

# QUADRUPEDS.

*A BOOK OF ZOOLOGY FOR BOYS.*

BY

Captain *Mayne Reid.*

---

WITH TWENTY-FIVE ENGRAVINGS.

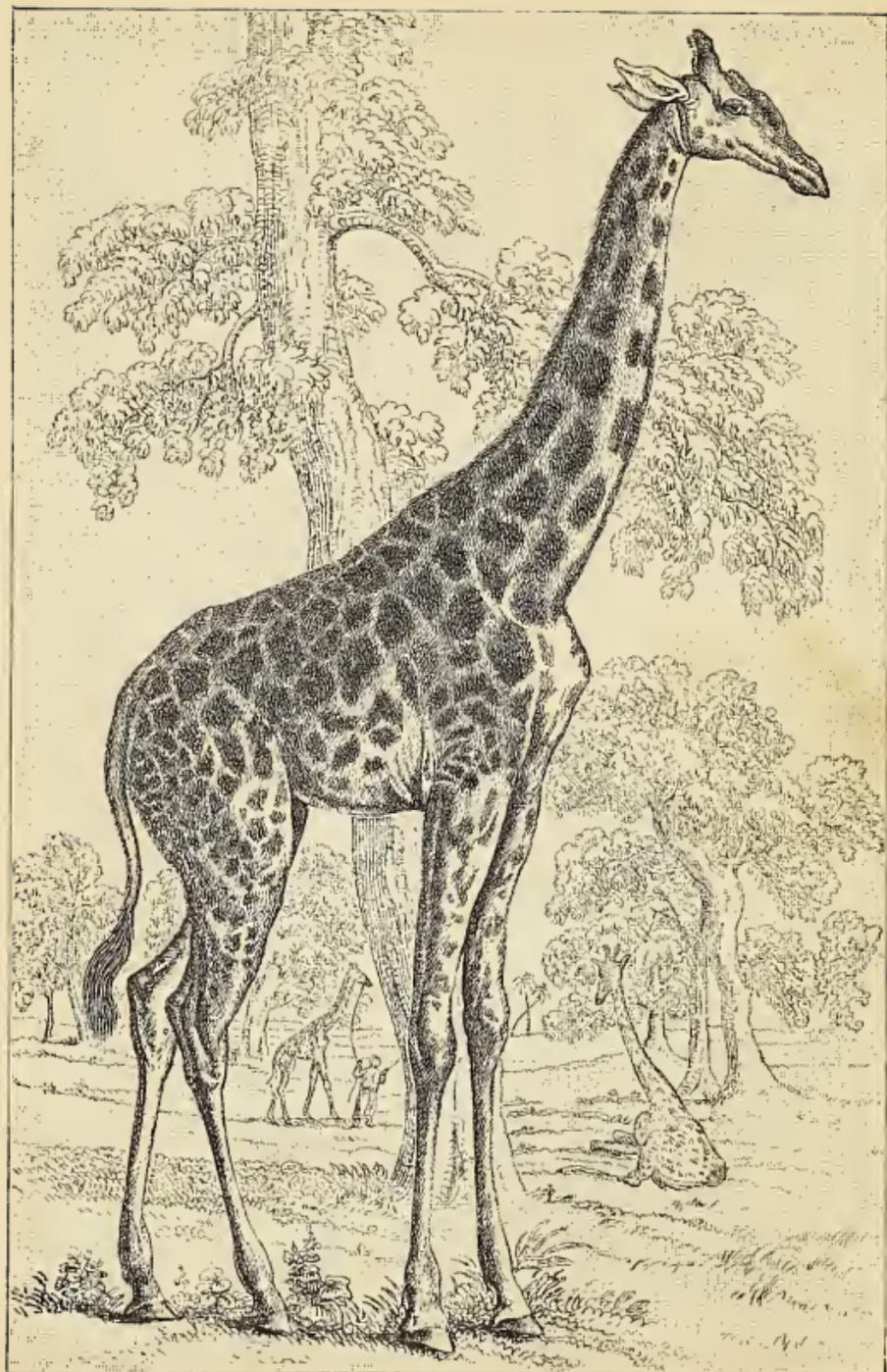
---

London:

T. NELSON AND SONS, PATERNOSTER ROW.  
EDINBURGH; AND NEW YORK.

---

1885.



THE GIRAFFE—CAMELOPARD OF NORTH AFRICA.



# Contents.



I. MONKEYS OF THE OLD WORLD, ... ..	9
II. MONKEYS OF THE NEW WORLD, ... ..	17
III. BEARS, ... ..	24
IV. BADGERS, ... ..	35
V. WEASELS, OTTERS, AND CIVETS, ... ..	43
VI. TAME DOGS, ... ..	51
VII. WILD DOGS, ... ..	58
VIII. CATS, ... ..	67
IX. RATS AND OTHER RODENTS, ... ..	76
X. BEAVERS, ... ..	84
XI. SQUIRRELS, ... ..	96
XII. HARES, RABBITS, AND OTHER RODENTS, ... ..	104
XIII. ELEPHANTS, ... ..	111
XIV. THE HIPPOPOTAMUS, RHINOCEROS, AND TAPIR,	118
XV. GIRAFFES, CAMELS, AND LLAMAS, ... ..	125
XVI. SWINE, ... ..	135
XVII. HORSES AND ASSES, ... ..	144
XVIII. THE OX TRIBE, ... ..	153
XIX. SHEEP, ... ..	161
XX. GOATS, ... ..	163
XXI. ANTELOPES, ... ..	176
XXII. DEER, ... ..	180
XXIII. QUADRUPEDS WITH POCKETS, ... ..	190
XXIV. ANT-EATERS, ARMADILLOS, AND OTHER ODD ANIMALS, ... ..	203



Digitized by the Internet Archive  
in 2015

## List of Illustrations.

THE GIRAFFE—CAMELOPARD OF NORTH AFRICA, ..	<i>Frontispiece</i>
THE BARBARY APE, OR MAGOT, .. ..	13
THE SPIDER MONKEY, .. ..	19
THE YELLOW BEAR OF NORWAY, .. ..	25
THE BADGER, .. ..	37
THE WEASEL, .. ..	45
THE ESQUIMAU DOG, .. ..	53
THE HYENA, .. ..	63
THE EUROPEAN LYNX, .. ..	73
THE COMMON MOLE, .. ..	81
THE BEAVER, .. ..	85
THE SQUIRREL, .. ..	99
THE VISCACHA, .. ..	107
THE ELEPHANT OF AFRICA AND YOUNG, .. ..	115
THE RHINOCEROS, .. ..	121
THE BACTRIAN CAMEL, .. ..	129
THE BABIRUSSA, MALE AND FEMALE, .. ..	137
THE ZEBRA, MALE, .. ..	149
THE INDIAN OX, OR ZEBU, .. ..	155
THE BIGHORN OF THE ROCKY MOUNTAINS, MALE AND FEMALE, .. ..	165
CASHMERE GOATS, .. ..	171
THE KLIPSPRINGER, .. ..	183
THE ELK, OR MOOSE, .. ..	191
THE WOMBAT, .. ..	205
THE GREAT ANT-EATER, .. ..	209



# QUADRUPEDS.

---

## I.

### Monkeys of the Old World.



THE great family of the Monkeys, or the "Monkey tribe," as it is usually called, is divided by naturalists into two large groups—the "Monkeys of the Old World," or those that inhabit Africa, Asia, and the Asiatic islands; and the "Monkeys of the New World," or those that belong to America. This classification is neither scientific nor natural, but as it serves to simplify the study of these quadrupeds—or *quadrumana*, as they are termed—it is here retained. Moreover, as there is no genus of monkey, nor even a species, common to both hemispheres, such a division can do no harm.

The number of species of these animals, both in the Old and New Worlds, is so great, that to give a particular description of each would fill a large volume. It will be only possible in this sketch to point out the countries they inhabit, and to say a word or two of the more remarkable kinds.

The first place among the apes must be given to the great *Gorilla*, on account of its size and its enormous bodily strength. So powerful is it, and so violent and intractable, that no one has ever succeeded in capturing a full-grown male. Unlike its friends the *Ourang* and the *Chimpanzee*, it prefers a life of solitude, dwelling for the most part in the deepest recesses of the forests on the west coast of Africa. It is treacherous, as well as fierce and cruel. Woe betide any unwary negro who may pass within its reach as it hides among the leafy branches! Suddenly stretching down one of its cruel hind paws, with its enormous thumb it seizes its victim by the throat, and either chokes him or dashes him to the ground, whence he can never rise. As the animal feeds entirely on fruits and vegetables, its attacks on man, whom it pursues and slays whenever it sees him, must be prompted by pure malevolence.

In consequence of the ferocious character of the gorilla, and of its retired life in the forest, very little is known of its history or its habits. For the little knowledge that has been obtained regarding it, science is indebted mainly to the daring and the enterprise of the great French African traveller, M. du Chaillu. Never, he says, can he forget the appearance of the first specimen of the animal that he saw and killed, at once so powerful and so repulsive did it seem. Yet the story of M. du Chaillu's achievements in the Gaboon country were discredited in England for years—indeed, until it received confirmation from the arrival in Berlin of a young gorilla alive and in good health!

Next in order of precedence comes the *Ourang-outang* to contest the palm with the *Chimpanzee*. Both these creatures often attain the size of an ordinary man, and individuals of both have been captured exceeding this size; while, at the same time, in muscular strength, one of them is supposed to equal seven or eight men.

It is remarkable how little is known of the habits of either. This is accounted for by the fact that they both inhabit regions still unexplored by civilized man, dwelling in thick impenetrable forests, where even the savage himself rarely penetrates.

Although many exaggerated stories are told of these great satyr apes, and many of these are only "sailors' yarns," yet it is easy to believe that animals approaching in structure, and even in intelligence, to man himself, must possess habits of the most singular kind. There is little more known of them than there was hundreds of years ago—indeed, we might say thousands of years; for it is evident that the Carthaginians came into contact with the chimpanzee on the western coast of Africa, and through them the Romans became acquainted with it; and no doubt it was this animal that gave origin to most of their stories of satyrs and wild men of the woods.

The chimpanzee is found only in the forests of tropical Africa—more especially along the west coast, the banks of the Gaboon, and other rivers. The ourang-outang is exclusively Asiatic—inhabiting Borneo, Sumatra, the peninsula of Malacca, Cochin China, and several others of the large Oriental islands. Of the ourang-outang there are two species—perhaps three—differing very little, except in point of size and colour.

A group of large tailless apes, usually denominated *Gibbons*, or Long-armed Apes, come next in order. These are neither so large nor human-like as the ourang or the chimpanzee; nevertheless, they are capable of walking upon their hind legs, after the manner of bipeds. They are all long-armed apes, and generally use their fore-arms in walking, but more to assist them in clinging to the branches of trees, and swinging themselves from one to the other.

The gibbons are all Asiatic monkeys, and inhabit the

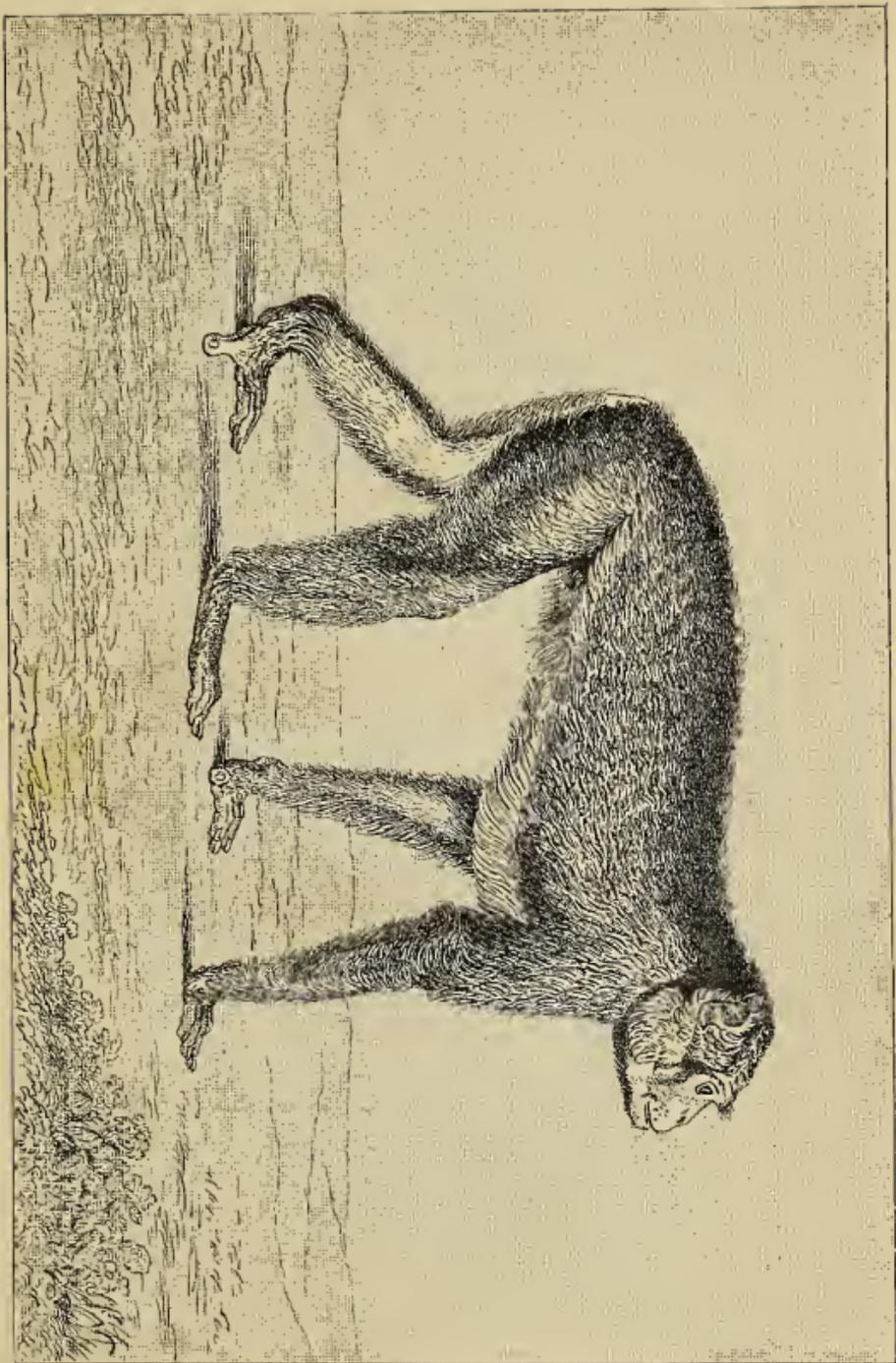
same countries with the ourang, viz., the tropical forests of India and the Indian Archipelago. There are at least a dozen species of them, nearly half of which are found in the Island of Sumatra alone.

The *Proboscis* monkeys follow the gibbons. These are also long-armed apes, but with tails and sharp proboscis-like snouts, from which their name is derived. Only two species are known—both belonging to the great Island of Borneo, so rich in varieties of these human-like mammalia. One of the species of proboscis monkeys has also been observed in Cochin China.

Another large tribe of Asiatic apes, containing in all nearly twenty different species, has been constituted into a genus called *Semnopithecus*. These also inhabit the Indian continent and the great islands; but they are not so exclusively tropical in their habits, since several of the species extend their range northward to Nepaul, and other districts among the Himalaya Mountains. It is a species, or more than one, of these ugly apes that is venerated by the Hindus; and they are permitted to live without molestation in the sacred groves and temples, though they often prove most troublesome protegées to their fanatical benefactors.

In Africa, the representatives of this last-mentioned tribe are found in the *Colobus* monkeys. Of these there are about a dozen species; and from several of them are obtained the long-haired monkey skins of commerce. They are all tropical animals, and inhabit the middle zone of Africa—their range extending from Abyssinia to the shores of the Atlantic.

Another very large tribe, containing in all as many as thirty species, and belonging exclusively to Africa, are the *Guenons*. They are closely allied to the colobus monkeys, but yet sufficiently different from them in habits and conformation to be classed into a separate genus. Most of the guenons inhabit the central regions



THE BARBARY APE, OR MAGOT.



of Africa ; but they are not exclusively tropical, since several kinds belong to Kaffraria, and that region indefinitely called the Cape of Good Hope.

The *Macaco* apes constitute another genus, which forms the link between the guenons and the baboons, or dog-headed monkeys. They are neither exclusively African nor Asiatic monkeys, since species of macacoes are found in both these continents. They are usually subdivided into the macacoes with long tails, and those with short tails ; and there is one species which wants this appendage altogether. This is the Magot—perhaps the most noted of all the macacoes, since it was the earliest known to European nations, and is, in fact, the only species that is indigenous to Europe. It is the magot that inhabits the Rock of Gibraltar. Much has been written as to whether this monkey is really indigenous to Europe—some naturalists alleging that it reached Gibraltar from Africa, where it is also common. But it is not generally known that, on European ground, the magot is not confined solely to the Gibraltar Rock. It is also found in other parts of the south of Spain ; and, probably, has existed there long enough to claim the character of a native.

In the chain of natural affinities, the *Baboons*, or dog-headed monkeys, stand next to the macacoes. These are more of a quadruped form than any yet mentioned : and, both in a moral and physical sense, they are certainly the ugliest of animals. The hideous Drills and Mandrills, so well known in our menageries, belong to this genus ; as also the Chacma, or great dog-monkey of the Cape.

There are, in all, seven or eight species of baboons, and most of them inhabit Africa. One of the most singular of them, the Hamadryas, extends its range into Arabia ; while another, the Black Baboon, is an inhabitant of the Philippine Isles.

With the baboons we close our list of the Monkeys of the Old World ; but, in order to complete the account of these quadruped mammalia, it is necessary to find a place for those strange creatures usually known as Lemurs. These are usually grouped by themselves, and in a classification succeed the American monkeys—to some of which they have a greater resemblance than to those of the Old World ; but, as they are all exclusively inhabitants of the latter, they may appropriately be noticed here.

