



69 *Ruwenzori* Photo: A. Gregory

Mammals of the East African mountains

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Where do mountains start? Mountaineers are inclined to say it is where the vegetation ends, regardless of altitude. If so, there cannot be many mountain mammals anywhere, vegetation being a major factor in deciding where any animal lives. Even such an unlikely creature as the Abominable Snowman must eat something sometimes, as must the Nandi Bear of Mount Elgon, East Africa's unsolved mystery mammal (probably a large shaggy hyena) about which nothing has been heard for years. Botanists are more specific about mountains. They consider that in East Africa these start at about 1800 m, the height at which lowland tropical forest is replaced by montane forest where trees are rather smaller, the canopy more broken and the undergrowth thicker. The numerous mammals in these forests are not easy to see in the prevailing conditions. The signs are all around, however. There are tracks on the ground and other signs such as broken twigs or chewed-up leaves. Heavy animals leave paths in the undergrowth, though at times the only indication of their presence is a few branches out of place. Others can be heard—in forest and thick bush most mammals communicate mainly by voice—and some leave a distinct scent.

Most exciting of the mammals, and in spite of its size one of the most difficult to find, is the Mountain Gorilla. Indeed, I had climbed seven of the eight Birunga Volcanoes (except for the nearby Kayonza forest, the only part of eastern Africa occupied by these apes) before seeing one, a splendid silver-back male which put on a magnificent display of aggressive but harmless chest-beating and roaring for our benefit. Before encountering the live animal I had seen their spoor and the chewed remains of wild celery and bamboo shoots, to both of which gorillas are partial. I had also seen the nests they make to sleep in, usually at ground level. They change these nightly, which is one of the reasons why gorillas are so difficult to find. The secret is to locate the previous day's tracks and follow these to the sleeping place, which tells you how many animals there are in the troop. If you have been tracking quietly and have not disturbed the gorillas, they won't be far away, as they feed near their nests in the morning and then rest before moving on. They are not dangerous and their senses are not much more acute than man's, but they are extremely shy. They also scramble up and down the steep ravines of the volcanoes a good deal faster than most of us find comfortable.

Before describing any more mammals, however, I should say something about the mountains on which they live. Details vary but the pattern of vegetation is much the same on all the higher mountains: Birunga Volcanoes (4531 m), the Ruwenzori (5119 m), Mount Elgon (4321 m), Mount Kenya (5194 m), Mount Meru (4565 m) and Kilimanjaro (5895 m). Except for the Ruwenzori, whose geological association is with Rift Valley faulting, they are all volcanic in origin.

