Mexico).
STATUS: IUCN – Lower Risk (nt).
COMMENTS: Subgenus *Callospermophilus* (Hall, 1981:410). Gromov et al. (1965:150) considered *Callospermophilus* a subgenus of the genus *Otospermophilus*. *S. madrensis* and *S. lateralis* are sister species (Harrison et al., 2003). Reviewed by Best and Thomas (1991*b*, Mammalian Species No. 378).

Spermophilus major (Pallas, 1778). Nova Spec. Quad. Glir. Ord., p. 125.
COMMON NAME: Russet Ground Squirrel.
TYPE LOCALITY: "Steppe near Samara," [Kuibyshev, Kuibyshevsk. Obl., Russia] (Ognev, 1963*a*:34).
DISTRIBUTION: Steppe between Volga and Irtysh rivers (Russia; N Kazakhstan). Formerly, steppe between Don and Volga rivers (Russia; Gromov et al., 1965:291). Reported from Xinjiang (Ma et al., 1987); but probably a misidentified *brevicauda*.
STATUS: IUCN – Lower Risk (nt).
SYNONYMS: *argyropuloi* (Bazhanov, 1947); *rufescens* (Keyserling and Blasius, 1840); *selevini* (Argyropulo, 1941).
COMMENTS: Subgenus *Colobotis* according to Gromov et al. (1965:290), but see Hall (1981:381) who included *Colobotis* in subgenus *Spermophilus*. Occasionally hybridizes with *brevicauda* and *fulvus* (Denisov, 1963; Nikol'skii and Starikov, 1997; Ognev, 1947), and more widely with *pygmaeus* and *suslicus* (Ermakov, 1996). Corbet (1978*c*:84) provisionally included *erythrogenys* and *brevicauda* in this species, but Gromov et al. (1965:290) and Vorontsov and Lyapunova (1970) considered *erythrogenys* a distinct species, and Gromov et al. (1965:315) included *brevicauda* in *erythrogenys*; see comment under those species. *S. major* is geographically cohesive, and allopatrically distributed with respect to *brevicauda*, and allopatric (Bobrinskii et al., 1965:61) or narrowly sympatric to *erythrogenys* (Sludskii et al., 1969:162). In contrast, it it genetically unstable, grouping with either *brevicauda* or *pygmaeus* in sequence data (Harrison et al., 2003), probably as a result of hybridization (see specimens examined). Formerly included *relictus* (Ellerman and Morrison-Scott, 1955).

Spermophilus mexicanus (Erxleben, 1777). Syst. Regn. Anim., 1:428.
COMMON NAME: Mexican Ground Squirrel.
TYPE LOCALITY: "in nova Hispania?" Restricted by Mearns (1896:443) to "Toluca, [Mexico,] Mexico."
DISTRIBUTION: S New Mexico and W Texas (USA) to Jalisco and S Puebla (C Mexico).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***parvidens*** Mearns, 1896.
COMMENTS: Subgenus *Ictidomys* (Hall, 1981:394). Known to hybridize at several localities with *tridecemlineatus* (Cothran and Honeycutt, 1984; Cothran et al., 1977). Reviewed by Young and Jones (1982, Mammalian Species No. 164).

Spermophilus mohavensis Merriam, 1889. N. Am. Fauna, 2:15.
COMMON NAME: Mohave Ground Squirrel.
TYPE LOCALITY: "Mohave River, California [USA]." Restricted by Grinnell and Dixon (1918) to near Rabbit Springs, about 15 mi. (24 km) E Hesperia, San Bernardino Co.
DISTRIBUTION: NW Mohave Desert and Owens Valley (S California, USA).
STATUS: IUCN – Vulnerable.
COMMENTS: Subgenus *Xerospermophilus*; (Hall, 1981:405). Most closely related to *S. tereticaudus* (Hafner and Yates, 1983); hybridizes at three localities, but the hybrid

zone is narrow and stable (Hafner, 1992). Reviewed by Best (1995*i*, Mammalian Species No. 509).

Spermophilus mollis Kennicott, 1863. Proc. Acad. Nat. Sci. Philadelphia, 15:157.
COMMON NAME: Piute Ground Squirrel.
TYPE LOCALITY: "Camp Floyd, near Fairfield, [Utah Co.,] Utah [USA]."
DISTRIBUTION: Two disjunct populations: in Washington, N of Yakima, and W of Columbia, rivers; and SE corner of Oregon, Snake River valley (Idaho) southward through Nevada (except extreme S), extreme EC California, and W Utah.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *leurodon* (Merriam, 1913); *stephensi* Merriam, 1898; *washoensis* (Merriam, 1913); ***artemesiae*** (Merriam, 1913); *pessimus* (Merriam, 1913); ***idahoensis*** (Merriam, 1913).
COMMENTS: Subgenus *Spermophilus* (Hall, 1981:383). Formerly considered a subspecies of *townsendii* (Hall, 1981:383), but differs chromosomally (Nadler et al., 1984). No hybridization between *mollis* (2n=38) and adjacent *canus* (incl. *vigilis*) (2n=46) has been reported (Rickart et al., 1985:97-98). Reviewed (in part) by Rickart (1987) as *S. townsendii*; see that account below.

Spermophilus musicus Ménétries, 1832. Cat. Raisonne des Objets de Zoologie, St. Petersbourg, p. 21.
COMMON NAME: Caucasian Mountain Ground Squirrel.
TYPE LOCALITY: "Il habite le Caucase sur les montagnes le plus élevées et pas loin des nieges éternalles." Restricted by Sviridenko (1927, see Ognev, 1963*a*:114) to "Ush-Kulan [Georgia]".
DISTRIBUTION: N Caucasus Mtns (Georgia).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *boehmii* (Krassovskii, 1932); *magisteri* (Heptner, 1948); *saturatus* (Ognev, 1947) [not Rhoads, 1895]; *typicus* (Satunin, 1908).
COMMENTS: Subgenus *Spermophilus* (Gromov et al., 1965:249). Regarded by Ellerman and Morrison-Scott (1951:508) and Corbet (1978*c*:83) as a subspecies of *pygmaeus*. Gromov et al. (1965:249) and Vorontsov and Lyapunova (1970) provided evidence of specific distinctness. Molecular sequence data place it close to *pygmaeus* (Harrison et al., 2003).