The *Lemurs* are animals having very much the appearance and habits of monkeys, but with long snouts or muzzles, resembling that of the fox. Hence they are sometimes called fox-apes. There are many kinds of them, however ; and, although classed in a group called lemurs, they differ exceedingly from one another, some of them having the appearance of foxes, others more resembling squirrels, and still others like flying squirrels—being possessed of a similar wing-like appendage, and capable, like them, of extended flight. They are known under different appellations, as Makis, Indris, Loris, Galagos, Tarsiers, Aye-eyes, &c., and naturalists have subdivided them into a great number of genera. They are found both in Africa and Asia ; but by far the greater number of them, as the Makis and Aye-eyes, belong to the Island of Madagascar. The last are not to be confounded with an animal bearing the same name—the aye-aye of America. The latter is the singular creature known as the sloth, of which there are several distinct species, all inhabitants of the great forests of tropical America.

Of the lemurs, at least thirty kinds are known, more than half of which belong to Madagascar. A few species are found on the west coast of Africa ; and the others inhabit the islands of Ceylon, Java, Sumatra, Timor, Mindanao, and the Philippine Archipelago.

## II.

### Monkeys of the New World.



THE Monkeys of America differ in many respects from those of the Old World. In general they are smaller—none of the species being quite so large as the baboons. Their bodies and limbs are also more slender and spider-like; and their whole conformation seems intended to adapt them for dwelling in the great virgin forests of the New World. There is one particular in which they differ most remarkably from their congeners of the Old World; that is, in having *prehensile* tails. With these they are enabled to suspend themselves from the branches of trees, or swing their bodies from one to the other; and this prehensile power is far greater than could be obtained by any clutch of the hand. So great is it, that even after the animal has died from the effect of a shot or other wound, its tail will still remain hooped around the branch; and if the body is not taken down by the hunter, it will hang there till released by the decay of the tail!

Not all the monkeys of America possess this prehensile power of tail. Some are entirely without it, and approach nearer to certain kinds in the Old World; while there are a few species that very closely resemble the lemurs. These differences have led to a classification of the American monkeys; and they have been

thrown into three groups, though it may be remarked that these groups are not very natural.

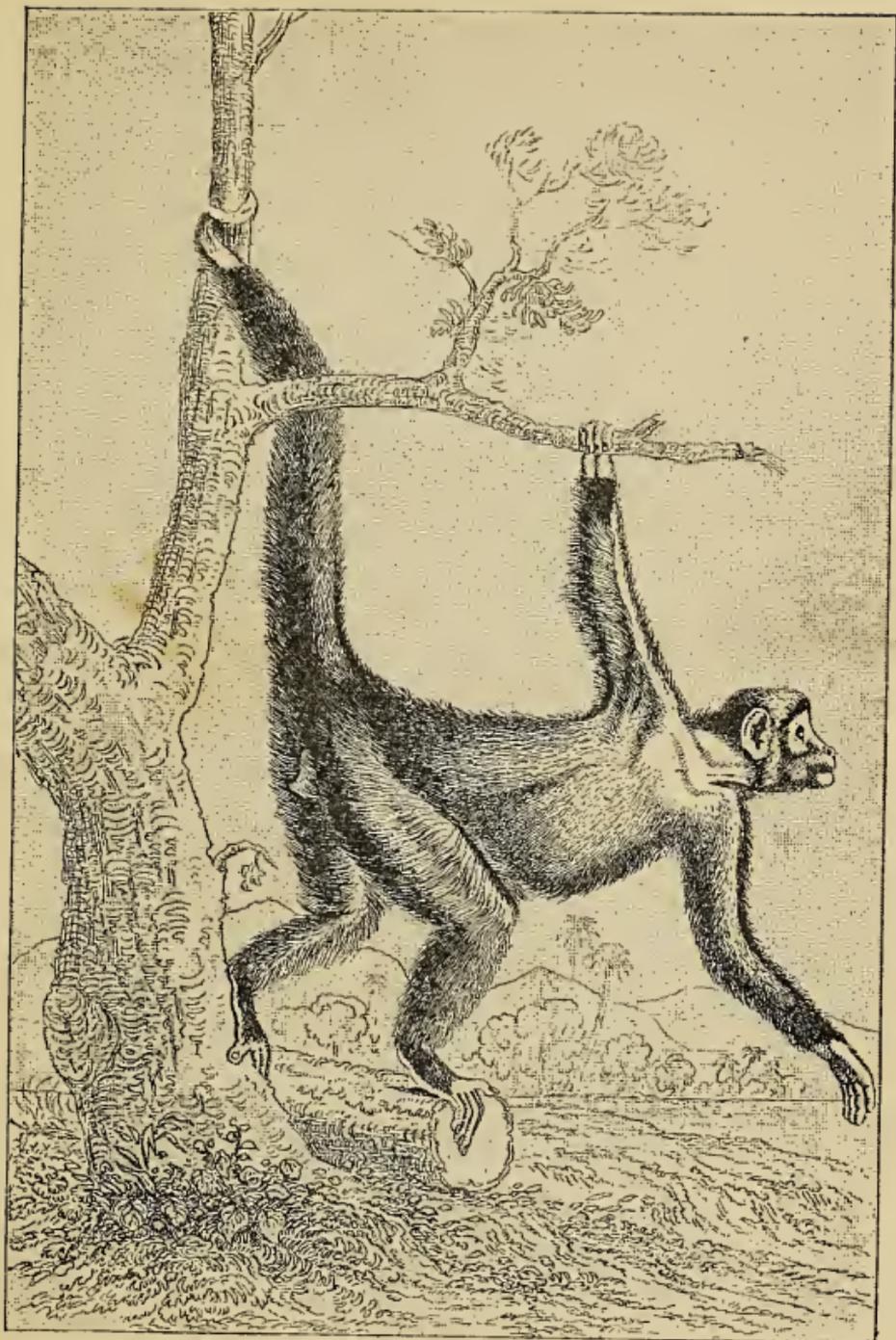
They are as follow :—The *Sapajous*, whose tails are not only prehensile, but naked underneath, and tubercled near the tips ; the *Sajous*, who possess the prehensile power, but have hairy tails ; and the *Sajouins*, whose tails are *not* prehensile.

For want of a better, this classification may be adopted.

The Sapajous are subdivided into three genera, of which the Howlers form one. They are so denominated from their habit of assembling in troops, and uttering the most terrible howlings, so loud that the forest is filled with their sonorous voices. Their cries can be heard at a half-league's distance, and produce upon a stranger unaccustomed to such sounds a very disagreeable impression. The unusual strength of voice is accounted for by a peculiar drum-like construction of the *os hyoides*, common to all the genera of Sapajous, but more developed in some than in others ; and those in whom the voice is loudest constitute the genus of *Alouattes*, or Howlers.

Of the true howlers there are about a dozen species known to naturalists. Most of them are denizens of the tropical forests of Guiana and Brazil ; but some species are not so tropical in their habits, since one or two extend the kingdom of the monkeys into Mexico on the north, and southward to Paraguay.

Closely allied to the last, are the *Ateles*, or Spider monkeys. These derive their generic name from their singular spider-like appearance—caused by their disproportionately long and slender limbs, and the great length of their tails. None equal them in the prehensile power of the caudal appendage ; and it is of them that that curious story is related—the story of the Monkeys' Bridge—where it is told how they pass



THE SPIDER MONKEY.



over a stream : a number of the strongest joining their bodies together by means of their long tails, and thus forming a bridge, by which the whole troop are enabled to cross.

Of the spider monkeys there are about a dozen species ; but three of these have been taken to form one of the three genera into which, as already stated, the Sapajous are divided. These three differ very little from the other spider monkeys, except in being covered with a soft, woolly hair ; and, furthermore, in being much more rare than the others ; at all events, they are more rarely seen, as they dwell only in the thickest forests, far remote from the habitations of man.

The third and last genus of the Sapajous is that termed *Lagothrix*. They are small monkeys, covered also with soft woolly hair ; and their habitat is along the banks of rivers. They have a strange habit, not observable among their congeners, of collecting in small troops, and rolling or "clewing" themselves up together. This they do in cold weather, or on the approach of a storm. They summon each other by means of signals and cries ; and selecting the convenient bifurcation of some tree, they there form the singular group. The jaguar and other beasts of prey take advantage of this habit, and often make victims of the whole *tableau vivant* ! There are three species already described, all denizens of the Brazilian forests.

The Sajous form the second group of the American monkeys. These have also prehensile tails ; but the power is not so highly developed in them as in the Sapajous, nor are their tails naked. Moreover, the bodies of the Sajous are more robust, and their limbs of stouter make.

The Sajous are well-tempered creatures, and easily domesticated. Some of the species are favourite pets —on account of their pleasing manners, and the docility

of their nature. The old males, however, scarcely deserve this reputation, as they will bite freely enough when provoked.

They are not subdivided ; but permitted to constitute a single genus, of which there are nearly twenty species—all of them inhabiting equatorial America.

The Sajouins form the third group ; but as the name merely signifies those monkeys that have not the power of suspending themselves by the tail, it can hardly be considered a natural group, since there are very varied and numerous genera who lack this power. The group of Sajouins must therefore be subdivided into several lesser groups.

First of all we have the true Sajouins ; and of these the *Säimiri* or *Titi* is the most distinguished species. This pretty little creature is about equal in size to a squirrel, and possesses all the playful disposition of the latter. Its childlike innocence of countenance, as well as its pleasing and graceful manners, render it a favourite pet wherever it can be obtained. Its rich robe of yellowish-gray, mixed with green, adds to the attraction of its presence. There are several species of Sajouins, known as the Widow monkey, the Moloch, the Mitred monkey, and the Black-handed Sajouin—all of them dwellers in the tropical regions of America. The Doroucouli is another small species, that in the nocturnal forest often alarms the traveller by its singular cry ; and an allied species of Doroucouli constitutes, with the one above-mentioned, a second genus of the Sajouins.

The *Sakis* form of themselves another and somewhat extensive family of the Sajouins. There are a dozen species of them in all ; and they possess the peculiarity of being insect-eaters. They are fond of honey, too ; and are often seen ranging the woods, in little troops of ten or twelve, in search of the nests of the wild bees, which they plunder of their luscious stores.

The *Ouistitis* also constitute a genus. These, like the *Säimiris*, are beautiful little creatures—many of the species not being larger than squirrels, and marked with the most lively colours : as bright red and orange. There are many different kinds of small squirrels known by this name, or by its abbreviation—*Titi*—some of them belonging to the group of *Säimiris*, and others to the *Ouistitis*, properly so called.

Last of all come the little *Tamunus* ; some of which, in beauty of colours, in playfulness of disposition, and other amiable qualities, need not yield either to the *Säimiris* or *Ouistitis*. They are equally prized as pets ; and among their Creole owners have equally applied to them the endearing appellation of *Titi-titi*.

### III.

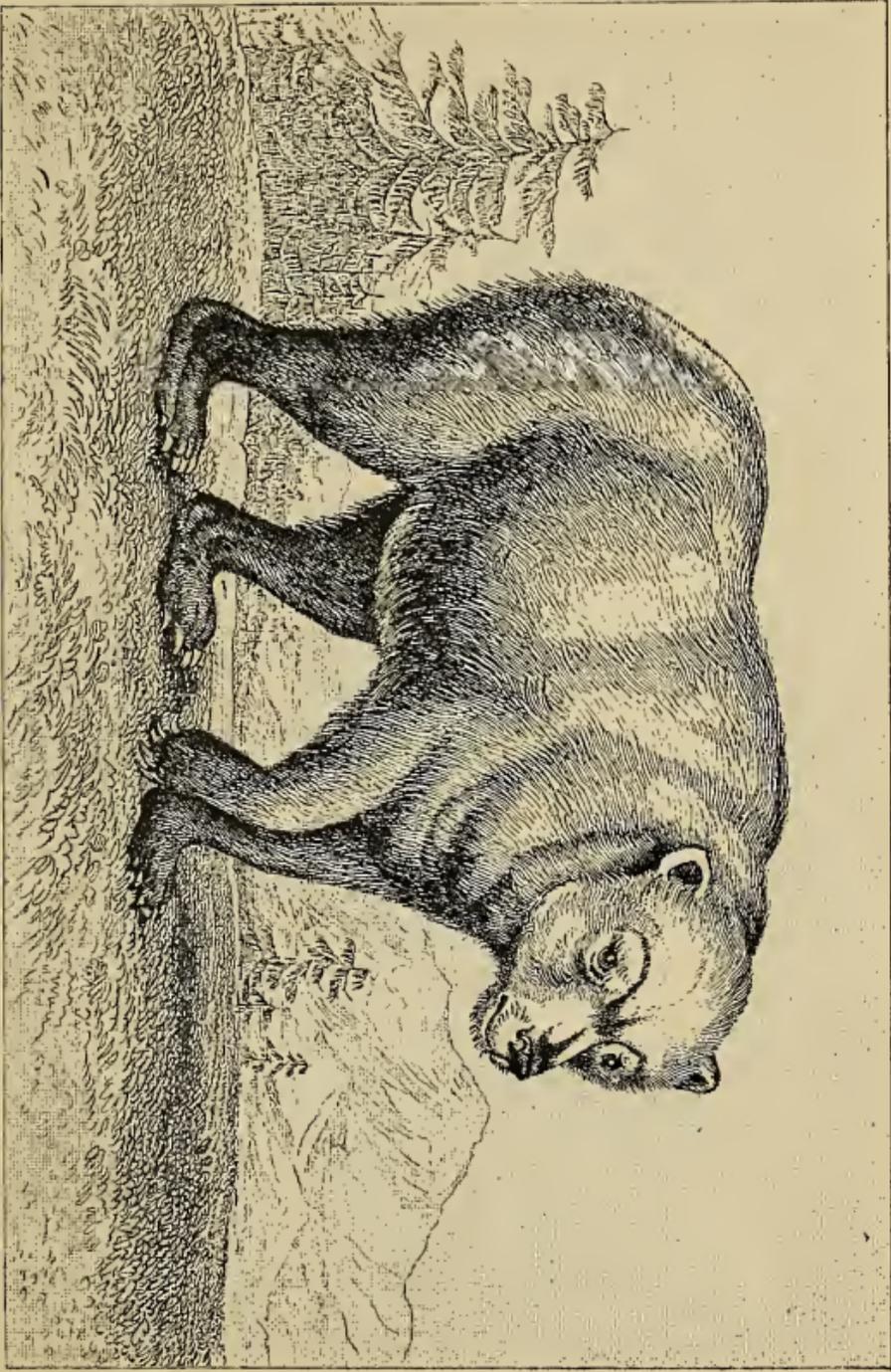
## Bears.



IN the days of Linnæus—that is, a century and a half ago—it was supposed there was only one kind of Bear in existence—the common Brown bear of Europe. It is true that Linnæus before his death had heard of the great Polar bear, but he had never seen one, and was not certain of its being a distinct species. Not only has the Polar bear proved to be a very different animal from his brown congener, but other species have turned up in remote quarters of the globe: until the list of these interesting quadrupeds has been extended to the number of at least a dozen distinct species—differing not only in size, shape, and colour, but also in many more essential characteristics. Bears have been found in North America, and others in South America; some in Asia, and still others in the islands of the Indian Archipelago; entirely unlike the brown bear of Europe, as they are to one another.

As the *Brown bear* is the oldest of the family known to naturalists, I shall give him the precedence in this little monograph.

It is a misnomer to call him the brown bear of Europe, since he is even more common in many parts of Asia—especially throughout Asiatic Russia and Kamtschatka. But he is also met with in most Euro-



THE YELLOW BEAR OF NORWAY.



pean countries, where there are extensive ranges of mountains. In the mountains of Hungary and Transylvania—as well as in those of Russia, Sweden, and Norway—the brown bear is found. He is also met with as far south as the Alps—and even the Pyrenees, and Asturias, mountains of Spain; but the bear of these last-mentioned localities differs considerably from the real brown bear of the northern regions; and most probably is a different species.

Again, in North America—in a very remote and sterile region lying to the westward of Hudson's Bay, and known as the Barren Grounds—a large brown bear has been observed by travellers and traders of the Fur Company, supposed to be identical with the European bear. This, however, is a doubtful point; and in all likelihood the bear of the Barren Grounds is a new species, only found in that desolate region.

The brown bear is of solitary habits. During the summer season he roams about, growing fat upon roots, fruits, seeds, and wild honey—when he can procure it. At the approach of winter this animal has the singular habit of returning to his den, and there remaining dormant or torpid throughout the season of cold. During this prolonged slumber he takes no sustenance of any kind; and although exceedingly fat when going to rest, he comes forth in the spring-time as thin as a skeleton. The den is usually a cave or hollow tree; or, failing this, a *lair*, which the animal constructs for himself out of branches, lining it snugly with leaves and moss.

The brown bear is a long-lived animal. Individuals have been known of the age of fifty years. The cubs when first born are not much larger than the puppies of a mastiff. The people of Kamtschatka hunt this species with great assiduity, and obtain from it many

of the comforts and necessaries of life. The skins are used for their beds and coverlets, for their caps, gloves, and boots. They manufacture from it harness for their dogs. From the intestines they make masks for their faces, to protect them from the glare of the sun; and they also use the latter stretched over their windows as a substitute for glass. The flesh and fat are among the most esteemed dainties of a Kamtschatkan *cuisine*. Even the shoulder-blades are used as sickles for cutting grass. The Laplanders, also—of whose cold country the brown bear is an inhabitant—have a great esteem for this animal. They regard its prowess as something wonderful, alleging that it has the strength of ten men, and the sense of twelve! The name for it, in their language, signifies the dog of God.

The *White*, or *Polar bear*, is, perhaps, the most interesting of the whole family: not so much on account of his superior size—since the brown and the grizzly are sometimes as large as he—but rather from his singular habits, and the many odd stories told about him, during the last fifty years, by whalers and Arctic explorers.

