

## FAMILY SCIURIDAE

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### Family Sciuridae Hemprich, 1820. Grundriss Naturgesch., p. 32.

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. 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 Paraxerini for certain genera that had previously been included in Funambolini. 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 Cynomiyini Gromov. He also recognized the subfamilies Xerinae and Sciurinae, but did not treat any other groups. Emry and Thorington (1984) submerged Tamiasciurini in Sciurini and Tamiini in Marmotini. They also (1982) described the oldest known sciurid, *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 challenged (Hight et al., 1974). 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. A catalog of Indian sciurids was presented by Agrawal and Chakraborty (1979).

### Subfamily Sciurinae Hemprich, 1820. Grundriss Naturgesch., p. 32.

#### *Ammospermophilus* Merriam, 1892. Proc. Biol. Soc. Washington, 7:27.

TYPE SPECIES: *Tamias leucurus* Merriam, 1889.

COMMENTS: Tribe Otospermophilini (Gromov et al., 1965) or Marmotini. Formerly included in *Spermophilus* (Hershkovitz, 1949b); Bryant (1945) considered *Ammospermophilus* a distinct genus. Recent biochemical and chromosomal data support Bryant's recognition of generic status.

#### *Ammospermophilus harrisii* (Audubon and Bachman, 1854). Viviparous Quadrupeds of North America, 3:267.

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.

SYNONYMS: *kinoensis* Huey, 1937; *saxicolus* (Mearns, 1896).

COMMENTS: See *A. insularis*; reviewed by Best et al. (1990c, Mammalian Species, 366).

#### *Ammospermophilus insularis* Nelson and Goldman, 1909. Proc. Biol. Soc. Washington, 22:24.

TYPE LOCALITY: "Espiritu Santo Island, Lower California [=Baja California Sur], Mexico."

DISTRIBUTION: Known only from the type locality.

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. (1990a, Mammalian Species, 364).

#### *Ammospermophilus interpres* (Merriam, 1890). N. Am. Fauna, 4:21.

TYPE LOCALITY: "El Paso, [El Paso Co.], Texas [USA]."

DISTRIBUTION: New Mexico and W Texas (USA) to Coahuila, Chihuahua, and Durango (Mexico).

COMMENTS: Most divergent species of the genus (Bolles, 1981), and probable primitive sister-species to remainder (Hafner, 1981). Reviewed by Best et al. (1990b, *Mammalian Species*, 365).

*Ammospermophilus leucurus* (Merriam, 1889). *N. Am. Fauna*, 2:19.

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).

SYNONYMS: *canfieldiae* Huey, 1929; *cinamomeus* (Merriam, 1890); *escalante* (Hansen, 1955); *extimus* Nelson and Goldman, 1929; *notom* (Hansen, 1955); *peninsulae* (J. Allen, 1893); *pennipes* A. Howell, 1931; *tersus* Goldman, 1929; *vinnulus* (Elliot, 1904).

COMMENTS: Reviewed by Belk and Smith (1990, *Mammalian Species*, 368).

*Ammospermophilus nelsoni* (Merriam, 1893). *Proc. Biol. Soc. Washington*, 8:129.

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).

SYNONYMS: *amplus* Taylor, 1916.

COMMENTS: Most closely related to *interpres* (Hafner, 1981). Reviewed by Best et al. (1990d, *Mammalian Species*, 367).

*Atlantoxerus* Forsyth Major, 1893. *Proc. Zool. Soc. Lond.*, 1893:189.

TYPE SPECIES: *Sciurus getulus* Linnaeus, 1758.

COMMENTS: Subfamily Xerinae (Gromov et al., 1965:70) or tribe Xerini (Moore, 1959).

*Atlantoxerus* was originally a subgenus of *Xerus*, and later raised to full generic rank by Thomas (1909a). Closely related to *Xerus* (Corbet, 1978c:79).

*Atlantoxerus getulus* (Linnaeus, 1758). *Syst. Nat.*, 10th ed., 1:64.

TYPE LOCALITY: "in Africa." Restricted by Thomas (1911a: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.

SYNONYMS: *praetextus* Wagner, 1842; *trivittatus* (Gray, 1842); see Corbet (1978c:79).

*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 (Moore, 1959). Formerly included *Sundasciurus* and *Prosciurillus* (in part; see Moore, 1958) and *Tamiops* (Moore and Tate, 1965). See also Corbet and Hill (1992) who employed *Callosciurus* in the more inclusive sense. Reviewed in part by Chakraborty (1985).

*Callosciurus adamsi* (Kloss, 1921). *J. Str. Br. Roy. Asiat. Soc.*, 83:151.

TYPE LOCALITY: Malaysia, Sarawak, Baram River, Long Mujan, 150 mi. (241 km) up Baram River, 700-900 ft. (213-274 m).

DISTRIBUTION: Lowlands and hills in Sabah and Sarawak, Borneo, below the range of *orestes*.

COMMENTS: Distinct from *albescens*; see Medway (1977:93). Member of the *notatus* species group, closely related to *orestes*. 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.

TYPE LOCALITY: Indonesia, Sumatra, Acheen (= Atjeh).

DISTRIBUTION: Sumatra.

SYNONYMS: *albiculus* G. Miller, 1942.

COMMENTS: Considered a distinct species by Medway (1977:93). Member of the *notatus* species group. Corbet and Hill (1992) considered *albescens* and *albiculus* assignable to *C. notatus*.

*Callosciurus baluensis* (Bonhote, 1901). *Ann. Mag. Nat. Hist.*, ser. 7, 7:174.

TYPE LOCALITY: Malaysia, Sabah, Mount Kinabalu, Borneo, alt. 1000 ft.

DISTRIBUTION: Above 300 m elevation in Sabah and Sarawak, Malaysia.

SYNONYMS: *baramensis* (Chasen, 1940); *medialis* 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) included *prevostii erythromelas* in this species, with *schlegeli* a synonym.

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

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

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

SYNONYMS: *adangensis* (Miller, 1903), *altinsularis* (Miller, 1903); *bentincanus* (Miller, 1903); *bimaculatus* (Temminck, 1853); *casensis* (Miller, 1903); *chrysonotus* (Blyth, 1847); *concolor* (Blyth, 1855); *davisoni* (Bonhote, 1901); *domelicus* (Miller, 1903); *epomophorus* (Bonhote, 1901); *erubescens* Cabrera, 1917; *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); *milleri* (Robinson and Wroughton, 1911); *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). Member of the *caniceps* species group.

*Callosciurus erythraeus* (Pallas, 1778). Nova Spec. Quad. Glir. Ord., p. 377.

TYPE LOCALITY: Not known; restricted to Assam, India by Bonhote (1901a); 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.

SYNONYMS: *albifer* (Hilzheimer, 1906); *aquilo* Wroughton, 1921; *atrodorsalis* (Gray, 1842); *bartoni* (Thomas, 1914); *bhutanensis* (Bonhote, 1901); *bolovens* Osgood, 1932; *bonhotei* (Robinson and Kloss, 1911); *canigenus* Howell, 1927; *careyi* Thomas and Wroughton, 1916; *castaneovestris* (Gray, 1842); *centralis* (Bonhote, 1901); *cinnamomeiventris* (Swinhoe, 1862); *contumax* Thomas, 1927; *crotalius* Thomas and Wroughton, 1916; *crumpi* Wroughton, 1916; *cucphuongis* Dao Van Tien, 1965; *dabshanensis* Xu and Chen, 1989; *dactylinus* Thomas, 1927; *erythrogaster* (Blyth, 1842); *flavimanus* (I. Geoffroy, 1831); *fryanus* Thomas and Wroughton, 1916; *fumigatus* (Bonhote, 1907); *gloveri* Thomas, 1921; *gongshanensis* Wang, 1981; *gordoni* (Anderson, 1871); *griseimanus* (Milne-Edwards, 1867); *griseopectus* (Blyth, 1847); *griseopectus* (Milne-Edwards, 1874); *haemobaphes* (G. M. Allen, 1912); *haringtoni* (Thomas, 1905); *hendeei* Osgood, 1932; *hyperythrus* (Blyth, 1855); *insularis* (J. A. Allen, 1906); *intermedius* (Anderson, 1879); *kemmisi* (Wroughton, 1908); *kinneari* Thomas and Wroughton, 1916; *leucopus* (Gray, 1867); *leucurus* (Hilzheimer, 1905); *michianus* (Robinson and Wroughton, 1911); *midas* (Thomas, 1914); *millardi* Thomas and Wroughton, 1916; *nagarum* Thomas and Wroughton, 1916; *nigridorsalis* Kuroda, 1935; *ningpoensis* (Bonhote, 1901); *phanrangis* Robinson and Kloss, 1922; *pirata* Thomas, 1929; *pranis* (Kloss, 1916); *primus* Allen and Coolidge, 1940; *punctatissimus* (Gray, 1867); *quantulus* Thomas, 1927; *quinlingensis* Xu and Chen, 1989; *roberti* (Bonhote, 1901); *rubeculus* (Miller, 1903); *rubex* (Thomas, 1914); *shanicus* (Ryley, 1914); *shortridgei* Thomas and Wroughton, 1916; *siamensis* Gray, 1860; *sladeni* (Anderson, 1871); *solutus* Thomas, 1914; *styani* (Thomas, 1894); *tachin* (Kloss, 1916); *thai* (Kloss, 1917); *thaiwanensis* (Bonhote, 1901); *tsingtanensis* (Hilzheimer, 1905); *tsingtauensis* (Hilzheimer, 1906); *vassali* (Bonhote, 1907); *vernayi* Carter, 1942; *wellsi* Wroughton, 1921; *woodi* Harris, 1931; *wuliangshanensis* Li and Wang, 1981; *youngi* (Robinson and Kloss, 1914); *zimmeensis* Robinson and Wroughton, 1916.

COMMENTS: Includes *sladeni*; see Moore and Tate (1965). Includes *flavimanus* (Corbet and Hill, 1992), which was formerly considered distinct (Moore and Tate, 1965).

Chromosomes described (as *flavimanus*) by Nadler et al. (1975b). Indian populations

reviewed by Agrawal and Chakraborty (1979), and Vietnamese populations by Dao (1965).

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

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

DISTRIBUTION: SC Burma, Thailand, Cambodia, Laos, Vietnam.

SYNONYMS: *albivexilli* (Kloss, 1916); *annellatus* Thomas, 1929; *bocourti* (Milne-Edwards, 1867); *bonhotei* Robinson and Wroughton, 1911; *boonsongi* Moore and Tate, 1965; *cinnamomeus* (Temminck, 1853); *cockerelli* Thomas, 1928; *dextralis* (Wroughton, 1908); *ferrugeneus* (F. Cuvier, 1829); *floweri* (Bonhote, 1901); *folletti* (Kloss, 1915); *frandseni* (Kloss, 1916); *germaini* (Milne-Edwards, 1867); *gruti* (Gyldenstolpe, 1917); *harmandi* (Milne-Edwards, 1876); *herberti* Robinson and Kloss, 1922; *keraudreni* (Lesson, 1830); *leucocephalus* (Bonhote, 1901); *leucogaster* (Milne-Edwards, 1867); *lylei* (Wroughton, 1908); *menamicus* Thomas, 1929; *nox* (Wroughton, 1908); *pierrei* Robinson and Kloss, 1922; *portus* (Kloss, 1915); *prachin* (Kloss, 1920); *rajasima* (Kloss, 1920); *sinistralis* (Wroughton, 1908); *splendens* (Gray, 1861); *tachardi* (Robinson, 1916); *trotteri* (Kloss, 1916); *williamsoni* Robinson and Kloss, 1922.

COMMENTS: Revised by Moore and Tate (1965), expanded to include *ferrugeneus* by Corbet and Hill (1992). Chromosomes described by Nadler et al. (1975b).

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

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

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

SYNONYMS: *imitator* Thomas, 1925.

COMMENTS: Revised by Moore and Tate (1965); member of the *caniceps* species group.

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

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

DISTRIBUTION: Mentawi Isls (Indonesia).

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

COMMENTS: Member of the *notatus* species group. Part of the rodent fauna endemic to the Mentawi Archipelago (see comments under *Leopoldamys siporanus*).

*Callosciurus nigrovittatus* (Horsfield, 1824). Zool. Res. Java, 7:149.

TYPE LOCALITY: Indonesia, "The island of Java." Restricted by Robinson and Kloss (1918a:222) to "Java (probably East and central parts)."

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

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

COMMENTS: Member of the *notatus* species group.

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

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 considered this population an introduction, possibly from Java); widespread on smaller islands.

SYNONYMS: *abbottii* (Miller, 1900); *anambensis* (Miller, 1900); *andrewsii* (Bonhote, 1901); *aoris* (Miller, 1903); *arendsis* (Lyon, 1911); *atristriatus* (Miller, 1913); *badjing* (Kerr, 1792); *balstoni* (Robinson and Wroughton, 1911); *bilineatus* (E. Geoffroy, 1817); *billitonis* (Lyon, 1906); *conipus* (Lyon, 1911); *datus* (Lyon, 1911); *dilutus* (Miller, 1913); *director* (Lyon, 1909); *dulitensis* (Bonhote, 1901); *famulus* (Robinson, 1912); *guillemardi* (Kloss, 1926); *ictericus* (Miller, 1903); *kalianda* Sody, 1949; *lamucotanus* (Lyon, 1911); *lautensis* (Miller, 1901); *lighti* (Chasen and Kloss, 1924); *lunaris* (Chasen and Kloss, 1924); *lutescens* (Miller, 1901); *madurae* (Thomas, 1910); *magnificus* Sody, 1949; *malawali* (Chasen and Kloss, 1932); *maporensis* (Robinson, 1916); *marinsularis* (Lyon, 1911); *microtis* (Jentink, 1879); *miniatus* (Miller, 1900); *nesiotes* (Thomas and Wroughton, 1909); *nicotianae* Sody, 1936; *pannovianus* (Miller, 1903); *pemangilensis* (Miller, 1903);



*peninsularis* (Miller, 1903); *percommodus* Chasen, 1941; *perhentiani* (Kloss, 1911); *plantani* (Ljungh, 1801); *plasticus* (Kloss, 1911); *prinsulae* Sody, 1949; *poliopus* (Lyon, 1911); *pretiosus* (Miller, 1903); *proteus* (Kloss, 1911); *raptor* Hill, 1960; *rubidiventris* (Miller, 1901); *rupatius* (Lyon, 1908); *rutiliventris* (Miller, 1901); *saturatus* (Miller, 1903); *scottii* (Kloss, 1911); *seraiae* (Miller, 1901); *serutus* (Miller, 1906); *singaporensis* Robinson, 1916; *siriensis* (Lyon, 1911); *stellaris* (Chasen and Kloss, 1924); *stresemanni* (Thomas, 1913); *subluteus* (Thomas and Wroughton, 1909); *tamansari* (Kloss, 1921); *tapanulius* (Lyon, 1907); *tarussanus* Lyon, 1907; *tedongus* (Lyon, 1906); *tenuirostris* (Miller, 1900); *tinggius* Hill, 1960; *toupai* Lesson, 1827; *ubericolor* (Miller, 1903); *vanheurni* Sody, 1929; *verbeeki* Sody, 1928; *vinocastaneus* Sody, 1949; *vittatus* (Raffles, 1821); *watsoni* (Kloss, 1911).

COMMENTS: Member of the *notatus* species group. Corbet and Hill (1992) tentatively placed *atristriatus* here. Chromosomes described by Nadler et al. (1975b).

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

TYPE LOCALITY: Malaysia, Sarawak, Mount Dulit, 4000 ft.

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

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*. Member of the *notatus* species group, closely related to *adamsi* (see comments therein).

*Callosciurus phayrei* (Blyth, 1855). J. Asiat. Soc. Bengal, 24:472.

TYPE LOCALITY: Burma, Martaban, "Sent from Moulmein" (Robinson and Kloss, 1918a:225).

DISTRIBUTION: Upper Irrawaddy R. and Sittang R. eastward to Salween R., S Burma.

SYNONYMS: *blanfordii* (Blyth, 1862); *heinrichi* Tate, 1954.

COMMENTS: Considered a distinct species by Moore and Tate (1965). A member of the *caniceps* species group.

*Callosciurus prevostii* (Desmarest, 1822). Mammalogie, in Encyclop. Méth., p. 335.

TYPE LOCALITY: Malaysia, Malacca Prov., "Settlement of Malacca."

DISTRIBUTION: Malaysian subregion except Java; N Sulawesi. Musser (1987) considered the population in Sulawesi as introduced.

SYNONYMS: *armalis* (Lyon, 1911); *atricapillus* (Schlegel, 1863); *atrox* (Miller, 1913); *bangkanus* (Schlegel, 1863); *banksi* (Chasen, 1933); *borneoensis* (Müller and Schlegel, 1842); *caedis* (Chasen and Kloss, 1931); *carinatae* (Miller, 1906); *carimonensis* (Miller, 1906); *caroli* (Bonhote, 1901); *condurensis* (Miller, 1906); *coomansi* Sody, 1949; *erebus* (Miller, 1903); *erythromelas* (Temminck, 1853); *griseicauda* (Bonhote, 1901); *harrisoni* (Stone and Rehn, 1902); *humei* (Bonhote, 1901); *indica* (Müller and Schlegel, 1842, not *indicus* Erxleben, 1777); *kuchingensis* (Bonhote, 1901); *melanops* (Miller, 1902); *mendanaus* (Lyon, 1906); *mimellus* (Miller, 1900); *mimiculus* (Miller, 1900); *navigator* (Bonhote, 1901); *nyx* (Lyon, 1908); *palustris* (Lyon, 1907); *pelapius* (Lyon, 1911); *penialius* (Lyon, 1908); *piceus* (Peters, 1866); *pluto* (Gray, 1867); *proserpinae* (Lyon, 1907); *rafflesii* (Vigores and Horsfield, 1828); *redimitus* (Boon Mesch, 1829); *rufogularis* (Gray, 1842); *rufoniger* (Motley and Dillwyn, 1855); *rufonigra* (Gray, 1842); *sanggaus* (Lyon, 1907); *sarawakensis* (Gray, 1867); *schlegeli* (Gray, 1867); *suffusus* (Bonhote, 1901); *sumatranus* (Schlegel, 1863); *waringensis* Sody, 1949; *wrayi* (Kloss, 1910).

COMMENTS: Formerly included *baluensis*; but the two are often sympatric (Payne et al., 1985). Reviewed by Heaney (1978).

*Callosciurus pygerythrus* (I. Geoffroy Saint Hilaire, 1832). Mag. Zool. Paris, p. 5, pl. 4-6.

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).

SYNONYMS: *assamensis* (Gray, 1843); *bellona* (Thomas and Wroughton, 1916); *blythii* (Tytler, 1854); *janetta* (Thomas, 1914); *lokroides* (Hodgson, 1836); *mearsi* (Bonhote, 1906); *owensi* (Thomas and Wroughton, 1916); *similis* (Gray, 1867); *stevensi* (Thomas, 1908); *virgo* (Thomas and Wroughton, 1916).

COMMENTS: Revised by Moore and Tate (1965:209).

*Callosciurus quinquestriatus* (Anderson, 1871). Proc. Zool. Soc. Lond., 1871:142.

TYPE LOCALITY: "common at Ponsee, on the Kakhien range of hills, east of Bhamo, at an elevation of from 2000 to 3000 ft" [Burma].

DISTRIBUTION: NE Burma, Yunnan (China).

SYNONYMS: *beebei* (J. Allen, 1911); *imarius* Thomas, 1926; *sylvester* Thomas, 1926.

COMMENTS: Included in *flavimanus* by Moore and Tate (1965:209); but see Corbet and Hill (1992).

*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. 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 unclear. While generally regarded as monophyletic, and a sister-group to North American *Spermophilus*, recent evidence suggests that *Cynomys* may be most closely related to subgenus *Spermophilus*, making genus *Spermophilus* paraphyletic (Hafner, 1984:17).

*Cynomys gunnisoni* (Baird, 1855). Proc. Acad. Nat. Sci. Philadelphia, 7:334.

TYPE LOCALITY: "Cochitope [Cochetopa] Pass of Rocky Mountains." [Saguache Co., Colorado, USA].

DISTRIBUTION: SE Utah, SW Colorado, NE Arizona, and NW New Mexico (USA).

SYNONYMS: *zuniensis* Hollister, 1916.

COMMENTS: Subgenus *Leucocrossuromys* (Hall, 1981). Reviewed by Pizzimenti and Hoffmann (1973, Mammalian Species, 25) and Pizzimenti (1976).

*Cynomys leucurus* Merriam, 1890. N. Am. Fauna, 3:59.

TYPE LOCALITY: "Fort Bridger, [Uinta Co.] Wyoming" (Merriam, 1890:33).

DISTRIBUTION: SC Montana, W and C Wyoming, NE Utah, and NW Colorado (USA).

COMMENTS: Subgenus *Leucocrossuromys* (Hall, 1981). Reviewed by Clark et al. (1971, Mammalian Species, 7) and Pizzimenti (1976).

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

TYPE LOCALITY: "vicinity of the Missouri." Restricted by Hollister (1916a:14) to "Upper Missouri River."

DISTRIBUTION: Saskatchewan (Canada); Montana to E Nebraska, W Texas, New Mexico, and SE Arizona (USA); NE Sonora, and N Chihuahua (Mexico).