Spermophilus pallidicauda (Satunin, 1903). Ezhegodnik Zoologicheskii Muzeya, Akademii Nauk, St. Petersburg, 7:5-6.
COMMON NAME: Pallid Ground Squirrel.
TYPE LOCALITY: "vicinity of Lake Khulu-Nur", Ullyn Bulyk, Baidarak river, Mongolian Atlai. Mongolia, Gobi Altai.
DISTRIBUTION: This monotypic species is endemic to Mongolia and the adjacent Nei Mongol Autonomous Region (Inner Mongolia).
COMMENTS: Subgenus *Spermophilus* (Gromov et al., 1965). In addition to constant morphological differences, it also differs in chromosome number and molecular sequence from *major* and *erythrogenys*, in which it was previously placed (Corbet, 1978*c*; Sokolov and Orlov, 1980), having a sister species relationship with *alashanicus* (Harrison et al., 2003).

Spermophilus parryii (Richardson, 1825). *In* Parry, Voy. discovery Northwest Passage, Vol. 6- app. second voy., p. 316.
COMMON NAME: Arctic Ground Squirrel.
TYPE LOCALITY: Restricted by Preble (1902:46) to "Five Hawser Bay, Lyon Inlet, Melville Peninsula, [Hudson Bay, Keewatin District, Northwest Territories], Canada."
DISTRIBUTION: NW Canada; Alaska (USA); NE Yakutia, Anadyrsk. Krai, and Chukotka (Russia).
STATUS: IUCN – Date Deficient as *S. p. kodiacensis, S. p. lyratus,* and *S. p. nebulicola*; otherwise Lower Risk (lc).
SYNONYMS: *phaeognatha* (Richardson, 1829); ***ablusus*** (Osgood, 1903); *stonei* (J. A. Allen, 1903); ***kennicottii*** (Ross, 1861); *barrowensis* Merriam, 1900; *beringensis* Merriam, 1900; ***kodiacensis*** J. A. Allen, 1874; ***leucostictus*** Brandt, 1844; *buxtoni* J. A. Allen, 1903; *tschuktschorum* (Chernyavskii, 1972); ***lyratus*** (Hall and Gilmore, 1932); ***nebulicola*** (Osgood, 1903); ***osgoodi*** Merriam, 1900; ***plesius*** Osgood, 1900; ***stejnegeri*** (J. A. Allen,

1903); *brunniceps* Kittlitz, 1858 [*nomen nudum*]; *coriakorum* (Portenko, 1963); *janensis* (Ognev, 1937).

COMMENTS: Subgenus *Urocitellus* according to Gromov et al. (1965:184), but see Hall (1981:381) who included *Urocitellus* in subgenus *Spermophilus*. Regarded by Ellerman and Morrison-Scott (1951:511) and Hall and Kelson (1959:343) as a synonym of *undulatus*. Gromov et al. (1965:184) and Nadler et al. (1974) provided evidence of specific distinctness. Reviewed by Chernyavskii (1972), Nadler and Hoffmann (1977), Serdyuk (1979) (Palearctic), and Pearson (1981) (Nearctic). Nikol'skii and Wallschläger (1982) noted differences in alarm calls between Siberian and Alaskan populations.

Spermophilus perotensis Merriam, 1893. Proc. Biol. Soc. Wash., 8:131.

COMMON NAME: Perote Ground Squirrel.

TYPE LOCALITY: "Perote, Veracruz, Mexico."

DISTRIBUTION: Veracruz and Puebla (EC Mexico).

STATUS: IUCN – Lower Risk (nt).

COMMENTS: Subgenus *Ictidomys* (Hall, 1981:397). Sister species to *spilosoma* (Harrison et al., 2003). Chromosomes described by Uribe-Alcocer et al. (1979). Reviewed by Best and Ceballos (1995, Mammalian Species No. 507).

Spermophilus pygmaeus (Pallas, 1778). Nova Spec. Quad. Glir. Ord., p. 122.

COMMON NAME: Little Ground Squirrel.

TYPE LOCALITY: "Maximos et paene dixerim monstrosos Citillós passim ad inferiorum laikum in campis squalidis." Restricted by Ognev (1963*a*:102) to "lower reaches of the Ural River" "Indersk [Kazakhstan]".

DISTRIBUTION: SW Ukraine; S Ural Mtns to Crimea (Russia); Kazakhstan; NW Uzbekistan; Dagestan (Georgia).

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *arenicola* (Rall, 1935); *binominatus* (Ellerman, 1940); *ellermani* (Harris, 1944); *flavescens* (Pallas, 1779); *orlovi* (Ellerman, 1940); *pallidus* (Orlov and Fenyuk, 1927) [not J. A. Allen, 1874]; *planicola* (Satunin, 1909); *ralli* (Heptner, 1948) [for *arenicola,* Rall; unavailable]; *satunini* (Sveridenko, 1922); *saturatus* (Ognev, 1947) [preoccupied, not Rhoads, 1895]; ***brauneri*** (Martino, 1914); *kalabuchovi* (Ognev, 1937); ***herbicolus*** (Martino, 1914); *atricapilla* (Orlov, 1927) [preoccupied; not Bryant, 1889]; *herbidus* (Martino, 1915) [*nomen nudum*]; *septentrionalis* (Obolenskii, 1927); ***mugosaricus*** (Lichtenstein, 1823); *kazakstanicus* (Goodwin, 1935); *nikolskii* (Heptner, 1934).

COMMENTS: Subgenus *Spermophilus*, see Gromov et al. (1965:257) and comment under *musicus*. Hybridizes rarely with *erythrogenys* and *fulvus*, and more frequently with *major* and *suslicus* (Bazhanov 1944; Denisov, 1964); in zone of contact SW of Saratov (Russia) (Denisov and Smirnova, 1976; Ermakov, 1996).