To describe the appearance of the Polar bear would be superfluous. Everybody has seen either a living individual in a menagerie, or a stuffed skin of one in a museum; and the long, low, tailless body—with outstretched neck and sharp projecting snout—covered with a thick coat of white hair, renders it impossible to mistake the Polar bear for any other animal.

This quadruped is more of a *sea* than *land* animal. Sometimes, it is true, he wanders inland for fifty miles or so; but this he does in following the course of some river or marshy inlet, where he finds fish. His usual haunts are along the icy shores of the Arctic Ocean, and the numerous ice-bound islands of the great Polar Sea. There he roams about over the frozen banks, or floats

upon icebergs and drifts; or, if need be, takes to the open water, where he can swim with almost the facility of a fish.

A proof of his natatory powers is found in the fact that Arctic voyagers have observed him swimming about in the open sea full twenty miles from the nearest land! He is equally expert as a diver; and uses this art for the purpose of capturing various kinds of marine animals, upon which he subsists. In regard to food, the Polar bear differs altogether from his congeners. He is almost wholly carnivorous in his habits. Indeed, were it otherwise, he could not exist in his icy kingdom—in many parts of which not a trace of vegetation is to be found. Fish of many kinds, birds, and their eggs, and four-footed beasts—when he can lay his claws upon them—all are welcome to his palate. Nor will he disdain to feast upon the carcass of the great whale—when chance, or the whale fishermen, leaves such a provender in his way. The seal is a particular favourite with him, and he hunts this creature with skill and assiduity. When he perceives the seal basking upon a ledge of ice, he slips quietly into the water, and swims to leeward of his intended victim. He approaches by frequent short dives—so calculating his distance, that at the last he comes up close to the spot where the seal is lying. Should the victim attempt to escape, by rolling into the water, it falls into the bear's clutches: if, on the contrary, it lies still, the bear makes a powerful spring, seizes it on the ice, and then kills and devours it at his leisure.

In swimming, the Polar bear not only moves rapidly through the water, but is also capable of darting forward in such a way as to seize a fish before it can escape beyond reach. On the land, also, he can move with rapidity—his slouching trot being almost as fast as the gallop of a horse.

Individuals have been shot that weighed as much as 1600 pounds!

Polar bears are found along the shores of the Arctic Ocean, both in Asia and America. They do not go to sleep in winter—that is, the males do not. The females with young, however, bury themselves in the snow—having formed a lair—and there remain until they bring forth their young. The cubs are often captured in these snow caves, which the Esquimaux discover by means of dogs trained for this peculiar purpose.

The *Grizzly bear* next merits attention. This formidable animal was, for a long time, supposed to be a variety either of the brown bear of Europe or the black bear of America; but his greater ferocity, so often and fatally experienced by travellers, drew the attention of naturalists upon him, when it was discovered that he was altogether distinct from either of the two. His name is usually coupled with that of the Rocky Mountains of America—for it is chiefly in the defiles and valleys of this stupendous chain that he makes his home. He wanders, however, far eastward over the prairies, and also to the Californian Mountains on the west; and in a latitudinal direction from the borders of Texas on the south, northward as far, it is supposed, as the shores of the Arctic Sea. At all events, a bear somewhat like him, if not identically the same, has been seen on the banks of the great Mackenzie River, near its mouth. Perhaps it may be the brown bear of the Barren Grounds, already noticed; and which last is, in many respects—in size and colour especially—very similar to the grizzly.

The grizzly bear is certainly the most ferocious of his tribe—even exceeding, in this unamiable quality, his white cousin of the icy north; and many a melancholy tale of trapper and Indian hunter attests his

dangerous prowess. He is both carnivorous and frugivorous—will dig for roots and eat fruits when within his reach ; but not being a tree-climber, he has to content himself with such berries as grow upon the humbler bushes. Indeed, it is a fortunate circumstance that the fierce animal is unable to ascend a tree. Many a traveller and hunter have found a neighbouring tree the readiest means of saving their lives, when pursued by this ferocious assailant. Another circumstance is also in favour of those pursued by the grizzly bear. In the region where he dwells, but few persons ever go afoot ; and although the bear can overtake a pedestrian, his speed is no match for that of the friendly horse.

It is almost hopeless to think of killing a grizzly bear by a single bullet. There the deadly rifle is no longer deadly—unless when the shot is given in a mortal part ; and to take sure aim from the saddle, with a horse dancing in affright, is a feat which even the most skilful marksman cannot always accomplish. As many as a dozen bullets have been fired into the body of a grizzly bear, without killing him outright.

The strength of this animal equals his ferocity. He pulls the huge buffalo, a thousand pounds in weight, to the ground ; and then drags its carcass to some cave or crevice among the rocks, or to a hole which he has dug to receive it. To this place he repairs from time to time, till the exhausted store compels him to go in search of a new victim. Many an incident can be related—and on the best authority too—where man has been the victim of the grizzly bear ; and the Indians esteem the killing of one of these animals a feat equal to that of taking the scalp of a human enemy. One of the proudest ornaments of a savage chief is a necklace of bears' claws : only to be worn by those who have

themselves killed the animals from which they have been taken.

The *Black*, or *American bear*, is one of the best known of the family; and on account of his clean smooth head, tapering muzzle, and rich black fur, he is also one of the best looking of bears. He is found throughout the whole of the United States territory—from the Canadas to the Gulf of Mexico—and westward to the shores of the Pacific. He is sometimes met with in the same neighbourhood with the grizzly, but not often: since their haunts are essentially unlike—the black bear being a denizen of the heavy-timbered forest, while the other frequents the grassy hills or coppice-openings of the prairies and mountain valleys.

The black bear is a tree climber; and ascends the loftiest trees in search of the honey of the wild bees, or to make his lair in some cavernous hollow of the trunks. His food is usually fruits and roots, but he is also fond of young corn, and often commits serious depredations on the maize plantation. In the backwood settlements, where clearings are apart from each other, the black bear is still occasionally met with; and the chase of this animal is one of the most favourite pastimes of the backwoods' hunter, whether amateur or professional. Generally there is little peril in the pursuit—unless when the bear is wounded and enraged, and the hunter chooses to risk himself at close quarters.

There are varieties in colour. Some with white throats, and some of a cinnamon brown, have been observed; but the colour of the species is usually jet black; and on this account the skins are much prized for military and other purposes.

The *Spectacled bear* is a native of South America, and frequents the forests upon the declivities of the Andes. This was long supposed to be a variety of the black

bear, but later observations prove it to be a different species. Its habits are very similar to the last, to which it is also similar in shape. In colour it differs essentially. It is black, but with a buff snout, and buff rings round the eyes, which give it that appearance whence it derives its trivial name. Its throat and breast are whitish.

There is at least one other species of black bear indigenous to South America, inhabiting the tropical forests; but very little is known of it—further than that it is one of the smallest of the tribe.

We now reach the Asiatic bears, properly so called; and we have only space to say a word about each.

The *Siberian bear* is thought to be only a variety of the brown bear of Europe, differing slightly in colour. In the former there is a broad band, or collar, of white passing over the neck and meeting upon the breast. It is, as its name implies, an inhabitant of Siberia.

The *Thibet bear* is a dweller among the Himalayas—in Sylhet and Nepal. Its general colour is black, with a white mark, shaped like the letter Y; so placed that the shank of the letter is upon its breast, and the forks running up the front of its shoulders. It is not carnivorous, and, generally, its disposition is harmless and playful. It is easily tamed.

The *Sloth bear* is another Indian species having this peculiar marking on the breast and shoulders. This animal is one of the oddest of creatures. Its short limbs and depressed head, with the long shaggy hair surmounting its back like a bullock, give it the appearance of being deformed. On this account it was the favourite of the Indian jugglers, who, depending on its ugliness as a source of attraction, trained it to a variety of tricks. It is therefore sometimes known as the jugglers' bear (*Ours jongleur*). It has also a peculiar

prehensile power in its lips; and this, with its general shaggy mien, led to the belief of its being a species of sloth—hence its common name.

The *Malayan bear* is another black species, with a marking on the breast. This mark is of a semi-lunar shape, and whitish; but the colour of the muzzle is buff-yellow. This is a very handsome species, subsisting on vegetable diet; and very injurious to the plantations of young cocoa trees, of the shoots of which it is very fond. It is also a honey eater; and roams about in quest of the hives of the indigenous bees. It is a native of Malacca, Sumatra, and others of the East Indian islands.

The *Isabella bear* is so called from its colour—being of that fulvous white known as Isabella colour. It is another of the species belonging to the great range of the Himalayas, and is found in the mountains of Nepaul. Sometimes it is observed of nearly a white colour; which led to the mistaken belief that Polar bears existed in the Himalayas.

The *Syrian bear* is a species found in the mountainous parts of Asia Minor. It is of a fulvous-brown colour, sometimes approaching to yellowish white. It is partly carnivorous, but feeds also on fruits; and is most remarkable as being the species first mentioned in books—that is, it is the bear of the Bible.

The *Bornean bear* is the last to be mentioned, though it is certainly one of the most beautiful, if not the most beautiful, of the genus. This beauty arises from its peculiar markings, especially from the large patch of rich orange colour upon the breast. It is a native of the great Island of Borneo, and little is known of its habits; but it is supposed to resemble the Malayan bear in these, as it does in many other respects.

In Africa there are no bears.

#### IV.

### Badgers.



THE Badger is a silent, solitary, carnivorous creature, having his representative, in some form or other, in almost every part of the world ; though nowhere either numerous in species or plentiful in individuals. In Europe he appears in two forms, the *Glutton* and *Common Badger*; in North America in three, viz., *Wolverene*, *American*, and *Mexican Badgers*; and, indeed, we might say a fourth belongs to that continent, for the *Racoon* is as near being a badger, both in appearance and habits, as he is to being anything else. For convenience, therefore, let us class him in this group : he will certainly be more at home in it than among the *bears*—where most of the naturalists have placed him.

In South America we find another form of badger in the *Coati mundi*, of which there are several varieties ; and there, too, the racoon appears of a species distinct from those of the north. Some writers class the coati with the civets, but the creature has far more of the habits and appearance of a badger than of a civet cat ; and therefore, whatever the anatomists may say, we shall consider the coati a badger.

But a truer form of the badger than either of the above, exists in South America—extending over nearly the whole of that continent. This is the *Grison*, which,

in appearance and habits, somewhat resembles the wolverene. It also is found in two or three varieties—according to the part of the country it inhabits. The *Taira* is another South American species of badger-like animal, though usually referred to the weasels.

In Africa, the badger appears in the *Ratel*, or honey badger, common from Senegal to the Cape. In Asia, in its northern zone, we have the *European badger* and *Glutton*; and in the south, the *Indian badger*; while in the Himalaya chain dwells another animal, closely allied to the badgers, called the *Wha* or *Panda*. In Java, we find still another species, the *Nientek*; and in the other large Asiatic islands there are several kinds of animals that approach very near to badgers in their forms and habits, but which are usually classed either with the weasels or civets.

We shall now give some details respecting the different animals of this family; among which the *Glutton*, in point of size, as well as for other reasons, deserves precedence.

The *Glutton* is the *Rosomak* of the Russians, in whose country he is chiefly found—along high northern latitudes, both in Europe and Asia. He is supposed to be identical with the wolverene of North America; and if this be so, his range extends all round the Arctic zone of the globe: since the wolverene is found throughout the whole extent of the Hudson's Bay territory. There are good reasons to believe, however, that the two species differ considerably from each other—just as the *European badger* does from his American cousins. It was the writer Olaus Magnus who gave such celebrity to this animal, by telling a very great "story" about the creature—which, at a time when people were little studied in natural history, was readily believed. Olaus's report was, that whenever the *glutton* killed an animal, he was in the habit of feeding on the carcass till his

THE BADGER.





belly became swelled out and tight as a drum ; that then he would pass between two trees growing close together—to press the swelling inwards and ease himself—after which he would return to the carcass, again fill himself, and then back again to the trees, and so on, till he had eaten every morsel of the dead animal, whatever might have been its size ! All this, of course, was mere fable ; but it is not without some foundation in fact : for the Rosomak is, in reality, one of the greatest *gluttons* among carnivorous animals. So, too, is his cousin, the wolverene of America ; as the fur trappers have had sad reasons to know—whenever the creature has come upon a store of their provisions. The name of Glutton, therefore, though based upon Olaus Magnus's exaggeration, is not so inappropriate.

The glutton and wolverene are, in fact, very like the common badger in their habits ; except that being much larger and stronger animals, they prey upon larger game. The reindeer, and other large quadrupeds, are often the victims of both ; and it is even said that they can overcome the great elk ; but this is not confirmed by the observations of any trustworthy traveller. The young of the elk, or a disabled old one, may occasionally succumb to them, but not an elk in full vigour, nor yet a reindeer, except when they can surprise the latter asleep. Their game is usually the smaller quadrupeds ; and in the fur countries no animal is a greater pest to the trapper than the wolverene or glutton. A single individual will in one night visit a whole line of traps, and rob them of the captured animals—whether they be polar hares, white or blue foxes, martens, or ermine weasels.

It is this creature that is usually represented lying in wait upon the limb of a tree, and springing upon deer as they pass underneath : but this story of its habits wants confirmation.

The fur of the wolverene is one of the *staple* articles of trade of the Hudson's Bay Company ; though it is more prized among the Russians than with us—who esteem it in value as next to the ermine.

The *Common*, or *European badger*, need not be here described, since it is familiar to all. The same may be said of the two American badgers, and also that of India, all three of which are very similar in habits and appearance to the common kind.

But the *African badger*, or *Ratel*, merits a word or two. It is about the size of the true badger, and ordinarily lives on small game, as badgers do ; but, in addition to this, it is fond of varying its diet with a little honey. This it procures from the nests of wild bees, common throughout the whole of Africa. The account given of the mode in which it finds these nests would be incredible, were it not that we have the testimony of reverend missionaries to confirm it. It is as follows:—In Africa there is a bird—a species of cuckoo—known as the Indicator bird, or honey guide. This little creature hops from tree to tree, itself apparently in search of the bees' nests. While doing so, it utters a shrill cry ; and these cries are repeated until the honey hive is found. The ratel lies in wait for this bird ; and, on hearing the cry, makes towards it, and keeps following its flights till the bees' nest is found. Should this prove to be in a tree and out of reach—for the ratel is not a climber—the animal vents his chagrin by tearing at the trunk with his teeth, as if he had hopes of felling the tree. The scratches thus made on the bark serve as a guide to certain other creatures, who are also fond of honey, viz., the Kaffir hunters and Bushmen.

Should the bees' nest prove to be on the ground, or under it, the ratel soon unearths the treasure with his strong claws, and takes possession of it, regardless of

the stings of the bees, against which his thick skin defends him.

The *Grison* inhabits the forests of South America, from Guiana to Paraguay. It is quite as ferocious as any of the tribe ; but its smaller size hinders it from attacking large animals, and its victims are birds, agoutis, and other small rodents—against all of which it wages a war of extermination. When surprised by the hunters and their dogs, it will battle furiously till life is extinct : all the while emitting a strong disagreeable smell, after the manner of the weasels and polecats.

The *Racoon*, which we have grouped with the badgers, is both a North and South American animal ; dwelling in dense forests, and making its lair in the hollow of a tree. This animal is a good tree-climber, and usually takes refuge among the higher branches when pursued. It is nocturnal in its habits, but in deep shady woods it may be seen prowling about in the daylight, in search of birds and their eggs, small rodents, fish, or frogs, all of which it eats indifferently. There are several distinct species.

The *Coati* is exclusively South American. This, unlike the racoon, sleeps at night, and prowls during the day. It is also an expert tree climber, and has a peculiarity in this respect ; viz., it descends a tree *head foremost*, which no other animal of its order can do. It is equally as fierce and carnivorous as any of the badgers ; and its prey, as with the racoon, consists of birds, their eggs, and small quadrupeds. It feeds also upon insects ; and will turn over the earth with its long proboscis-like snout. When drinking it laps like the dog. In eating, it uses its fore-paws to carry the food to its mouth, though not as squirrels and monkeys do. On the contrary, it first divides the flesh, or whatever it may be, into small morsels, and then raises these to its mouth by impaling them on its claws as on a fork !

It is not a solitary animal, but prefers the society of its companions, and usually goes about in troops or gangs. Its lair, like the racoon, is the hollow of a tree.

The *Panda* of the East Indies is an animal of very similar habits. It is found chiefly along the banks of streams that descend from the mountains ; and subsists upon small quadrupeds and birds—which it is able to follow to the tops of the tallest trees. Its name of Qua, or Oua, or Wha, is derived from the cry which it utters, and repeats very often ; and which is well represented by any of the syllables above written.

## Weasels, Otters, and Civets.



FORTUNATE it is that the quadrupeds composing this group are all animals of small dimensions. Were they equal in size to lions and tigers, the human race would be in danger of total extirpation: for it is well known that weasels are the most ferocious and bloodthirsty creatures upon the earth. None of them, however, much exceed the size of the ordinary cat: unless we include the gluttons and wolverenes among the weasels, as naturalists sometimes do, notwithstanding that these animals differ altogether from them.

The *civets*, it is true, are not usually classed with the weasels, but form a group of themselves; however, they are much more nearly related to weasels than the gluttons; and where, as in the present case, it is desirable to divide the mammalia into large groups, they will stand very well together. In truth, the civets are much nearer in resemblance to weasels than the otters are; and these two last are generally classed together—the otters being neither more nor less than water weasels.

We shall first consider the true *Weasels*: that is, the Weasels, Stoats, Ferrets, Polecats, and Martens.

The habits of most of the species are well known; and all resemble each other in the exceeding ferocity

of their disposition. It will only be necessary to say a word about their geographical distribution, and to speak of a few of the more noted kinds.