SYNONYMS: *arizonensis* Mearns, 1890; *cinereus* Richardson, 1829; *grisea* Rafinesque, 1817; *latrans* (Harlan, 1815); *missouriensis* (Warden, 1819); *pyrrotrichus* Elliot, 1905; *socialis* Rafinesque, 1817.

COMMENTS: Subgenus *Cynomys*. Intraspecific variation reviewed by Chesser (1983).

*Cynomys mexicanus* Merriam, 1892. Proc. Biol. Soc. Washington, 7:157.

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 and IUCN - Endangered.

COMMENTS: Subgenus *Cynomys* (Hall, 1981:412); reviewed by Ceballos-G. and Wilson (1985, Mammalian Species, 248) and Treviño-V. (1991).

*Cynomys parvidens* J. Allen, 1905. Mus. Brooklyn Inst. Arts and Sci., Sci. Bull., 1:119.

TYPE LOCALITY: USA, "Buckskin Valley, Iron County, Utah."

DISTRIBUTION: SC Utah (USA).

STATUS: U.S. ESA - Threatened; IUCN - Vulnerable.

COMMENTS: Subgenus *Leucocrossuromys* (Hall, 1981). Reviewed by Pizzimenti and Collier (1975, Mammalian Species, 52) and Pizzimenti and Nadler (1972).

*Dremomys Heude*, 1898. Mem. Hist. Nat. Emp. Chin., 4(2):54.

TYPE SPECIES: *Sciurus pernyi* Milne-Edwards, 1867.

SYNONYMS: *Zetis* Thomas, 1908.

COMMENTS: Tribe Callosciurini (Moore, 1959). Reviewed by Moore and Tate (1965).

*Dremomys everetti* (Thomas, 1890). Ann. Mag. Nat. Hist., ser. 6, 6:171.

TYPE LOCALITY: "Mount Penrisen, West Sarawak," [Malaysia].

DISTRIBUTION: Mountains of N and W Borneo (Kalimantan, Sarawak, Sabah), above 3,200 ft.

*Dremomys lokriah* (Hodgson, 1836). J. Asiat. Soc. Bengal, 5:232.

TYPE LOCALITY: "central and Northern regions of Nipál" [Nepal].

DISTRIBUTION: C Nepal east to Salween River; Tibet (China); N Burma; mountains in E India; Bhutan.

SYNONYMS: *bhotia* Wroughton, 1916; *garonum* Thomas, 1922; *macmillani* Thomas and Wroughton, 1916; *motuoensis* Cai and Zhang, 1980; *pagus* Moore, 1956; *subflaviventris* Thomas, 1922.

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.

TYPE LOCALITY: "les montagnes de la principaute de Moupin [Muping]" [= Baoxing, Sichuan, China].

DISTRIBUTION: NE India; N Burma; N Vietnam; Tibet; Sichuan, Yunnan, Guizhou, Hunan, Hubei, Jiangxi, Fujian, Anhui (China); Taiwan.

SYNONYMS: *calidior* Thomas, 1916; *chintalis* Thomas, 1916; *flavior* G. Allen, 1912; *griselda* Thomas, 1916; *howelli* Thomas, 1922; *imus* Thomas, 1922; *lentus* A.B. Howell, 1927; *lichensis* Thomas, 1922; *mentosus* Thomas, 1922; *modestus* Thomas, 1916; *owstoni* Thomas, 1908; *senex* G. Allen, 1912.

*Dremomys pyrrhomerus* (Thomas, 1895). Ann. Mag. Nat. Hist., ser. 6, 16:242.

TYPE LOCALITY: "Ichang, Yang-tse-kiang [river] [Hupei, China]."

DISTRIBUTION: C and S China, extreme N Vietnam, Hainan Island (China).

SYNONYMS: *gularis* Osgood, 1932; *melli* Matschie, 1922; *riudonensis* J. Allen, 1906.

COMMENTS: Moore and Tate (1965) treated *pyrrhomerus* as a separate species based on evidence of geographic parapatry, *D. p. gularis* with *D. r. rufigenis* (Osgood, 1932). Corbet and Hill (1992) listed *gularis* as a separate species, but considered other forms of *pyrrhomerus* to be conspecific with *rufigenis*.

*Dremomys rufigenis* (Blanford, 1878). J. Asiat. Soc. Bengal, 47(2):156.

TYPE LOCALITY: Burma, Tenasserim, Mt. Mooleyit.

DISTRIBUTION: NE India, N and C Burma, Yunnan (China), Laos, south through Vietnam, Thailand, peninsular Malaysia.

SYNONYMS: *adamsoni* Thomas, 1914; *belfieldi* (Bonhote, 1908); *fuscus* (Bonhote, 1907); *laomache* Thomas, 1921; *opimus* Thomas and Wroughton, 1916.

COMMENTS: Formerly included *pyrrhomerus*; but see Moore and Tate (1965). Chromosomes described by Nadler and Hoffmann (1970).

*Epixerus* Thomas, 1909. Ann. Mag. Nat. Hist., ser. 8, 3:472.

TYPE SPECIES: *Sciurus wilsoni* Du Chaillu, 1860.

COMMENTS: Tribe Protoxerini (Moore, 1959).

*Epixerus ebii* (Temminck, 1853). Esquisses Zool. sur la Côte de Guine, p. 129.

TYPE LOCALITY: Ghana. "...les grandes forêts de la Guinée, et se trouve dans les mêmes localités que l'espèce précédente, [...les confins du pays des Fantés...] mais paraît être moins abondante dans les parties boisées de Dabocrom."

DISTRIBUTION: Sierra Leone, Liberia, Ivory Coast, Ghana.

STATUS: CITES - Appendix III (Ghana).

SYNONYMS: *jonesi* Hayman, 1954.

COMMENTS: *E. ebii* and *E. wilsoni* considered distinct species on the basis of cranial differences cited by Perret and Aellen (1956), Verheyen (1959), and Rosevear (1969).

*Epixerus wilsoni* (Du Chaillu, 1860). Proc. Boston Soc. Nat. Hist., 7:364.

TYPE LOCALITY: Gabon. "Gaboon,...the headwaters of the Ovenga River."

DISTRIBUTION: Cameroon, Rio Muni, Gabon.

SYNONYMS: *mayumbicus* Verheyen, 1959.

COMMENTS: *E. ebii* and *E. wilsoni* considered distinct species on the basis of cranial differences cited by Perret and Aellen (1956), Verheyen (1959) and Rosevear (1969). Amtmann (1975) included *E. wilsoni* with *E. ebii*.

*Exilisciurus* Moore, 1958. Am. Mus. Novit., 1914:4.

TYPE SPECIES: *Sciurus exilis* Müller, 1838.

COMMENTS: Tribe Callosciurini (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.

TYPE LOCALITY: Philippines, Zamboanga Prov., Basilan Island, Isabela.

DISTRIBUTION: Mindanao faunal region (Heaney et al., 1987) including Mindanao, Basilan, Biliran, Bohol, Dinagat, Leyte, Samar, and Siargao islands (Heaney, 1985).

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.

TYPE LOCALITY: Indonesia, Kalimantan, Kapuas River Basin, Tanah Laut (see Medway, 1977, and Heaney, 1985).

DISTRIBUTION: Borneo and Banggi Island.

SYNONYMS: *relectus* Thomas, 1910; *sordidus* Chasen and Kloss, 1928.

*Exilisciurus whiteheadi* (Thomas, 1887). Ann. Mag. Nat. Hist., ser. 5, 20:127.

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).

*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 (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 distinctive anatomy of the male reproductive tract. Trends in evolution of karyotypes analyzed by Aswathanarayana (1987).

*Funambulus layardi* (Blyth, 1849). J. Asiat. Soc. Bengal, 18:602.

TYPE LOCALITY: "Upland districts" [Sri Lanka]. Restricted by Thomas (1924:241) to "Ambigamoa Hills...Central Province (7° N., 80° 3'E.)...."

DISTRIBUTION: S and C Sri Lanka, and mountains of S India.

SYNONYMS: *dravidianus* Robinson, 1917; *signatus* Thomas, 1924.

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.

TYPE LOCALITY: "in America, Asia, Africa." Restricted by Wroughton (1905a:409) to E coast of Madras, India.

DISTRIBUTION: C and S India, Sri Lanka.

SYNONYMS: *bellarius* Wroughton, 1916; *bengalensis* Wroughton, 1916; *brodiei* (Blyth, 1849); *comorinus* Wroughton, 1905; *favonicus* Thomas and Wroughton, 1915; *gossei* Wroughton and Davidson, 1919; *indicus* (Lesson, 1835, not Erxleben, 1777); *kelaarti* (Layard, 1851); *matugamensis* Lindsay, 1926; *olympius* Thomas and Wroughton, 1915; *penicillatus* (Leach, 1814); *robertsoni* Wroughton, 1916.

COMMENTS: Subgenus *Funambulus*. Distribution largely allopatric with that of *F. pennantii*, but limited area of sympatry along W coast of India, south of 16° N lat. (Moore, 1960).

*Funambulus pennantii* Wroughton, 1905. J. Bombay Nat. Hist. Soc., 16:411.

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.

SYNONYMS: *argentescens* Wroughton, 1905; *lutescens* Wroughton, 1916.



COMMENTS: Subgenus *Prasadsciurus* (Moore and Tate, 1965:71). Reviewed by Agrawal and Chakraborty (1979).

*Funambulus sublineatus* (Waterhouse, 1838). Proc. Zool. Soc. Lond., 1838:19.

TYPE LOCALITY: India, Madras, Nilgiri Hills.

DISTRIBUTION: SW India, C Sri Lanka.

SYNONYMS: *delesserti* (Gervais, 1841); *kathleenae* Thomas and Wroughton, 1915; *obscura* (Pelzeln and Kohl, 1886); *trilineatus* (Blyth, 1849).

COMMENTS: Subgenus *Funambulus*.

*Funambulus tristriatus* (Waterhouse, 1837). Mag. Nat. Hist. [Charlesworth's], 1:499.

TYPE LOCALITY: "...the more southern parts of Hindostan." Restricted by Wroughton

(1905a:411) to Travancore; further restricted by Moore and Tate (1965:89) to Western Ghats, south of 12 deg. N. lat.

DISTRIBUTION: West coast of India, from below 20° N to southern tip.

SYNONYMS: *annandalei* Robinson, 1917; *dussumieri* (Milne-Edwards, 1867); *numarius*

Wroughton, 1916; *thomasi* Wroughton and Davidson, 1919; *wroughtoni* Ryley, 1913.

COMMENTS: Subgenus *Funambulus*.

*Funisciurus Trouessart*, 1880. Le Naturaliste, 2(37):293.

TYPE SPECIES: *Sciurus isabella* Gray, 1862.

COMMENTS: Tribe Funambulini (Moore, 1959). Raised to full generic rank by Thomas (1897b). This treatment follows Amtmann (1975).

*Funisciurus anerythrus* (Thomas, 1890). Proc. Zool. Soc. Lond., 1890:447.

TYPE LOCALITY: Uganda, "Buguera", S of Lake Albert.

DISTRIBUTION: SW Nigeria, Cameroon, Central African Republic, NE Zaire, Uganda; SW Zaire and N Shaba Prov. (Zaire).

SYNONYMS: *bandarum* Thomas, 1915; *mystax* De Winton, 1898; *niapu* Allen, 1922; *ochrogaster* Cabrera and Ruxton, 1926; *raptorum* Thomas, 1903.

*Funisciurus bayonii* (Bocage, 1890). J. Sci. Math. Phys. Nat. Lisboa, (2)2:3.

TYPE LOCALITY: N Angola, "...du Duque de Bragança..."

DISTRIBUTION: NE Angola, SW Zaire.

*Funisciurus carruthersi* Thomas, 1906. Ann. Mag. Nat. Hist., ser. 7, 18:140.

TYPE LOCALITY: Uganda, "Ruwenzori East, 6500' (1900 m)."

DISTRIBUTION: Ruwenzori (S Uganda), Rwanda, Burundi.

SYNONYMS: *birungensis* Gyldenstolpe, 1927; *chrysippus* Thomas, 1923; *tanganyikae* Thomas, 1909.

*Funisciurus congicus* (Kuhl, 1820). Beitr. Zool. Vergl. Anat. Abt., 2:66.

TYPE LOCALITY: "Congo". No specific locale given, probably Angola (Hill and Carter, 1941:71).

DISTRIBUTION: Zaire, Angola, Namibia.

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.

TYPE LOCALITY: Cameroon, "...from the Camaroon Mountains, 7000 feet (2100 m) above the level of the sea..."

DISTRIBUTION: Cameroon, Central African Republic, Congo.

SYNONYMS: *dubosti* Eisentraut, 1969; *duchailui* Sanborn, 1953.

*Funisciurus lemniscatus* (Le Conte, 1857). Proc. Acad. Nat. Sci. Philadelphia, p. 11.

TYPE LOCALITY: Equatorial Guinea, Rio Muni. "...from Western Africa."

DISTRIBUTION: S of Sanaga River (Cameroon), Central African Republic, Zaire.

SYNONYMS: *mayumbicus* Kershaw, 1923; *sharpei* (Gray, 1873).

*Funisciurus leucogenys* (Waterhouse, 1842). Ann. Mag. Nat. Hist., [ser. 1], 10: 202.

TYPE LOCALITY: Equatorial Guinea, Bioko "...brought from Fernando Po".

DISTRIBUTION: Ghana, Togo, Benin, Nigeria, Cameroon, Central African Republic, Rio Muni, Bioko.

SYNONYMS: *auriculatus* (Matschie, 1891); *beatus* (Thomas, 1910); *boydi* (Thomas, 1910); *erythrognys* (Waterhouse, 1843); *oliviae* (Dollman, 1911).

COMMENTS: Waterhouse (1842[1843]) renamed this species *erythrognys*, "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, No. 66, 2 unno. pp and pl.[1833]; Tab 4:240 [1842].

TYPE LOCALITY: Gabon. "...et elle venoit de l'île Fernandopô, dans le golfe de Guinée..."

DISTRIBUTION: Gambia, S Senegal, Guinea Bissau, W Guinea, Sierra Leone, Liberia, S Ivory Coast, SW Ghana, W Nigeria, W Cameroon, Rio Muni (Equatorial Guinea), W Congo, Uganda, Rwanda, Burundi, Zaire, NW Angola.

SYNONYMS: *akka* De Winton, 1895; *emini* (De Winton, 1895; not Stuhlman, 1894); *erythropros* (Gray, 1867); *leonis* Thomas, 1905; *leucostigma* (Temminck, 1853); *mandingo* Thomas, 1903; *nigrens* Thomas, 1909; *niveatus* Thomas, 1923; *pembertoni* Thomas, 1904; *rubripes* (Du Chaillu, 1860); *talboti* Thomas, 1909; *victoriae* Allen and Loveridge, 1942; *wintoni* Neumann, 1900.

COMMENTS: Cuvier wrote, "Je donnerai à cet Écuriel le nom de *Pyrropus*, à 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.

TYPE LOCALITY: Ghana. "...near Kintampo, Gold Coast hinterland, 800 feet (240 m)."

DISTRIBUTION: Ivory Coast, S Ghana, Togo, Benin, SE Nigeria.

*Glyphotes* Thomas, 1898. Ann. Mag. Nat. Hist., ser. 7, 2:251.

TYPE SPECIES: *Glyphotes simus* Thomas, 1898.

COMMENTS: Tribe Callosciurini (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, to be a junior synonym of *Callosciurus*.

*Glyphotes simus* Thomas, 1898. Ann. Mag. Nat. Hist., ser. 7, 2:251.

TYPE LOCALITY: "Mount Kina Balu, N. Bórneo" [Sabah, Malaysia].

DISTRIBUTION: Mountains of Borneo; Sabah and Sarawak (Malaysia), 1000 to 1700 m.

COMMENTS: Reviewed by Hill (1959).

*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 (1957d) in which *Sciurus annulatus* Desmarest, 1822 was suppressed.

COMMENTS: Tribe Protoxerini (Moore, 1959). Includes *Aethosciurus ruwenzorii*. Reviewed in part by Grubb (1982b).

*Heliosciurus gambianus* (Ogilby, 1835). Proc. Zool. Soc. Lond., 1835:103.

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 lieutenant-governor of Fort St. Mary and the other British possessions in that neighbourhood..."

DISTRIBUTION: Senegal, Gambia, Guinea Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Burkina Faso, Ghana, Togo, Benin, Nigeria, Chad, Central African Republic, Sudan, Ethiopia, Uganda, Kenya, Burundi, Tanzania, Zaire, Angola, Zimbabwe, Zambia.

SYNONYMS: *abassensis* (Neumann, 1902); *albina* (Gray, 1867); *annularis* (Schinz, 1845); *annulatus* (Desmarest, 1822); *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* (Rüppel 1835); *omensis* (Thomas, 1904); *rhodesiae* (Wroughton, 1907); *senescens* Thomas, 1909; *simplex* (Lesson, 1838).

*Heliosciurus mutabilis* (Peters, 1852) Bericht Verhandl. K. Preuss Akad. Wiss., Berlin, 17:273.

TYPE LOCALITY: Mozambique, Boror, 19 km NW of Quelimane, 17°S. "Africa orientalis, Boror, 17° Lat. Austr."

DISTRIBUTION: Malawi; S and SW highlands, Tanzania; NW of the Zambezi R near Beira (Mozambique); Chirinda Forest, Melsetter Dist., Sabi/Lundi River confluence, Vumba, Umtali (SE Zimbabwe).

SYNONYMS: *beirae* Roberts, 1913; *chirindensis* Roberts, 1913; *shirensis* (Gray, 1867); *smithersi* (Lundholm, 1955); *vumba* Roberts, 1937.

COMMENTS: 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 (1982b) again treated *H. mutabilis* as a distinct species.

*Heliosciurus punctatus* (Temminck, 1853) Esquisses Zool. sur la Côte de Guinée, p. 138.

TYPE LOCALITY: Guinea coast, no exact locality given. "...dans toutes les forêts de la Guinée..." Given by Ingoldby (1927) as Ghana: "Secondi and Bibiani, Gold Coast."

DISTRIBUTION: E Liberia, S Ivory Coast, S Ghana (E to Lake Volta).

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 Allen (1939), and Roth and Thorington (1982).

*Heliosciurus rufobrachium* (Waterhouse, 1842). Ann. Mag. Nat. Hist., [ser. 1], 10:202.

TYPE LOCALITY: Equatorial Guinea, Bioko "...brought from Fernando Po..."

DISTRIBUTION: Senegal, W Gambia, W Guinea Bissau, W Guinea, Sierra Leone, Liberia, S Ivory Coast, 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, E and NW Tanzania, Malawi, Mozambique, E Zimbabwe, Zaire.

SYNONYMS: *acticola* Thomas, 1923; *arrhenii* (Lönnerberg, 1917); *aschantiensis* (Neumann, 1902); *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); *leonensis* Thomas, 1923; *libericus* (Miller, 1900); *lualabae* Thomas, 1923; *maculatus* (Temminck, 1853); *medjanius* Allen, 1922; *nyansae* (Neuman, 1902); *obfuscatus* Thomas, 1923; *occidentalis* (Monard, 1941); *pasha* (Schwann, 1904); *rubricatus* Allen, 1922; *rufobrachiatum* (Waterhouse, 1843); *semlikii* Thomas, 1907; *waterhousii* (Gray, 1867); *leakyi* Toschi, 1946.

COMMENTS: Inclusion of *aubryi* and *emissus* questioned (Amtmann, 1975; Grubb, 1978:158).

*Heliosciurus ruwenzorii* (Schwann, 1904). Ann. Mag. Nat. Hist., ser. 7, 13:71.

TYPE LOCALITY: E Zaire, Ruwenzori, Wimi Valley.

DISTRIBUTION: Ruwenzori Mtns in E Zaire; Rwanda; Burundi; SW Uganda.

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.

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.

SYNONYMS: *daucinus* Thomas, 1909; *dolosus* Thomas, 1909; *marwitzi* Müller, 1911; *shindi* (Heller, 1914).

*Hyosciurus* Archbold and Tate, 1935. Am. Mus. Novit., 801:2.

TYPE SPECIES: *Hyosciurus heinrichi* Tate and Archbold, 1935.

COMMENTS: Tribe Callosciurini (Moore, 1959:174).

*Hyosciurus heinrichi* Archbold and Tate, 1935. Am. Mus. Novit., 801: 2.

TYPE LOCALITY: "Latimodjong Mtns., central Celebes, 2300 meters" [C Sulawesi, Indonesia].

DISTRIBUTION: Restricted to mountains of C Sulawesi (Musser and Dagosto, 1987:44).

COMMENTS: Formerly included *ileile* (Tate and Archbold, 1936:1); see comments therein.