Spermophilus ralli (Kuznetsov, 1948). Zveri Kirgizii [Animals of Kirgiziya, Moscow Soc. of Naturalists] pp. 39.

COMMON NAME: Tien Shan Ground Squirrel.

TYPE LOCALITY: "Tip iz kotlovinny Oz. Issyk-Kul' " [Type from basin of lake Issyk-Kul'] (Kuznetsov, 1965:264).

DISTRIBUTION: Mountains and valleys surrounding the eastern end of the Issyk-Kul' valley, from the Terskii-Alatau in the southeast to the Ketmen' Alatau in the northeast. Its range is separated from that of *S. relictus*, which occupies the western Tien Shan.

COMMENTS: Subgenus *Spermophilus*. This species is usually included in *S. relictus* as an allopatric subspecies, but molecular sequence data indicate that the two taxa are separate (Harrison et al., 2003). Kuznetsov's name is regarded as having priority over *ralli* (Heptner, 1948*a*; a replacement name for *pygmaeus arenicola*; and thus preoccupied), but Pavlinov and Rossolimo (1987) indicated that Kuznetsov (1948) might not have been published in May, but later, in July-August, while *pygmaeus ralli* was published in May, 1948. If so, Kuznetsov, 1948 is preoccupied.

Spermophilus relictus (Kashkarov, 1923). Trans. Turk. Sci. Soc., 1:185.

COMMON NAME: Relict Ground Squirrel.

TYPE LOCALITY: "Kara-Bura Gorge and Kumysh-Tagh Gorge in the Talus Ala Tau" [Talassk. Obl., Kyrgyzstan] (Ognev, 1963*a*:70).
DISTRIBUTION: Tien Shan Mtns in Kyrgyzstan and SE Kazakhstan.
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Spermophilus* (Gromov et al., 1965:198).

Spermophilus richardsonii (Sabine, 1822). Trans. Linn. Soc. Lond., 13:589.
COMMON NAME: Richardson's Ground Squirrel.
TYPE LOCALITY: "Carleton-House," [Saskatchewan, Canada].
DISTRIBUTION: N Great Plains in S Alberta, S Saskatchewan, S Manitoba (Canada), Montana (see Swenson, 1981), North Dakota, NE South Dakota, W Minnesota, and NW Iowa (USA).
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Spermophilus* (Hall, 1981:385). Formerly included *elegans*; see comment under that species. Reviewed by Michener and Koeppl (1985, Mammalian Species No. 243).

Spermophilus saturatus (Rhoads, 1895). Proc. Acad. Nat. Sci. Philadelphia, 47:43.
COMMON NAME: Cascade Golden-mantled Ground Squirrel.
TYPE LOCALITY: "Lake Kichelos [= Keechelus], Kittitas Co., Wash[ingto]n, (elevation 8,000 feet [2438 m])."
DISTRIBUTION: Cascade Mtns of W Washington (USA) and SW British Columbia (Canada).
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Callospermophilus* (Hall, 1981:409). Gromov et al. (1965:150) considered *Callospermophilus* a subgenus of genus *Otospermophilus*. Reviewed by Trombulak (1988, Mammalian Species No. 322). Molecular sequence data indicate that this species is basal to other *Callospermophilus* (Harrison et al., 2003).

Spermophilus spilosoma Bennett, 1833. Proc. Zool. Soc. Lond., 1833:40.
COMMON NAME: Spotted Ground Squirrel.
TYPE LOCALITY: "that part of California which adjoins to Mexico." Restricted by A. H. Howell (1938:122) to Durango [City], Durango, Mexico.
DISTRIBUTION: C Mexico to S Texas, SW South Dakota, and NW Arizona (USA).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***altiplanensis*** Anderson, 1972; ***ammophilus*** Hoffmeister, 1959; ***annectens*** Merriam, 1893; ***bavicorensis*** Anderson, 1972; ***cabrerai*** (Dalquest, 1951); ***canescens*** Merriam, 1890; *arens* V. Bailey, 1902; *macrospilotus* Merriam, 1890; *microspilotus* Elliot, 1901; ***cryptospilotus*** Merriam, 1890; ***marginatus*** V. Bailey, 1902; *major* Merriam, 1890 [not Pallas, 1778]; ***obsoletus*** Kennicott, 1863; ***oricolus*** Alvarez, 1962; ***pallescens*** (A. H. Howell, 1928); ***pratensis*** Merriam, 1890; *obsidianus* Merriam, 1890.
COMMENTS: Subgenus *Ictidomys* (Hall, 1981:395). Reviewed by Streubel and Fitzgerald (1978*a*, Mammalian Species No. 101). See comment under *perotensis*. Chromosomes of the race *cabrerai* described by Uribe-Alcocer et al. (1978).

Spermophilus suslicus (Güldenstaedt, 1770). Nova Comm. Acad. Sci. Petropoli, 14:389.
COMMON NAME: Speckled Ground Squirrel.
TYPE LOCALITY: " . . . in campis vastissimus tanaicensibus precipue urbes et Tambov" [Voronezh area, Voronezhsk. Obl., Russia].
DISTRIBUTION: Steppes of E and S Europe, including Poland, E Romania, Ukraine north to Oka River and east to the Volga River (Russia).
STATUS: IUCN – Vulnerable.
SYNONYMS: *averini* (Migulin, 1927); *meridioccidentalis* (Migulin, 1927); *odessana* Nordmann, 1842; *ognevi* (Reshetnik, 1946); *volhynensis* (Reshetnik, 1946); ***boristhenicus*** (Pusanov, 1958); ***guttatus*** (Pallas, 1770); *guttulatus* Schinz, 1845; *leucopictus* (Dondorff, 1792).
COMMENTS: Subgenus *Spermophilus* Gromov et al. (1965:212). Reviewed by Corbet (1978*c*) and Gromov and Erbajeva (1995), who listed only four subspecies. Hybridizes with *major* west of Kazan' (Ermakov, 1996). See also comment under *pygmaeus*.