In Great Britain, five species are natives : the Pine and Beech Martens, the Stoat, the Common Weasel (which is the type of the family), and the Polecat. The Ferret is not indigenous to the country, but has been introduced from Africa, and is trained, as is well known, for the pursuit of the rabbit—which it can follow into the very innermost recesses of its burrow. The English species of weasels are also common to other countries of Europe and Asia.

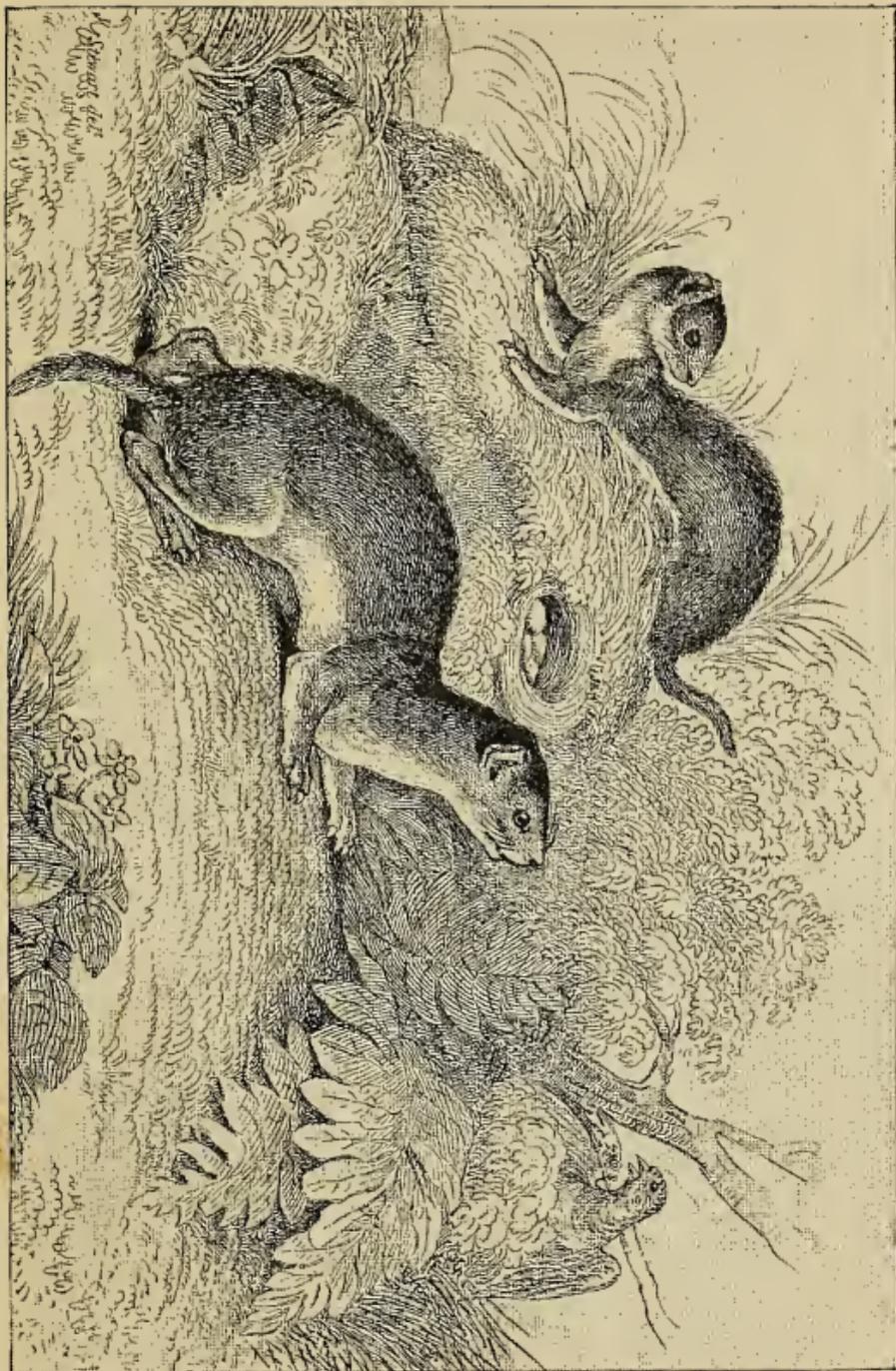
In the high northern latitudes of the Old World, we find a very celebrated species—celebrated for a long time on account of its valuable fur—the Sable. The sable is a true marten : a tree-climber, and one of the most sanguinary of weasels. An account of its habits, and of the mode of hunting it, forms one of the most interesting chapters in natural history.

An allied species inhabits the Hudson's Bay territory, known as the American sable, and another, belonging to the Japanese islands, is called the Japan sable.

The Ermine is a species equally famous ; and for a like reason—the value of its beautiful white fur, so long an article of commerce. The ermine is neither more nor less than a stoat in winter dress ; but there are several varieties of it—some that turn to brown in summer, while another kind retains its snow-white covering throughout all the year. The ermine is common to Europe, Asia, and North America.

The Pekan is a larger species, belonging to North America, and semi-aquatic in its habits ; while the Vison, or Mink, is a large black weasel that inhabits the borders of rivers in Canada and the United States, where it preys upon fish and aquatic reptiles.

In North America there is also a very large Pine



W. Spence del.

THE WEASEL.



marten, so called from its habit of dwelling in the pine forests—where it climbs the trees in pursuit of birds and squirrels. This is among the largest of the weasel tribe. In California, a new species has been described under the name of the Yellow-cheeked weasel, and in Mexico another, the Black-faced; so that North America has its full complement of these sanguinary quadrupeds. Nor is the southern division of that continent without its weasels, as there is one species or more in New Granada, one in Guiana, and two or three in Chili and Peru.

In India, there is the White-cheeked weasel, Hodgson's and Horsefield's weasels; and in Nepaul, the Nepaul weasel, and the Cathia. Further north in Asia, there is, in Siberia, the Vomela, the Chorok, and the Altai weasel of the Altai Mountains; and no doubt need exist that animals of the weasel tribe are to be found everywhere. Indeed, if we regard as weasels the various carnivorous quadrupeds of the glutton and badger family, which have been described elsewhere in thesesketches—including the strange Teledu or Stinkard of Java, the Helictis of India and China, the Taira and Grison of Brazil, the Ratel or honey badger of Africa, the Zorille of the Cape, the Zorilla or Maikel of Patagonia, the Sand bear of India, and the numerous varieties of the celebrated Polecat, or Skunk, of North and South America—we may well say that there are weasels, or their representatives, in every hole and corner of the earth.

With regard to the Polecats of America, they form a sort of link between the weasels and civets; and although there was long supposed to be but one kind—as in the case of the opossum—it is now ascertained that there are several distinct species, with an endless list of varieties.

The *Water Weasels*, or *Otters*, are not so numerous

either in species or individuals—though there are at least a dozen of them in all, and they are widely distributed over the world.

In Britain, there is but one—the Common or European otter ; and in North America, a very similar species was supposed, until recently, to be the only one inhabiting that continent. The rivers of California, however, have presented us with a second, known as the Californian otter ; and the singular Sea otter, whose beautiful fur is so prized under the name of Sea otter, is also an animal inhabiting the coasts of California—as it does most part of the western seaboard of the American continent.

The Gray otter is a South African animal, and in India we have the Wargul ; while in the rivers of Nepaul—a country so rich in mammalia—there is the Golden brown otter. China, in common with other Indo-Chinese countries, possesses the Chinese otter ; and South America has the Brazilian Contra, and in all probability several other species.

With regard to the *Civet Weasels*—or Civet Cats, as they are commonly called—there is a still greater variety, both in genera and species : so many, indeed, that, as already stated, they have been arranged in a family by themselves. They may be regarded, however, as large weasels, distinguished from the others by their having a sort of pouch or gland under the tail, in which is secreted an unctuous and highly odorous substance. This, in some species, as in the true civets, is relished as a perfume or scent, while in others it is an extremely disagreeable odour. The true civet is a native of North Africa ; where it is kept in a tame state, for the purpose of obtaining from it the well-known perfume of commerce. An allied species, the Rasse, belongs to Java—and is there also kept in cages for the same purpose—while in Asia—from Arabia to Malabar, and

among the Malays and Arabs of Borneo, Macassar, and other islands of the Indian Archipelago—still another species of civet affords a similar perfumed substance.

The Aard Wolf (earth wolf) of South Africa is usually classed among the civets, but with very slight reason. It is far more like the hyena; and is certainly nothing else than a hyena.

The Delundung of Java is a creature that bears a resemblance to the civets; and may be regarded as forming a link between these and the true cats.

The Genets constitute a division of the civet-weasel tribe; and one of which there are numerous species. They are usually pretty spotted creatures, with immensely long tails; and but for their cruel and sanguinary habits would, no doubt, be favourites. They exist in South Europe; and, under different forms and appellations, extend over all Africa to Madagascar and the Cape—as well as through the countries of Southern Asia and the Asiatic islands.

The Ichneumons claim our attention next. These are celebrated animals, on account of the strange and fabulous tales related of the species known as the Egyptian ichneumon, which, among the people of Egypt, is domesticated, and was once held as a sacred animal. Besides the Egyptian ichneumon, there are several other species in Africa—one belonging to Abyssinia, and no less than six to the countries near the Cape. The Garangan of Java is an ichneumon; and so also are the Mongoos and Nyula of Nepal; while in the Malay peninsula is a species known as the Malacca ichneumon. The Paradoxure is usually classed with the civets, though it wants the perfumed pouch; and the Suricate, or Meer-cat, of the Cape colonists, takes its station in this group. A badger-like animal of Madagascar, the Mangu, is also regarded as a civet: so, too, are the

Coatis of the New World, though these last are evidently of much nearer kin to the badgers.

Perhaps the curious creature known as the Potto, or Kinkajou, has more pretensions to a place among the civets: at all events, it deserves one in the general group of the weasels.

## VI.

### Tame Dogs.

**P**ERHAPS of all other animals the dog has been the earliest and most constant companion of man. His swiftness and strength, but more especially his highly-developed power of smelling, have made him a powerful ally against the other animals ; and these qualities must have attracted the attention of man at an early period—particularly in those times when the chase was, perhaps, the only pursuit of mankind.

No animal is more widely distributed over the earth. He has followed man everywhere ; and wherever human society exists, there this constant and faithful attendant may be found—devoted to his master, adopting his manners, distinguishing and defending his property, and remaining attached to him even after death.

It is a question among naturalists as to what was the parent stock of the dog. Some allege that he has sprung from the wolf ; others that he is a descendant of the jackal ; while not a few believe that there were true wild dogs, from which the present domesticated race had their origin. These ideas are mere speculations, and not very reasonable ones either. It would not be difficult to show, that different kinds of dogs have sprung from different kinds of animals—that is, animals of the same great family—from wolves, foxes, jackals,

zerdas, and even hyenas. This can be proved from the fact, that domesticated breeds among savage tribes, both in Asia and America, are undoubtedly the descendants of wolves and jackals: such, for instance, as the Esquimau dog of the Arctic regions, the Dingo of Australia, the Indian dogs of North America—of which there are several varieties—and also one or two kinds existing in Mexico and South America.

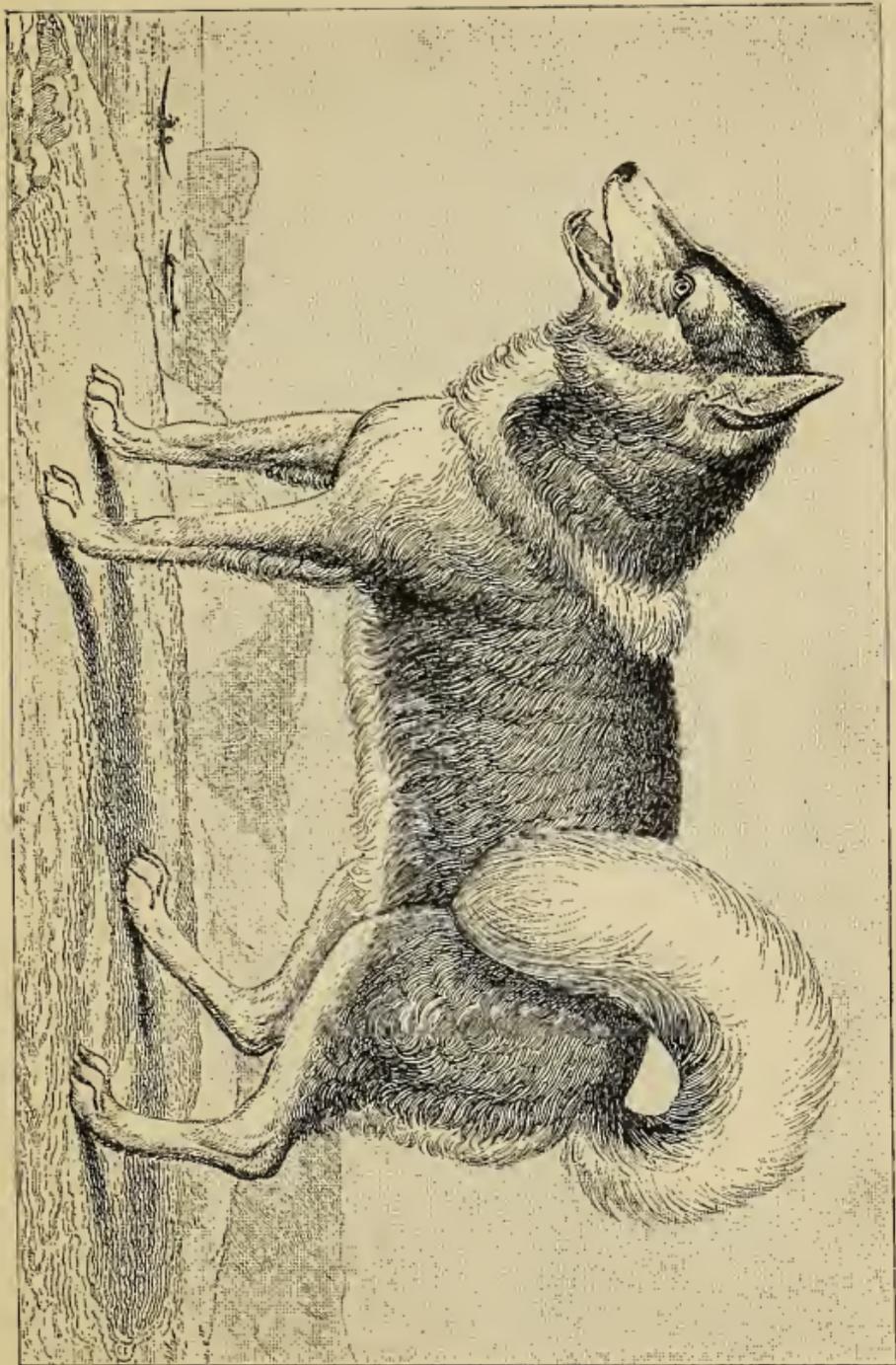
Naturalists deny that there are any true dogs living in a wild state. This is simply an unreasonable assertion. Wild dogs of several species are to be met with in Asia and America; and if it be asserted that these originally came from a domesticated stock, the same cannot be said of the hunting dog of Southern Africa—which is neither more nor less than a *wild hound*.

Perhaps none of the animals that have submitted to the conquest of man have branched off into a greater number of varieties than this one. There are more kinds than either of horses or oxen. We shall not, therefore, attempt a description of each; but limit ourselves to speak of those breeds that are the most remarkable—or rather those with which the reader is supposed to be least familiar. To describe such varieties as the spaniel, the greyhound, the mastiff, or the terrier, would not add much to the knowledge which the English reader already possesses.

One of the most remarkable of dogs is the huge mastiff of Tibet. He is long-haired, and usually of a jet black colour. He is quite a match in size for either the Newfoundland or San Bernard breeds, and not unlike one or the other—for it may be remarked, that these in many points resemble each other.

The Tibet dog, as his name implies, is the property of the Tibetians: especially the Bhootees—the same people who own that curious species of cattle, the *Yäk*, or grunting ox, and who reside on the northern slopes

THE ESQUIMAUX DOG.





of the Himalaya mountains. It may be inferred, therefore, that the Tibet dog affects a cold climate; and such is in reality the case. He cannot bear heat; and does not thrive, even in the kingdom of Nepaul. Attempts to introduce the breed into England have resulted in failure: the animals brought hither having died shortly after their arrival.

The masters of these dogs—the Bhootees, or Bhotéas, are a singular race, of a ruddy copper colour, rather short in stature, but of excellent disposition. Their clothing consists of furs and woollen cloths, adapted to the cold climate which they inhabit. The men till the ground, and keep yaks and sheep, and sometimes come down into the warm plains to trade—penetrating even to Calcutta. The women remain at home, their only protectors being these great dogs, who watch faithfully over their villages and encampments, and fly fiercely at any stranger who may approach them. It is said that they are especially hostile to people who have a *white* face; but this disposition is also characteristic of the dogs belonging to the American Indians—and perhaps those possessed by all savages with a coloured skin.

The Dingo, or dog of Australia, is an animal domesticated among the aborigines of that country. He is a dog of wolf-like shape, who does not bark, but utters only a mournful howling. He is used by the wretched natives both for the chase and as an article of food; and is a fierce and voracious creature—not hesitating to launch himself on the larger kinds of animals. He is especially employed in hunting the kangaroo; and sometimes terrible combats occur between the dingo and the larger species of kangaroos—resulting always in the death of the latter.

The San Bernard dog, supposed to be a cross between the mastiff and shepherd's dog, is too celebrated to require a description here. His sagacity in discovering

travellers amid the Alpine snows, and guiding them upon their path, is the quality upon which the fame of this dog has been founded; but it may be remarked that many of the feats attributed to him have their origin in the fertile fancies of Parisian writers.

The Esquimau dog is another celebrated variety. He is an animal with a fox-like face and thick coat of whitish hair, generally tinged with yellow. He is to the Esquimaux a most valuable companion: trained to draw their sledges over the surface of the snow, and enabling them to make long and rapid journeys—without which these singular people would be oftentimes in danger of perishing amid the inhospitable regions they inhabit.

