Gliding Mammals
Taxonomy of Living and Extinct Species

Stephen M. Jackson and Richard W. Thorton Jr.
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ABSTRACT
Jackson, Stephen M., and Richard W. Thorington Jr. Gliding Mammals: Taxonomy of Living and Extinct Species. Smithsonian Contributions to Zoology, number 638, vi + 117 pages, 2012.—There are 64 species of extant gliding mammals that are currently recognized, which are divided into six different families. These comprise eight species of gliding marsupials that live within Australasia and include six species of lesser gliding possums of *Petaurus* (family Petauridae), one species of greater glider of *Petauroides* (family Pseudocheiridae), and one species of feathertail glider of *Acrobates* (family Acrobatidae). The flying squirrels of the tribe Pteromyini within the rodent family Sciuridae represent the greatest diversity of gliding mammals, with a total of 48 species in 15 genera currently recognized, and occur throughout Asia, Europe, and North America. A second group of gliding rodents, known as the scaly-tailed flying squirrels, comprises six species from the family Anomaluridae that live in central and western Africa. The most specialized and unique of the extant gliding mammals are the enigmatic colugos, or flying lemurs, of the order Dermoptera that comprise two species and occur throughout Southeast Asia and the Philippines. In addition to the extant species there are various fossils of extinct species that are thought to have had an ability to glide, although there has been a lot of debate over most of these taxa. These fossil taxa include 3 marsupials, 18 dermopterans, 51 flying squirrels, 7 species of scaly-tailed flying squirrels, and 1 extinct species in each of the families Myoxidae, Eomyidae, and Volaticotheriidae. The taxonomic status of many living and extinct gliding mammals is still in a state of flux, and significant further revision of the taxonomic status of many groups still needs to be resolved.

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Contents

INTRODUCTION 1
   Background 1
   Major Groups of Gliding Mammals 2
      Marsupials 2
      Colugos 2
      Flying Squirrels 4
      Scaly-Tailed Flying Squirrels 5
      Enigmatic Gliders 5

METHODS AND FORMAT 6
   Acknowledgments 6

TAXONOMY OF GLIDING MAMMALS 7
   Class Mammalia Linnaeus, 1758 7
   Subclass Marsupialia Illiger, 1811 8
   Cohort Australidelphia Szalay, 1982 8
   Order Diprotodontia Owen, 1877 9
   Suborder Phalangerida Aplin and Archer, 1987 9
      Superfamily Petauroidea Bonaparte, 1832 10
         Family Petauridae Bonaparte, 1832 10
         Subfamily Petaurinae Bonaparte, 1832 10
            Petaurus Shaw, 1791 10
            Family Pseudocheiridae Winge, 1893 15
               Subfamily Hemibelideinae Kirsch et al., 1997 15
                  Petauroides Thomas, 1888 15
                  Superfamily Tarsipedoidea Gervais and Verreaux, 1842 18
                     Family Acrobatidae Aplin, 1987 19
                        Acrobattes Desmarest, 1818 19
                      Subclass Placentalia Owen, 1837 20
                     Order Dermoptera Illiger, 1811 20
                        †Family Indeterminate 21
                        †Subfamily Thylacaelurinae Van Valen, 1967 21
                        †Thylacaelurus Russell, 1954 21
Family Cynocephalidae Simpson, 1945

Cynocephalus Boddaert, 1768

Galeopterus Thomas, 1908

†Dermotherium Ducrocq et al., 1992

†Family Plagiomenidae Matthew, 1918

†Elpidophorus Simpson, 1927

†Eudaemonema Simpson, 1935

†Subfamily Plagiomeninae Matthew, 1918

†Tribe Worlandiini Bown and Rose, 1979

†Planetetherium Simpson, 1928

†Worlandia Bown and Rose, 1979

†Tribe Plagiomenini Matthew, 1918

†Plagiomene Matthew, 1918

†Ellesmene Dawson et al., 1993

†Subfamily Ekgmowechashalinae Szalay, 1976

†Tribe Tarkadectini Szalay and Lucas, 1996

†Tarkadectes McKenna, 1990

†Tarka McKenna, 1990

†Tribe Ekgmowechashalini Szalay, 1976

†Ekgmowechashala Macdonald, 1963

†Family Mixodectidae Cope, 1883

†Mixodectes Cope, 1883

†Dracontoolestes Gazin, 1941

Superorder Glires Linnaeus, 1758

Order Rodentia Bowdich, 1821

Suborder Sciuromorpha Brandt, 1855

Family Sciuridae Fischer de Waldheim, 1817

Subfamily Sciurinae Fischer de Waldheim, 1817

Tribe Indeterminate

†Sciurion Skwara, 1986

Tribe Pteromyini Brandt, 1855

Aeretes G. Allen, 1940

Aeromys Robinson and Kloss, 1915

†Albanensia Daxner-Höck and Mein, 1975

†Alivaria de Bruijn et al., 1980

Belomys Thomas, 1908

Biswamoyopterus Saha, 1981

†Blackia Mein, 1970

Eoglaucumys Howell, 1915

Eupetaurus Thomas, 1888

†Forsythia Mein, 1970

Glaucomys Thomas, 1908

Hylopetes Thomas, 1908

Iomys Thomas, 1908

†Meinia Qiu, 1981

†Miopetaurista Kretzoi, 1962

†Neopetes Daxner-Höck, 2004

†Oligopetes Heissig, 1979

†Parapetaurista Qiu and Liu, 1986

Petaurillus Thomas, 1908
Petaurista Link, 1795  
†Petauristodon Engesser, 1979  
Petinomys Thomas, 1908  
†Pliopetaurista Kretzoi, 1962  
†Pliopetes Kretzoi, 1959  
Pteromys G. Cuvier, 1800  
Pteromyscus Thomas, 1908  
†Shuanggouia Qiu and Liu, 1986  
Trogopterus Heude, 1898  

Suborder Anomaluromorpha Bugge, 1974  
Superfamily Anomaluroidea Gervais, 1849  
†Family Indeterminate  
†Downsimys Flynn et al., 1986  
Family Anomaluridae Gervais, 1849  
Subfamily Anomalurinae Gervais, 1849  
Anomalurops Matschie, 1914  
Anomalurus Waterhouse, 1843  
†Paranomalurus Lavocat, 1973  
Subfamily Zenkerellinae Matschie, 1898  
Idiurus Matschie, 1894  
Superfamily Anomaluroidea incertae sedis  
Marivaux et al., 2005  
†Family Nementchamyidae Jackson and Thorington, new family  
†Nementchamys Jaeger et al., 1985  
†Pondaungimys Dawson et al., 2003  

Infraorder Glirimorpha Thaler, 1966  
Family Gliridae Muirhead, 1819  
Subfamily Glirinae Muirhead, 1819  
Glirulus Thomas, 1905  

Infraorder Geomorpha Thaler, 1966  
†Superfamily Eomyoidea Winge, 1887  
†Family Eomyidae Winge, 1887  
†Eomys Schlosser, 1884  
†Order Volaticotheria Meng et al., 2006  
†Family Volaticotheriidae Meng et al., 2006  
†Volaticotherium Meng et al., 2006  

REFERENCES  
INDEX OF COMMON AND SCIENTIFIC NAMES  

† Denotes extinct taxa.
INTRODUCTION

BACKGROUND

The world’s extant gliding mammals are a diverse group that includes 64 currently recognized species that are divided into six families that are united not by their phylogeny but by an ability to glide. Species that glide descend through the air, after launching, at an angle less than 45° to the horizontal, whereas those that parachute descend at an angle greater than 45° (Rayner, 1981). There are three families of gliding marsupials that live in Australia, New Guinea, and the surrounding islands, including six species of lesser gliding possums of the family Petauridae, one species of greater glider of the family Pseudocheiridae, and one species of feathertail glider of the family Acrobatidae. The greatest diversity of gliding mammals occurs in the rodents of the order Rodentia, in which they are represented by the flying squirrels of the rodent family Sciuridae, comprising some 51 genera and 278 species in total (Wilson and Reeder, 2005). Of these, the flying squirrels comprise 15 genera and 48 species that live throughout Asia, Europe, and North America. A second group of gliding rodents is the unrelated scaly-tailed flying squirrels of the family Anomaluridae that live in central and western Africa and include seven species (although one species does not glide). Gliding reaches its most spectacular and efficient expression in the two species of colugos, also known as flying lemurs, of the order Dermoptera that occur throughout Southeast Asia.

The fossil record for the extinct taxa that have been recognized as gliders is remarkably diverse but has not been united previously in any other taxonomic review. This study tentatively recognizes 3 species of Petauroides of the family Pseudocheiridae, 18 species from 13 genera and 4 families in the order Dermoptera, 48 species from 20 genera in the family Sciuridae, and 7 species
from 5 genera within the superfamily Anomaluroidea. The appearance of gliding mammals in the fossil record varies greatly between the different groups and extends a maximum of 20–30 million years ago (MYA) for the marsupial gliders (although this could be as little as 5 MYA), 40 MYA for the flying squirrels, and approximately 50 MYA for the scaly-tailed flying squirrels and colugos. In addition to families of mammals that have living representatives there are three species from unrelated families that have no living gliding descendants, with one of these dating back an estimated 125 MYA.

There are various theories as to why gliding has evolved independently in these different groups, including predator avoidance, optimizing foraging efficiency, and minimizing the cost of traversing a home range. In addition, the forests in which gliders typically live appear to have attributes that contribute to the evolution of gliding, including an open middle to lower canopy and a limited development of lianas (see Jackson and Schouten, 2012).

There is still considerable taxonomic uncertainty over many taxa of gliding mammals and even whether most extinct species were able to glide, so it is hoped that this work will help to spark further research on this unusual and diverse group of mammals. Therefore, the aims of this work are (1) to develop for the first time a complete integrated taxonomy of every taxon of gliding mammal both living and extinct, (2) to include the ranks above genus to reflect the phylogenetic diversity of each group of gliding mammal, (3) to update taxonomic changes that have occurred since the work of McKenna and Bell (1997) and Wilson and Reeder (2005), and (4) to include the full citation of every taxon to facilitate future research.

**Major Groups of Gliding Mammals**

**Marsupials**

The first gliding marsupial to be described was the yellow-bellied glider *Petaurus australis* by Shaw (1791). Shortly after, other junior generic names for *Petaurus* were used, including *Sciurus* (Meyer, 1793), *Didelphis* (Shaw, 1800), *Volucella* (Bechstein, 1800), *Ptilotus* (Fischer de Waldheim, 1814), *Xenochirus* (Gloger, 1841), *Belideus* (Waterhouse, 1839a), *Petaurula* (Matschie, 1916), and *Petaurella* (Matschie, 1916). Despite the presence of earlier terms the name *Belideus*, which was proposed in describing the sugar glider *Petaurus breviceps*, became commonly used for all the lesser marsupial gliders (e.g., Gould, 1845–1863; De Vis, 1883) until *Petaurus* was confirmed as the senior name by Thomas (1888a). The greater glider *Petauroidea volans* was described by Kerr (1792) as *Didelphis volans*. It was subsequently placed, via synonyms, in the genera *Volucella* (Bechstein, 1800), *Schoinobates* (Lesson, 1842), *Petaurista* (Desmarest, 1820), and finally, *Petauroidea* by Thomas (1888a). Likewise, the feathertail glider *Acrobates pygmaeus* (Shaw, 1794) was initially allocated to *Didelphis* and was not placed in *Acrobates* until 1818 by Desmarest (1818a). This placement was frequently not recognized, however, as the single species was often placed in *Petaurus* (sometimes in the subgenus *Acrobata*) until the generic rank was fixed by Thomas (1888a).

Few marsupial fossil gliders have been described. Within the Petauridae they provisionally include fossil remains of species most similar to modern *Petaurus* species and three extinct species that have been placed with varying degrees of confidence within *Petauroidea* in the family Pseudocheiridae, including one most allied to the living species *Petauroidea volans*. Only a few remains have been obtained of fossil acrobatids, which have been tentatively identified as *Acrobates pygmaeus* from the Pleistocene. An undescribed species of marsupial from Paleocene deposits in Brazil in South America has tentatively been proposed to be a glider (Szalay and Sargis, 2001). This conclusion was derived from their exceptionally long and slender humeri and femora compared to their articular areas, which were suggested to have habitual tensile loading similar to living gliding mammals.

**Colugos**

Linnaeus (1758) described the Philippine colugo as *Lemur volans*, after the lemurs of Madagascar, and the Malayan colugo was described 41 years later by Audebert (1799). Boddaert (1768) created the name *Cynocephalus*, with other genera subsequently proposed, including *Galeopterus* (Pallas, 1780), *Dermopterus* (Burnett, 1829), *Pleuropterus* (Burnett, 1829), *Colugo* (Gray, 1871), and *Galeopus* (Thomas, 1908a). The phylogenetic position of the two currently recognized species of highly specialized gliders has remained controversial ever since their first discovery. Gregory (1910) placed the colugos into a superordinal group called the Archonta, a group that included bats, primates, tree shrews, elephant shrews, and the colugos. Although various reviews support this conclusion (see Sargis, 2004), some studies do not (e.g., Pumo et al., 1998). In particular, the question of whether colugos share a closer relationship with bats, primates, or tree shrews has remained contentious.
The relationship between living dermopterans and fossils attributed to extant dermopterans has been highly uncertain. As suggested by Linnaeus' original name, the idea that dermopterans are most closely related to primates has been supported by various studies. Beard (1991, 1993a) considered primates and dermopterans to form the mirorder Primatomorpha. The phylogenetic arrangement that placed Primates near to the Dermoptera was followed, with modification, in the most recent comprehensive classification of living and extinct mammals by McKenna and Bell (1997) and was further supported by Janečka et al. (2007). The studies by Beard and Janečka et al. differed from each other in that Beard (1991, 1993a) included plesiadapiforms in Dermoptera, whereas Janečka et al. (2007) found plesiadapiforms closer to primates (like Bloch et al., 2007). Another study investigating mitochondrial sequences supports an alternative tree topology in which the Dermoptera are placed with the Anthropoidea, Prosimii, and Tarsioida in the clade Dermosimii (Arna-son et al., 2002).

More recent molecular studies proposed a refined clade known as the Euarchonta that suggested the morphology-based Archonta be trimmed down to exclude Chiroptera (Waddell et al., 1999). This group was envis-aged by Adkins and Honeycutt (1991) using mtDNA, with subsequent support given by various studies including DNA sequence analyses (Murphy et al., 2001a), retro-son presence and absence data (Kriegs et al., 2007), and morphological data (Bloch et al., 2007).

In contrast to the alignment of Dermoptera with Pri-mates, other studies have concluded that the Dermoptera and Chiroptera are sister taxa in a group called the Volitanta (e.g., Szalay and Drawhorn, 1980; Novacek and Wyss, 1986; Thewissen and Babcock, 1991, 1993; Simmons, 1993, 1995; Szalay and Lucas, 1993, 1996; Wible and Martin, 1993; Stafford and Thorington, 1998; Stafford and Szalay, 2000; Bloch and Silcox, 2001; Sargis, 2002a; Silcox et al., 2005). The plausibility of Volitanta was initially augmented by the traditional consideration of tree shrews as the sister taxon to primates starting with Le Gros Clark (1927). However, the Scandentia-Primate relationship began to fall out of vogue as scientists realized that many of the originally marshalled synapomorphies were likely convergent (e.g., Cartmill and MacPhee, 1980; Martin, 1990). Still, some more recent studies have found the colugos to be the out-group of a pairing of tree shrews and primates (Bininda-Emonds et al., 2007). Yet other studies using mitochondrial DNA linked the modern colugos to primates as a sister group of Anthropoidea, and they were therefore placed more closely to the higher primates than the prosimians (Murphy et al., 2001a; Arna-son et al., 2002; Schmitz et al., 2002). Some evolutionary morphologists also still consider the Scandentia-Primate clade a more likely scenario (Godinot, 2007).

Another hypothesis suggested that Dermoptera and Scandentia form a natural group that is a sister to Primates that has been coined Sundatheria (Olson et al., 2005). This hypothesis is supported by both molecular (Liu and Miyamoto, 1999; Liu et al., 2001; Madsen et al., 2001; Murphy et al., 2001a, 2001b; Springer et al., 2003; Van Den Bussche and Hoofer, 2004; Olson et al., 2005) and morphological (Sargis, 2002b; Bloch et al., 2007) evidence.

The relationship of the modern dermopterans to the fossil forms has also created a great deal of debate with two studies proposing that species of two different plesi-adapiform families, Paromomyidae and Micromomyidae, share a number of morphological characters with living dermopterans (Beard, 1989, 1990, 1993a, 1993b; Kay et al., 1990). It was proposed that some of the shared morphological features are evidence that the micromomyids and paromomyids were “mitten gliders” similar to the modern day colugos in having webbing between the fingers (i.e., interdigital patagia). More specifically, it was argued by Beard and Kay and their colleagues that fos-sils representing the paromomyid genera *Phenacolemur* and *Ignacius* show that these animals are not primates and share functionally important postcranial derived features that originated in their last common ancestor with extant colugos, suggesting that paromomyids possessed a gliding membrane. As a result of these conclusions it was proposed that the taxon Euprimates is unnecessary and should be disregarded (Kay et al., 1990). The great uncer-tainty of the relationship of the living Dermopterans to the fossil record has resulted in very different classifications being proposed by authors such as Simpson (1945), Beard (1993a), and McKenna and Bell (1997).

New paromomyid fossils and more detailed studies of postcranial material provide strong evidence against the hypotheses that paromomyids are related to and glided like dermopterans (Krause, 1991; Runestad and Ruff, 1995; Bloch et al., 2007; Boyer and Bloch, 2008). In contrast, these subsequent studies have suggested that paromomyids did not glide like the living colugos but were committed arborealists adapted for locomotion on large vertical supports, similar to the one of two modern primate groups with clawed hands and feet, the marmosets and tamarins of South America (Boyer et al., 2001; Boyer and Bloch, 2008). It thus appears that all plesiadapiform fossils so far attributed to Dermoptera are not related to the Dermoptera. It also appears that the paromomyids are
more closely related to primates than colugos (Bloch et al., 2007; Janečka et al., 2007).

Recent new finds of adapisoriculid insectivoran (Eu-
theria, Adapisoriculidae, ?Lipotyphla) (Gheerbrant and
Russell, 1989, 1991) postcrania from the Paleocene in
Germany (Storch, 2008) and Hainin (Belgium) (Smith
et al., 2009) suggest a relationship to Deccanolestes (Boyer
et al., 2010) from the Cretaceous of India and support a
euarchontan relationship for these taxa. Smith et al. (2009)
argued specifically for a special relationship between adap-
isoriculids and dermopterans on the basis of dental features.

As can be seen from the above discussion, the attribu-
tion of nearly all fossil taxa to Dermoptera is highly con-
tentious and probably wrong. The only fossils most likely
to be dermopterans appear to be those associated with the
dentitions of Dermotherium from the Eocene of Thailand
(Ducrocq et al., 1992; Marivaux et al., 2006), although
even these were disputed by Stafford and Szalay (2000).

**Flying Squirrels**

The taxonomy and phylogeny of the flying squirrels
has been complicated at the lower ranks. A review of the
major taxonomic changes that have occurred within the
flying squirrels was described by Thorington et al. (2002),
on which the following is based. The first two species to
be described were by Linnaeus (1758) when he described
the European flying squirrel as Sciurus volans (=Pteromys
volans) and the North American flying squirrel as Mus vo-
ランス (=Glaucomyys volans), which created confusion due
to homonymy of the species name. A further four flying
squirrels were described during the remainder of the eigh-
tenth century, three of which were placed in Sciurus. The
fourth species was placed in the new genus Petaurista by
Link (1795), but this generic name was not used again for
more than a century. Georges Cuvier (1800) introduced the
name Pteromys for flying squirrels to separate them from
the nongliding squirrels of Sciurus. Cuvier placed two spe-
cies in Pteromys, the European flying squirrel and one of
the giant flying squirrels from southern Asia. This resulted
in confusion, and disagreements occurred throughout the
literature for 150 years about which group should bear the
name Pteromys. To add to the confusion, Frederic Cuvier
(1825a) introduced a second generic name, Sciuropterus. These
two generic names were used for all but one of the
77 species named during the nineteenth century. During
this period Pteromys was used for the large flying squir-
srels of southern Asia, and Sciuropterus was used for the
small- to medium-size squirrels. During most of the nine-
teenth century, Sciuropterus volucella (Pallas, 1778) was
the name of the southern flying squirrel of North Amer-
ica, and Sciuropterus volans (Linnaeus, 1758) was the ac-
cepted name of the European flying squirrel.

The one species that was not included in these two gen-
era was the distinctive woolly flying squirrel, Eutetroptus
cinereus, which was described by Thomas (1888b). Thus,
in Major’s (1893) classification of squirrels, only three gen-
era were listed (Pteromys, Sciuropterus, and Eutetroptus).
Subsequently, Thomas (1897) resurrected the name Petau-
rista for these large flying squirrels, and Sciuropterus in-
cluded all the other, mostly smaller, flying squirrels.

The diversity of genera of the flying squirrels was in-
creased by Heude (1898), who placed the complex-toothed
flying squirrel Pteromys xanthipes in a new genus, Trogo-
pterus. Subsequently, Thomas (1908b) reexamined the “Sciuropterus group” and divided it into six genera that in-
cluded Trogopterus, Belomys, Pteromyscus, Sciuropterus,
Petarillus, and Lomys, on the basis of features of teeth and
and cranial. Thomas also divided Sciuropterus into four
subgenera, which were the Sciuropterus (the small north
Eurasian flying squirrels), Glaucomys (both the Himala-
yan and the North American flying squirrels), and Hylop-
etes and Petinomys (small- to medium-size flying squirrels
of southern Asia).

The four subgenera proposed by Thomas (1908b)
were subsequently raised to full generic rank. Howell
(1915) named the Himalayan flying squirrel, Eoglauco-
mys, and separated it from Glaucomys, the North Ameri-

can flying squirrels, which were both recognized as full
genera. In doing this, he also separated the north Eurasian
and North American flying squirrels at the generic level,
which caused the name of the North American squirrel
to change from Sciuropterus volucella (Pallas, 1778) to
Glaucomys volans (Linnaeus, 1758). The names Hylop-
etes and Petinomys were elevated to full genera by Pocock
(1923), who based this separation on differences between
their bacula and the baculum of Glaucomys volans. Sub-
sequently, Ellerman (1947) combined Eoglaucomys within
Hylotetes, but anatomical evidence observed by Thorin-
ton et al. (1996) demonstrated this was inappropriate.

When the name Petaurista (Link, 1795) was resur-
rected by Thomas (1897) for the large Asian flying squir-
rels, he considered the name Pteromys (G. Cuvier, 1800) to
be a junior synonym. It was subsequently noted by Miller
(1914) that Pteromys should be used for the small Eur-
asian flying squirrel, with Sciuropterus (E. Cuvier, 1825a)
as a junior synonym. These changes led to a variety of
ways in which generic names were used in the first half
of the twentieth century, which was exacerbated when an
additional 131 species and subspecies of flying squirrels
were described. The name *Sciuropterus* was still used by Simpson (1945), but Ellerman and Morrison-Scott (1951) agreed with Miller’s (1914) conclusion that the name *Pteromys* should be used for the north Eurasian flying squirrel on the basis of Cuvier’s (1800) original description and a subsequent clarification by Fleming (1822).

With the addition of three additional genera, *Aeromys* (Robinson and Kloss, 1915), *Aeretes* (Allen, 1940), and *Biswamomopterus* (Saha, 1981), and the generic recognition of *Eoglaucomy* the taxonomic arrangement reached approximately 40 species of flying squirrels allocated to 15 genera in the early 1990s, which has expanded to 48 species in the last 15 years as a result of taxonomic rearrangement.

The close relationship of the flying squirrels to other squirrels is reflected in the taxonomic name of the group at the family level. The flying squirrels were separated from other squirrels by Brandt (1855), who placed them in the Pteromyini, but he kept them with the squirrels. Subsequently, Major (1893) suggested that flying squirrels were not closely related to other squirrels, but he did not officially recognize this idea as he included both in the subfamily Sciurinae. Miller (1912) considered *Pteromys* to be a junior synonym of *Petaurista* and gave the flying squirrels the new name Petauristidae, a family separate from the Sciuridae. When the name *Pteromys* was accepted as a senior synonym for *Sciuropterus*, the name Pteromyinae became the valid subfamily-level name again, but the family versus subfamily question remained open (Corbet and Hill, 1992; Hoffmann et al., 1993). More recently, the closeness of the flying squirrels to other squirrels has been reflected in them being placed in the tribe Pteromyini within the subfamily Sciurinae (Steppan et al., 2004; Thorton and Hoffman, 2005), an arrangement that is followed here.

There is great uncertainty of the relationship between the 15 genera of living flying squirrels and the 21 genera of fossil squirrels that are thought to have been able to glide. To make things more complicated, there is uncertainty as to whether the currently recognized fossil gliding genera should be recognized as flying squirrels because none of these can categorically be allocated as gliders since most features used to describe them are also found in at least some tree squirrels (Thorington et al., 2005). This uncertainty arose from a thorough survey of the fossil species described as gliders that found few convincing arguments for these animals to clearly belong to the flying squirrel tribe and none to support unequivocally the hypothesis that they were gliding mammals. Therefore, it seems that all extinct fossil species currently recognized as flying squirrels (and typically the other groups as well) must be viewed with caution until further, more complete, specimens with postcranial material can be found to confirm or reject their ability to glide.

### Scaly-Tailed Flying Squirrels

The first scaly-tailed flying squirrel to be described was Lord Derby’s scaly-tailed flying squirrel, which was described as *Pteromys derbianus* (now *Anomalurus derbianus*) by Gray (1842). The following year, Waterhouse (1843a) introduced *Anomalurus*. Pel’s scaly-tailed flying squirrel (*A. pelii*) was then described by Schlegel and Müller (1845), with Beecroft's scaly-tailed flying squirrel, *Anomalurus beecrofti*, described by Fraser (1853). The dwarf scaly-tailed flying squirrel, *Anomalurus pusillus*, was subsequently described by Thomas (1887). A second genus of scaly-tailed flying squirrel was described by Matschie (1894), who described *Idiurus* and the pygmy scaly-tailed flying squirrel *Idiurus zenkeri*. A second species was described several years later when the long-eared scaly-tailed flying squirrel *I. macrotis* was described by Miller (1898).

The fossil record of the superfamily Anomaluroidea is limited, being restricted to only a handful of species, including one species of *Anomalurus* and three species of *Paranomalurus*. In the related family Nementchamydidae (nova) there is one species in *Nementchamus* and one species in *Fondaungimus*.

### Enigmatic Gliders

Three relatively recent species have also been discovered in addition to the groups listed above, with each having no close relatives. The first was described from Neogene fossils as a nongliding species named *Gliurus lissiensis* in the family Myoxidae by Hugueney and Mein (1965), but this was recognized as a glider 26 years later when Mein and Romaggi (1991) discovered further fossil evidence. The second species of glider was discovered in late Oligocene deposits and was described in 1987 as *Eomys quercyi* in the family Eomyidae by Compte and Vianey-Liaud (1987). Likewise, this species was not considered to be a gliding mammal until a well-preserved specimen was discovered and described by Storch et al. (1996). The third and possibly the most enigmatic of all the extinct gliders is *Volaticotherium antiquus*, described by Meng et al. (2006) from Middle to Late Jurassic deposits. This highly unusual animal was placed in a new family, the Volaticotheriidae, within a new order, the Volaticotheria.
METHODS AND FORMAT

Taxonomy for genera and lower ranks generally follows Wilson and Reeder (2005) except where otherwise stated. The taxonomy of the Marsupialia above genus follows Van Dyck and Strahan (2008), with synonyms of taxa typically following those outlined by McKenna and Bell (1997). All taxa, both extant and extinct, are integrated together to reflect their phylogeny, with extinct taxa marked with a cross (†) to make them readily identifiable.

Although McKenna and Bell (1997) is an excellent overview of the different groups of living and extinct mammals, it does not include the individual citations for any rank, but rather includes only the author, year, and often (though not always) page number. The ranks above genera, including synonyms, are included here (1) because publications such as McKenna and Bell (1997) do not include the citations, (2) because of the instability of many of these ranks, (3) to reflect current phylogenetic research, and (4) to highlight errors in currently accepted names (e.g., see the discussion under the order Diprotodontia).

Wilson and Reeder (2005) is recognized as the standard reference for all living mammals and includes the citations for all currently accepted families, genera, and species (in abbreviated form) but does not include citations for subspecies, synonyms, or ranks above the family level. Therefore, to facilitate future research, the full citation for all ranks has been included because of the obscurity of many of them and the resulting difficulty in accurately determining their full title (as was experienced during this review).

Because of the continued debate over the ability of most fossil species to be able to glide, a broad approach has been taken to include all proposed taxa within each group of gliding mammals, especially the flying squirrels of the tribe Pteromyini and the taxa within the order Der- noptera. It is recognized that many of these taxa may ultimately not be recognized as gliding mammals in time as postcranial specimens are found in the future that confirm or refute the ability to glide. Features that help to determine whether the fossil remains of a species are those of a glider include the presence of postcranial material, including limb structure, the styliform cartilage in flying squirrels, unciform cartilage in scaly-tailed flying squirrels, and, potentially, impressions of gliding membranes.

Currently accepted names are placed in bold, whereas junior synonyms are listed in nonbold font below. The synonymies of species cover the original name combinations and the currently accepted name combination for senior synonyms but not all subsequent name combinations, although some of these are traceable through the relevant comments section. In order to reduce the length of this review, abbreviated references are included next to each taxon’s name in the text, with the full citation being included in the reference list.

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Mammalia Linnaeus, 1758:12.

**Comments.** McKenna and Bell (1997:35) identified several pre-Linnean synonyms, including Vivipera (Ray, 1693:53). Recognized as a cohort by Gardiner (1982:229) but at class rank by most recent authors, including Iredale and Troughton (1934:1), Simpson (1945:39), and McKenna and Bell (1997:35). The name of the class Mammalia was reviewed by Rowe and Gauthier (1992:372). See also Paclt (1960:47). Synonyms follow McKenna and Bell (1997:35).

Class Mastodia Rafinesque, 1814a:47.

**Comments.** Also referred to by Rafinesque (1814b:12), who gives the spelling as Mastodologie (p. 9). Reviewed by Paclt (1960:47). Synonymized within the class Mammalia by McKenna and Bell (1997:35).

Thricoozoa Oken, 1847:xi.

**Comments.** Synonymized within the class Mammalia by McKenna and Bell (1997:35).

Aistheseoozoa Oken, 1847:563.

**Comments.** Synonymized within the class Mammalia by McKenna and Bell (1997:35).

Pilifera Bonnet, 1892:236.

**Comments.** Synonymized within the class Mammalia by McKenna and Bell (1997:35).

Mammaliaformes Rowe, 1988:250.

**Comments.** Name was reviewed by McKenna and Bell (1997:507).


**Comments.** Synonymized within the class Mammalia by McKenna and Bell (1997:35).
Family Marsupialia Illiger, 1811a:75.


Order Pollicata Illiger, 1811a [part]:66.

**Comments.** Also described by Illiger (1811b:64). Synonymized within the subclass Marsupialia by McKenna and Bell (1997:51).

Family Salienta Illiger, 1811a:79.

**Comments.** Synonymized within the subclass Marsupialia by McKenna and Bell (1997:51).

**HOMONYMS.** Salientia Laurenti, 1768:24, amphibians of the class Amphibia (order Anura). Invalid synonym and/or a part of order Anura Fischer de Waldheim (1813:58).

Subclass Didelphes de Blainville, 1816:117.

**Comments.** Included the monotremes as “Didelphes Anomaux.” Synonymized within the subclass Marsupialia by McKenna and Bell (1997:51).

Order Ferae Gray, 1821:308.

**Comments.** Junior homonym of Ferae Linnaeus (1758:37). Synonymized within the subclass Marsupialia by McKenna and Bell (1997:51).

**HOMONYM.** Ferae Linnaeusus, 1758:37, of the class Mammalia and order Carnivora.

Order Marsupiata Gray, 1827:53, 185.

**Comments.** Recognized at ordinal rank by Bell (1829:121), Richardson (1837:138, 149), Waterhouse (1841:45), who referred to both Marsupiata and Marsupialia, and Waterhouse (1846:1). Term does not appear to have been used by subsequent authors except Turnbull (1971:176), who elevated it to cohort rank. Synonymized within the subclass Marsupialia by McKenna and Bell (1997:51). The author of the name was given as Richardson (1937:149) by McKenna and Bell (1997:51).

Didelphina Bonaparte, 1838:113.

**Comments.** Synonymized within the subclass Marsupialia by McKenna and Bell (1997:51).

Series Ovovivipara Bonaparte, 1838:113.

**Comments.** Not subsequently recognized.

Subclass Eutheria Gill, 1872 [part]:v, vi.

**Comments.** Synonymized within Theria by McKenna and Bell (1997:49).

Metatheria Huxley, 1880:654.

**Comments.** Recognized as a subclass by Ogilby (1892:4), an infraclass by Simpson (1945:41) and Szalay (1994:40), and a supercohort or infraclass by Shoshani (1992:108). Synonymized within the subclass Marsupialia by McKenna and Bell (1997:51).

Subclass Theria Parker and Haswell, 1897 [part]:448.


Subclass Marsupionta Gregory, 1947 [part]:46.

**Comments.** Included marsupials and monotremes. Synonymized within the subclass Marsupialia by McKenna and Bell (1997:51).

Cohort Metadelphia Archer, 1984:786.

**Comments.** Synonymized within the subclass Marsupialia by McKenna and Bell (1997:51).

Cohort Australidelphia Szalay, 1982


Order Diprotodontia Owen, 1877

Suborder Diprotodontia Owen, 1877:xii, 107.

Comments. The rank appears to be derived from Owen (1868:293), who suggests that marsupial dentition shows them to be divisible into "two classes: one 'polyprotodont,' or characterized by several pairs of mandibular incisors; the other 'diprotodont,' or by a single pair." Rank not recognized by Krefft (1871:3), Gill (1872), Flower (1883:178), Bensley (1903:207), or Simpson (1945:45). Recognized at suborder rank by Nicholson (1880:661), Lydekker (1887:xi, xxi, 146), Thomas (1888:xxi, 3), Flower and Lydekker (1891:xi, 144), Ogilby (1892:24), Cope (1889:876), Weber (1904:348, 1928:xxiii, 75), Gregory (1910:197, 215), Osborn (1910:517), and Iredale and Troughton (1934:vii, 21). Recognized at ordinal rank by Haeckel (1895:466), Kirsch (1968:293), Turnbull (1971:176), Baverstock (1984:2), and Strahan (1983:xxi). The correct spelling was reviewed by Aplin and Archer (1987:xliv), who concluded that Diprotodontia is an invalid emendation of Diprotodontia.