Spermophilus tereticaudus Baird, 1858. Mammalia, *in* Repts. U.S. Expl. Surv., 8(1):315.
COMMON NAME: Round-tailed Ground Squirrel.

TYPE LOCALITY: [Old] "Fort Yuma" [Imperial Co., California, USA].
DISTRIBUTION: Deserts of SE California, S Nevada, W Arizona (USA), NE Baja California and Sonora (Mexico).
STATUS: U.S. ESA – Candidate taxon as *S. t. chlorus*; IUCN – Data Deficient as *S. t. chlorus*, otherwise Lower Risk (lc).
SYNONYMS: *eremonomus* (Elliot, 1904); *vociferans* (Huey, 1926); ***apricus*** Ç(Huey, 1927); ***chlorus*** (Elliot, 1904); ***neglectus*** Merriam, 1889; *arizonae* (Grinnell, 1918); *sonoriensis* Ward, 1891.
COMMENTS: Subgenus *Xerospermophilus* (Hall, 1981:405). Reviewed by Ernest and Mares (1987, Mammalian Species No. 274). See also *mohavensis*.

Spermophilus townsendii Bachman, 1839. J. Acad. Nat. Sci. Philadelphia, 8:61.
COMMON NAME: Townsend's Ground Squirrel.
TYPE LOCALITY: "On the Columbia River, about 300 miles [483 km] above its mouth." Restricted by A. H. Howell (1938:60, 62) to west bank of Walla Walla River near confluence with Columbia River [near Wallula, Walla Walla Co., Washington, USA].
DISTRIBUTION: SE Washington (USA), S of Yakima River and W and N of Columbia River.
STATUS: IUCN – Data Deficient.
SYNONYMS: *yakimensis* Merriam, 1898; ***nancyae*** Nadler, 1968.
COMMENTS: Subgenus *Spermophilus* (Hall, 1981:382). Formerly included two cytotypes (*mollis, canus*) now considered distinct species (Nadler et al., 1984; Vorontsov and Lyapunova, 1970). Reviewed by Rickart (1987, Mammalian Species No. 268).

Spermophilus tridecemlineatus (Mitchill, 1821). Med. Repos. (NY), (n.s.), 6(21):248.
COMMON NAME: Thirteen-lined Ground Squirrel.
TYPE LOCALITY: " . . . region bordering the sources of the river Mississippi . . . "; restricted by J. A. Allen (1895*b*:338) to C Minnesota [USA].
DISTRIBUTION: Great Plains, from C Texas to E Utah, Ohio (USA) and SC Canada.
STATUS: IUCN – Data Deficient as *S. t. alleni*, otherwise Lower Risk (lc).
SYNONYMS: *hoodii* (Sabine, 1822); ***alleni*** Merriam, 1898; ***arenicola*** (A. H. Howell, 1928); ***blanca*** Armstrong, 1971; ***hollisteri*** (V. Bailey, 1913); ***monticola*** (A. H. Howell, 1928); ***olivaceous*** J. A. Allen, 1895; ***pallidus*** J. A. Allen, 1874; ***parvus*** J. A. Allen, 1895; ***texensis*** Merriam, 1898; *badius* Bangs, 1899.
COMMENTS: Subgenus *Ictidomys* (Hall, 1981:391). Reviewed by Streubel and Fitzgerald (1978*b*, Mammalian Species No. 103). See also comment under *mexicanus*.

Spermophilus undulatus (Pallas, 1778). Nova Spec. Quad. Glir. Ord., p. 122.
COMMON NAME: Long-tailed Ground Squirrel.
TYPE LOCALITY: "Selenga River valley," [Buryat ASSR, Russia].
DISTRIBUTION: E Kazakhstan; S Siberia, Transbaikalia (Russia); N Mongolia; Heilungjiang and Xinjiang (China).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *undulatum* (Pallas, 1779); ***altaica*** (Brandt, 1841); *eversmanni* (Brandt, 1841); ***jacutensis*** (Brandt, 1844); ***menzbieri*** (Ognev, 1937); ***stramineus*** (Obolenskii, 1927); ***transbaikalicus*** (Obolenskii, 1927); *intercedens* (Ognev, 1937).
COMMENTS: Subgenus *Urocitellus* according to Gromov et al. (1965:162), but see Hall (1981:381) who included *Urocitellus* in subgenus *Spermophilus*. Formerly included *parryii* (Hall and Kelson, 1959:343); but see Nadler et al. (1974) and comments under *parryii*. Chromosomes described by Nadler et al. (1975*a*).

Spermophilus variegatus (Erxleben, 1777). Syst. Regn. Anim., 1:421.
COMMON NAME: Rock Squirrel.
TYPE LOCALITY: "in Mexico." Restricted by Nelson (1898:898) to "Valley of Mexico, near City of Mexico," [Distrito Federal, Mexico].
DISTRIBUTION: S Nevada to SW Texas and Utah (USA) to Puebla (C Mexico).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *buccatus* (Lichtenstein, 1830); *macrourus* Bennett, 1833; ***buckleyi*** Slack, 1861; ***couchii*** Baird, 1855; ***grammurus*** (Say, 1823); *juglans* (V. Bailey, 1913); *tiburonensis* Jones and Manning, 1989; ***robustus*** (Durrant and Hansen, 1954); ***rupestris*** (J. A. Allen, 1903); ***tularosae*** (Benson, 1932); ***utah*** (Merriam, 1903).

COMMENTS: Subgenus *Otospermophilus* (Hall, 1981:399); belongs to *variegatus* group, which also includes *beecheyi* and *atricapillus* (Harrison et al., 2003). Reviewed by Oaks et al. (1987, Mammalian Species No. 272).

Spermophilus washingtoni (A. H. Howell, 1938). N. Am. Fauna, 56:69.
COMMON NAME: Washington Ground Squirrel.
TYPE LOCALITY: "Touchet, Walla Walla Co., Wash[ington]." [USA].
DISTRIBUTION: SE Washington, NE Oregon (USA).
STATUS: U.S. ESA – Candidate taxon; IUCN – Vulnerable.
SYNONYMS: *loringi* A. H. Howell, 1938.
COMMENTS: Subgenus *Spermophilus* (Hall, 1981:384). Current status assessed by Betts (1999). Reviewed by Rickart and Yensen (1991, Mammalian Species No. 371).