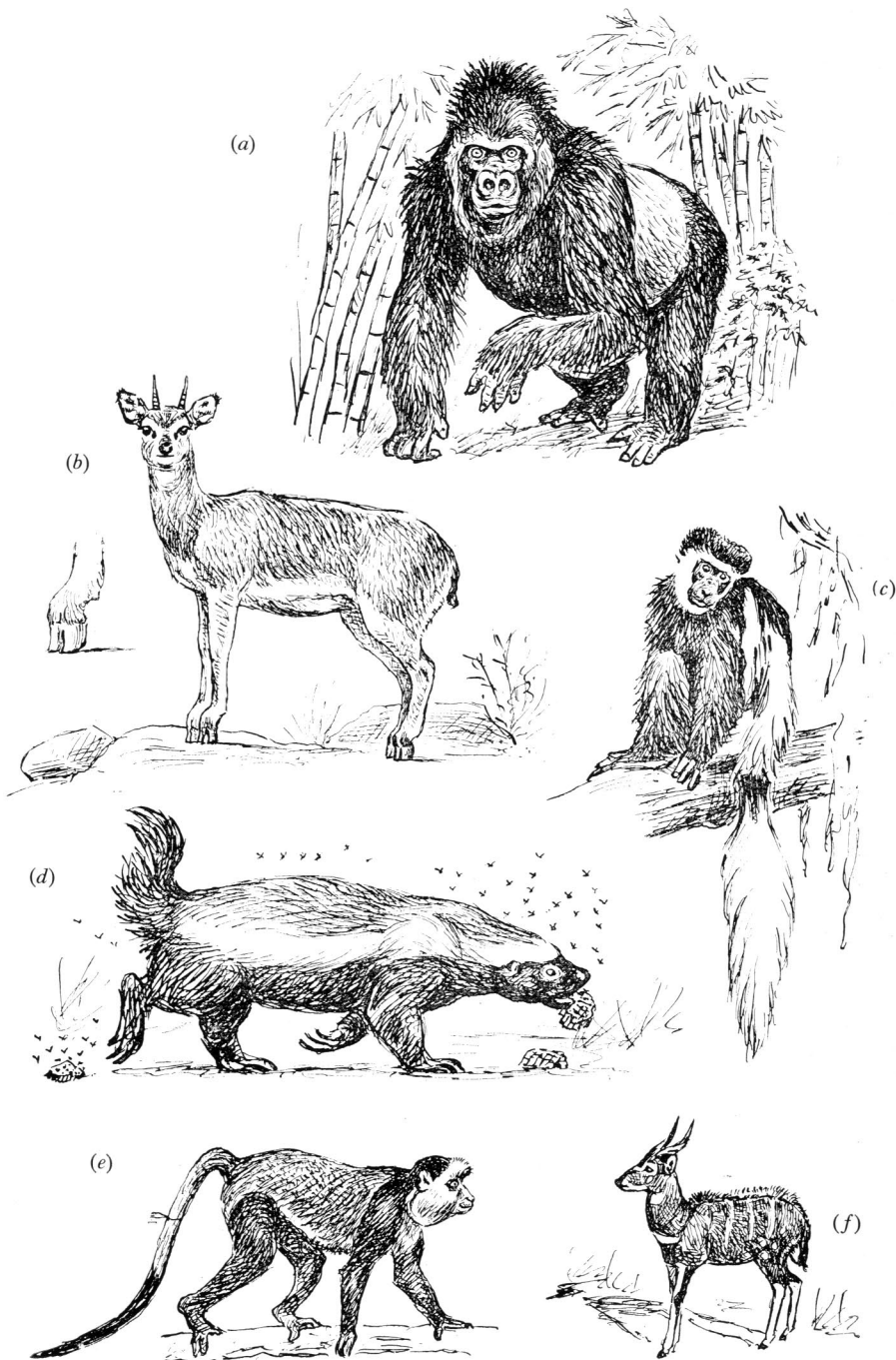
Montane forest, dominated by splendid cedars on the drier mountains such as Mount Kenya, extends to 2400 or 2700 m. Above this is the bamboo forest with occasional large trees and a tangle of shrubs and brambles on steeper slopes and poorer soils. At about 3000 m bamboo gives way to subalpine heath, with 40-ft heathers draped in moss and lichen, and occasional stands of St John's Wort and *Hagenia* trees as well as stretches of an even more tangled undergrowth. There are formidable bogs, particularly on the Ruwenzori. True alpine moorland occurs above 3600 m and extends to the upper limits of the vegetation (around 4400 m) and the snowline. Tree groundsels, giant lobelias, everlasting *Helichrysum* and silvery *Alchemilla* dominate this zone. The last two plants are important to the few mammals that live at such altitudes.

Most readers of the *Alpine Journal* are familiar with these big mountains (in print if not on the ground), and this article is primarily concerned with them. There are also numerous lower mountains,¹ many over 3000 m. But they do not reach alpine zone altitudes and their upper slopes are mostly grass or broken stony ground with scant vegetation, the result of exposure rather than altitude. The fauna is similar to that found at comparable levels on the higher mountains. The Ethiopian highlands (up to 4620 m) are not normally thought of as part of East Africa, and there are marked differences. They support several rare and unusual mammals, however, including the Mountain Nyala, the Walia Ibex, the fox-like Abyssinian Wolf and the Gelada Baboon. Only 200 or so Walia Ibex now remain in the Simien Mountains, where they live at around 3000 m and spend the day in caves or under rocky ledges.