The Indians of North America possess two or three varieties of domesticated dogs, evidently derived from the wolves of that region. Indeed, the common Indian dogs, found among the Sioux and other northern tribes, bear so close a resemblance to the large American wolf, that they are often taken for this animal, and in consequence shot, or otherwise killed by mistake. The Indians use them for carrying burdens: their tents and tent poles being transported by these animals on long journeys across the prairies. Their flesh is a favourite article of the savage *cuisine*; but it is too costly to be used as an every-day food; and is only served up on grand festive occasions. Like the dogs of Tibet, these Indian wolf dogs have the greatest antipathy to a white skin; so much so, that even a friend in that guise can rarely obtain either their confidence or friendship.

A smaller kind than the common one is found among certain tribes, and appears to have derived its origin from the prairie wolf—the jackal of America—while the Hare Indians of the Rocky Mountains possess a third variety; and it is known that still another exists among the tribes of Russian America. This last is

short-haired and smooth-coated: therefore differing altogether from the Indian dogs of the prairies.

In Mexico, there are two or three native dogs: found there on the arrival of Europeans. One is the *Alco*—a dog remarkable for a curious hunch or protuberance upon the back and shoulders, a thick short neck, and small pointed muzzle. He is thinly covered with long hair, of a yellowish colour.

Another singular variety is the dog of Chihuahua, and this is, perhaps, the smallest of all canine creatures. Full-grown specimens have been seen, whose dimensions did not exceed those of the common rat; and a singular fact, well authenticated, is, that this dog, when transported from Chihuahua to any other place—even to the city of Mexico itself—invariably becomes larger, or degenerates, as the Mexicans have it! There is also in Mexico a hairless dog. It is, no doubt, the same as that known by the name of Turkish dog; since this variety came originally from Spanish America.

In South America, there are several species of native dogs, found among the savages of the Orinoco and Amazon. They are small animals, usually of a whitish colour: but their owners follow the curious practice of dyeing them with annatto, indigo, and other brilliant dyes, for the purpose of rendering them more ornamental!

We can only find space to say that there are many other varieties of domesticated dogs, almost unknown beyond the countries in which they are found. Such are the *Quao* of Rhamgur, the Sumatran dog, the *Poull* of New Ireland, the dogs of Patagonia and *Tierra del Fuego*—those of the South Sea Islands; and the *Wah*, that inhabits some of the ranges of the Himalayas.

It is reasonable to suppose that there is not a nation upon earth, hardly a tribe—civilized or savage—that does not possess some variety of the canine race differing from all the others.

## VII.

### Wild Dogs.

**B**Y *Wild Dogs*, we mean not only several sorts of true dogs, that in different parts of the world are found living in a wild state; but also Wolves, Foxes, Jackals, Hyenas, and Fennecs—for all these are but dogs in a state of nature.

First, we shall speak of the true dogs living in a wild state—that is, apart from the society of man.

It is not necessary here to go into the often-debated question, as to whether dogs were originally wolves, or what species of wolf the dog is descended from. This is all mere speculation, and answers no purpose. It is just as likely that wolves sprang from dogs, as that dogs came from wolves; and every one may perceive that two breeds of the dog species are often far more unlike each other—both in appearance and habits—than a dog is to a wolf itself. Again, foxes differ only from wolves in point of size; and a small wolf is in reality a fox, while a large fox may be equally regarded as a wolf. Furthermore, the jackal is nothing else than another form of the same animal—the wolf or dog, whichever you choose to term it; and the hyenas but a still *uglier* shape of the same carnivorous creature.

With regard to the true wild dogs—which are not regarded as wolves—we find them existing in various parts of the world. They usually live in communities.

and have the habit of hounds—that is, they hunt in packs. Whether they were originally dogs in a domesticated state, and have since seceded from the society of man, is a question which naturalists are unable to agree upon.

In India there are two or three kinds of wild dogs living thus. One in the Deccan—called Kolsun by the Mahratta people—is a reddish-coloured animal, nearly as large as the common European wolf. It dwells in the forests, far remote from the villages—and of course lives by preying upon other animals—just as wolves and foxes do. Again, in the forests of the Himalaya mountains there is another species of wild dog, different from that of the Deccan. It is usually known as the wild dog of Nepaul, from its being found in many parts of that kingdom. A large community of these animals is often met with in the mountain forests—living in caves, or at the bottoms of cliffs, where there are deep crevices among the boulders of loose rocks, that afford them a secure asylum when pursued by their enemies. In these places the dogs sleep, and bring forth their young; and the puppies are taught to be exceedingly wary, and not stray far from their dens during the absence of the mothers. Indeed, so cunning do they become when only a few days old, that it is difficult to capture one of them outside its impenetrable lodging-place.

During many hours the old ones are abroad, in pursuit of the animals upon whose flesh they subsist; and, as already stated, these dogs follow their game not singly, but in bands or packs. In this way, instinct teaches them that they will have a better chance of success; since they are more able to head the pursued animal, turn it in different directions, and at length run it to the ground. A curious fact is related of the cunning of these wild dogs. It is stated that when in pur-

suit of the larger animals—such as stags and large antelopes that inhabit the same district—instead of running them down at once, the dogs manœuvre so as to guide the game to their breeding place, before giving the final *coup* to the chase! The object of this is to bring the carcass within reach of their young; which, were it killed at a great distance off, would be obviously impossible. Such a habit as this would prove them possessed of something more than instinct; but for all that, it may be true. A fact seems to confirm it: the fact that a large quantity of bones is always observed in the immediate neighbourhood of the breeding places—some of these being of such a size as to preclude the belief that they could have been carried thither by the dogs themselves.

In Ramghur there is a wild dog called Quao, or Quaw, which lives in communities, just as those of Nepaul; and still another kind inhabits the forests of the Island of Sumatra.

None of these kinds are to be confounded with the half-wild dogs of India, called pariah dogs; since the latter, although not owned by individuals, dwell in the villages, and of course associate with man. Besides, the pariahs are of no particular breed—there being several sorts of pariah dogs. They are merely *outcast curs*, without owners, that pick up a living as they best can.

Passing from India to the tropical countries of America, we find another sort of wild dog in the forests of Guiana, known as the Koupara, or Crab-dog. It is not certain whether these dogs are indigenous to Guiana, or the progeny of some domestic variety introduced by the colonists. They dwell in small troops or families, of six or seven individuals each, and their food is furnished by the *pacas*, *agoutis*, and other small rodent animals of tropical America. They also find

sustenance in several kinds of crabs, which they adroitly capture upon the banks of the rivers; and it is from their habit of feeding upon these they have derived the name of crab-dogs. They are easily tamed; and when crossed with other breeds, a variety is produced which is esteemed by the natives as the very best kind for the hunting of the agoutis, cavies, and capibaras.

The wild dogs of the Cape country, called *Wilde Hunden* (wild hounds) by the Dutch, are usually regarded as near akin to the *hyenas*. But they are more like real wild hounds than hyenas; and their colour—which is a mixture of black, white, and tan—almost points to them as the progenitors of that variety of dog known as the hound. Their habits, too, would seem to confirm this hypothesis: for it is well known that these animals pursue their prey just after the manner of a pack of real hounds—doubling upon it, and using every artifice to run it down. The numerous species of ruminant animals—the antelope in particular—are the especial objects of their pursuit, and upon these they subsist. Like the Indian wild dogs, they live in communities—using the burrows of the wild hog and ant-eater, as also the hollow ant-hills, for their lairs and breeding places. Travellers passing across the plains of South Africa have often witnessed the splendid spectacle of a pack of these beautiful wild hounds in pursuit of a large antelope, and almost fancied themselves looking at a stag hunt, with a kennel of real hounds going at full view!

The true wild dog of all is that creature so well known and celebrated in all our tales of childhood—the *Wolf*.

To describe the wolf, or even to give an account of his habits, would be superfluous. Almost every one is acquainted with the gaunt form, the shaggy hide, and fierce aspect of this formidable creature; and every

one has heard of his fierce and savage disposition: for who is ignorant of the story of "Little Red Riding Hood?"

The presence of this much-disliked animal is almost universal: by which I mean, that in some form or other he is represented in almost every corner of the globe. You may say there are no wolves in Africa; but this is not true: for the hyenas are nothing more nor less than wolves, and wolves of the very ugliest kind.

Fortunately wolves are no longer found in Britain, though they were once plentiful enough in these islands; but all over the continent of Europe there are still numerous wolves in the forests and mountains.

The Common Wolf, that is, the wolf of Europe, is the type of the family; but this type offers many varieties—according to the different localities in which it is found. I shall here notice these varieties.

French wolves are generally browner and smaller than those of Germany; and the wolves of Russia, Sweden, and Norway are still stronger animals, and of a more sinister appearance. These differ very much in colour, which in winter is almost white. Again, the Alpine wolves are smaller than the French, and of a brownish-gray colour; while those of Italy and Turkey have a yellowish tinge. Black wolves are not uncommon, especially in the Pyrenees of Spain; but whether these, as well as the others, are all mere varieties of the common wolf, or whether there are two or three distinct species of European wolf, are questions to be left to the disputation of systematic naturalists.

Over all the continent of America, from the Arctic shores in the north to Tierra del Fuego in the south, wolves are found; and here again there are varieties in size, colour, and even habits, that may fairly entitle the different kinds to rank as separate species. Most

THE HYENA.





certainly there are distinct species, for that known as the Prairie Wolf, and also the Coyote of Mexico, are two kinds that more resemble jackals than real wolves.

Besides, other wolves of the American continent, as the Brown Wolf of Mexico, the great Dusky Wolf of the Upper Missouri, the Aguara Dog of South America, the Wild Dog of the Falkland Islands, the Fox Wolves of Patagonia and Terra del Fuego, the Guazu of Paraguay and Chili, and the North American Common Wolf—are all animals of such different appearance and habits, that it is absurd to term them varieties of the same species. In Asia we have just the same series of varieties—that is, in every part of the great continent is found some representative of the tribe, which in reality is no variety, but an original and indigenous animal of the wolf kind—such as the Sandgah, or Indian wolf of the Himalayas; the Beriah, another Indian wolf; and the Derboom, a black species that inhabits the mountains of Arabia and Syria.

In Africa the wolf is represented by the hyenas, of which there are at least four species—one of them, the common hyena, belonging to the northern half of the African continent, and extending its range into several countries of Asia. At the Cape, and northward into Central Africa, three large species of hyena, and one small one (the Aard wolf), represent the lupine family. The Jackal, too—of which there are several distinct kinds in Asia and Africa—is only a wolf of diminutive size and gregarious habit.

This creature is fairly represented in America by the Coyote of Mexico, and the Barking Wolf of the prairies; and in Asia, upon the steppes of Tartary, by the Corsac.

Even in Australia, where new mammalia have turned up in such odd and fantastic forms, the wolf has his congener in that curious creature known as the Tasmanian wolf.

With regard to foxes, they, like the wolves, are distributed almost universally over the globe ; and exhibit a like variety of forms and colours, according to the different localities which they inhabit. Their name is legion.

As the smallest representatives of the wild dogs, we find in Africa the curious little creatures known as the Fennecs. Of these there are also varieties ; for, although very much alike in habits, the Fennecs of Abyssinia and those of the Cape are evidently distinct species.

## VIII.

### Cats.



THE Lion is the *king of cats* ; though there are some who think that the Tiger has a better claim to the *throne*. In point of size and strength, there is not much difference between these two animals. The lion *appears* larger, on account of his shaggy mane ; but specimens of the tiger have been taken whose measurement was equal to that of the largest lion. Otherwise, the tiger is decidedly superior in courage, in address, and in beauty ; in fact, the royal tiger is one of the most beautiful of animals ; while the lion, notwithstanding the great fame he enjoys, is among the very ugliest of brutes.

These two powerful creatures often meet in the jungles of India, and try their strength in single combat. It is not decided which is superior in prowess, since victory is sometimes on one side and sometimes on the other. No doubt this depends on the individuals who may engage, for lions are not all alike, nor tigers neither. Both differ in strength and courage, just as men do ; and this difference is caused by a variety of circumstances—such as age, size, season of the year, nature of the country and climate, and many like contingencies.

Remember that the lion is found both in Asia and Africa, and nowhere else. He inhabits the whole of

Africa, from the Cape to the shores of the Mediterranean, and there are three well marked varieties on that continent. In Asia he is only found in its southern part—that is, in the tropical and sub-tropical regions; and there are also two or three varieties of the Asiatic lion.

With regard to the tiger, he is altogether an Asiatic. There are no tigers in Europe, Africa, and America—of course we mean in their wild state; and the stories of tiger-hunts in Africa and America, frequently to be met with in books and newspapers, are the narratives of mere ignorant travellers, who confound the royal tiger with several species of spotted cats—of which we shall presently speak. We may add that the tiger, although exclusively Asiatic, is not exclusively tropical in his haunts. Tigers are more abundant in the hot jungles of India and some of the larger islands of the Indian Ocean than elsewhere; but they have also been observed far to the north of the Himalayan chain on the great *steppes* that extend almost to the confines of Siberia.

To continue the monarchical analogy; there are four cats that may be called the princes of the family. These are the *Jaguar*, the *Leopard*, the *Panther*, and the *Hunting-leopard* or *Cheetah*. The first of these is exclusively American; the other three, African and Asiatic. They are all four what are termed spotted cats; that is, having black markings on a buff or yellowish ground. I need not add that they are all beautiful creatures. A superficial observer would easily mistake the one for the other; and in common phrase, they are indifferently termed leopards, panthers, and even tigers; but the naturalist, and even the *furrier* knows that they are four distinct species.

I shall endeavour to point out as briefly as possible some marks that will enable *you* to distinguish them.

In the spots we find a tolerably good criterion of the species. Those upon the body of the jaguar are not spots, but rather what may be termed rosettes. So, too, the black markings of the leopard and panther are rosettes; that is, irregular black rings enclosing an open space of the yellow ground. On the contrary, the spots upon the hunting-leopard are real spots, of a uniform black; and, consequently, this animal is easily distinguished from the other three. He differs from them also in shape. He is longer in the legs, stands more upright upon them, and can run more swiftly than any of the cat tribe. In fact, he has a tendency towards the nature and habits of the dog, and might be appropriately termed the cat-dog, or the dog-cat, whichever you please. It is on account of his canine qualities that he is sometimes trained to the chase: hence his specific name of the hunting-leopard. He inhabits both Asia and Africa.

But how are the jaguar, leopard, and panther to be distinguished from one another? The jaguar easily enough from the other two. His rosettes have a black point in the centre, which is wanting in the rings of the panther and leopard. Besides, the jaguar is a larger and more powerful animal. Humboldt and others have observed specimens of the jaguar nearly equal in dimensions to those of the royal tiger himself; and his feats of fierce prowess, in the forests of Spanish America, are scarce eclipsed by those of his congener in the jungles of India. Human beings are frequently his victims, and settlements have been abandoned on account of the dangerous proximity of the jaguars. His range in America is pretty nearly co-terminal with the Spanish territories—including, of course, Brazil and Guiana, and excluding the country of Patagonia, where a smaller species takes his place. In all these countries he is misnamed tiger (*tigre*)—hence the anomalous stories to

which we have alluded. We may add that there is a *black* jaguar in tropical America, just as there is a *black* panther in Asia. In neither case is it a different species : only a variety as regards colour. In all other respects the black and yellow kinds are alike. Even on the black ones the spots are observable in a certain light, being of a deeper hue than the general ground colour of the skin.

Thus, then, it is easy to distinguish a cheetah from a jaguar, or either from a leopard or panther ; but with regard to these last two, the distinction is more difficult. In fact, so much are they alike, that the two species are confounded even by naturalists ; and it is yet an undecided point which is the leopard, and which the panther ! That there are two distinct species is certain. The London furrier knows that there are two kinds of skins, which he distinguishes mainly by the feel ; but the learned zoologist, Temminck, has pointed out a difference in the anatomical structure. Both animals are natives of Africa, and both were supposed to exist in Asia ; but it is doubtful whether that known as the leopard extends beyond the limits of the African continent. The panther is that one which is a little heavier in the body, more cat-like in shape, and of a deeper yellow in the ground colour ; but, perhaps, the truest distinction is found in the tail, which is longer in the panther than in the leopard, and consists of a greater number of vertebrae.

The panther is a well-known animal in India and the Asiatic islands ; and, as already stated, there is a dark-skinned variety, commonly known as the Black Panther of Java.

Taking the cat family according to size, the next that deserves mention is the Cougar, or Puma. This is the panther of the Anglo-Americans, and the lion (*leon*) of the Mexicans and South Americans. His

colour is a uniform tawny red, or calf colour ; and he is inferior to the jaguar in size, strength, and courage. Notwithstanding, he is a formidable animal, and has been known to attack and destroy the larger mammalia. When wounded, or at bay, he will also defend himself against a human enemy ; and there have been instances of hunters, both white and Indian, having succumbed to his strength. His range extends over nearly the whole continent of America ; but he more particularly affects the deep shadow of the forests ; and, like the jaguar, he is a tree-climber. He has no claim to the title of lion, except from some resemblance in colour ; and no doubt it was this that led to his misnomer among the early settlers of Spanish America.

The Ounce comes next. Of all the large cats this is the least known, either to naturalists or hunters. We only know that such a species exists ; that it is a native of Western Asia (Persia, and perhaps Arabia) ; that it is an animal nearly as large as the leopard or panther, but of stouter build and clumsier shape ; that it is covered with long woolly hair of a pale-yellow colour, and spotted, not so distinctly as the true leopards, from which it is easily distinguished, both by its form and colour. The name Ounce is from Buffon ; but this specific appellation is also applied to the jaguar of America, the *Jaguarundi*, or lesser jaguar of Paraguay, and even to the Ocelot.