Spermophilus xanthoprymnus (Bennett, 1835). Proc. Zool. Soc. Lond., 1835:90.
COMMON NAME: Asia Minor Ground Squirrel.
TYPE LOCALITY: "Erzurum" [Turkey].
DISTRIBUTION: Transcaucasia (Armenia, possibly Azerbaijan), Turkey, Syria, and Israel.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *schmidti* (Satunin, 1908).
COMMENTS: Subgenus *Spermophilus* (Gromov et al. 1965:237). Regarded by Ellerman and Morrison-Scott (1951:506) and Corbet (1978*c*:83) as a synonym of *citellus*; but see Vasil'eva (1961), Gromov et al. (1965:237), and Vorontsov and Lyapunova (1970), who provided evidence of specific distinctness. Molecular sequence data suggest that this species may form a clade together with *dauricus* and *suslicus* (Harrison et al., 2003). Karyotypes analyzed by Doğramaci et al. (1994*a*).

Tamias Illiger, 1811. Prodr. Syst. Mamm. Avium., p. 83.
TYPE SPECIES: *Sciurus striatus* Linnaeus, 1758.
SYNONYMS: *Eutamias* Trouessart, 1880; *Neotamias* A. H. Howell, 1929.
COMMENTS: Tribe Marmotini (Moore, 1959). Nearctic forms revised by A. H. Howell (1929). Sutton (1992) provided a key to the species. Includes *Eutamias* (*sibiricus*), *Tamias* (*striatus*), and *Neotamias* as subgenera (Corbet, 1978*c*:85; Ellerman, 1940:428; Levenson et al., 1985; Nadler et al., 1977). Disagreement exists regarding the status of *Eutamias* and *Neotamias*; see White (1953), Ellis and Maxson (1979), Hall (1981:337), Patterson and Heaney (1987), and Jameson (1999). Levenson et al. (1985) found that *T.* (*T.*) *striatus* and *T.* (*E.*) *sibiricus* together formed the primitive sister group to *Neotamias* species. Piaggio and Spicer (2001) supported this hypothesis. Thus, a single genus, *Tamias*, may be employed for all chipmunks (Levenson et al., 1985), but two genera (*Tamias* and *Neotamias*) could be recognized, or all three could be recognized as genera.

Tamias alpinus Merriam, 1893. Proc. Biol. Soc. Wash., 8:137.
COMMON NAME: Alpine Chipmunk.
TYPE LOCALITY: "Big Cottonwood Meadows, . . . just south of Mount Whitney, altitude 3,050 meters or 10,000 feet" [Tulare Co., California, USA].
DISTRIBUTION: Alpine zone in Sierra Nevada, from Tuolumne to Tulare Counties (EC California, USA).
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Neotamias*. Reviewed by Clawson et al. (1994*a*, Mammalian Species No. 461).

Tamias amoenus J. A. Allen, 1890. Bull. Am. Mus. Nat. Hist., 3:90.
COMMON NAME: Yellow-pine Chipmunk.
TYPE LOCALITY: "Fort Klamath, [Klamath Co.,] Oregon." [USA].
DISTRIBUTION: C British Columbia (Canada) south to C California east to C Montana and W Wyoming (USA).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *propinquus* (Anthony, 1913); ***affinis*** J. A. Allen, 1890; ***albiventris*** (Booth, 1947); ***canicaudus*** (Merriam, 1903); ***caurinus*** (Merriam, 1898); ***celeris*** (Hall and Johnson, 1940); ***cratericus*** (Blossom, 1937); ***felix*** Rhoads, 1895; ***ludibundus*** (Hollister, 1911);

luteiventris J. A. Allen, 1890; ***monoensis*** (Grinnell and Storer, 1916); ***ochraceus*** (A. H. Howell, 1925); ***septentrionalis*** (Cowan, 1946); ***vallicola*** (A. H. Howell, 1922).

COMMENTS: Subgenus *Neotamias*. Reviewed by Sutton (1992, Mammalian Species No. 390). DNA variation and introgressive hybridization between *T. amoenus* and *T. ruficaudus* reported by Good et al. (2003) and Demboski and Sullivan (2003).

Tamias bulleri J. A. Allen, 1889. Bull. Am. Mus. Nat. Hist., 2:173.

COMMON NAME: Buller's Chipmunk.

TYPE LOCALITY: "Sierra de Valparaiso, Zacatecas," [Mexico].

DISTRIBUTION: Sierra Madre, in S Durango, W Zacatecas, and N Jalisco (Mexico).

STATUS: IUCN – Lower Risk (lc).

COMMENTS: Subgenus *Neotamias*. Formerly included *durangae* and *solivagus*, which were considered *incertae sedis* by Callahan (1980); see *durangae*. Reviewed by Bartig et al. (1993, Mammalian Species No. 438).

Tamias canipes (V. Bailey, 1902). Proc. Biol. Soc. Wash., 15:117.

COMMON NAME: Gray-footed Chipmunk.

TYPE LOCALITY: "Guadalupe Mts" [Culberson Co., Texas, USA]. Restricted by A. H. Howell (1929:101) to head of Dog Canyon, 7000 ft [2130 m].

DISTRIBUTION: Mountains of SE New Mexico and W Texas (USA).

STATUS: IUCN – Lower Risk (nt).

SYNONYMS: ***sacramentoensis*** Flaherty, 1960.

COMMENTS: Subgenus *Neotamias*. Elevated from subspecies of *cinereicollis* by Fleharty (1960). Reviewed by Findley et al. (1975:103-112), and by Best et al. (1992, Mammalian Species No. 411).

Tamias cinereicollis J. A. Allen, 1890. Bull. Am. Mus. Nat. Hist., 3:94.

COMMON NAME: Gray-collared Chipmunk.