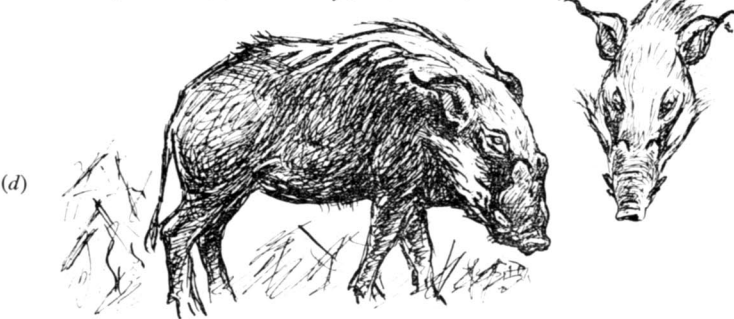
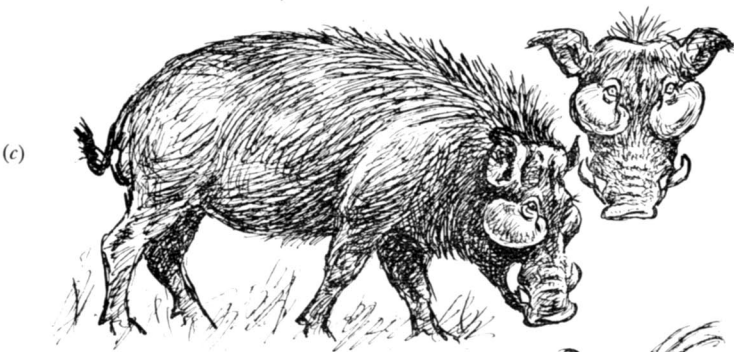
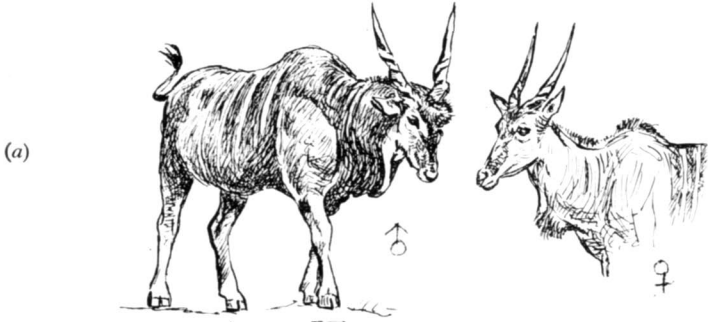
The surrounding country influences the distribution of animals on the mountains. Several lowland forest mammals live up to at least 2000 m, examples are Palm Civets (tree-climbing carnivores which feed mainly on fruit), more than one kind of Galago (or Bush Baby), the Honey Badger and, in some areas, Giant Squirrels. Honey Badgers, which are partial to honey and beeswax and which climb well, are led to bees' nests (in holes or hollows well up in trees) by a little bird known as the Honey Guide. The bird also assists humans in the same way, and I have followed it to delicious honey in the Ruwenzori forests as well as in low-lying woodland.

Both elephants and rhinos are found in, and sometimes above, the Mount Kenya cedar forests. This is only to be expected of elephants, which are most versatile animals. But Black Rhinos normally inhabit thorn-scrub or acacia bush and have probably been driven into the mountains by human disturbance. Elephants from Uganda's Queen Elizabeth National Park used frequently to move to the Ruwenzori when dry weather set in on the plains, following long-established migration routes to get there—more land is now farmed by man so that few of these remain open. Elephants have been seen above 3660 m and are said to visit these cool heights to rid themselves of ticks and other troublesome pests.