The *Rimau-dahan* is one of the most beautiful species of cats. It is of a yellowish ground colour, not spotted like the leopard, but marked with broad black bands and patches ; in other words, clouded. It is not so large as either of the species described. It is a tree-climber, and lies in wait for its prey in the forks of the lower limbs, where it also goes to sleep. From this habit it derives its name, *Dahan* ; which, in the Sumatran language, signifies the fork of a tree.

Not unlike the *Rimau-dahan*, both in size and markings, is the Nepal cat: a species, as its name imports, found in Nepal, in the mountain forests.

The Serval is a spotted cat—black upon a pale yellowish ground—and considerably larger than the domestic species. It is a native of South Africa; and its skin is prized among the Kaffirs, for making their fur cloaks or *karosses*.

The Ocelot is about equal in size to the last-named, and equally prized for its beautiful skin, which is clouded with an admixture of spots and stripes upon a ground of yellowish-gray. It belongs to Spanish America—more especially Mexico; and it is said to have been this animal that is represented on the hieroglyphical paintings of the ancient Aztecs. More probably its nobler congener, the jaguar, which is also found in Mexico, is the animal that held this distinction in the land of Anahuac.

In Central and South America there are a great many species of striped and spotted cats, known generally as tiger cats. The Ocelot is one of these; but there are also the Pampas cats, the Chati, the Jaguarundi, the Margay, the False Margay, and many others.

Numerous species, too, exist in the forests of India; as also in the great tropical islands of Java, Sumatra, Borneo, and the Philippines.

There is yet a section of the cat family to be described. These are the lynxes, or cats with short tails and long ears—the latter erect, and at the tips pointing inward, or towards each other.

Of the *Lynxes* three species are found in North America. The largest of these is the Canada lynx, which in point of size approaches the smaller species of leopards. The colour of this animal is of a reddish gray, with spots very indistinctly marked. Its fur is



THE EUROPEAN LYNX.



long, and its skins form one of the principal articles of the Hudson's Bay trade.

The Canada lynx is not found so far south as the United States; but its place is there occupied by the Bay lynx—a smaller species, and one very similarly marked, except that the rufous tint on the back and sides of the latter is deeper, and the spots more pronounced.

Still further south is a third species, only made known to naturalists within the last few years. It inhabits Texas, and is hence called the Texan lynx. It is of a darker red than either of the preceding; but in other respects—size, shape, and habits—it is almost identical with the Bay lynx. Both range to the Pacific.

Of the lynxes of the Old World, there is the common or European lynx, which is still found in several European countries; the Caracal, a native of Africa and part of Asia; the Booted lynx, also indigenous to both continents; the Chaus, belonging to the country of the Mahrattas; the Kattlo, a large species, of Northern Europe; the Nubian lynx, of North Africa; and the Southern lynx, a native of Spain.

It may be added that there is scarce one of these species of which there are not two or more varieties, known only to those who have made a study of the Kingdom of Nature.

## IX.

### Rats and other Rodents.



IN this group we include not only Rats, but a great many other small rodents, or gnawers, such as Mice, Marmots, Lemmings, Hamsters, Mole-Rats, Jerboas, and Jumping Mice. The Shrew-Mice and Moles may also be classed here—although naturalists separate them from rodents, because their food is not herbivorous, but consists of worms and insects. For all that, there is a certain general resemblance, both as to appearance and habits, among all these small quadrupeds; which, for purposes of classification, is, perhaps, of more value than mere difference of food, or tubercles upon the teeth; especially, as it can be proved, that the sort of food an animal eats, is often dependent on the circumstances in which it may be placed.

Of the *Rats*, properly so called, there are numerous species, as well as varieties. Their size is, in general, about the same as the Black and Norway rats—both of which belong to England, and have been introduced, by means of ships, into every country upon the habitable globe. They are said to have come originally from Asia. There is one species of rat, however, that is much larger than either of these—the Gigantic rat, found in Indian countries, and which in size quite equals a rabbit!

The habits of the rats are too well known to require description. Some—as the Wood Rat and Florida Rat of America—dwell apart from the habitations of man, in the woods ; where, instead of living in burrows, they construct large nests, by collecting together heaps of sticks, leaves, and grass.

*Mice* may be regarded as only a smaller kind of rats ; and of these there are many distinct species—both in the Old and New Worlds.

The *Marmots* are, perhaps, the most interesting of the small rodents. They stand in a sort of connection with the squirrels, more especially the ground squirrels : on the other hand, they resemble rabbits ; and they have still many points of identity with rats. They belong to the northern zones of Europe, Asia, and America. There are three or four species belonging to the Old World ; and a great many to North America. Moreover there is a considerable difference in the habits of these species, which has led zoologists to separate them into several genera. One genus, called the Seed-eaters, is a very curious kind. The marmots of this genus have a pair of pockets or pouches—one on the outside of each cheek—in which they actually carry seeds and other articles of food to their burrows. These pouches, when filled, impart to the little creatures a most ludicrous appearance.

The marmots usually live in large communities—in burrows, as rabbits do. These burrows are sometimes very extensive—especially so, in the case of the prairie marmot of America—better known as the Prairie Dog—whose *villages* sometimes cover an extent of many square miles ; and whose odd social habits have been repeatedly and accurately described by late travellers who have crossed the American continent.

The *Mole rats* are a sort of combination between moles and rats : hence their common name. One

species is found in Eastern Russia ; where it burrows much after the fashion of the mole—living principally upon roots. Two other kinds belong to South Africa. Both these are of large size, nearly as big as rabbits. On the plains, they make extensive excavations, which often prove dangerous to the horse and his rider—causing the former to stumble. The Dutch of the Cape know them by the name of Sand Moles.

The *Hamsters* differ considerably from the marmots in their mode of burrowing. They make their underground dwellings very extensive—having a great many chambers and galleries. In these they collect vast stores of food—consisting of grain, peas, and seeds of various kinds. Sometimes two or three bushels of provision will be found in the storehouse of a single family. The hamsters do not confine themselves exclusively to a vegetable diet : since it is known that they will kill and eat birds, or even small quadrupeds. In this respect they resemble the common rats ; and, therefore, it is idle to talk of mere *herbivorous* genera of animals. The hamsters are very fierce little creatures : constantly fighting with other quadrupeds, and even among themselves ; but the polecat is their master and tyrant, and carries on a war of extermination against them—following them through the intricate ways of their burrows, and destroying them even in their dens !

There are several species of hamsters in Europe and Asia, and also in North America : for the animal known as the Canada Pouched Rat is of this kind, and so also is the Tucan of Mexico. So also is that very singular and beautiful creature, the Chinchilla of South America—so celebrated for its soft and valuable fur.

The *Lemmings* are another form of small rodent animals, celebrated for their extraordinary migratory habit ; which resembles that of the gray squirrels of North America. There are several species of lemmings

belonging to the northern section of the Old Continent—in Eastern Russia and Asia. One or two are found in North America—in that part of it known as the Hudson's Bay Territory.

The *Spinous Rats* are little animals much resembling ordinary rats; but with the peculiarity of having stiff spines growing among their hair, after the manner of porcupine quills. There are several species of them: all natives of tropical America.

The *Jerboas* are, perhaps, the most singular of all the rodents. They are noted for having the hind legs much longer than the fore ones—in fact, being shaped very much like the kangaroos—of which they might be termed Lilliputian varieties, were it not that they lack the pouch, which distinguishes these curious creatures. Like the kangaroos, they use their fore-feet only to rest upon. When in motion, or desirous of passing quickly over the ground, they make use of their hind-feet only: proceeding by long leaps or jumps, and sometimes springing to the distance of twelve or fifteen feet. Their tails being long and slender, were supposed *not* to assist them in this operation; but an experiment made by a cruel Frenchman—that of cutting off these appendages—proved that a considerable portion of the jumping power is derived from the tail.

Africa and Asia are the head-quarters of these quadrupeds—the most noted species being the *Jerboas* of Egypt, and the *Leaping Hare* of the Cape. They dwell in sandy deserts—burrowing in communities, like the marmots. In America there are no true *jerboas*: they are there represented by the *Jumping Mice* of Labrador and the Hudson's Bay Territory; which resemble the *jerboas* in almost everything except size, the *jumping mice* being much smaller animals.

*Field Mice* and *Dormice* are other kinds of small rodents, differing from the common kind of mouse; but

the habits and appearance of these little quadrupeds are well known.

The *Beaver* and *Musk-rat*, or *Musquash* of America, are usually classed among the rat tribe; but these animals, for many reasons, deserve to stand apart and form a group of themselves. With regard to the shrew mice and moles, there is less reason for separating them from other mice; and we shall speak of them in this connection.

The *Moles* are known to be the best burrowers in the world: since they can pass under the surface of the ground as fast as a man can dig after them, or even faster. In England, the common mole is well known—too well, in fact—for it is the very pest of the farmer; and the damage done by it to the herbage is very considerable indeed—of greater amount than that occasioned by any other wild animal.

In America, where there are several species of moles, their habits are similar; and the common American mole is very like its European congener in every respect. But there are two or three species found in North American countries very different from either; and the most singular of all is that known as the Star-nosed Mole. This creature has the cartilage of the snout extended into five or six branches, that radiate from each other, like spokes of a wheel, or the points of a star—hence the name of star-nosed mole. The use of this singular appendage is not clearly understood; and, indeed, it would appear to be an obstruction to the natural requirements of the animal. No doubt, however, it has its purpose—though that purpose be unknown to us.

The *Shrew Mice* are still another kind of small rat-like quadrupeds. They are distinguished by having upon each flank, under the ordinary skin, a little band of stiff and close hairs, from which an odoriferous



THE COMMON MOLE.



humour is distilled. They dig holes in the earth, which they seldom come out of until towards evening; and their food consists of insects and worms. A species that inhabits the Pyrenees, and also the mountains of Russia, are called Desmans, and differ somewhat from the ordinary shrew mice. They are aquatic in their habits; and their burrows always enter the ground below the level of the water. The Russian species are usually termed Musk-rats; but these are not to be confounded with the musk-rats of America—which last should undoubtedly be classed with the beavers.

In India, the shrew mice attain to the size of ordinary rats, and are there also called musk-rats, from the fact that a strong odour of musk is exhaled by them—so strong as to make the place through which the animal passes exceedingly disagreeable. The same is true of the Russian musk-rats, but for all that their skins are employed in chests containing clothing: since the musky smell is a good preservative against the moths.

In addition to the numerous rat animals above mentioned, there are still other kinds in different parts of the world—the names of which would alone fill many pages. Hence it is that the study of this section of the mammalia is, perhaps, the most difficult of all; and a true classification of these small quadrupeds has hitherto proved a puzzle to the most expert zoologists.

## Beavers.



**O**F true Beavers there is only one species—unless the beaver of the Old World be different from the well-known animal of the American continent. This is a question which has been much debated among naturalists; and certainly the difference which is known to exist between the habits of the two animals would seem to prove them distinct. The European beaver is generally supposed to lead a solitary life—burrowing in the banks of rivers as otters do; but this supposition is evidently erroneous: or, rather, we should say, its solitary habit is not its normal or original condition, but has been produced by circumstances. It is probable that if European beavers were left to themselves, in a situation remote from the presence of man, they would build dams, and dwell together in colonies, just as the American beavers do. In fact, such colonies have actually existed in some parts of Europe and Asia; and no doubt exist at the present hour. One has even been found on the small river Nutha, in a lonely canton of the Magdeburg district, near the Elbe. Moreover, it is well known that the American beavers, when much hunted and persecuted (as they are certain to be whenever the settlements approach their territory), forsake their gregarious habit; and betake themselves



THE BEAVER.



to the "solitary system;" just as their European cousins have done. Did this constitute the only difference between the beavers of the Old and New Worlds, we might regard them as one and the same; but there are other and still more important points of distinction—reaching even to their anatomical structure—which seem to prove them distinct species. The probability is in favour of this view: since there is perhaps no indigenous quadruped of the one continent exactly identical with its synonymous species of the other; excepting the polar bears, and a few other kinds—whose arctic range leads them, as it were, all round the earth.

The written natural history of the beaver is usually that of the American species; not that this differs materially from his European congener, but simply because it has been more extensively and accurately observed. Its valuable fur has long rendered it an object of the chase; and for fifty years it has been hunted *à l'outrance*, and, in fact, exterminated from a wide domain of more than a million of square miles. Formerly, its range extended from the Gulf of Mexico almost to the shores of the Arctic Sea, and latitudinally from ocean to ocean. At present, it is not found in the territory of the United States proper, except in remote and solitary situations, among the mountains, or in some tracts still unsettled. Even where found in these places, its mode of life approximates more to that of the European species; that is, it burrows instead of builds. The beaver has been long reputed as the most sagacious of quadrupeds. True it is, that the capacity of cutting down trees—often a foot or more in diameter—floating or rafting these trees down a stream, and constructing a dam with them, and afterwards building its singular houses or lodges in the water, would seem to indicate the presence of a rational power. But there are many other creatures—birds,

insects, and quadrupeds—that exhibit instincts quite as surprising.

Nevertheless the habits of the beaver are curious in the extreme, and deserve to be given in detail. The best account of them is that of the old and truthful traveller Hearne: upon whose homely but accurate observations scores of fireside naturalists have established a measure of their fame. We shall leave *him* to tell the story of these singular animals.

“The beavers,” he says, “being so plentiful, the attention of my companions was chiefly engaged on them, as they not only furnished delicious food, but their skins proved a valuable acquisition,—being a principal article of trade, as well as a serviceable one for clothing. The situations of the beaver-houses are various. Where the beavers are numerous, they are found to inhabit lakes, ponds, and rivers, as well as those narrow creeks which connect the numerous lakes with which this country abounds; but the two latter are generally chosen by them when the depth of water and other circumstances are suitable, as they have then the advantage of a current to convey wood and other necessaries to their habitations; and because, in general, they are more difficult to be taken than those that build in standing water. They always choose those parts that have such a depth of water as will resist the frost in winter, and prevent it from freezing to the bottom. The beavers that build their houses in small rivers or creeks, in which water is liable to be drained off when the back supplies are dried up by the frost, are wonderfully taught by instinct to provide against that evil by making a dam quite across the river, at a convenient distance from their houses. The beaver-dams differ in shape, according to the nature of the place in which they are built. If the water in the river or creek have but little motion, the dam is almost straight; but when

the current is more rapid, it is always made with a considerable curve, convex towards the stream. The materials made use of are drift-wood, green willows, birch, and poplars if they can be got; also mud and stones, intermixed in such a manner as must evidently contribute to the strength of the dam; but there is no other order or method observed in the dams, except that of the work being carried on with a regular sweep, and all the parts being made of equal strength. In places which have been long frequented by beavers undisturbed, their dams, by frequent repairing, become a solid bank, capable of resisting a great force both of water and ice; and as the willow, poplar, and birch generally take root and shoot up, they by degrees form a regular planted hedge, which I have seen in some places so tall, that birds have built their nests among the branches.

“The beaver-houses are built of the same materials as their dams, and are always proportioned in size to the number of inhabitants, which seldom exceeds four old and six to eight young ones; though, by chance, I have seen above double the number. Instead of order or regulation being observed in rearing their houses, they are of a much ruder structure than their dams; for, notwithstanding the sagacity of these animals, it has never been observed that they aim at any other convenience in their houses than to have a dry place to lie on; and there they usually eat their victuals, which they occasionally take out of the water. It frequently happens that some of the large houses are found to have one or more partitions (if they deserve that appellation), but it is no more than a part of the main building left by the sagacity of the beaver to support the roof. On such occasions it is common for these different apartments, as some are pleased to call them, to have no communication with

each other but by water; so that, in fact, they may be called double or treble houses, rather than different apartments of the same house. I have seen a large beaver-house built in a small island that had near a dozen apartments under one roof; and, two or three of these only excepted, none of them had any communication with each other but by water. As there were beavers enough to inhabit each apartment, it is more than probable that each family knew their own, and always entered at their own door, without any further connection with their neighbours than a friendly intercourse, and to join their united labours in erecting their separate habitations, and building their dams where required. Travellers who assert that the beavers have two doors to their houses—one on the land side, and the other next the water—seem to be less acquainted with these animals than others who assign them an elegant suite of apartments. Such a construction would render their houses of no use, either to protect them from their enemies, or guard them against the extreme cold of winter.

“So far are the beavers from driving stakes into the ground when building their houses, that they lay most of the wood crosswise, and nearly horizontal, and without any other variation than that of leaving a hollow or cavity in the middle. When any unnecessary branches project inward they cut them off with their teeth, and throw them in among the rest, to prevent the mud from falling through the roof. It is a mistaken notion that the woodwork is first completed and then plastered; for the whole of their houses, as well as their dams, are, from the foundation, one mass of mud and wood, mixed with stones, if they can be procured. The mud is always taken from the edge of the bank, or the bottom of the creek or pond near the door of the house; and though their fore-paws are so small,

yet it is held close up between them under their throat : thus they carry both mud and stones, while they always drag the wood with their teeth. All their work is executed in the night, and they are so expeditious, that in the course of one night I have known them to have collected as much as amounted to some thousands of their little handfuls. It is a great piece of policy in these animals to cover the outside of their houses every fall with fresh mud, and as late as possible in the autumn, even when the frost becomes pretty severe, as by this means it soon freezes as hard as a stone, and prevents their common enemy, the wolverene, from disturbing them during the winter ; and as they are frequently seen to walk over their work, and sometimes to give a flap with their tail, particularly when plunging into the water, this has, without doubt, given rise to the vulgar opinion that they use their tails as a trowel, with which they plaster their houses ; whereas that flapping of the tail is no more than a custom which they always preserve, even when they become tame and domestic, and more particularly so when they are startled.