Suborder Syndactyla Jones, 1923 [part]:133.


Section Syndactyla Diprotodontia Jones, 1923:171.


Order Macropoda Ameghino, 1889:263, 266.

Comments. Included the families Macropodidae, Phalangistidae, and Phascolomyidae. Subsequently used by Ameghino (1916:452) but does not appear to have been used by subsequent others. Synonymized within Diprotodontia by McKenna and Bell (1997:58).

Suborder Diprotodontia Thomas, 1895a:876.


Comments. Synonymized within Diprotodontia by Aplin and Archer (1987:xliv) and McKenna and Bell (1997:58). Subordinal rank recognized by Woodburne

Tribe Carpophaga Owen, 1839[part]:322.

**Comments.** Included the genera *Phalangista* (Pseudocheiriidae), *Petaurus* (Petauridae) and *Phascolarctus* [sic] (Phascolarctidae). Recognized by Waterhouse (1841:57) and Owen (1859:52) but not typically by other authors.

**SUPERFAMILY PETAUROIDA BONAPARTE, 1832**

Petaurina Bonaparte, 1832:69.

**Type Genus.** *Petaurus* Shaw, 1791: pl. 60.


**FAMILY PETAURIDAE BONAPARTE, 1832**

Petaurina Bonaparte, 1832:69.

**Type Genus.** *Petaurus* Shaw, 1791: pl. 60.


Family Petauridae Lesson, 1842 [part]:189.

**Type Genus.** *Petaurus* Shaw, 1791: pl. 60.

**Comments.** Also included *Acrobates* from the family Acrobatidae and *Schoinobates* (=*Petauroidea*) of the family Pseudocheiriidae. Synonymized within Petauridae by Marshall et al. (1990:495).

Subfamily Petaurinae Gill, 1872:25.

**Type Genus.** *Petaurus* Shaw, 1791: pl. 60.

**Comments.** Synonymized within Petaurinae Bonaparte (1838:113) by McKenna and Bell (1997:65).

**SUBFAMILY PETAURINA BONAPARTE, 1832**

Petaurina Bonaparte, 1832:69.

**Type Genus.** *Petaurus* Shaw, 1791: pl. 60.


**Type Genus.** *Petaurus* Shaw, 1791: pl. 60.

**Comments.** Synonymized within the subfamily Petaurinae by McKenna and Bell (1997:66).

**Petaurus Shaw, 1791**

*Petaurus* Shaw, 1791: pl. 60.

**Type Species.** *Petaurus australis* Shaw, 1791: pl. 60.

**Comments.** Genus recognized by Waterhouse (1841:xvi, 282) but not various other authors, as *Belideus* was used in preference until it was fixed by Thomas (1888a:xii, 150). Publication date established from Sherborn (1895:376).

*Ptilotus* Fischer de Waldheim, 1814:512.

**Type Species.** *Petaurus australis* Shaw, 1791: pl. 60.


*Belidea* Waterhouse, 1838:880a  
**Type Species.** *Petaurista (Belidea) breviceps* Waterhouse, 1838a:880.  
**Comments.** Recognised at generic rank by Gould (1842a:11; 1842b:404). Placed within *Belideus* by Palmer (1904:135).

*Belideus* Waterhouse, 1839a:149.  
**Type Species.** *Didelphis sciurea* Shaw, 1794:29.  

*Belidens* Wiegmann, 1839:418  
**Type Species.** Misspelling of *Belideus* Waterhouse, 1839.  
**Comments.** Misspelling of *Belideus* Waterhouse, 1839a. Synonymized within *Belideus* by Palmer (1904:135).

*Xenochirus* Gloger, 1841:xxx, 85.  
**Type Species.** *Didelphis sciurea* Shaw, 1794:29.  
**Homonyms.** *Xenochirus* Gilbert, 1890:90, poacher fish or poachers of the superclass Pisces (order Scorpaeniformes, family Agonidae). Preoccupied by *Xenochirus* Gloger, 1841. Junior synonym of *Xeneretmus* Gilbert (Jordan, 1903:360).

**Type Species.** *Petaurus breviceps* Waterhouse, 1839a:152.  
**Type Species.** *Petaurus breviceps* var. papuanus* Thomas, 1888a:158.  

*Petaurus abidi* Ziegler, 1981  
(northern glider)  
**Type Locality.** West Sepik Province, Mount Soporo, Torricelli Mountains, Papua New Guinea. 3°25′S, 142°5′E.  
**Comments.** Species rank accepted since its description.  
**Distribution.** Papua New Guinea North Coast Ranges, comprising a section of mountain range approximately 100 km (62 mi) long and a few tens of kilometers wide, from at least 2Fas Village (to the east of Mount Menawa) in the west to Mount Sapua in the east, at elevations above 300 m (984 ft), although they are thought to be rare below 800 m (2,624 ft), with most animals thought to occur between 800 and 1200 m (2,626 and 3,936 ft) (Flannery, 1994:70).

*Petaurus australis* Shaw, 1791: pl. 60.  
**Type Locality.** Sydney, New South Wales, Australia.  
**Comments.** Type based on “Hepoona Roo” of J. Hunter in White (1790:288). Publication date established from Sherborn (1895:376). Taxonomic history reviewed by Thomas (1888a:151). Iredale and Troughton (1934:24) refer to the author as Shaw and Nodder; however, Nodder was the publisher. The taxonomy of the isolated population in north Queensland needs to be resolved. Fossils most similar to *Petaurus australis* from the Pliocene Hamilton Local Fauna, western Victoria, Australia, was described by Turnbull et al. (1987a:629) and with others found in subfossil deposits within the Pyramid Caves in eastern Victoria, Australia (Wakefield, 1972:8).
Distribution. North Queensland down the east coast through New South Wales to Victoria, Australia. There are also several isolated populations in north Queensland, western Victoria and near the Victorian border in the extreme southeast of South Australia (Van Dyck and Strahan, 2008:228).

Sciurus novaebollandie Meyer, 1793 [part]:11.

Type Locality. New South Wales, Australia.


Didelphis petaurus Shaw, 1800:496, pl. 112.

Type Locality. Sydney, New South Wales, Australia.


Volucella nigra Bechstein, 1800 [part]:351.

Type Locality. Botany Bay, New South Wales, Australia.


Petaurus hepuna ru Oken, 1816:1118.

Type Locality. New name for Didelphis petaurus Shaw, 1800.

Comments. Synonymized within australis by Iredale and Troughton (1934:24) and not included within McKay (1988a:92).

Petaurista flaviventer Desmarest, 1818a:403.

Type Locality. New South Wales, Australia.


Type Locality. New South Wales, Australia.


Petaurus opossum Falcimagne, 1854:366.

Type Locality. New South Wales, Australia.

Comments. Synonymized within australis by Iredale and Troughton (1934:24) and not included within McKay (1988a:92).

Petaurus australis reginae Thomas, 1923a:249.

Type Locality. Gin Gin, 45 km (28 mi) inland of Bundaberg, southeast Queensland, Australia.

Comments. Subspecies rank recognized by Iredale and Troughton (1934:24), Tate (1945:7), Troughton (1967:86), Strahan (1983:136; 1995:228), McKay (1988a:92), and Flannery (1994:60). Although the separate north Queensland population is usually allocated to this subspecies, the type locality at Gin Gin in southern Queensland lies within the continuous range of Petaurus australis australis. The north Queensland population was proposed to be treated as an undescribed subspecies by Maxwell et al. (1996:8). More recently, it was recognized as a subspecies of australis by Groves (2005:55) and Clayton et al. (2006:104); however, a detailed genetic analysis by Brown et al. (2006:305) found their results do not support the classification of reginae as a subspecies for the original type specimen from southern Queensland. The north Queensland population was proposed by Brown et al. (2006:311) to represent a distinct “evolutionary significant unit,” and they used this term in preference to subspecies.

Petaurus biacensis Ulmer, 1940

(Biak glider)

Petaurus (Petaurella) papuanus biacensis Ulmer, 1940:1.

Common Name. Biak glider.

Type Locality. Biak Island, Indonesia.

Comments. Generally recognized as a subspecies of breviceps, such as by Smith (1973:1). Separated from breviceps as a distinct species by Flannery (1994:80; 1995a:116) and Groves (2005:55).

Distribution. Biak, Supiori, and Owi islands, Schouten Islands group, Indonesia (Flannery, 1994:78).


Type Locality. Owi Island, Schouten Islands group, Indonesia.

*Petaurus breviceps (Waterhouse, 1838) (sugar glider)*

*Petaurus breviceps breviceps* (Waterhouse, 1838)

*[Petaurista] [Belidea] Breviceps* Waterhouse, 1838a:880.

**Type Locality.** Sydney, New South Wales, Australia.

**Comments.** The first publication of this taxon appears to have been overlooked, with authors recognizing Waterhouse (1839a:152) as the publication which used the name *Petaurus [Belideus] breviceps*. This publication arose from the paper being read before the Zoological Society of London on 13 November 1838 and subsequently published in May 1839. McAllan and Bruce (1989:447) argued that the original publication of the name was Waterhouse (1838a:880) which was published on 8 December 1838, and this has been followed here. Included within *Petaurus* by Waterhouse (1841:290; 1846:334), Gray (1843:83) and most subsequent authors except Gould (1845–1863 [1849]: text to pl. 5), who placed it within *Belideus*. Taxonomic history was reviewed by Thomas (1888a:156) and Smith (1973:1). A fossil assigned to *Petaurus breviceps* was described by Aplin et al. (1999:378) from Pleistocene deposits at Bird’s Head Peninsula, Papua (western New Guinea), Indonesia. Other fossils assigned to this species have been collected from Pleistocene deposits in the Naracoorte Caves, South Australia, Australia (Reed and Bourne, 2000:67), and from subfossil deposits from Pyramid Caves in eastern Victoria, Australia (Wakefield, 1972:8).

**Distribution.** Eastern mainland Australia from southern Queensland through New South Wales and Victoria into southeastern South Australia, and Tasmania (Flannery, 1994:80).

*Petaurus sciureus* Gunn, 1851:253.

**Type Locality.** Tasmania.

**Comments.** Recognized as a species within *Belideus* by Gould (1845–1863 [1845]: text to pl. 24). Synonymized within *Petaurus breviceps* by Thomas (1888a:156).

*Petaurus (Belideus) notatus* Peters, 1859:14.

**Type Locality.** Port Philip, Victoria, Australia.


*Petaurus breviceps ariel (Gould, 1842)*

*Belidea ariel* Gould, 1842a:11.

**Type Locality.** Port Essington, Northern Territory, Australia.


**Distribution.** Northeastern Western Australian and northern Northern Territory including Bathurst Island, Melville Island, and Groote Eylandt, Australia (Flannery, 1994:80).

*Petaurus (Belideus) arul* Gervais, 1869:574.

**Type Locality.** Incorrect subsequent spelling.

**Comments.** Not considered by Iredale and Troughton (1934:25), but synonymized within *ariel* by Smith (1973:1), McKay (1988a:93), Flannery (1990:146; 1994:80; 1995a:118; 1995b:207), and subsequent authors. Note Flannery (1990:146) recognizes “*alba* (Gervais, 1869)” as a synonym of *breviceps*; however, an assessment of this reference showed a reference to *arul* and other *Petaurus* but does not appear to include *alba*.

*Petaurus breviceps longicaudatus* Longman, 1924

*Petaurus breviceps longicaudatus* Longman, 1924:ix.

**Type Locality.** Mapoon Mission, Gulf of Carpentaria, north Queensland.

**Comments.** Not considered by Iredale and Troughton (1934:25), but the subspecies rank was recognized by Tate (1945:8), Troughton (1967:83), Smith (1973:1), Strahan (1983:138; 1995:230), McKay (1988a:93), and Flannery (1990:146; 1994:60) and was confirmed by Colgan and Flannery (1992:247) and followed by subsequent authors.

**Distribution.** Northern Queensland, Australia (Flannery, 1994:80).
Petaurus breviceps var. papuanus Thomas, 1888a:158.

**Type Locality.** Huon Gulf, northeastern New Guinea.

**Comments.** Elevated to species rank by Matschie (1916:261), who also erected the subgenus Pet-aurella. Tate and Archbold (1935:1) also recognized the specific status within *Petaurus*. Subspecies recognized by Tate (1945:10), Laurie and Hill (1954:19), and Smith (1973:1). Again synonymized within breviceps by Groves (1993:61) and Flannery (1994:80; 1995b:207) and within papuanus by Groves (2005:55).


Petaurus (Petaurella) papuensis fafa Tate and Archbold, 1935:1.

**Type Locality.** Eastern ridge, Mount Tafa, Central Division, Papua New Guinea. 2,000 m (6,562 ft).


Petaurus (Petaurella) papuensis flavidus Tate and Archbold, 1935:2.

**Type Locality.** Dogwa, Oriomo River, Western Division, Papua New Guinea. 30 m (98 ft).


**Petaurus gracilis** (De Vis, 1883) (mahogany glider)

**Type Locality.** “North of Cardwell,” north Queensland, Australia.

**Comments.** History of description given by Van Dyck (1990:329; 1993:77). Synonymized within *Petaurus norfolcensis* (as *P. sciureus*) by Thomas (1888a:154). Elevated to subspecies of norfolcensis by Iredale and Troughton (1934:24), which was accepted by subsequent authors, including Tate (1945:8), Fleay (1947:111, 1954:210), Marlow (1965:75), Troughton (1967:84), Alexander (1981:64), Strahan (1983:140), and Colgan and Flannery (1992:245, 255). Synonymized within norfolcensis by McKay (1988a:93) and Van Dyck (1990:329), who said it should remain a junior synonym of norfolcensis and that caution should be exercised in applying subspecies status to animals outside the type locality near Mount Echo. With the exception of Van Dyck’s observations these classifications were not based on inspections of specimens, and the species had not been recorded between 1886 and its rediscovery in December 1989. Upon its rediscovery and the assessment of new samples it was resurrected from synonymy with *P. norfolcensis* to species rank by Van Dyck (1991:295), with a formal reappraisal by Van Dyck (1993:84), who found gracilis and norfolcensis to be distinctly morphologically different. It was subsequently recognized as a species by all authors, including Flannery (1994:60, 84), Strahan (1995:232), Van Dyck and Strahan (2008:233), and Jackson (2011:141). Species rank was retained by Malekian et al. (2009:122, 130), although it was recognized that mitochondrial divergence with norfolcensis was less than within *P. australis*. This species is clearly distinct from norfolcensis in body length and mass (Van Dyck and Strahan, 2008:234, 236).

**Distribution.** Only known to occur between Ollera Creek (40 km [24.85 mi] south of Ingham) and the Hull River near Tully, a north–south distance of 122 km (76 mi), in north Queensland, Australia (Van Dyck and Strahan, 2008:234).

**Petaurus norfolcensis** (Kerr, 1792) (squirrel glider)

**Type Locality.** Sydney, New South Wales, Australia. Norfolk Island in error.

**Comments.** Type based on “Norfolk Island flying-squirrel” of Anonymous in Phillip (1789:151, pl.
Fossil presently assigned to Petaurus norfolcensis described by Turnbull et al. (1987a:629) from Pliocene Hamilton Local Fauna, western Victoria, Australia, and from subfossils deposits from Pyramid Caves in eastern Victoria, Australia (Wakefield, 1972:8).

**Distribution.** East coast of Australia from central Cape York Peninsula to western Victoria and near Bordertown in extreme southeastern South Australia (Van Dyck and Strahan, 2008:235).

Sciurus novaehollandie Meyer, 1793 [part]:11.

**Type Locality.** New South Wales, Australia.

**Comments.** Synonymized within norfolcensis by Thomas (1888a:153) and Iredale and Troughton (1934:24) and noted by McKay (1988a:93) as a combined description; see part A under Petaurus australis australis Shaw, 1791. Also synonymized within norfolcensis by Flannery (1994:86).

Didelphis sciurea Shaw, 1794:29, pl. 11.

**Type Locality.** Sydney, New South Wales, Australia.

**Comments.** Recognized as a valid species within Didelphis by Shaw (1800:498) and within Petaurus by Waterhouse (1841:289; 1846:331) and Gray (1843:83). Recognized at the species rank within Petaurus by Thomas (1888a:154), but synonymized within norfolcensis by Iredale and Troughton (1934:24), McKay (1988a:93), Flannery (1994:86), and subsequent authors.

Petaurus leucogaster Mitchell, 1838:xvii.

**Type Locality.** Banks of the Murray River, New South Wales?, Australia.

**Comments.** *Nomen nudum*. It was placed as a synonym of Petauroides volans by Iredale and Troughton (1934:29); however, this species does not occur near the Murray River. Therefore, it is most likely that it should be placed within Petaurus norfolcensis. Considered incertae sedis by McKay (1988a:97).

**Family Pseudocheiridae Winge, 1893**

Tribe Pseudochirini Winge, 1893:89.

**Type Genus.** Pseudocheirus Ogilby, 1837:457.


Family Phalangistae Lesson, 1842 [part]:188.

**Type Genus.** Phalanger Storr, 1780:33.

**Comments.** Also included members of the currently recognized Phalangeridae.

Family Petauridae Lesson, 1842 [part]:189.

**Type Genus.** Petaurus Shaw, 1791: pl. 60.

**Comments.** Family also included Petaurus (Petauridae), Acrobates (Acrobatidae) and Schoinobates (=Petauroides) of the family Pseudocheiridae.

Tribe Pseudochirini Winge, 1893:89.

**Type Genus.** Pseudocheirus Ogilby, 1837:457.

**Comments.** Tribe rank recognized by Szalay (1994:43) but not subsequent authors.

**Subfamily Hemibelideinae Kirsch et al., 1997**

Subfamily Hemibelideinae Kirsch et al., 1997:245.

**Type Genus.** Hemibelideus Collett, 1884:385.

**Comments.** Subfamily recognized by Groves (2005:50) but not by Van Dyck and Strahan (2008:10, 238).

Petauroides Thomas, 1888

*Petauroides* Thomas, 1888a:163.

**Type Species.** Didelphis volans Kerr, 1792:199.

**Comments.** *Schoinobates* (Lesson, 1842) was used in preference to *Petauroides* by Iredale and Troughton (1934:28), Simpson (1945:46), Tate (1945:11), and Ride (1970:80). The names *Volucella* and *Petaurista* were both preoccupied. The taxonomic decision of McKay (1988a:90) to use *Petauroides* was followed by subsequent authors with the exception of McKenna and Bell (1997:66), who used *Schoinobates*.

Volucella Bechstein, 1800:351.

**Type Species.** Didelphis volans Kerr, 1792:199.

**Comments.** Synonymized within *Petauroides* by Thomas (1888a:163) and McKay (1988a:89), and
within *Schoinobates* by Iredale and Troughton (1934:28) and McKenna and Bell (1997:66).

**Homonyms.** *Volucella*, É. L. Geoffroy, 1762: 540, hover flies of the class Insecta (order Diptera, family Syrphidae).


**Phalanger** Lacépède, 1801:491.

**Type Species.** *Didelphis volans* Kerr, 1792: 199.

**Comments.** Genus is a junior homonym of *Phalanger* Storr, 1780:33.

**Homonym.** *Phalanger* Storr, 1780:33, cuscuses of the class Mammalia (order Diprotodontia, family Phalangeridae).

*Petaurista* Desmarest, 1820:268.

**Type Species.** *Petaurus taguanoides* Desmarest, 1818a:400.

**Comments.** Publication date established from Sherborn and Woodward (1906:580). Name preoccupied by *Petaurista* (Link, 1795:52, 78). Recognized as a subgenus of *Petaurus* by Waterhouse (1846:322) for *taguanoides*. Designation of *P. taguanoides* Desmarest, 1818a as type species antedates that of *Petaurus australis* Shaw, 1791 by Iredale and Troughton (1934:29). Included as a synonym of *Petauridae* by Thomas (1888a:163) and *Petaurus* and *Schoinobates* and by Iredale and T fraughton (1934:23, 29) and McKay (1988a:89).

**Homonyms.** *Petaurista* Link, 1795:52, 78, flying squirrels of the class Mammalia (order Rodentia, family Sciuridae).


*Petaurista* Rafinesque, 1815:55, greater gliders of the class Mammalia (order Diprotodontia, family Pseudocheiridae). Name is a nomen nudum. Synonymized within *Petauridae* by Palmer (1904:526).

*Petaurista* Latreille, 1827:400, leaf beetles of the class Insecta (order Coleoptera, family Chrysomelidae). Genus is a synonym of *Lema* (Fabricius, 1798:4).

*Petaurista* Reichenbach, 1862:105, guenon monkeys of the class Mammalia (order Primates, family Cercopithecidae). Genus is a junior synonym of *Cercopithecus* (Linnaeus, 1758:26).

*Schoinobates* Iredale and Troughton, 1934:vii, 28.

**Type Species.** *Didelphis volans* Kerr, 1792: 199.

**Comments.** Iredale and Troughton (1934:viii, 28) give the author as Lesson (1842:190); however, they, like Palmer (1904:886), were wrong in assuming that the name *Schoinobates* initially referred to a marsupial (though the name was mistakenly placed with other marsupials). *Schoinobates* was applied by Lesson (1842), as *Petaurus* (*Schoinobates*) *leucogenys*, which is now known as Japanese giant flying squirrel *Petaurista leucogenys* (Temminck, 1827:xxvii). *Schoinobates* is therefore a junior subjective synonym of *Petaurista* (Link, 1795) (McKay, 1982:38). *Schoinobates* has commonly been used in preference to *Petauridae* by authors, including Simpson (1945:46), Tate (1945:11), Troughton (1967:87), Ride (1970:80), Kirsch and Calaby (1977:16), Marshall (1981:28), Honacki et al. (1982:41), and McKenna and Bell (1997:66).

**Homonyms.** *Schoinobates* Lesson, 1842:190, flying squirrels of the class Mammalia (order Rodentia, family Sciuridae). Name is a synonym of *Petaurista* (Link, 1795:78).

*Petauridae* Ramsay, 1890a:77.

**Type Species.** *Petaurides cinereus* Ramsay, 1890a:77.

**Comments.** Incorrect subsequent spelling of *Petauridae* Thomas, 1888a.

†*Petauridae ayamaruensis* Aplin, 1999

†*Petauridae ayamaruensis* Aplin, 1999:365, fig. 13.

**Type Locality.** Kria Cave, Bird’s Head Peninsula, Papua (western New Guinea), Indonesia.

**Comments.** Holocene. This is an extremely distinctive pseudocheirid, which was assigned to *Petauridae* with considerable reservation (Aplin, 1999:365). Species recognized within *Petauridae* by Long et al. (2002:130), but more recent specimens suggest this taxon is not a glider (K. P. Aplin [formerly of CSIRO, Canberra], personal communication).

†*Petauridae marshalli* (Turnbull and Lundelius, 1970)


**Type Locality.** Hamilton Local Fauna, Grange Burn, western Victoria, Australia.
Comments. Early Pliocene. Doubt exists as to the correct generic placement of this species, as it was originally assigned to *Pseudocheirus* by Turnbull and Lundelius (1970:40), with the placement of this species in *Petauroides* further challenged by Turnbull et al. (1987b:699), who suggested it should not be placed in this genus because of the absence of any evidence of gliding. Despite these reservations this taxon was placed within *Petauroides* by Long et al. (2002:130) but returned to *Pseudocheirus* by Crosby et al. (2004:167), who noted that it possibly should be placed within *Petauroides*.

†*Petauroides stirtoni* (Turnbull and Lundelius, 1970)

†*Pseudocheirus stirtoni* Turnbull and Lundelius, 1970:34.

**Type Locality.** Hamilton Local Fauna, Grange Burn, western Victoria, Australia.

**Comments.** Early Pliocene. Although previously assigned to *Pseudocheirus*, it appears to be more closely allied to *Petauroides* and was placed in *Petauroides* by Archer (1984:714). This assertion has, however, been challenged by Turnbull et al. (1987b:699), who suggested that it should not be placed in this genus because of the absence of any evidence that *stirtoni* was specialized for gliding. Species recognized within *Petauroides* by Long et al. (2002:130) but returned to *Pseudocheirus* by Crosby et al. (2004:167), who noted that it possibly should be placed within *Petauroides*.

*Petauroides volans* (Kerr, 1792)

(greater glider)

*Petauroides volans volans* (Kerr, 1792)

*Didelphis volans* Kerr, 1792:199.

**Type Locality.** Sydney, New South Wales, Australia. Type species based on “black flying opossum” of Anonymous in Philip (1789:297) and “Hepoona Roo” of Hunter in White (1790:188).

**Comments.** Synonymized within *volans* by Thomas (1888a:164:164), Iredale and Troughton (1934:29), McKay (1988a:90), Flannery (1994:148), and subsequent authors.

*Volucella nigra* Bechstein, 1800 [part]:351.

**Type Locality.** Sydney, New South Wales, Australia. Type species based on “black flying opossum” of Anonymous in Philip (1789:297) and “Hepoona Roo” of Hunter in White (1790:188).

**Comments.** Synonymized within *volans* by Thomas (1888a:164:164), Iredale and Troughton (1934:29), McKay (1988a:90), Flannery (1994:148), and subsequent authors.

**Distribution.** Eastern Australia from central eastern Queensland south to central Victoria (Flannery, 1994:148).

**Type Locality.** Sydney, New South Wales, Australia.


**Type Locality.** Sydney, New South Wales, Australia.

**Comments.** Synonymized within *volans* by Thomas (1888a:164:164).
(1845–1863 [1853]: text to pl. 22). Synonymized within volans by Thomas (1879:397), Thomas (1888a:164), Iredale and Troughton (1934:29), McKay (1888a:90), Flannery (1994:148), and subsequent authors.

Petaurus Peronii Desmarest, 1818a:404.

**Type Locality.** Sydney, New South Wales, Australia. Type designation by de Beaufort (1966:534).

**Comments.** Recognized as a valid species by Waterhouse (1841:284). Synonymized within taguanoides by Waterhouse (1846:322) and within volans by Thomas (1888a:164), Iredale and Troughton (1934:29), McKay (1988a:90), Flannery (1994:148), and subsequent authors.

Petaurus maximus Partington, 1837:424.

**Type Locality.** Australia.

**Comments.** Synonymized within volans by Iredale and Troughton (1934:29), McKay (1888a:90), Flannery (1994:148), and subsequent authors. Note the author of this taxon has been confused with Thomas (1888a:164) and Iredale and Troughton (1934:29), giving the author as F. Cuvier, whereas McKay (1888:90) and Groves (2005:51) attribute the author to G. Cuvier. The confusion appears to have arisen because the title page indicates that the publication of F. Cuvier is based on the cabinet of anatomy formed by G. Cuvier.

Petaurides volans armillatus Thomas, 1923a:248.

**Type Locality.** Cooemooboolaroo Station, 128 km (80 mi) southwest of Rockhampton, central Queensland, Australia.

**Comments.** Subspecies rank recognized by Troughton (1967:90) but synonymized within minor by Iredale and Troughton (1934:30), McKay (1888a:91), Flannery (1994:148), and subsequent authors. Recently, K. P. Aplin (pers. comm.) recognized its distinctiveness, both morphologically and genetically, as being distinct from P. volans, so it is likely this taxon will be elevated in rank.

Petaurus volans incanus Thomas, 1923a:247.

**Type Locality.** Eidsvold, near Mundubbera, southeastern Queensland, Australia. 140 m (450 ft).

**Comments.** Subspecies status recognized by Iredale and Troughton (1934:29) and Troughton (1967:90) but synonymized within volans by McKay (1988a:90), Flannery (1994:148), and subsequent authors until Aplin (pers. comm.) recognized its distinctiveness, both morphologically and genetically, as being distinct from P. volans volans, so it is likely this taxon will be elevated in rank.
et al. (2004:171). Rank not recognized by either Groves (2005:vii, 55) or Van Dyck and Strahan (2008:10), who both placed the families Tarsipedidae and Acrobatidae within the superfamily Petauroidea.

**Family Acrobatidae Aplin, 1987**


**Type Genus.** Acrobatodes Desmarest, 1818a:405.

**Comments.** Separated from Burramyidae by Aplin (in Aplin and Archer, 1987:xxii) and supported by Strahan (1987:113), Baverstock et al. (1990:273), Marshall et al. (1990:460), and subsequent authors.


**Type Genus.** Acrobatodes Desmarest, 1818a:405.


**Acrobates Desmarest, 1818**

Acrobates Desmarest, 1818a:405.

**Type Species.** Didelphis pygmaea Shaw, 1794:5.

**Comments.** Recognized as the subgenus Acrobatodes within Petaurus by Waterhouse (1841:293; 1846:337). Genus rank recognized by Gray (1841:402; 1843:83), Gould (1845–1863 [1849]: text to pl. 28), Krefft (1871:3), and Thomas (1888a:136).

**Homonyms.** Acrobatodes Bonaparte, 1850:284, scrub robins or bush chats of the class Aves (order Paseriformes, family Muscicapidae). Appears to be an incorrect subsequent spelling of Agrobates (Swainson, 1837:63, 241) or Agrabates (Swainson, 1837:63, 64). These appear to be synonyms of Cercotrichas (F. Boie, 1831:542).

Opossum Perry, 1810 (1810–1811): text to pl. 32.

**Type Species.** Opossum opossum Perry, 1810 (1810–1811).

**Comments.** Plates unnumbered in original work but were numbered by Matthews and Iredale (1912:14) and Petit (2009:13). Genus not recognized by subsequent authors.

**Homonym.** Opossum opossum Perry, 1810 (1810–1811): text to pl. 21, wombat of class Mammalia, genus Vombatus É. Geoffroy Saint-Hilaire, 1803b:185.

Acrobata Desmarest, 1820:270.

**Type Species.** In error for Acrobates Desmarest, 1818a:405.

**Comments.** Does not appear to have been previously recognized. Included here as a synonym.

Ascobates Anonymous, 1839:454.

**Type Species.** In error for Acrobates Desmarest, 1818a:405.

**Comments.** Synonymized within Acrobates by Iredale and Troughton (1934:21) and McKay (1988b:98).

Cercopetenus Gloger, 1841:xxx, 85.

**Type Species.** Didelphis pygmaea Shaw, 1794:5.


**Acrobates pygmaeus (Shaw, 1794)** (feathertail glider)

Didelphis pygmaea Shaw, 1794:5, pl. 2.

**Type Locality.** Sydney, New South Wales, Australia. Type designated by Thomas (1922a:128).

**Comments.** Transferred to genus Acrobates by Desmarest (1818a:405), but placed within Petaurus (Acrobata) by Waterhouse (1841:293; 1846:339). Transferred to Acrobates by Desmarest (1818a:405), Gray (1841:402; 1843:83), Gould (1845–1863 [1849]: text to pl. 28), Krefft (1871:3), and Thomas (1888a:136), who described the taxonomic history. Tate (1938:60) believed the single specimen (of A. pulchellus, which is considered a synonym of pygmaeus) obtained in NW New Guinea was probably an introduction as a pet. Included within Burramyidae by Kirsch and Calaby (1977:16) and McKay (1988b:99). Fossils tentatively identified as Acrobates pygmaeus have been collected from Pleistocene deposits in the Naracoorte Caves, South Australia, and subfossil deposits have been collected from Pyramid Caves in eastern Victoria, Australia (Wakefield, 1972:8; Reed and Bourne, 2000:67).

**Distribution.** Eastern mainland Australia, from Cape York Peninsula to southeastern South Australia (Flannery, 1994:40).

Opossum opossum Perry, 1810 (1810–1811): text to pl. 32.

**Type Locality.** New Holland.

**Comments.** Plates unnumbered in original work but were numbered by Matthews and Iredale (1912:14) and Petit (2009:13). Species not recognized by subsequent authors.
Dromicia frontalis De Vis, 1887:1134.

**Type Locality.** Herbert district, north Queensland, Australia.

**Comments.** Considered a subspecies of *pygmaeus* by Iredale and Troughton (1934:22), but synonymized within *pygmaeus* by Thomas (1888a:137), McKay (1988b:99), Flannery (1994:40), and subsequent authors until it was recognized as being both morphologically and genetically distinct by Aplin (unpublished), so it is likely this taxon will be elevated in rank.

Acrobates pulchellus Rothschild, 1892:546.

**Type Locality.** Unknown island north of Dutch New Guinea. This is almost certainly incorrect as this species has never been recorded outside eastern Australia.

**Comments.** Tate (1938:60) believed the single specimen obtained in NW New Guinea was probably an introduction as a pet from Australia. Taxon synonymized within *pygmaeus* by Thomas (1888a:137) and subsequent authors. The possibility of this species occurring in New Guinea was explored by Helgen (2003:107), who examined several specimens from Stockholm, of which one was collected in 1899–1900 and received from a dealer with the only information being “Nya Guinee.” Helgen (2003:108) suggests that both specimens (from London and Stockholm) are left open to doubt because of the imprecise locality data but lent some credibility by their appearance.

**Subclass Placentalia Owen, 1837**

Placentalia Owen, 1837:903.

**Comments.** Rank not specified by Owen. Synonymized within Eutheria Gill, 1872 by Simpson (1945:47) and within Monodelphia by Gregory (1947:46). Recognized without rank by Bonaparte (1838:108), at subclass by Gill (1872:v, 1) and Iredale and Troughton (1934:iix, 55), and at cohort rank by McKenna and Bell (1997:80) in preference to Eutheria. McKenna and Bell (1997:80) suggested there was confusion over the use of Eutheria because of its different use by Gill (1872:v) and Huxley (1880:657).

Unguiculata Linnaeus, 1766:21.

**Comments.** Synonymized within Placentalia by McKenna and Bell (1997:80).

Subclass Monodelphia de Blainville, 1816:117.

**Comments.** Synonymized within Eutheria by Simpson (1945:47) and within Placentalia by McKenna and Bell (1997:80), but recognized by Gregory (1947:46) at subclass rank.

Placentaria Fleming, 1822:169.

**Comments.** Rank not specified. Synonymized within Eutheria by Simpson (1945:47) and within Placentalia by McKenna and Bell (1997:80).

Monodelphia Gill, 1871:527.

**Comments.** Rank not specified. Synonymized within Placentalia by McKenna and Bell (1997:49, 80).

Subclass Eutheria Gill, 1872:v.


Eutheria Huxley, 1880:657.

**Comments.** Not Eutheria of Gill, 1872. Synonymized within Placentalia by McKenna and Bell (1997:80).

Theria Parker and Haswell, 1897 [part]:448.

**Comments.** Used at subclass rank by Simpson (1945:40). Name is equivalent to Theria of Gill, 1872, but not Eutheria of Huxley and most other authors. Aplin and Archer (1987:xxi) included Theria at the rank of subclass. Recognized at the new rank of supercohort by McKenna and Bell (1997:49).