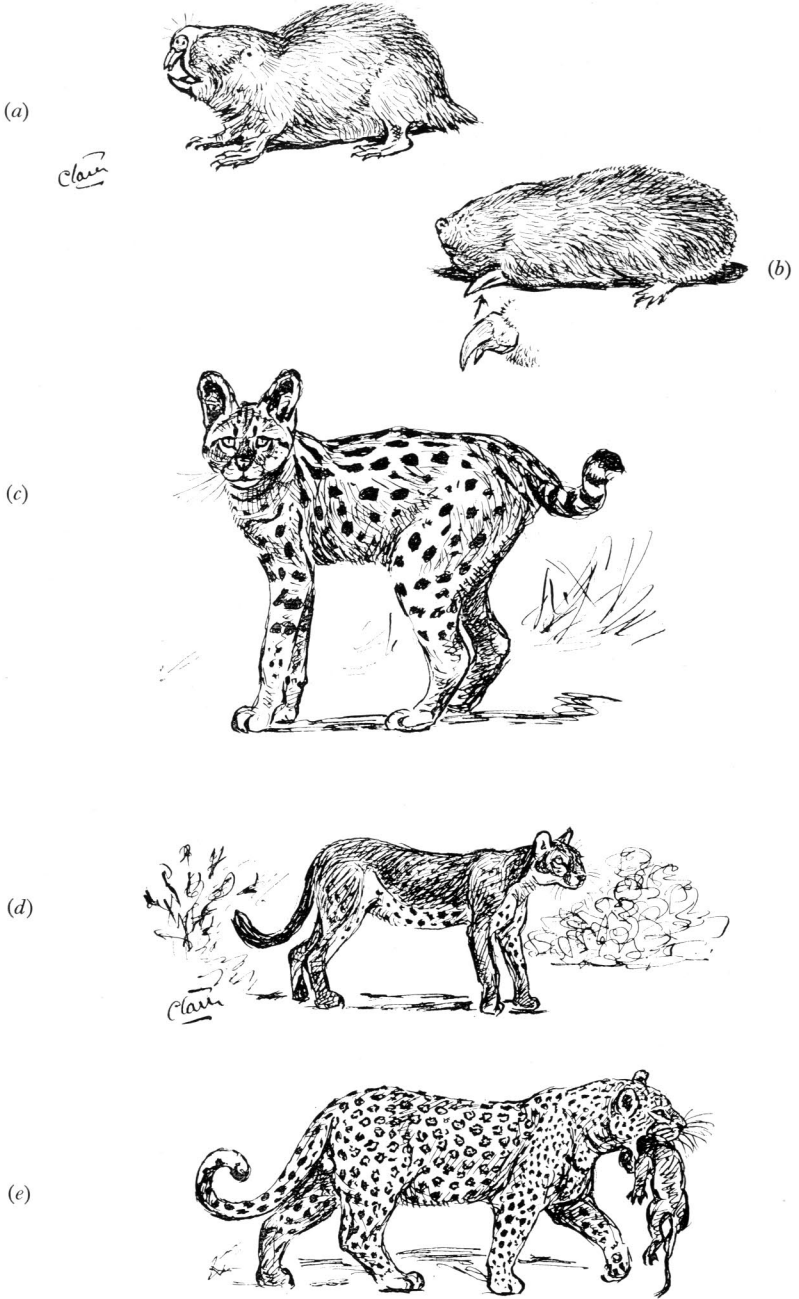
¹ Among the lesser mountains are: Moroto (3083 m), Kadam (3071 m), the Imatongs (3185 m) in Uganda; the Cherangani Hills (3444 m), Mau (3098 m) and the Matthews Range (2375 m) in Kenya; Oldeani and the Crater Highlands (3188 m and 3645 m), Usambara (2363 m), Pare Mountains (2515 m), Mahari (2515 m) and Kapengere in the Southern Highlands (2961 m) in Tanzania.



