

1 *Murinae (Old World rats and mice)*

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The **Old World rats and mice**, part of the [subfamily Murinae](#) in the [family Muridae](#), comprise at least 519 species. This subfamily is larger than all [mammal](#) families except the [Cricetidae](#), and is larger than all [mammal orders](#) except the [bats](#) and the remainder of the [rodents](#).

The Murinae are native to [Africa](#), [Europe](#), [Asia](#), and [Australia](#). They are the only [terrestrial placental mammals](#) native to Australia. They have also been [introduced](#) to all continents except [Antarctica](#), and are serious pest animals. This is particularly true in island communities where they have contributed to the [endangerment](#) and [extinction](#) of many native animals.

Two prominent murine human [commensals](#) have become vital [laboratory animals](#). The [Brown Rat](#) and [House Mouse](#) are both used as medical subjects and are among a handful of animals where the full [genome](#) has been sequenced.

The murines have a distinctive [molar](#) pattern that involves three rows of cusps instead of two, the primitive pattern seen most frequently in [muroid rodents](#).

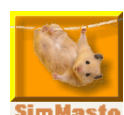
1.1 FOSSILS

Fossils ranges Middle Miocene – Recent.

The first known appearance of the Murinae in the fossil record is about 14 million years ago with the fossil genus *Antemus*. *Antemus* is thought to derive directly from *Potwarmus*, which has a more primitive tooth pattern. Likewise, two genera, *Progonomys* and *Karnimata* are thought to derive directly from *Antemus*. *Progonomys* is thought to be the ancestor of *Mus* and relatives, while *Karnimata* is thought to lead to *Rattus* and relatives. All of these fossils are found in the well-preserved and easily dated Siwalik fossil beds of Pakistan. The transition from *Potwarmus* to *Antemus* to *Progonomys* and *Karnimata* is considered an excellent example of anagenic evolution.

1.2 SCIENTIFIC CLASSIFICATION

Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Rodentia
Superfamily: Muroidea
Family: Muridae
Subfamily: Murinae



1.3 TAXONOMY

Most of the Murinae have been poorly studied. Some genera have been grouped, such as the hydromyine water rats, conilurine or pseudomyine Australian mice, or the phloeomyine [Southeast Asian](#) forms. No [tribal](#) level [taxonomy](#) has been attempted for the complete subfamily. It appears as if genera from southeast Asian islands and Australia may be early offshoots compared to mainland forms. The [vlei rats](#) in the genera [Otomys](#) and [Parotomys](#) are often placed in a separate subfamily, Otomyinae, but have been shown to be closely related to African murines in spite of their uniqueness.

Three genera, [Uranomys](#), [Lophuromys](#), and [Acomys](#) were once considered to be murines, but were found to be more closely related to [gerbils](#) through [molecular phylogenetics](#). They have been assigned a new subfamily status, [Deomyinae](#).

As of 2005, the Murinae contain 129 genera in 584 species. Musser and Carleton (2005) divided the Murinae into 29 genus divisions. They treated the Otomyinae as a separate subfamily, but all molecular analyses conducted to date have supported their inclusion in the Murinae as relatives of African genera (Michaux et al., 2001; Jansa and Weksler, 2004; Stepan et al., 2004; 2005; Jansa et al., 2006).

List of Genera of the Subfamily Murinae - Old World rats and mice

Note : in blue, link available on wiki, in red: link unavailable

- Aethomys Division genuses : [Aethomys](#) - bush rats / [Micaeamys](#) /
- Apodemus Division genuses : [Apodemus](#) - old world field mice / [Rhagamys](#) / [Tokudaia](#) - Ryūkyū spiny rats
- Arvicanthis Division genuses : / [Arvicanthis](#) - unstriped grass mice / [Desmomys](#) / [Lemniscomys](#) - striped grass mice / [Mylomys](#) - African Groove-toothed Rat / [Pelomys](#) - groove-toothed creek rats / [Rhabdomys](#) - Four-striped Grass Mouse
- Chrotomys Division genuses : / [Apomys](#) / [Archboldomys](#) - Mount Isarog shrew rats / [Chrotomys](#) - Luzon striped rats / [Rhynchomys](#) - shrewlike rats
- Colomys Division genuses : / [Colomys](#) - African Water Rat / [Nilopegamys](#) / [Zelotomys](#) - stink mice
- Crunomys Division genuses : / [Crunomys](#) - Philippine and Sulawesi shrew rats / [Sommeromys](#)
- Dacnomys Division genuses : / [Anonymomys](#) - Mindoro Rat / [Chiromyscus](#) - Fea's Tree Rat / [Dacnomys](#) - Large-toothed Giant Rat / [Leopoldamys](#) - long-tailed giant rats / [Niviventer](#) - white-bellied rats / [Saxatilomys](#) / [Srilankamys](#) - Ceylonese rats
- Dasymys Division genuses : / [Dasymys](#) - Shaggy Swamp Rat
- Echiothrix Division genuses : / [Echiothrix](#) - Sulawesi Spiny Rat
- Golunda Division genuses : / [Golunda](#) - Indian Bush Rat
- Hadromys Division genuses : / [Hadromys](#) - Manipur Bush Rat
- Hybomys Division genuses : / [Dephomys](#) - defua rats / [Hybomys](#) - hump-nosed mice / [Stochomys](#) - Target Rat
- Hydromys Division genuses : / [Crossomys](#) - Earless Water Rat / [Hydromys](#) - water rats / [Microhydromys](#) / [Parahydromys](#) - Mountain Water Rat / [Paraleptomys](#)
- Lorentzimys Division genuses : / [Lorentzimys](#) - New Guinea jumping mouse
- Malacomys Division genuses : / [Malacomys](#) - big-eared swamp rats
- Maxomys Division genuses : / [Maxomys](#) - rajah rats
- Melasmothrix Division genuses : / [Melasmothrix](#) - Lesser Sulawesi Shrew Rat / [Tateomys](#) - greater Sulawesi shrew rats