- Hyosciurus ileile* Tate and Archbold, 1936. *Am. Mus. Novit.*, 846:1.  
 TYPE LOCALITY: "Ile-ile, North Celebes, 1700 meters" [N Sulawesi, Indonesia].  
 DISTRIBUTION: Mountains of N Sulawesi.  
 COMMENTS: Formerly considered a subspecies of *heinrichi* (Tate and Archbold, 1936), but see Musser (1987).
- 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 (Moore, 1959:173). Includes *Paralariscus*, treated as a genus by Ellerman (1947:259) and Moore (1959:173).
- Lariscus hosei* (Thomas, 1892). *Ann. Mag. Nat. Hist.*, ser. 6, 10:215.  
 TYPE LOCALITY: "Batu Sang Mount [Mt. Batu Song], Baram River, N. Borneo (5000 feet)" [Baram Dist., Sarawak, Malaysia].  
 DISTRIBUTION: Mountains of Sarawak and Sabah (Malaysia).  
 COMMENTS: Sometimes put in the genus *Paralariscus*; see Ellerman (1947:259); 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  
 TYPE LOCALITY: "Sumatra," [Indonesia]. Restricted by Sody (1949a:113) to Lampongs, S Sumatra.  
 DISTRIBUTION: Peninsular Malaysia and Thailand, Sumatra, Java, Borneo, adjacent isls.  
 SYNONYMS: *atchinensis* Sody, 1949; *castaneus* (Miller, 1900); *diversoides* Sody, 1949; *diversus* (Thomas, 1898); *fornicatus* Robinson, 1917; *jalorensis* (Bonhote, 1903); *javanus* (Thomas and Wroughton, 1908); *meridionalis* Robinson and Kloss, 1911; *murianus* Sody, 1937; *peninsulae* Miller, 1903; *rostratus* (Miller, 1903); *saturatus* Chasen, 1935; *vulcanus* Kloss, 1921.  
 COMMENTS: Formerly included *niobe* and *obscurus*; see Chasen (1940:145-146); but see also Corbet and Hill (1991:141); see comments under *niobe*.
- Lariscus niobe* (Thomas, 1898) *Ann. Mag. Nat. Hist.*, ser. 7, 2:249.  
 TYPE LOCALITY: "Pajo, Sumatra" [Sumatra, Indonesia]. Restricted by Robinson and Kloss (1918b:37) to Pajokombo, Padang Highlands, West Sumatra.  
 DISTRIBUTION: Mountains of Sumatra, Mentawi Isls, and Java (Idjen Mtns).
- Lariscus obscurus* (Miller, 1903). *Smithson. Misc. Coll.*, 45:23.  
 TYPE LOCALITY: Indonesia, Mentawi Isls, "South Pagi Island, Sumatra".  
 DISTRIBUTION: Siberut Isl and S Pagi Isl (Sumatra, Indonesia).  
 SYNONYMS: *auroreus* Sody, 1949; *siberu* Chasen and Kloss, 1927.  
 COMMENTS: Formerly included in *insignis* (Chasen, 1940) or *niobe* (Chasen and Kloss (1927)). Part of the rodent fauna endemic to the Mentawi Archipelago (see comments under *Leopoldamys siporanus*).
- 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.  
 COMMENTS: Tribe Marmotini (Moore, 1959). North American species reviewed by Howell (1915); Eurasian species revised by Gromov et al. (1965); amphiberian species reviewed by Hoffmann et al. (1979). Frase and Hoffmann (1980) provided a key to North American species.
- Marmota baibacina* Kastschenko, 1899. *Rezult. Altaisk. Zool. Exp.* 1898, p. 62.  
 TYPE LOCALITY: "...Multa River, near Nizhne-Uimon in the Altai Mountains" [Altaisk. Krai, Russia] (Ognev, 1963a:252). Alternatively, Aktol' River near Cherga, Gorno-Altai. A.O. (Kuznetsov, in Ellerman and Morrison-Scott, 1951:514).  
 DISTRIBUTION: Altai Mtns, SW Siberia (Russia), SE Kazakhstan, Kirgizistan; Mongolia; Xinjiang (China). Introduced into Caucasus Mtns (Dagestan, Russia; Gromov et al., 1965:360).



- SYNONYMS: *aphanasievi* Kuznetsov, 1965; *centralis* (Thomas, 1909); *kastschenkoi* Stroganov and Yudin, 1956; *lewisi* (Audubon and Bachman, 1854); *ognevi* Scalon, 1950.
- COMMENTS: Placed by Ellerman and Morrison-Scott (1951:514) in *marmota*, and by Corbet (1978c: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; Zimina, 1978; Zholnerovskaya et al., 1990) and include *centralis* in this species. Kapitonov (1966) indicated that the population called *aphanasievi* is included in this species; but also see Corbet (1978c: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.
- TYPE LOCALITY: "Poland." Restricted by Ognev (1963a: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).
- SYNONYMS: *arctomys* (Pallas, 1779); *baibac* (Pallas, 1811); *bobak* (Schreber, 1780); *kozlovi* Fokanov, 1966; *tshaganensis* Bazhanov, 1930.
- COMMENTS: See comments under *baibacina*, *himalayana*, and *sibirica*. Includes *kozlovi* (see Fokanov, 1966) and *tshaganensis* (see Gromov et al., 1965).
- Marmota broweri* Hall and Gilmore, 1934. Canadian Field Nat., 48:57.
- 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).
- COMMENTS: Regarded as a synonym of *caligata* (Hall, 1981) but Rausch and Rausch (1965, 1971) and Hoffmann et al. (1979) considered *broweri* a distinct species.
- Marmota caligata* (Eschscholtz, 1829). Zool. Atlas, Part 2, p. 1, pl. 6.
- TYPE LOCALITY: Not specified (?). Restricted by 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).
- SYNONYMS: *cascadensis* A. Howell, 1914; *nivaria* A. Howell, 1914; *okanagana* (King, 1836); *oxytona* Hollister, 1914; *raceyi* Anderson, 1932; *sheldoni* A. Howell, 1914; *sibila* Hollister, 1912; *vigilis* Heller, 1909.
- Marmota camtschatica* (Pallas, 1811). Zoogr. Rosso-Asiat., p. 156.
- TYPE LOCALITY: "Kamchatka" [Kamchatsk. Obl., Russia].
- DISTRIBUTION: E Siberia from Transbaikalia to Chukotka and Kamchatka (Russia), in several geographically isolated populations (Nicol'skii et al., 1991).
- SYNONYMS: *bungei* (Kastschenko, 1901); *cliftoni* (Thomas, 1902); *doppelmayeri* Birula, 1922.
- COMMENTS: 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 Nicol'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.
- Marmota caudata* (Geoffroy, 1844). In Jacquemont, Voy. dans l'Inde, 4, Zool., p. 66.
- TYPE LOCALITY: "Hombur [Ghombur] area, upper reaches of the Indus in Kashmir [India]" (Ognev, 1963a:284).
- DISTRIBUTION: W Tien Shan through the Pamirs (Kirgizistan, Tadzhikistan) to Hindu Kush (Afghanistan), Pakistan, Kashmir (India), and mtns of extreme W Xinjiang and Xizang (China).
- STATUS: CITES - Appendix III (India).
- SYNONYMS: *aurea* (Blanford, 1875); *dichrous* (Anderson, 1875); *flavina* (Thomas, 1909); *littledalei* (Thomas, 1909); *stirlingi* Thomas, 1916.

COMMENTS: Includes *dichrous* (Corbet, 1978c: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.  
TYPE LOCALITY: "Mountains between Texas and California" Restricted by 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).

SYNONYMS: *avara* (Bangs, 1899); *campioni* Figgins, 1915; *dacota* (Merriam, 1889); *engelhardti* J. Allen, 1905; *fortirostris* Grinnell, 1921; *luteola* A. Howell, 1914; *nosophora* A. Howell, 1914; *notorios* Warren, 1934; *obscura* A. Howell, 1914; *parvula* A. Howell, 1915; *sierrae* A. Howell, 1915; *warreni* A. Howell, 1914.

COMMENTS: Reviewed by Frase and Hoffmann (1980, Mammalian Species, 135).

*Marmota himalayana* (Hodgson, 1841). J. Asiat. Soc. Bengal, 10:777.

TYPE LOCALITY: "Himalaya...and sandy plains of Tibet"; "potius Tibetensis" (Hodgson, 1843). Restricted by Blanford (1875) to "the Kachar of Nepal."

DISTRIBUTION: Montane regions of W China, Nepal, and N India to Ladak.

STATUS: CITES - Appendix III (India).

SYNONYMS: *hemachalana* (Hodgson, 1843); *hodgsoni* (Blanford, 1879); *robusta* (Milne-Edwards, 1872); *tataricus* (Jameson, 1847); *tibetanus* (Gray, 1847).

COMMENTS: Placed in *bobak* (Ellerman and Morrison-Scott, 1951:515; Corbet, 1978c:81), but geographically separated from that species; evidence for specific status in Gromov et al. (1965); see also comment under *baibacina*.

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

TYPE LOCALITY: "in alpebus Helveticis" Restricted by Thomas (1911a:147) to Swiss Alps.

DISTRIBUTION: Swiss, Italian, and French Alps; W Austria; S Germany; Carpathian (Romania) and Tatra Mtns (Czechoslovakia, Poland); introduced into French Pyrennes, E Austria and N Yugoslavia.

SYNONYMS: *alba* (Bechstein, 1801); *alpina* Blumenbach, 1779; *latirostris* Kratochvil, 1961; *marmotta* Trouessart, 1904; *nigra* (Bechstein, 1801); *tigrina* (Bechstein, 1801).

COMMENTS: 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.

TYPE LOCALITY: "Chigyry-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: Regarded by Ellerman and Morrison-Scott (1951:514) as a probable synonym of *marmota*; but see Corbet (1978c:81).

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

TYPE LOCALITY: "in America septentrionalis." Restricted by Thomas (1911a: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.

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

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

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

DISTRIBUTION: Olympic Mtns of W Washington (USA).

COMMENTS: Considered a subspecies of *marmota* (Rausch, 1953). Reviewed by Hoffmann et al. (1979) who confirmed its specific status.

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

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).

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

COMMENTS: Placed (with *baibacina*) in *bobak* (Ellerman and Morrison-Scott, 1951:515; Corbet, 1978c:81). Gromov et al. (1965) and Zimina (1978) provided evidence of specific distinctness and included *caliginosus* in this species; see comment under *baibacina*. 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.

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

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

STATUS: U.S. ESA and IUCN - Endangered.

COMMENTS: 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, 270).

*Menetes* Thomas, 1908. J. Bombay Nat. Hist. Soc., 18:244.

TYPE SPECIES: *Sciurus berdmorei* Blyth, 1849.

COMMENTS: Tribe Callosciurini (Moore, 1959:173). Reviewed by Moore and Tate (1965).

*Menetes berdmorei* (Blyth, 1849). J. Asiat. Soc. Bengal, 18(30):603.

TYPE LOCALITY: "Thougyeen district" [Tenasserim, Burma].

DISTRIBUTION: S Vietnam, Cambodia, S Laos, Thailand, S Yunnan (China) to C Burma.

SYNONYMS: *amotus* (Miller, 1913); *consularis* Thomas, 1914; *decoratus* Thomas, 1914; *koratensis* (Gyldenstolpe, 1917); *moerescens* Thomas, 1914; *mouhotei* (Gray, 1861); *peninsularis* Kloss, 1919; *pyrocephalus* (Milne-Edwards, 1867); *rufescens* Kloss, 1916; *umbrosus* Kloss, 1916.

COMMENTS: For taxonomic history, see Moore and Tate (1965:294). Chromosomes described by Nadler and Hoffmann (1970).

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

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

COMMENTS: Tribe Microsciurini (Moore, 1959). See Emmons and Feer (1990).

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

TYPE LOCALITY: Costa Rica, Jimenez.

DISTRIBUTION: Colombia, Costa Rica, Nicaragua, Panama.

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

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

*Microsciurus flaviventer* (Gray, 1867). Ann. Mag. Nat. Hist., ser. 3, 20:432.

TYPE LOCALITY: Brazil. Cabrera (1961) suggested the type locality could be restricted to Pebas, based on Thomas (1928b).

DISTRIBUTION: Amazon basin of Colombia, Ecuador, Peru, and Brazil west of the Rios Negro and Jurua.

SYNONYMS: *avunculus* Thomas, 1914; *brevirostris*; *florenciae* J. A. Allen, 1914; *manarius* Thomas, 1920; *napi* (Thomas, 1900); *otinus* (Thomas, 1901); *peruanus* (J. A. Allen, 1897); *rubicollis* Thomas, 1914 (lapsus for *rubrirostris*); *rubrirostris* J. A. Allen, 1914; *sabanillae* Anthony, 1922; *similis* (Nelson, 1899); *simonsi* (Thomas, 1900); *vivatus* Goldman, 1912.

*Microsciurus mimulus* (Thomas, 1898). Ann. Mag. Nat. Hist., ser. 7, 2:266.

TYPE LOCALITY: Ecuador, Esmeraldas, Cachavi, 665 ft. (203 m).

DISTRIBUTION: NW Ecuador, N Colombia, and Panama.

SYNONYMS: *boquetensis* (Nelson, 1903); *isthmus* (Nelson, 1899); *palmeri* (Thomas, 1909).

COMMENTS: See Hall (1981:440) and Handley (1966a).

*Microsciurus santanderensis* (Hernandez-Camacho, 1957). In Borerro and Hernandez-Camacho, Anal. Soc. Biol. Bogota, 7:219.

TYPE LOCALITY: Colombia, Santander Dept., Meseta de los Caballeros, NE of La Albania.

DISTRIBUTION: Colombia, between the Magdalena River and the Cordillera Oriental.

COMMENTS: See Eisenberg (1989) and Hernandez-Camacho (1960).

*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 (Moore, 1959).

*Myosciurus pumilio* (Le Conte, 1857). Proc. Acad. Nat. Sci. Philadelphia, 9:11.

TYPE LOCALITY: Gabon. "...the head waters of the Ovenga River..."

DISTRIBUTION: SE Nigeria, Cameroon, Gabon, Bioko (Equatorial Guinea).

SYNONYMS: *minutulus* Hollister, 1921; *minutus* (Du Chaillu, 1860).

*Nannosciurus* Trouessart, 1880. Le Naturaliste, p. 292.

TYPE SPECIES: *Sciurus melanotis* Müller, 1840.

COMMENTS: Tribe Callosciurini (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.

TYPE LOCALITY: "Borneo".

DISTRIBUTION: Sumatra, Java, Borneo, adjacent small islands.

SYNONYMS: *bancanus* Lyon, 1906; *borneanus* Lyon, 1906; *pallidus* Chasen and Kloss, 1928; *pulcher* Miller, 1902; *soricinus* (Waterhouse, 1838); *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). See Appendix I. Reviewed by Heaney (1985).

*Paraxerus* Forsyth Major, 1893. Proc. Zool. Soc. Lond., 1893:189.

TYPE SPECIES: *Sciurus cepapi* Smith, 1836.

SYNONYMS: *Aethosciurus* Thomas, 1916; *Montisciurus* Eisentraut, 1976; *Tamiscus* Thomas, 1918.

COMMENTS: Tribe Funambulini (Moore, 1959). Originally a subgenus of *Xerus*; includes *Aethosciurus* (with the exception of *ruwenzorii*, here included in *Heliosciurus*), *Montisciurus*, and *Tamiscus*. This treatment follows Moore (1959).

*Paraxerus alexandri* (Thomas and Wroughton, 1907). Ann. Mag. Nat. Hist., ser. 7, 19:376.

TYPE LOCALITY: Zaire, Gudima, River Iri, Upper Welle.

DISTRIBUTION: NE Zaire, Uganda.

*Paraxerus boehmi* (Reichenow, 1886). Zool. Anz., 9:315.

TYPE LOCALITY: SE Zaire, Marungu. "Marungu (Inner-Afrika)."

DISTRIBUTION: S Sudan, N, S, and E Zaire, Uganda, W Kenya, NW Tanzania, N Zambia.

SYNONYMS: *antoniae* Thomas and Wroughton, 1907; *emini* (Stuhlman, 1894, not De Winton, 1895); *gazellae* (Thomas, 1918); *lunaris* (Thomas, 1918); *tanganyikae* (Thomas, 1918); *ugandae* (Neumann, 1902); *vulcanorum* (Thomas, 1918).

*Paraxerus cepapi* (A. Smith, 1836). Rept. Exped. Exploring Central Africa, p. 43.

TYPE LOCALITY: South Africa, W Transvaal, Rustenberg Dist., Marico River.

DISTRIBUTION: S Angola, Zambia, SE Zaire, Malawi, SW Tanzania, Mozambique, N Namibia, N Botswana, Zimbabwe, Transvaal (South Africa).

SYNONYMS: *bororensis* Roberts, 1946; *carpi* Lundholm, 1955; *cepate* (lapis for *cepapi*; Gray, 1843); *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.

TYPE LOCALITY: Cameroon, Kumba Div., Rumpi Hills, 5°N, 9°15'E.



DISTRIBUTION: Cameroon.

COMMENTS: Eisentraut (1976) put *cooperi* in a separate genus, *Montisciurus*.

*Paraxerus flavovittis* (Peters, 1852). Bericht Verhandl. K. Preuss. Akad. Wiss. Berlin, 17:274.

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.

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.

TYPE LOCALITY: Malawi, Kombe Forest, Misuku Mtns, 9°43'S, 33°31'E.

DISTRIBUTION: N Malawi, SW Tanzania, E Zambia.

*Paraxerus ochraceus* (Huet, 1880). Nouv. Arch. Mus. Hist. Nat. Paris, (2)3:154.

TYPE LOCALITY: Tanzania, Bagamoyo, (06°25'S, 38°54'E). "Cette petite espèce provient de Bagamoyo, station de nos missionnaires, sur la côte de Zanguebar,..."

DISTRIBUTION: S Sudan, Kenya, Tanzania.

SYNONYMS: *affinis* (Trouessart, 1897); *animosus* Dollman, 1911; *aruscensis* (Pagenstecher, 1885); *augustus* Dollman, 1911; *capitis* (Thomas, 1909); *electus* Thomas, 1909; *ganana* (Rhoads, 1896); *jacksoni* (De Winton, 1897); *kahari* Heller, 1911; *pauli* Matschie, 1894; *percivali* Dollman, 1911; *salutans* Thomas, 1909.

*Paraxerus palliatus* (Peters, 1852). Bericht Verhandl. K. Preuss. Akad. Wiss., Berlin, 17:273.

TYPE LOCALITY: Mozambique, mainland near Mocambique Isl. "Africa orientalis, Quintangonha, 15° Lat. Austr."

DISTRIBUTION: S Somalia, E Kenya, E Tanzania, Malawi, Mozambique, Zimbabwe, Natal (South Africa).

SYNONYMS: *auriventris* Roberts, 1926; *barawensis* (Neumann, 1902); *bridgemani* Dollman, 1914; *freerei* (Gray, 1873); *lastii* Thomas, 1906; *ornatus* (Gray, 1864); *sponsus* Thomas and Wroughton, 1907; *suahelicus* (Neumann, 1902); *swynnertoni* Wroughton, 1908; *tanae* (Neumann, 1902); *tongensis* Roberts, 1931.

COMMENTS: Reviewed by Viljoen (1989).

*Paraxerus poensis* (A. Smith, 1830). S. Afr. Quart. J., 2:128.

TYPE LOCALITY: Equatorial Guinea, Bioko "Fernando P6o."

DISTRIBUTION: Sierra Leone, SE Guinea, Liberia, Ivory Coast, Ghana, Benin, S Nigeria, Cameroon, Bioko (Equatorial Guinea), Congo, W Zaire.

SYNONYMS: *affinis* (Rhoads, 1896); *musculus* (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.

TYPE LOCALITY: Tanzania, Usambara, Lushoto, Wilhelmsthal.

DISTRIBUTION: C and E Tanzania.

SYNONYMS: *byatti* (Kershaw, 1923); *laetus* (Allen and Loveridge, 1933).

COMMENTS: It is possible that *vexillarius* and *byatti* are separate species, as treated by 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.

TYPE LOCALITY: Mozambique, Namuli Mtn, N of the Zambezi River, "...collected at Namuli Mountain, Portuguese East Africa (15°21'S, 37°4'E), at 5000 ft (1500 m)..."

DISTRIBUTION: N Mozambique.

*Prosciurillus* Ellerman, 1947. Proc. Zool. Soc. Lond., 117:259.

TYPE SPECIES: *Sciurus murinus* Müller and Schlegel, 1844.