(a) Mountain Gorilla; (b) Klipspringer; (c) Black and White Colobus Monkey;
 (d) Honey Badger; (e) Golden Monkey; (f) Bushbuck



(a) Eland; (b) Greater Kudu; (c) Giant Forest Hog; (d) Bush Pig



(a) East African Mole Rat; (b) Golden Mole; (c) Serval; (d) Golden Cat; (e) Leopard

Buffaloes are found in most montane forests. They are not really dangerous, but they are undoubtedly unreliable so it is best to watch out for tracks (like those of cattle) when in thick forest. No animal attacks unless it feels itself to be threatened, but a ruminating buffalo is liable to mistake your intentions if you blunder into it by mistake and it sees no obvious way of escape. Buffaloes are sometimes found at considerable altitudes. I remember, in 1935, seeing a herd on the marshy Lukumi Alp at over 3600 m on Karisimbi, the highest of the Birunga Volcanoes. The animals had shaggy coats like yaks, which indicated that they lived permanently at Lukumi. At that date, too, there was a buffalo skeleton just below the glaciers of Mount Kenya.

Eland, the largest antelope, have often been seen at over 4500 m on the saddle between Kibo and Mawenzi, the two peaks of Kilimanjaro—an early sighting was by H. W. Tilman in 1933—and are resident on the Aberdares moorland. Their normal habitat is the hot, dry plains. Even more remarkable was the presence, early in 1962, of a small pack of Wild Dogs on the snow-covered crater rim of Kibo at over 5800 m. Wild dogs are a far-ranging species which feed on medium-sized antelopes on the plains. No one has explained why this particular pack should have wanted to climb Kilimanjaro.

The great herds of antelopes, so familiar in the game parks, have no counterpart on the mountains. Antelopes living in montane forest tend to be solitary or in small parties. Duikers, rather hunched-up little antelopes, are found in almost all mountain forests and on the high moorlands. There are several species, of which the Red Forest Duiker is the one most often seen. Bushbuck, shy but widely distributed in Africa s of the Sahara, are also quite common up to at least 3050 m. Mountain Reedbuck prefer open country and grassy hills. There are several pairs on the Aberdares moorland, and they are present on Kilimanjaro up to 4250 m.

The most colourful of all antelopes is the rare and elusive Bongo, a forest-dwelling relative of the Eland, which is found primarily in the bamboo zone of certain Kenya mountains: Mount Kenya, the Aberdares, the Mau and the Cherangani Hills. Bongo are remarkably well adapted to the country in which they live. They are reddish in colour, as are the trunks of many trees, and their vertical striping makes them extraordinarily difficult to see among the bamboos. Another, but very different, adaptation is shown by the Klipspringer, whose hooves are elongated and feel like vibram. These hardy little antelopes move across steep rock with great agility as if on tiptoe. Most often seen on rocky outcrops and inselbergs, they have been recorded above 3600 m on Kilimanjaro. The spectacular Greater Kudu is not strictly a mountain antelope. But it favours broken or stony ground and, in East Africa, is virtually limited to hills and mountains in the more arid regions.