Cohort Ferungulata Simpson, 1945 [part]:105.

**Comments.** Synonymized within Placentalia by McKenna and Bell (1997:80).


**Comments.** Synonymized within Placentalia by McKenna and Bell (1997:80).

**Order Dermoptera Illiger, 1811**

Family Dermoptera Illiger, 1811a:116.

**Comments.** Placed at subordinal rank within the order Insectivora by Dobson (1883:2) and within the order Primates by McKenna and Bell (1997:326), but recognized at ordinal rank by most authors, including Simpson (1945:53), Wilson (1993:135), Stafford and
Szalay (2000:360), and Stafford (2005:110). A recent examination of paromomyid and micromomyid skeletons indicates that these mammals were incapable of mitten-gliding locomotion, were not specialized for quadrupedal suspensory behavior, and did not use sciurid-like gliding locomotion (Bloch et al., 2007; Boyer and Bloch, 2008:270). Therefore, the taxonomy followed here consists of that used by McKenna and Bell (1997:326) with the family Paromomyidae removed to reflect these recent studies. The ability of the different families and genera of extinct locomotinct mammals to glide is poorly known, so it is likely that many species will be revealed as nongliders in the future as specimens with postcranial remains are discovered.

Order Pterophorae Gray, 1821:300.

**Comments.** Synonymized within Dermoptera by McKenna and Bell (1997:326).

Race Pleuronycterates Burnett, 1829:268.

**Comments.** Not subsequently recognized.

Order Ptenopleura Van der Hoeven, 1855:783.

**Comments.** Also recognized by Van der Hoeven (1858:742), which was recognized as the year of publication by McKenna and Bell (1997:326), who synonymized it within Dermoptera.

Galeopithecida Haeckel, 1895:593.

**Comments.** No rank. Synonymized within Dermoptera by McKenna and Bell (1997:326).

†Suborder Proglires Osborn, 1902:203.

**Comments.** Synonymized within Dermoptera by McKenna and Bell (1997:326).

Order Galeopithecidae Cabrera, 1925:201.

**Comments.** Synonymized within Dermoptera by McKenna and Bell (1997:326).

Order Galeopithecoidea Wilder, 1926:12, 15.

**Comments.** Synonymized within Dermoptera by McKenna and Bell (1997:326).


**Comments.** Synonymized within Dermoptera by McKenna and Bell (1997:326).


**Comments.** Synonymized within Dermoptera by McKenna and Bell (1997:326).

†**Family Indeterminate**

†**Subfamily Thylacaelurinae Van Valen, 1967**


**Type Genus.** †Thylacaelurus Russell, 1954:96.

**Comments.** Late Paleocene; middle to late Eocene, North America. The placement of this subfamily remains uncertain as it was originally placed in the †family Plagiomenidae by Van Valen (1967:277) and Bown and Rose (1979:102), with uncertainty, whereas McKenna and Bell (1997:326) did not include it within a specific family but placed it directly within the suborder Dermoptera, which is followed here.

†**Thylacaelurus Russell, 1954**


**Type Species.** †Thylacaelurus montanus Russell, 1954:96.

**Comments.** Middle to late Eocene, North America.

†**Thylacaelurus campester Storer, 1984**

†Thylacaelurus campester Storer, 1984:30.

**Type Locality.** Swift Current Creek, Saskatchewan, Canada.

**Comments.** Eocene.

†**Thylacaelurus montanus Russell, 1954**


**Type Locality.** Kishenehn Formation, SE British Columbia, Canada.

**Comments.** Middle to late Eocene. This was originally described as a didelphid marsupial by Russell (1954:96).

**Family Cynocephalidae Simpson, 1945**

Family Cynocephalidae Simpson, 1945:54.

**Type Genus.** Cynocephalus Boddaert, 1768:8.

**Comments.** The author of the family is not Ameghino (1889:893), as his family group name Cynocephalidae was based on Cynocephalus É. Geoffroy and G. Cuvier (1795:462), which is a junior synonym of Papio
As *Cynocephalus* É. Geoffroy and G. Cuvier (1795:462) is a junior homonym of *Cynocephalus* (Boddart, 1768), the family name of Ameghino (1889:893) is invalid under Article 39 of the International Code of Zoological Nomenclature (International Commission on Zoological Nomenclature, 1999:46). Also, as the family *Cynocephalidae* Simpson, 1945, was in common usage before 1961, it should not be replaced according to Article 40.2 of the International Code of Zoological Nomenclature (International Commission on Zoological Nomenclature, 1999:46). Name synonymized within *Cynocephalidae* by McKenna and Bell (1997:328) but recognized by Stafford (2005:110) and most recent authors.

**Homonyms.** Family *Cynocephalidae* Ameghino, 1889:893, baboons of the class Mammalia (order Primates, family Cercopithecidae). Family name is a junior synonym of the family *Cercopithecidae* (Gray, 1821:297). See McKenna and Bell (1997:328) and Groves (2001:237) for discussion.

Family *Galeopithecidae* Gray, 1821:300.

**Type Genus.** *Galeopithecus* Pallas, 1780:208.

**Comments.** The type genus is a junior objective synonym of *Cynocephalus* Boddart, 1768. The generic name *Galeopithecus* Pallas, 1780, is an available name but is not the valid name for *Cynocephalus Boddart*, 1768 because of objective synonymy (see Melville, 1977:182, Opinion 1077). Family rank recognized by various authors, including Murray (1866:vii), Rose (1973:1), and Ducrocq et al. (1992:373). Rank recognized by Beard (1993a:145) and McKenna and Bell (1997:328) but synonymized within the family *Cynocephalidae* by Wilson (1993:135), Stafford and Szalay (2000:380), and Stafford (2005:110).

Kind Pleuropteridae Burnett, 1829:268.

**Type Genus.** *Pleuropterus* Burnett, 1829:268.

**Comments.** Synonymized within family *Galeopithecidae* by McKenna and Bell (1997:328).

Galeopithecina Bonaparte, 1838:111.

**Type Genus.** *Galeopithecus* Pallas, 1780:208.

**Comments.** Synonymized within the family *Galeopithecidae* by McKenna and Bell (1997:328).

Family Ptenopleura Haeckel, 1866:clix.

**Type Genus.** *Galeopithecus* Pallas, 1780:208.

**Comments.** Recognized at ordinal rank by Van der Hoeven (1852–1856:x, 783), but synonymized within the family *Galeopithecidae* by McKenna and Bell (1997:328).

Family Colugidae Miller, 1906a:41.

**Type Genus.** *Colugo* Gray, 1871:98.

**Comments.** Synonymized within the family *Cynocephalidae* by Wilson (1993:135) and Stafford (2005:110).

Family Galeopteridae Thomas, 1908a:254.

**Type Genus.** *Galeopterus* Thomas, 1908a:254.


Superfamily Galeopithecoidea Russell et al., 1973:42.

**Type Genus.** *Galeopithecus* Pallas, 1780:208.

**Comments.** Synonymized within the family *Galeopithecidae* by McKenna and Bell (1997:328).

**Cynocephalus Boddart, 1768**

*Cynocephalus* Boddart, 1768:8.

**Type Species.** *Lemur volans* Linnaeus, 1758:30.

**Comments.** An application was made to the International Commission of Zoological Nomenclature to suppress *Cynocephalus* in favor of *Galeopithecus* in 1977; however, this was refused, and *Galeopithecus* was placed on the Official Index of Rejected and Invalid Generic Names in Zoology (Melville, 1977:182). All colugos were placed in *Cynocephalus* by Simpson (1945:54), Wilson (1993:135), and most authors until the genus *Galeopterus* Thomas, 1908, was resurrected for the species *variegatus* (Audebert, 1799) by Stafford and Szalay (2000:360).

**Homonyms.** *Cynocephalus* É. Geoffroy Saint-Hilaire and G. Cuvier, 1795:462, baboons of the class Mammalia (order Primates, family Cercopithecidae). Genus is a junior synonym of *Papio* (Erxleben, 1777:xxx, 15).

*Galeopithecus* Pallas, 1780:208, pls. vii, viii.

**Type Species.** *Lemur volans* Linnaeus, 1758:30.

**Galeopithecus** Rafinesque, 1815:54.

**Type Species.** New name for *Galeopithecus* Pallas, 1780:208.


**Dermopterus** Burnett, 1829:268.

**Type Species.** *Lemur volans* Linnaeus, 1758:30.


**Pleuropterus** Burnett, 1829:268.

**Type Species.** *Lemur volans* Linnaeus, 1758:30.


**Galeolemur** Lesson, 1840:261.

**Type Species.** *Galeolemur macrourus* Temminck, 1836:ix.

**Comments.** Synonymized within *volans* by Corbet and Hill (1992:54), Wilson (1993:135), and subsequent authors.

**Colugo** Gray, 1871:98.

**Type Species.** Described as a subgenus of *Galeopithecus* Pallas, 1780:208.


**Cynocephalus volans** (Linnaeus, 1758) *(Philippine colugo)*

**Type Locality.** Type locality not mentioned in description.

**Comments.** Synonymized within *volans* by Corbet and Hill (1992:54), Wilson (1993:135), and subsequent authors.

**Galeopterus** Thomas, 1908

**Galeopterus** Thomas, 1908a:254.

**Type Species.** *Galeopithecus temminckii* Waterhouse, 1839b:119.


**Galeopterus variegatus** *(Audebert, 1799)* *(Malayan colugo)*

**Galeopterus variegatus variegatus** *(Audebert, 1799)*

**Type Locality.** Java.

**Comments.** Placed in *Galeopterus* by Stafford and Szalay (2000:360) and followed by subsequent authors, including Stafford (2005:110), but not by Lim (2007:15), who placed *variegatus* within *Cynocephalus*. Stafford and Szalay (2000:360) recognize as subspecies *variegatus*, *temminckii*, *borneanus*, and *peninsulae* and suggest that it may be necessary to eventually designate separate subspecies for each of the dwarfed populations and other morphological variants from now-isolated islands, and they note the recent discovery of a dwarfed (unnamed) form from Laos. More recent research suggests that the diversity of the animals from mainland Southeast Asia, Java, and Borneo should be recognized as distinct species (Janečka et al., 2008:R1001).

**Galeopithecus rufus** Audebert, 1799:35, pl. 2.

**Type Locality.** Java.

**Comments.** Placed in *Galeopterus* by Stafford and Szalay (2000:360) and followed by subsequent authors, including Stafford (2005:110), but not by Lim (2007:15), who placed *variegatus* within *Cynocephalus*. Stafford and Szalay (2000:360) recognize as subspecies *variegatus*, *temminckii*, *borneanus*, and *peninsulae* and suggest that it may be necessary to eventually designate separate subspecies for each of the dwarfed populations and other morphological variants from now-isolated islands, and they note the recent discovery of a dwarfed (unnamed) form from Laos. More recent research suggests that the diversity of the animals from mainland Southeast Asia, Java, and Borneo should be recognized as distinct species (Janečka et al., 2008:R1001).

**Galeopithecus philippinensis** Waterhouse, 1839b:119.

**Type Locality.** Type locality not mentioned in description.

**Comments.** Synonymized within *volans* by Corbet and Hill (1992:54), Wilson (1993:135), and subsequent authors.

**Galeopterus** Thomas, 1908

**Galeopterus** Thomas, 1908b:254.

**Type Species.** *Galeopithecus temminckii* Waterhouse, 1839b:119.


**Galeopterus variegatus** *(Audebert, 1799)* *(Malayan colugo)*

**Galeopterus variegatus variegatus** *(Audebert, 1799)*

**Type Locality.** Java.

**Comments.** Placed in *Galeopterus* by Stafford and Szalay (2000:360) and followed by subsequent authors, including Stafford (2005:110), but not by Lim (2007:15), who placed *variegatus* within *Cynocephalus*. Stafford and Szalay (2000:360) recognize as subspecies *variegatus*, *temminckii*, *borneanus*, and *peninsulae* and suggest that it may be necessary to eventually designate separate subspecies for each of the dwarfed populations and other morphological variants from now-isolated islands, and they note the recent discovery of a dwarfed (unnamed) form from Laos. More recent research suggests that the diversity of the animals from mainland Southeast Asia, Java, and Borneo should be recognized as distinct species (Janečka et al., 2008:R1001).

**Galeopithecus rufus** Audebert, 1799:35, pl. 2.

**Type Locality.** Pelew (Palau) Island?
Comments. The type location of this taxon is treated with considerable skepticism as it appears likely that colugos do not occur on the island. Instead, the apparent error may have resulted from islands throughout Indonesia generally being referred to as “pulau.” Recognized as a synonym of Cynocephalus volans by Corbet and Hill (1992:54), and as a synonym of Cynocephalus volans by Wilson (1993:135), and as a synonym of variegatus by Stafford (2005:110). The author of this taxon has invariably been given as Desmarest (1820:108); however, the correct author appears to be Audebert (1799:35). Stafford (2005:110) suggests the description and plate of Desmarest (1820:108) is closer to variegatus than volans. The type locality of this taxon needs to be confirmed.

**Galeopterus varius** Desmarest, 1818b:376.

Type Locality. Java.

Comments. Dated 1817 but may not have been published until 1818. Derived from Galeopithecus variegatus of Audebert (1799:37). Synonymized within variegatus by Wilson (1993:135) and Stafford (2005:110).

**Galeopithecus [sic] ternatensis** Desmarest, 1820:108.

Type Locality. Ternate, probably in error.


**Galeopithecus macrourus** Temminck, 1836:i:x.

Type Locality. “Je présume, que l’espèce vit à Ceylan” [translated as “I presume the species lives in Ceylon”). Location of Ceylon is in error.

Comments. Name and type locality discussed by Mees (1957:215).

**Galeopithecus undatus** Wagner, 1839:326.

Type Locality. Java.


**Galeopterus variegatus borneanus** Lyon, 1911

**Galeopterus borneanus** Lyon, 1911:124.

Type Locality. Tjantung, southeast Borneo.


Distribution. Borneo and surrounding islands, including the Natuna Islands (Bunguran, Laut, Natuna, Serasan (Sirhassen), and Subi islands) off the west coast; Balambangan and Banggi off northern Borneo; Sebuku Island and Laut Island off southeastern Borneo; and Panebangan, Pelapis, and Karimata Islands off southwestern Borneo. On Borneo they are found from lowlands up to 914 m (3,000 ft) (Davis, 1958:122; Medway, 1965:45; Stafford and Szalay, 2000:360; Meijaard, 2003:1256).

**Galeopithecus gracilis** Miller, 1903a:49.

Type Locality. Serasan Island (Sirhassen), Natuna Islands, Indonesia.


**Galeopithecus natunae** Miller, 1903a:50.

Type Locality. Bunguran Island, Natuna Islands, Indonesia.


**Galeopterus lautensis** Lyon, 1911:125.

Type Locality. Laut Island, off southeastern Borneo, Indonesia.


**Galeopterus abbotti** Lyon, 1911:126.

Type Locality. Panebangan Island, off southwestern Borneo, Indonesia.


Type Locality. Toembang, Maroewe, eastern Borneo, Indonesia.

*Galeopithecus bantu* Cabrera, 1924:128.

**Type Locality.** North Sarawak, Borneo, Malaysia.


**Galeopterus variegatus peninsulae**

Thomas, 1908

*Galeopterus peninsulae* Thomas, 1908c:303.

**Type Locality.** Semangko Pass, Selangor-Pahang Boundary, Malay Peninsula, Malaysia.


**Distribution.** Southern Indochina, including southern Burma (now Myanmar), southern Thailand, southern Cambodia, southern Vietnam, Malay Peninsula, and various islands, including Anamba Islands (Siantan Island), Aur, Butang Islands (Adang and Terutau Islands), Langkawi, Pangkor, Penang (Pinang), Perhentian Island, Riau Islands (Batam, Bintan, Chombol, Durian, Galang, Great Karimon, Kundur, Sebang, and Sugi islands), Singapore, Tana Bala, Telo, Tinggi, and Tioman (Miller, 1906a:41; Medway, 1965:45; Lekagul and McNeely, 1988:40; Corbet and Hill, 1992:53; Ruggeri and Etterson, 1998:450; Stafford and Szalay, 2000:360; Meijaard, 2003:1256). Dwarfed forms have been found in central Laos and on many of the smaller islands of the Sunda Shelf (Ruggeri and Etterson, 1998:450; Stafford and Szalay, 2000:360).

**Galeopithecus pumilus** Miller, 1903a:46.

**Type Locality.** Adang Island, Butang Islands, Strait of Malacca, Thailand.


**Galeopithecus aoris** Miller, 1903a:47.

**Type Locality.** Aor (Aur) Island, eastern Malay Peninsula, Malaysia.


**Galeopterus taylori** Thomas, 1908d:49, 102.

**Type Locality.** Tioman Island, southern Malay Peninsula, Malaysia.


**Galeopterus chombolis** Lyon, 1909:486.

**Type Locality.** Chombol Island, Riau Archipelago, south of Singapore, Indonesia.


**Galeopithecus variegatus terutaus** Chasen and Kloss, 1929b:11.

**Type Locality.** Terutau Island, northern Strait of Malacca, Thailand.


**Distribution.** Terutau Island off the Strait of Malacca, Thailand (Chasen and Kloss, 1929b:11; Corbet and Hill, 1992:54).

**Galeopithecus variegatus perhentianus** Chasen and Kloss, 1929b:11.

**Type Locality.** Eastern Perhentian Island, Trengganu Archipelago, Malaysia.

Comments. Valid subspecies according Chasen and Kloss (1929a:20), Chasen (1940:20), and Corbet and Hill (1992:54). Taxon not recognized by...

Galeopterus variegatus temminckii
(Waterhouse, 1839)


**Type Locality.** Sumatra.


**Distribution.** Sumatra, Lingga Islands (Bakung, Penuba, Sebangka, and Singkep islands) off eastern Sumatra, Bangka Island, and Rupat Island in the Strait of Malacca, Indonesia (Stafford and Szalay, 2000:360; Meijaard, 2003:1256). Also occurs on Tuangku Island and Bankaru Island (Banyak Islands), Musala Island, and Batu Islands (Tello, Pini, Tana Bala, and Tana Masa islands) off western Sumatra (Meijaard, 2003:1256).

Galeopithecus marmoratus Temminck, 1836:ix.

**Type Locality.** Sumatra, Indonesia.

**Comments.** Synonymized within volans by Wilson (1993:135). Stafford (2005:110) notes that Cabrera (1925:210) listed “G. marmoratus Temminck (1829)” as a synonym of G. variegatus, but Stafford was unable to locate that description, and the citation is unknown. Fischer (1829:79) lists this taxon as “G.[aleopithecus] marmorati nomen ab illo obtigit.” Name and type locality are discussed by Mees (1957:215).

Galeopithecus saturatus Miller, 1903a:51.

**Type Locality.** Tana Bala Island, Batu Islands, western Sumatra, Indonesia.


Galeopithecus tuancus Miller, 1903a:53.

**Type Locality.** Tuangku Island, Banyak (Banjak) Islands, western Sumatra, Indonesia.


†Dermotherium Ducrocq et al., 1992

†Dermotherium major Ducrocq et al., 1992:373.

**Type Locality.** Wai Lek lignite pit, Changwat Krabi, southern Thailand.

**Comments.** Late Eocene. Stafford and Szalay (2000:378) suggest that if this species proves to be a dermopteran, then it may be appropriate to place this species within the family Cynocephalidae; however, they suggest the Dermopteran affinities are uncertain as the specimen is poorly preserved and only m3 has any diagnostic characters. These authors also suggest that some of the features listed as characteristic of Dermoptera are more widespread than is acknowledged by Ducrocq et al. (1992).

†Dermotherium chimaera
Marivaux et al., 2006

†Dermotherium chimaera Marivaux et al., 2006:398.

**Type Locality.** Cha Prong pit, Nong Ya Plong coal mine, Phetchaburi Province, northern part of the Thailand peninsula.

**Comments.** Late Oligocene. Specimens close to this species have also been discovered from early Eocene deposits in Pakistan (Marivaux et al., 2006).

†Family Plagiomenidae Matthew, 1918

†Family Plagiomenidae Matthew, 1918:598.

**Type Genus.** †Plagiomene Matthew, 1918:601.

**Comments.** Early Paleocene to mid-Eocene, late? Eocene, late Oligocene, North America. Family placed within Dermoptera by McKenna and Bell (1997:327) and...
Silcox et al. (2005:134), with further support added by Bloch et al. (2007:1163).

†Elpidophorus Simpson, 1927

†Elpidophorus Simpson, 1927:5.

Type Species. †Elpidophorus elegans Simpson, 1927:5.

Comments. Early to late Paleocene, North America. Genus was tentatively placed within the †family Oxyclaenidae by Simpson (1927:2), within Dermaptera by Gunnell (1989:28), and within †Plagiomenidae by Rose (1975:676), McKenna and Bell (1997:327), and Bloch et al. (2007:1163).

†Elpidophorus elegans Simpson, 1927

†Elpidophorus elegans Simpson, 1927:5.

Type Locality. Paskapoo Formation, Alberta, Canada.

Comments. Early to late Paleocene.

†Elpidophorus patratus Simpson, 1936:11.

Type Locality. Scarritt Quarry, Fort Union, Crazy Mountain Field, Montana, USA.


†Elpidophorus minor Simpson, 1937

†Elpidophorus minor Simpson, 1937:133.

Type Locality. Probably Silberling Quarry, Fort Union, Crazy Mountain Field, Montana, USA.

Comments. Middle Paleocene.

†Eudaemonema Simpson, 1935

†Eudaemonema Simpson, 1935:231.

Type Species. †Eudaemonema cuspidata Simpson, 1935:231.

Comments. Middle Paleocene, North America. Genus placed within the †family Mixodectidae by Gunnell (1989:56) and within the †family Plagiomenidae by McKenna and Bell (1997:327).

†Eudaemonema cuspidata Simpson, 1935

†Eudaemonema cuspidata Simpson, 1935:231.

Type Locality. Fort Union, Montana, USA.

Comments. Middle Paleocene.

†Subfamily Plagiomeninae Matthew, 1918

†Family Plagiomenidae Matthew, 1918:598.

Type Genus. †Plagiomene Matthew, 1918:601.

Comments. Late Paleocene to early Eocene, North America. Subfamily rank recognized by Russell et al. (1973:50), McKenna (1990:212), and McKenna and Bell (1997:327). Included within Dermaptera by McKenna and Bell (1997:327) and Sundatheria by Bloch et al. (2007:1162).

†Tribe Worlandini Bown and Rose, 1979

†Tribe Worlandinae Bown and Rose, 1979:97.

Type Genus. †Worlandia Bown and Rose, 1979:97.

Comments. Late Paleocene to early Eocene, North America. Recognized at tribe rank by McKenna (1990:212, 231) and McKenna and Bell (1997:327).

†Planetetherium Simpson, 1928

†Planetetherium Simpson, 1928:11.

Type Species. †Planetetherium mirabile Simpson, 1928:11.

Comments. Late Paleocene, North America. Genus recognized by Rose and Simons (1977:221) and Bown and Rose (1979:89).

†Planetetherium mirabile Simpson, 1928

†Planetetherium mirabile Simpson, 1928:11.

Type Locality. Fort Union, southern Montana, USA.

Comments. Late Paleocene, Park County, Wyoming, USA.

†Worlandia Bown and Rose, 1979

†Worlandia Bown and Rose, 1979:97.

Type Species. †Worlandia inusitata Bown and Rose, 1979:99.

Comments. Late Paleocene to early Eocene, North America. Genus placed within Dermaptera by Gunnell (1989:147) and the †family Plagiomenidae by Bown and Rose (1979:97), Gingerich (1987:311), and McKenna and Bell (1997:327).

†Worlandia inusitata Bown and Rose, 1979

†Worlandia inusitata Bown and Rose, 1979:99.

Type Locality. Park County, Wyoming, USA.

Comments. Early Eocene.
†Tribe Plagiomenini Matthew, 1918

†Family Plagiomedidae Matthew, 1918:598.
Type Genus. †Plagiome Matthew, 1918:601.
Comments. Late Paleocene to early Eocene, North America. Tribe rank created by McKenna and Bell (1997:327).

†Plagiome Matthew, 1918

†Plagiome Matthew, 1918:601.
Type Species. †Plagiome multicuspis Matthew, 1918:601.

†Plagiome accola Rose, 1981

†Plagiome accola Rose, 1981:46.
Type Locality. Clark’s Fork Basin, Wyoming, USA.
Comments. Late Paleocene and early Eocene.

†Plagiome multicuspis Matthew, 1918

†Plagiome multicuspis Matthew, 1918:601.
Type Locality. Gray Bull beds of Bighorn Basin, Wyoming, USA.
Comments. Lower Eocene.

†Ellesmene Dawson et al., 1993

†Ellesmene Dawson et al., 1993:179, 180.
Type Species. †Ellesmene eureka Dawson et al., 1993:179, 180.
Comments. Early Eocene, North America. Genus assigned to the †Family Plagiomenidae by Dawson et al. (1993:180) and McKenna and Bell (1997:327).

†Ellesmene eureka Dawson et al., 1993

†Ellesmene eureka Dawson et al., 1993:179, 180.
Type Locality. Ellesmene Island and Axel Heiberg Island, Eureka Sound Group, Canada.
Comments. Early Eocene, Canada.

†Subfamily Ekgmowechashaliniae Szalay, 1976

†Subfamily Ekgmowechashaliniae Szalay, 1976:349.
Type Genus. †Ekgmowechashala Macdonald, 1963:171.

†Tribe Tarkadectini Szalay and Lucas, 1996

†Subfamily Tarkadectinae Szalay and Lucas, 1996:32.
Type Genus. †Tarkadectes McKenna, 1990:224.

†Tarkadectes McKenna, 1990

†Tarkadectes McKenna, 1990:224.
Type Species. †Tarkadectes montanensis McKenna, 1990:224.
Comments. Middle and/or late Eocene, North America. Placed within the †subfamily Ekgmowechashaliniae by McKenna (1990:224), †subfamily Tarkadectinae by Szalay and Lucas (1996:32), and the †tribe Tarkadectini by McKenna and Bell (1997:327).

†Tarkadectes montanensis McKenna, 1990

†Tarkadectes montanensis McKenna, 1990:224.
Type Locality. Flathead County, Montana, USA.
Comments. Middle and/or late Eocene.

†Tarka McKenna, 1990

†Tarka McKenna, 1990:214.
Type Species. †Tarka stylifera McKenna, 1990:215.
Comments. Mid-Eocene, North America. Genus placed within the †subfamily Ekgmowechashaliniae by McKenna (1990:214) and McKenna and Bell (1997:327) and the †subfamily Tarkadectinae by Szalay and Lucas (1996:32) and Ni et al. (2010:247).

†Tarka stylifera McKenna, 1990

†Tarka stylifera McKenna, 1990:215.
Type Locality. Fremont County, Wyoming, USA.
Comments. Mid-Eocene.

†Tribe Ekgmowechashalini Szalay, 1976

†Subfamily Ekgmowechashalinae Szalay, 1976:349.
Type Genus. †Ekgmowechashala Macdonald, 1963:171.

†Ekgmowechashala Macdonald, 1963

†Ekgmowechashala philotau Macdonald, 1963:171.
Type Species. †Ekgmowechashala philotau Macdonald, 1963:171.

†Ekgmowechashala philotau Macdonald, 1963

†Ekgmowechashala philotau Macdonald, 1963:171.
Type Locality. Wounded Knee, western South Dakota, USA.
Comments. Early Miocene.

†Family Mixodectidae Cope, 1883

†Family Mixodectidae Cope, 1883a:80.
Type Genus. †Mixodectes Cope, 1883b:559.
Comments. The family was placed within Quadrupedal by Cope (1889:876), order Menotyphla by Gregory (1910:465), †superfamily Mixodectoidea by Gunnell (1989:147), and Dermoptera by McKenna and Bell (1997:327).

†Mixodectes Cope, 1883

†Mixodectes Cope, 1883b:559.
Type Species. Mixodectes pungens Cope, 1883b:559.
Comments. Early Paleocene, North America. Placed within the †family Mixodectidae by Cope (1883b:559), Gunnell (1989:56), and McKenna and Bell (1997:328).

†Indrodon Cope, 1884:318.
Type Species. †Indrodon malaris Cope, 1884:318.

†Olbodotes Osborn, 1902:205.
Type Species. †Olbodotes copei Osborn, 1902:205.

†Mixodectes pungens Cope, 1883

†Mixodectes pungens Cope, 1883b:559.
Type Locality. Torrejonian Formation, San Juan Basin, New Mexico, USA.
Comments. Early Paleocene.
†Mixodectes crassiusculus Cope, 1883b:560.

**Type Locality.** San Juan Basin Torrejonian, New Mexico, USA.

**Comments.** Early Paleocene. Synonymized within †pungens by Gunnell (1989:57).

†Olbodotes copei Osborn, 1902:205.

**Type Locality.** San Juan Basin Torrejonian, New Mexico, USA.

**Comments.** Early Paleocene. Synonymized within †pungens by Gunnell (1989:57).

†Dracontolestes Gazin, 1941

†Dracontolestes Gazin, 1941:13.

**Type Species.** †Dracontolestes aphantus Gazin, 1941:13.

**Comments.** Early to middle Paleocene, North America. Recognized within the †family Mixodectidae by Gunnell (1989:56).

†Dracontolestes aphantus Gazin, 1941

†Dracontolestes aphantus Gazin, 1941:13.

**Type Locality.** Paleocene, Dragon Canyon, Emery County, Utah, USA.

**Comments.** Early to middle Paleocene. Recognized within the †family Mixodectidae by Gunnell (1989:56).

**Superorder Glires Linnaeus, 1758**

Glires Linnaeus, 1758:56.

**Comments.** Originally included lagomorphs, rodents, and Rhinoceros. The Rhinoceros were removed shortly after, with the notion of Glires linking rodents and lagomorphs persisting today. Significant support has been obtained for the recognition of Glires by recent research, giving increasing support for monophyly between the Rodentia and Lagomorpha. Some authors suggest limited or no support for Glires, including Wood (1957:424), Graur et al. (1996:333), Arnason et al. (2002:8154), Adkins et al. (2003:413), and Misawa and Janke (2003:320). In contrast, support for the acceptance of Glires includes Landry (1999:283), Liu et al. (2001:1786), Madsen et al. (2001:610), Meng and Wyss (2001:1), Murphy et al. (2001a:614), Huchon et al. (2002:1053), Lin et al. (2002:119), Meng et al. (2003:1), Douzery and Huchon (2004:922), Meng (2004:93), Asher et al. (2005:1091), and Kriegs et al. (2007:160). Reviewed by Meng (2004:93).

**Order Rodentia Bowdich, 1821**

Order Rodentia Bowdich, 1821:7, 51.

**Comments.** Reviewed by Wilson and Reeder (2005).

Rodentes Vicq-d’Azyr, 1792:xcvii.

**Comments.** Rank unknown. Synonymized within Rodentia by McKenna and Bell (1997:114).

Order Rosores Gray, 1821:302.

**Comments.** Included the lagomorphs. Later in the same paper Gray employed order Rosores a second time to include the family Cheiroomydae (p. 309), which are primates that are now included in the family Daubentoniiidae (Gray, 1863:151). Synonymized within Rodentia by McKenna and Bell (1997:114).


**Comments.** Synonymized within the mirorder Simplicitaeta (Weber, 1904:495) by McKenna and Bell (1997:113).

Clade Rodentiaformes Wyss and Meng, 1996:563.

**Comments.** Not currently recognized at a specific rank.

**Suborder Sciromorphi Brandt, 1855**

Suborder Sciromorphi Brandt, 1855:144, 292.

**Comments.** Subordinal rank recognized by McKenna and Bell (1997:115) and Thorington and Hoffmann (2005:754).

**Family Sciuridae Fischer de Waldheim, 1817**


**Type Genus.** Sciurus Linnaeus, 1758:63.

**Comments.** Author of the family given as Gray (1821:304) by Simpson (1945:78), Hemprich (1820:32) by Hoffmann et al. (1993:419), and Fischer de Waldheim (1817:372) by Thorington and Hoffmann (2005:754).

Family Sciuriorum Fischer de Waldheim, 1817:408.

**Type Genus.** Sciurus Linnaeus, 1758:63.

**Comments.** Synonymized within the family Sciuridae by McKenna and Bell (1997:121).

Family Arctomyidae Gray, 1821:303.

Comments. Synonymized within the family Sciuridae by McKenna and Bell (1997:121). Date of type genus publication confirmed by Sherborn (1891:589).

Family Sciuridae Gray, 1821:304.


Comments. Synonymized within the family Sciuridae by McKenna and Bell (1997:121).

Subfamily Sciurinae Fischer de Waldheim, 1817


Comments. Subfamily recognized by McKenna and Bell (1997:122) and Thorington and Hoffmann (2005:754, 757). The ability of the different genera of extinct taxa to glide is poorly known, so it is likely that many species will be revealed as nongliders in the future as specimens with postcranial remains are discovered.

Family Sciuridae Gray, 1821:304.


Comments. Synonymized within the subfamily Sciurinae by McKenna and Bell (1997:122).


Comments. Synonymized within the subfamily Sciurinae by McKenna and Bell (1997:122).

Subfamily Marmotinae Pocock, 1923:240.

Type Genus. *Marmota* Blumenbach, 1779:79.

Comments. Synonymized within the family Sciuridae by McKenna and Bell (1997:121).
Comments. Synonymized within the subfamily Sciurinae by McKenna and Bell (1997:122).

Subfamily Spermophilinae Ognev, 1940:326, 432.
Type Genus. Spermophilus F. Cuvier, 1825b: 255.
Comments. Synonymized within the subfamily Sciurinae by McKenna and Bell (1997:122).

**Tribe Indeterminate**

†Sciurion Skwara, 1986

†Sciurion Skwara, 1986:290.
Type Species. Sciurion campestre Skwara, 1986:290.
Comments. Early Miocene. This genus and species was described as a “flying squirrel” within the family Sciuridae by Skwara (1986:290, 292), who, because there was reasonable doubt about monophyly in modern flying squirrels and even doubt about the sciurid relationships of certain North American fossil teeth, refrained from placing Sciurion within Petauristinae (=Pteromyini) and appeared to be followed by McKenna and Bell (1997:122), who placed this taxon directly within the family Sciuridae, rather than at a more precise lower rank.

†Sciurion campestre Skwara, 1986

†Sciurion campestre Skwara, 1986:290.
Type Locality. Cypress Hills Formation, southwestern Saskatchewan, Canada.
Comments. Early Miocene.