COMMENTS: Tribe Callosciurini; 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.  
 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.  
 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.  
 TYPE LOCALITY: "Celebes." Restricted by Meyer (1898) to Minahassa, NE Celebes [Sulawesi, Indonesia].  
 DISTRIBUTION: Sulawesi; Buton and Sangihe (= Sanghir) Isls.  
 SYNONYMS: *elbertae* (Schwarz, 1911); *hirsutus* (Hayman, 1946); *mowewensis* (Roux, 1910); *occidentalis* (Meyer, 1898); *rosenbergii* (Jentink, 1879); *sarasinorum* (Meyer, 1898); *tingahi* (Meyer, 1896); *tonkeanus* (Meyer, 1896); *topapuensis* (Roux, 1910).  
 COMMENTS: Formerly included in *Callosciurus*; see Moore (1958). Feiler (1990) raised the insular *rosenbergii* (including *tingahi*) to full specific status. For authority and date, see comments under *Rubrisciurus rubriventer*.
- Prosciurillus murinus* (Müller and Schlegel, 1844). In Temminck, Verh. Nat. Gesch. Nederland. Overz. Bezitt., Zool., Mammalia, p. 87.  
 TYPE LOCALITY: "Celebes." Restricted by Sody (1949a) to NE Celebes [Sulawesi, Indonesia].  
 DISTRIBUTION: NE and C Sulawesi.  
 SYNONYMS: *evidens* (Miller and Hollister, 1921); *griseus* (Sody, 1949); *necopinus* (Miller and Hoffmeister, 1921).  
 COMMENTS: For authority and date, see comments under *Rubrisciurus rubriventer*.
- Prosciurillus weberi* (Jentink, 1890). Weber's Zool. Ergebn. 1:115.  
 TYPE LOCALITY: Indonesia, C Celebes, Luwu (near Palopo).  
 DISTRIBUTION: C Sulawesi (Indonesia).  
 COMMENTS: Elevated to specific status by Corbet and Hill (1992).
- 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 (1897b).
- Protoxerus aubinnii* (Gray, 1873). Ann. Mag. Nat. Hist., ser. 4, 12:65.  
 TYPE LOCALITY: Ghana, Ashanti Prov., Fanti. "Fantee".  
 DISTRIBUTION: Liberia, Ivory Coast, Ghana.  
 SYNONYMS: *salae* (Jentink, 1881).  
 COMMENTS: Subgenus *Allosciurus*.
- Protoxerus stangeri* (Waterhouse, 1842). Ann. Mag. Nat. Hist., [ser. 1], 10:202 (footnote).  
 TYPE LOCALITY: Equatorial Guinea, Bioko. "...brought from Fernando Po...".  
 DISTRIBUTION: Sierra Leone, Liberia, Ivory Coast, W Ghana, Togo, S Niger, Nigeria, Cameroon, Rio Muni, Bioko (Equatorial Guinea), Gabon, E Congo, N Angola, S Central African Republic, S Sudan, Zaire, Uganda, Rwanda, Burundi, W Kenya, N Tanzania.  
 SYNONYMS: *bea* Heller, 1912; *calliurus* (Peters, 1874); *caniceps* (Temminck, 1853); *centricola* (Thomas, 1906); *cooperi* Kingdon, 1971; *dissonus* Thomas, 1923; *eborivorus* (Du Chaillu, 1860); *kabobo* Verheyen, 1960; *kwango* Verheyen, 1960; *loandae* (Thomas, 1906); *moerens* Thomas, 1923; *nigeriae* (Thomas, 1906); *nordhoffi* (Du Chaillu, 1860); *notabilis* Thomas, 1923; *personatus* Kershaw, 1923; *signatus* Thomas, 1910; *subalbidus* (Du Chaillu, 1860); *temminckii* (Anderson, 1879); *torrentium* Thomas, 1923.  
 COMMENTS: Subgenus *Protoxerus*.

*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. London, 13:259.

TYPE LOCALITY: "Singapore Island".

DISTRIBUTION: S Vietnam, Malaysian region (except Java and SW Philippines).

STATUS: CITES - Appendix II.

SYNONYMS: *albiceps* (Jentink, 1897); *arusinus* Lyon, 1907; *aureiventer* (I. Geoffroy, 1831); *balae* Miller, 1903; *bancana* Lyon, 1906; *banguei* Chasen and Kloss, 1931; *baramensis* Bonhote, 1900; *bulana* Lyon, 1909; *bunguranensis* (Thomas and Hartert, 1894); *carimonensis* Miller, 1906; *catemana* Lyon, 1907; *condurensis* Miller, 1906; *confinis* Miller, 1906; *conspicua* Miller, 1903; *cothurnata* Lyon, 1911; *dulitensis* Lönnberg and Mjöberg, 1925; *ephippium* (Müller, 1838); *femoralis* Miller, 1903; *frontalis* Kloss, 1932; *griseicollis* Lyon, 1911; *hypoleucos* (Horsfield, 1823); *insignis* Miller, 1903; *interposita* Kloss, 1932; *johorensis* Robinson and Kloss, 1911; *klossi* J. E. Hill, 1960; *lumholzi* Lönnberg, 1925; *masae* Miller, 1903; *nanogigas* (Thomas and Hartert, 1895); *nigrescens* Miller, 1903; *notabilis* Miller, 1902; *piniensis* Miller, 1903; *polia* Lyon, 1906; *pyrsonota* Miller, 1900; *sandakanensis* Bonhote, 1900; *sirhassenensis* Bonhote, 1900; *vittata* Lyon, 1911; *vittatula* Lyon, 1911.

*Ratufa bicolor* (Sparrman, 1778). Samhelle Hand. (Wet. Afd.), 1:70.

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.

SYNONYMS: *albiceps* (Desmarest, 1817); *anambae* Miller, 1900; *angusticeps* Miller, 1901; *baliensis* Thomas, 1913; *batuana* Lyon, 1916; *celaenopepla* Miller, 1913; *condorensis* Kloss, 1920; *dicolorata* Robinson and Kloss, 1914; *felli* Thomas and Wroughton, 1916; *fretensis* Thomas and Wroughton, 1909; *gigantea* (McClelland, 1839); *hainana* J. Allen, 1906; *humeralis* (Coulon, 1836); *javensis* (Zimmerman, 1780); *laenata* Miller, 1903; *leschnaultii* (Desmarest, 1822); *leucogenys* Kloss, 1916; *lutrina* Thomas and Wroughton, 1916; *macruroides* (Hodgson, 1849); *major* Miller, 1911; *marana* Thomas and Wroughton, 1916; *melanopepla* Miller, 1900; *palliata* Miller, 1902; *penangensis* Robinson and Kloss, 1911; *peninsulae* Miller, 1913; *phaeopepla* Miller, 1913; *sinus* Kloss, 1916; *sondaica* (Müller and Schlegel, 1844); *smithi* Robinson and Kloss, 1922; *stigmosa* Thomas, 1923; *tiomanensis* Miller, 1900.

*Ratufa indica* (Erxleben, 1777). Syst. Regn. Anim., 1:420.

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 - Endangered as *R. i. dealbata* and *R. i. elphinstoni*.

SYNONYMS: *bengalensis* (Blanford, 1897); *bombaya* (Boddaert, 1785); *centralis* Ryley, 1913; *dealbata* (Blanford, 1897); *elphinstoni* (Sykes, 1831); *malabarica* (Scopoli, 1786); *maxima* (Schreber, 1784); *purpureus* (Zimmermann, 1777); *superans* Ryley, 1913.

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.

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.

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

*Rheithrosciurus* Gray, 1867. Ann. Mag. Nat. Hist., ser. 3, 20:273.

TYPE SPECIES: *Sciurus macrotis* Gray, 1857.

SYNONYMS: *Rhithrosciurus* Hose, 1893.

COMMENTS: Tribe Sciurini (Moore, 1959:177), or *incertae sedis* (Simpson, 1945:78).

*Rheithrosciurus macrotis* (Gray, 1857). Proc. Zool. Soc. Lond., 1856:341 [1857].

TYPE LOCALITY: "Sarawak," [Malaysia].

DISTRIBUTION: Borneo.

*Rhinosciurus* Blyth, 1855. J. Asiat. Soc. Bengal, 14:477.

TYPE SPECIES: *Sciurus laticaudatus* Müller, 1840.

COMMENTS: Tribe Callosciurini (Moore, 1959:173).

*Rhinosciurus laticaudatus* (Müller, 1840). In Temminck, Verh. Nat. Gesch. Nederland. Overz. Bezitt., Zool., Zoogd. Indisch. Archipel., p. 34[1840], see comments.

TYPE LOCALITY: "Pontianak" [W Kalimantan, Indonesia].

DISTRIBUTION: Malaysian region except Java and SW Philippines.

SYNONYMS: *incultus* Lyon, 1916; *leo* Thomas and Wroughton, 1909; *peracer* Thomas and Wroughton, 1909; *rhionis* Thomas and Wroughton, 1909; *robinsoni* Thomas, 1908; *saturatus* Robinson and Kloss, 1919; *tupaioides* Blyth, 1855.

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). See Appendix I.

*Rubrisciurus* Ellerman, 1954. In Laurie and Hill, Land of Mammals of New Guinea, Celebes, and Adjacent Islands, p. 94.

TYPE SPECIES: *Sciurus rubriventer* Müller and Schlegel, 1844.

SYNONYMS: *Tomeutes* Thomas, 1915.

COMMENTS: Tribe Callosciurini (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].

TYPE LOCALITY: "Celebes" [Minahassa, NE Sulawesi, Indonesia].

DISTRIBUTION: N, C, and SE Sulawesi.

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. See Appendix I for the correct publication date.

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

TYPE SPECIES: *Sciurus pusillus* Desmarest, 1817.

COMMENTS: Tribe Sciurillini (Moore, 1959).

*Sciurillus pusillus* (Desmarest, 1817). Nouv. Dict. Hist. Nat., Nouv. ed., 10:109.

TYPE LOCALITY: French Guiana, Cayenne.

DISTRIBUTION: Brazil, French Guiana, Peru, Suriname.

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

COMMENTS: Husson (1978) dated the name from Geoffroy's (1803) catalog, a work considered unpublished (see Appendix I) by other authors, and designated a lectotype.

*Sciurotamias* Miller, 1901. Proc. Biol. Soc. Washington, 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.



*Sciurotamias davidianus* (Milne-Edwards, 1867). Rev. Mag. Zool. Paris, ser. 2, 19:196.

TYPE LOCALITY: "Mountains of Peking," Hebei Prov., China.

DISTRIBUTION: Hebei to Sichuan and Hubei; Guizhou (China).

SYNONYMS: *collaris* (Heude, 1898); *consobrinus* (Milne-Edwards, 1868-1874); *latro* (Heude, 1898); *owstoni* J. Allen, 1909; *saltitans* (Heude, 1898); *thayeri* G. Allen, 1912.

COMMENTS: Subgenus *Sciurotamias*.

*Sciurotamias forresti* (Thomas, 1922). Ann. Mag. Nat. Hist., ser. 9, 10:399.

TYPE LOCALITY: "Mekong-Yangtze Divide on 27° 20' N 7000-9000'." Yunnan Prov., China.

DISTRIBUTION: Yunnan and Sichuan Provs. (China).

COMMENTS: Subgenus *Rupestes* (Moore and Tate, 1965).

*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; *Hadrosociurus* J. Allen, 1915; *Hesperosciurus* Nelson, 1899; *Histriosciurus* J. Allen, 1915; *Leptosociurus* J. Allen, 1915; *Macroxus* F. Cuvier, 1823; *Mesosociurus* J. Allen, 1915; *Neosciurus* Trouessart, 1880; *Oreosciurus* Ognev, 1935; *Otosociurus* Nelson, 1899; *Parasociurus* Trouessart, 1880; *Simosciurus* J. Allen, 1915; *Tenes* Thomas, 1909; *Urosociurus* J. Allen, 1915.

COMMENTS: Tribe Sciurini (Moore, 1959:177); includes *Guerlinguetus*, *Hesperosciurus*, *Otosociurus*, *Sciurus* (Hall, 1981:417-436); *Tenes* (Corbet, 1978c:76) and *Hadrosociurus* (Cabrera, 1961:374) as subgenera. Moore (1959) considered *Guerlinguetus* a distinct genus (*Hadrosociurus*, *Urosociurus* as subgenera) and included *Otosociurus* and *Hesperosciurus* in subgenus *Sciurus*.

*Sciurus aberti* Woodhouse, 1853. Proc. Acad. Nat. Sci. Philadelphia, 1852, 6:110, 220 [1853].

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).

SYNONYMS: *barberi* J. Allen, 1904; *castanonotus* Baird, 1858; *castanonotus* Baird, 1855; *chuscensis* Goldman, 1931; *concolor* True, 1894; *dorsalis* Woodhouse, 1853; *durangi* Thomas, 1893; *ferreus* True, 1900; *kaibabensis* (Merriam, 1904); *mimus* Merriam, 1904; *navajo* Durrant and Kelson, 1947; *phaeurus* J. Allen, 1904.

COMMENTS: Subgenus *Otosociurus* (Hall, 1981:434). Includes *kaibabensis* (Hoffmeister and Diersing, 1978). Reviewed by Nash and Seaman (1977, Mammalian Species, 80). Post-Pleistocene dispersal analyzed by Davis and Brown (1989).

*Sciurus aestuans* Linnaeus, 1766. Syst. Nat., 12th ed., 1:88.

TYPE LOCALITY: Surinam.

DISTRIBUTION: Brazil, French Guiana, Guyana, Suriname, and Venezuela.

SYNONYMS: *alphonsei* Thomas, 1903; *bancrofti* Kerr, 1792; *garbei* (Pinto, 1931); *georgihernandezii* Barriga-Bonilla, 1966; *guajanensis* Kerr, 1792; *guianensis* Peters, 1863; *guerlingus* (Shaw, 1801); *henseli* Miranda Ribeiro, 1941; *ingrami* Thomas, 1901; *macconnelli* Thomas, 1901; *olivascens* Illiger, 1815; *poaiae* (Moojen, 1942); *quelchii* Thomas, 1901; *roberti* Thomas, 1903; *venustus* (J. A. Allen, 1940).

COMMENTS: Subgenus *Guerlinguetus*; see Cabrera (1961:359). Formerly included *gilvularis*; see Avila-Pires (1964).

*Sciurus alleni* Nelson, 1898. Proc. Biol. Soc. Washington, 12:147.

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).

COMMENTS: Subgenus *Sciurus* (Hall, 1981:430).

*Sciurus anomalus* Gldenstaedt, 1785. In Schreber, Die Sugeth., 4:781.

TYPE LOCALITY: "without exact indication of locality" (Ognev, 1966:368). Restricted by Gldenstaedt (1785, see Ognev, 1940:423) to Sabeka, 25 km SW of Kutais, Georgia.

DISTRIBUTION: Turkey, Transcaucasia (Armenia, Azerbaidzhan, Georgia), N and W Iran, Syria, Lebanon, Israel.

- SYNONYMS: *caucasicus* Pallas, 1811; *fulvus* Blanford, 1875; *historicus* Gray, 1867; *pallescens* (Gray, 1867); *persicus* Erxleben, 1777 (may be based on *Glis glis*); *russatus* Wagner, 1842; *syriacus* Ehrenberg, 1828.  
 COMMENTS: Subgenus *Tenes* (Corbet, 1978c:76). Russian authors ascribe this species to Gmelin, 1778. Syst. Nat., 13th ed., 1:148
- Sciurus arizonensis* Coues, 1867. Am. Nat., 1:357.  
 TYPE LOCALITY: "Fort Whipple," [Yavapai Co., Arizona, USA].  
 DISTRIBUTION: C and SE Arizona and WC New Mexico (USA); NE Sonora (Mexico).  
 SYNONYMS: *catalinae* Doult, 1931; *huachuca* J. Allen, 1894.  
 COMMENTS: Subgenus *Sciurus* (Hall, 1981:432).
- Sciurus aureogaster* F. Cuvier, 1829. In E. Geoffroy and F. Cuvier, Hist. Nat. Mammifères, pt. 3, 6(59):1-2 "Ecureuil de la Californie".  
 TYPE LOCALITY: "California" Restricted by Nelson (1899b:38) to Alta Mira, Tamaulipas, Mexico.  
 DISTRIBUTION: SW and C Guatemala to Guanajuato to Nayarit and Nuevo Leon (Mexico).  
 SYNONYMS: *affinis* Alston, 1878; *albipes* Wagner, 1837; *cervicalis* J. Allen, 1890; *chiapensis* Nelson, 1899; *chrysogaster* Giebel, 1855; *cocos* Nelson, 1898; *colimensis* Nelson, 1898; *effugius* Nelson, 1898; *ferruginiventris* Audubon and Bachman, 1841; *frumentor* Nelson, 1898; *griseoflavus* Gray, 1867; *hernandezii* Nelson, 1898; *hirtus* Nelson, 1898; *hypopyrrhus* Wagler, 1831; *hypoxanthus* I. Geoffroy, 1855; *leucogaster* F. Cuvier, 1831; *leucops* Gray, 1867; *littoralis* Nelson, 1907; *maurus* Gray, 1867; *morio* Gray, 1867; *mustelinus* Audubon and Bachman, 1841; *nelsoni* Merriam, 1893; *nemorialis* Nelson, 1898; *nigrescens* Bennett, 1833; *perigrinator* Nelson, 1904; *poliopus* Fitzinger, 1867; *quercinus* Nelson, 1898; *raviventer* Lichtenstein, 1830; *rufipes* Fitzinger, 1867; *rufiventris* Roviroso, 1887; *senex* Nelson, 1904; *socialis* Wagner, 1837; *tepicanus* J. Allen, 1906; *varius* Wagner, 1843; *wagneri* J. Allen, 1898.  
 COMMENTS: Subgenus *Sciurus* (Hall, 1981:418). Revised by Musser (1968), who also designated a lectotype and confirmed the type locality restriction (Musser, 1970c). 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.  
 TYPE LOCALITY: "Carolina."  
 DISTRIBUTION: E Texas (USA) to Saskatchewan (Canada) and east to Atlantic Coast.  
 Introduced into Britain, South Africa, and various localities in W North America.  
 SYNONYMS: *extimus* Bangs, 1896; *fuliginosus* Bachman, 1839; *hiemalis* Ord, 1815; *hypophaeus* Merriam, 1886; *leucotis* Gapper, 1830; *matecumbei* Bailey, 1937; *migratorius* Audubon and Bachman, 1849; *minutus* Bailey, 1937; *pennsylvanicus* Ord, 1815.  
 COMMENTS: Subgenus *Sciurus* (Hall, 1981:417).
- Sciurus colliaei* Richardson, 1839. Zool. Capt. Beechey's Voy., p. 8.  
 TYPE LOCALITY: "San Blas, Tepic, [Nayarit,] Mexico."  
 DISTRIBUTION: Mexico: WC coast including Sonora, Chihuahua, Sinaloa, Durango, Nayarit, Jalisco, and Colima.  
 SYNONYMS: *nuchalis* Nelson, 1899; *sinaloensis* Nelson, 1899; *truei* Nelson, 1899.  
 COMMENTS: Subgenus *Sciurus* (Hall, 1981:421). Includes *sinaloensis* and *truei* (Anderson, 1962).
- Sciurus deppei* Peters, 1863. Monatsb. K. Preuss. Akad. Wiss. Berlin, 1863:654.  
 TYPE LOCALITY: "Papantla, Veracruz, Mexico." (Nelson, 1899b:101).  
 DISTRIBUTION: Tamaulipas (Mexico) to Costa Rica.  
 STATUS: CITES - Appendix III (Costa Rica).  
 SYNONYMS: *matagalpae* J. Allen, 1908; *miravallensis* Harris, 1931; *negligens* Nelson, 1898; *taeniurus* Gray, 1867; *tephrogaster* Gray, 1867; *vivax* Nelson, 1901.  
 COMMENTS: Subgenus *Sciurus* (Hall, 1981:426).
- Sciurus flammifer* Thomas, 1904. Ann. Mag. Nat. Hist., ser. 7, 14:33.  
 TYPE LOCALITY: Venezuela, Bolivar, Caura Valley, La Union.  
 DISTRIBUTION: Venezuela south of Orinoco River from the Colombian border to Ciudad Bolivar.  
 COMMENTS: Subgenus *Hadrosociurus*; see Cabrera (1961:374).

*Sciurus gilvicularis* Wagner, 1842. Arch. Naturgesch., 2:43.

TYPE LOCALITY: Brazil, Borba, Rio Madeira.

DISTRIBUTION: N Brazil, Guyana, Venezuela.

SYNONYMS: *gilviventris* Pelzel, 1883; *paraensis* Goeldi and Hagmann, 1904.

COMMENTS: Subgenus *Guerlinguetus*; see Avila-Pires (1964). Cabrera (1961:359) included *gilvicularis* in *aestuans*.

*Sciurus granatensis* Humboldt, 1811. Rec. Observ. Zool., 1(1805):8.

TYPE LOCALITY: Colombia, Dept. Bolivar, Cartagena.

DISTRIBUTION: Costa Rica, Colombia, Ecuador, Margarita Isl, Panama, Trinidad, Tobago, Venezuela.

SYNONYMS: *agricolae* Hershkovitz, 1947; *baudensis* J. A. Allen, 1915; *bondae* J. A. Allen, 1899; *candelensis* (J. A. Allen, 1914); *carchensis* Harris and Hershkovitz, 1938; *chapmani* J. A. Allen, 1899; *chiriquensis* Bangs, 1902; *choco* Goldman, 1915; *chrysuos* Pucheran, 1845; *cucutae* J. A. Allen, 1914; *fasciatus*; *ferminae* (Cabrera, 1917); *gerrardi* Gray, 1861; *griseimembra* (J. A. Allen, 1914); *griseogena* (Gray, 1867); *hoffmanni* Peters, 1863; *hyporrhodus* Gray, 1867; *imbaburuae* Harris and Hershkovitz, 1938; *inconstans* Osgood, 1921; *klagesi* Thomas, 1914; *leonis* Lawrence, 1933; *llanensis* Mondolfi and Boher, 1984; *magdalenae* J. A. Allen, 1915; *manavi* (J. A. Allen, 1914); *maracaibensis* Hershkovitz, 1947; *meridensis* Thomas, 1901; *milleri* J. A. Allen; *morulus* Bangs, 1900; *nesaeus* G. M. Allen, 1902; *norosiensis* Hershkovitz, 1947; *perijae* Hershkovitz, 1947; *quebradensis* J. A. Allen; *quindianus* (J. A. Allen, 1914); *rhoatsi* (J. A. Allen, 1914); *rufoniger* Pucheran, 1845; *salaquensis* J. A. Allen, 1915; *saltuensis* Bangs, 1898; *söderströmi* Stone, 1914; *splendidus* Gray, 1842; *sumaco* (Cabrera, 1917); *tamae* Osgood, 1912; *tarrae* Hershkovitz, 1947; *tephrogaster* (Gray, 1867); *tobagensis* Osgood, 1910; *valdiviae* (J. A. Allen, 1915); *variabilis* I. Geoffroy, 1832; *versicolor* Thomas, 1900; *xanthotus* (Gray, 1867); *zuliae* Osgood, 1910.