“ Their food consists of a large root, something resembling a cabbage-stalk, which grows at the bottom of the lakes and rivers. They also eat the bark of trees, particularly those of the poplar, birch, and willow ; but the ice preventing them from getting to the land in the winter, they have not any bark to feed on in that season, except that of such sticks as they cut down in summer, and throw into the water opposite the doors of their houses ; and as they generally eat a great deal, the roots above mentioned constitute a principal part of their food during the winter. In summer they vary their diet by eating various kinds of herbage, and such berries as grow near their haunts during that season. When the ice breaks up in the

spring the beavers always leave their houses, and rove about until a little before the fall of the leaf, when they return again to their old habitations, and lay in their winter-stock of wood. They seldom begin to repair their houses till the frost commences, and never finish the outer coat till the cold is pretty severe, as has been already mentioned. When they erect a new habitation they begin felling the wood early in the summer, but seldom begin to build until the middle or latter end of August, and never complete it till the cold weather be set in.

“Persons who attempt to take beavers in winter should be thoroughly acquainted with their manner of life; otherwise they will have endless trouble to effect their purpose, because they have always a number of holes in the banks, which serve them as places of retreat when any injury is offered to their houses, and in general it is in those holes that they are taken. When the beavers which are situated in a small river or creek are to be taken, the Indians sometimes find it necessary to stake the river across to prevent them from passing; after which they endeavour to find out all their holes or places of retreat in the bank. This requires much practice and experience to accomplish, and is performed in the following manner:—Every man being furnished with an ice-chisel, lashes it to the end of a small staff about four to five feet long; he then walks along the edge of the banks, and keeps knocking his chisel against the ice. Those who are acquainted with that kind of work well know by the sound of the ice when they are opposite to any of the beavers’ holes or vaults. As soon as they suspect any, they cut a hole through the ice big enough to admit an old beaver; and in this manner proceed till they have found out all their places of retreat, or at least as many of them as possible. While the principal men

are thus employed, some of the under-strappers and the women are busy in breaking open the house—which at times is no easy task, for I have frequently known these houses to be five or six feet thick; and one, in particular, was more than eight feet thick in the crown. When the beavers find that their habitations are invaded, they fly to their holes in the banks for shelter; and on being perceived by the Indians, which is easily done, by attending to the motion of the water, they block up the entrance with stakes of wood, and then haul the beaver out of its hole, either by hand, if they can reach it, or with a large hook made for that purpose, which is fastened to the end of a long stick. The beaver is an animal which cannot keep long under at a time; so that when their houses are broken open, and all their places of retreat discovered, they have but one choice left, as it may be called—either to be taken in their house or their vaults; in general they prefer the latter; for where there is one beaver caught in the house, many thousands are taken in the vaults in the banks. Sometimes they are caught in nets, and, in summer, very frequently in traps.

“In respect to the beavers dunging in their houses, as some persons assert, it is quite wrong, as they always plunge into water to do it. I am the better enabled to make this assertion, from having kept several of them till they became so domesticated as to answer to their name, and follow those to whom they were accustomed in the same manner as a dog would do; and they were as much pleased at being fondled as any animal I ever saw. In cold weather they were kept in my own sitting-room, where they were the constant companions of the Indian women and children; and were so fond of their company, that when the Indians were absent for any considerable time, the beavers discovered great signs of uneasiness, and on their return

showed equal marks of pleasure, by fondling on them, crawling into their laps, lying on their backs, sitting erect like a squirrel, and behaving like children who see their parents but seldom. In general, during the winter, they lived on the same food as the women did; and were immoderately fond of rice and plum-pudding; they would eat partridges and fresh venison very freely; but I never tried them with fish, though I have heard they will at times prey on them. In fact, there are few graminivorous animals that may not be brought to be carnivorous."

The *Musquash*, or *Musk-rat*, is undoubtedly a beaver, and has been called at times the Little Beaver; but it has pleased the naturalists to constitute it a genus of itself, though there is only the one species known. Its habits are extremely like those of the beaver: it is aquatic, or amphibious, if you please—building itself a conical house in the midst of a swamp, or low islet, and feeding on shoots of trees, bits of green wood, leaves and stalks of nettles, and other herbaceous plants. Its fur bears a very great resemblance to that of the beaver, only it is shorter, and therefore less valuable. Notwithstanding this, it is an article of extensive commerce; and upwards of a million skins have been imported into England in a single year. The musquash might also be exterminated like the beaver; but being a smaller creature, and therefore less persecuted by the amateur sportsman, it is still common enough upon the streams of the northern and middle States of America. Further north it is plentiful; and the Hudson's Bay Company procure a vast number of skins for annual exportation to Europe. Its name of musk-rat is derived from the scent of musk which the animal emits, and which is especially powerful during the season of rut.

It is possible that the musk-rat of Siberia, as well

as several species of water-rats belonging to South America—and known vaguely by the name of *Lutras* and *Nutrias*—may be animals of the beaver kind, rather than *Water-Rats* or *Otters*, among which they are generally classed.

## Squirrels.



THESE pretty little animals are widely distributed over the earth ; though to this remark Australia seems to form an exception, since no species has yet been discovered there. However, there is much of that great island continent yet to be explored ; and perhaps it may turn out that Australia has its squirrels, as well as other parts of the world—no doubt squirrels with pouches.

In number of species—and also of individuals, it may be added—America excels all other countries, and the great forests of North America may be regarded as the head-quarters of the squirrel tribe ; but, if we give precedence to size, the squirrels of the East Indian countries are entitled to the first place.

Animals known as Squirrels are of three very distinct kinds—viz., Squirrels, properly so called ; Ground Squirrels ; and Flying Squirrels. These three kinds are very naturally separated into three different genera ; but the closet naturalists, not content with this simple division, have again subdivided them into other sub-genera, using very difficult names to distinguish them. In our little sketch we shall simply call them by the three names above mentioned.

The *Squirrels*, properly so called, are not only tree-climbers, but, as every one knows, dwell habitually

upon trees, and there make their nests and their home. And perfectly at home they are among the highest branches ; for under no circumstances do they ever miss their footing, or are they in the slightest danger of falling. In fact, they can not only run with the greatest agility along the branches, but equally well with their backs downward ; and can spring from branch to branch, and also from tree to tree, over wide intervals of many yards. They can also leap down from the tops of the tallest trees to the earth—a feat often witnessed by squirrel-hunters—and do so without the appearance of having received the slightest injury ; for, without pausing a moment on the ground, they continue their flight towards some other tree, where they expect to find better shelter from the short gun or rifle of their human enemy.

The squirrel builds a nest in the tree, similar to that of some birds ; but they have also in the same tree a more secure retreat in case of being pursued. This is a hole in the trunk or one of the larger limbs—some natural excavation caused by the decaying of a branch—in short, what is termed a “knot hole,” which is common in many kinds of timber. In this hole the squirrel usually lays up its store of winter food, consisting of nuts, beech-mast, &c. ; and here it takes refuge when hunted, finding the tree-cave a safe asylum. Unless decoyed out again, or, which often happens, *frightened* out again, by rubbing the trunk with a piece of stick, the squirrel must escape scot-free nine times out of ten, since no hunter would think of felling a huge tree to procure so insignificant a reward as the carcass of a squirrel ; and without felling the tree, and splitting it up, too, the creature could not be reached. Various devices, however, are practised to decoy it forth ; and these, unfortunately for the little refugee, too often succeed.

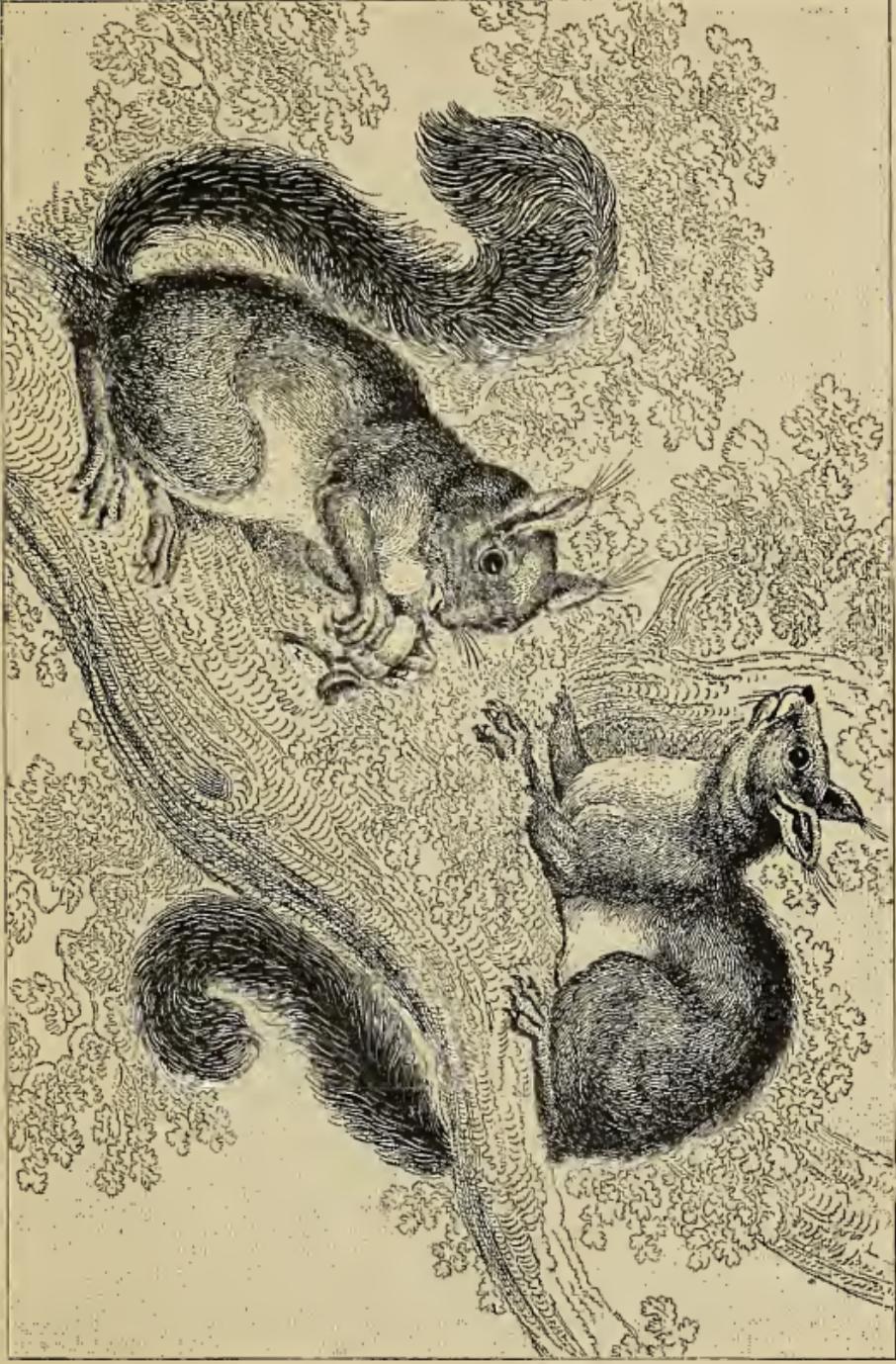
The squirrels are the life of the American woods—indeed, a journey through these great forests would often be very monotonous were it not enlivened by the presence and gambols of these beautiful creatures ; and in the depth of winter, when the squirrels keep within their dark trec-caves, the solitude of the forest seems redoubled. But even during frost and snow, when the weather is fine and the sun shining brightly, a few will be seen venturing forth, as if to take an airing.

A great many species exist in the forests of North America ; sometimes only one, and sometimes several, occupy the same district. They are of different colours and sizes—some as small as the common squirrel of England, while several species are three or four times as large. Some are gray, others brown gray, several species of a fox red, and those esteemed the most beautiful are of a uniform jet black. Several new species have lately been found in the forests of Oregon and California.

Their habits are all nearly alike ; but to one species of Gray Squirrel belongs a habit as distinct as it is singular. This is their habit of collecting together in immense flocks of many thousands, and migrating over vast tracts of country, crossing broad rapid rivers, and staying at no obstacle. The object of this migration is not known, only that it appears to be the result of some impulse—such as excites to a similar movement the springboks of South Africa, the buffaloes of North America, and the passenger pigeons.

In Europe the squirrel is represented by the Common Squirrel of our own woods, and which is found throughout the whole of Northern Europe and Asia, wherever there are trees. Although of a reddish colour in England, as well as in France, it assumes different hues, according to the different countries it inhabits ; and in the more northern latitudes it is quite gray. Another

THE SQUIRREL.





European species, distinct from the English squirrel, is a denizen of the Pyrenees and the Alps of Dauphiné.

The Palm Squirrel is a beautiful species belonging to the tropical parts of Africa and India, and dwelling principally upon the palm trees—as its name imports.

Another, known as the Barbary Squirrel, belongs to North Africa, and is also a dweller upon palm trees.

The largest, and perhaps the most richly-coated of the tribe, is the Malabar Squirrel of India, which is as large as a domestic cat. It also haunts among palm trees, and is fond of the milk of the cocoa-nut, either in a liquid or solid state.

There are squirrels also in Eastern Africa. India has several species, and the great islands of Madagascar, Ceylon, Java, Borneo, Sumatra, &c., have each one or more species of large and beautiful squirrels.

The *Ground Squirrels* differ from the true squirrels in several respects, though the chief difference lies in the fact that the former make their nest or lair upon the ground, while the latter universally lodge themselves aloft among the branches. The Ground Squirrels can climb, and appear to ascend trees almost as nimbly as their congeners; but they rarely do so unless when pursued, and then but seldom go beyond the lower forks or branches. Their nest is usually in some hole or cavity among the roots, though several species have been lately discovered in rocky regions, dwelling in the crevices of rocks. They approach in habits to the marmot tribe, and seem to link the tree squirrels with these last. Usually, these ground squirrels are striped longitudinally with black, red, and white stripes, giving them a fine appearance; and the species are of different dimensions, from that of the ordinary squirrel to the size of a mouse. In America, for a long time, but one kind was supposed to exist; but latterly a great number of species have been observed and

described: denizens of the far West—of the prairies, and remote valleys of the Rocky Mountains.

The African species of ground squirrel, already mentioned as the Palm Squirrel, has its dwelling among the palm trees, on the fruit and roots of which—especially that of the date-palm—it subsists. It is also an inhabitant of India, where there is at least one other species of palm ground squirrel.

In Europe, and throughout the whole of Northern Asia, the ground squirrels are represented by the *burunduk*—a very interesting little species, quite similar in habits to those of North America.

The *Flying Squirrels* are the last of the group. These are the most singular of all, and resemble great bats more than squirrels. They possess the power, not exactly of flight, but of making very long leaps from a higher to a lower level, so long that they might almost be regarded as flights. They can pass from one tree to another standing more than a hundred yards apart, and this without descending more than a few feet below the level from which they started. This feat they are enabled to perform by means of a broad membrane that extends from the skin of their fore-legs to that of their thighs, and which, when stretched out, endows them with the properties of a parachute. Their bodies, too, have a flattened shape like the bats; and this also helps to sustain them in the air.

They are true squirrels, however, living upon trees, as the common squirrels do, and looking very like the latter, notwithstanding their winged legs. In one point, however, they differ essentially from the common squirrels; and that is, they are *nocturnal* in their habits. In the daytime they are never seen, except by accident; but in the twilight, and during a clear night, they may be observed making their long leaps from tree to tree, through the glades or along the edges of

the forest. There are several species inhabiting the forests of America, and of late California has yielded several new ones. In the tropical forests of America there are several large species, and the Old World has its flying squirrel in the Polatouka, which inhabits the pine forests of Northern Europe and Asia.

The largest species of these singular quadrupeds appears to belong to the Oriental Islands—to Java, Sumatra, the Philippines, and Moluccas, or Spice Islands, as also to Japan. The great Teguan, or flying squirrel of the Moluccas, is in reality as large as a cat!

The singular Aye-aye of Madagascar is sometimes classed among the squirrels and sometimes among the lemurs. It certainly bears a great resemblance to the squirrel family; but the habits of all animals belonging to Madagascar are so little known that it is difficult to assign them to that exact genus in which Nature intended they should be placed.

## Hares, Rabbits, and other Rodents.



THE Hare, and its very near congener, the Rabbit, are animals too well known to need description ; but it is necessary to say that, besides the species of both, peculiar to Great Britain, there are many other kinds in other parts of the world. Even in Britain itself, including Ireland, there are several distinct sorts both of hares and rabbits ; for the Irish hare is distinct, being a larger, stronger, and even swifter animal than the English hare, and having many other points peculiar to it. Moreover, in the northern and mountainous parts of Scotland there is found the Varying or Alpine Hare, whose fur changes in the winter season to a snowy whiteness. But I may here remark, that the Irish hare also possesses this singular power of transformation, since upon the mountains of the north, especially upon the Mourne range, in county Down, *white* hares have been frequently observed. Is this the Irish hare turned white, or the true Alpine hare of Pallas ?

Hares and rabbits are peculiarly the denizens of cold countries, as their warm woolly covering would plainly indicate. In tropical climates their place is supplied by other kinds of rodents, that resemble them in habits, if not in "dress." Of these other animals we shall presently speak. To the above remark, however,

a few partial exceptions may be brought forward ; since there is a species existing in Egypt known as the Egyptian Hare, and there are three others at the Cape—the Rock Hare, the Burrow Hare, and the Vlakte Haas. These, however, differ very considerably from the common hares and rabbits of northern countries ; and the remark still holds good, that in the tropics—properly so called—the hare does not exist : neither has any true hare been found in the new world of Australia.

Otherwise, hares are plenteous in the different continents of Europe, Asia, Africa, and America. In Asia there is a species inhabiting the regions of the Altai Mountains, and another peculiar to the Siberian territory, called the Tolai. There is an Indian species found in the Nepaul Mountains, and a curious variety, also a native of Nepaul and the Himalayas, known as the Woolly Hare of Thibet.