**Tribe Pteromyini Brandt, 1855**

Pteromyini Brandt, 1855:151, 298.
Type Genus. Pteromys G. Cuvier, 1800: tab. 1.
Comments. Brandt (1855) refers to Pteromyini on p. 151 without rank and to the “Tribus Pteromyes seu melius Pterosciuri nob.” on p. 298. Some debate has occurred as to whether the flying squirrels are monophyletic (e.g., Hight et al., 1974:12); however, thorough examinations of sciurid taxa strongly suggested that they are (Thorington, 1984:1048; Thorington et al., 2002:99; Steppen et al., 2004:703). Recognized as the subfamily Pteromyinae by Trouessart (1904:297), Miller and Gidley (1918:433), McKenna and Bell (1997:127), and Wang (2003:155). Recognized as the family Pteromyidae by Ognev (1966:248), but tribe rank synonymized within the family Pteromyidae by Corbet and Hill (1992:306) and within the subfamily Petauristinae by Hoffmann et al. (1993:459). The tribal rank Pteromyini within the subfamily Sciurinae was proposed by Steppan et al. (2004:715) and followed by Thorington and Hoffmann (2005:766).

Family Pteromidae Anderson, 1879:278.
Type Genus. Pteromys G. Cuvier, 1800: tab. 1.
Comments. Incorrect subsequent spelling of the family Pteromyidae. Synonymized within the subfamily Pteromyinae by McKenna and Bell (1997:127).

Family Petauristidae Miller, 1912:940.
Type Genus. Petaurista Link, 1795:52, 78.

Subfamily Pteromyinae Miller and Gidley, 1918:433.
Type Genus. Pteromys G. Cuvier, 1800: tab. 1.
Comments. Synonymized within the subfamily Pteromyinae Brandt (1855:151) by McKenna and Bell (1997:127).

Type Genus. Petaurista Link, 1795:52, 78.
Comments. Synonymized within the subfamily Pteromyinae by McKenna and Bell (1997:127).

Type Genus. Eupetaurus Thomas, 1888b:256.
Comments. Recognized to include only Eupetaurus because of its distinctive hypsodont dentition. Family rank was followed by Grassé and Dekeyser (1955:1496) and Schaub (1958:714) but has not become widely accepted. Eupetaurus was subsequently returned to the subfamily Petauristinae by McKenna (1962:10).

†Tribe Blackiini de Bruijn et al., 1980:241, 253.
Type Genus. †Blackia Mein, 1970:44.
Comments. Tribe created for the extinct genera †Blackia and †Pliopetes. Synonymized within the subfamily Pteromyinae by McKenna and Bell (1997:127).
†Tribe Petauristini de Bruijn et al., 1980:241, 244.

**Type Genus.** *Petaurista* Link, 1795:52, 78.

**Comments.** Tribe created to include the flying squirrels, including the extinct genera †Aliveria, †Albanensia, †Forsythia, and †Miopetaurista. Synonymized within the subfamily Pteromyinae by McKenna and Bell (1997:127).

**Aeretes G. Allen, 1940**

*†Aeretes* G. Allen, 1940:745.

**Type Species.** *Pteromys melanopterus* Milne-Edwards, 1867:375.

**Comments.** Early to middle Pleistocene to Recent, China. Fossil specimens allocated to this genus have been discovered in mid-Pleistocene mammalian fauna of Shanyangzhai cave in Qinhuangdao in China (Zhang et al., 2010:75).

**†Aeretes grandidens Zheng, 1993**


**Type Locality.** Sichuan-Guizhou, China.

**Comments.** Late Pliocene.

**Aeretes melanopterus (Milne-Edwards, 1867) (north Chinese flying squirrel)**


**Type Locality.** Tscheli (Chihli; old name for Hebei Province), China.

**Comments.** Further described by Milne-Edwards (1872:138). Known only from two widely separated localities. Transferred to *Petaurista* by Allen (1925:15) and *Aeretes* by Allen (1940:745). Fossils from the late Pleistocene and Pliocene allocated to this species have been found in China (Zheng, 1993:239; Tong, 2007:219).

**Distribution.** Hebei Province, China (Corbet and Hill, 1992:314; Zhang et al., 1997:154; Smith and Xie, 2008:174).

**Petaurista sulcatus** Howell, 1927:82.

**Type Locality.** Hsinlungshan, northeast of Peking (Beijing), China. 914 m (3,000 ft).


**Aeretes melanopterus szechuanensis Wang et al., 1966**

*Aeretes melanopterus szechuanensis* Wang et al., 1966:89.

**Type Locality.** Sichuan Province, China.


**Distribution.** Southern Gansu Province and central and northeastern Sichuan, China (Corbet and Hill, 1992:314; Zhang et al., 1997:154; Smith and Xie, 2008:174).

**†Aeretes premelanopterus Zheng, 1993**


**Type Locality.** Sichuan-Guizhou, China.

**Comments.** Late Pliocene.

**Aeromys Robinson and Kloss, 1915**


**Type Species.** *Pteromys tephromelas* Günther, 1873:413.

**Aeromys tephromelas (Günther, 1873) (black flying squirrel)**

*Pteromys tephromelas* Günther, 1873:413.

**Type Locality.** Wellesley, Penang Island (Pinang Island), Malaysia.

**Comments.** Transferred to *Hylopetes* by Thomas (1908b:6) and to *Aeromys* by Robinson and Kloss (1915:23; 1918a:183), which was followed by Chasen (1940:120), Ellerman (1940:291), and subsequent authors.


**Petaurista bartelsi** Sody, 1936:146.

**Type Locality.** Pagar, Djava, Pematang Siantar, Deli District, northern Sumatra, Indonesia. 500 m (1,640 ft).

*Aeromys tephromelas phaeomelas* (Günther, 1873)

*Pteromys phaeomelas* Günther, 1873:413, pl. 37.

**Type Locality.** Borneo.


**Distribution.** Known from several scattered localities in the northern part of Borneo, including the foothills of Gunung Kinabalu, Tenom, and Tawau in Sabah; northern Sarawak and Kuching; and Sombong near Samarinda in east Kalimantan (Medway, 1965:111; Payne et al., 1985:246; Corbet and Hill, 1992:320). Other specimens have been collected from G. Dulit and at Claudetown (Marudi), Baram (Hose, 1893:42), and various places in the lowlands of Sarawak (Banks, 1931:53), including the neighborhood of Kuching (Medway, 1965:111).

*Aeromys thomasi* (Hose, 1900)

(*Thomas’s flying squirrel*)

*Petaurista thomasi* Hose, 1900:215.

**Type Locality.** Silat River, south of Claudetown, eastern Sarawak, Borneo.

**Comments.** Transferred to *Hylopetes* by Thomas (1908b:6), which was followed by Chasen and Kloss (1932:19), Chasen (1940:118), and Davis (1962:84). Recognized as a subspecies of *Petaurista nitida* by Banks (1931:53). Placed in *Aeromys* by Robinson and Kloss (1918a:183) and Ellerman (1940:291) and followed by most subsequent authors.

**Distribution.** Confined to Borneo. Known from the lower slopes of Gunung Kinabalu (up to 1600 m), Sandakan, and Tawau in Sabah; Sungai Baram in Sarawak; Gunung Liang Kubung in west Kalimantan; and Sungai Kayan in east Kalimantan (Medway, 1965:111; Payne et al., 1985:246).

*Pteromys nitidus* Jentink, 1897:55.

**Type Locality.** Mount Liang, Keoboeng, Borneo.

**Comments.** Synonymized within *thomasi* by Medway (1965:111; 1977:101), Hoffmann et al. (1993:459), and Thorington and Hoffmann (2005:766).

†*Albanensia Daxner-Höck and Mein, 1975*

†*Albanensia Daxner-Höck and Mein, 1975:76.*

**Type Species.** †*Sciuropterus albanensis* Major, 1893:191.

**Comments.** Middle to late Miocene, Asia; middle to late Miocene, Europe. Genus recognized within the subfamily Pteromyinae by McKenna and Bell (1997:127) and family Petauristidae by de Bruijn (1999:275).

†*Albanensia albanensis* (Major, 1893)

†*Albanensia albanensis albanensis* (Major, 1893)


**Type Locality.** La Grive-Saint Alban (Isere), France.

**Comments.** Mid-Miocene. Included within †*Albanensia* by Daxner-Höck and Mein (1975:76), de Bruijn (1999:275), and Daxner-Höck (2004:390).

†*Sciuropterus jourdani* Gaillard, 1899:67.

**Type Locality.** La Grive-Saint Alban (Isere), France.

**Comments.** Miocene. Mein (1958:68), James (1963:87), and Black (1966:56) suggest that this species is a synonym for †*Albanensia albanensis*.†

†*Albanensia albanensis quiricensis* (Villalta, 1950)

†*Sciuropterus albanensis quiricensis* Villalta, 1950:57.

**Type Locality.** San Quirze de Galliners, Spain.

**Comments.** Miocene. Recognized as a subspecies of *albanensis* within †*Albanensia* by Daxner-Höck and Mein (1975:76), de Bruijn (1999:275), and Daxner-Höck (2004:390).

†*Albanensia grimmi* (Black, 1966)

†*Sciuropterus grimmi* Black, 1966:56, pl. 6.

**Type Locality.** Marktl, Bavaria, Germany.

†Albanensia sansaniensis (Lartet, 1851)

†Sciurus sansaniensis Lartet, 1851:19.
Type Locality. Bassin Sous-Pyrénén, France.

†Aliveria de Bruijn et al., 1980

†Aliveria de Bruijn et al., 1980:241, 244.
Type Species. †Aliveria brinkerinki de Bruijn et al., 1980:244.
Comments. Early Miocene, Europe. Genus recognized within the tribe Petauristini by de Bruijn et al. (1980:241, 244), subfamily Pteromyinae by McKenna and Bell (1997:127), and family Petauristidae by de Bruijn (1999:275). Doubt was cast on this genus by Thorington et al. (2005:958).

†Aliveria brinkerinki de Bruijn et al., 1980

†Aliveria de Bruijn et al., 1980:241, 244.
Type Locality. Aliveri, island of Evia, Greece.

†Aliveria luteyni de Bruijn et al., 1980

†Aliveria luteyni de Bruijn et al., 1980:241, 248.
Type Locality. Aliveri, island of Evia, Greece.

Belomys Thomas, 1908

Belomys Thomas, 1908b:2.
Type Species. Sciuropterus pearsonii Gray, 1842:263.
Comments. Late Pliocene to Recent, Asia. Belomys recognized by most subsequent authors except Corbet and Hill (1992:306), who synonymized it within Trogopterus and suggested that they are very closely related.

†Belomys parapearsoni Zheng, 1993

Type Locality. Longgupo Cave, Sichuan-Guizhou, China.
Comments. Late Pliocene.

Belomys pearsonii (Gray, 1842)
(hairy-footed flying squirrel)

Belomys pearsonii pearsonii (Gray, 1842)

Type Locality. Darjeeling (Dargellan), Sikkim, India.
Comments. Recognized within Sciuropterus by Sclater (1891:37). Transferred to Pteromys at species rank by Anderson (1879:287) and Belomys by Thomas (1908b:2), Ellerman (1940:277), and Ellerman and Morrison-Scott (1951:459). This species was placed in Trogopterus by Corbet and Hill (1992:307) but transferred back to Belomys by Hoffmann et al. (1993:459) and recognized by subsequent authors. Found as fossil deposits from the mid-Pleistocene to Recent throughout Thailand (Chaimanee, 1998:153). Also found in China from the late Pleistocene (Zheng, 1993:264).


Sc.[ciuropterus] villosus Blyth, 1847:866.
Type Locality. Upper Assam (Singpho Country), India.

Belomys pearsonii blandus Osgood, 1932

Belomys pearsoni blandus Osgood, 1932:269.
Type Locality. Muong Moun, south of Lai Chau, Tonkin, Vietnam.
Comments. Synonymized within trichotis by Ellerman and Morrison-Scott (1951:459). Subspecies


**Belomys pearsonii kaleensis** Swinhoe, 1863

*Sciuropterus kaleënsis* Swinhoe, 1863:359.

**Type Locality.** North Taiwan (formerly Formosa), China.


**Belomys pearsonii trichotis** Thomas, 1908

*Belomys trichotis* Thomas, 1908b:7.

**Type Locality.** Machi, Manipur, India.


**Distribution.** Occurs in Yunnan, China, and in Manipur, India (Smith and Xie (2008:175)).

†**Belomys thamkaewi**

Chaimanee and Jaeger, 2000


**Type Locality.** Crystal Cave, Kanchanaburi Province, western Thailand.

**Comments.** Middle to late Pleistocene to late Pleistocene.

**Biswamoyopterus Saha, 1981**


**Type Species.** *Biswamoyopterus biswasi* Saha, 1981:333.

**Biswamoyopterus biswasi** Saha, 1981 (Namdapha flying squirrel)


**Type Locality.** East of Miao, Namdapha, Tirap District, Arunachal Pradesh, Patkai Range, northeast India.

**Comments.** Known only from the holotype location.

**Distribution.** Only known from east of Miao, Namdapha, and Tirap districts in Arunachal Pradesh, India (Corbet and Hill, 1992:314).

†**Blackia Mein, 1970**

†*Blackia Mein, 1970:44.

**Type Species.** †*Blackia miocaenica* Mein, 1970:44.

**Comments.** Early Miocene to Late Pliocene, Europe. Genus recognized within the family Sciuridae by Mein (1970:44), tribe Blackini by de Bruijn et al. (1980:241, 253), subfamily Pteromyinae by McKenna and Bell (1997:127), and the family Petauristidae by de Bruijn (1999:276).

†**Blackia miocaenica** Mein, 1970

†*Blackia miocaenica* Mein, 1970:44.

**Type Locality.** La Grive, France.

**Comments.** Mid-Miocene. Species recognized within †*Blackia* by Daxner-Höck (1975:64; 2004:402) and subsequent authors.

†**Blackia parvula** Baudelot, 1972: page unknown.

**Type Locality.** Sansan, France.

**Comments.** Mid-Miocene. Reference not seen, with information derived from the following sources. Synonymized with †*Blackia miocaenica* by several authors, including Engesser (1972:179), de Bruijn et al. (1980:253), and de Bruijn (1998:105; 1999:276), which was followed by Daxner-Höck (2004:404).

†**Blackia ulmensis** Werner, 1994:166.

**Type Locality.** Ulm-Westtangente, Germany.

†Blackia woelfersheimensis Mein, 1970

†Blackia woelfersheimensis Mein, 1970:47.

Type Locality. Wölfersheim, Germany.

Comments. Pliocene. The validity of this species has been questioned by several authors, who suggest that the type material is insufficiently known to define a separate species from Blackia miocaenica, including Daxner-Höck (1975:65), de Bruijn (1998:105), and Dahnmann (2001:56). Species recognized within †Blackia by de Bruijn (1999:276) and Daxner-Höck (2004:402).

†Blackia polonica Black and Kowalski, 1974:472.

Type Locality. Podlesice, Poland.


Eoglaucomys Howell, 1915


Type Species. Sciuropterus fimbriatus Gray, 1837a:584.

Comments. Recognized by Ellerman (1940:297), but Ellerman (1947:256; 1961:55, 71) and Ellerman and Morrison-Scott (1951:468; 1955:31) reduced Eoglaucomys to a subgenus of Hylopetes. Recognized at genus rank again by Mckenna (1961:76), Ellerman and Morrison-Scott (1951:468), and most subsequent authors. Transferred to Hylopetes as a full species by Chakraborty (1981:58) and Corbet and Hill (1986:154; 1991:145; 1992:317). However, the purported baculum differences with fimbriatus were not great on reexamination by Thorington et al. (1996:71), and it was subsequently lowered to subspecies status by Thorington and Hoffmann (2005:767).

DISTRIBUTION. Northeastern Afghanistan in the Khost and Nangarhar provinces east to the North West Frontier and Federal Control regions of northern Pakistan (Corbet and Hill, 1992:317; Roberts, 1997:323).

Eupetaurus Thomas, 1888

Eupetaurus Thomas, 1888b:256.

Type Species. Eupetaurus cinereus Thomas, 1888b:256.

Comments. The divergent nature of the teeth of this genus compared with all other flying squirrels led Schaub (1953:395; 1958:714) and Grassé and Dekeyser (1955:1496) to place this genus in its own family, the Eupetauridae.

DISTRIBUTION. Restricted to only a few localities on the Himalayas, and appears to consist of two distinct populations. In the western Himalayan region,
this species appears to be restricted to only a few localities between 2400 and 3600 m (8,000–12,000 ft) near Gilgit in the Northern Areas, where its range appears to fall within a small area where the Himalayan, Karakoram, and Hindu Kush mountain ranges meet (Zahler and Woods, 1997:503). A second population in the eastern Himalayas was first reported by Anderson (1879:284), who collected a specimen for the Leiden Museum. Specimens from this subpopulation are also known from Sikkim (northern India), Tibet, and Yunnan (southwestern China) (Agrawal and Chakraborty, 1970:615; Prater, 1980:195; Zhang et al., 1997:156; Wang, 2003:160; Wangchuk et al., 2004:149). This subpopulation has recently been proposed to be a separate species (Yu et al., 2004:735).

†Forsythia Mein, 1970

†Forsythia Mein, 1970:33.

Type Species. †Sciuropterus gaudryi Gaillard, 1899:67.

Comments. Mid-Miocene, Europe. Genus recognized within the family Petauristidae by de Bruijn (1999:275) and subfamily Pteromyinae by McKenna and Bell (1997:127).

†Forsythia gaudryi (Gaillard, 1899)

†Sciuropterus gaudryi Gaillard, 1899:66.

Type Locality. La Grive-Saint Alban (Isere), France.

Comments. Miocene. Species recognized within †Forsythia by de Bruijn (1999:275).

Glaucamys Thomas, 1908

Glaucamys Thomas, 1908b:5.

Type Species. Mus volans Linnaeus, 1758:59.

Comments. Revised by Howell (1918:11). Described as a subgenus of Sciuropterus. Elevated to generic rank by Ellerman (1940:261, 294) and recognized by subsequent authors. Mid-Pleistocene to Recent, North America. Various fossils, unassigned to species, have been found, including those by Ruez (2001:155) from the late Pliocene from Citrus County, Florida, USA.

Mus Linnaeus, 1758 [part]:59.

Type Species. Mus volans Linnaeus, 1758:63.

Comments. Synonymized within Glaucamys by Howell (1918:11).
Pteromys canadensis É. Geoffroy Saint-Hilaire, 1803a:170.
Type Locality. North America, probably Quebec, Canada.

Glaucomys sabrinus alpinus (Richardson, 1828)
Pteromys alpinus Richardson, 1828:519.
Type Locality. Jasper House, Alberta, Canada.

Glaucomys sabrinus bangsi (Rhoads, 1897)
Sciuropterus alpinus bangsi Rhoads, 1897:321.
Type Locality. Idaho County, Idaho, USA.
Glaucomys sabrinus columbiaensis
Howell, 1915

Glaucomys sabrinus columbiaensis Howell, 1915:111.

Type Locality. Okanogan, British Columbia, Canada.


Glaucomys sabrinus flaviventris
Howell, 1915

Glaucomys sabrinus flaviventris Howell, 1915:112.

Type Locality. Head of Bear Creek, Trinity County, California, USA.


Glaucomys sabrinus fuliginosus
(Rhoads, 1897)

Sciuropterus alpinus fuliginosus Rhoads, 1897:321.

Type Locality. Cascade Mountains, near Martin Station, Kittitas County, Washington, USA.


Glaucomys sabrinus fuscus
Miller, 1936

Glaucomys sabrinus fuscus Miller, 1936:143.

Type Locality. Cranberry Glades, Pocahontas County, West Virginia, USA. 1,000 m (3,300 ft).


Glaucomys sabrinus goodwini
Anderson, 1943


Type Locality. Junction Berry Mountain Brook and Grand Cascapedia River, Montane County, Quebec, Canada. 457 m (1,500 ft).


Glaucomys sabrinus gouldi
Anderson, 1943

Glaucomys sabrinus gouldi Anderson, 1943:56.

Type Locality. Frizzleton, Inverness County, Cape Breton Island, Nova Scotia, Canada.


Glaucomys sabrinus griseifrons
Howell, 1934

Glaucomys sabrinus griseifrons Howell, 1934:64.

Type Locality. Lake Bay, Prince of Wales Island, Alaska.


Glaucomys sabrinus klamathensis
(Merriam, 1897)

Sciuropterus alpinus klamathensis Merriam, 1897:225.

Type Locality. Fort Klamath, Klamath County, Oregon, USA.

Comments. Transferred to Glaucomys by Howell (1918:52). Subspecies rank recognized within

**Distribution.** South central Oregon, USA (Wilson and Ruff, 1999:463).

**Glaucomys sabrinus lascivus** (Bangs, 1899)

Sciuropterus alpinus lascivus Bangs, 1899:69.

**Type Locality.** Tallac, El Dorado County, California, USA.


**Distribution.** Sierra Nevada of California, USA (Wilson and Ruff, 1999:463).

**Glaucomys sabrinus latipes** Howell, 1915

Glaucomys sabrinus latipes Howell, 1915:112.

**Type Locality.** Glacier, British Columbia, Canada.


**Glaucomys sabrinus lucifugus** Hall, 1934

Glaucomys sabrinus lucifugus Hall, 1934:1.

**Type Locality.** 19 km (12 mi) east of Kamas, Summit County, Utah, USA.


**Distribution.** Mountains of central and northern Utah, USA (Wilson and Ruff, 1999:463).

**Glaucomys sabrinus macrotis** (Mearns, 1898)

Sciuropterus sabrinus macrotis Mearns, 1898:353.

**Type Locality.** Hunter Mountain (Catskills), Green County, New York, USA. 914 m (3,000 ft).


**Glaucomys sabrinus makkovikensis** (Sornborger, 1900)

Sciuropterus sabrinus makkovikensis Sornborger, 1900:48.

**Type Locality.** Makkovik, Labrador, Newfoundland, Canada.

**Comments.** Subspecies rank recognized by Hall (1981:453), Wells-Gosling and Heaney (1984:1), and Thorington and Hoffmann (2005:768).

**Distribution.** Northeastern Newfoundland and adjacent Quebec, Canada (Wilson and Ruff, 1999:463).

**Glaucomys sabrinus murinauralis** Musser, 1961

Glaucomys sabrinus murinauralis Musser, 1961:120.

**Type Locality.** 1.6 km (1 mi) north of Big Flat Guard Station, Timid Springs, Tushar Mountains, Beaver County, Utah, USA. 3,139 m (10,300 ft).

**Comments.** Subspecies rank recognized by Hall (1981:453), Wells-Gosling and Heaney (1984:1), and Thorington and Hoffmann (2005:768).

**Distribution.** Mountains of southwestern Utah, USA (Wilson and Ruff, 1999:463).

**Glaucomys sabrinus oregonensis** (Bachman, 1839)


**Type Locality.** Columbia County, Oregon, USA.

**Comments.** Transferred to Glaucomys by Howell (1918:44). Subspecies rank recognized within sabrinus by Howell (1918:44), Ellerman (1940:296), Hall and Kelson (1959:408, 410), Hall (1981:453), Wells-Gosling
and Heaney (1984:1), and Thorington and Hoffmann (2005:768).


*Sciuropterus alpinus olympicus* Elliot, 1899:225.

**Type Locality.** Happy Lake, Challam County, Olympic Mountains, Washington, USA. 1,524 m (5,000 ft).

**Comments.** Recognized as a subspecies of *sabrinus* by Howell (1918:34) and Ellerman (1940:297). Synonymized within *sabrinus* by Wells-Gosling and Heaney (1984:1) and within *oregonensis* by Hall and Kelson (1959:410), Hall (1981:453), and Thorington and Hoffmann (2005:768).

**Glaucomys sabrinus reductus** Cowan, 1937

*Glaucomys sabrinus reductus* Cowan, 1937:79.

**Type Locality.** Lonesome Lake, on the Attnarko River, British Columbia, Canada. Approximately 52°10′N, 125°45′W.


**Distribution.** West central British Columbia, Canada (Wilson and Ruff, 1999:463).

*Glaucomys sabrinus stephensi* (Merriam, 1900)

*Sciuropterus oregonensis stephensi* Merriam, 1900:151.

**Type Locality.** Sherwood, Mendocino County, California, USA. 762 m (2,500 ft).


**Distribution.** Northwestern California, USA (Wilson and Ruff, 1999:463).

**Glaucomys sabrinus yukonensis** (Osgood, 1900)

*Sciuropterus yukonensis* Osgood, 1900:25.

**Type Locality.** Cape Davidson, Yukon River, near Alaska-Canada boundary, Yukon, Canada.


**Distribution.** Central and southern Yukon, Canada, and southern and central Alaska, USA (Wilson and Ruff, 1999:463).

**Glaucomys sabrinus zaphaeus** (Osgood, 1905)

*Sciuropterus alpinus zaphaeus* Osgood, 1905:133.

**Type Locality.** Helm Bay, Cleveland Peninsula, southeast Alaska, USA.


**Distribution.** Eastern North America from southern Ontario, southern Quebec, and Nova Scotia, Canada, and Maine, New Hampshire, and Vermont to Massachusetts, Connecticut, New York, Pennsylvania, New Jersey, Maryland, West Virginia, Ohio, Michigan, Indiana, Wisconsin, western Minnesota, Iowa, eastern...

*Sciurus petaurista* Erxleben, 1777:435.

**Type Locality.** A renaming of *Mus volans* Linnaeus, 1758.

**Comments.** Synonymized within *volans* by Dolan and Carter (1977:1).

*Sciurus volucella* Pallas, 1778:353.

**Type Locality.** A renaming of *Mus volans* Linnaeus, 1758.


*Sciurus aërobates* Schreber, 1792: pl. 222B.

**Type Locality.** Unknown.

**Comments.** Date of publication confirmed from Sherborn (1891:590). Synonymized within *volucella* by Fischer (1829:365) and Wagner (1843:216).


**Type Locality.** Virginia, USA.


*Pt.[eromys] americana* Oken, 1816:865.

**Type Locality.** Unknown.


**Type Locality.** Virginia?, USA.


*Sciuropterus silus* Bangs, 1896:163.

**Type Locality.** Katis Mountains, White Sulphur Springs, West Virginia, USA. 975 m (3,200 ft).


*Pteromys volans nebrascensis* Swenk, 1915:151.

**Type Locality.** Nebraska City, Otoe County, Nebraska, Canada.

**Comments.** Synonymized within *volans* by Howell (1918:20), Hall and Kelson (1959:407), Hall (1981:449), and Thorington and Hoffmann (2005:768).

**Glaucymys volans chontali** Goodwin, 1961

*Glaucymys volans chontali* Goodwin, 1961:3.

**Type Locality.** Santo Domingo, Chontecomatlén, District of Yautepec, Oaxaca, Mexico.


*Glaucymys volans goldmani* (Nelson, 1904)


**Type Locality.** Southeast of Teopisca, Chiapas, Mexico.


**Distribution.** Highlands of Chiapas, Mexico (Wilson and Ruff, 1999:465).

*Glaucymys volans guerreroensis* Diersing, 1980

*Glaucymys volans guerreroensis* Diersing, 1980:162.

**Type Locality.** Omilteme, Guerrero, Mexico.

**Comments.** Subspecies rank not recognized by Wilson and Ruff (1999:465) but recognized by Thorington and Hoffmann (2005:768).

**Distribution.** Guerrero, Mexico (Diersing, 1980:162).

*Glaucymys volans herreranus* Goldman, 1936

*Glaucymys volans herreranus* Goldman, 1936:463.

**Type Locality.** Mountains of Vera Cruz, Mexico.

**Distribution.** Higher elevations in parts of Tamaulipas, San Luis Potosi, Veracruz, Oaxaca, Queretaro, and Michoacan, Mexico (Wilson and Ruff, 1999:465).

**Glaucomys volans madrensis** Goldman, 1936

*Glaucomys volans madrensis* Goldman, 1936:463.

**Type Locality.** Sierra Madre, Chihuahua, Mexico.


**Distribution.** Sierra Madre Occidental, Chihuahua, Mexico (Wilson and Ruff, 1999:465).

**Glaucomys volans oaxacensis** Goodwin, 1961

*Glaucomys volans oaxacensis* Goodwin, 1961:11.

**Type Locality.** San Pedro Jilotepec, District of Tehuantepec, Oaxaca, Mexico.


**Distribution.** Higher elevations in parts of Guerrero and Oaxaca, Mexico (Wilson and Ruff, 1999:465).

**Glaucomys volans querceti** (Bangs, 1896)

*Sciuropterus volans querceti* Bangs, 1896:166.

**Type Locality.** Cintronelle, Citrus County, Florida, USA.


**Distribution.** Highlands of central Guatemala and Honduras (Wilson and Ruff, 1999:465).

**Glaucomys volans saturatus** Howell, 1915


**Type Locality.** Dothan, Houston County, Alabama, USA.


**Glaucomys volans texensis** Howell, 1915


**Type Locality.** Sour Lake, Hardin County, Texas, USA.


**Distribution.** Western Louisiana and eastern Texas, USA (Wilson and Ruff, 1999:465).

**Glaucomys volans underwoodi** Goodwin, 1936

*Glaucomys volans underwoodi* Goodwin, 1936:1.

**Type Locality.** Zambrano, Tegucigalpa, Honduras. 1,372 m (4,500 ft).


**Distribution.** Highlands of central Guatemala and Honduras (Wilson and Ruff, 1999:465).

**Hylopetes** Thomas, 1908

*Hylopetes** Thomas, 1908b:6.

**Type Species.** *Sciuropterus everetti* Thomas, 1895c:27.

Comments. Described as a subgenus of *Sciuropterus*. Recognized as a subgenus of *Pteromys* by Allen (1940:722), but separated as a distinct genus by Pocock (1923:246) and subsequent authors. Ellerman (1947:256) included *Eoglaucomys* as a subgenus within *Hylopetes*, but it was separated as a distinct genus by McKenna (1962:9), Thorington et al. (1996:69), and
subsequent authors. Late Miocene to Recent, Asia; early Pliocene, Europe; Recent, SE Asia. Two teeth assigned by Werner (1994:161) to *Heteroxerus lavocati* were considered to be reminiscent of *Hylopetes* by de Bruijn (1998:107).

**Hylopetes alboniger** (Hodgson, 1836)  
**(particolored flying squirrel)**

**Hylopetes alboniger alboniger** (Hodgson, 1836)


Type Locality. **Nepal.**

Comments. Recognized within *Sciuropterus* by Sclater (1891:37). Transferred to *Pteromys* by Anderson (1879:298) and *Hylopetes* by Thomas (1908b:6) and followed by most subsequent authors, except Allen (1925:15; 1940:723), who included it within *Pteromys* (*Hylopetes*).


Type Locality. **India.**

Comments. This taxon was also described by Gray (1837a:584). Synonymized within *alboniger* by Ellerman and Morrison-Scott (1951:469), Ellerman (1961:65), Corbet and Hill (1992:316), and Thorton and Hoffmann (2005:768).

*Sciuróptera turnbullii* Gray, 1837a:584.

Type Locality. **India.**

Comments. This taxon was also described in Gray (1837b:68). Synonymized within *alboniger* by Ellerman and Morrison-Scott (1951:469), Ellerman (1961:65), Corbet and Hill (1992:316), and Thorton and Hoffmann (2005:768).

*Pteromys* (Hylopetes) *leonardi* Thomas, 1921:501.

Type Locality. **Kachin Province, north Burma.** 2,438 m (~8,000 ft). 28°5′N, 97°23′E.


**Hylopetes alboniger chianfengensis**  
Wang and Lu, 1966


Type Locality. Chianfeng Mountain, Hainan Island, China.

Comments. Description of this species was identified as being only by the second and third authors. Subspecies rank recognized by Corbet and Hill (1992:316), Zhang et al. (1997:156), Wang (2003:161), and Thorington and Hoffmann (2005:768).


**Hylopetes alboniger orinus** (G. Allen, 1940)

*Pteromys* (Hylopetes) *alboniger orinus* G. Allen, 1940:723.

Type Locality. **Likiang Range, Yunnan, China.** 2,377 m (~7,800 ft).


**Hylopetes bartelsi** (Chasen, 1939)  
**(Bartel’s flying squirrel)**

*Petinomys bartelsi* Chasen, 1939:185.

Type Locality. **Tjilondong, Mount Pangrango, west Java, Indonesia.** 900 m (2,953 ft).


Distribution. Known only from the type locality in western Java (Chasen, 1939:185; Corbet and Hill, 1992:317).
**Hylopetes nigripes** (Thomas, 1893)  
(Palawan flying squirrel)

**Hylopetes nigripes nigripes** (Thomas, 1893)

*Sciuropterus nigripes* Thomas, 1893:30.

**Type Locality.** Puerta Princesa, Palawan Island, Philippines.

**Comments.** Transferred to *Hylopetes* by Thomas (1908b:6). Corbet and Hill (1992:317) noted that despite its very isolated geographical position this species seems very similar to *H. alboniger*, and it is doubtful if its separation can be justified.


**Hylopetes nigripes elassodontus**  
(Osgood, 1918)

*Sciuropterus nigripes elassodontus* Osgood, 1918:1.

**Type Locality.** Bancalan Island, North Balabac Strait, Philippines.

**Comments.** Subspecies rank recognized within *nigripes* by Ellerman (1940:300), Corbet and Hill (1992:317), and Thorington and Hoffmann (2005:769).


**Hylopetes phayrei** (Blyth, 1859)  
(Indochinese flying squirrel)

**Hylopetes phayrei phayrei** (Blyth, 1859)

*Scius (Sciuropterus) phayrei* Blyth, 1859:278.

**Type Locality.** Rangoon, Merqui, Burma.

**Comments.** Transferred to *Hylopetes* by Thomas (1908b:6) and followed by subsequent authors. Wang (2003:161) also included a southern China form from Guizhou, Guangxi, and Fujian provinces. Has been recorded as a fossil from several localities throughout Thailand from the late Pliocene to Recent (Chaimanee, 1998:168). Fossils recorded from Wazhuwan and Tianmem in Thailand from 0.5–0.1 mya to Recent (Zheng, 1993:265).


*Sciuropterus phayrei probus* Thomas, 1914a:27.

**Type Locality.** Mount Popa, Burma. 910 m (3,000 ft).


*Sciuropterus phayrei laotum* Thomas, 1914a:28.

**Type Locality.** Laos Mountains, northern Thailand.


**Type Locality.** Mount Angka, northern Thailand. 1,310 m (4,300 ft).

**Comments.** Subspecies rank recognized within *phayrei* by Ellerman and Morrison-Scott (1951:469). Synonymized within *phayrei* by Corbet and Hill (1992:317) and Thorington and Hoffmann (2005:769).

**Hylopetes phayrei electilis** (G. Allen, 1925)

*Pteromys (Petinomys) electilis* G. Allen, 1925:16.