COMMENTS: Subgenus *Guerlinguetus*; see Hall (1981:436) and Nitikman (1985, Mammalian Species, 246).

*Sciurus griseus* Ord, 1818. J. Phys. Chim. Hist. Nat. Arts Paris, 87:152.

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).

SYNONYMS: *anthonyi* Mearns, 1897; *fossor* Peale, 1848; *heermannii* Le Conte, 1852; *leporinus* Audubon and Bachman, 1841; *nigripes* Bryant, 1889.

COMMENTS: Subgenus *Hesperosciurus* (Hall, 1981:433).

*Sciurus ignitus* (Gray, 1867). Ann. Mag. Nat. Hist., ser. 3, 20:429.

TYPE LOCALITY: Bolivia, near Yungas, upper Rio Beni.

DISTRIBUTION: Argentina, Bolivia, Brazil, and Peru.

SYNONYMS: *argentinius* Thomas, 1921; *boliviensis* Osgood, 1921; *cabrerae* Moojen, 1958;

*cuscinus* Thomas, 1902; *irroratus* (Gray, 1867); *leucogaster* (J. A. Allen, 1915); *ochrescens* Thomas, 1914.

COMMENTS: Subgenus *Guerlinguetus*; see Cabrera (1961:370-371).

*Sciurus igniventris* Wagner, 1842. Arch. Naturg., 1:360.

TYPE LOCALITY: Brazil, Amazonas, north of the Rio Negro, Marabitanos.

DISTRIBUTION: Brazil, Colombia, Ecuador, Peru, Venezuela.

SYNONYMS: *cocalis* Thomas, 1900; *duida* J. A. Allen, 1914; *fulminatus* Thomas, 1926;

*manhanensis* (Moojen, 1942); *taedifer* Thomas, 1900; *zamorae* J. A. Allen, 1914.

COMMENTS: Subgenus *Urosциurus*; 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.

TYPE LOCALITY: "Japan". Restricted by Corbet (1978c:78) to Honshu, [Japan].

DISTRIBUTION: Honshu, Shikoku, and Kyushu (Japan).

COMMENTS: Subgenus *Sciurus* (Corbet, 1978c:77).

*Sciurus nayaritensis* J. A. Allen, 1890. Bull. Am. Mus. Nat. Hist., 2:7, footnote.

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

DISTRIBUTION: Jalisco (Mexico) north to SE Arizona (USA).

- SYNONYMS: *alstoni* J. Allen, 1889; *apache* J. Allen, 1893; *chiricahuae* Goldman, 1933.  
 COMMENTS: Subgenus *Sciurus* (Hall, 1981:431). Includes *chiricahuae* and *apache* (Hall, 1981:431; Lee and Hoffmeister, 1963).
- Sciurus niger* Linnaeus, 1758. Syst. Nat., 10th ed., 1:64.  
 TYPE LOCALITY: "in America septentrionalis." Restricted by Thomas (1911a: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 - Endangered as *S. n. cinereus*.  
 SYNONYMS: *aviciinnia* A. Howell, 1919; *bachmani* Lowery and Davis, 1942; *bryanti* Bailey, 1920; *capistratus* Bosc, 1802; *cinereus* Linnaeus, 1758; *limitis* Baird, 1855; *ludovicianus* Custis, 1806; *macroura* Say, 1823; *magnificaudatus* Harlan, 1825; *neglectus* (Gray, 1867); *ruber* Rafinesque, 1820; *rubicaudatus* Audubon and Bachman, 1851; *rufiventer* E. Geoffroy, 1803; *sayii* Audubon and Bachman, 1851; *shermani* Moore, 1956; *subauratus* Bachman, 1839; *texianus* Bachman, 1839; *vulpinus* Gmelin, 1788.  
 COMMENTS: Subgenus *Sciurus* (Hall, 1981:427).
- Sciurus oculatus* Peters, 1863. Monatsb. K. Preuss. Akad. Wiss. Berlin, 1863:653.  
 TYPE LOCALITY: "Eastern Mexico." Restricted by Nelson (1899b:88) to "near Las Vigas [Veracruz] Mexico."  
 DISTRIBUTION: Mexico: San Luis Potosi, Hidalgo, Veracruz, Puebla, Mexico, Queretaro and Guanajuato.  
 SYNONYMS: *capistratus* Lichtenstein, 1830; *melanonotus* Thomas, 1890; *shawi* Dalquest, 1950; *tolucae* Nelson, 1898.  
 COMMENTS: Subgenus *Sciurus* (Hall, 1981:430).
- Sciurus pucheranii* (Fitzinger, 1867). Sitzb. Math. Naturw. Cl., 55, Abth., 1:487.  
 TYPE LOCALITY: Colombia, near Bogota.  
 DISTRIBUTION: Colombian Andes.  
 SYNONYMS: *caucensis* Nelson, 1899; *medellinensis* (Gray, 1867); *minor* (Alston, 1878); *salentensis* (J. A. Allen, 1914).  
 COMMENTS: Subgenus *Guerlinguetus*; see Cabrera (1961:372) and Eisenberg (1989). Moore (1959) placed *pucheranii* in the genus *Microsciurus*.
- Sciurus pyrrhinus* Thomas, 1898. Ann. Mag. Nat. Hist., ser. 7, 2:265.  
 TYPE LOCALITY: Peru, Junin Dept., Vitoc, Garita del Sol.  
 DISTRIBUTION: E slopes of the Andes of Peru.  
 SYNONYMS: *variabilis* Tschudi, 1844.  
 COMMENTS: Subgenus *Hadrosociurus*; see Cabrera (1961:378). J. A. Allen (1915b) placed *pyrrhinus* in the genus *Mesosociurus*.
- Sciurus richmondi* Nelson, 1898. Proc. Biol. Soc. Washington, 12:146.  
 TYPE LOCALITY: "Escondido River (50 mi. above Bluefields) Nicaragua" (Nelson, 1899b:100).  
 DISTRIBUTION: Nicaragua.  
 COMMENTS: Subgenus *Guerlinguetus* (Hall, 1981:436). Reviewed by Jones and Genoways (1975b, Mammalian Species, 53).
- Sciurus sanborni* Osgood, 1944. Field Mus. Nat. Hist. Publ., Zool. Ser., 29:191.  
 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.  
 COMMENTS: Subgenus *Guerlinguetus*; see Cabrera (1961:373).
- Sciurus spadiceus* Olfers, 1818. In Eschwege, J. Brasilien Neue Bibliothek. Reisenb., 15(2):208.  
 TYPE LOCALITY: Brazil, restricted by Hershkovitz (1959a) to Cuyabá, Matto Grosso.  
 DISTRIBUTION: Bolivia, Brazil, Colombia, Ecuador, Peru.  
 SYNONYMS: *brunneo-niger* (Gray, 1867); *castus* Thomas, 1903; *fumigatus* (Gray, 1867); *juralis* Thomas, 1926; *langsdorffi* Brandt, 1835; *morio* Wagner, 1848; *nigratus* (Pinto, 1931); *purusianus* (Moojen, 1942); *pyrrhonotus* Wagner, 1842; *rondoniae* (Moojen, 1942); *steinbachi* J. A. Allen, 1914; *taparius* Thomas, 1926; *tricolor* Tschudi, 1844; *urucumus* J. A. Allen, 1914.

COMMENTS: Subgenus *Urosciurus*; see Patton (1984).

*Sciurus stramineus* Eydoux and Souleyet, 1841. In Vaillant, Voy. autour du monde...la Bonite, Zool., 1:73.

TYPE LOCALITY: Peru, Piura Dept., Omatope.

DISTRIBUTION: Extreme NE Peru and SE Ecuador in the area surrounding the Gulf of Guayaquil.

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

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

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

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

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

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

COMMENTS: Subgenus *Sciurus*; includes *goldmani* (Hall, 1981:424). Revised by Harris (1937).

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

TYPE LOCALITY: "in Europae arboribus." Restricted by Thomas (1911a: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, Korea, and NE China.

SYNONYMS: *albonotatus* Billberg, 1827; *albus* Billberg, 1827; *alpinus* Desmarest, 1822; *altaicus* Serebrennikov, 1928; *ameliae* Cabrera, 1924; *anadyrensis* Ognev, 1929; *arcticus* Trouessart, 1906; *argenteus* Kerr, 1792; *baeticus* Cabrera, 1905; *balkanicus* Heinrich, 1936; *bashkiricus* Ognev, 1935; *brunnea* Altum, 1876; *chiliensis* Sowerby, 1921; *cinerea* Hermann, 1804; *coreae* Sowerby, 1921; *coreanus* Kishida, 1924; *croaticus* Wettstein, 1927; *dulkeiti* Ognev, 1929; *europaeus* Gray, 1843; *exalbidus* Pallas, 1778; *fedjushini* Ognev, 1935; *formosovi* Ognev, 1935; *fuscoater* Altum, 1876; *fusconigricans* Dwigubski, 1804; *fuscorubens* Dwigubski, 1804; *golzmajeri* Smirnov, 1960; *gotthardi* Fatio, 1905; *graeca* Altum, 1876; *hoffmanni* Valverde, 1968; *infuscatus* Cabrera, 1905; *istrandjae* Heinrich, 1936; *italicus* Bonaparte, 1838; *jacutensis* Ognev, 1929; *jenissejensis* Ognev, 1935; *kalbinensis* Selevin, 1924; *kessleri* Migulin, 1928; *leucourus* Kerr, 1792; *lilaeus* Miller, 1907; *mantchuricus* Thomas, 1909; *martensi* Matschie, 1901; *meridionalis* Lucifero, 1907; *nadymensis* Serebrennikov, 1928; *niger* Billberg, 1827; *nigrescens* Altum, 1876; *numantius* Miller, 1907; *ognevi* Migulin, 1928; *orientis* Thomas, 1906; *rhodopensis* Heinrich, 1936; *rufus* Kerr, 1792; *rupestris* Thomas, 1907; *russus* Miller, 1907; *rutilans* Miller, 1907; *segruae* Miller, 1909; *silanus* Hecht, 1931; *subalpinus* Burg, 1920; *talahutky* Brass, 1911; *typicus* Barrett-Hamilton, 1899; *ukrainicus* Migulin, 1928; *uralensis* Ognev, 1935; *varius* Gmelin, 1789.

COMMENTS: Subgenus *Sciurus*. For discussion of taxonomy, see Sidorowicz (1971) and Corbet (1978c).

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

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

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

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

COMMENTS: Subgenus *Sciurus* (Hall, 1981:422).

*Spermophilopsis* Blasius, 1884. Tageblatt. Versamml. Deutsch. Naturf. Magdeburg, 57:325.

TYPE SPECIES: *Arctomys leptodactylus* Lichtenstein, 1823.

COMMENTS: Subfamily Xerinae (Gromov et al., 1965:70) or tribe Xerini (Moore, 1959).



- Spermophilopsis leptodactylus* (Lichtenstein, 1823). Naturh. Abh. Eversmann's Reise, p. 119.  
 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 Tadzhikistan, NE Iran, NW Afghanistan.  
 SYNONYMS: *bactrianus* (Scully, 1888); *heptopotamicus* Heptner and Ismagilov, 1952; *schumakovi* (Satunin, 1908); *turcomanus* (Eichwald, 1834).  
 COMMENTS: Related to African xerine squirrels (*Atlantoxerus* and *Xerus*) (Nadler et al., 1969; Nadler and Hoffmann, 1974).
- 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. Allen, 1877; *Notocitellus* A. Howell, 1938; *Otocolobus* Brandt, 1844; *Otospermophilus* Brandt, 1844; *Poliocitellus* A. Howell, 1938; *Spermatophilus* Wagler, 1830; *Spermophila* Richardson, 1825; *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, 1978c:82; Hershkovitz, 1949b). Includes *Callospermophilus*, *Ictidomys*, *Otospermophilus*, *Poliocitellus*, *Spermophilus*, and *Xerospermophilus* as subgenera (Hall, 1981:382); Gromov et al. (1965) gave the first three taxa generic rank. North American species revised by 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. Washington, 16:79.  
 TYPE LOCALITY: "La Salada, 40 miles [64 km] south of Uruapan, Michoacan, Mexico."  
 DISTRIBUTION: E Jalisco, Michoacan, and N Guerrero (WC Mexico).  
 SYNONYMS: *arceliae* Villa-R., 1942; *infernatu*s Alvarez and Ramirez-P., 1968.  
 COMMENTS: Subgenus *Otospermophilus* (Hall, 1981:399); but see also Birney and Genoways (1973) who suggested it is closer to subgenus *Ictidomys*.
- Spermophilus alashanicus* Büchner, 1888. Wiss. Res. Przewalski Cent. Asien Zool. I:(Säugeth.):11.  
 TYPE LOCALITY: "Southern Ala Shan" [Desert, China]. (Ognev, 1963a:150).  
 DISTRIBUTION: SC Mongolia; Ala Shan and E Nan Shan (N China).  
 SYNONYMS: *dilutus* (Formozov, 1929); *obscurus* Büchner, 1888 (has page priority over *alashanicus*); *siccus* (G. Allen, 1925).  
 COMMENTS: Subgenus *Spermophilus* (Gromov et al. 1965:208). Placed by Corbet (1978c) in *dauricus*; Orlov and Davaa (1975) provided evidence of specific distinctness.
- Spermophilus annulatus* Audubon and Bachman, 1842. J. Acad. Nat. Sci. Philadelphia, 8:319.  
 TYPE LOCALITY: "Western prairies." Restricted by Howell (1938:163) to Manzanillo, Colima, Mexico.  
 DISTRIBUTION: Nayarit to N Guerrero (Mexico).  
 SYNONYMS: *goldmani* Merriam, 1902.  
 COMMENTS: Subgenus *Notocitellus* (Howell, 1938:162) or *Otospermophilus* (Hall, 1981:403).
- Spermophilus armatus* Kennicott, 1863. Proc. Acad. Nat. Sci. Philadelphia, 15:158.  
 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).  
 COMMENTS: Subgenus *Spermophilus* (Hall, 1981:386).
- Spermophilus atricapillus* W. E. Bryant, 1889. Proc. California Acad. Sci., ser. 2, 2:26.  
 TYPE LOCALITY: "Comondu, Lower California" [Baja California Sur, Mexico].  
 DISTRIBUTION: Baja California (Mexico).  
 COMMENTS: Subgenus *Otospermophilus* (Hall, 1981:402).

*Spermophilus beecheyi* (Richardson, 1829). Fauna Boreali-Americana, 1:170.

TYPE LOCALITY: "neighborhood of San Francisco and Monterey, in California." Restricted by Grinnell (1933) to Monterey, Monterey Co., California, USA.

DISTRIBUTION: W Washington (USA) to Baja California Norte (Mexico).

SYNONYMS: *douglasii* (Richardson, 1829); *fisheri* Merriam, 1893; *nesioticus* (Elliot, 1904); *nudipes* (Huey, 1931); *parvulus* (A. Howell, 1931); *rupinarum* (Huey, 1931); *sierrae* (A. Howell, 1931).

COMMENTS: Subgenus *Otospermophilus* (Hall, 1981:401).

*Spermophilus beldingi* Merriam, 1888. Ann. N.Y. Acad. Sci., 4:317.

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, 221).

*Spermophilus brunneus* (A. H. Howell, 1928). Proc. Biol. Soc. Washington, 41:211.

TYPE LOCALITY: "New Meadows, Adams County, Idaho [USA]."

DISTRIBUTION: WC Idaho (USA), in three isolated areas; north of Payette R. 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).

SYNONYMS: *endemicus* Yensen, 1991.

COMMENTS: Subgenus *Spermophilus* (Hall, 1981:385). Includes *endemicus*, which "may be reaching species-level separation" (Yensen, 1991:597).

*Spermophilus canus* Merriam, 1898. Proc. Biol. Soc. Washington, 12:70.

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.

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.

TYPE LOCALITY: "Austria"; restricted by Martino and Martino (1940) to "Wagram, Niederosterrich" (Bauer, 1960:254).

DISTRIBUTION: SE Germany, Czechoslovakia, SW Poland through SE Europe to European Turkey, Moldova and W Ukraine.

SYNONYMS: *balcanicus* (Markov, 1957); *citillus* (Pallas, 1779); *gradojevici* (Martino, 1929); *isticus* (Calinescu, 1934); *karamani* (Martino, 1940); *laskarevi* (Martino, 1940); *macedonicus* Fraguédakis-Tsolis and Ondrias, 1977; *martinoi* (Peshchev, 1955); *thracious* (Mursaloglu, 1964).

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).

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

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).

SYNONYMS: *albertae* (J. Allen, 1903); *brachiura* (Rafinesque, 1817); *erythrogluteia* (Richardson, 1829); *ruficaudus* (A. 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. (1975a). Reviewed by Elliot and Flinders (1991, Mammalian Species, 372).

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

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

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

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

COMMENTS: Subgenus *Spermophilus* (Gromov et al., 1965:244). Corbet (1978c: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.

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

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).

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

COMMENTS: Subgenus *Spermophilus* (Hall, 1981:385). Regarded by Howell (1938) and Hall (1981:385) as a subspecies of *richardsonii*; but Nadler et al. (1971a), Robinson and Hoffmann (1975), Koepl et al. (1978) and Fagerstone (1982) provided evidence of specific distinctness and included *aureus* and *nevadensis* in *elegans*. Reviewed by Zegers (1984, Mammalian Species, 214).

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

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

DISTRIBUTION: E Kazakhstan, SW Siberia (Russia), Xinjiang (China). Isolated population (*pallidicauda*) in Mongolia and Inner Mongolia (China).

SYNONYMS: *brevicauda* Brandt, 1843; *brunnescens* (Beljaev, 1943); *carruthersi* (Thomas, 1912); *iliensis* (Beljaev, 1943); *intermedius* Brandt, 1843; *pallidicauda* (Satunin, 1903); *saryarka* Selevin, 1937; *selevini* (Vinogradov and Argyropulo, 1941).

COMMENTS: Subgenus *Colobotis* according to Gromov et al. (1965:315), but see Hall (1981:381) who included *Colobotis* in subgenus *Spermophilus*. Includes *brevicauda* (= *intermedius*), *carruthersi*, and *pallidicauda*; 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. Provisionally included in *major* by Corbet (1978c:84); but see Gromov et al. (1965:315), Vorontsov and Lyapunova (1970), and Nikol'skii (1984) for evidence of specific distinctness. See also *major*.

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

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).

COMMENTS: Subgenus *Poliocitellus* (Hall, 1981:397). Gromov et al. (1965:155) considered *Poliocitellus* a subgenus of the genus *Ictidomys*.

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

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

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

SYNONYMS: *concolor* (Fischer, 1829); *concolor* I. Geoffroy, 1831; *giganteus* (Fischer, 1829); *hypoleucos* (Satunin, 1909); *maximus* (Pallas, 1778); *nanus* (Fischer, 1829); *nigrimontanus* (Antipin, 1942); *orlovi* (Ognev, 1937); *oxianus* (Thomas, 1915); *parthianus* (Thomas, 1915).

COMMENTS: Subgenus *Colobotis* according to Gromov et al. (1965:276), but see Hall (1981:381) who included *Colobotis* in subgenus *Spermophilus*. See also *major*.

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

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.

SYNONYMS: *arizonensis* (V. Bailey, 1913); *bernardinus* Merriam, 1898; *brevicaudus* Merriam, 1893; *caryi* (A. Howell, 1917); *castanurus* (Merriam, 1890); *certus* (Goldman, 1921); *chrysoideirus* (Merriam, 1890); *cinerascens* (Merriam, 1890); *connectens* (A. Howell, 1931); *mitratus* (A. Howell, 1931); *tescorum* (Hollister, 1911); *trepidus* (Taylor, 1910); *trinitatus* (Merriam, 1901); *wortmani* (J. Allen, 1895).

COMMENTS: Subgenus *Callospermophilus* (Hall, 1981:406). Gromov et al. (1965:150) considered *Callospermophilus* a subgenus of the genus *Otospermophilus*.

*Spermophilus madrensis* (Merriam, 1901). Proc. Washington Acad. Sci., 3:563.

TYPE LOCALITY: "from Sierra Madre, near Guadalupe y Calvo, Chihuahua, Mexico (7,000 feet altitude)."

DISTRIBUTION: SW Chihuahua (Mexico).

COMMENTS: Subgenus *Callospermophilus* (Hall, 1981:410). Gromov et al. (1965:150) considered *Callospermophilus* a subgenus of the genus *Otospermophilus*. Reviewed by Best and Thomas (1991b, Mammalian Species, 378).

*Spermophilus major* (Pallas, 1778). Nova Spec. Quad. Glir. Ord., p. 125.

TYPE LOCALITY: "Steppe near Samara," [Kuibyshev, Kuibyshevsk. Obl., Russia] (Ognev, 1963a:34).