TYPE LOCALITY: "San Francisco Mountain, [Coconino Co.,] Arizona." [USA].

DISTRIBUTION: Mountains of C and E Arizona and C and SW New Mexico (USA).

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: ***cinereus*** (V. Bailey, 1911).

COMMENTS: Subgenus *Neotamias*. Reviewed by Hilton and Best (1993, Mammalian Species No. 436).

Tamias dorsalis Baird, 1855. Proc. Acad. Nat. Sci. Philadelphia, 7:332.

COMMON NAME: Cliff Chipmunk.

TYPE LOCALITY: "Fort Webster, Coppermines of the Mimbres" Restricted by A. H. Howell (1929:131) to near present site of Santa Rita, Grant Co., New Mexico.

DISTRIBUTION: E Nevada, S Idaho, Utah, SW Wyoming, and NW Colorado south through Arizona and W New Mexico (USA) to NW Durango, W Coahuila, and coastal Sonora (Mexico).

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *canescens* (J. A. Allen, 1904); ***carminis*** (Goldman, 1938); ***grinnelli*** (Burt, 1931); ***nidoensis*** (Lidicker, 1960); ***sonoriensis*** (Callahan and Davis, 1977); ***utahensis*** (Merriam, 1897).

COMMENTS: Subgenus *Neotamias*. Reviewed by Callahan and Davis (1977) who included *sonoriensis* in this species, and by Hart (1992, Mammalian Species No. 399).

Tamias durangae (J. A. Allen, 1903). Bull. Am. Mus. Nat. Hist., 19:594.

COMMON NAME: Durango Chipmunk.

TYPE LOCALITY: "Arroyo de Bucy, Sierra de Candella, . . . about 7,500 feet [2134 m], northwestern Durango, Mexico."

DISTRIBUTION: SW Chihuahua to WC Durango; SE Coahuila (Mexico).

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *nexus* Elliot, 1905; *solivagus* (A. H. Howell, 1922).

COMMENTS: Subgenus *Neotamias*. Formerly included in *bulleri*; includes *solivagus*; perhaps conspecific with *canipes*; see Callahan (1980), who considered both *durangae* and *solivagus*, *incertae sedis*. Reviewed by Best et al. (1993, Mammalian Species No. 437).

Tamias merriami J. A. Allen, 1889. Bull. Am. Mus. Nat. Hist., 2:176.
COMMON NAME: Merriam's Chipmunk.
TYPE LOCALITY: "San Bernardino Mts" [N of San Bernardino, 4500 feet (1372 m), San Bernardino Co., California, USA].
DISTRIBUTION: San Francisco Bay southward in the Coast Range, and south of Columbia (California, USA) in the Sierra Nevada, to extreme N Baja California (Mexico).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *mariposae* (Grinnell and Storer, 1916); ***kernensis*** (Grinnell and Storer, 1916); ***pricei*** J. A. Allen, 1895.
COMMENTS: Subgenus *Neotamias*. Formerly included *meridionalis* and *obscurus*; see Callahan (1977). See also comment under *obscurus*. Reviewed by Best and Granai (1994*a*, Mammalian Species No. 476), and Larson (1981-1987).

Tamias minimus Bachman, 1839. J. Acad. Nat. Sci. Philadelphia, 8:71.
COMMON NAME: Least Chipmunk.
TYPE LOCALITY: "Green River, near mouth of Big Sandy Creek, [Sweetwater Co.,] Wyo[ming]." [USA].
DISTRIBUTION: C Yukon (Canada) south through Sierra Nevada and S New Mexico, east to Michigan (USA) and W Quebec (Canada).
STATUS: IUCN – Critically Endangered as *T. m. atristriatus*, Vulnerable as *T. m. selkirki*, otherwise Lower Risk (lc).
SYNONYMS: ***atristriatus*** (V. Bailey, 1913); ***borealis*** J. A. Allen, 1877; ***cacodemus*** (Cary, 1906); ***caniceps*** (Osgood, 1900); ***caryi*** (Merriam, 1908); ***confinis*** (A. H. Howell, 1925); ***consobrinus*** J. A. Allen, 1890; *clarus* (V. Bailey, 1918); *lectus* (J. A. Allen, 1905); ***grisescens*** (A. H. Howell, 1925); ***hudsonius*** (Anderson and Rand, 1944); ***neglectus*** J. A. Allen, 1890; *jacksoni* (A. H. Howell, 1925); ***operarius*** (Merriam, 1905); *arizonensis* (A. H. Howell, 1922); ***oreocetes*** (Merriam, 1897); ***pallidus*** J. A. Allen, 1874; ***pictus*** J. A. Allen, 1890; *melanurus* Merriam, 1890; ***scrutator*** (Hall and Hatfield, 1934); ***selkirki*** (Cowan, 1946); ***silvaticus*** (White, 1952).
COMMENTS: Subgenus *Neotamias*. Southern Rocky Mtn populations revised by Sullivan (1985). Reviewed by Verts and Carraway (2001, Mammalian Species No. 653).

Tamias obscurus J. A. Allen, 1890. Bull. Am. Mus. Nat. Hist., 3:70.
COMMON NAME: California Chipmunk.
TYPE LOCALITY: "San Pedro [Martir] Mountains" [near Vallecitos, Baja California Norte, Mexico].
DISTRIBUTION: S California (San Bernardino Co., USA) to C Baja California (Mexico).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***davisi*** (Callahan, 1977); ***meridionalis*** (Nelson and Goldman, 1909).
COMMENTS: Subgenus *Neotamias*. Regarded by A. H. Howell (1929) as a synonym of *merriami*; but see Callahan (1977) who provided evidence of specific distinctness and included *davisi* and *meridionalis* in this species. Reviewed by Best and Granai (1994*b*, Mammalian Species No. 472).