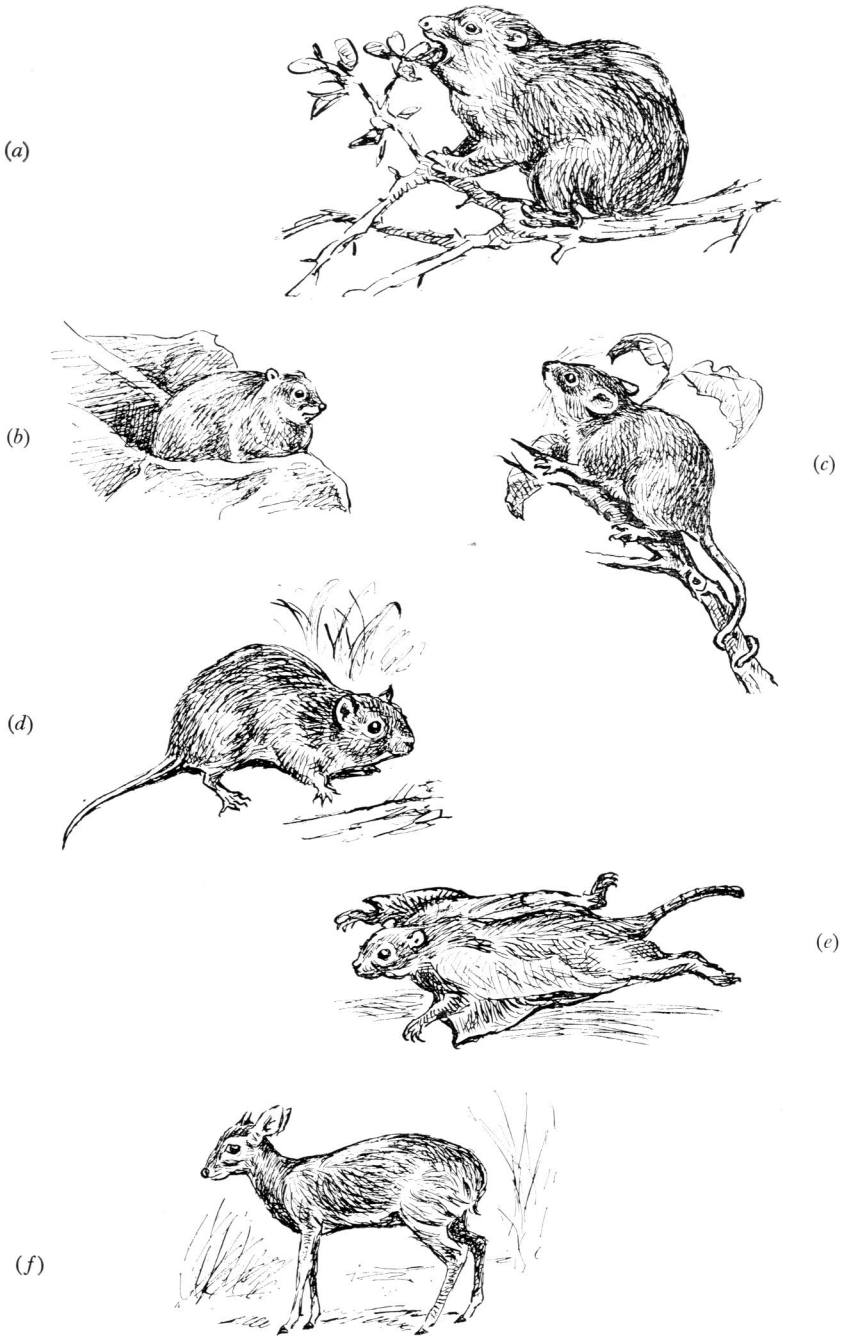
The ubiquitous but nocturnal Bush Pig (not to be confused with the diurnal Warthog of the plains) is found wherever there is forest or thick bush up to nearly 3000 m; a white-faced race occurs on Kilimanjaro. The great black Giant Forest Hog, one of the last big animals to be discovered (1904) lives up to 3300 m on the Ruwenzori and certain Kenya mountains. It habitually follows

the same paths through the undergrowth, and I am by no means the only person to have used a hog-track (often no more than a tunnel) when breaking new ground on the Ruwenzori.