**Type Locality.** Nam Fong, Hainan Island, China.


**Distribution.** Hainan Island, China (Corbet and Hill, 1992:317).

*Hylopetes platyurus* (Jentink, 1890)  
(grey-cheeked flying squirrel)

*Sciuropterus platyurus* Jentink, 1890a:147.

**Type Locality.** Deli, northeast Sumatra.

**Comments.** Transferred to *Hylopetes* by Thomas (1908b:6) and followed by Chasen (1940:118) and Ellerman (1940:299). Included in *lepidus* by Corbet

**Distribution.** Southernmost provinces of Thailand (and Terutau Island), Malay Peninsula, Borneo (within Sabah and Sarawak), and Indonesia, including Bunguran Island (Natuna Islands) and Sumatra (Payne et al., 1985:248; Lekagul and McNeely, 1988; Corbet and Hill, 1992:316; Thorington and Hoffmann, 2005:769; Francis, 2008:345; Rasmussen and Thorington, 2008:1303).

*Hylopetes sagitta* (Linnaeus, 1766)  
*(arrow-tailed flying squirrel)*

*Hylopetes sagitta sagitta* (Linnaeus, 1766)  


**Type Locality.** Java, Indonesia.

**Comments.** There are two original specimens, one now in the Naturhistoriska Riksmuseet in Stockholm and the other in the Evolutionsmuseet, University of Upsala (A. Gentry, personal communication). Taxon was transferred to *Sciuropterus* by Sclater (1891:37) and *Petinomys* by Ellerman and Morrison-Scott (1955:31), Corbet and Hill (1986:155), and Thorington and Hoffmann (2005:773). Placed in *Hylopetes* by Chasen (1940:116), Ellerman (1940:299), Hubbs et al. (1953:518), and Medway (1965:113). Medway (1965:112) considered it inadvisable to synonymize *sagitta* and *genibarbis* until the relationship has been certainly established. Corbet and Hill (1992:318) considered *sagitta* as incertae sedis and placed it within *Petinomys genibarbis*. It was synonymized within *lepidus* by Lekagul and McNeely (1988:384) and Hoffmann et al. (1993:461). Synonymized within *lepidus* by Rasmussen and Thorington (2008, 1303). Recent observations of the type specimen of *sagitta* by A. Gentry (pers. comm.) and by the second author (RWT) show that it is the same species as *lepidus*.

**Distribution.** Java, Indonesia (Corbet and Hill, 1992:316). This species potentially occurs on Borneo; Rasmussen and Thorington (2008:1303), however, suggest that these records probably refer to *Hylopetes platyurus*.

*Pteromys lepidus* Horsfield, 1824:173, unnumbered plate.

**Type Locality.** Java, Indonesia.

**Comments.** Not *lepidus* of Lyon (1911:78). Species rank recognized within *Hylopetes* by Ellerman (1940:299; 1961:57) but synonymized within *sagitta* by Chasen (1940:116). Species revived by Ellerman and Morrison-Scott (1955:31) and reviewed by Hill (1962:730), who recognized *lepidus* as a species that included *aurantiacus* and *platyurus* as subspecies. Separated from *sagitta* as a distinct species by Medway (1965:113; 1969:63; 1977:104) and subsequent authors. Species rank recognized by Rasmussen and Thorington (2008:1296) with *aurantiacus* as a subspecies.

*Hylopetes sagitta aurantiacus* Wagner, 1841

*Pteromys aurantiacus* Wagner, 1841a:438.

**Type Locality.** Bangka Island, east of Sumatra, Indonesia.

**Comments.** Also described in Wagner (1841b:135). Transferred to *Hylopetes* at species rank by Thomas (1908b:6) and followed by Sody (1937:238) and Ellerman (1940:299). Recognized as a subspecies of *sagitta* by Chasen (1940:117) and *lepidus* by Hill (1962:730), but synonymized within *lepidus* by Corbet and Hill (1992:316) and Hoffmann et al. (1993:461). Placed as a synonym of *spadiceus* by Thorington and Hoffmann (2005:769) and as a subspecies of *lepidus* by Rasmussen and Thorington (2008:1303).

**Distribution.** Bangka Island, east of Sumatra, Indonesia.

*Hylopetes sipora* Chasen, 1940  
*(Sipora flying squirrel)*

*Hylopetes sagitta sipora* Chasen, 1940:117.

**Type Locality.** Sipora Island, Mentawai Islands, west Sumatra, Indonesia.

**Comments.** Has been the subject of considerable debate as reviewed by Hill (1962:731). Formerly included in *spadiceus* by authors, including Hill (1960:43), but not recognized by Corbet and Hill (1980:137; 1986:154). Given species rank by Hill (1962:731), who noted that an adult specimen is needed to clarify the status of this taxon. Recognized by Corbet and Hill (1991:145; 1992:316) and subsequent authors.

**Distribution.** Sipora Island, Mentawai Islands, west of Sumatra (Corbet and Hill, 1992:316).

*Hylopetes spadiceus* (Blyth, 1847)  
*(red-cheeked flying squirrel)*

*Hylopetes spadiceus spadiceus* (Blyth, 1847)

**Type Locality.** Arakan, Burma.
**Comments.** Recognized within *Sciuropterus* by Sclater (1891:37). Transferred to *Pteromys* by Anderson (1879:300) and *Hylopetes* by Thomas (1908b:6) and most subsequent authors. Recognized as a subspecies of *sagitta* by Chasen (1940:118). Formerly included *sipora*, but this was separated by Hill (1962:731). Corbet and Hill (1980:137; 1986:154) listed *spadiceus* in lepidus, without comment, which appeared to be followed by Lekagul and McNeely (1988:384). Recognized within *Hylopetes* by Ellerman (1940:299), Medway (1969:63), Agrawal and Chakraborty (1979a:345), Corbet and Hill (1992:315), and subsequent authors. Has been recorded as a fossil from several localities throughout Thailand from the late Pliocene to Recent (Chaimanee, 1998:165).

**Distribution.** Southeastern Burma, western and southern Thailand, western Cambodia to southernmost Malay Peninsula, Singapore, southeastern Vietnam, and small islands, including Con Son Island (Vietnam), Terutau Island (Strait of Malacca, Thailand), and Kundur Island (Natuna Islands) in Indonesia (Corbet and Hill, 1992:315; Meijaard, 2003:1256; Francis, 2008:154).

*Sciuropterus amoenus* Miller, 1906b:264.

**Type Locality.** Kundur Island, Riau Islands, Indonesia.


*Sciuropterus (Hylopetes) belone* Thomas, 1908c:305.

**Type Locality.** Terutau Island, northern Strait of Malacca, Thailand.


*Hylopetes spadiceus everetti* Thomas, 1895

*Sciuropterus everetti* Thomas, 1895c:27.

**Type Locality.** Bunguran Island, Natuna Islands, Indonesia.


**Distribution.** Sabah, Brunei, and Sarawak in northwest Borneo. Also occurs on Bunguran Island, Natuna Islands (Payne et al., 1985:248; Corbet and Hill, 1992:315).


**Type Locality.** Boeloengan district, northeast Borneo.


*Sciuropterus harrisoni* Stone, 1900:462.

**Type Locality.** Menbuang River, Sarawak, Borneo.

**Comments.** Recognized as a species within *Hylopetes* by Ellerman (1940:299) and subspecies of *sagitta* by Chasen (1940:116). Synonymized within *spadiceus* by Corbet and Hill (1992:315) and Thorington and Hoffmann (2005:769), and within *everetti* by Medway (1965:115; 1977:105) and Rasmussen and Thorington (2008:1303).

*Hylopetes spadiceus sumatrae* Sody, 1949

**Type Locality.** Redelong, east Atjeh, northern Sumatra, 1,300 m (4,265 ft).

**Comments.** Synonymized within *spadiceus* by Corbet and Hill (1992:315) and Thorington and Hoffmann (2005:769), and within *everetti* by Medway (1965:115; 1977:105) and Rasmussen and Thorington (2008:1303).

*Hylopetes spadiceus sumatrae* Sody, 1949:71.

**Type Locality.** Redelong, east Atjeh, northern Sumatra, 1,300 m (4,265 ft).

**Comments.** Synonymized within *spadiceus* by Corbet and Hill (1992:315) and Thorington and Hoffmann (2005:769), but recognized as a subspecies of *spadiceus* by Hill (1962:729) and Rasmussen and Thorington (2008:1303).

**Distribution.** Sumatra (Corbet and Hill, 1992:315).
**Hylopetes winstoni** (Sody, 1949)  
(Sumatran flying squirrel)

*Iomys winstoni* Sody, 1949:75.

**Type Locality.** Baleq, eastern Atjeh, northern Sumatra, Indonesia. 1,200 m (3,936 ft).


**Distribution.** Known only from the type locality in Aceh, northern Sumatra, at 1,200 m (3,936 ft) (Corbet and Hill, 1992:317).

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**Iomys Thomas, 1908**

*Iomys* Thomas, 1908b:1.

**Type Species.** *Pteromys horsfieldi* Waterhouse, 1838b:87.

**Comments.** Formerly included *winstonii* but this was placed in *Hylopetes* by Corbet and Hill (1992:317). Pleistocene to Recent, SE Asia.

**Iomys horsfieldi** (Waterhouse, 1838)  
(Javanese flying squirrel)

**Iomys horsfieldi horsfieldi** (Waterhouse, 1838)

*Pteromys* (*Sciuropterus*) *horsfieldi* Waterhouse, 1838b:87.

**Type Locality.** Either from Java or Sumatra. Restricted by Chasen (1940:114) to Sumatra.

**Comments.** Transferred to *Iomys* by Thomas (1908b:2) and followed by most subsequent authors, including Ellerman (1940:303), Corbet and Hill (1992:314), and (Thorington and Hoffmann (2005:770). Formerly included *sipora* and *winstonii* (Corbet and Hill, 1980:138). Found as a fossil in peninsular Thailand from mid-Pleistocene to Recent (Chaimanee, 1998:157).

**Distribution.** Java and Sumatra, Indonesia (Corbet and Hill, 1992:314).

**Iomys horsfieldi davisoni** (Thomas, 1886)

*Sciuropterus davisoni* Thomas, 1886a:74, pl. 6.

**Type Locality.** Malacca, Malay Peninsula.

**Comments.** Also described in Thomas (1886b:84). Recognized as a species within *Iomys* by Thomas (1908b:2) and as a subspecies of *horsfieldi* by Chasen (1940:114), Ellerman (1940:303), Medway (1969:65), Corbet and Hill (1992:315), and Thorington and Hoffmann (2005:770).


**Iomys horsfieldi penangensis** Chasen, 1940

*Iomys horsfieldii penangensis* Chasen, 1940:115.

**Type Locality.** Penang Island (Penang), Malaysia.

**Comments.** Recognized as a subspecies of *horsfieldi* by Medway (1969:65), Corbet and Hill (1992:315), and Thorington and Hoffmann (2005:770).

**Distribution.** Penang Island, Malaysia.

**Iomys horsfieldi thomsoni** (Thomas, 1900)

*Sciuropterus thomsoni* Thomas, 1900a:275.

**Type Locality.** Bakong River, Baram District, eastern Sarawak, Borneo.

**Comments.** Recognized as a species within *Iomys* by Thomas (1908b:2) and as a subspecies of *horsfieldi* by Chasen (1940:115), Ellerman (1940:303), Medway (1965:110; 1977:101), Corbet and Hill (1992:315), and Thorington and Hoffmann (2005:770).

**Distribution.** Borneo, known from scattered localities throughout the west, up to 1,676 m (5,500 ft) on Gunung Kinabalu in Sabah south to Brunei in Sarawak and Batu Jurog in west Kalimantan. Also, one recorded from Sandakan, but none from east, south, or central Kalimantan. Most records are from lowlands and hills. Also recorded from the Kelabit uplands in Sarawak and up to 1800 m on Gunung Kinabalu (Allen and Coolidge, 1940:152; Medway, 1963:111; Payne et al., 1985:245).

**Iomys lepidus** Lyon, 1911:78.

**Type Locality.** Batu Jurog, southwestern Borneo.


**Iomys sipora** Chasen and Kloss, 1927  
(Mentawai flying squirrel)

**Type Locality.** Sipora Island, off west Sumatra, Indonesia.

**Comments.** Recognized as a subspecies of *Iomys horsfieldi* by Chasen (1940:115) and Ellerman (1940:303), but separated as a distinct species by Corbet and Hill (1991:146; 1992:315) and subsequent authors.

**Distribution.** Sipora Island and northern Pagai Island in Mentawai Islands west of Sumatra, Indonesia (Corbet and Hill, 1992:315).

†**Meinia Qiu, 1981**


**Type Species.** *Meinia asiatica* Qiu, 1981:229.

**Comments.** Mid-Miocene, east Asia. Genus recognized within the subfamily Pteromyinae by McKenna and Bell (1997:128).

†**Meinia asiatica** Qiu, 1981


**Type Locality.** Shanwang, Linqu, Shandon, China.

**Comments.** Mid-Miocene.

†**Miopetaurista** Kretzoi, 1962


**Type Species.** *Sciurus gibberosus* Hofmann, 1893:42.

**Comments.** Early Miocene to early Pliocene, Europe; mid-Miocene, west Asia; late Pliocene, North America. Genus recognized within the subfamily Pteromyinae by McKenna and Bell (1997:127) and the family Petauristidae by de Bruijn (1999:276).


**Type Locality.** Can Ponsich, Spain.

**Comments.** Species recognized within † *Miopetaurista* by Daxner-Höck and Mein (1975:76), de Bruijn (1995:96), and Daxner-Höck (2004:392).

†**Miopetaurista crusafonti** (Mein, 1970)


**Type Locality.** Wintershof West, Germany.

**Comments.** Early Miocene. Species recognized as a subspecies of *Albanensia albanensis* Placed within † *Miopetaurista* until Daxner-Höck (2004:392) gave it page priority over *gibberosus*.

†*Miopetaurista goeriachensis* (Hofmann, 1893)

†*Sciurus goeriachensis* Hofmann, 1893:41.

**Type Locality.** Göriach, Austria.

**Comments.** Mid-Miocene. Not recognized within † *Miopetaurista* until Daxner-Höck (2004:392) gave it page priority over *gibberosus*.

†*Sciurus gibberosus* Hofmann, 1893:42.

**Type Locality.** Göriach, Austria.


†**Miopetaurista diescalidus** Daams, 1977

†*Miopetaurista diescalidus* Daams, 1977:356.

**Type Locality.** Bunol, Spain.

**Comments.** Mid-Miocene. The type material of this proposed species is so poorly preserved that it has been considered insufficiently characteristic to define the species (de Bruijn et al., 1980:251). It was subsequently considered a nomen dubium by de Bruijn (1999:276).

†**Miopetaurista goeriachensis** Mein, 1970


**Type Locality.** La Grive, France.


†**Miopetaurista albanensis** (Mein, 1958)


†*Miopetaurista crusafonti* (Mein, 1970)


**Type Locality.** Vieux Collonges, France.

**Comments.** Early to middle Miocene. Species recognized within † *Miopetaurista* by Daxner-Höck

†Miopetaurista neogrivensis (Mein, 1970)
†Cryptopterus neogrivensis Mein, 1970:27.
  **Type Locality.** La Grive, France.

†Miopetaurista thaleri (Mein, 1970)
†Cryptopterus thaleri Mein, 1970:29.
  **Type Locality.** Marnes Celleneuve, Herault, France.
  **Comments.** Pliocene. Species recognized within †Miopetaurista by Daxner-Höck and Mein (1975:76), de Bruijn (1995:96; 1999:276), and Dahlmann (2001:52).

†Miopetaurista webbi (Robertson, 1976)
†Cryptopterus webbi Robertson, 1976:147.
  **Type Locality.** Alachua County, Florida, USA.
  **Comments.** Late Pliocene.

†Neopetes Daxner-Höck, 2004
†Neopetes Daxner-Höck, 2004:387, 393.
  **Type Species.** †Hylopetes hoeckarum de Bruijn, 1998:107.

†Neopetes debruijni (Reumer and Hoek Ostende, 2003)
†Hylopetes debruijni Reumer and Hoek Ostende, 2003:455, 457.
  **Type Locality.** Tegelen, province of Limburg, Netherlands.


†Neopetes hoeckarum (de Bruijn, 1998)
  **Type Locality.** Oberdorf, Austria.

†Neopetes macedoniensis (Bouwens and de Bruijn, 1986)
†Hylopetes macedoniensis Bouwens and de Bruijn, 1986:113, 119.
  **Type Locality.** Maramena, Greece.

†Oligopetes Heissig, 1979
†Oligopetes Heissig, 1979:154.
  **Type Species.** †Oligopetes radialis Heissig, 1979:155.
  **Comments.** Lower to middle Oligocene, Mediterranean. Early Oligocene, Europe. Genus recognized within the subfamily Pteromyinae by McKenna and Bell (1997:127) and the family Petauristidae by de Bruijn (1999:276).

†Oligopetes lophulus Heissig, 1979
†Oligopetes lophulus Heissig, 1979:157.
  **Type Locality.** Schelklingen, Germany.
  **Comments.** Lower to middle Oligocene. Has also been found in Olalla, Spain, and Kavakdere, Turkey, from the Oligocene (de Bruijn and Ünay, 1989:140, 142). Species rank recognized by de Bruijn and Ünay (1989:140).

†Oligopetes obtusus Heissig, 1979
†Oligopetes obtusus Heissig, 1979:158.
  **Type Locality.** Möhren, Germany.
  **Comments.** Lower to middle Oligocene. Has also been found in Kavakdere, Turkey, from the Oligocene (de Bruijn and Ünay, 1989:142). Species recognized within Oligopetes by de Bruijn (1999:276).
†Oligopetes radialis Heissig, 1979

†Oligopetes radialis Heissig, 1979:155.

Type Locality. Möhren, Germany.

Comments. Lower to middle Oligocene. Has also been found in Hoogbutsel, Belgium, from the Oligocene (de Bruijn and Ünay, 1989:140). Species recognized within Oligopetes by de Bruijn (1999:276).

†Parapetarista Qiu and Liu, 1986


Type Species. †Parapetarista tenurugosa Qiu and Liu, 1986:195.


†Parapetarista tenurugosa Qiu and Liu, 1986


Type Locality. Songlinzhuang, Xiacaowan, Jiangsu, China.

Comments. Mid-Miocene.

Petaurillus Thomas, 1908

Petaurillus Thomas, 1908b:3.

Type Species. Sciuropterus hosei Thomas, 1900a:275.

Petaurillus emiliae Thomas, 1908

(lesser pygmy flying squirrel)

Petaurillus emiliae Thomas, 1908b:8.

Type Locality. Baram, eastern Sarawak, Borneo.

Comments. Known only from two specimens collected in 1901 (Corbet and Hill, 1992:320).

Distribution. Known only from the type locality where one adult male and female were collected in the Baram district, eastern Sarawak, Borneo in 1901 (Corbet and Hill, 1992:320).

Petaurillus hosei (Thomas, 1900)

(Hose’s pygmy flying squirrel)

Sciuropterus hosei Thomas, 1900a:275.

Type Locality. Toyut River, Baram District, eastern Sarawak, Borneo.

Comments. Transferred to Petaurillus by Thomas (1908b:3) and followed by subsequent authors.

Distribution. Known from western and northern Borneo at a few lowland sites, including the type locality at S. Toyut, Baram district; Sepilok in Sabah; Tasek Merimbun in Brunei; and the Baram district and Niah in Sarawak (Medway, 1965:110; Payne et al., 1985:245).

Petaurillus kinlochii

(Robinson and Kloss, 1911)

(Selangor pygmy flying squirrel)

Sciuropterus (Petaurillus) kinlochii Robinson and Kloss, 1911:171.

Type Locality. Kapar, Selangor, Malay Peninsula.


Distribution. Only known from Selangor, Malay Peninsula (Medway, 1969:63).

Petaurista Link, 1795

Petaurista Link, 1795:52, 78.

Type Species. Sciurus petaurista Pallas, 1766:54.

Comments. Genus resurrected by Thomas (1897:1015), who used this taxon for all large flying squirrels, except Eupetaurus, and Sciuropterus for all smaller species. Early Pleistocene to Recent, Asia; Recent, Southeast Asia. Significant uncertainty exists over the taxonomic placement and distribution of many taxa within this genus, and a revision of the entire genus is urgently needed.


Petaurista Latreille, 1827:400, leaf beetles of the class Insecta (order Coleoptera, family Chrysomelidae). Genus is a synonym of Lema (Fabricius, 1798:4).
Petaurista Reichenbach, 1862:105, guenon monkeys of the class Mammalia (order Primates, family Cercopithecidae). Genus is a junior synonym of *Cercopithecus* (Linnaeus, 1758:26).

*Schoinobates* Lesson, 1842:190.

**Type Species.** *Pteromys leucogenys* Temminck, 1827:xxvii.

**Comments.** This name was originally placed with the marsupial gliders as a subgenus of *Petaurus*. *Schoinobates* (Lesson, 1842) is therefore a junior subjective synonym of *Petaurista* (Link, 1795). See comments under *Schoinobates* (Iredale and Troughton, 1934:28).


**Type Species.** *Petauria helleri* Dehm, 1962:39.

**Comments.** Mid-Pleistocene, Europe. Doubt was cast on this genus by Thorington et al. (2005:958), who proposed that it should be considered a synonym of *Petaurista*.

*Petaurista albiventer* (Gray, 1834)

*(white-bellied giant flying squirrel)*

*Petaurista albiventer albiventer* (Gray, 1834)

**Type Locality.** Nepal.


**Distribution.** Northeastern Afghanistan (probably Konar, Badakhshan, and Laghman provinces); Kohistan and Punjab provinces, northern Pakistan; Punjab State, northern India; and Nepal. North of the Ganges in the western Himalayas in India. Also occurs in southeastern Tibet and western Yunnan Province, China (Ellerman, 1961:53; Corbet and Hill, 1992:310; Roberts, 1997:315; Wang, 2003:157; Smith and Xie, 2008:179).


**Type Locality.** Northern India.


†*Petaurista* birrelli Wroughton, 1911:1014, 1019.

**Type Locality.** Murree, Hazara, Punjab Province, Pakistan.


†*Petaurista* fulvinus Wroughton, 1911:1014, 1021.

**Type Locality.** Shimla, Punjab State, India.


**Type Locality.** Chayu, southeastern Tibet.

**Comments.** Type locality and year of printing of publication confirmed as 2003 by Wang Yingxiang (Kunming Institute of Zoology, China; personal communication), although the book records the year of publication as 2002. Name not considered by subsequent authors. The status of the taxon needs to be confirmed.

*Petaurista albiventer* barroni Kloss, 1916

**Type Locality.** Hup Bon, near Sriracha, southeast Thailand.

**Comments.** Recognized as a subspecies of *annamensis* by Ellerman (1940:287) and *alborufus* by Ellerman and Morrison-Scott (1951:464) and Lekagul and McNeely (1988:380). Synonymized within *Petaurista petaurista* by Corbet and Hill (1992:309) and made a
synonym of *albiventer* (which was placed within *Petaurista petaurista*) by Thorington and Hoffmann (2005:772). The taxonomic status of this taxon needs to be confirmed.

**Distribution.** North to at least Phitsanulok in the north to southeast Thailand. Exact distribution unknown (Lekagul and McNeely, 1988:380).

*Petaurista alborufus* (Milne-Edwards, 1870)  
(red and white giant flying squirrel)

*Petaurista alborufus* 
(Milne-Edwards, 1870)


**Type Locality.** Moupin, Sichuan, China.


**Distribution.** Western Sichuan, Shaanxi, and Gansu provinces, China (Zhang et al., 1997:152; Smith and Xie, 2008:177). Fossil specimens allocated to this species have been discovered from various localities in China from the late Pleistocene to Recent (Zheng, 1993:264). These include mid-Pleistocene mammalian fauna of Shanyangzhai cave in Qinhuangdao, Hebei Province, China (Zhang et al., 2010:75).

*Petaurista alborufus candidula* 
Wroughton, 1911


**Type Locality.** Kindat, Upper Chindwin, western Burma.

**Comments.** Species rank recognized by Ellerman (1940:287). Recognized as a subspecies of *alborufus* by Ellerman and Morrison-Scott (1951:463), Ellerman (1961:28, 36), Yin (1967:223), Agrawal and Chakraborty (1979a:337), Day (1988:81), and Lekagul and McNeely (1988:380). Subspecies rank recognized within *petaurista* by Corbet and Hill (1992:309) and Thorington and Hoffmann (2005:772). The color of this taxon, both dorsally and ventrally, is clearly different from other *P. petaurista*, so it has been included within *P. alborufus*.

**Distribution.** Burma and northern Thailand (Francis, 2008:150).

*Petaurista taylori* Thomas, 1914b:205.

**Type Locality.** Bankasun, southern Tenasserim, Burma.

**Comments.** Species rank recognized by Ellerman (1940:288) and Yin (1967:224). Reduced to a synonym within *Petaurista alborufus candidulus* by Ellerman and Morrison-Scott (1951:463). Synonymized within *Petaurista petaurista* by Corbet and Hill (1992:309). Subspecies rank recognized within *petaurista* by Thorington and Hoffmann (2005:772). The color of this taxon, both dorsally and ventrally, is different from other *petaurista* so it has been returned to *alborufus* as a synonym of *candidula*, but further studies are needed to confirm this placement.

*Petaurista alborufus castaneus* Thomas, 1923

*Petaurista alborufus castaneus* Thomas, 1923b:172.

**Type Locality.** Ichang, Hubei, Middle Yangtsekiang, China.


**Distribution.** Eastern Sichuan, Shaanxi, Chongqing, Hubei, Guizhou, Hunan, and Yunnan provinces, China (Corbet and Hill, 1992:312; Zhang et al., 1997:152; Smith and Xie, 2008:177).

*Petaurista alborufus leucocephalus* 
(Hilzheimer, 1906)

Pteromys *alborufus* [sic] *leucocephalus* Hilzheimer, 1906:298.

**Type Locality.** Tibet?


**Distribution.** Tibet and Bhutan, south into Assam (India) and east to northern Burma (Corbet and Hill, 1992:312).
**Petaurista alborufus ochraspis Thomas, 1923**

*Petaurista alborufus ochraspis* Thomas, 1923b:172.

**Type Locality.** Likiang Range, northwest Yunnan, China.


**Distribution.** Likiang Range, Yunnan and Guangxi provinces, China (Corbet and Hill, 1992:312; Zhang et al., 1997:152; Smith and Xie, 2008:177).

**†Petaurista brachyodus** (Young, 1934)

†*Pteromys brachyodus* Young, 1934:44.

**Type Locality.** Koloshan Sichuan, northern China.


**Petaurista caniceps** (Gray, 1842)

*(gray-headed giant flying squirrel)*

**Petaurista caniceps caniceps** (Gray, 1842)

*Sciuropterus caniceps* Gray, 1842:262.

**Type Locality.** Nepal.

**Comments.** Transferred to *Pteromys* at species rank by Anderson (1879:287) and *Petaurista* by Ellerman (1940:288). Synonymized within *elegans* by Lekagul and McNeely (1988:377). Reduced to a subspecies of *elegans* by Ellerman and Morrison-Scott (1951:461) and most subsequent authors, including Mitchell (1979:22) and Thorington and Hoffmann (2005:771). Recognized as distinct species by Corbet and Hill (1992:312) and Smith and Xie (2008:177). Wang (2003:156) also recognize a Hubei form. Two undescribed forms have been recorded from Guangxi and Hunan and from Hubei, Shaanxi, and Gansu (Wang 2003:156).


**Petaurista caniceps clarkei** Thomas, 1922

*Petaurista clarkei* Thomas, 1922b:396.

**Type Locality.** Mekong Valley, Yunnan Province, China. 2,743–3,048 m (9,000–10,000 ft).


**Distribution.** Yunnan, Sichuan, and Guizhou provinces, China (Smith and Xie, 2008:178), and northern Burma (Zhang et al., 1997:154).

**Petaurista caniceps gorkhali** (Lindsay, 1929)

*Sciuropterus gorkhali* Lindsay, 1929:566.

**Type Locality.** Apoon Sottidanda, Gorkha, Nepal. 3,658 m (12,000 ft).


**Distribution.** Gorka region in central Nepal and adjacent southern Tibet (Corbet and Hill, 1992:312; Zhang et al., 1997:154; Smith and Xie, 2008:178).

**Petaurista caniceps sybilla**

Thomas and Wroughton, 1916


**Type Locality.** Near Kindat, Chin Hills, western Burma. 1,524 m (5,000 ft).

**Comments.** Recognized as a separate species by Corbet and Hill (1992:312), Wang (2003:156), and

**Distribution.** Northern Burma and adjacent western Yunnan and southern Sichuan and Guizhou provinces, China (Wang, 2003:156; Francis, 2008:150, 341; Smith and Xie, 2008:178).

*Petaurista elegans* (Temminck, 1836)
*(spotted giant flying squirrel)*

*Petaurista elegans elegans* (Temminck, 1836)

**Type Locality.** Nusa Kumbangan (Kambangan Island), south of Java, Indonesia.

**Comments.** Also described by Müller (1840:35, 56), who is recognized as the author by Thorington and Hoffmann (2005:771). Transferred to *Pteromys* at species rank by Anderson (1879:287) and *Petaurista* by Ellerman (1947:253) and subsequent authors. Includes *clarkei* and *marica* (see Ellerman and Morrison-Scott, 1951:460–461). Corbet and Hill (1992:312) considered *caniceps* from Nepal, Sikkim, northern Burma, and western China and *sybilla* from a few localities in Burma and western China as distinct species sympatric with *elegans* in western Yunnan, China. Taxon has been found as a late Pleistocene fossil from Sanjiacun, Yunnan, China (Qiu et al., 1984:287).

**Distribution.** Java (Corbet and Hill, 1992:312) and Kambangan Island (Meijaard, 2003:256).

*Petaurista elegans slamatensis* Sody, 1949:70.

**Type Locality.** Kaligua, Mount Slamat, central Java. 1,400 m (4,593 ft).


*Petaurista elegans banksi* Chasen, 1933

*Petaurista punctatus banksi* Chasen, 1933:194.

**Type Locality.** Lumu Lumu, Mount Kina Balu, northern Borneo. 1,676 m (5,500 ft).


**Distribution.** Borneo, known only from Gunung Kinabalu. 1,676 m (5,500 ft) and the Crocker Range (1,140 m) in Sabah and Gunung Dulit in Sarawak (Chasen, 1933:194; Allen and Coolidge, 1940:153; Payne et al., 1985:249). Also on Bunguran Island, Natuna Islands (Meijaard, 2003:1256).

**Petaurista elegans marica** Thomas, 1912

*Petaurista marica* Thomas, 1912:687.

**Type Locality.** Probably near Mongtze (Mengtze), Yunnan, China.


*Pteromys punctatus* Gray, 1846:211.

**Type Locality.** Malacca, Malay Peninsula.


*Petaurista elegans sumatrana* Kloss, 1921


**Type Locality.** Padang Highlands, western Sumatra, Indonesia.

**Comments.** Recognized as a subspecies of *elegans* by Chasen (1940:289) and within *elegans* by Chasen (1940:114), Corbet and Hill (1992:312), and Thorington and Hoffmann (2005:771).

**Distribution.** Padang Highlands, western Sumatra, and Rupat Island (Corbet and Hill, 1992:312; Meijaard, 2003:1256).
**Petaurista hainana** G. Allen, 1925  
(Hainan giant flying squirrel)


**Type Locality.** Nam Fong, Hainan Island, China.


**Distribution.** Hainan Island, China (Smith and Xie, 2008:179).

†_Petaurista helleri_ (Dehm, 1962)


**Type Locality.** Bavaria, Germany.

**Comments.** Mid-Pleistocene. Placed within _Petaurista_ by Thorington et al. (2005:958).

**Petaurista lena** Thomas, 1907  
(Taiwan giant flying squirrel)

_Petaurista lena_ Thomas, 1907a:522.

**Type Locality.** Tapposha, central Formosa (Taiwan), China.


**Distribution.** Kyushu and Shikoku islands, Japan (Dobson, 1994:97).

_Pteromys pectoralis_ Swinhoe, 1871:634.

**Type Locality.** Takow, southwest Formosa (Taiwan), southwest China.


**Petaurista leucogenys** (Temminck, 1827)  
(Japanese giant flying squirrel)

**Petaurista leucogenys leucogenys** (Temminck, 1827)

_Pteromys leucogenys_ Temminck, 1827:xxvii.

**Type Locality.** Kyushu, Japan.

**Comments.** Transferred to _Pteromys_ at species rank by Anderson (1879:289) and _Petaurista_ by Ellerman (1940:288). Formerly included _xanthotis_ by Ellerman and Morrison-Scott (1951:464) and Corbet (1978:86). Subspecies follow Corbet (1978:86), with the exception of _xanthotis_. Chromosomal variation studied by Oshida and Obara (1991:114; Shikama, 1949:114; Shikama and Okafuji, 1958:68; Hasegawa, 1966:34; Hasegawa et al., 1968:225; Kawamura, 1988:167). Specimens obtained in Korea and Manchuria were purchased in markets, and doubt of a Korean or Chinese provenance of these specimens was proposed by Jones and Johnson (1965:368). They suggest that the specimens could easily have been imported from the Japanese islands or elsewhere in Asia and that such a large rodent should have been reported elsewhere in the literature. Subspecies rank recognized within _leucogenys_ by Ellerman (1940:289), Ellerman and Morrison-Scott (1951:465), Jones and Johnson (1965:368), and Corbet (1978:86) and followed by Thorington and Hoffmann (2005:771). Subspecies rank not recognized by Oshida (2006:69) or Ohdachi et al. (2009:192), who suggest that _leucogenys_ is restricted to Japan.

**Distribution.** Kyushu and Shikoku islands, Japan (Dobson, 1994:97).


**Type Locality.** Tosa, Shikoku Island, Japan.

**Comments.** Recognized as a subspecies of _leucogenys_ by Ellerman (1940:228), Kuroda (1940:92), Kuntz and Ming (1970:34), and Oshima et al. (2004b:20). Recognized within _leucogenys_ by Thorington and Hoffmann (2005:771).

**Petaurista leucogenys thomasi** Kuroda and Mori, 1923:27.

**Type Locality.** Purchased at Seoul game market, central Korea.

_Petaurista leucogenys_ hintoni_ Mori, 1923:191._

_Type Locality._ Replacement name for _Petaurista leucogenys thomasi_ Kuroda and Mori, 1923.

_Comments._ The designation of this subspecific name was due to the name _thomasi_ (Kuroda and Mori, 1923:27) in combination with _Petaurista_ being preoccupied.


_Type Locality._ Mukden game market, southern Manchuria, China.