- Micromys Division genera : / [Chiropodomys](#) - pencil-tailed tree mice / [Haeromys](#) - pygmy tree mice / [Hapalomys](#) - marmoset rats / [Micromys](#) - Old World Harvest Mouse / [Vandeleuria](#) - long-tailed climbing mice / [Vernaya](#) - Vernay's Climbing Mouse
- Millardia Division genera : / [Cremnomys](#) / [Diomys](#) - Manipur Mouse / [Madromys](#) / [Millardia](#) - Asian soft-furred rats
- Mus Division genera : / [Muriculus](#) - Stripe-backed Mouse / [Mus](#) - typical mice
- Oenomys Division genera : / [Canariomys](#) - [Giant Canary Islands Rat](#) / [Grammomys](#) / [Lamottemys](#) / [Malpaisomys](#) - [Canarian Lava Fields Mouse](#) / [Oenomys](#) - rufous-nosed rats / [Thallomys](#) - acacia rats / [Thammomys](#) - thicket rats
- Phloeomys Division genera : / [Batomys](#) - Luzon and Mindanao forest rats / [Carpomys](#) - Luzon rats / [Crateromys](#) - cloudbirds / [Phloeomys](#) - slender-tailed cloud rats
- Pithecheir Division genera : / [Eropeplus](#) - Sulawesi Soft-furred Rat / [Lenomys](#) - Trefoil-toothed Rat / [Lenothrix](#) - Grey Tree Rat / [Margaretamys](#) - Margaret's rats / [Pithecheir](#) - monkey-footed rats / [Pithecheirops](#)
- Pogonomys Division genera : / [Abeomelomys](#) / [Anisomys](#) - Powerful-toothed Rat / [Chiruromys](#) / [Coccyomys](#) / [Coryphomys](#) / [Hyomys](#) - white-eared rats / [Macruromys](#) - New Guinean rats / [Mallomys](#) - giant tree rats / [Mammelomys](#) / [Pogonomelomys](#) - Rummel's mosaic tailed rats / [Pogonomys](#) - prehensile-tailed rats / [Spelaeomys](#) / [Xenuromys](#) - White-tailed New Guinea Rat
- Pseudomys Division genera : / [Conilurus](#) - rabbit rats / [Leggadina](#) / [Leporillus](#) - Australian stick-nest rats / [Mastacomys](#) / [Mesembriomys](#) - tree rats / [Notomys](#) - Australian [hopping mice](#) / [Pseudomys](#) - Australian native mice / [Zyzomys](#) - thick-tailed rats
- Rattus Division genera : / [Abditomys](#) / [Bandicota](#) - bandicoot rats / [Berylmys](#) - white-toothed rats / [Bullimus](#) / [Bunomys](#) / [Diplothrix](#) / [Kadarsanomys](#) / [Komodomys](#) / [Limnomys](#) / [Nesokia](#) - Short-tailed Bandicoot Rat / [Nesoromys](#) / [Palawanomys](#) - Palawan Rat / [Papagomys](#) - Flores giant rats / [Paruromys](#) - Sulawesi giant rat / [Paulamys](#) / [Rattus](#) - typical rats / [Sundamys](#) - giant Sunda rats / [Taeromys](#) / [Tarsomys](#) / [Tryphomys](#) - Mearns's Luzon Rat
- Stenocephalomys Division genera : / [Heimyscus](#) / [Hylomyscus](#) - African wood mice / [Mastomys](#) - multimammate rats / [Myomyscus](#) - multimammate rats / [Praomys](#) - African soft-furred rats / [Stenocephalemys](#) - Ethiopian narrow-headed rats
- Uromys Division genera : / [Melomys](#) - banana rats / [Paramelomys](#) / [Protochromys](#) / [Solomys](#) - naked-tailed rats / [Uromys](#) - giant naked-tailed rats
- Xeromys Division genera : / [Leptomys](#) / [Pseudohydromys](#) - New Guinea false water rats / [Xeromys](#) - False Water Rat / Otomyines / [Myotomys](#) / [Otomys](#) - groove-toothed or vlei rats / [Parotomys](#) - whistling rats

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