DISTRIBUTION: Steppe between Volga and Irtysh rivers (Russia; N Kazakhstan). Formerly, steppe between Don and Volga rivers (Russia; Gromov et al., 1965:291).

SYNONYMS: *argyropuloi* (Bazhanov, 1947); *heptneri* (Vasil'eva, 1964); *rufescens* (Keyserling and Blasius, 1840); *ungae* (Martino, 1923).

COMMENTS: Subgenus *Colobotis* according to Gromov et al. (1965:290), but see Hall (1981:381) who included *Colobotis* in subgenus *Spermophilus*. Occasionally hybridizes with *erythrogegens* and *fulvus* (Denisov, 1963; Ognev, 1947). Corbet (1978c:84) provisionally included *erythrogegens* and *brevicauda* in this species, but Gromov et al. (1965:290) and Vorontsov and Lyapunova (1970) considered *erythrogegens* a distinct species, and Gromov et al. (1965:315) included *brevicauda* in *erythrogegens*; see comment under *erythrogegens*.

*Spermophilus mexicanus* (Erxleben, 1777). Syst. Regn. Anim., 1:428.

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).

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, 164).

*Spermophilus mohavensis* Merriam, 1889. N. Am. Fauna, 2:15.

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).

COMMENTS: Subgenus *Xerospermophilus*; (Hall, 1981:405). Most closely related to *S. tereticaudus* (Hafner and Yates, 1983); hybridizes at one locality.

*Spermophilus mollis* Kennicott, 1863. Proc. Acad. Nat. Sci. Philadelphia, 15:157.

TYPE LOCALITY: "Camp Floyd, near Fairfield, [Utah Co.,] Utah [USA]."

DISTRIBUTION: Two disjunct populations: in Washington, N of Yakima, W of Columbia, rivers (*nancyae* only); and SE corner of Oregon, Snake River valley (Idaho) southward through Nevada (except extreme S), extreme EC California, and W Utah.

SYNONYMS: *artemesiae* (Merriam, 1913); *idahoensis* (Merriam, 1913); *leurodon* (Merriam, 1913); *nancyae* Nadler, 1968; *pessimus* (Merriam, 1913); *stephensi* Merriam, 1898; *washoensis* (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). The taxon *nancyae* (2n=38) is disjunct, but provisionally included here. Reviewed (in part) by Rickart (1987) as *S. townsendii*.

*Spermophilus musicus* Ménétries, 1832. Cat. Raisonnie des Objets de Zoologie, St. Petersburg, p. 21.

TYPE LOCALITY: "Il habite le Caucase sur les montagnes le plus élevées et pas loin des nieges éternelles." Restricted by Sviridenko (1927, see Ognev, 1963a:114) to "Ush-Kulan," [Georgia].

DISTRIBUTION: N Caucasus Mtns (Georgia).

SYNONYMS: *boehmii* (Krassovskii, 1932); *saturatus* (Ognev, 1947).

COMMENTS: Subgenus *Spermophilus* (Gromov et al., 1965:249). Regarded by Ellerman and Morrison-Scott (1951:508) and Corbet (1978c:83) as a subspecies of *pygmaeus*. Gromov et al. (1965:249) and Vorontsov and Lyapunova (1970) provided evidence of specific distinctness.

*Spermophilus parryii* (Richardson, 1825). In Parry, Voy. discovery Northwest Passage, Vol. 6-app. second voy., p. 316.

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).

SYNONYMS: *ablusus* (Osgood, 1903); *barrowensis* Merriam, 1900; *beringensis* Merriam, 1900; *buxtoni* (J. Allen, 1903); *coriacorum* (Portenko, 1963); *janensis* (Ognev, 1937); *kennicottii* (Ross, 1861); *kodiacensis* J. Allen, 1874; *leucostictus* Brandt, 1844; *lyratus* (Hall and Gilmore, 1932); *nebulicola* (Osgood, 1903); *osgoodi* Merriam, 1900; *phaeognatha* (Richardson, 1829); *plesius* Osgood, 1900; *stejnegeri* (J. Allen, 1903); *stonei* (J. Allen, 1903); *tshuktschorum* Chernyavskii, 1972.

COMMENTS: Subgenus *Uroditellus* according to Gromov et al. (1965:184), but see Hall (1981:381) who included *Uroditellus* 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. Washington, 8:131.

TYPE LOCALITY: "Perote, Veracruz, Mexico."

DISTRIBUTION: Veracruz and Puebla (EC Mexico).

COMMENTS: Subgenus *Ictidomys* (Hall, 1981:397).

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

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

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

SYNONYMS: *atricapilla* (Orlov, 1927); *binominatus* (Ellerman, 1940); *brauneri* (Martino, 1914); *ellermani* (Harris, 1944); *flavescens* (Pallas, 1779); *herbicola* (Martino, 1914); *kalabuchovi* (Ognev, 1937); *kazakstanicus* (Goodwin, 1935); *mugosaricus* (Lichtenstein, 1823); *nikolskii* (Heptner, 1934); *orlovi* (Ellerman, 1940); *pallidus* (Orlov and Fenyuk, 1927); *planicola* (Satunin, 1909); *satunini* (Sviridenko, 1922); *septentrionalis* (Obolenskii, 1927).

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



- Spermophilus relictus* (Kashkarov, 1923). Trans. Turk. Sci. Soc., 1:185.  
 TYPE LOCALITY: "Kara-Bura Gorge and Kumysh-Tagh Gorge in the Talus Ala Tau" [Talassk. Obl., Kirgizistan] (Ognev, 1963a:70).  
 DISTRIBUTION: Tien Shan Mtns in Kirgizistan and SE Kazakhstan.  
 SYNONYMS: *arenicola* (Rall, 1935); *ralli* (Kuznetsov, 1948).  
 COMMENTS: Subgenus *Spermophilus* (Gromov et al., 1965:198).
- Spermophilus richardsonii* (Sabine, 1822). Trans. Linn. Soc. London, 13:589.  
 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).  
 COMMENTS: Subgenus *Spermophilus* (Hall, 1981:385). Formerly included *elegans*; see comment under that species. Reviewed by Michener and Koepl (1985, Mammalian Species, 243).
- Spermophilus saturatus* (Rhoads, 1895). Proc. Acad. Nat. Sci. Philadelphia, 47:43.  
 TYPE LOCALITY: "Lake Kichelos [= Keechelus], Kittitas Co., Wash[ingto]n, (elevation 8,000 feet [2,438 m])."  
 DISTRIBUTION: Cascade Mtns of W Washington (USA) and SW British Columbia (Canada).  
 COMMENTS: Subgenus *Callospermophilus* (Hall, 1981:409). Gromov et al. (1965:150) considered *Callospermophilus* a subgenus of genus *Otospermophilus*. Reviewed by Trombulak (1988, Mammalian Species, 322).
- Spermophilus spilosoma* Bennett, 1833. Proc. Zool. Soc. Lond., 1833:40.  
 TYPE LOCALITY: "that part of California which adjoins to Mexico." Restricted by Howell (1938:122) to Durango [City], Durango, Mexico.  
 DISTRIBUTION: C Mexico to S Texas, SW South Dakota, and NW Arizona (USA).  
 SYNONYMS: *altiplanensis* Anderson, 1972; *ammophilus* Hoffmeister, 1959; *annectens* Merriam, 1893; *arens* V. Bailey, 1902; *bavicoensis* Anderson, 1972; *cabrerai* (Dalquest, 1951); *canescens* Merriam, 1890; *cryptospilotus* Merriam, 1890; *macrospilotus* Merriam, 1890; *major* Merriam, 1890; *marginatus* V. Bailey, 1902; *microspilotus* Elliot, 1901; *obsidianus* Merriam, 1890; *obsoletus* Kennicott, 1863; *orcolus* Alvarez, 1962; *pallescens* (A. Howell, 1928); *pratensis* Merriam, 1890.  
 COMMENTS: Subgenus *Ictidomys* (Hall, 1981:395). Reviewed by Streubel and Fitzgerald (1978a, Mammalian Species, 101).
- Spermophilus suslicus* (Güldenstaedt, 1770). Nova Comm. Acad. Sci. Petropoli, 14:389.  
 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 Rumania, Ukraine north to Oka River and east to the Volga River (Russia).  
 SYNONYMS: *averini* (Migulin, 1927); *boristhenicus* (Pusanov, 1958); *guttatus* (Pallas, 1770); *guttulatus* Schinz, 1845; *leucopictus* (Dondorff, 1792); *meridioccidentalis* (Migulin, 1927); *odessana* Nordmann, 1842; *ognevi* (Reshetnik, 1946); *volhynensis* (Reshetnik, 1946).  
 COMMENTS: Subgenus *Spermophilus* Gromov et al. (1965:212). See also comment under *pygmaeus*.
- Spermophilus tereticaudus* Baird, 1858. Mammalia, in Repts. U.S. Expl. Surv., 8(1):315.  
 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).  
 SYNONYMS: *apricus* (Huey, 1927); *arizonae* (Grinnell, 1918); *chlorus* (Elliot, 1904); *eremonomus* (Elliot, 1904); *neglectus* Merriam, 1889; *sonoriensis* Ward, 1891; *vociferans* (Huey, 1926).  
 COMMENTS: Subgenus *Xerospermophilus* (Hall, 1981:405). Reviewed by Ernest and Mares (1987, Mammalian Species, 274). See also *mohavensis*.
- Spermophilus townsendii* Bachman, 1839. J. Acad. Nat. Sci. Philadelphia, 8:61.  
 TYPE LOCALITY: "On the Columbia River, about 300 miles above its mouth." Restricted by 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.  
 SYNONYMS: [*mollis*] *yakimensis* Merriam, 1898.

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*, 268).

*Spermophilus tridecemlineatus* (Mitchill, 1821). *Med. Repos. (NY)*, (n.s.), 6(21):248.

TYPE LOCALITY: "...region bordering the sources of the river Mississippi..."; restricted by Allen (1895b:338) to C Minnesota [USA].

DISTRIBUTION: Great Plains, from C Texas to E Utah, Ohio (USA) and SC Canada.

SYNONYMS: *alleni* Merriam, 1898; *arenicola* (A. Howell, 1928); *badius* Bangs, 1899; *blanca* Armstrong, 1971; *hollisteri* (V. Bailey, 1913); *hoodii* (Sabine, 1822); *monticola* (A. Howell, 1928); *olivaceous* J. Allen, 1895; *pallidus* J. Allen, 1874; *parvus* J. Allen, 1895; *texensis* Merriam, 1898.

COMMENTS: Subgenus *Ictidomys* (Hall, 1981:391). Reviewed by Streubel and Fitzgerald (1978b, *Mammalian Species*, 103). See also comment under *mexicanus*.

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

TYPE LOCALITY: "Selenga River valley," [Buryat ASSR, Russia].

DISTRIBUTION: E Kazakhstan; S Siberia, Transbaikalia (Russia); N Mongolia; Heilungjiang and Xinjiang (China).

SYNONYMS: *altaicus* (Brandt, 1841); *eversmanni* (Brandt, 1841); *intercedens* (Ognev, 1937); *jacutensis* (Brandt, 1844); *menzbieri* (Ognev, 1937); *stramineus* (Obolenskii, 1927); *transbaikalicus* (Obolenskii, 1927).

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. (1975a).

*Spermophilus variegatus* (Erxleben, 1777). *Syst. Regn. Anim.*, 1:421.

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).

SYNONYMS: *buccatus* (Lichtenstein, 1830); *buckleyi* Slack, 1861; *couchii* Baird, 1855; *grammurus* (Say, 1823); *juglans* (V. Bailey, 1913); *macrourus* Bennett, 1833; *robustus* (Durrant and Hansen, 1954); *rupestris* (J. Allen, 1903); *tiburtonensis* Jones and Manning, 1989; *tularosae* (Benson, 1932); *utah* (Merriam, 1903).

COMMENTS: Subgenus *Otospermophilus* (Hall, 1981:399). Reviewed by Oaks et al. (1987, *Mammalian Species*, 272).

*Spermophilus washingtoni* (A. H. Howell, 1938). *N. Am. Fauna*, 56:69.

TYPE LOCALITY: "Touchet, Walla Walla Co., Wash[ington]." [USA].

DISTRIBUTION: SE Washington, NE Oregon (USA).

SYNONYMS: *loringi* A. Howell, 1938.

COMMENTS: Subgenus *Spermophilus* Hall (1981:384). Reviewed by Rickart and Yensen (1991, *Mammalian Species*, 371).

*Spermophilus xanthoprimum* (Bennett, 1835). *Proc. Zool. Soc. Lond.*, 1835:90.

TYPE LOCALITY: "Erzurum" [Turkey].

DISTRIBUTION: Transcaucasia (Armenia, possibly Azerbaidzhan), Turkey, Syria, and Israel.

SYNONYMS: *schmidti* (Satunin, 1908).

COMMENTS: Subgenus *Spermophilus* (Gromov et al. 1965:237). Regarded by Ellerman and Morrison-Scott (1951:506) and Corbet (1978c: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.

*Sundasciurus* Moore, 1958. *Am. Mus. Novit.*, 1914:2.

TYPE SPECIES: *Sciurus lowii* Thomas, 1892.

SYNONYMS: *Aletesciurus* Moore, 1958.

COMMENTS: Reviewed in part by Heaney (1979). Includes *Aletesciurus* and *Sundasciurus* as subgenera (Moore, 1958:3). Corbet and Hill (1992) placed *Sundasciurus* in *Callosciurus*.

- Sundasciurus brookei* (Thomas, 1892). Ann. Mag. Nat. Hist., ser. 6, 9:253.  
TYPE LOCALITY: "Mount Dulit, N. Borneo" [Sarawak, Malaysia].  
DISTRIBUTION: Mountains of Borneo, from 600 to 1500 m.  
COMMENTS: Subgenus *Sundasciurus*.
- Sundasciurus davensis* (Sanborn, 1952). Fieldiana Zool., 33:117.  
TYPE LOCALITY: "Madaum, 25 feet altitude, Tagum Municipality, Davao Province, Mindanao Island, Philippines Islands."  
DISTRIBUTION: Known only from the type locality.  
SYNONYMS: *cagsi* (Meyer, 1890).  
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.  
TYPE LOCALITY: Indonesia, Mentawi Isls, Sipora Isl, "Sereinu".  
DISTRIBUTION: Sipora Isl, Siberut Isl, and N Pagi Isl (Sumatra, Indonesia).  
SYNONYMS: *pumilus* (Miller, 1903); *siberu* (Chasen and Kloss, 1928).  
COMMENTS: 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 Mentawi Archipelago (see comments under *Leopoldamys siporanus*).
- Sundasciurus hippurus* (I. Geoffroy, 1831). In Bélanger (ed.), Voy. Indes Orient., Mamm., 3(Zoologie):149.  
TYPE LOCALITY: "Java." Restricted by Robinson and Kloss (1918a:226) to Malacca, Malaysia.  
DISTRIBUTION: S Vietnam, Malaysian subregion except Java and SW Philippines.  
SYNONYMS: *borneensis* (Gray, 1867); *grayi* (Bonhote, 1901); *hippurellus* (Lyon, 1907); *hippurosus* (Lyon, 1907); *inquinatus* (Thomas, 1908); *ornatus* Dao and Cao, 1990; *pryeri* (Thomas, 1892); *rufogaster* (Gray, 1842).  
COMMENTS: Subgenus *Aletesciurus*.
- Sundasciurus hoogstraali* (Sanborn, 1952). Fieldiana Zool., 33:115.  
TYPE LOCALITY: "Dimaniang, Busuanga Island, Calamianes group, Philippine Islands."  
DISTRIBUTION: Busuanga Isl (Philippines).  
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.  
TYPE LOCALITY: "Mount Kina-Balu," [Sabah, Malaysia].  
DISTRIBUTION: Mountains of N Borneo.  
SYNONYMS: *subsignanus* (Chasen, 1937).  
COMMENTS: Subgenus *Sundasciurus*. Chromosomes described by Harada and Kobayashi (1980).
- Sundasciurus juvenicus* (Thomas, 1908). Ann. Mag. Nat. Hist., ser. 8, 2:498.  
TYPE LOCALITY: "the islands of Palawan....Puerto Princesa [Philippines]".  
DISTRIBUTION: N Palawan Isl.  
COMMENTS: Subgenus *Aletesciurus*. Member of the *steerii* group; see comment under *steerii*.
- Sundasciurus lowii* (Thomas, 1892). Ann. Mag. Nat. Hist., ser. 6, 2:253.  
TYPE LOCALITY: "Lumbidan, on the mainland opposite Labuan" [Sarawak, Malaysia].  
DISTRIBUTION: Malaysian subregion, except Java and SW Philippines.  
SYNONYMS: *alacris* (Thomas, 1908); *balae* (Miller, 1903); *banguyae* (Thomas, 1910); *humilis* (Miller, 1913); *lingungensis* (Miller, 1901); *natunensis* (Thomas, 1895); *piniensis* (Miller, 1903); *robinsoni* (Bonhote, 1903); *seimundi* (Thomas and Wroughton, 1909); *vanakeni* (Robinson and Kloss, 1916).  
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.  
TYPE LOCALITY: "Mindanao," [Philippines].  
DISTRIBUTION: Mindanao and adjacent small islands (Philippines).  
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.

TYPE LOCALITY: "Calamianes...von Culion" [Calamian Isls, Philippines].

DISTRIBUTION: Known only from the type locality.

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 *moellendorffi* 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. 32d(i) of the International Code of Zoological Nomenclature (1985).

*Sundasciurus philippinensis* (Waterhouse, 1839). Proc. Zool. Soc. Lond., 1839:117.

TYPE LOCALITY: "Mindanado" [Mindanao Isl, Philippines].

DISTRIBUTION: S and W Mindanao, and Basilan (Philippines).

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. Washington, 92:281.

TYPE LOCALITY: "Magtaguimbong, Mt. Mantalingajan, Palawan Isl, Republic of the Philippines, Island between 3,600 and 4,350 feet elevation...approximately 8° 48'N, 117° 40'E."

DISTRIBUTION: Above 800 m in mountains on Palawan (Philippines).

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.

TYPE LOCALITY: "Samar and Leyte," [Philippines].

DISTRIBUTION: Samar and Leyte Isls (Philippines).

COMMENTS: Subgenus *Aletesciurus*. May be conspecific with *davensis*, *mindanensis*, and *philippinensis* (Heaney et al., 1987; Corbet and Hill, 1992).

*Sundasciurus steerii* (Günther, 1877). Proc. Zool. Soc. Lond., 1876:735 [1877].

TYPE LOCALITY: "Balabac" [Isl, Philippines].

DISTRIBUTION: Balabac and S Palawan Isls in lowlands (Philippines).

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.

TYPE LOCALITY: Singapore.

DISTRIBUTION: Malaysian subregion, except Java and SW Philippines.

SYNONYMS: *altitudinus* (Robinson and Kloss, 1916); *bancarus* (Miller, 1903); *batus* (Lyon, 1916); *gunong* (Robinson and Kloss, 1914); *mansalaris* (Miller, 1903); *modestus* (Müller, 1840); *parvus* (Miller, 1901); *procerus* (Miller, 1901); *sianticus* (Chasen and Kloss, 1928); *sordidus* (Kloss, 1911); *surdus* (Miller, 1900); *tahan* (Bonhote, 1908); *tiomanicus* (Robinson, 1917).

COMMENTS: Subgenus *Sundasciurus*. The name *pumilus* (see synonym in *fraterculus*) was previously assigned to *tenuis* (Robinson and Kloss, 1918a:229); but see Chasen (1940:144).

*Syntheosciurus* Bangs, 1902. Bull. Mus. Comp. Zool., 39:25.

TYPE SPECIES: *Syntheosciurus brochus* Bangs, 1902.

COMMENTS: Tribe Microsciurini (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 *Mesososciurus* (*granatensis*, *pyrrhinus*) as a subgenus, but see *Sciurus*.

*Syntheosciurus brochus* Bangs, 1902. Bull. Mus. Comp. Zool., 39:25.

TYPE LOCALITY: "Boquete, 7,000 ft." [2,134 m, Chiriqui, Panama].

DISTRIBUTION: Costa Rica to N Panama.

STATUS: IUCN - Insufficiently known.

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).

*Tamias* Illiger, 1811. Prodr. Syst. Mamm. Avium., p. 83.

TYPE SPECIES: *Sciurus striatus* Linnaeus, 1758.

SYNONYMS: *Eutamias* Trouessart, 1880; *Neotamias* A. Howell, 1929.

COMMENTS: Tribe Marmotini (Moore, 1959). Nearctic forms revised by Howell (1929).

Sutton (1992) provided a key to the species. Includes *Eutamias* (*sibiricus*), *Tamias* (*striatus*), and *Neotamias* as subgenera (Corbet, 1978c: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), and Patterson and Heaney (1987). Levenson et al. (1985) found that *T. (T.) striatus* and *T. (E.) sibiricus* together formed the primitive sister group to *Neotamias* species; if this is confirmed, it renders *Eutamias* in the generic sense paraphyletic.

*Tamias alpinus* Merriam, 1893. Proc. Biol. Soc. Washington, 8:137.

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).

COMMENTS: Subgenus *Neotamias*.

*Tamias amoenus* J. A. Allen, 1890. Bull. Am. Mus. Nat. Hist., 3:90.

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).