On the Birunga Volcanoes, Mountain Gorillas prefer the upper edge of the mixed forest where there are bamboos and the *Hagenia* trees which are greatly favoured as nesting sites, but occasionally they travel right up into the Alpine zone. The only other great ape in Africa is the Chimpanzee, found in north-west Tanzania and western Uganda. Chimps are not true mountain animals but you often hear them hooting in the lower forests of the Ruwenzori. They are more carnivorous than gorillas, which are completely vegetarian, and sometimes kill and eat small monkeys. Monkeys of one species or another are fairly numerous in almost all montane forests—the rustling of branches is usually what gives them away. One of the more interesting is the rare and beautiful Golden Monkey which lives among the bamboos of the Birunga Volcanoes. It is of the Blue Monkey group (*Cercopithecus mitis*) which is widely distributed. There are several forms—the same monkey with differently coloured coats—including Sykes' Monkey of Mount Kenya, Kilimanjaro and the Aberdares. Black and White Colobus, with flowing manes and flowing capes, are found up to 3000 m on many mountains. They eat leaves, which they pluck with their lips, and move through the trees with superb agility. Another colourful species is the Brazza Monkey, which has an orange forehead and a trim white beard. It occurs up to bamboo level on Mount Elgon and the Cherangani Hills, and sometimes eats insects on the ground.

Of all East African mountain mammals the hyrax is the most typical. Hyraxes are not unlike Alpine Marmots, but they are not rodents and can be distinguished by a large glandular spot on their backs. They are agile climbers with unusual rubbery feet and blunt hoof-like nails, their climbing ability depending upon a powerful grip and moist soles which act as suction-pads. Hyraxes are entirely vegetarian (favoured foods including moss and *Alchemilla*) and are found throughout eastern Africa on mountains, rocky outcrops and in forests. They live in holes or crevices, feed mainly at dawn or dusk and stay as close as possible to their refuges, where several families usually live together. Like Marmots, Hyraxes are noisy creatures. They keep contact with each other by whistling and twittering. They scream like demons when defending their territories and, when alarmed, let out piercing shrieks before disappearing from sight.

Hyraxes have a phylogenetic relationship with ungulates but have found their ecological niche in rocks and trees which are inaccessible to ungulates. Three species, all much alike, occur on the East African mountains: Tree Hyrax, Rock Hyrax and Yellow-spotted Hyrax. Where the mountains are surrounded by forest country (e.g. the Ruwenzori) the Tree Hyrax has taken over, but usually lives among rocks. Where the mountains are surrounded by a dry belt (e.g. Mount Kenya) the Rock Hyrax is found. The Yellow-spotted Hyrax has occupied mountains where it lives in the surrounding country (e.g. Southern Highlands of Tanzania). All three species are found at different levels on Mount Elgon, which rises from a borderline area. The explanation



(a) *Tree Hyrax*; (b) *Rock Hyrax*; (c) *African Climbing Mouse*; (d) *Swamp Rat*; (e) *Scaly-tailed Flying Squirrel*; (f) *Red Forest Duiker*

of this is the comparatively recent climatic changes in tropical Africa. There was a cool period (50,000 years) during the Pleistocene when glaciers and alpine conditions came much lower than they do now. Hyraxes followed the vegetation as it recolonised the heights. They are most plentiful at about 3300 m but are widely distributed both above and below this altitude.

There are numerous small mammals on the mountains but total numbers and diversity decrease with altitude until the point is reached (at about 4500 m) where no mammal can survive permanently in the open. The highest living mammal is a small, rough-haired and blunt-nosed Swamp Rat (*Otomys typus*) which makes shallow trenches in swampy ground. The African Climbing Mouse (long prehensile tail) and the Shaggy Water Rat (long silky hair and fringed ears) occur widely in the Alpine zones. The latter feeds on *Helichrysum*. The charming little African Dormouse, which resembles a miniature squirrel, also lives high up; it normally nests in bushes or hollow trees but frequently enters huts. Many other rats and mice are found in the lower forests and among the bamboos, one of the most attractive being the Four-striped Grass Mouse (four black and three yellow stripes along its back). This little mouse, most familiar on the Aberdares and the Shira Plateau (4000 m) of Kilimanjaro, comes out into the open during the day and is not frightened of people who sit still and keep quiet.