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_Petaurista leucogenys nikkonis_ Thomas, 1905


_Type Locality._ Nikko, Central Honshu, Japan.


_Distribution._ Central and northern Honshu Island, Japan (Dobson, 1994:97).


_Type Locality._ Osiu, northern Hondo, Japan.


_Petaurista leucogenys oreas_ Thomas, 1905


_Type Locality._ Wakayama, southern peninsula of Honshu, Japan.


_Distribution._ Southern peninsula of Honshu, Japan (Dobson, 1994:97).

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_Petaurista magnificus_ (Hodgson, 1836)

_(Hodgson’s giant flying squirrel)_

_[Sciuropterus] magnificus_ Hodgson, 1836:231.

_Type Locality._ Central and northern regions of Nepal.

_Comments._ Included within _Pteromys_ by Anderson (1879:285) and Sclater (1891:32). Formerly included _nobilis_ and _chrysothrix_ by Blyth (1863:95) and Ellerman and Morrison-Scott (1951:464); however, these were excluded by Ghose and Saha (1981:95). Transferred to _Petaurista_ by Ellerman (1940:288; 1947:254) and subsequent authors.

_Distribution._ Nepal, Bhutan, extending into southern Tibet and to Sikkim and Darjeeling in northern West Bengal, India (Hudson, 1872:635; Ghose and Chakraborty, 1983:411; Corbet and Hill, 1992:312; Zhang et al., 1997:153; Wangchuk et al., 2004:149; Smith and Xie, 2008:178).


_Type Locality._ Ghoombhanjang, Darjeeling District, northern West Bengal, India. 2,117 m (6,945 ft).


_Petaurista nobilis_ (Gray, 1842)

_(Bhutan giant flying squirrel)_

_Sciuropterus nobilis_ Gray, 1842:263.

_Type Locality._ Dargellan (Darjeeling), West Bengal, India.


_Distribution._ Eastern Nepal to Sikkim in India at approximately 1,670–3,000 m (5,479–9,842 ft) (Ghose and Chakraborty, 1983:411; Corbet and Hill, 1992:313).

_Sciuropterus_ [italic]chrysotrix_ Hodgson, 1844:67, pl. [no. not given].

_Type Locality._ Not known.

_Comments._ Synonymized within _magnificus_ by Blyth (1863:95) and Ellerman and Morrison-Scott

**Petaurista nobilis singhei Saha, 1975**

*Petaurista nobilis singhei* Saha, 1975:27.

**Type Locality.** Gomchu, Gomchu Valley, Bhutan. 2,286 m (~7,500 ft).


**Distribution.** Gomchu Valley, Bhutan (Corbet and Hill, 1992:313; Wangchuk et al., 2004:149).

**Petaurista petaurista (Pallas, 1766)**

*Petaurista petaurista* (Pallas, 1766:54).

**Type Locality.** Not stated. Restricted to western Java, Indonesia, by Robinson and Kloss (1918a:172).

**Comments.** Reviewed by Corbet and Hill (1992:309), who recognized *philippensis* as distinct and allocated many forms to it that were formerly assigned to *petaurista*; the two species are widely sympatric. Also reviewed from the literature by Day (1988:82) and karyotypic variation reported by Yong and Dhaliwal (1976:9). Wang (2003:157) recognized a Damingshan form. Has been recorded as a fossil from late Pliocene to Recent from several localities in peninsular and northeast Thailand (Chaimanee, 1998:161).

**Distribution.** Western Java (Corbet and Hill, 1992:309).

**Petaurista taguan Link, 1795:**52, 78.

**Type Locality.** Unknown, Java?

**Comments.** Synonymized within *petaurista* by Corbet and Hill (1992:309) and Thorington and Hoffmann (2005:772).

**Pteromys nitidus Desmarest, 1818c:403.**

**Type Locality.** Java.

**Comments.** Synonymized within *petaurista* by Corbet and Hill (1992:309) and Thorington and Hoffmann (2005:772).

**Petaurista petaurista batuana Miller, 1903**

*Petaurista batuana* Miller, 1903a:27.

**Type Locality.** Tana Bala, Batu Islands, west Sumatra, Indonesia.


**Distribution.** Batu Islands (Tana Bala Island, Tana Masa Island, and Pini Island), off west Sumatra (Robinson and Kloss, 1918a:173; Meijaard, 2003:1256).

**Petaurista petaurista cicur** (Robinson and Kloss, 1914)

*Petaurista nitida cicur* Robinson and Kloss, 1914:223.

**Type Locality.** Ban Kok Klap, Bandon, southern Thailand.


**Distribution.** Southern Thailand peninsula south to Thung Song, Nakhon Si Thammarat (Lekagul and McNeely, 1988:379).

**Petaurista petaurista grandis** (Swinhoe, 1863)

*Pteromys grandis* Swinhoe, 1863:358, pl. 45.

**Type Locality.** Taiwan (Formosa), China.

**Comments.** Recognized as a distinct species in *Petaurista* by Ellerman (1940:286). Placed as a subspecies of *petaurista* by Ellerman and Morrison-Scott (1951:462), Day (1988:82), and Zhang et al. (1997:150). Recognized as a subspecies of *albiventer* by Wang (2003:157). Subspecies rank recognized within *philippensis* by Corbet and Hill (1992:310), Oshida et al. (2004a:15), Thorington and Hoffmann (2005:772), Smith and Xie (2008:179), and Oshida et al. (2011:404). Placed within *P. petaurista* by Yu et al. (2006:755), who found it was clearly not associated with *philippensis*, and most recently recognized as a distinct species by Oshida et al. (2010:89), although it grouped most closely with *P. petaurista*. Further research is warranted to confirm the species status of this taxon.

**Distribution.** Taiwan, China (Smith and Xie, 2008:179).

**Petaurista petaurista interceptio Sody, 1949**

*Petaurista petaurista interceptio* Sody, 1949:69.
**Petaurista petaurista lumholtzi**

*Gyldenstolpe, 1920*


**Type Locality.** Poeroek Tjahoe, Barito River, central Borneo.


**Distribution.** Recorded from central Kalimantan and from Talisajan in eastern Kalimantan, but probably widespread throughout the Kalimantan provinces, Borneo (Medway, 1965:116; Payne et al., 1985:249; Corbet and Hill, 1992:309).

**Petaurista petaurista marchio** (Thomas, 1908)

*Petaurista nitida marchio* Thomas, 1908:e:251.

**Type Locality.** Si Rambi, Sumatra, Indonesia.


**Distribution.** Si Rambi, Sumatra, and Rupat Island, off eastern Sumatra, Indonesia (Corbet and Hill, 1992:309).

**Petaurista petaurista melanotus** (Gray, 1836)


**Distribution.** Malay Peninsula to at least Pattani in southern Thailand. Also occurs on Tioman Island, Malaysia, and Singapore (extinct?) (Medway, 1969:65).

**Petaurista petaurista nigrescens**

*Medway, 1965*


**Type Locality.** Sandakan, Sabah, Borneo.


**Distribution.** Known only from the forests around Sandakan Bay north of southern Kinabatangan, Sabah, Borneo (Medway, 1965:116; Payne et al., 1985:249).

**Petaurista petaurista nigricaudatus**

*Robinson and Kloss, 1918*

*Petaurista petaurista nigricaudatus* Robinson and Kloss, 1918b:223.

**Type Locality.** Idjen Massif, Ongop Ongop, near Banjoe-wangi, eastern Java, Indonesia. 1,737 m (5,700 ft).


**Distribution.** Idjen Massif near Banjoe-wangi, eastern Java (Corbet and Hill, 1992:309).

**Petaurista petaurista nitidula**

*Thomas, 1900*

*Petaurista nitidula* Thomas, 1900b:592.

**Type Locality.** Bunguran Island, Natuna Islands, Indonesia.

**Comments.** Synonymized within *Petaurista petaurista* by Corbet and Hill (1992:309). Subspecies rank recognized within *petaurista* by Chasen (1940:112),
Petaurista petaurista penangensis Robinson and Kloss, 1918

Petaurista petaurista penangensis Robinson and Kloss, 1918b:224.

**Type Locality.** Telok Bahang, Penang Island (Pinang), Malaysia.


**Distribution.** Penang Island (Pinang), Malaysia (Medway, 1969:67; Corbet and Hill, 1992:309).

Petaurista petaurista rajah Thomas, 1908

Petaurista nitida rajah Thomas, 1908:e:251.

**Type Locality.** Mount Dulit, Baram District, east Sarawak, Borneo. 609 m (2,000 ft).


**Distribution.** Borneo, recorded from many localities throughout Sabah, Brunei, and Sarawak, up to 900 m (2,953 ft) on Gunnung Kinabalu, including Mount Dulit, Baram. Includes eastern Sabah, except the area occupied by *P. p. nigrescens* (Davis, 1962:84; Medway, 1965:115; Payne et al., 1985:249). Also occurs on Labuan Island, off the coast of Sabah, Borneo (Motley and Dillwyn, 1855:2; Meijaard, 2003:1256).

Pteromys melanopis Gray in Motley and Dillwyn, 1855:2.

**Type Locality.** Labuan Island, Malaysia.

**Comments.** Synonymized within *rajah* by Medway (1965:115), but not considered by other authors.

Petaurista petaurista rufipes Sody, 1949

Petaurista petaurista rufipes Sody, 1949:68.

**Type Locality.** Kluang, Palembang, southeast Sumatra.


**Distribution.** Kluang, Palembang, southeast Sumatra (Corbet and Hill, 1992:309), and Sipura Island off western Sumatra (Meijaard, 2003:1256).

Petaurista petaurista sodyi Harris, 1951:234.

**Type Locality.** Southeast Sumatra, Indonesia.

**Comments.** The subspecies name was nominated because the name *sodyi* was preoccupied by *P. p. rufipes* G. Allen, 1925 from China (in *P. philippensis*). Synonymized within *Petaurista petaurista* by Corbet and Hill (1992:309) and within *rufipes* by Thorington and Hoffmann (2005:772).

Petaurista petaurista stellaris Chasen, 1940

Petaurista petaurista stellaris Chasen, 1940:113.

**Type Locality.** Bintang Island, Riau Islands, Indonesia.

**Comments.** Recognized as a subspecies within *Petaurista petaurista* by Chasen (1940:113) and Corbet and Hill (1992:309).

**Distribution.** Bintan Island, Riau Islands, Indonesia (Corbet and Hill, 1992:309).

Petaurista petaurista terutaus Lyon, 1907


**Type Locality.** Terutau Island, northern Strait of Malacca, Thailand.


**Distribution.** Terutau Island in the northern Strait of Malacca, Thailand (Lekagul and McNeely, 1988:379; Corbet and Hill, 1992:309).

Petaurista philippensis (Elliot, 1839)

(Indian giant flying squirrel)

Petaurista philippensis philippensis (Elliot, 1839)

Pteromys philippensis Elliot, 1839:217.
Type Locality. Near Madras, India.


Distribution. Western peninsular India, including Kerala, Karnataka, Maharashtra north to Mumbai (Bombay); Rajasthan; and southern Bihar, India, and Sri Lanka (Tehsin, 1981:498; Corbet and Hill, 1992:310).

*Pteromys orál* Tickell, 1842:401, pl. 11.

Type Locality. Singhbhum District, Orissa, southern Bihar, India.


*P. griseiventer* Gray, 1843:133.

Type Locality. India.


*P. cinderella* Wroughton, 1911:1013, 1018.

Type Locality. The Dangs, Surat District, Bombay, India.


*P. lanka* Wroughton, 1911:1013, 1017.

Type Locality. Sri Lanka.


*Petaurista philippensis annamensis* Thomas, 1914

*P. annamensis* Thomas, 1914b:204.

Type Locality. Bali, near Nha-Trang, southern Annam, Vietnam. 150 m (492 ft).


*P. lylei badiatus* Thomas, 1925:501.


*P. lylei miloni* Bourret, 1942:28.

Type Locality. Milon at Diem-her, Lang-son Province, Tonkin, Vietnam.


*P. philippensis cineraceus* (Blyth, 1847)

Pt.[*Pteromys*] *petaurista* (?) var. *cineraceus* Blyth, 1847:865.

Type Locality. Arakan, Burma.


**Distribution.** Arakan, Burma, to Arunchal Pradesh.

**Petaurista philippensis lylei** Bonhote, 1900

*Petaurista lylei* Bonhote, 1900:192, pl. 18.

**Type Locality.** Doi Sritepe, Chiang Mai, northern Thailand.


**Petaurista cineraceus stockleyi** Carter, 1933:1.

**Type Locality.** Melamoong, northwest Thailand.


**Petaurista lylei venningi** Thomas, 1914a:26.

**Type Locality.** Kalaw, west of Tsunggyi, Burma. 1,430 m (4,700 ft).

**Comments.** Recognized as a subspecies within *lylei* by Ellerman (1940:287), *petaurista* by Yin (1967:220), and *philippensis* by Corbet and Hill (1992:311). Synonymized within *lylei* by Thorington and Hoffmann (2005:772).

**Petaurista philippensis mergulus** Thomas, 1922

*Petaurista mergulus* Thomas, 1922c:1067.

**Type Locality.** Ross Island, Mergui Archipelago, Burma.


**Petaurista mergulus primrosei** Thomas, 1926:22.

**Type Locality.** Sullivan Island, Mergui Archipelago, Burma.


**Petaurista mergulus reguli** Thomas, 1926:22.

**Type Locality.** King Island, Mergui Archipelago, Burma.


**Petaurista xanthotis** (Milne-Edwards, 1872) *(Chinese giant flying squirrel)*


**Type Locality.** Moupin, Sichuan, China.

**Comments.** Transferred to *Petaurista* by Lyon (1907b:133) and followed by subsequent authors. Formerly included as a subspecies of *leucogenys* by Ellerman and Morrison-Scott (1951:464) and Corbet (1978:86), but separated as a distinct species by McKenna (1962:27), Corbet and Hill (1991:145; 1992:313), and subsequent authors. Found as fossil deposits in China from the late Pleistocene (Zheng, 1993:266).

**Distribution.** Eastern Tibet and western China from Gansu, Qinghai, Sichuan, and Yunnan provinces (Corbet and Hill, 1992:313; Zhang et al., 1997:153).
**Pteromys filchnerinae** Matschie, 1908:208.

**Type Locality.** Siningfu, upper Hwangho, Gansu, China.


**Pteromys büchneri** Matschie, 1908:210.

**Type Locality.** Sining-Fu (upper Hwang-Ho, Gansu), China.


**Petaurista yunanensis** (Anderson, 1875) *(Yunnan giant flying squirrel)*

**Pteromys yunanensis** Anderson, 1875:282.

**Type Locality.** Teng-yue-chow, Yunnan, China.


**Distribution.** Tibet, Sichuan, Yunnan, Guangxi, and Fujian provinces, China (Zhang et al., 1997:151; Smith and Xie, 2008:179). Also extends into northern Burma, Laos, and Vietnam (Yin, 1967:220; Francis, 2008:341).


**Type Locality.** Yungan (Yongan), Fukian (Fujian) Province, China.


**Type Locality.** Chiching, Gaoligong Mountains, Gongshan Xian, northwestern Yunnan, China, 1,900 m (6,234 ft).


**†Petauristodon Engesser, 1979**

**†Petauristodon jamesi** (Lindsay, 1972)

**Type Locality.** Barstow Formation, southern California, USA.
Comments. Early Miocene. This species was proposed to be a member of †Miopetaurista by de Bruijn et al. (1980:251), but it was tentatively excluded by de Bruijn (1998:104) and was not placed in another genus. Species recognized within †Petauristodon by Engesser (1979:23) and Pratt and Morgan (1989:90) but within Sciuropterus by Albright (1996:460). The potential of †jamesi being a synonym of matheusi was raised by Engesser (1979:23).

†Petauristodon matheusi (James, 1963)

†Sciuropterus matheusi James, 1963:93.
Type Locality. Cuyama Valley, Badlands, California, USA.
Comments. Mid-Miocene to late Pleistocene. Taxon placed in †Petauristodon by Engesser (1979:23).

†Petauristodon minimus (Lindsay, 1972)

†Sciuropterus minimus Lindsay, 1972:33.
Type Locality. Barstow Formation, southern California, USA.

†Petauristodon pattersoni Pratt and Morgan, 1989

†Petauristodon pattersoni Pratt and Morgan, 1989:89, 90.
Type Locality. Thomas Farm Local Fauna, Gilchrist County, Florida.
Comments. Early Miocene.

†Petauristodon uphami (James, 1963)

†Sciuropterus uphami James, 1963:91.
Type Locality. Cuyama Valley, Badlands, California, USA.
Comments. Mid-Miocene to late Pleistocene. Taxon placed in †Petauristodon by Engesser (1979:23).

Petinomys Thomas, 1908

Type Species. Sciuropterus lugens Thomas, 1908d:666.
Comments. Described as a subgenus of Sciuropterus. Transferred to Pteromys at subgenus rank by Allen (1940:725). Elevated to generic rank by Pocock (1923:246), Ellerman (1940:300), and subsequent authors. Formerly included bartelsi and electilis, which are here included in Hylopetes; see McKenna (1962:35) and Corbet and Hill (1992:317). Late Miocene, mid-Pleistocene, and Recent, Asia; late Miocene to early Pliocene, Europe; Recent, SE Asia.

Olisthomys Carter, 1942:2.
Type Species. Pteromys (Olisthomys) morrisi Carter, 1942:2.

†Petinomys auctus Qiu, 1991

†Petinomys auctor Qiu, 1991:238.
Type Locality. Ertemte 2, Huade County, Inner Mongolia, China.

Petinomys crinitus (Hollister, 1911)
(Basilan flying squirrel)

Sciuropterus crinitus Hollister, 1911:185.
Type Locality. Basilan Island, Philippines.
Comments. Appears to be known only from the type specimen. Species recognized within Sciuropterus by Taylor (1934:389). Transferred to Hylopetes by Rabor (1977:246) and Petinomys by Ellerman (1940:302), Hoffmann et al. (1993:463), and subsequent authors. Observations of the skulls of these species clearly show they are distinct, as crinitus is much smaller than mindanensis and has a more flattened tail.


Petinomys fuscocapillus (Jerdon, 1847)
(Travancore flying squirrel)

Sciuropterus fuscocapillus Jerdon, 1847:867.
Type Locality. Travancore, southern India.
Comments. Recognized within Sciuropterus by Sclater (1891:37). Transferred to Pteromys by Anderson (1879:294) and Petinomys by Thomas (1908b:6) and followed by subsequent authors.


Type Locality. Dimbula, Sri Lanka. 1,372 m (4,500 ft).


Petinomys genibarbis (Horsfield, 1824) (whiskered flying squirrel)

Pteromys genibarbis Horsfield, 1824:167, unnumbered plate.

Type Locality. Eastern Java, Indonesia.

Comments. Transferred to Petinomys by Thomas (1908b:6) and followed by subsequent authors.


Sciuropterus genibarbis borneensis Thomas, 1908c:304.

Type Locality. Bakong River, Baram, east Sarawak, Borneo.


Sciuropterus genibarbis malaccanus Thomas, 1908c:304.

Type Locality. Malacca, Malay Peninsula.


Petinomys hageni (Jentink, 1888) (Hagen’s flying squirrel)


Type Locality. Tandjong-Morawa, Serdang, Deli, northeast Sumatra, Indonesia.

Comments. Transferred to Petinomys by Thomas (1908b:6) and followed by subsequent authors. Formerly included lugens (Chasen, 1940:119; Corbet and Hill, 1991:146).

Distribution. Sumatra, western Borneo (known only from a single specimen from Pontianak) (Corbet and Hill, 1992:317; Meijaard, 2003:1256).

Petinomys hageni ouwensi Sody, 1949:74.

Type Locality. Kubu region, Pontianak, western Borneo.

Comments. Recognized as a subspecies of hageni by Medway (1965:112), Payne et al. (1985:246), and Corbet and Hill (1992:317). Medway (1977:102) considered the status of ouwensi doubtful and placed it within hageni, which was also done by Thorington and Hoffmann (2005:773).

Petinomys lugens (Thomas, 1895) (Siberut flying squirrel)

Sciuropterus lugens Thomas, 1895d:666.

Type Locality. Si Oban, Sipora (Sipura) Island, Mentawai Islands, near western Sumatra, Indonesia.

Comments. Transferred to Petinomys by Thomas (1908b:6) and followed by subsequent authors. Formerly included as a subspecies of hageni by Chasen (1940:119), Jenkins and Hill (1982:220), and Chasen and Kloss (1927:819).


Sciuropterus maerens Miller, 1903a:26.

Type Locality. North Pagai Island, Mentawai Islands, west of Sumatra, Indonesia.


Petinomys mindanensis Rabor, 1939 (Mindanao flying squirrel)

Sciuropterus mindanensis Rabor, 1939:390.

Type Locality. Badiangon, Gingoog, Oriental Misamis Province, northern coast of Mindanao, Philippines.


**Petinomys crinitus nigricaudus** Sanborn, 1953:285.

Type Locality. Tuod, near Mantikaw, Misamis Oriental, Mindanao Island, Philippines.


**Petinomys setosus** (Temminck, 1844) (Temminck’s flying squirrel)

Pteromys (Sciuropterus) setosus Temminck, 1844 (1843–1844): 49.

Type Locality. Padang, western Sumatra, Indonesia.


**Pteromys (Olisthomys) morrisi** Carter, 1942:2.

Type Locality. Dalu (Taro), northern Burma.

Comments. McKenna (1962:6) considered vordermanni representative of an undescribed genus, but subsequent authors, including Hill (1962:733), retained it in Petinomys.

Distribution. Southern Burma, southern Thailand, Malay Peninsula, and Borneo (southern Sabah, Brunei and northern Sarawak, and central Kalimantan), and Beting and Galang islands (Riau Islands) off the east coast of Sumatra, Indonesia (Muul, 1980:135; Payne et al., 1985:247; Corbet and Hill, 1992:319; Meijaard, 2003:1256).

**Petinomys vordermanni** (Jentink, 1890) (Vordermann’s flying squirrel)

Sciuropterus vordermanni Jentink, 1890b:150.

Type Locality. Billiton (Beltung Island), near eastern Sumatra, Indonesia.

Comments. Transferred to Petinomys by Thomas (1908b:6) and followed by subsequent authors. McKenna (1962:6) considered vordermanni representative of an undescribed genus, but subsequent authors, including Hill (1962:733), retained it in Petinomys.

Distribution. Southern Burma, southern Thailand, Malay Peninsula, and Borneo (southern Sabah, Brunei and northern Sarawak, and central Kalimantan), and Belitung and Galang islands (Riau Islands) off the east coast of Sumatra, Indonesia (Muul, 1980:135; Payne et al., 1985:247; Corbet and Hill, 1992:319; Meijaard, 2003:1256).

**†Pliopetaurista* Kretzoi, 1962


Type Species. †Sciuropterus pliocenicus Deperet, 1897:179.

Comments. Late Miocene, Asia; late Miocene to early Pleistocene, Europe. Genus recognized within the subfamily Pteromyinae by McKenna and Bell (1997:128) and family Petauristidae by de Bruijn (1999:275).

†Pliosciuropterus Sulimski, 1964:169.

Type Species. †Pliosciuropterus dehneli Sulimski, 1964:172.

Comments. Late Miocene to early Pliocene, Europe. Recognized as a genus by McKenna and Bell (1997:128). Doubt was cast on this genus by Thorington et al. (2005:958).

†Pliopetaurista bressana Mein, 1970<

†Pliopetaurista bressana Mein, 1970:37.

Type Locality. Soblay, France.


†Pliopetaurista dehneli (Sulimski, 1964)

†Pliosciuropterus dehneli Sulimski, 1964:172.

Type Locality. Weze, Poland.

†Pliosciuropterus schaubi Sulimski, 1964:179.
Type Locality. Weze, Poland.
Comments. Pliocene. The specific distinction of this taxon was questioned by Mein (1970:40) and Terzea (1980:198). Considered to be the same as †dehneli and is a junior synonym of that name because dehneli has page priority by de Bruijn (1995:92).

†Pliopetaurista moldaviensis Baranova and Konkova, 1974: 92, 93.
Type Locality. Moldavia.
Comments. Proposed to be a synonym of †dehneli by Terzea (1980:199).

†Pliopetaurista kollmanni Daxner-Höck, 2004

Type Locality. Götzendorf an der Leitha, Vienna Basin, Austria.
Comments. Upper Miocene.

†Pliopetaurista meini Black and Kowalski, 1974

†Pliopetaurista meini Black and Kowalski, 1974:470.
Type Locality. Zalesiaki, Poland.
Comments. Pliocene. Species recognized within †Pliopetaurista by de Bruijn (1995:92; 1999:275) and Daxner-Höck (2004:397). Doubt was cast on this genus by Thorington et al. (2003:958), who suggest drawing of the teeth appears closer to Callosciurus than any flying squirrel.

†Pliopetaurista pliocenica (Deperet, 1897)

†Sciuropterus pliocenicus Deperet, 1897:179.
Type Locality. Perpignan, France.

†[Sciuropterus] depereti Trouessart, 1898:400.
Type Locality. Gallia?
Comments. Pliocene. Synonymized within †Pliopetaurista pliocenica by Hugueney and Mein (1966:244).

†Pliopetaurista rauui Dahlmann, 2001

†Pliopetaurista rauui Dahlmann, 2001:1, 54.
Type Locality. Wolfsheim, NNE Frankfurt am Main, Germany.

†Pliopetaurista rugosa Qiu, 1991

†Pliopetaurista rugosa Qiu, 1991:223, 236.
Type Locality. Harr Obo 2, Huade County, Inner Mongolia, China.
Comments. Uppermost Miocene or lower Pliocene. Species recognized within †Pliopetaurista by de Bruijn (1995:92).

†Pliopes Kretzoi, 1959

†Pliopes Kretzoi, 1959:239.
Type Species. Pliopes hungaricus Kretzoi, 1959:239.

†Pliopes hungaricus Kretzoi, 1959

†Pliopes hungaricus Kretzoi, 1959:239.
Type Locality. Csarnota, Hungary.

Pteromys G. Cuvier, 1800

Pteromys G. Cuvier, 1800: tab. 1.
Type Species. Sciurus volans Linnaeus, 1758:64.
Comments. Sciuropterus was previously used by Simpson (1945:80), who believed Pteromys to be a synonym of Petaurista, but Ellerman and Morrison-Scott (1951:466) presented evidence for the validity of Pteromys. However, Pteromys may be the sister group to Petaurista (Oshida et al., 2000a:485). Late Pliocene to Recent, Asia; Recent, Europe.
Homonyms. Pteromys Tiedemann, 1808:451, flying squirrels of the class Mammalia (order Rodentia,
family Sciuridae). Taxon is a synonym of *Glaucomys* (Thomas, 1908b).

*Sciuropterus* F. Cuvier, 1825a:126.

**Type Species.** *Sciurus volans* Linnaeus, 1758:64.

**Comments.** Also described by Cuvier (1825b:255). Genus recognized by Thomas (1897:1015) for all smaller flying squirrels. Synonymized within *Pteromys* by Miller (1914:216), Ellerman and Morrison-Scott (1951:466), and Thorington and Hoffmann (2005:774).

†*Pteromys lopingensis* Young, 1947

†*Pteromys lopingensis* Young, 1947:165.

**Type Locality.** Loping, Jiangxi, China.

**Comments.** Lower Pleistocene. Corbet and Hill (1992:306) proposed that it is probably referable to *Petaurista* or perhaps *Trogopterus*.

*Pteromys momonga* Temminck, 1844

(*Japanese flying squirrel*)


**Type Locality.** Kyushu, Japan.

**Comments.** Transferred to *Sciuropterus* by Thomas (1908b:5) and *Pteromys* by Ellerman (1940:294). Proposed to be ancestral to *P. volans* by Oshima et al. (2000b:133). Fossils assigned to this species from the middle and late Pleistocene have been found in Japan by Kawamura (1981:69; 1982:60; 1988:194) and Kawamura et al. (1986:71; 1989:321).

**Distribution.** Honshu, Shikoku, and Kyushu islands, Japan (Dobson, 1994:97).

*Sciuropterus momonga amygdali* Thomas, 1905b:344.

**Type Locality.** Washikaguchi, Nara Ken, southern central Honshu, Japan.

**Comments.** Subspecies rank recognized within *momonga* by Ellerman (1940:294). Synonymized within *momonga* by Ellerman and Morrison-Scott (1951:467) and Thorington and Hoffmann (2005:774).

*Sciuropterus momonga interventus* Kuroda, 1941:113.

**Type Locality.** Senjosen or Funanouesan, Isai-Mura, Tottori Prefecture, southwestern Honshu, Japan. 610 m (2,000 ft).

**Comments.** Subspecies rank recognized within *momonga* by Ellerman and Morrison-Scott (1951:467) but synonymized within *momonga* by Thorington and Hoffmann (2005:774).

*Pteromys volans* (Linnaeus, 1758)

(*Siberian flying squirrel*)

*Pteromys volans volans* (Linnaeus, 1758)

[Sciurus] *volans* Linnaeus, 1758:64.

**Type Locality.** “In borealibus Europae, Asiae, et Americae.” Restricted by Thomas (1911b:149) to “Finland.” Ognev (1966:268) proposed restriction to “central Sweden,” but the species does not occur there (Sulkava 1978:76).

**Comments.** Transferred to *Pteromys* by Anderson (1879:302) and followed by most subsequent authors. Chromosomes described by Rausch and Rausch (1982:58) and Oshida et al. (2000b:133). Subspecies follow Corbet (1978:86). Fossils assigned to this species from the mid-Pleistocene have been found in Japan by Kowalski and Hasegawa (1976:36).

**Distribution.** Northern Palaearctic from Finland, Estonia, Latvia, Belarus, Russia, Siberia, and Mongolia, southward nearly to the boundary of northeastern Germany, and eastward into Scandinavia and to northwest to northeast China, extending into central China, including Xinjiang, Nei Mongol, Heilongjiang, Jilin, Liaoning, Hebei, Beijing, Shanxi, Henan, and Hunan provinces. Distribution extends into Korea (Vinogradov and Argiropulo, 1968:86–87; Zhang et al., 1997:155; Smith and Xie, 2008:180).


**Type Locality.** Russia.

**Comments.** Transferred to *Sciuropterus* by Thomas (1908b:5). Recognized as a synonym of *volans* by Ellerman and Morrison-Scott (1951:466) and Thorington and Hoffmann (2005:774).

*Pteromys sibiricus* Desmarest, 1822:342.

**Type Locality.** Russia.

**Comments.** Recognized as a synonym of *volans* by Ellerman and Morrison-Scott (1951:466) and Thorington and Hoffmann (2005:774).

*Pt.* *vulgaris* Wagner, 1843:228, pl. 223.

**Type Locality.** Europe.

**Comments.** Recognized as a synonym of *volans* by Ellerman and Morrison-Scott (1951:466) and Thorington and Hoffmann (2005:774).
Sciuropterus aluco Thomas, 1907b:464.

**Type Locality.** Kaloguai, 89 km (55 mi) northeast of Seoul, Korea. 150 m (500 ft).

**Comments.** Recognized as a subspecies of *volans* by Ellerman (1940:294), Ellerman and Morrison-Scott (1951:466), and Jones and Johnson (1965:369). Synonymized within *volans* by Thorington and Hoffmann (2005:774), but recognized as a subspecies by Wang (2003:160) and Smith and Xie (2008:180).

Pteromys volans ognevi Stroganov, 1936:539, 559.

**Type Locality.** Lake Peno, Kalininschen Region (the headwaters of the Volga River, a former district of the province of Tver Ostashkowsche), Russia.

**Comments.** Recognized as a subspecies of *volans* by Ellerman (1940:294), Ellerman and Morrison-Scott (1951:467), Ognev (1966:270), and Mitchell-Jones et al. (1999:196), who suggested it occurs in the southwestern parts of the species range, from southwest of Moscow and Novgorod. Synonymized within *volans* by Thorington and Hoffmann (2005:774).

Sciuropterus wulungshanensis Mori, 1939:59.

**Type Locality.** Mount Wu-ling (Wulung), Hsinglunghsien, southern Jehol Province, China. Note that Jehol is a defunct Chinese province that used to consist of part of today’s Hebei Province, Shanxi Province, and Inner Mongolia.


**Type Locality.** Anadyr region, extreme northeast Siberia, Russia.

**Comments.** Recognized as a subspecies of *volans* by Ognev (1934:305, 313), Ellerman (1940:294), and Ognev (1966:281). Synonymized within *volans* by Thorington and Hoffmann (2005:774).

Sciuropterus russicus khanganensis Mori, 1942:25.

**Type Locality.** Dragotzenka, 97 km (60 mi) from Hailar, Manchuria.


Pteromys volans athene (Thomas, 1907)

Sciuropterus russicus athene Thomas, 1907c:409.

**Type Locality.** Korsakoff, Sakhalin Island, off eastern Siberia, Russia.

**Comments.** Recognized as a subspecies of *volans* by Ognev (1934:307, 313), Ellerman (1940:294),

**Distribution.** Korsakoff, Sakhalin Island, off eastern Siberia, Russia.

**Pteromys volans buechneri (Satunin, 1902)**

*Sciuropterus buechneri* Satunin, 1902:549.

**Type Locality.** Gansu Province, northeast China.

**Comments.** Transferred to *Sciuropterus* by Thomas (1908b:5) and used by Howell (1929:48), but moved to *Pteromys* by Ellerman (1940:294). Recognized as a synonym of *volans* by Allen (1940:720) but as a subspecies of *volans* by Ellerman and Morrison-Scott (1951:466), Corbet (1978:86), Zhang et al. (1997:155), and Wang (2003:160).

**Distribution.** Extends between southern Gansu, southeastern Qinghai, Ningxia, Henan, and northern Sichuan Province in China (Zhang et al., 1997:155; Smith and Xie, 2008:180).

**Pteromys volans orii (Kuroda, 1921)**

*Sciuropterus russicus orii* Kuroda, 1921:208.

**Type Locality.** Uyenai, Iburi Province, Hokkaido, Japan.

**Comments.** Species rank recognized within *Pteromys* by Ellerman (1940:294). Recognized as a subspecies of *volans* by Ellerman and Morrison-Scott (1951:467), Corbet (1978:86), and Thorington and Hoffmann (2005:774).

**Distribution.** Hokkaido Island, Japan (Dobson, 1994:96).

**Pteromyscus Thomas, 1908**

*Pteromyscus* Thomas, 1908b:3.

**Type Species.** *Sciuropterus pulverulentus* Günther, 1873:413.

**Comments.** Appears to have been recognized since its description.

**Pteromyscus pulverulentus (Günther, 1873)**

(smoky flying squirrel)

**Pteromyscus pulverulentus pulverulentus (Günther, 1873)**

*Sciuropterus pulverulentus* Günther, 1873:413, pl. 38.