SYNONYMS: *affinis* J. 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. Allen, 1890; *monoensis* (Grinnell and Storer, 1916); *ochraceus* (A. Howell, 1925); *propinquus* (Anthony, 1913); *septentrionalis* (Cowan, 1946); *vallicola* (A. Howell, 1922).

COMMENTS: Subgenus *Neotamias*. Reviewed by Sutton (1992, Mammalian Species, 390).

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

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

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

COMMENTS: Subgenus *Neotamias*. Formerly included *durangae* and *solivagus*, which were considered *incertae sedis* by Callahan (1980); see *durangae*.

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

TYPE LOCALITY: "Guadalupe Mts" [Culberson Co., Texas, USA]. Restricted by A. Howell (1929:101) to head of Dog Canyon, 7,000 ft [2,130 m].

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

SYNONYMS: *sacramentoensis* Flaherty, 1960.

COMMENTS: Subgenus *Neotamias*. Elevated from subspecies of *cinereicollis* by Fleharty (1960). Reviewed by Findley et al. (1975:103-112).

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

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

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

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

COMMENTS: Subgenus *Neotamias*.

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

TYPE LOCALITY: "Fort Webster, Coppermines of the Mimbres" Restricted by 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).

SYNONYMS: *canescens* (J. 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, 399).



- Tamias durangae* (J. A. Allen, 1903). Bull. Am. Mus. Nat. Hist., 19:594.  
 TYPE LOCALITY: "Arroyo de Bucy, Sierra de Candella, ...about 7,500 feet [2,134 m], northwestern Durango, Mexico."  
 DISTRIBUTION: SW Chihuahua to WC Durango; SE Coahuila (Mexico).  
 SYNONYMS: *nexus* Elliot, 1905; *solivagus* (A. 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*.
- Tamias merriami* J. A. Allen, 1889. Bull. Am. Mus. Nat. Hist., 2:176.  
 TYPE LOCALITY: "San Bernardino Mts" [N of San Bernardino, 4,500 feet (1,372 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).  
 SYNONYMS: *kernensis* (Grinnell and Storer, 1916); *mariposae* (Grinnell and Storer, 1916); *pricei* J. Allen, 1895.  
 COMMENTS: Subgenus *Neotamias*. Formerly included *meridionalis* and *obscurus*; see Callahan (1977). See also comment under *obscurus*.
- Tamias minimus* Bachman, 1839. J. Acad. Nat. Sci. Philadelphia, 8:71.  
 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 - Endangered as *T. m. atristriatus*.  
 SYNONYMS: *arizonensis* (A. Howell, 1922); *atristriatus* (V. Bailey, 1913); *borealis* J. Allen, 1877; *cacodemus* (Cary, 1906); *caniceps* (Osgood, 1900); *caryi* (Merriam, 1908); *clarus* (V. Bailey, 1918); *confinis* (A. Howell, 1925); *consobrinus* J. Allen, 1890; *grisescens* (A. Howell, 1925); *hudsonius* (Anderson and Rand, 1944); *jacksoni* (A. Howell, 1925); *lectus* (J. Allen, 1905); *melanurus* Merriam, 1890; *neglectus* J. Allen, 1890; *operarius* (Merriam, 1905); *oreocetes* (Merriam, 1897); *pallidus* J. Allen, 1874; *pictus* J. Allen, 1890; *scrutator* (Hall and Hatfield, 1934); *selkirki* (Cowan, 1946); *silvaticus* (White, 1952).  
 COMMENTS: Subgenus *Neotamias*. Southern Rocky Mtn populations reviewed by Sullivan (1985).
- Tamias obscurus* J. A. Allen, 1890. Bull. Am. Mus. Nat. Hist., 3:70.  
 TYPE LOCALITY: "San Pedro [Martir] Mountains" [near Vallecitos, Baja California Norte, Mexico].  
 DISTRIBUTION: S California (San Bernardino Co., USA) to C Baja California (Mexico).  
 SYNONYMS: *davisi* (Callahan, 1977); *meridionalis* (Nelson and Goldman, 1909).  
 COMMENTS: Subgenus *Neotamias*. Regarded by 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.
- Tamias ochrogenys* (Merriam, 1897). Proc. Biol. Soc. Washington, 11:195, 206.  
 TYPE LOCALITY: "Mendocino, [Mendocino Co.,] California." [USA].  
 DISTRIBUTION: Coast of N California from Van Duzen River south to S Sonoma Co. (USA).  
 COMMENTS: Subgenus *Neotamias*. Elevated from subspecies of *townsendii* by Sutton and Nadler (1974); supported by Kain (1985), Sutton (1987), and Gannon and Lawlor (1989).
- Tamias palmeri* (Merriam, 1897). Proc. Biol. Soc. Washington, 11:208.  
 TYPE LOCALITY: "Charleston Peak, [Clark Co.,] Nevada [USA] (altitude about 2450 meters or 8000 feet)."  
 DISTRIBUTION: Charleston Mtns (S Nevada, USA).  
 COMMENTS: Subgenus *Neotamias*.
- Tamias panamintinus* Merriam, 1893. Proc. Biol. Soc. Washington, 8:134.  
 TYPE LOCALITY: "Johnson Cañon...Panamint Mountains, [Inyo Co.,] California." [USA] Restricted by Grinnell (1933:128) to vicinity of Hungry Bill's Ranch, about 5,000 ft. [1,524 m].  
 DISTRIBUTION: Mountains of SE California and SW Nevada (USA).

- SYNONYMS: *acrus* (Johnson, 1943); *juniperus* (Burt, 1931).  
COMMENTS: Subgenus *Neotamias*.
- Tamias quadrimaculatus* Gray, 1867. Ann. Mag. Nat. Hist., ser. 3, 20:435.  
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).  
SYNONYMS: *macrorhabdotes* Merriam, 1886.  
COMMENTS: Subgenus *Neotamias*.
- Tamias quadrivittatus* (Say, 1823). In James, Account Exped. Pittsburgh to Rocky Mtns, 2:45.  
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 - Endangered as *T. q. australis*.  
SYNONYMS: *animosus* (Warren, 1909); *australis* (Patterson, 1980); *gracilis* J. Allen, 1890.  
COMMENTS: Subgenus *Neotamias*. Includes *australis* (Patterson, 1980). Formerly included *hopiensis*, 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*.
- Tamias ruficaudus* (A. H. Howell, 1920). Proc. Biol. Soc. Washington, 33:91.  
TYPE LOCALITY: "Upper St. Mary's Lake, [Glacier Co.,] Montana." [USA].  
DISTRIBUTION: NE Washington to W Montana (USA), and SE British Columbia (Canada).  
SYNONYMS: *simulans* (A. Howell, 1922).  
COMMENTS: Subgenus *Neotamias*. Patterson and Heaney (1987) suggested that *simulans* may be specifically distinct from *ruficaudus*, but the nature of contact between the two forms is not known.
- Tamias rufus* (Hoffmeister and Ellis, 1979). Southwest. Nat., 24:656.  
TYPE LOCALITY: USA, "10 mi SW Page, Coconino County, Arizona".  
DISTRIBUTION: E and S Utah, extreme W Colorado, and NE Arizona, USA.  
COMMENTS: Formerly included in *quadrivittatus*, but see Patterson (1984).
- Tamias senex* J. A. Allen, 1890. Bull. Am. Mus. Nat. Hist., 3:83.  
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).  
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).
- Tamias sibiricus* (Laxmann, 1769). Sibirische Briefe, Gottingen, p. 69.  
TYPE LOCALITY: "Vicinity of Barnaul" [Altai 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).  
SYNONYMS: *albogularis* (J. Allen, 1909); *altaicus* (Hollister, 1912); *asiaticus* (Gmelin, 1788); *barberi* (Johnson and Jones, 1955); *intercessor* (Thomas, 1908); *jacutensis* (Ognev, 1935); *lineatus* (Siebold, 1824); *okadae* (Kuroda, 1932); *ordinalis* (Thomas, 1908); *orientalis* Bonhote, 1899; *pallasi* Baird, 1856; *senescens* (Miller, 1898); *striatus* (Pallas, 1778); *umbrosus* (A. Howell, 1927); *uthensis* (Pallas, 1811).  
COMMENTS: Subgenus *Eutamias*; see Gromov et al. (1965:125).
- Tamias siskiyou* (A. H. Howell, 1922). J. Mammal., 3:180.  
TYPE LOCALITY: "Near summit of White Mountain, Siskiyou Mountains, altitude 6,000 feet [1,829 m], [Siskiyou Co.,] California" [USA].  
DISTRIBUTION: Siskiyou Mtns and coast of N California to C Oregon (USA).  
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.  
 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).  
 SYNONYMS: *alleni* (A. Howell, 1922).  
 COMMENTS: Subgenus *Neotamias*.
- Tamias speciosus* Merriam, 1890. In J. A. Allen, Bull. Am. Mus. Nat. Hist., 3:86.  
 TYPE LOCALITY: "San Bernardino Mts., [San Bernardino Co.,] Cal[ifornia, USA]." Restricted by Howell (1929:89) to Whitewater Creek, 7,500 ft. [2,255 m].  
 DISTRIBUTION: USA: Sierra Nevada from Mt. Lassen to San Bernardino Mtns (California); W Nevada.  
 SYNONYMS: *callipeplus* Merriam, 1893; *frater* J. Allen, 1890; *sequoiensis* (A. Howell, 1922).  
 COMMENTS: Subgenus *Neotamias*.
- Tamias striatus* (Linnaeus, 1758). Syst. Nat., 10th ed., 1:64.  
 TYPE LOCALITY: Restricted by 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).  
 SYNONYMS: *americanus* Gmelin, 1788; *doorsiensis* Long, 1971; *fisheri* A. 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, 168).
- Tamias townsendii* Bachman, 1839. J. Acad. Nat. Sci. Philadelphia, 8(1):68.  
 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).  
 SYNONYMS: *cooperi* Baird, 1855; *hindei* Gray, 1842; *littoralis* Elliot, 1903.  
 COMMENTS: Subgenus *Neotamias*. Formerly included *ochrogenys*, *siskiyou* and *senex*; see comments under those species.
- Tamias umbrinus* J. A. Allen, 1890. Bull. Am. Mus. Nat. Hist., 3:96.  
 TYPE LOCALITY: "Uintah Mountains, south of Ft. Bridger" Restricted by Howell (1929:94) to Blacks Fork, about 8,000 ft. [2,438 m], Summit Co., Utah [USA].  
 DISTRIBUTION: E California and N Arizona to N Colorado, SE and NW Wyoming, and extreme SW Montana (USA).  
 SYNONYMS: *adsitus* (J. Allen, 1905); *fremonti* (White, 1953); *inoensis* (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.
- Tamiasciurus* Trouessart, 1880. Le Naturaliste, 2(37):292.  
 TYPE SPECIES: [*Sciurus vulgaris*] *hudsonicus* Erxleben, 1777.  
 COMMENTS: Tribe Tamiasciurini (Moore, 1959).
- Tamiasciurus douglasii* (Bachman, 1839). Proc. Zool. Soc. Lond., 1838:99 [1839].  
 TYPE LOCALITY: "Shores of Columbia River" Restricted by 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).  
 SYNONYMS: *belcheri* (Gray, 1842); *cascadensis* (J. Allen, 1898); *mollipilosus* (Audubon and Bachman, 1841); *orarius* (Bangs, 1897); *suckleyi* (Baird, 1855).  
 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.

*Tamiasciurus hudsonicus* (Erxleben, 1777). Syst. Regn. Anim., 1:416.

TYPE LOCALITY: "ad fretum Hudsonis" Restricted by 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 and IUCN - Endangered as *T. h. grahamensis*.

SYNONYMS: *abieticola* (A. Howell, 1929); *baileyi* (J. Allen, 1898); *columbianus* A. Howell, 1936; *dakotensis* (J. Allen, 1894); *dixiensis* Hardy, 1942; *fremonti* (Audubon and Bachman, 1853); *grahamensis* (J. Allen, 1894); *gymnicus* (Bangs, 1899); *kenaiensis* A. Howell, 1936; *lanuginosus* (Bachman, 1839); *laurentianus* Anderson, 1942; *loquax* (Bangs, 1896); *lychnuchus* (Stone and Rehn, 1903); *minnesota* (J. Allen, 1899); *mogollonensis* (Mearns, 1890); *murii* A. Howell, 1943; *neomexicanus* (J. Allen, 1898); *pallescens* A. Howell, 1942; *petulans* (Osgood, 1900); *picatus* (Swarth, 1921); *preblei* A. Howell, 1936; *regalis* A. Howell, 1936; *richardsoni* (Bachman, 1839); *rubrolineatus* (Desmarest, 1822); *streatori* (J. Allen, 1898); *ungavensis* Anderson, 1942; *vancouverensis* (J. Allen, 1890); *ventorum* (J. Allen, 1898); *wasatchensis* Hardy, 1950.

COMMENTS: Includes *fremonti*; see Hardy (1950). See also *douglasii*.

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

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

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

COMMENTS: Formerly included in *douglasii*; see Lindsay (1981).

*Tamiops* J. A. Allen, 1906. Bull. Am. Mus. Nat. Hist., 22: 475.

TYPE SPECIES: *Tamiops maccllellandi hainanus* J. A. Allen, 1906 (= *T. maritimus hainanus*).

COMMENTS: Tribe Callosciurini (Moore, 1959:173). Included in *Callosciurus* by Corbet and Hill (1992); see Osgood (1932), and Moore and Tate (1965), who revised *Tamiops*.

*Tamiops maccllellandi* (Horsfield, 1840). Proc. Zool. Soc. Lond., 1839:152 [1840].

TYPE LOCALITY: "Bengal as well as Assam" [India]. Restricted by Ellerman (1940:354) to Assam.

DISTRIBUTION: E Nepal through Assam (India); N and C Burma, and Yunnan (China), and south through Thailand, Vietnam, Laos, and Cambodia to the S Malay Peninsula.

SYNONYMS: *barbei* (Blyth, 1847); *collinus* Moore, 1958; *inconstans* Thomas, 1920; *kongensis* (Bonhote, 1901); *leucotis* (Temminck, 1853); *lylei* Thomas, 1920; *manipurensis* (Bonhote, 1900); *novemlineatus* Miller, 1903; *pembertonii* (Blyth, 1842).

*Tamiops maritimus* (Bonhote, 1900). Ann. Mag. Nat. Hist., ser. 7, 5:51.

TYPE LOCALITY: "Foochow, province of Fokien" [Fukien, China].

DISTRIBUTION: Hubei, Anhui and Zhejiang, south through Guangxi and Guangdong (China), to S Vietnam and Laos; isls of Hainan (China); Taiwan.

SYNONYMS: *formosanus* (Bonhote, 1900); *hainanus* J. Allen, 1906; *laotum* Robinson and Kloss, 1922; *moi* Robinson and Kloss, 1922; *monticolus* (Bonhote, 1900); *riudoni* J. Allen, 1906; *sauteri* J. Allen, 1906.

*Tamiops rodolphei* (Milne-Edwards, 1867). Rev. Mag. Zool. Paris, ser. 2, 19:227.

TYPE LOCALITY: "Cochin China near Saigon," [Vietnam].

DISTRIBUTION: E Thailand, Cambodia, S Laos, S Vietnam.

SYNONYMS: *dolphoides* Kloss, 1922; *elbeli* Moore, 1958; *holtii* Ellerman, 1940; *liantis* Kloss, 1919; *lylei* Thomas, 1920.

*Tamiops swinhoi* (Milne-Edwards, 1874). Rech. Hist. Nat. Mammifères, 1:308.

TYPE LOCALITY: "Moupin [Muping]," [= Baoxing, Sichuan, China]. Restricted by Allen (1940:673) to "Hongchantin...about 6000 feet."

DISTRIBUTION: Extreme SW Gansu south through Tibet, Sichuan and Yunnan (China) to N Burma and N Vietnam; isolated population in Hebei (China).

SYNONYMS: *chingpingensis* Lu and Qyan, 1965; *clarkei* Thomas, 1920; *forresti* Thomas, 1920; *holtii* (Ellerman, 1940); *olivaceus* Osgood, 1932; *russeolus* Jacobi, 1923; *spencei* Thomas, 1921; *vestitus* Miller, 1915.

COMMENTS: The form *forresti* was originally named as a subspecies of *T. maritimus*, but assigned to *swinhoi* by Moore and Tate (1965:248).

*Xerus Hemprich and Ehrenberg, 1833. Symb. Phys. Mamm., vol. 1, sig. ee.*

TYPE SPECIES: *Sciurus (Xerus) brachyotis* Hemprich and Ehrenberg, 1833 (= *Sciurus rutilus* Cretzschmar, 1828).

SYNONYMS: *Euxerus* Thomas, 1909; *Geosciurus* Smith, 1834.

COMMENTS: Includes *Euxerus*, *Geosciurus*, and *Xerus* as subgenera (Amtmann, 1975; Ellerman, 1940; Moore, 1959).

*Xerus erythropus* Desmarest, 1817. *In Nouv. Dict. Hist. Nat., Nouv. ed., 10:110.*

TYPE LOCALITY: Senegal (neotype). Origin of original type unknown. "Inconnue."

DISTRIBUTION: SE Morocco, S Mauritania, Senegal, Gambia, Guinea Bissau, Guinea, Sierra Leone, Ivory Coast, S Mali, Burkina Faso, Ghana, Togo, Benin, SE Niger, NE Nigeria, Cameroon, NE Congo, SE Chad, NE Central African Republic, Sudan, Zaire, NW Uganda, Rwanda, W Ethiopia, W Kenya, N Tanzania.

SYNONYMS: *agadius* (Thomas and Hinton, 1921); *albovittatus* (Desmarest, 1817); *chadensis* (Thomas, 1905); *fulvior* (Thomas, 1905); *lacustris* (Thomas, 1905); *lessonii* (Fitzinger, 1867, new name for *marabutus* Lesson); *leucoumbrinus* (Rüppell, 1835); *limitaneus* (Thomas and Hinton, 1923); *maestus* (Thomas, 1910); *marabutus* (Lesson, 1838); *microdon* Thomas, 1905; *prestigiator* (Lesson, 1838).

COMMENTS: Placed in *Euxerus* which is considered a subgenus of *Xerus* by Ellerman (1940), Moore (1959), and Amtmann (1975). The name *erythropus* or *erythropus* is commonly attributed to E. Geoffroy, 1803. *Cat. Mamm. Mus. Hist. Nat., Paris, p. 178*, who gave the name as *erythropus*; however, this work was never published and is therefore unavailable (see Appendix I). The next available use of the name *erythropus* was by Desmarest, 1817. Shinz, 1845, used the spelling *erythropus*. Opinion 945 of the International Commission on Zoological Nomenclature (1971) ruled that *erythropus* Geoffroy, 1803 be changed to *erythropus* as an incorrect original spelling. The proper latin root is "erythro". 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.*

TYPE LOCALITY: South Africa, Kaffirland, 100 mi. (160 km) N of Cape of Good Hope.

"Bewohnt die Cafferren, über hundert Meilen nordwärts des Vorgebürges der guten Hofnung...".

DISTRIBUTION: S Angola, Namibia, Botswana, W Zimbabwe, South Africa.

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.*

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.

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.*

TYPE LOCALITY: Ethiopia, eastern slope of Abyssynia. "Der östliche Abhang Abyssiniens, wo es häufig vorkommt." Probably Massawa, according to Mertens (1925:26) "...wahrscheinlich Massaua".

DISTRIBUTION: SE Sudan, E and S Ethiopia, Djibouti, Somalia, Kenya, NE Uganda, NE Tanzania.

SYNONYMS: *abessinicus* (Gmelin, 1788); *brachyotis* (Hemprich and Ehrenberg, 1833); *dabagala* Heuglin, 1861; *dorsalis* Dollman, 1911; *fuscus* (Huet, 1880); *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).



**Subfamily Petauristinae** Miller, 1912. *Cat. Mamm. W. Europe Brit. Mus.*, p. 940.SYNONYMS: *Pteromyini* Brandt, 1855.

COMMENTS: Controversy continues over whether flying squirrels constitute a monophyletic group; see Johnson-Murray (1977), Hight et al. (1974), and Thorington (1984).

Bibliography by Lin et al. (1985).

*Aeretes* G. M. Allen, 1940. *Nat. Hist. Cent. Asia*, II, 2:745.TYPE SPECIES: *Pteromys melanopterus* Milne-Edwards, 1867.COMMENTS: *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.

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

DISTRIBUTION: Hebei and Sichuan (China).

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

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

DISTRIBUTION: Malaysian region, except Java and SW Philippines.

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.

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

DISTRIBUTION: Borneo, except SE.

SYNONYMS: *nitidus* Jentink, 1897.*Belomys* Thomas, 1908. *Ann. Mag. Nat. Hist.*, ser. 8, 1:2.TYPE SPECIES: *Sciuropterus pearsonii* Gray, 1842.*Belomys pearsonii* (Gray, 1842). *Ann. Mag. Nat. Hist.*, [ser. 1], 10:263.

TYPE LOCALITY: "India, [Assam,] Dargellan" (= Darjeeling).

DISTRIBUTION: Sikkim and Assam (India) to Hunan, Sichuan, Yunnan, Guizhou, Guangxi, Hainan, (China); Bhutan; Taiwan, Indochina, and N Burma (see Agrawal and Chakraborty, 1979).