Several squirrels occur in the lower forests, but few go much above 2000 m. Two Striped Squirrels do so on the Ruwenzori—*Tamiscus vulcanorum* (black and yellow stripes) and a Tree Squirrel with a bird-like call—as does the Red-legged Sun Squirrel on Mount Kenya, where it makes its dreys in the high canopy but often feeds on the ground. A much more unusual animal is the Scaly-tailed Flying Squirrel, distinguished by scales on the underside of its tail and by gliding membranes which connect its fore and hind limbs. The Scaly-tail launches itself into the air from a high branch, with its limbs and membranes spread out, and lands against a vertical trunk by gripping with its sharp claws and the scales of its tail—these act as sort of front-pointed crampons in reverse. It is found up to 2700 m on the Ruwenzori and a few other ranges, but is nowhere common.

Another strange animal is the widely distributed East African Mole Rat which is present up to 3600 m wherever the soil is suitable. It lives underground and makes long tunnels by biting away obstructions with its teeth and throwing the loose earth backwards into mounds. Mole Rats eat roots. The somewhat similar Golden Mole (eyes completely covered with skin) feeds mainly on earthworms. Golden Moles are much less common and are absent from both Kilimanjaro and Mount Kenya, where their niche is occupied by a Mountain Shrew (*Myosorex*) which has mole-like feet adapted for digging. You sometimes see the raised outlines of its runs in the moss. A montane relation of the shrews was discovered as recently as 1953 when the Ruwenzori Otter Shrew was accidentally collected in a fishing net. It resembles a miniature otter (about a foot long including tail) with fully webbed feet, and inhabits fast-running mountain streams.

Most bats feed on insects and are not much in evidence on the mountains, which is hardly surprising as there would be very little for them to eat—insect-eating Alpine Swifts, which roost up to 4000 m on the Ruwenzori, have to fly down to 1000 m daily in order to feed. However, the dog-faced Rousette Fruit Bat roosts in caves up to over 3600 m on the Ruwenzori and is probably present elsewhere. At dusk, or on dull days, these bats are often seen flitting about among the bamboos. Rousettes are the only fruit-eating bats known to use echo-location to find their way about in the dark. Virtually all insect-eating bats do so.

With so much animal life, there is plenty of food for predators, though much of it cannot be easy to secure. Several birds of prey feed mainly on mammals: Verreaux's Eagle, for example, lives largely on Hyrax. Mammal predators are less often seen. There are Genets in the lower forest. Clawless Otters, which favour mountain streams, live up to at least 3050 m, but feed mainly on crabs and molluscs. The Serval, which preys on small mammals and hunts almost entirely by sound, is present up to moorland level, preferring areas where there is long grass and lush vegetation. This beautiful spotted cat resembles a miniature leopard with large ears. It is most often seen on the Aberdares where black (melanistic) specimens are not uncommon and where the exceptionally rare black leopard has occasionally been observed. Golden Cats occur on the Ruwenzori and a few other places—not Mount Kenya or Kilimanjaro—where they feed mainly on rodents. They are not at all common and I have never seen one, but I once came across an occupied lair among broken rocks above the Stuhlmann Pass (4161 m); there was a footprint and the remains of a meal as well as a distinct smell of cat. And David Pasteur saw a dead Golden Cat at about 3300 m. Unfortunately it was too far gone to be collected. Not many of us would have added such a smelly object to our rucksacks even in the cause of science.

Leopards are present at all levels and are the major predators of most mountains, where they feed mainly on duikers, hyraxes and rodents. They go up to the highest inhabited levels and above—Leopard Point, at about 5790 m on the crater rim of Kibo, gets its name from a frozen carcase which used to decorate the point. These big cats can become incredibly bold. Leopards visited Henry Osmaston's tent at Bigo (3450 m) on the Ruwenzori while his party was having supper by a fire a few yards away. They returned several times and removed some bedding, a shoe and a camera, which were recovered, and an old haversack which was not. I once lost a large joint of bacon at the same camp. I did not see the leopard but hope it enjoyed the bacon.

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