

# A key to the Soricidae, Macroscelididae, Gliridae and Muridae of Gauteng, North West Province, Mpumalanga and the Northern Province, South Africa

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A practical key to the shrews, elephant-shrews, dormice, rats and mice based on external field characteristics is presented. Size, tail features and lengths, dorsal and ventral body colour, etc. are the important characteristics, while habitat and distribution are also incorporated. The small mammals included in the key are from Gauteng, North West Province, Mpumalanga and the Northern Province.

Key words: Key, external characteristics, Soricidae, Macroscelididae, Gliridae, Muridae, Gauteng, North West Province, Mpumalanga, Northern Province.

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## Introduction

There are numerous keys for the identification of small mammals (De Graaff 1981; Meester *et al.* 1986; Rautenbach 1982; Skinner & Smithers 1990). These keys, however, rely heavily on dental and cranial characteristics. Unless one is well versed with these scientific terms the identification of the small mammals remains a mystery. It is also very often necessary to have the skull of the specimen in hand to be able to make use of certain keys. Obviously, obtaining the skull necessitates killing the animal and complicated cleaning methods so that measurements can be taken for use in these keys. This is time consuming and expensive.

These technical keys are of great importance for the serious researcher and taxonomist but usually meaningless to the interested trails ranger, student or even landowner. It is for this reason that a simplified key, using external field characteristics, has been drawn up. Combining locality, habitat, the external features of the animal and occasionally a few scientific terms (they can never be totally

ignored!) most people with an interest should be able to identify the specimen in hand. Unless “in hand” these animals are extremely difficult to identify with any degree of surety because of their nature and elusiveness. One seldom gets more than a fleeting glance and this is usually from a distance. It must be stressed that a key is a tool or a guideline and very often should be used in conjunction with field-guides, distribution maps and observed behaviour for an accurate identification to be made. This key can be used on live or dead specimens and in most cases results in identification up to species level. There are however certain species which have been classified by various scientists using technical characteristics. These are *Grammomys* spp. (cranial features), *Mastomys* spp. (karyotype) and *Mus* spp., *Otomys* spp. and the shrews (cranial and dental features). The key in these cases is good up to generic level and for further specific accuracy the experts should be contacted.

All measurements (length and mass) used in this key refer to adult specimens.

**Key:**

Both options must be read.

1. Large (up to three kg); total length up to 80 cm; tail long and bare, distal section white ..... *Cricetomys gambianus*  
Much smaller (three to 280 g); total length up to 40 cm ..... 2
2. Animal covered with spiny coat .....  
..... *Acomys spinosissimus*  
Animal covered with normal hair ... 3
3. Bushy, squirrel-like tail ..... 4  
Normal rat-like tail ..... 6
4. Head and body (Hb) up to 150 mm; face with black and white markings; dorsal tail hair white-grey and ventral tail hair black ..... *Graphiurus ocellaris*  
Hb up to 110 mm; face without markings; tail hair grey ..... 5
5. Hb length usually more than 100 mm; mean mass 45 g; tail tip normally white; ventral body colour grey; prefers rocky habitat ..... *Graphiurus platyops*  
Hb length usually less than 100 mm; mean mass 28 g; tail tip can be white; ventral body colour white-grey; prefers bushveld habitat .....  
..... *Graphiurus murinus*
6. Dorsal stripe(s) or pattern ..... 7  
No dorsal stripe(s) or pattern ..... 11
7. Four dark longitudinal dorsal stripes ...  
..... *Rhabdomys pumilio*  
One dark longitudinal dorsal stripe or pattern ..... 8
8. Pattern on back; tail shorter than head and body (Hb); soles of hind feet hairy; only four toes on hind foot .....  
..... *Malacothrix typica*  
Dorsal stripe; tail longer than Hb; soles of hind feet naked; five toes on hind foot ..... 9
9. Total length up to 27 cm; mass up to 60 g; tail longer than Hb; dorsal stripe begins between ears and is very prominent; rough coat .....  
..... *Lemniscomys rosalia*  
Total length up to 17 cm; mass up to 15 g; prehensile tail longer than Hb; dorsal stripe begins between shoulders and is not always prominent; smooth coat ..  
..... 10
10. General colour normally grey; colour of ears darker than back; fifth forefinger present; fifth hind toe with rounded nail .....  
..... *Dendromus melanotis* (up to 8 g)  
..... *Dendromus nyikae* (up to 15 g)  
General colour normally brown; colour of ears same as back; fifth forefinger absent; fifth hind toe with pointed claw .....  
..... *Dendromus mystacalis* (up to 8 g)  
... *Dendromus mesomelas* (up to 14g)
11. Trunk-like snout; very large eyes, white rings around the eyes ..... 12  
Snout not trunk-like; eyes small or normal size ..... 15