**Type Locality.** Penang Island (Pinang Island), Malay Peninsula.

**Comments.** Transferred to *Pteromys* by Anderson (1879:297) and *Pteromyscus* by Thomas (1908b:3) and followed by subsequent authors.

**Distribution.** Southern Thailand, Malay Peninsula, Penang Island (Pinang Island, Malaysia) and Sumatra (Hill, 1962:721; Medway, 1969:65; Corbet and Hill, 1992:308).

**†Shuanggouia Qiu and Liu, 1986**

**†Shuanggouia** Qiu and Liu, 1986:197.

**Type Species.** *Shuanggouia lui* Qiu and Liu, 1986:198.

**Comments.** Mid-Miocene, Asia. Genus recognized within the subfamily Pteromyinae by McKenna and Bell (1997:127). Doubt was cast on this genus by Thorington et al. (2005:958).

**Trogopterus Heude, 1898**

*Trogopterus* Heude, 1898:46.

**Type Species.** *Pteromys xanthipes* Milne-Edwards, 1867:376.

**Comments.** *Belomys* included in *Trogopterus* by Corbet and Hill (1992:306).
_Trogopterus xanthipes_ (Milne-Edwards, 1867)  
(complex-toothed flying squirrel)


**Type Locality.** Northeastern Hopei (Chihli), which is an old name for Hebei Province, China.


**Distribution.** Southeastern Tibet and Liaoning, Beijing, Hebei, Shanxi, Henan, Shaanxi, Gansu, Qinghai, Sichuan, Chongqing, Hubei, Guizhou, and Yunnan provinces in China (Corbet and Hill, 1992:306; Zhang et al., 1997:150; Smith and Xie, 2008:181). Fossils allocated to this species have been described by Zheng (1993:264) from Pleistocene to Recent, China.

_Trogopterus mordax_ Thomas, 1914c:230.

**Type Locality.** Ichang, Hupeh, Yangtze-kiang, China.


_Trogopterus himalaicus_ Thomas, 1914c:231.

**Type Locality.** Gyantse, Chumbi Valley, southern Tibet.

**Comments.** Recognized as a subspecies within _xanthipes_ by Ellerman (1940:279) and Zhang et al. (1997:150). Synonymized within _xanthipes_ by Ellerman and Morrison-Scott (1951:460), Corbet and Hill (1992:306), and Thorington and Hoffmann (2005:775).

_Trogopterus edithae_ Thomas, 1923c:658.

**Type Locality.** Northwest flank of Likiang Range, Yunnan, China. 3,350 m (11,000 ft).


_Trogopterus minax_ Thomas, 1923c:660.

**Type Locality.** Wonn Chuen (Wenchuan), Upper Min River, Sichuan, China.


**Suborder Anomaluromorpha Bugge, 1974**


**Type Genus.** _Anomalurus_ Waterhouse, 1843a:124.

**Comments.** Suborder rank recognized by McKenna and Bell (1997:185).

**Superfamily Anomaluroidea Gervais, 1849**

Tribe Anomalurina Gervais, 1849:203.

**Type Genus.** _Anomalurus_ Waterhouse, 1843a:124.

**Comments.** Publication date established from Evenhuis (1990:224). Initially included within the family Muridae. Superfamily rank recognized by Gill (1872:21) and McKenna and Bell (1997:185). Late Eocene to early Oligocene, early to middle Miocene, early Pliocene, Recent, Africa.

**†Family Indeterminate**

†_Downsimys_ Flynn et al., 1986

†_Downsimys_ Flynn et al., 1986:2, 40.

**Type Species.** †_Downsimys margolisi_ Flynn et al., 1986:2, 40.

**Comments.** Miocene. Originally described as family indeterminate, but was allocated to the superfamily Anomaluroidea by Marivaux and Welcomme (2003:422).

†_Downsimys margolisi_ Flynn et al., 1986

†_Downsimys margolisi_ Flynn et al., 1986:2, 40.

**Type Locality.** Bugti Hills, Balochistan, Pakistan.

**Comments.** Originally described as “family indeterminate” but was allocated to the superfamily Anomaluroidea by Marivaux and Welcomme (2003:422).

**Family Anomaluridae Gervais, 1849**

Tribe Anomalurina Gervais, 1849:203.

**Type Genus.** _Anomalurus_ Waterhouse, 1843a:124.

**Comments.** Publication date established from Evenhuis (1990:224). Family rank recognized by Gill (1872:
21) and subsequent authors. Late Eocene to early Oligocene, Early to middle Miocene, early Pliocene, Recent, Africa.

Tribe Anomaluri Brandt, 1855:298.
   **Type Genus.** *Anomalurus* Waterhouse, 1843a: 124.
   **Comments.** Synonymized within the family Anomaluridae by McKenna and Bell (1997:185).

**Subfamily Anomalurinae Gervais, 1849**

Tribe Anomalurina Gervais, 1849:203.
   **Type Genus.** *Anomalurus* Waterhouse, 1843a: 124.
   **Comments.** Publication date established from Evenhuis (1990:224). Subfamily recognized by Delany (1975:24).

   **Type Genus.** *Anomalurus* Waterhouse, 1843a: 124.
   **Comments.** Rank not recognized previously.

   **Type Genus.** *Anomalurus* Waterhouse, 1843a: 124.
   **Comments.** Rank not recognized previously. Initially included within the family Anomaluridae with the tribes Pseudosciurini, Trechomyini, Theridomyini, and Pedetini.

**Anomalurus Matschie, 1914**

   **Type Species.** *Anomalurus beecrofti* Fraser, 1853:17.

**Anomalurus beecrofti** (Fraser, 1853)
   **(Beecroft's scaly-tailed flying squirrel)**

*Anomalurus beecrofti* Fraser, 1853:17, pl. 32.
   **Type Locality.** Bioko Island (formerly Fernando Po), Equatorial Guinea, West Africa.
   **Comments.** Placed in the subgenus *Anomalurus* by Matschie (1914:351; see also Dieterlen, 2005:1532). *Anomalurus* was also recognized by Schunke (2005:164) and Schunke and Hutterer (2005a:169) and is followed here.

**Distribution.** High and dry forests from Casamance (Senegal), east Guinea Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast (Côte d’Ivoire), Togo, Benin, Nigeria, Cameroon, Central African Republic, Equatorial Guinea (including Bioko Island, formerly Fernando Po), Gabon, Democratic Republic of the Congo (Zaire), and Angola in western and central Africa (Dorst and Dandelot, 1970:28, Kingdon, 1997:178).

*Anomalurus laniger* Temminck, 1853:149.
   **Type Locality.** Medje-Congo, West Africa.
   **Comments.** Synonymized within *beecrofti* by Huet (1884:281) as “*lanigera*” and Dieterlen (1993:757).

*Anomalurus fulgens* Gray, 1869:467.
   **Type Locality.** Gaboon (Gabon).
   **Comments.** Species rank recognized by Huet (1884:281). Synonymized within *beecrofti* by Misonne (1974:4) and Dieterlen (1993:757).

*Anomalurus beecrofti argenteus* Schwann, 1904:70.
   **Type Locality.** Abutschi, Niger River, Nigeria.
   **Comments.** Recognized as a subspecies of *beecrofti* by Sanderson (1940:696). Synonymized within *beecrofti* by Misonne (1974:4) and Dieterlen (1993:757).

*Anomalurus citrinus* Thomas, 1916b:236.
   **Type Locality.** Benito River, Spanish Guinea (Equatorial Guinea).

   **Type Locality.** Medje, Belgian Congo (Democratic Republic of the Congo [Zaire]), Africa.

*Anomalurus beecrofti hervoi* Dekeyser and Villiers, 1951:57.
   **Type Locality.** Bignona (Casamance), Senegal.
   **Comments.** Synonymized within *beecrofti* by Misonne (1974:4) and Dieterlen (1993:757).

Type Locality. Luebo, Belgian Congo (Democratic Republic of the Congo [Zaire]), Africa.


Anomalurus Waterhouse, 1843

Anomalurus Waterhouse, 1843a:124.

Type Species. Anomalurus fraseri Waterhouse, 1843a:124.

Comments. Also described in Waterhouse (1843b:52). Mid-Miocene to Recent, Africa.

Aroaethrus Waterhouse, 1843a:124.

Type Species. Substitute name for Anomalurus Waterhouse, 1843a:124.


Type Species. Anomalurodon ausembergeri Matschie, 1914:350.


Anomalurella Matschie, 1914:351.

Type Species. Anomalurus pusillus Thomas, 1887:440.


Anomalurus derbianus (Gray, 1842)

(Lord Derby’s scaly-tailed flying squirrel)

Pteromys derbianus Gray, 1842:262.

Type Locality. Sierra Leone, West Africa.

Comments. Synonymized within Anomalurus fraseri by Huet (1884:280).

Distribution. Rainforest region from Sierra Leone, Liberia, Ivory Coast (Côte d’Ivoire), Ghana, Nigeria, Cameroon, Central African Republic, Equatorial Guinea (including Bioko Island, formerly Fernando Po), Gabon, Congo (formerly French Congo and later People’s Republic of the Congo), and northern Angola and eastern Democratic Republic of the Congo (Zaire) border, Rwanda, Burundi, and southern Uganda and southwest Kenya. Also in eastern Tanzania with northern Mozambique and northern Zambia and Malawi. Ranges from sea level up to 2,400 m (6,234 ft) (Dorst and Dandelo, 1970:28; Diller, 1977:148; Kingdon, 1997:176).

Anomalurus fraseri Waterhouse, 1843a:124.

Type Locality. Bioko Island (formerly Fernando Po), Equatorial Guinea.


Pt.[eromys] squamicaudatus Schinz, 1845:58.

Type Locality. Bioko Island (formerly Fernando Po), Equatorial Guinea.


Anomalurus beldenii Du Chaillu, 1860:303.

Type Locality. Gabon, western Africa.


Type Locality. Gabon (Gabon).


Anomalurus orientalis Peters, 1880:164, pl.

Type Locality. Zanzibar according to the label, but Pakenham (1984:66) argued that it was more likely to have come from the mainland of Tanzania.


Anomalurus orientalis Peters, 1880:164, pl.

Type Locality. Zanzibar according to the label, but Pakenham (1984:66) argued that it was more likely to have come from the mainland of Tanzania.

Anomalurus jacksoni de Winton, 1898:251.
   **Type Locality.** Ntebe (Entebbe), Uganda.

Anomalurus fraseri nigrensis Thomas, 1904:190.
   **Type Locality.** Abutschi, Niger River, Nigeria.
   **Comments.** Subspecies rank recognized within *fraseri* by Sanderson (1940:695). Synonymized within *derbianus* by Dieterlen (1993:757).

Anomalurus neavei Dollman, 1909:351.
   **Type Locality.** Kambove, Katanga, south Congo (Democratic Republic of the Congo [Zaire]).

Anomalurus imperator Dollman, 1911:257.
   **Type Locality.** Bibianaha, west of Kumasi, Gold Coast (Ghana).
   **Comments.** Synonymized within *derbianus* by Misonne (1974:5) and Dieterlen (1993:757).

Anomalurus fraseri griselda Dollman, 1914:490.
   **Type Locality.** Bitye, southern Cameroon. 610 m (2,000 ft).
   **Comments.** Synonymized within *derbianus* by Misonne (1974:5) and Dieterlen (1993:757).

   **Type Locality.** River Lubefu, 121 km (75 mi) north of Lusambo, southern Congo (Democratic Republic of the Congo [Zaire]). 500 m (1,640 ft).
   **Comments.** Recognized as a subspecies of *derbianus* by Verheyen (1968a:400). Synonymized within *derbianus* by Dieterlen (1993:757).

Anomalurus jacksoni fortior Lönnberg, 1917:66.
   **Type Locality.** Masisi, western Democratic Republic of the Congo (Zaire).
   **Comments.** Synonymized within *derbianus* by Misonne (1974:5) and Dieterlen (1993:757).

Anomalurus fraseri laticeps d’Aguilar-Amat, 1922:52.
   **Type Locality.** Pico de Santa Isabel, Bioko Island (formerly Fernando Po), Equatorial Guinea. 3,000 m (9,842 ft).

   **Comments.** Synonymized within *derbianus* by Dieterlen (1993:757).

   **Type Locality.** Fazenda Congulu, Amboin, Angola.
   **Comments.** Synonymized within *derbianus* by Dieterlen (1993:757).

†Anomalurus parvus Winkler, 1992
†Anomalurus parvus Winkler, 1992:240.
   **Type Locality.** Muruyur Beds, Baringo District, Kenya.
   **Comments.** Middle Miocene.

Anomalurus pelii (Schlegel and Müller, 1845)
   (Pel’s scaly-tailed flying squirrel)

   **Anomalurus pelii pelii**
   (Schlegel and Müller, 1845)

   **Type Locality.** Daboera, Ghana, West Africa. Note the spelling of “Dabocrom” (Grubb et al., 1998:184).
   **Comments.** Transferred to *Anomalurus* at the generic rank by Gervais (1853:246).
   **Distribution.** High forest from Ghana to eastern Ivory Coast (Côte d’Ivoire) in West Africa (Schunke and Hutterer, 2005b:326).

   **Anomalurus pelii auzembergeri**
   (Matschie, 1914)

   **Type Locality.** “Bei Patokla am mittleren Cavally, Elfenbeinkuste, 150km vom Mere”. Middle Cavalle River, Patokla, Ivory Coast (Côte d’Ivoire), near boundary with Liberia, West Africa. 05°28’N, 07°19’W.
   **Type locality confirmed by Schunke and Hutterer (2005b:326).**
   **Distribution.** Eastern Liberia and extreme western Ivory Coast (Côte d’Ivoire), west of the Sassandra River (Schunke and Hutterer, 2005b:326)
Anomalurus pelii peralbus  
Schunke and Hutterer, 2005

Anomalurus pelii peralbus Schunke and Hutterer, 2005b:327.

**Type Locality.** Gueboua, Ivory Coast (Côte d’Ivoire), West Africa. 05°59′N, 05°41′W.

**Comments.** Described as a subspecies.

**Distribution.** Ivory Coast (Côte d’Ivoire), between the Bandama and Sassandra rivers (Schunke and Hutterer, 2005b:327).

Anomalurus pusillus Thomas, 1887  
(dwarf scaly-tailed flying squirrel)

Anomalurus pusillus Thomas, 1887:440.

**Type Locality.** Bellima, Monbuttu, northeast Congo (Democratic Republic of the Congo [Zaire]), West Africa.

**Comments.** Further described by Thomas (1888c:8) as the first description was considered preliminary.

**Distribution.** Occurs in central African rainforest from the high forests of Cameroon, southwestern Central African Republic, Equatorial Guinea, Gabon, Congo, and Democratic Republic of the Congo (Zaire) to western Uganda and northwest shore of Lake Tanganyika. There is also an isolated occurrence in west Liberia on the Du River (Diller, 1977:149; Kingdon, 1997:178).

Anomalurus batesi de Winton, 1897:524.

**Type Locality.** Como River, 75 mi from Gaboon (Gabon).

**Comments.** Synonymized within pusillus by Misonne (1974:5) and Dieterlen (1993:757).

†Paranomalurus soniae Lavocat, 1973


**Type Locality.** Songhor, Kenya, Africa.

**Comments.** Oligocene to mid-Miocene.

†Paranomalurus walkerii Lavocat, 1973


**Type Locality.** Songhor, Kenya, Africa.

**Comments.** Early Oligocene to mid-Miocene.

Subfamily Zenkerellinae Matschie, 1898


**Type Genus.** Zenkerella Matschie, 1898:23.

**Comments.** Subfamily recognized by Delany (1975:28).

Family Idiuridae Miller and Gidley, 1918:442.

Idiurus Matschie, 1894

Idiurus Matschie, 1894:194.

**Type Species.** †Idiurus zenkeri Matschie, 1894.

**Comments.** Reviewed by Verheyen (1963:157) and Schunke and Hutterer (2007:1), who considered the currently recognized species as valid and having no subspecies.

Idiurus macrotis Miller, 1898  
(long-eared scaly-tailed flying squirrel)

Idiurus macrotis Miller, 1898:73.

**Type Locality.** Efulen, Cameroon, West Africa.

**Comments.** Reviewed by Verheyen (1963). Geographic variation assessed by Schunke and Hutterer (2007:1), who confirmed that no subspecies should be recognized.

**Distribution.** Equatorial Africa from Sierra Leone, Liberia, Ivory Coast (Côte d’Ivoire), Cameroon, Equatorial Guinea, Gabon, and farther east through Democratic Republic of the Congo (Zaire) to Ituri Forest and eastern Congo. The overall range is similar to I. zenkeri, but I. macrotis appears to be rarer than zenkeri in the eastern part of their ranges (Diller, 1977:151; Kingdon, 1997:179).

**Type Locality.** Masisi, about 64 km (40 mi) northwest of Lake Kivu, Belgian Congo (Democratic Republic of the Congo [Zaire]).

**Comments.** Recognized as a valid species by Hayman (1946:211). Synonymized within macrotis by Dieterlen (1993:758).

Idiurus langi J. Allen, 1922:69, pl. 5.

**Type Locality.** Medje, Belgian Congo (Democratic Republic of the Congo [Zaire]), West Africa.

**Comments.** Recognized as a subspecies of macrotis by Hayman (1946:212) and Verheyen (1963:169). Synonymized within macrotis by Dieterlen (1993:758).

Idiurus panga J. Allen, 1922:70.

**Type Locality.** Panga, Belgian Congo (Democratic Republic of the Congo [Zaire]), West Africa.

**Comments.** Recognized as a subspecies of kivuensis by Hayman (1946:212). Synonymized within macrotis by Dieterlen (1993:758).

Idiurus kivuensis cansdalei Hayman, 1946:211.

**Type Locality.** Oda, Oda Province, Gold Coast (Ghana), West Africa.

**Comments.** Recognized as a subspecies of kivuensis by Hayman (1946:212) and Verheyen (1963:183). Synonymized within macrotis by Dieterlen (1993:758).

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Idiurus zenkeri Matschie, 1894  
*(pygmy scaly-tailed flying squirrel)*

**Type Locality.** Yaounde, southern Cameroon, West Africa.

**Comments.** Revised by Verheyen (1963:159). Geographic variation assessed by Schunke and Hutterer (2007:1), who confirmed that no subspecies should be recognized.

**Distribution.** Cameroon, southwestern Equatorial Guinea, Gabon, Congo, and Democratic Republic of the Congo (Zaire). Also occurs between the Aruwimi River and northeast and east Democratic Republic of the Congo to the foothills of Ruwenzori and Kivu to Lake Kivu and west Uganda (Diller, 1977:150; Kingdon, 1997:179).


**Type Locality.** Eshobi, Mamfe district, Nigérie (west Cameroon), West Africa. 168 m (550 ft).

**Comments.** Synonymized within zenkeri by Dieterlen (1993:758).

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**Superfamily Anomaluroidea incertae sedis**  
*Marivaux et al., 2005*

Anomaluroidea incertae sedis Marivaux et al., 2005:220.

**Comments.** Late to middle Eocene. Myanmar and Algeria. These genera were suggested to lie within the Anomaluroidea by Marivaux et al. (2005:221); however, they suggested that these genera cannot be formally included within the Anomaluridae sensu stricto because of their peculiar dental complexity and the current lack of diagnostic postcranial remains.

†**Family Nementchamyidae Jackson and Thorington, new family**

†Family Nementchamyidae Jackson and Thorington, new family.

**Type Genus.** †Nementchamys Jaeger et al., 1985:580.

**Diagnosis.** The genera †Nementchamys and †Pondaungimys that represent the family Nementchamyidae are distinguished by a dental pattern that is relatively more primitive in some respects than that of Miocene and modern anomalurids, and they show a derived dental complexity in some respects that indicates they are the closest outgroup of the Anomaluridae. Specific diagnosis includes a dental pattern that is characterized by an association of characters and the development of a neoloph, a large mesostyle, a well-marked anterostyle, and a complex third transverse crest on the upper molars, the lack of metalophulid I, the strong development of the anterocingulid, giving a complete anterolophid, the loss of the hypocnulid, and a well-marked mesolophid on the lower molars (Marivaux et al., 2005:218).

**Comments.** Late Eocene. Myanmar and Algeria. Family rank derived from Anomaluridae (part), Jaeger et al. (1985:580), McKenna and Bell (1997:185), and Dawson et al. (2003:205). The genera †Nementchamys and †Pondaungimys were suggested to lie within the Anomaluroidea by Marivaux et al. (2005:221); however, it was proposed that these genera cannot be formally included within the Anomaluridae sensu stricto because of their peculiar dental complexity and the current lack of diagnostic postcranial remains. Marivaux et al. (2005:220) suggest that †Nementchamys and †Pondaungimys will probably be included within a new family in the Anomaluroidea, which has been done here.
†Nementchamys Jaeger et al., 1985

†Nementchamys Jaeger et al., 1985:580.

Type Species. †Nementchamys lavocati Jaeger et al., 1985:580.

Comments. Late to middle Eocene; Nementcha Mountains, Algeria. Genus recognized within the family Anomaluridae by McKenna and Bell (1997:185).

†Nementchamys lavocati Jaeger et al., 1985

†Nementchamys lavocati Jaeger et al., 1985:580.

Type Locality. Nementcha Mountains, eastern Algeria.

Comments. Late to middle Eocene. Landry (1999:313) stated that this species description was not convincing and that it was better to leave it as Rodentia, incertae sedis, pending the discovery of more revealing details.

†Pondaungimys Dawson et al., 2003

†Pondaungimys Dawson et al., 2003:203, 205.

Type Species. †Pondaungimys anomalulopsis Dawson et al., 2003:203, 205.

Comments. Late to middle Eocene. Pondaung Formation, central Myanmar. Genus recognized within the family Anomaluridae by McKenna and Bell (1997:185) and Dawson et al. (2003:205).

†Pondaungimys anomalulopsis Dawson et al., 2003

†Pondaungimys anomalulopsis Dawson et al., 2003:203, 205.

Type Locality. Pondaung Formation, central Myanmar.

Comments. Late to middle Eocene.

Infraorder Glirimorpha Thaler, 1966


Comments. Recognized at infraordinal rank by McKenna and Bell (1997:174).

Family Gliridae Muirhead, 1819

Family Glirini Muirhead, 1819:433.


Comments. Synonymized within Myoxidae by McKenna and Bell (1997:174). McKenna and Bell (1997:174) note that “the currently fashionable return to Myoxidae and other family-group names based upon it, in preference to Gliridae and its coordinate names, may be in violation of the International Code of Zoological Nomenclature, Article 40, depending on the vague unwritten definition of ‘general acceptance.’ If Glis Brisson were to be validated by the International Commission on Zoological Nomenclature, then Muirhead’s Glirini, not Gliridae Thomas, would be the basis for Gliridae.” Family name was discussed by Wahlert et al. (1993:2) and the International Commission on Zoological Nomenclature (1995:78), with Glis and, in turn, the family name Gliridae being conserved by Opinion 1894 of the International Commission on Zoological Nomenclature (1998:64). It has been added to the Official Lists and Indexes of Names and Works in Zoology (Smith, 2001:34). Subsequently, Holden (2005:819, 840) reluctantly recognized Glis and the family Gliridae.

Family Myoxidae Gray, 1821:303.

Type Genus. Myoxus von Zimmermann, 1780: 351.

Comments. Recognized by McKenna and Bell (1997:174, 178), who place Glis Brisson, 1762, as a junior synonym of Myoxus von Zimmermann, 1780. McKenna and Bell refer to the International Code of Zoological Nomenclature Articles 11(c)(i) and 40 for confusing rules, and they suggest that Brisson, 1762, was not consistently binomial. Synonymized within the family Gliridae Muirhead, 1819, by Holden (2005:819).

Myoxina Gray, 1825:342.

Type Genus. Myoxus von Zimmermann, 1780:351.

Comments. Synonymized within Myoxidae by McKenna and Bell (1997:174) and within the family Gliridae Muirhead, 1819 by Holden (2005:819).

Family Myoxidae Waterhouse, 1839c:184.

Type Genus. Myoxus von Zimmermann, 1780:351.

Comments. Synonymized within Myoxidae by McKenna and Bell (1997:174) and within the family Gliridae Muirhead, 1819 by Holden (2005:819).

Family Myoxini Giebel, 1855:621.

Type Genus. Myoxus von Zimmermann, 1780:351.

Comments. Synonymized within Myoxidae by McKenna and Bell (1997:174) and within the family Gliridae Muirhead, 1819 by Holden (2005:819).
Family Myoxidae Haeckel, 1866:clx.

**Type Genus.** *Myoxus* von Zimmermann, 1780:351.

**Comments.** Synonymized within Myoxidae by McKenna and Bell (1997:174) and within the family Gliridae Muirhead, 1819 by Holden (2005:819).


**Type Genus.** *Myoxus* von Zimmermann, 1780:351.

**Comments.** Included the family Myoxidae. Synonymized within Myoxidae by McKenna and Bell (1997:174) and within the family Gliridae Muirhead, 1819 by Holden (2005:819).

Family Leithiidae Lydekker, 1895:862.

**Type Genus.** *Leithia* Lydekker, 1895:862.

**Comments.** Synonymized within the family Myoxidae by McKenna and Bell (1997:174), but recognized as a subfamily within Myoxidae on p. 175. Synonymized within the family Gliridae Muirhead, 1819 by Holden (2005:819, 829), but recognized as a subfamily.

Family Gliridae Thomas, 1897:1016.

**Type Genus.** *Glis* Brisson, 1762:13, 113.

**Comments.** Thomas rejected the family name Myoxidae because *Myoxus*, on which it is based, is a synonym of the earlier generic name *Glis*. Name recognized by many authors since its description. Synonymized within Myoxidae by McKenna and Bell (1997:174), but this may be incorrect. Synonymized within the family Gliridae Muirhead, 1819 by Holden (2005:819).

Family Muscardinidae Palmer, 1899:413.

**Type Genus.** *Muscardinus* Kaup, 1829:139.

**Comments.** Synonymized within Myoxidae by McKenna and Bell (1997:174), but recognized as a tribe within the subfamily Myoxinae (Gray, 1821:303). Synonymized within the family Gliridae Muirhead, 1819 by Holden (2005:819).

Family Selefiniidae Bashanov and Belosludov, 1939:3.

**Type Genus.** *Selefinia* Belosludov and Bashanov, 1939:81.

**Comments.** Name also described by Bashanov and Belosludov (1941:311). Synonymized within Myoxidae by McKenna and Bell (1997:174), but recognized as a tribe within the subfamily Leithiinae. Synonymized within the family Gliridae Muirhead, 1819 by Holden (2005:819).


**Type Genus.** *Glis* Brisson, 1762:13, 113.

**Comments.** Synonymized within Myoxidae by McKenna and Bell (1997:174) and within the family Gliridae Muirhead, 1819 by Holden (2005:819).

**Subfamily Glirinae Muirhead, 1819**

Glirini Muirhead, 1819:433.

**Type Genus.** *Glis* Brisson, 1762:13, 113.

**Comments.** Subfamily rank recognized by Holden (2005:838).

Family Myosidae Gray, 1821:303.

**Type Genus.** *Myoxus* von Zimmermann, 1780:351.

**Comments.** Synonymized within the subfamily Gliridae Muirhead, 1819 by Holden (2005:838).

**Subfamily Myoxinae Huxley, 1872:369.**

**Type Genus.** *Myoxus* von Zimmermann, 1780:351.

**Comments.** Synonymized within the subfamily Gliridae Muirhead, 1819 by Holden (2005:838).

**Subfamily Gliridae Thomas, 1897:1016.**

**Type Genus.** *Glis* Brisson, 1762:13, 113.

**Comments.** Synonymized within the subfamily Gliridae Muirhead, 1819 by Holden (2005:838).

**Subfamily Glirulinae de Bruijn, 1966:373.**

**Type Genus.** *Glis* Brisson, 1762:13, 113.


**Glirulus Thomas, 1905**

*Glirulus* Thomas, 1905b:347.

**Type Species.** *Myoxus japonicus* Schinz, 1845:530.
Comments. The species was initially described in error as javanicus instead of japonicus, which must remain under the order of priority. This species is not found on Java but only in Japan. There is only one extant species within this genus.

_Glirulus japonicus_ (Schinz, 1845)

*Myoxus javanicus* Schinz, 1845:530.

**Type Locality.** Japan.

**Comments.** Nongliding genus type species. Described from extant specimen. Originally described as javanicus. See Thomas (1905b:347) for an explanation of the emendation of javanicus to japonicus. This species and all species apart from that described by Mein and Romaggi (1991:45) appear to be nongliding.

†_Glirulus lissiensis_ Hugueney and Mein, 1965

†_Glirulus lissiensis_ Hugueney and Mein, 1965:117.

**Type Locality.** Lissieu (Rhone), France.

**Comments.** Neogene. Although there are various other fossil species within _Glirulus_, this is the only one that appears to have had the ability to glide (Mein and Romaggi, 1991:45).

**Infraorder Geomorpha Thaler, 1966**


**Comments.** Recognized at infraordinal rank by McKenna and Bell (1997:174).

Family Sciurospalacoïdes Brandt, 1855:301.

**Comments.** _Nomen oblitum_. Synonymized within the infraorder Geomorpha by McKenna and Bell (1997:178).

†_Superfamily Eomyoidea_ Winge, 1887

†_Eomyini_ Winge, 1887:109, 122.

**Type Genus.** †_Eomys_ Schlosser, 1884:328.

**Comments.** The paper gives the date as 1888; however, the author’s separates were distributed in December 1887 (Palmer, 1904:740). Recognized at superfamily rank by Deperet and Douxami (1902:69) and McKenna and Bell (1997:178).

†_Eomys Schlosser, 1884

†_Eomys Schlosser, 1884:328.

**Type Species.** †_Eomys pomel_ Schlosser, 1884:328.

**Comments.** Late Oligocene, Europe. Type species of the genus is not considered to glide.

†_Eomys quercyi_ Compte and Vianey-Liaud, 1987


**Type Locality.** Pech du Fraysse (Quercy).

**Comments.** Late Oligocene. There are various fossil species that have been allocated to this genus (e.g., Schlosser, 1884:328; Compte and Vianey-Liaud, 1987:951). This species was not initially considered to be a gliding mammal until a subsequent well-preserved specimen was discovered at Ensple near Bad Marienberg in the Westerwald, state of Rheinland-Pfalz, Germany (Storch et al., 1996:349). Given that it appears to be a gliding mammal, it should warrant being placed in a new genus and potentially a new family.

†_Order Volaticotheria_ Meng et al., 2006

†_Order Volaticotheria_ Meng et al., 2006:889.

†_Family Volaticotheriidae_ Meng et al., 2006

†_Family Volaticotheriidae_ Meng et al., 2006:889.

†_Volaticotherium_ Meng et al., 2006

†_Volaticotherium_ Meng et al., 2006:889.
**Type Species.** †Volaticotherium antiquus Meng et al., 2006:889.

†Volaticotherium antiquus Meng et al., 2006

†Volaticotherium antiquus Meng et al., 2006:889.

**Type Locality.** Daohugou, Ningcheng County, Inner Mongolia, China.

**Comments.** Middle to Late Cretaceous, approximately 125 MYA.


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Wroughton, R. C. 1911. Oriental Flying Squirrels of the “Ptero-


Young, C.-C. 1934. On the Insectivora, Chiroptera, Rodentia and Primates Other Than Sinanthropus from Locality 1 at Choukoutien. Paleontologica Sinica, Series C, 8:1–139.

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Page numbers in bold are those on which currently recognised taxa are described.