Tamias ochrogenys (Merriam, 1897). Proc. Biol. Soc. Wash., 11:195, 206.
COMMON NAME: Yellow-cheeked Chipmunk.
TYPE LOCALITY: "Mendocino, [Mendocino Co.,] California." [USA].
DISTRIBUTION: Coast of N California from Van Duzen River south to S Sonoma Co. (USA).
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Neotamias*. Elevated from subspecies of *townsendii* by Sutton and Nadler (1974); supported by Kain (1985), Sutton (1987), and Gannon and Lawlor (1989). Reviewed by Gannon et al. (1993, Mammalian Species No. 445).

Tamias palmeri (Merriam, 1897). Proc. Biol. Soc. Wash., 11:208.
COMMON NAME: Palmer's Chipmunk.
TYPE LOCALITY: "Charleston Peak, [Clark Co.,] Nevada [USA] (altitude about 2450 meters or 8000 feet)."
DISTRIBUTION: Charleston Mtns (S Nevada, USA).
STATUS: IUCN – Vulnerable.

COMMENTS: Subgenus *Neotamias*. Reviewed by Best (1993*a*, Mammalian Species No. 443).

Tamias panamintinus Merriam, 1893. Proc. Biol. Soc. Wash., 8:134.
COMMON NAME: Panamint Chipmunk.
TYPE LOCALITY: "Johnson Cañon . . . Panamint Mountains, [Inyo Co.,] California." [USA] Restricted by Grinnell (1933:128) to vicinity of Hungry Bill's Ranch, about 5000 ft [1524 m].
DISTRIBUTION: Mountains of SE California and SW Nevada (USA).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *juniperus* (Burt, 1931); ***acrus*** (Johnson, 1943).
COMMENTS: Subgenus *Neotamias*. Reviewed by Best et al. (1994*b*, Mammalian Species No. 468).

Tamias quadrimaculatus Gray, 1867. Ann. Mag. Nat. Hist., ser. 3, 20:435.
COMMON NAME: Long-eared Chipmunk.
TYPE LOCALITY: "California, Michigan Bluff (Gruber)" [Placer Co., USA].
DISTRIBUTION: Sierra Nevada of EC California (Plumas to Mariposa cos.); C and adjacent WC Nevada (USA).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *macrorhabdotes* Merriam, 1886.
COMMENTS: Subgenus *Neotamias*. Reviewed by Clawson et al. (1994*b*, Mammalian Species No. 469).

Tamias quadrivittatus (Say, 1823). *In* James, Account Exped. Pittsburgh to Rocky Mtns, 2:45.
COMMON NAME: Colorado Chipmunk.
TYPE LOCALITY: "[Arkansas River] . . . the place where the river leaves the mountains," Restricted by Merriam (1905:163) to about 26 mi. [42 km] below Cañon City, Fremont Co., Colorado [USA].
DISTRIBUTION: Mountains of Colorado and E Utah south to NE Arizona and S New Mexico (USA).
STATUS: IUCN – Vulnerable as *T. q. australis*, otherwise Lower Risk (lc).
SYNONYMS: *animosus* (Warren, 1909); *australis* (Patterson, 1980); *gracilis* J. A. Allen, 1890.
COMMENTS: Subgenus *Neotamias*. Formerly included *hopiensis* (Merriam, 1905), but see Patterson (1984:452), who regarded it a *nomen dubium*, and *rufus*, now considered distinct (Patterson, 1984); but see Hoffmeister and Ellis (1979). See also *umbrinus*. Reviewed by Best et al. (1994*a*, Mammalian Species No. 466).

Tamias ruficaudus (A. H. Howell, 1920). Proc. Biol. Soc. Wash., 33:91.
COMMON NAME: Red-tailed Chipmunk.
TYPE LOCALITY: "Upper St. Mary's Lake, [Glacier Co.,] Montana." [USA].
DISTRIBUTION: NE Washington to W Montana (USA), and SE British Columbia (Canada).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***simulans*** (A. H. Howell, 1922).
COMMENTS: Subgenus *Neotamias*. Patterson and Heaney (1987) presented both cranial and bacular data indicating that *simulans* may be specifically distinct from *ruficaudus*, but the nature of contact between the two forms is not known. Reviewed by Best (1993*b*, Mammalian Species No. 452). Introgressive hybridization with *T. amoenus* reported in Good et al. (2003).

Tamias rufus (Hoffmeister and Ellis, 1979). Southwest. Nat., 24:656.
COMMON NAME: Hopi Chipmunk.
TYPE LOCALITY: USA, "10 mi SW Page, Coconino County, Arizona".
DISTRIBUTION: E and S Utah, extreme W Colorado, and NE Arizona, USA.
STATUS: IUCN – Lower Risk (lc).
COMMENTS: Subgenus *Neotamias*. Formerly included in *quadrivittatus*, but see Patterson (1984). Reviewed by Burt and Best (1994, Mammalian Species No. 460).

Tamias senex J. A. Allen, 1890. Bull. Am. Mus. Nat. Hist., 3:83.
COMMON NAME: Shadow Chipmunk.
TYPE LOCALITY: "Summit of Donner Pass, Placer Co., Cal[ifornia, USA]."

DISTRIBUTION: Sierra Nevada of EC California and WC Nevada to N coast of California, and NC Oregon (USA).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***pacifica*** Sutton and Patterson, 2000.
COMMENTS: Subgenus *Neotamias*. Elevated from a subspecies of *townsendii* by Sutton and Nadler (1974); distinction also suggested by Kain (1985), Sutton (1987), and Gannon and Lawlor (1989). Reviewed by Gannon and Forbes (1995, Mammalian Species No. 502).