12. Head and body (Hb) longer than 130 mm (mean of 190 mm); four toes on hind foot; two pairs of mammae .....  
 ..... *Petrodromus tetradactylus*  
 Hb shorter than 130 mm (mean of 120 mm); five toes on hind foot; three pairs of mammae ..... 13
13. Soles of hind feet black; prefers rocky habitat (rupicolous) .....  
 ..... *Elephantulus myurus*  
 Soles of hind feet light brown; prefers sandy soils (terrestrial) ..... 14
14. Found in lower rainfall areas, < 450 mm; prefers open habitat with sparse ground cover ..... *Elephantulus intufi*  
 Found in higher rainfall areas, > 450 mm; prefers dense grass cover with scrub bush and scattered trees .....  
 ..... *Elephantulus brachyrhynchus*
15. Wedge-shaped snout; very small eyes ..  
 ..... 16  
 Normal snout; eyes normal size .... 17
16. No tactile hairs on tail .. *Myosorex* spp.  
 Prominent tactile hairs on tail .....  
 ..... *Crocidura* spp.  
 ..... *Suncus* spp.
17. Tail densely covered with short hair, rings not visible ..... 18  
 Tail bare or sparsely covered with hair, rings visible or absent ..... 22
18. Tail shorter than head and body (Hb) ..  
 ..... 19  
 Tail longer than or approximately equal to Hb ..... 20
19. Dorsal colour grey-brown, flecked with black; ventrally grey-white; large ears; very short tail ( $\pm 35\%$  of Hb); no white fleck at base of ears . *Mystromys albicaudatus*  
 Dorsal colour reddish brown; ventrally white; small ears; short tail ( $\pm 80\%$  of Hb); prominent white fleck at base of ears ..... *Desmodillus auricularis*
20. Length of Hb less than 110 mm; soles of hind feet hairy; tuft of longish hair on tip of tail ..... *Gerbillurus paeba*  
 Length of Hb more than 110 mm; soles of hind feet naked; no tuft of hair on tip of tail ..... 21
21. Texture of fur fluffy or somewhat harsh; dorsal colour dull; tail approximately equal to Hb, fairly evenly haired throughout, sometimes white-tipped; 3 or 4 pairs of mammae; pads of hind feet light ..  
 ..... *Tatera brantsii*  
 Texture of fur sleek and silky; dorsal colour bright; tail longer than Hb, well haired particularly towards the tip, never white-tipped; 4 pairs of mammae; pads of hind feet dark .....  
 ..... *Tatera leucogaster*
22. Tail longer than head and body (Hb) ...  
 ..... 23  
 Tail shorter than Hb ..... 28

23. Ventral surface of body grey-brown, lighter in colour than dorsal surface, not white or grey-white ..... 24
- Ventral surface of body white or grey-white ..... 25
24. Large, mean total length 380 mm; dark-brown to black body; prominent rings on tail; ears oval and bare; long fibrissae ..  
..... *Rattus rattus*
- Small, mean total length 165 mm; light brown body; rings on tail not very prominent; ears round and covered with hair; fibrissae not very long .....  
..... *Mus musculus*
25. Ventral surface white; tail rings finely scaled; large prominent ears ..... 26
- Ventral surface grey-white; tail rings roughly scaled; ears normal size .... 27
26. Small (up to 30 g); slender tail much longer than Hb ( $\pm 150\text{--}170\%$  of Hb); no black facial markings .....  
..... *Grammomys* spp.
- Large (up to 100 g); tail equal to or longer than Hb; black ring around the eyes extending to muzzle .....  
..... \**Thallomys paedulus*  
(tail length equal to or slightly longer than Hb)  
..... \**Thallomys nigricauda*  
(tail length  $\pm 120\%$  of Hb)
27. Small (up to 50 g); thin tail, much longer than Hb (up to 135 % of Hb); .....  
..... *Aethomys namaquensis*
- Large (up to 75 g); thick tail, as long as or slightly longer than Hb (up to 115 % of Hb); ..... \**Aethomys chrysophilus*  
..... \**Aethomys ineptus*
- \* Sibling species with overlapping distributions. They are only separable on skull measurements.
28. Ventral surface of body uniformly white ..... 29
- Ventral surface of body not white (marbled, grey or brown) ..... 33
29. Very small body (up to six grams); mouse-like; thin tail, slightly shorter than Hb ..... *Mus* spp.
- Larger body (20-55 g); hamster- or rat-like; thick tail, slightly or much shorter than Hb ..... 30
30. Tail slightly shorter than Hb .....  
..... *Zelotomys woosnami*
- Tail much shorter, less than half of Hb .  
..... 31
31. Soft silky-grey or greyish-brown fur; large cheek pouches; white to creamy coloured tail with sparse hair, rings absent ..... *Saccostomus campestris*
- Rusty-brown fur; cheek pouches absent; brown tail darker above than below with sparse hair, rings visible ..... 32
32. Usually six to eight pairs of mammae; main distribution Northern and

Mpumalanga provinces . . . . .  
. . . . . *Steatomys pratensis*

Only four pairs of mammae; main distribution Gauteng and North West provinces . . . . . *Steatomys krebsii*

33. Dorsal colour of body yellow-brown; ventral colour marbled; tail with black dorsal stripe . . . . . *Parotomys brantsii*

Dorsal colour of body grey or brown; ventral colour grey or brown; tail without black dorsal stripe . . . . . 34

34. Small (up to 60 g); dorsal and ventral surface grey . . . . . *Mastomys* spp.

Large (from 100-250 g); dorsal and ventral surface brown . . . . . 35

35. Tail approximately same length as Hb, prominently scaled/ringed; incisors not grooved . . . . . *Dasymys incommutus*

Tail approximately half the length of Hb, scales/rings partly visible underneath sparse hair; incisors grooved . . . . .  
. . . . . *Otomys* spp.

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