*abbotti, Galeopterus, 24*  
*abidi, Petaurus, 11*  
*accola, Plagiomene, 28*  
*Acrobata, 2, 19,*  
*Acrobates, 2, 6, 10, 15, 18, 19–20*  
*pulchellus, 20*  
*pygmaeus, 2, 19–20*  
*Acrobatidae, 1, 10, 15, 18, 19*  
*Acrobatini, 10, 19*  
*Adjidaumidae, 80*  
*Adjidaumo, 80,*  
*aërobates, Sciurus, 43*  
*Agrabates, 19*  
*Agrabates, 19*  
*Aeretis, 5, 33,*  
*grandidens, 33*  
*melanopterus, 33*  
*melanopterus szechuanensis, 33*  
*premelanopterus, 33*  
*Aeromys, 5, 33–34*  
*tephromelas, 33–34*  
*tephromelas phaeomelas, 34*  
*thomasi, 34*  
*Aistheseseozoa, 7*  
*Albanensia, 33, 34–35, 50*  
*albanensis, 34, 50*  
*albanensis quiricensis, 34*  
*grimmi, 34*  
*sansaniensis, 35*  
*albanensis, Albanensia, 34, 50*  
*albicenter, Petaurista, 53–54, 57, 59, 64*  
*Pteromys, 53*  
*alboniger, Hylopetes, 45, 46*  
*Sciuropterus, 45*  
*alborufus, Petaurista, 53, 54–55, 57, 62*  
*Pteromys, 54*
Alveria, 33, 35
brinkerinki, 35
luteyi, 35
alpinus, Glaucomys sabrinus, 39–42
Pteromys, 39
daluco, Sciuropus, 70
americana, Pteromys, 43
anoeus, Sciuropus, 48
amygdali, Sciuropus momonga, 69
anadrynis, Pteromys volans, 70
anchises, Pteromys phayrei, 46
annamensis, Petaurista, 53, 62
Petaurista philippensis, 57, 59, 61, 62–64
Anomalurella, 74
Anomaluri, 73
Anomaluridae, 1, 72–73, 77, 78
Anomalurina, 72, 73
Anomalurinae, 73, 76
Anomalurini, 73
Anomalurodon, 74
auzembergeri, 74, 75
Anomaluroidea, 2, 5, 72, 77
Anomaluromorpha, 72
Anomalurots, 5, 73–74
beecrofti, 5, 73–74
beecrofti schoutedeni, 74
anomalurosis, Pondaungimys, 78
Anomalurus, 5, 72–73, 74–76
batesi, 76
beecrofti, 5, 73–74
beecrofti argentus, 73
beecrofti herovi, 73
beldeni, 74
chaplina, 73
chrysophaeus, 74
cinerus, 74
citrus, 73
derbianus, 5, 74–75
erythronotus, 74
fraseri, 74, 75
fraseri griselda, 75
fraseri laticeps, 75
fraseri nigrensis, 75
fulgens, 73
imperator, 75
jacksoni, 75
jacksoni fortiort, 75
jacksoni jordani, 75
jacksoni perustus, 75
langier, 73
neavei, 75
orientalis, 74
parvus, 75
pelii, 5, 75–76, 76
pelii auzembergeri, 75
pelii peralbus, 76
puillus, 5, 74, 76
antiquus, Volaticotherium, 5, 81
aor, Galeopithecus, 25
aphantus, Dracontofoles, 30
Arctomyidae, 31
Arctomyidae, 30
Arctomyidae, 31
argenteus, Anomalurus beecrofti, 73
ariel, Petaurus breviceps, 13
arnillius, Petauridae volans, 18
Araeothrus, 74
arrow-tailed flying squirrel, 47
arsenjevi, Pteromys volans, 70
ariel, Petaurus (Belidea), 13
Ascobates, 19
asiatica, Meina, 50
athene, Pteromys volans, 70
Sciuropus ruscus, 70
auctor, Petinomys, 65
auranticus, Hylotepes sagitta, 47
Pteromys, 47
Australidelphia, 8
australis, Pteromys, 2, 10, 11–12, 14–17
auzembergeri, Anomalurodon, 74, 75
Anomalurus pelii, 5, 75
ayamariensis, Petauridae, 16
baberi, Eoglaucomys fimbriatus, 37
Sciuropterus, 37
badiatus, Petaurista lylei, 62
bangsi, Glaucomys sabrinus, 39
Sciuropterus alpinus, 39–42
banksi, Petaurista elegans, 56
Petaurista punctatus, 56
barroni, Petaurista annamensis, 53
Barbels flying squirrel, 45
bartschi, Hylotepes, 45, 65
Petaurista, 33
Petinomys, 45
Basilan flying squirrel, 65
batesi, Anomalurus, 76
batuana, Petaurista, 59
Petaurista petaurista, 59
beecrofti, Anomalurots, 5, 73–74
Beecroft’s scaly-tailed flying squirrel, 5, 73
Beldeni, Anomalurus, 74
Belidea, 11
ariel, 13
Belidea, 2, 10–14, 18
gracilis, 14
Belomys, 4, 35–36, 71
parapearsonii, 35
pearsonii, 35
pearsonii blandus, 35
pearsonii kaleensis, 36
pearsonii trichotis, 36
thamkawei, 36
trichotis, 36
belone, Sciuropterus (Hylotepes), 48
betelinus, Pteromys volans, 70
Bhutan giant flying squirrel, 58
biacensis, Petaurus, 12–13
Petaurus (Petaurrella) papuensis, 11–14
Biak glider, 12
birelli, Petaurista, 53
bispchopf, Paranomalurus, 76
Biasvamoyoopterus, 5, 36
biswasi, 36
biswasi, Biasvamoyoopterus, 36
black flying squirrel, 33
Blackia, 32, 36
miocaenica, 36–37
parvula, 36
polonica, 36
ulmensis, 36
woelfersheimensis, 37
Blackimi, 32
blandus, Belomys pearsonii, 35
borneanus, Galeopterus varigatus, 23, 24
Pteromyscus, 71
Pteromyscus pulverulentus, 71
borneensis, Sciuropterus genibarbis, 66
brachyodus, Petaurista, 55
Pteromys, 55
bressana, Pliopetaurista, 67
breviceps, Petaurus, 2, 11, 12, 13–14
brinkerinki, Alveria, 35
buchenri, Pteromys, 64
buchenri, Pteromys volans, 71
Sciuropterus, 71
bullatus, Glaucomys, 39
californicus, Glaucomys sabrinus, 39
Sciuropterus alpinus, 39
campester, Thylacaelurus, 21
campestre, Sciurion, 32
canadenis, Pteromys, 39
candidula, Petaurista alboreus, 54
candiduls, Petaurista, 54
canesens, Glaucomys sabrinus, 39
caniceps, Petaurista, 55–56
Sciuropterus, 55
cansdalei, Idiurus kiwensis, 77
caroli, Hylotepes barrisoni, 48
Carpophaga, 10
castanoeus, Petaurista alboreus, 54
Cercopithecus, 19
chapini, Anomalurus, 73
chayenensis, Petaurista albiverter, 53
chianfengensis, Hylotepes alboniger, 45
chimaera, Dermotherium, 26
Chinese giant flying squirrel, 63
chombolis, Galeopterus, 25
chontali, Glaucomys volans, 43
chrysotrix, Sciuropterus, 58
chrysophaeus, Anomalurus, 74
cicur, Petaurista nitida, 59
Petaurista petaurista, 59
cinderella, Petaurista, 62
cineraceus, Petaurista philippensis, 62–63
Pteromys petaurista, 62
cineres, Anomalurus, 4, 74
Eupetaurus, 37
Petauridae, 16, 18
cirrus, Anomalurus, 73
clearei, Petaurista, 55
Petaurista caniceps, 55–56
coloratus, Glaucomys sabrinus, 39
Colugidae, 22
Colugo, 2, 22, 23
columbiensis, Glaucomys sabrinus, 40
complex-toothed flying squirrel, 4, 72
copei, Olbodotes, 29, 30
crassiusculus, Mixodectes, 30
crinitus, Petinomys, 65–67
Sciuropterus, 65
crusafonti, Cryptopterus, 50
Miotetraurista, 50
Cryptopterus, 50, 24
 crusafonti, Cryptopterus, 50
 gaiardi, 50
 neogrivensis, 51
 thaleri, 51
 tobieni, 51
 webbi, 51
cucullatus, Pteromys, 43
cunninghami, Petaurus, 12
cuspidata, Eudaemonema, 27
Cynocephalidae, 21–22, 26
Cynocephalus, 2, 21, 22–24, 26
tellonis, 26
volans, 23, 24
davisoni, Iomys borsfieldi, 49
Sciuropterus, 49
deburnii, Hylopetes, 51
Neotetes, 51
delmi, Miotetraurista, 50
delnelli, Pliotetraurista, 67–68
Piloctiuropterus, 67
depereti, Sciuropterus, 68
derbianus, Anomalurus, 5, 74–75
Pteromys, 5, 74
Dermoptera, 1, 3, 4, 6, 20–21, 26–29
Dermopteriformes, 21
Dermopterus, 2, 23
Dermotherium, 4, 26
chimaera, 26
major, 26
Didelphina, 8
Didelphis, 2, 15
macroura, 17
petaurus, 12
pygmaea, 19
scinrea, 11, 15
volans, 12, 15–17
volucella, 17
didelphoides, Petaurus, 18
diescalidus, Miotetraurista, 50
Diprotodontia, 9
Diprotodontia, 6, 9, 16, 52, 53
Diprotodontiformes, 9
Doumsimys, 72
margolis, 72
Dracontoletes, 30
aphantus, 30
Dromia frontalis, 20
Duplicicommissurala, 9
dwarf scaly-tailed flying squirrel, 5, 76
edithe, Trogopterus, 72
Ekgmowechashala, 28, 29
philotau, 29
Ekgmowechashalinae, 28–29
Ekgmowechashalini, 29
elassodontus, Hylopetes nigripes, 46
Sciuropterus nigripes, 46
electis, Hylopetes phayrei, 46, 65
Pteromys (Petinomys), 46
elegans, Elpidophorus, 27
Petaurista, 55, 56
Pteromys, 56
Ellesmene, 28
eureka, 28
Elpidophorus, 27
elegans, 27
minor, 27
papai, 27
emiliae, Petaurillus, 52
Eoglaucomys, 4, 5, 37, 44
fimbriatus, 37
fimbriatus baberi, 37
Eomyidae, 4, 5, 80
Eomyini, 80
Eomyoidea, 80
Eomyx, 80
pomel, 80
quercy, 5, 80
erythronotus, Anomalurus, 74
Eudaemonema, 27
cuspida, 27
Euderomoptera, 21
Eupetauridae, 32, 37
Eupetaurus, 4, 32, 37, 52
cineres, 4, 37
eureka, Ellesmene, 28
Eutheria, 4, 8, 20
everetti, Sciuropterus, 44, 48
feathertail glider, 1, 2, 19
Ferae, 8
Ferungulata, 20
filchnerinae, Pteromys, 64
fimbriata, Sciuroptera, 37
fimbriatus, Eoglaucomys, 37
flavids, Petaurus (Petaurella) pappensis, 14
flaviventer, Petaurista, 12
flaviventris, Glaucomys sabrinus, 40
Forsythia, 33, 38
gandryi, 38
fortiori, Anomalurus jacksoni, 75
fraseri, Anomalurus, 74, 75
frontalis, Dromicia, 20
fulgens, Anomalurus, 73
fulginosus, Glaucomys sabrinus, 40
Sciuropterus alpinus, 40
fulvus, Petaurista, 53
fuscocapillus, Petinomys, 65–66
Sciuropterus, 65
fuscus, Glaucomys sabrinus, 40
gailardi, Cryptopterus, 50
Miotetraurista, 50
Galeolemur, 23
Galeopithecidae, 21
Galeopithecidae, 21
Galeopithecina, 22
Galeopithecoidae, 21, 22
Galeopithecus, 2, 22, 23
aoris, 25
gracilis, 24
hantu, 25
macrourus, 24
marmoratus, 26
natunae, 24
philippinensis, 23
pumilus, 25
rufus, 23
saturatus, 26
temminckii, 23, 26
ternatensis, 24
tuancus, 26
undatus, 24
variegatus, 23, 24
variegatus perbentianus, 25
variegatus tertans, 25
Galeopithecidae, 22
Galeopiters, 2, 22, 23
abbotti, 25
borneanus, 24
chombolis, 25
lautensis, 24
lebeui, 24
taylori, 25
variegatus, 23
variegatus borneanus, 24
variegatus peninsularis, 25
variegatus temminckii, 26
varius, 24
Galeopiters, 2, 23
gaurdry, Forsythia, 38
Sciuropterus, 38
gembarbis, Petinomys, 47, 66
Pteromys, 66
Geomorpha, 80
gibberosus, Sciurus, 50
Glaucomys, 4, 38, 39
bullatus, 39
sabrinus, 38, 42
sabrinus alpinus, 39
sabrinus bangsi, 39
sabrinus Californicus, 39
sabrinus canescens, 39
sabrinus coloratus, 39
sabrinus columbiansis, 40
sabrinus flaviventris, 40
sabrinus fuliginosus, 40
sabrinus fuscus, 40
sabrinus goodwini, 40
sabrinus gouldi, 40
sabrinus griseifrons, 40
sabrinus kramathenis, 40
sabrinus lascius, 41
sabrinus latipes, 41
sabrinus lucifugus, 41
sabrinus macrotis, 41
sabrinus makkovikensis, 41
sabrinus marmoratus, 41
sabrinus oregonensis, 41–42
sabrinus reductus, 42
sabrinus stephensi, 42
sabrinus yuconensis, 42
sabrinus zaphaeus, 42
volans, 4, 42
volans chontali, 43
volans goldmani, 43
volans guererroensis, 43
volans herreraeus, 43
volans madensis, 44
volans oxacensis, 44
volans queretani, 44
volans satrapus, 44
volans texensis, 44
volans undertwoodi, 44
Gires, 30
Ghiridae, 78
Ghirimorpha, 78
Ghirinae, 79
Ghirini, 78, 79
Ghiriodea, 79
Ghirula, 79
japonicus, 80
lissiensis, 5, 80
Glis, 78, 79
goeriacensis, Miopetaurista, 50
goldmani, Sciuropterus volans, 43
goodwini, Glaucomys sabrinus, 40
goreiacensis, Sciurus, 50
gorkhali, Petaurista caniceps, 55
Sciuropterus, 55
gouldi, Glaucomys sabrinus, 40
gracilis, Belideus, 14
Galeopithecus, 24
Petaurus, 14
grandifrons, Aceretes, 33
grandis, Petaurista petaurista, 59
Pteromys, 59
grey-headed giant flying squirrel, 55
greater glider, 1, 2, 17, 52
grey-cheeked flying squirrel, 46
grimmi, Albaniensia, 34
griseifrons, Glaucomys sabrinus, 40
griselida, Anomalurus fraseri, 75
griseiventer, Pteromys, 62
huber, Pteromys volans, 70
guererroensis, Glaucomys volans, 43
hageni, Petinomys, 66
Sciuropterus, 66
Hagen's flying squirrel, 66
Hainan giant flying squirrel, 57
hainana, Petaurista, 57
hairy-footed flying squirrel, 35
hantu, Galeopithecus, 25
harrisoni, Sciuropterus, 52
haymani, Idrirus, 77
helleri, Petauria, 53
Petaurista, 57
Hemibelideinae, 15
Hemibelides, 15
hepurna ru, Petaurus, 12
hereranas, Glaucomys volans, 43
heros, Anomalurus beecrofti, 73
himalaicus, Trogopterus, 72
hinonti, Petaurista leucogenys, 58
hodgsoni, Petaurista magnifica, 58
Hodgson's giant flying squirrel, 58
hoekkarum, Hylometes, 51
Neopetes, 51
borsfieldi, Idrus, 49
Idrius borsfieldi, 49
Pteromys, 49
Pteromys (Sciuropterus), 49
hosoi, Petaurillus, 52
hosoi, Sciuropterus, 52
Hose's pygmy flying squirrel, 52
hudsonius, Sciurus, 39
hungericus, Pliopetes, 68
Hylometes, 4, 33, 34, 37, 44–49, 51, 65, 68
alboniger, 45
alboniger chionfangensis, 45
alboniger orinus, 45
bartei, 45
debrujni, 51
harrisoni caroli, 48
hoekkarum, 51
macedoniensis, 51
nigripes, 46
nigripes elassodontus, 46
phayrei, 46
phayrei electlis, 46
platyurus, 46
sagitta, 47
sagitta aurantiacus, 47
sagitta sipora, 47
sipora, 47
spadicens, 47
spadicens everetti, 48
spadicens sumatrae, 48
winston, 49
Idiurus, 5, 76
kivuensis cansdalei, 77
langi, 77
macrotis, 76
macrotis, 4
makkovikensis, 41
makkovikensis, 40
malleus, 76
Pteromys, 53
interceptio, Petaurista petaurista, 59
interventus, Sciuropterus momonga, 69
institutana, Worlandia, 27
Iomys, 49
borsfieldi, 49–50
borsfieldi dawsoni, 49
borsfieldi borsfieldi, 49–50
borsfieldi penangensis, 49
borsfieldi pomona, 49
borsfieldi pipera, 49
lepidus, 49
sipora, 49
winston, 49
jacksonian, Anomalurus, 75
jamesi, Sciuropterus, 64, 65
Japanese flying squirrel, 69
Japanese giant flying squirrel, 16, 57
japonicus, Glirulus, 80
Myoxus, 79, 80
Javanese flying squirrel, 49
javanicus, Myoxus, 80
jordani, Anomalurus jordani, 75
jourdaini, Sciuropterus, 34
kalahari, Belomys pearsonii, 36
kalahensis, Sciuropterus, 36
Kashmir flying squirrel, 37
khinganensis, Pteromys russicus, 70
kinlochii, Petaurillus, 52
Sciuropterus (Petaurillus), 52
kivuensis, Idrurus senkerti, 77
klamathensis, Glaucomys sabrinus, 40
Sciuropterus alpinus, 40
kobhi, Petaurus, 12
kollmanni, Pliopetaurista, 68
langi, Idiurus, 77
langer, Anomalurus, 73
lanka, Petaurista, 62
laotum, Sciuropterus phayrei, 46
lappi, Miopetaurista, 50
Sciuropterus, 50
lacivus, Glaucomys sabrinus, 41
Sciuropterus alpinus, 41
laticeps, Anomalurus fraseri, 75
lattipes, Glaucomys sabrinus, 41
laetus, Galeopithecus, 24
lavoci, Nementchamy, 78
layardi, Sciuropterus, 66
leachii, Pteromys, 45
leebei, Galeopithecus, 24
Leithiidae, 79
Lemur, 2, 22, 23
volans, 2, 22, 23
lena, Petaurista, 54, 57
leondi, Pteromys (Hylopetes), 45
lepidus, Iomys, 49
Pteromys, 46–48
lesser pygmy flying squirrel, 52
leucocephalus, Pterarista alborufus, 54
Pteromys alborufus [sic], 54
leucogaster, Petaurus, 15
leucogenys, Petaurista, 57
Pteromys, 57
lissiensis, Glirulus, 5, 80
long-eared scaly-tailed flying squirrel, 5, 76
longicaudatus, Petaurus breviceps, 13
lophulida, Oligopetes, 51
lopingensis, Pteromys, 69
Lord Derby’s scaly-tailed flying squirrel, 74
lucifugus, Glaucomys sabrinus, 41
lugens, Petinomys, 66
Sciuropterus, 65, 66
lui, Shuanggouia, 71
lumboltzi, Petaurista petaurista, 60
lutynia, Aliviera, 35
lylei, Petaurista, 62, 63
Petaurista philippensis, 63
macedoniensis, Hylopetes, 51
Neopetes, 51
Macropoda, 9
macrotis, Glaucomys sabrinus, 41
Idiurus, 5, 76–77
Sciuropterus sabrinus, 41
macroura, Didelphis, 17
macrourus, Galeopithecus, 24
Galeolemur, 23
madrens, Glaucomys volans, 44
maerens, Sciuropterus, 66
magnificus, Petaurista, 58
Sciuropterus, 58
mahogany glider, 14
major, Dermotherium, 26
makkovikensis, Glaucomys sabrinus, 41
Sciuropterus sabrinus, 41
malaccanus, Sciuropterus genibarbis, 66
malaris, Indrodon, 29
Mixodectes, 29
Malayan colugo, 2, 23
Mammalea, 7
Mammalia, 7
Mammaliiformes, 7
marchio, Petaurista nitida, 60
Petaurista petaristusa, 60
margolisi, Dousimsyms, 72
marica, Petaurista, 56
Petaurista elegans, 56
marmoratus, Galeopithecus, 26
Marmota, 31
Marmotidae, 31
Marmotinae, 31
Marsupiata, 20
Marsupialia, 6, 77
Mastodia, 7
mathesi, Petauristodon, 65
Sciuropterus, 64
maximus, Petaurus, 18
meini, Pliopetaurista, 68
Meina, 50
asiatica, 50
melanops, Pteromys, 61
melanopterus, Ateres, 33
Pteromys, 33
melanota, Petaurista petaristusa, 60
Pteromys, 60
Mentawai flying squirrel, 49
mergulus, Petaurista philippensis, 63
Metaphagea, 8
Metatheria, 8
miloni, Petaurista lylei, 62
micmus, Petaurista, 60
minax Trogopterus, 72
Mindanao flying squirrel, 66
mindanensis, Petinomys, 66
Sciuropterus, 66
minimus, Petauristodon, 65
Sciuropterus, 65
minor, Elpidophorus, 27
Petaurista volans, 18
miocaenica, Blackia, 36, 37
Miopetaurista, 33, 50, 51, 65
crusafontii, 50
dehmi, 50
diescalidus, 50
gailardi, 50
goeriacensis, 50
lappi, 50
neogrivensis, 51
thaleri, 51
webbi, 51
mirabilis, Planetetherium, 27
Mixodectidae, 27, 29, 30
Mara, 23
Moldavienisia, Pliopetaurista, 68
momonga, Pteromys, 69
Monodelphina, 20
montanensis, Tarkaedes, 28
morax, Trogopterus, 72
morrisi, Pteromys (Olisthomys), 65, 67
multicipus, Plagiomenes, 28
murniauralis, Glaucomys sabrinus, 41
mus, 4
volans, 4, 38, 42–43
Muscardinidae, 79
Myosidae, 79
Myoxida, 79
Myoxina, 79
Myoxine, 79
Myoxoid, 79
Myoxus, 79, 79
Mysida, 79
Mysophilea, 79–80
Nemethchamyidae, 5, 77
Nementchamy, 77, 78
lavoci, 78
neogrivensis, Cryptopterus, 51
Miopetaurista, 51
Neopetes, 51
debruinei, 51
boeckearum, 51
macedoniensis, 51
niger, Petaurus, 17
nigra, Petaurista petaurista, 64
Volucella, 12, 17
nigrensis, Anomalurus fraseri, 75
nebrascanensis, Pteromys volans, 43
Nementchamyidae, 5, 77
Nementchamy, 77, 78
lavoci, 78
neogrivensis, Cryptopterus, 51
Miopetaurista, 51
Neopetes, 51
debruinei, 51
boeckearum, 51
macedoniensis, 51
niger, Petaurus, 17
titida, Petaurista petaurista, 64
Volucella, 12, 17
nigrensis, Anomalurus fraseri, 75
nebrascanensis, Pteromys petaurista, 60
nigriscendus, Petinomys crinitus, 67
nigripes, Hylopetes, 46
Sciuropterus, 46
nigroh印尼, Petaurista leucogenys, 58
nigroh印尼, Petaurista petaurista, 60
nigrus, Pteromys, 34
nobilis, Petaurista, 58–59
Sciuropus, 58
norfolcensis, Petaurus, 12, 14–15
Sciurus (Petaurus), 14
north Chinese flying squirrel, 33
northern flying squirrel, 38
northern glider, 11
notatus, Petaurus (Belidea), 13
novaebollandiae, Sciurus, 12, 15
nubecula, Petaurista, 114
pelii, Anomalurus, 76
Pel’s scaly-tailed flying squirrel, 75
penangensis, Iomys borsfieldi, 49
Petaurista petraurista, 61
pelura, Galeopterus variegatus, 23, 25
peralbus, Anomalurus pelii, 76
peronii, Petaurus, 18
perbentians, Galeopithecus variegatus, 25
perusus, Anomalurus jacksoni, 75
Petaurella, 2, 11, 14
Petaurista, 53
helleri, 53, 57
Petauridae, 1, 2, 10, 15
Petaurides, 16, 18
cineres, 16, 18
Petaurillus, 4, 52
emiliae, 52
hosei, 52
kinlochii, 52
Petaurina, 10
Petaurinae, 10
Petaurini, 10
Petaurista, 2, 4–5, 11, 15, 16, 32–34, 52–59, 62–64, 68, 69
albivent, 53
albivent barroni, 53
albivent chayensis, 53
alborufus, 54
alborufus candidula, 54
alborufus castanens, 54
alborufus leucocephalus, 54
alborufus ochrasis, 55
ammansis, 62
ammansis barroni, 53
bartelsi, 33
batuana, 59
(Belidea) breviceps, 11
birrelli, 53
brachyodus, 55
candidula, 54
caniceps, 55
caniceps clarkei, 55
caniceps gorkhali, 55
caniceps sybilla, 55
cinderella, 62
cineraceus stockleyi, 63
clarkei, 55
elegans, 56
elegans banksi, 56
elegans marica, 56
elegans slumatensis, 56
elegans sumatrana, 56
flavinent, 12
fulvus, 53
hainana, 57
helleri, 57
lanka, 62
lena, 57
leucogenys, 57
leucogenys bintoni, 58
leucogenys nikkonis, 58
leucogenys oreas, 58
leucogenys osiui, 58
leucogenys tosae, 57
leucogenys thomasi, 57–58
lylei, 63
lylei badiatus, 62
lylei miloni, 62
lylei venningi, 63
magnificus, 58
magnificus bodgsoni, 58
marica, 56
mergulus, 63
mergulus primrosei, 63
mergulus reguli, 63
mimicus, 60
nitida, 34
nitida cicar, 59
nitida marchio, 60
nitida rajah, 61
nitidula, 60
nobilis, 58
nobilis singhei, 59
petantrista, 54, 59–61
petantrista batuana, 59
petantrista cica, 59
petantrista grandis, 59
petantrista interceptio, 59
petantrista lamboltci, 60
petantrista marchio, 60
petantrista melanotus, 60
petantrista nigra, 64
petantrista nigrescens, 60
petantrista nigricaudatus, 60
petantrista nitiudula, 60
petantrista penangensis, 61
petantrista rajah, 61
petantrista rufipes, 61, 64
petantrista sodyi, 61
petantrista stellaris, 61
petantrista terutaus, 61
philippensis, 57, 61, 63, 64
philippensis annamensis, 62
philippensis cineraceus, 62
philippensis lylei, 63
philippensis mergulus, 63
punctatus banksi, 56
punctata sumatrana, 56
rubicundus, 64
rufipes, 61
sulcatus, 33
sybilla, 55–56, 64
taguan, 59
taylori, 54
terutaus, 61
thomasi, 34
volans minor, 18
watasei, 63
xanthobisis, 63
yunanensis, 64
fuscocapillus, 65

Pteronotus, 34–36

Pteromys, 34

Phalanger, 16

Petinomys, 4, 47, 66

Petaurusideae, 1, 2, 10, 15–16, 52, 53

Phalangeridae, 1, 2, 10, 15–16, 52, 53

Phalangerinae, 5, 32–36, 38, 50–52, 64, 67, 71

Phalanger, 17

Phalangidae, 5, 32, 34–36, 38, 50, 51, 67

Phalangerinae, 32

Phalangerini, 32

Phalangeridae, 5, 32, 34–36, 38, 50–52, 64, 67, 71

Phalangidae, 5, 32, 34–36, 38, 50–52, 64, 67, 71
Pteromys (continued)
(Sciuropterus) borsfeldi, 49
(Sciuropterus) setosus, 67
sibiricus, 69
squamicaudatus, 74
tephromelas, 33
russicus, 38, 69
russicus klinganensis, 70
virginianus, 43
volans, 4, 69
volans anadyrensis, 70
volans arsteni, 70
volans athene, 70
volans betulinus, 70
volans buechneri, 71
volans gubari, 70
volans incanus, 70
volans orii, 71
volans turovi, 70
vulgaris, 69
xanthipes, 72
xanthotis, 71
yunanensis, 64
Pteromyscus, 71
borneanus, 71
pulverulentus, 71
Pterophorae, 21
Ptilotus, 2, 10
pulchellus, Acrobatidae, 19, 20
pulverulentus, Pteromyscus, 71
Sciuropterus, 71
pumilus, Galeopithecus, 25
punctatus, Pteromys, 56
pungens, Mizodectes, 29–30
pusillus, Anomalurops, 5, 74, 76
pygmae, Didelphis, 19
pygmaeus, Acrobatidae, 2, 19–20
pygmy scaly-tailed flying squirrel, 77
querceti, Glaucomys volans, 44
Sciuropterus volans, 44
quercyi, Eomys, 5, 80
quiricensis, Albanensia albanensis, 34
radialis, Oligopetes, 51, 52
rajah, Petaurista nitida, 61
Petaurista petaurista, 61
raui, Pliopetaurista, 68
red and white giant flying squirrel, 54
red-cheeked flying squirrel, 47
red giant flying squirrel, 59
reductus, Glaucomys sabrinus, 42
reginae, Petaurinae, 12
reguli, Petaurista mergulus, 63
Rodentia, 30
Rodentiformes, 30
Rosores, 30
rubicundus, Petaurista, 64
rufipes, Petaurista petaurista, 61
rufus, Galeopithecus, 23
rugosa, Pliopetaurista, 68
russicus, Pteromys, 69
Sciuropterus, 70, 71
sabrinus, Glaucomys, 38
Sciurus, 38
sagitta, Hylopetes, 47–48
Sciuropterus, 38
Sciurus, 47
Salienta, 8
sansaniensis, Albanensia, 35
saturatus, Galeopithecus, 26
Glaucosmy volans, 44
schaubi, Pliosciuropterus, 68
Schoiobates, 2, 10, 15–17, 53
schoutedeni, Anomalurops beecrofti, 74
sciurea, Didelphis, 11, 15
sciureus, Petaurus, 13
Sciridae, 1, 5, 16, 30–32, 36, 38, 64, 69
Sciriur, 30, 31
Sciriurinae, 30
Spilomys sabrinus, 43–50, 52, 55, 58,
45–48
albuca, 70
amoena, 48
baberi, 37
buechneri, 71
caniceps, 55
chrystotrix, 58
crinitus, 69
davisoni, 65
depereti, 68
evereti, 44, 48
fimbriata, 37
fusocapillus, 65
gaudryi, 38
genibarbis borneoensis, 66
genibarbis malaccanus, 66
gorkbai, 55
grimmi, 34
hageni, 66
harrisoni, 48
boesi, 52
(Hylopetes) belone, 48
jamesi, 64
journdani, 34
kaleeensis, 36
gorkhali, 64
lappi, 50
layardii, 66
lugens, 65, 66
maerens, 66
magnificus, 58
mathewsi, 64, 65
mindanensis, 66
minimus, 65
momonga amrygdali, 69
momonga interventus, 69
nigripes, 46
nigripes elassodontus, 46
nobils, 58
oregonensis stephensi, 47
pearsonii, 35
(Petaurillus) kinlochii, 52
phayrei, 46
phayrei lauttum, 46
phayrei probus, 46
platyrurus, 46
pliocenicus, 67, 68
pulverulentus, 71
russicus athene, 70
russicus orii, 71
sabrinus macrotis, 41
sabrinus makkovikensis, 41
sagitta, 38
senex, 55
silus, 43
spadiceus, thomsoni, 49
uphami, 65
villoas, 35
volans goldmani, 43
volans quercyi, 44
vordermanni, 67
wulungshanensis, 70
yakonensis, 42
Sciuruplagaloides, 80
Sciurus, 2, 4, 30, 31, 38
aerobates, 43
gibberosus, 50
goriaechnis, 50
husdonius, 39
novaeollandiae, 12, 15
petanura, 43, 52, 59
(Petaurus) norfolcensis, 14
sabrinus, 38
sagitta, 47
sansaniensis, 35
volans, 4, 68, 69
volucella, 38, 43
Sciurion, 32
campestrae, 32
Selangor pygmy flying squirrel, 52
Selvetini, 79
senex, Sciuropterus, 55
setosus, Petinomys, 67
Pteromys (Sciuropterus), 67
Shuanggoula, 71
lui, 71
Siberian flying squirrel, 69
Siberut flying squirrel, 66
sibiricus, Pteromys, 69
silus, Sciuropterus, 43
singhii, Petaurista nobilis, 59
Sipora flying squirrel, 47
sipora, Hylopetes, 47–48
Hylopetes sagitta, 47
Iomys, 49
Iomys borsfieldi, 49
slamantis, Petaurista elegans, 56
smoky flying squirrel, 71
sodyi, Petaurista petaurista, 61
soniae, Paramomulus, 76
southern flying squirrel, 42
spadicus, Hylopetes, 47–48
Sciuropterus, 47
Spermophilinae, 32
Spermophilus, 32
spotted giant flying squirrel, 56
squamicaudatus, Pteromys, 74
squirrel glider, 14
stellaris, Petaurista petaurista, 61
stephensi, Sciuropterus oregonensis, 42
stirtoni, Petauridae, 17
Pseudocheirus, 17
stockleyi, Petaurista cineraceus, 63
stylifera, Tarka, 28
sugar glider, 2, 13
sulcatus, Petaurista, 33
sumatrae, Hylopetes sagitta, 48
Hylopetes spadicus, 48
Sumatran flying squirrel, 49
sumatran, Petaurista elegans, 56
Petaurista punctata, 56
sybilla, Petaurista, 55
Petaurista caniceps, 55, 56, 64
Syndactyla, 9
Syndactyla Diprotodontia, 9
Syndactylia, 9
szechuanensis, Aeretes melanopterus, 33
tafa, Petaurus (Petaurilla) papuensis, 14
taguan, Petaurista, 59
tagraeoides, Petaurus, 16, 17
Taiwan giant flying squirrel, 57
Tarka, 28
stylifera, 28
Tarkadectes, 28
montanensis, 28
Tarkadectini, 28
Tarsipedidae, 18
Tarsipedoidea, 18
Tarsipectes rostratus, 18
taylori, Galeohippus, 25
Petaurista, 54
tecumse, Oxyacodon, 29
tellonis, Cynocephalus, 26
temminkii, Galeopithecus, 26
Galeohippus variegatus, 23, 26
Temminck’s flying squirrel, 67
tephromelas, Aeromys, 33
ternatensis, Galeopithecus, 24
terminatus, Galeopithecus variegatus, 25
Petaurista, 61
Petaurista petarista, 61
texensis, Glaucomys volans, 44
thaleri, Cryptopterus, 51
Miopetaurista, 51
thamkaewi, Belomys, 36
Theria, 8
thomasi, Aeromys, 34
Petaurista, 34
Petaurista leucogenys, 57–58
Thomas’s flying squirrel, 34
thomsoni, Iomys borsfieldi, 49
Sciuropterus, 49
Thricozoa, 7
Thylacaelurinae, 21
Thylacaelurus, 21
campestrae, 21
montanus, 21
tobieni, Cryptopterus, 51
tosae, Petaurista leucogenys, 57
Travancore flying squirrel, 65
trichotis, Belomys, 35, 36
Trogopithecus, 4, 35, 36, 69, 71
editha, 72
himalacis, 72
minax, 72
mordax, 72
xanthipes, 72
xanucus, Galeopithecus, 26
turnbili, Sciuroptera, 45
turoti, Pteromys volans, 70
ulmensis, Blackia, 36
undatus, Galeopithecus, 24
underwoodi, Glaucomys volans, 44
Unguiculata, 20
uphami, Petauristodon, 65
Sciuropterus, 65
variegatus, Galeopithecus, 22, 23–25
varius, Galeopithecus, 24
venmingi, Petaurista fylei, 63
virginianus, Pteromys, 43
volans, Cynocephalus, 23, 24
Didelphis, 2, 12, 15–18
Galeohippus, 26
Glaucomys, 4, 42, 44
Lemur, 2, 22, 23
Mus, 4, 38, 42–43
Petauridae, 2, 12, 15, 17
Pteromys, 4, 43, 69–70
Sciuropterus, 4
Sciurus, 4, 68, 69
Volaticotheria, 5, 80
Volaticotheriidae, 80
Volaticotherium, 80
antiquus, 80
volucella, Didelphis, 17, 43
Volucella, 2, 15, 16
nigra, 12
volucella, Sciurus, 38, 43
Sciuropterus, 4
vordermanni, Petinomys, 67
Sciuropterus, 67
Vordermann’s flying squirrel, 67
walker, Paramomulus, 76
watasei, Petaurista, 58
webbi, Cryptopterus, 51
Miopetaurista, 51
whiskered flying squirrel, 66
white-bellied giant flying squirrel, 53
winstoni, Hylopetes, 49
Iomys, 49
woelfersheimensis, Blackia, 37
woolly flying squirrel, 37
Worlandini, 27
Worlandia, 27
imisitata, 27
wulungshanensis, Sciuropterus, 70
xanthipes, Pteromys, 71
Trogopithecus, 4, 72
xanbidus, Petaurista, 57, 63
Pteromys, 63
Xenochirus, 2, 11
Xeri, 31
Xerinae, 31
Xerus, 31
yellow-bellied slider, 2, 11
yukonensis, Glaucomys sabrinus, 42
Sciuropterus, 42
yumanensis, Petaurista, 64
Pteromys, 64
yumanensis, Pteromys, 64
Yunnan giant flying squirrel, 64
zaphaicus, Glaucomys sabrinus, 42
Sciuropterus alpinus, 42
Zenkerellinae, 76
zenkeri, Idiurus, 5, 76, 77
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