SYNONYMS: *blandus* Osgood, 1932; *kaleensis* (Swinhoe, 1863); *trichotis* Thomas, 1908; *villosus* (Blyth, 1847).COMMENTS: Corbet and Hill (1992) synonymized this monotypic genus with *Trogopterus*.*Biswamoyopterus* Saha, 1981. *Bull. Zool. Surv. India*, 4:331.TYPE SPECIES: *Biswamoyopterus biswasi* Saha, 1981.*Biswamoyopterus biswasi* Saha, 1981. *Bull. Zool. Surv. India*, 4:333.

TYPE LOCALITY: "Namdapha, Tirap District, Arunachal Pradesh, India."

DISTRIBUTION: Known only from type locality, western slope, Patkai Range.

COMMENTS: "Close to *Aeromys*" (Saha, 1981:333).*Eupetaurus* Thomas, 1888. *J. Asiat. Soc. Bengal*, 57:256.TYPE SPECIES: *Eupetaurus cinereus* Thomas, 1888.*Eupetaurus cinereus* Thomas, 1888. *J. Asiat. Soc. Bengal*, 57:258.

TYPE LOCALITY: "Gilgit [Valley],...about 6000 feet" [Pakistan].

DISTRIBUTION: High elevations from N Pakistan and Kashmir to Sikkim (India; Agrawal and Chakraborty, 1970) to Tibet and possibly Yunnan (China).

COMMENTS: Reviewed by McKenna (1962).

*Glaucomys* Thomas, 1908. Ann. Mag. Nat. Hist., ser. 8, 1:5.

TYPE SPECIES: *Mus volans* Linnaeus, 1758.

COMMENTS: Revised by Howell (1918); karyotypes and evolution evaluated by Rausch and Rausch (1982).

*Glaucomys sabrinus* (Shaw, 1801). Gen. Zool., 2:157.

TYPE LOCALITY: Not specified. Restricted by 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 and IUCN - Endangered as *G. s. coloratus* and *G. s. fuscus*.

SYNONYMS: *alpinus* (Richardson, 1828); *bangsi* (Rhoads, 1897); *bullatus* A. Howell, 1915; *californicus* (Rhoads, 1897); *canadensis* (E. Geoffroy, 1803); *canescens* A. Howell, 1915; *coloratus* Handley, 1953; *columbiensis* A. Howell, 1915; *flaviventris* A. Howell, 1915; *fuliginosus* (Rhoads, 1897); *fuscus* Miller, 1936; *goodwini* Anderson, 1943; *gouldi* Anderson, 1943; *griseifrons* A. Howell, 1934; *hudsonicus* Gmelin, 1788; *klamathensis* (Merriam, 1897); *lascivus* (Bangs, 1899); *latipes* A. Howell, 1915; *lucifugus* Hall, 1934; *macrotis* (Mearns, 1898); *makkovikensis* (Sornborger, 1900); *murinauralis* Musser, 1961; *olympicus* (Elliot, 1899); *oregonensis* (Bachman, 1839); *reductus* Cowan, 1937; *stephensi* (Merriam, 1900); *yukonensis* (Osgood, 1900); *zaphaeus* (Osgood, 1905).

COMMENTS: Reviewed by Wells-Gosling and Heaney (1984, Mammalian Species, 229).

*Glaucomys volans* (Linnaeus, 1758). Syst. Nat., 10th ed., 1:63.

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 - Rare as *G. v. goldmani*, *G. v. guerrerensis*, and *G. v. oaxacensis*.

SYNONYMS: *americana* (Oken, 1816); *chontali* Goodwin, 1961; *cucullatus* (Fischer, 1829); *goldmani* (Nelson, 1904); *guerrerensis* Diersing, 1980; *herreranus* Goldman, 1936; *madrensis* Goldman, 1936; *nebrascensis* (Swenk, 1915); *oaxacensis* Goodwin, 1961; *querceti* (Bangs, 1896); *saturatus* A. Howell, 1915; *silus* (Bangs, 1896); *texensis* A. Howell, 1915; *underwoodi* Goodwin, 1936; *virginianus* (Tiedemann, 1808); *volucella* (Pallas, 1778);

COMMENTS: Reviewed by Dolan and Carter (1973, Mammalian Species, 78). For systematics and distribution of mesoamerican populations, see Diersing (1980a) and Braun (1988).

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

TYPE SPECIES: *Sciuropterus everetti* Thomas, 1908 (= *Hylomys spadiceus everetti*).

SYNONYMS: *Eoglaucmys* Howell, 1915.

COMMENTS: Includes *Eoglaucmys*; see McLaughlin (1984) but also see McKenna (1962).

*Hylomys alboniger* (Hodgson, 1836). J. Asiat. Soc. Bengal, 5:231.

TYPE LOCALITY: "central and Northern regions of Nipál" [Nepal].

DISTRIBUTION: Nepal and Assam (India) to Sichuan, Yunnan, and Hainan (China) and Indochina.

SYNONYMS: *chianfengensis* Wang and Lu, 1966; *leachii* (Gray, 1837); *orinus* (G. Allen, 1940); *turnbulli* (Gray, 1838).

*Hylomys baberi* (Blyth, 1847). J. As. Soc. Bengal, 16:866.

TYPE LOCALITY: "Mountain districts of Nijrow," [Kohistan, Afghanistan].

DISTRIBUTION: Mountains of EC and NW Afghanistan, between 1,600 and 3,500 m; Kashmir.

COMMENTS: Formerly considered a subspecies of *fimbriatus* (Ellerman and Morrison-Scott, 1951:468), but elevated to specific status by Chakraborty (1981).

*Hylomys bartelsi* Chasen, 1939. Treubia, 17:185.

TYPE LOCALITY: "Tjilondong, Mt. Pangrango, West Java, about 900 metres" [Indonesia].

DISTRIBUTION: Java.

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

*Hylomys fimbriatus* (Gray, 1837). Ann. Mag. Nat. Hist., 1:584.

TYPE LOCALITY: "India." Restricted by Robinson and Kloss (1918a:184) to "Western Himalayas," and by Ellerman and Morrison Scott (1955:468) to Simla, Punjab.

DISTRIBUTION: Kashmir and Punjab (India) from 1800 to 3600 m.

COMMENTS: Placed in monotypic genus *Eoglaucmys* by McKenna (1962) and others, but included in *Hylopetes* by McLaughlin (1967:215).

*Hylopetes lepidus* (Horsfield, 1824). Zool. Res. Java, 5: pl. and 2 unno. pp.

TYPE LOCALITY: "...only found in the closest forests of Java," [Indonesia].

DISTRIBUTION: S Vietnam, Thailand to Java; Borneo.

SYNONYMS: *aurantiacus* Wagner, 1841; *platyurus* (Jentink, 1890); *sagitta* (Linnaeus, 1766, part).

COMMENTS: Formerly called *sagitta*; see Medway (1977:104). Includes *platyurus* (Hill, 1961c; Medway, 1977:104; Corbet and Hill, 1992).

*Hylopetes nigripes* (Thomas, 1893). Ann. Mag. Nat. Hist., ser. 6, 12:30.

TYPE LOCALITY: "Puerta Princesa, Palawan" [Philippines].

DISTRIBUTION: Palawan and Bancalan Isls (Philippines).

SYNONYMS: *elassodontus* (Osgood, 1918).

*Hylopetes phayrei* (Blyth, 1859). J. Asiat. Soc. Bengal, 28:278.

TYPE LOCALITY: "Rangoon, Merqui" [Burma].

DISTRIBUTION: Burma; Thailand; Laos; S Vietnam; Fukien and Hainan (China).

SYNONYMS: *anchises* Allen and Coolidge, 1940; *electilis* (G. Allen, 1925); *laotum* (Thomas, 1914); *probus* (Thomas, 1914).

COMMENTS: Includes *electilis*, which was in *Petinomys*; see Corbet and Hill (1992).

*Hylopetes sipora* Chasen, 1940. Bull. Raffles Mus., 15:117.

TYPE LOCALITY: "Sipora Island, Mentawi Islands, West Sumatra" [Indonesia].

DISTRIBUTION: Sipora Isl (Indonesia).

COMMENTS: Formerly included in *spadiceus*; see Hill (1961c) who noted that an adult specimen is needed to clarify the status of this taxon. Part of the rodent fauna endemic to the Mentawi Archipelago (see comments under *Leopoldamys siporanus*).

*Hylopetes spadiceus* (Blyth, 1847). J. Asiat. Soc. Bengal, 16:867.

TYPE LOCALITY: "Arracan" [Arakan, Burma].

DISTRIBUTION: Burma, Thailand, S Vietnam, Sumatra, and Malaysia.

SYNONYMS: *amoenus* (Miller, 1906); *belone* (Thomas, 1908); *caroli* Gyldenstolpe, 1920; *everetti* (Thomas, 1895); *harrisoni* (Stone, 1900); *sumatrae* Sody, 1949.

COMMENTS: Includes *harrisoni*; see Medway (1977:105). Formerly included *sipora*; see Hill (1961c). Corbet and Hill (1980:137) listed *spadiceus* in *lepidus*, without comment.

*Hylopetes winstoni* (Sody, 1949). Treubia Buitenzorg, 20:75.

TYPE LOCALITY: "Baleq, E. Atjeh, N. Sumatra, 1200 m," [Indonesia].

DISTRIBUTION: Known only from the type locality.

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 horsfieldi* Waterhouse, 1838.

COMMENTS: Formerly included *winstoni*, here placed in *Hylopetes*.

*Iomys horsfieldi* (Waterhouse, 1838) Proc. Zool. Soc. Lond., 1837:87 [1838].

TYPE LOCALITY: "Either from Java or Sumatra." Restricted by Chasen (1940:114) to Sumatra.

DISTRIBUTION: Malay Peninsula to Java; Borneo.

SYNONYMS: *davisoni* (Thomas, 1886); *everetti* (G. Allen and Coolidge, 1940, not Thomas, 1895); *lepidus* Lyon, 1911 (not Horsfield, 1824); *penangensis* Chasen, 1940; *thomsoni* Thomas, 1900.

COMMENTS: Formerly included *sipora* and *winstoni* (Corbet and Hill, 1980, 1986).

*Iomys sipora* Chasen and Kloss, 1928. Proc. Zool. Soc. Lond., 1927(4):819 [1928].

TYPE LOCALITY: "Sipora Island, West Sumatra." [Indonesia].

DISTRIBUTION: Mentawi Isls [Indonesia].

COMMENTS: Part of the rodent fauna endemic to the Mentawi Archipelago (see comments under *Leopoldamys siporanus*).

*Petaurillus* Thomas, 1908. Ann. Mag. Nat. Hist., ser. 8, 1:3.

TYPE SPECIES: *Sciuropterus hosei* Thomas, 1900.

- Petaurillus emiliae* Thomas, 1908. Ann. Mag. Nat. Hist., ser. 8, 1:8.  
 TYPE LOCALITY: "Baram, E. Sarawak," [Malaysia].  
 DISTRIBUTION: Sarawak.
- Petaurillus hosei* (Thomas, 1900). Ann. Mag. Nat. Hist., ser. 7, 5:275.  
 TYPE LOCALITY: "Baram District, Eastern Sarawak...Toyut River" [Malaysia].  
 DISTRIBUTION: Sarawak.
- Petaurillus kinlochii* (Robinson and Kloss, 1911). J. Fed. Malay St. Mus., 4:171.  
 TYPE LOCALITY: Kapar, Selangor, Malaysia.  
 DISTRIBUTION: Selangor (Malay Peninsula).  
 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.
- Petaurista alborufus* (Milne-Edwards, 1870). C. R. Acad. Sci. (Paris), 70:342.  
 TYPE LOCALITY: Moupin [= Baoxing, Sichuan, China].  
 DISTRIBUTION: Taiwan, S and C China.  
 SYNONYMS: *alborufus* (Hilzheimer, 1906); *castaneus* Thomas, 1923; *leucocephalus* (Hilzheimer, 1906); *lena* Thomas, 1907; *ochraspis* Thomas, 1923; *pectoralis* Swinhoe, 1871.  
 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 by Day (1988).
- Petaurista elegans* (Müller, 1840). In Temminck, Verhandl. Nat. Gesch. Nederland. Overz. Bezitt., Zool., Zoogd. Indisch. Archipel, pp. 35, 56[1840], see comments.  
 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.  
 SYNONYMS: *banksi* Chasen, 1933; *caniceps* (Gray, 1842); *clarkei* Thomas, 1922; *gorkhali* (Lindsay, 1929); *marica* Thomas, 1912; *punctatus* (Gray, 1846); *senex* (Hodgson, 1844); *slamatensis* Sody, 1949; *sumatrana* Kloss, 1921; *sybilla* Thomas, 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]. See Appendix I. 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.  
 TYPE LOCALITY: "...de forêts dans les provinces de Figo." Restricted by Kuroda (1938:50) to "Higo, Kiusiu" [Kyushu, Japan].  
 DISTRIBUTION: Japan, except Hokkaido; Gansu, Sichuan, Yunnan (China).  
 SYNONYMS: *filchnerinae* (Matschie, 1908); *hintoni* Mori, 1923; *nikkonis* Thomas, 1905; *oreas* Thomas, 1905; *osiui* Kuroda, 1938; *pectoralis* (Swinhoe, 1870); *thomasi* Kuroda and Mori, 1923 (not Hose, 1900); *tosae* Thomas, 1905; *watasei* Mori, 1927.  
 COMMENTS: Formerly included *xanthotis*, see Corbet (1978c:86). McKenna (1962) and Corbet and Hill (1991:145) considered it distinct.
- Petaurista magnificus* (Hodgson, 1836). J. Asiat. Soc. Bengal, 5:231.  
 TYPE LOCALITY: "central and Northern regions of Nipál" [Nepal].  
 DISTRIBUTION: Tibet (China), Nepal, Bhutan, Sikkim (India).  
 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., 10:263.  
 TYPE LOCALITY: "India, Dargellan" [Darjeeling].  
 DISTRIBUTION: C Nepal, Sikkim (India), Bhutan.  
 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.

TYPE LOCALITY: Not stated. Restricted by Robinson and Kloss (1918a: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.

SYNONYMS: *albiventer* (Gray, 1834); *barroni* Kloss, 1916; *batuanus* Miller, 1903; *birrelli* Wroughton, 1911; *candidula* Wroughton, 1919; *cicur* Robinson and Kloss, 1914; *fulvinus* Wroughton, 1911; *inornatus* (Geoffroy, 1844); *interceptio* Sody, 1949; *lumholtzi* Gyldenstolpe, 1919; *marchio* Thomas, 1908; *melanotis* (Gray, 1836); *mimicus* Miller, 1913; *nigrescens* Medway, 1965; *nigricaudatus* Robinson and Kloss, 1918; *nitida* (Desmarest, 1818); *nitidalula* Thomas, 1900; *penangensis* Robinson and Kloss, 1918; *rajah* Thomas, 1908; *rufipes* Sody, 1925; *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 of the forms that were formerly assigned to *petaurista* to it; the two species are widely sympatric. Also reviewed by Day (1988); karyotypic variation reported by Yong and Dhaliwal (1976).

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

TYPE LOCALITY: Near Madras [India].

DISTRIBUTION: Sri Lanka; India, north to Bombay and Rajasthan, S Bihar; Burma, Thailand; S China, including Hainan and Taiwan; Indonesia (Agrawal and Chakraborty, 1979).

SYNONYMS: *annamensis* Thomas, 1914; *badiatus* Thomas, 1925; *cineraceus* (Blyth, 1847); *cinderella* Wroughton, 1911; *grandis* (Swinhoe, 1862); *griseiventer* (Gray, 1843); *hainana* G. Allen, 1925; *lanka* Wroughton, 1911; *lylei* Bonhote, 1900; *mergulus* Thomas, 1922; *miloni* Bourret, 1942; *nigra* Wang, 1981; *oral* (Tickell, 1842); *primrosei* Thomas, 1926; *reguli* Thomas, 1926; *rubicundus* Howell, 1927; *rufipes* G. Allen, 1925; *stockleyi* Carter, 1933; *venningi* Thomas, 1914; *yunanensis* (Anderson, 1875).

COMMENTS: Formerly included in *petaurista*; but see Corbet and Hill (1992), who reviewed the species.

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

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

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

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, 1908 (= *Petinomys hageni lugens*).

SYNONYMS: *Olisthomys* Carter, 1942.

COMMENTS: 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. Washington, 24:185.

TYPE LOCALITY: "Basilan Island, Philippines."

DISTRIBUTION: Basilan, Dinagat, Siargao, and Mindanao Isls (Philippines; Heaney and Rabor, 1982).

SYNONYMS: *mindanensis* Rabor, 1939; *nigricaudus* Sanborn, 1953.

COMMENTS: Holotype of *Hylopetes mindanensis* destroyed during World War II; paratype in National Museum of Natural History is probably *P. crinitus*.

*Petinomys fuscocapillus* (Jerdon, 1847). J. Asiat. Soc. Bengal, 16:867.

TYPE LOCALITY: "S. India" Travancore.

DISTRIBUTION: S India, Sri Lanka.

SYNONYMS: *layardi* (Kelaart, 1850).

*Petinomys genibarbis* (Horsfield, 1824). Zool. Res. Java, 4:pl., 6 unno. pp.

TYPE LOCALITY: "...the forests of Pugar...Eastern portion of Java." [Indonesia].

DISTRIBUTION: Malaya to Sumatra, Java, and Borneo.

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.

TYPE LOCALITY: "Deli" [North East Sumatra, Indonesia].

DISTRIBUTION: Borneo, Sumatra.

SYNONYMS: *maerens* (Miller, 1903); *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.

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

DISTRIBUTION: Siberut and Sipora Isls (Sumatra, Indonesia).

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 Mentawi Archipelago (see comments under *Leopoldamys siporanus*).

*Petinomys sagitta* (Linnaeus, 1766). Syst. Nat., 12th ed., 1:88.

TYPE LOCALITY: Indonesia, Java.

DISTRIBUTION: Java.

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.

TYPE LOCALITY: "...Padang, île de Sumatra" [Indonesia].

DISTRIBUTION: Burma, Malaysia, Sumatra, Borneo [Indonesia].

SYNONYMS: *morrissi* Carter, 1942.

COMMENTS: Includes *morrissi*; see Muul and Thonglongya (1971) and Corbet and Hill (1980:137). McKenna (1962) considered *morrissi* assignable to a distinct genus *Olisthomys*.

*Petinomys vordermanni* (Jentink, 1890). Notes Leyden Mus., 12:150.

TYPE LOCALITY: "Billiton" [Belitung Isl, Indonesia].

DISTRIBUTION: S Burma, Malaya, Borneo.

SYNONYMS: *phipsoni* (Thomas, 1916).

COMMENTS: McKenna (1962) considered *vordermanni* representative of an undescribed genus, but Muul and Thonglongya (1971) and Hill (1961c) 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: *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*.

*Pteromys momonga* Temminck, 1844. Fauna Japonica, 1(Mamm.), p. 47.

TYPE LOCALITY: "...les forêts de l'interieur," Restricted by Kishida (in Kuroda, 1938:51) to "Kiusiu" [Kyushu, Japan].

DISTRIBUTION: Kyushu and Honshu (Japan).

SYNONYMS: *amygdali* (Thomas, 1906); *interventus* (Kuroda, 1941); *momoga* Temminck, 1845.

*Pteromys volans* (Linnaeus, 1758). Syst. Nat., 10th ed., 1:64.

TYPE LOCALITY: "in borealibus Europae, Asiae, et Americae." Restricted by Thomas (1911a: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.

SYNONYMS: *aluco* (Thomas, 1907); *anadyrensis* Ognev, 1940; *arsenjevi* Ognev, 1935; *athene* (Thomas, 1907); *betulinus* Serebrennikov, 1930; *buechneri* Satunin, 1903; *gubari* Ognev, 1935; *incanus* Miller, 1918; *ognevi* Stroganov, 1936; *orii* (Kuroda, 1921); *russicus*

Tiedemann, 1808; *sibiricus* Desmarest, 1922; *turovi* Ognev, 1919; *vulgaris* Wagner, 1842; *wulungshanensis* (Mori, 1939).

COMMENTS: Chromosomes described by Rausch and Rausch (1982).

*Pteromyscus* Thomas, 1908. Ann. Mag. Nat. Hist., ser. 8, 1:3.

TYPE SPECIES: *Sciuropterus pulverulentus* Günther, 1873.

*Pteromyscus pulverulentus* (Günther, 1873). Proc. Zool. Soc. Lond., 1873:413.

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

DISTRIBUTION: S Thailand to Sumatra; Borneo.

SYNONYMS: *borneanus* Thomas, 1908.

*Trogopterus* Heude, 1898. Mem. Hist. Nat. Emp. Chin., 4(1): 46-47.

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

*Trogopterus xanthipes* (Milne-Edwards, 1867). Ann. Sci. Nat. Zool., 8: 376.

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

DISTRIBUTION: Montane forests, from Yunnan to C and E China.

SYNONYMS: *edithae* Thomas, 1923; *himalaicus* Thomas, 1914; *minax* Thomas, 1923; *mordax* Thomas, 1914.

COMMENTS: Includes *edithae* (Yunnan), *himalaicus* (S Tibet), *minax* (Sichuan), and *mordax* (Hubei); closely related to *Belomys* from SE Asia, which Corbet and Hill (1992) include in *Trogopterus*.