Tamias sibiricus (Laxmann, 1769). Sibirische Briefe, Gottingen, p. 69.
COMMON NAME: Siberian Chipmunk.
TYPE LOCALITY: "Vicinity of Barnaul" [Altaisk Krai, Russia] (Chaworth-Musters, 1937).
DISTRIBUTION: N European and Siberian Russia to Sakhalin; S Kurile Isls (Russia); extreme E Kazakhstan to N Mongolia, China, Korea, and Hokkaido (Japan). Introduced into Austria, France, Germany, Holland and Italy (Niethammer and Krapp, 1978).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: *altaicus* (Hollister, 1912); ***asiaticus*** (Gmelin, 1788); *uthensis* (Pallas, 1811); *jacutensis* Ognev, 1935; ***lineatus*** (Siebold, 1824); ***okadae*** (Kuroda, 1932); ***ordinalis*** (Thomas, 1908); *albogularis* (J. A. Allen, 1909); ***orientalis*** Bonhote, 1899; *barberi* (Johnson and Jones, 1955); ***pallasi*** Baird, 1856; *striatus* (Pallas, 1778) [not Linnaeus, 1758]; ***senescens*** (Miller, 1898); *intercessor* (Thomas, 1908); ***umbrosus*** (A. H. Howell, 1927).
COMMENTS: Subgenus *Eutamias*; see Gromov et al. (1965:125). Koh (1994) compared Korean and Manchurian forms. Oshida and Yoshida (1994) described the chromosomes of *T. s. lineatus*.

Tamias siskiyou (A. H. Howell, 1922). J. Mammal., 3:180.
COMMON NAME: Siskiyou Chipmunk.
TYPE LOCALITY: "Near summit of White Mountain, Siskiyou Mountains, altitude 6,000 feet [1829 m], [Siskiyou Co.,] California" [USA].
DISTRIBUTION: Siskiyou Mtns and coast of N California to C Oregon (USA).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***humboldti*** Sutton and Patterson, 2000.
COMMENTS: Subgenus *Neotamias*. Elevated from a subspecies of *townsendii* by Sutton and Nadler (1974); distinction supported by Kain (1985), Sutton (1987), and Gannon and Lawlor (1989).

Tamias sonomae (Grinnell, 1915). Univ. California Publ. Zool., 12:321.
COMMON NAME: Sonoma Chipmunk.
TYPE LOCALITY: "One mile [1.6 km] west of Guerneville, Sonoma County, California." [USA].
DISTRIBUTION: NW California, from San Francisco Bay north to Siskiyou Co. (USA).
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***alleni*** (A. H. Howell, 1922).
COMMENTS: Subgenus *Neotamias*. Reviewed by Best (1993*c*, Mammalian Species No. 444).

Tamias speciosus Merriam, 1890. *In* J. A. Allen, Bull. Am. Mus. Nat. Hist., 3:86.
COMMON NAME: Lodgepole Chipmunk.
TYPE LOCALITY: "San Bernardino Mts., [San Bernardino Co.,] Cal[ifornia, USA]." Restricted by A. H. Howell (1929:89) to Whitewater Creek, 7500 ft [2255 m].
DISTRIBUTION: USA: Sierra Nevada from Mt. Lassen to San Bernardino Mtns (California); W Nevada.
STATUS: IUCN – Lower Risk (lc).
SYNONYMS: ***callipeplus*** Merriam, 1893; ***frater*** J. A. Allen, 1890; ***sequoiensis*** (A. H. Howell, 1922).
COMMENTS: Subgenus *Neotamias*. Reviewed by Best et al. (1994*c*, Mammalian Species No. 478).

Tamias striatus (Linnaeus, 1758). Syst. Nat., 10th ed., 1:64.
COMMON NAME: Eastern Chipmunk.
TYPE LOCALITY: Restricted by A. H. Howell (1929:14) to "upper Savannah River, S[outh] C[arolina]." [USA].

DISTRIBUTION: S Manitoba and Nova Scotia (Canada) to Louisiana, Alabama, and Georgia, east to Atlantic Coast (USA).

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *americanus* Gmelin, 1788; ***doorsiensis*** Long, 1971; ***fisheri*** A. H. Howell, 1925; ***griseus*** Mearns, 1891; ***lysteri*** (Richardson, 1829); ***ohioensis*** Bole and Moulthrop, 1942; ***peninsulae*** Hooper, 1942; ***pipilans*** Lowery, 1943; ***quebecensis*** Cameron, 1950; ***rufescens*** Bole and Moulthrop, 1942; ***venustus*** Bangs, 1896.

COMMENTS: Subgenus *Tamias*; see Gromov et al. (1965:134). Reviewed by Snyder (1982, Mammalian Species No. 168).

Tamias townsendii Bachman, 1839. J. Acad. Nat. Sci. Philadelphia, 8(1):68.

COMMON NAME: Townsend's Chipmunk.

TYPE LOCALITY: "lower Columbia River, near lower mouth of Willamette River, [Multnomah Co.,] Oreg[on]." [USA].

DISTRIBUTION: SW British Columbia (Canada), W Washington and Oregon to the Rogue River (USA).

STATUS: IUCN – Lower Risk (lc).

SYNONYMS: *hindei* Gray, 1842; *littoralis* Elliot, 1903; ***cooperi*** Baird, 1855.

COMMENTS: Subgenus *Neotamias*. Formerly included *ochrogenys*, *siskiyou* and *senex*; see comments under those species. Reviewed by Sutton (1993, Mammalian Species No. 435).

Tamias umbrinus J. A. Allen, 1890. Bull. Am. Mus. Nat. Hist., 3:96.

COMMON NAME: Uinta Chipmunk.

TYPE LOCALITY: "Uintah Mountains, south of Ft. Bridger" Restricted by A. H. Howell (1929:94) to Blacks Fork, about 8000 ft [2438 m], Summit Co., Utah [USA].

DISTRIBUTION: E California and N Arizona to N Colorado, SE and NW Wyoming, and extreme SW Montana (USA).

STATUS: IUCN – Critically Endangered as *T. u. nevadensis*, Data Deficient as *T. u. sedulus*, otherwise Lower Risk (lc).

SYNONYMS: ***adsitus*** (J. A. Allen, 1905); ***fremonti*** (White, 1953); ***inyoensis*** (Merriam, 1897); ***montanus*** (White, 1953); ***nevadensis*** (Burt, 1931); ***sedulus*** (White, 1953).

COMMENTS: Subgenus *Neotamias*. Bergstrom and Hoffmann (1991) found species-specific vocalizations, habitats, and bacular characters in sympatric *umbrinus* and *quadrivittatus*, but convergence in electromorphs.