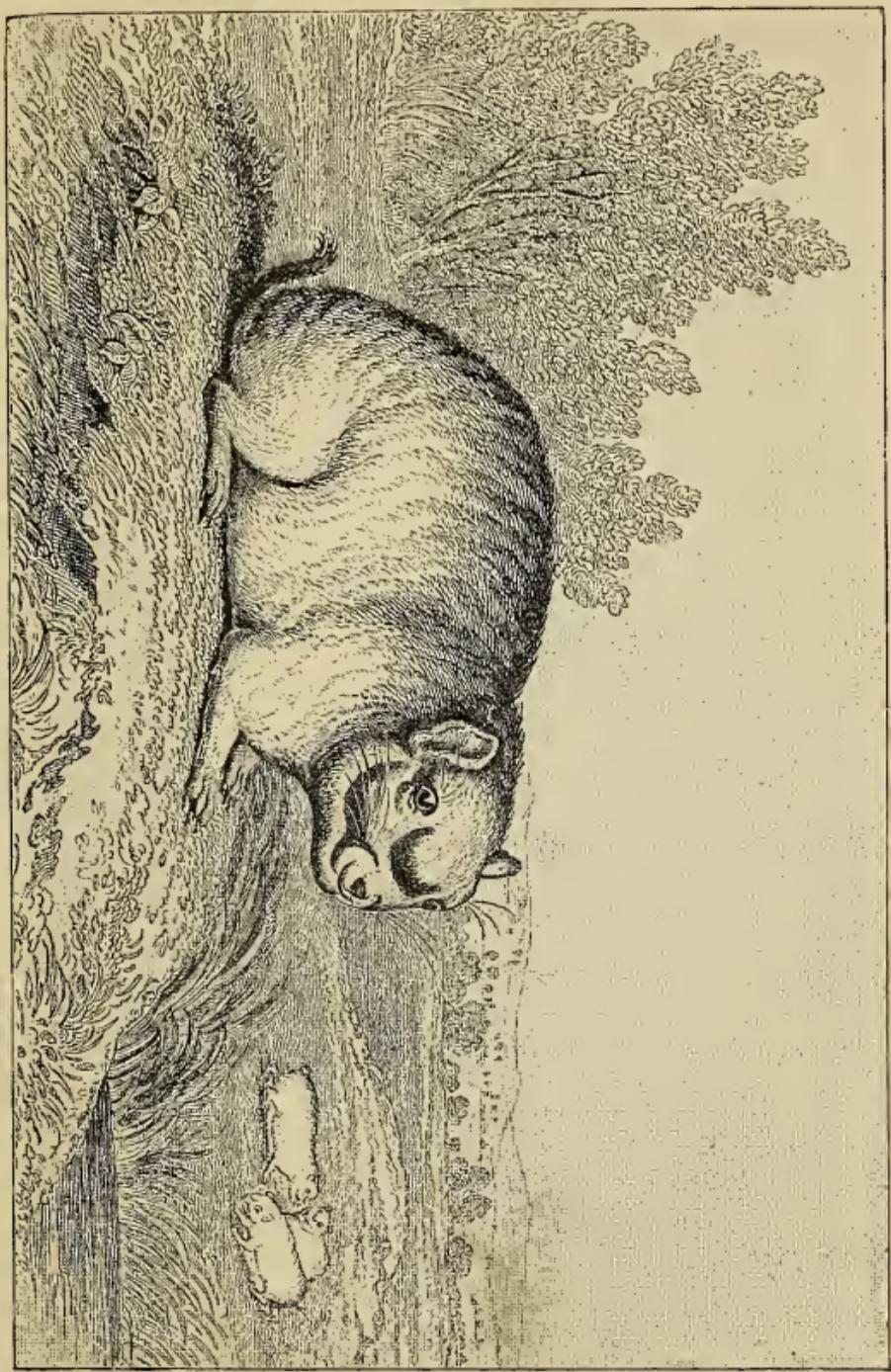
The Polar Hare, valued for its beautiful white fur, inhabits the countries around the Arctic Ocean, and is common in Labrador and the Hudson's Bay territory. In North America, also, there are several other species of hares : the Marsh, or Swamp Hare, of the Southern United States, which dwells among the extensive marshes of the Carolinas and Louisiana, and which freely takes to the water ; the Rabbit of the Middle States, which is a true hare, though from its small size usually termed a rabbit ; the Californian Hare, indigenous to California, and also another Marsh Hare, belonging to the same country. Upon the prairies several distinct species have lately been discovered, among which the Sage Hare deserves especial mention. This kind derives its name from its being a dweller on the desert plains, where scarce any other vegetation exists except the *artemisia*, or wild sage plant, the leaves of which constitute the principal food of the animal, rendering its flesh almost uneatable.

The *Calling Hares* differ very much from the common hares and rabbits—so much as to constitute a separate genus. Their ears are shorter, and they are altogether without tails. Their habits, however, are very similar to those of the hare family, and they are therefore very naturally grouped with the latter. They derive their trivial name from the habit of uttering a note, which somewhat resembles the piping of a quail, and which can be heard at a very great distance. This note is repeated three or four times at night and morning, but is seldom heard during the middle of the day, unless when the weather is cloudy.

The calling hares are distributed over Asia and North America. At least two species belong to the Himalayan country, and one is found in Cabul. In Siberia and Northern Russia there is another, called the Eadajac; and several species inhabit the northern countries of America—some so small as scarcely to exceed the dimensions of a rat! The Little Chief is one of these tiny creatures long known; but late explorers of the Rocky Mountain regions have discovered a species still smaller than the little chief.

The *Cavies* appear to represent the hare family in the tropical parts of America. It is true that these last differ from hares in many particulars; but they have also many points of resemblance, and they may be grouped together in a very natural manner. They live much in the same manner; they are swift and inoffensive as the hares; but, instead of being clothed in soft wool, which would be altogether unsuitable to the climate in which they dwell, the cavies have a covering of hair so fine and thin as to convey to the touch a feeling of coolness rather than warmth. Some of the cavies are among the largest animals of the Rodent Family; for instance, the great Capivara, which is equal in size to an ordinary pig. This species

THE VISCACHA.





is not a swift runner upon land ; but it is semi-aquatic in its habits, and can swim and dive like an otter, its feet being webbed or palmated. It herds in troops of from five or ten to fifty in number, and is found upon the banks of all the great South American rivers, where it has for its chief enemy the fierce jaguar.

The Guinea Pig is one of the family of cavies. This beautiful little animal is too well known to require description. It may be remarked, however, that the name Guinea Pig is altogether a mistake, since the creature is found wild only in South America, and is *not* a native of Guinea in Africa. Very likely it was originally brought from Guiana, and this has led to the misnomer. There are several species of Guinea pig in South America, differing from one another in size, shape, and colour. Besides the large Capivara and the little Guinea Pig, there are several intermediate kinds. These are known as the True Cavies, and are usually called Agoutis, or Acouchis. The agoutis are about the size of the common hare, and run almost as swiftly. For their food they prefer nuts to herbage, which is natural enough in a region where the latter is scanty and the former exists in plenty ; and in eating they “squat” upright on their haunches, and convey the food to their mouth after the manner of squirrels. The agouti, like the hare, frequently rolls over when descending a hill at full speed—a habit, or rather an accident, due to the same cause in both animals, namely, the great length of the hind legs. When angry, the agouti stamps with the fore-feet, grunts like a young pig, and erects the bristly hair upon its crupper after the manner of porcupines.

There are many species of agouti throughout tropical America and the West India Islands, and the range of the genus extends as far south as the plains of Patagonia.

The *Pacas* form another genus belonging to the family of the caviés that may be also grouped with the hares and rabbits. They burrow like the common rabbit, and their food consists of nuts, fruits, and roots. Their flesh is excellent; and on this account they are hunted eagerly, both by the Indians and whites who dwell in the countries where they are found. There are several species of them in South America, and they were also very common at one time in the West India Islands; but on account of the persecution of many enemies—more especially of hunters—they are now comparatively rare.

With the hares and rabbits may be classed still another family of South American animals, and one of the most interesting of the whole group. These are the Chinchillas and Viscachas. The place assigned to them by some naturalists is with the hamsters, and therefore they are grouped with the rats; but an examination into the habits of these animals shows that they are in reality representatives of the hares and rabbits on the elevated table-lands of Chili and Peru, as also over the whole plain country of La Plata and Patagonia. There are several species known indifferently as Viscachas and Chinchillas; but the true Chinchilla, celebrated for its soft and beautiful woolly coat, is an inhabitant of the elevated plateaux of the Andes, where the climate is as cold as in Siberia itself. The natural history of these rodents is full of curious interest, and deserves to be given more in detail, if our space would only admit of it.

### XIII.

## Elephants.



THE Elephant is by far the largest of land animals, and for this reason one of the most interesting to the student of zoology; but even without this superiority, he possesses qualities that entitle him to rank among the curious objects of creation.

In ages long gone by there were elephants upon the earth—or animals resembling elephants—as much larger than the existing species as these are superior in size to other quadrupeds. Such were the mammoths and mastodons, the skeletons of which are occasionally found buried beneath the surface of the soil in different parts of the world.

As might be expected, the species of this gigantic quadruped are not numerous. For a long time there was supposed to be only one; but this was an erroneous belief, and it is now proved that there are *at least* two, since the elephants of Africa and those of Asia are altogether different from each other. It is not quite certain that the elephant of the Island of Ceylon is identically the same as other Indian elephants; and in the Asiatic countries and islands there are varieties differing from each other in size, and other peculiarities, quite as much as any of them does from the elephant of Africa. Again, in Africa itself we find that this

great creature has its varieties—some larger and some smaller, according to the part of the country in which they are found. Even the natives of both Africa and the Indian territories recognize different kinds, proving that on both continents there are several permanent varieties, if not species.

In the Indian countries these varieties have received distinct names—just as our breeds of dogs—and an elephant is valued according to the breed or caste to which he belongs; for in India caste is a universal idea, even among animals.

There are two principal castes—the Koomareah, of princely race; and the Merghee, or hunting elephant. These two kinds differ a good deal—as much, indeed, as if they were separate species. The koomareah is deep-bodied, strong, and compact, with a very large trunk and short thick legs. As a large trunk is considered the great beauty of an elephant, the koomareah is therefore preferred to the merghee; besides, he is also superior to the latter in strength and powers of endurance.

The merghee is a taller animal, but neither so compact nor so strong, and his trunk is short and slender in proportion to his height. He travels faster, however; and for this reason is oftener employed in the chase.

A cross between these two varieties is called a Sun-kareah, which signifies a mixed breed or mule; and in a herd of elephants there will be found not only sun-kareahs, but several varieties of cross breeds between the koomareahs and merghees. These “mules” are prized if they partake more of the nature of the princely caste, and less valued when nearer to the merghee.

In addition to these distinctions, another very important one is found in the size and shape of the teeth. The Dauntelah is one with very large teeth, in oppo-

sition to the Mookna, in which the tusks are of small dimensions, and scarcely visible outside the mouth. The Europeans prefer elephants of the mookna variety, as these are of milder disposition than the dauntelahs; but the natives prize the large-toothed kinds, taking the chance of being able to tame them to submission. There are many degrees between the mookna and dauntelah, founded on the form of the tusks. Those of the Pullung-daunt project forward with an almost horizontal curve, while the straight tusks of the mooknas point directly downwards. Nearly a dozen varieties or breeds are thus established among the elephants of India that are held in a state of domestication.

White elephants are also met with, and are highly prized by the rajahs and wealthy nobles. These are mere varieties, produced by albinism, and may belong to any of the castes already described.

It has been further ascertained that the elephants of different Indian countries vary a good deal in point of size. Those from the southern districts, and some of the larger islands, are larger and stronger than the elephants of Nepal and other mountain countries in the north. The finest are those of Cochin China and the Burmese territories of Pegu, while those of Ceylon are even superior to the kinds indigenous to Northern India.

The African elephants are said also to be larger as they dwell nearer to the Equator; and from this it would appear that the elephant is essentially a tropical animal, and thrives best in the climate of the torrid zone.

The Asiatic elephant is found wild as well as domesticated in nearly all the Indian countries, as also in many of the large islands. Its range northward is bounded by the lower hills of the Himalayas; and

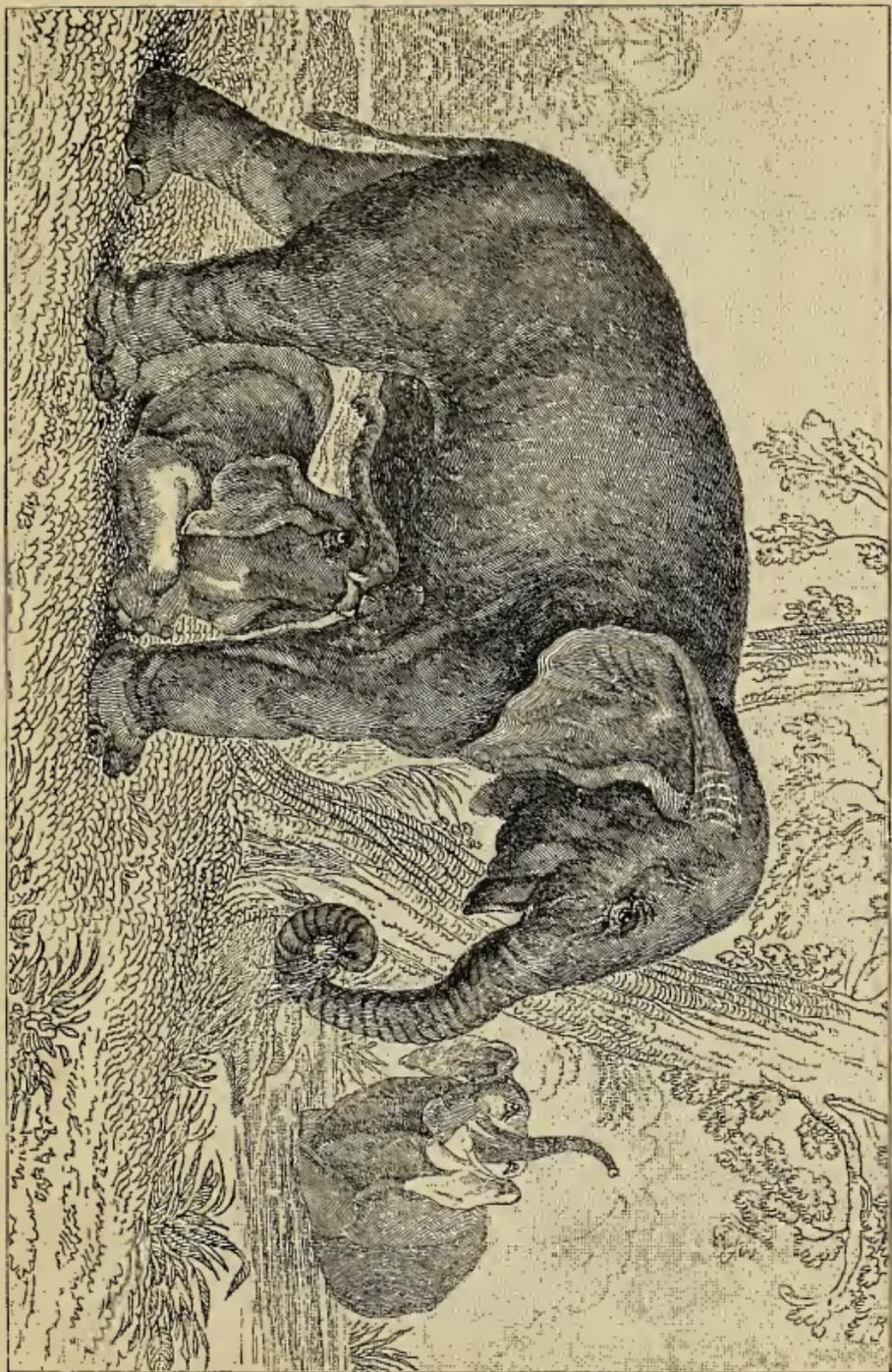
among these, especially through the *saul* forests, these huge animals roam about in herds, each herd being under the guidance or leadership of an old male, or "bull," as he is termed. As an elephant brings a considerable sum of money, even in India, these are eagerly hunted; and their capture is accomplished by decoying them into a pound or enclosure constructed for the purpose, where ropes are attached to them, and then tied to the neighbouring trees. The decoy used is a tame elephant, that has been already trained for the purpose.

There are in India, as well as in Africa, certain old bull elephants that lead a solitary life, and that are scarcely ever seen in company with the herds. These bachelors are usually of a morose and fierce disposition, and when one of them is captured it requires all the skill of the hunters to keep clear of danger. These wild bulls are larger and stronger than the common kind, and so untamable in their ferocity that even when captured no use can be made of them, since they will die rather than submit to being trained. They are called Goondahs by the people of Hindostan, and by English hunters Rogues or Rovers.

The African elephant next merits attention. There is no difficulty in distinguishing this species from any of the Indian varieties. The immensely large ears constitute a marked characteristic of the former, which at once becomes recognizable. Other points of difference are the greater convexity of the forehead or skull and the larger size of the tusks; though this last point of distinction is not always to be depended upon, since there are Indian elephants with tusks of similar dimensions. Generally, however, the African elephants have the largest "ivories."

In point of bulk the Asiatic species has been considered superior; but this belief may not be correct

THE ELEPHANT OF AFRICA AND YOUNG





Certain circumstances should be taken into account. The Asiatic elephant is living in a domesticated state, and this may have produced a greater size, as it does in the case of most other quadrupeds. Another circumstance: the African elephants of our collections have been mostly obtained from the Cape, or the regions contiguous to it. But it is now known that in the countries nearer to the equator there exists a much larger kind, that appears to be quite as bulky as any of the Asiatic varieties.

The height of the elephant has been much exaggerated by travellers—some having been described as measuring eighteen feet from the foot to the top of the shoulder! An authority on this subject, who measured the largest he could meet with in different parts of India, found none that stood over twelve feet, and this appears to be the actual height of the very biggest of elephants.

The African elephants have not been tamed—at least not in modern times; but it is certain that the elephants used by the Carthaginians in their wars with the Romans were of this species; and also that African elephants were the species exhibited by Cæsar and Pompey in the Roman arena.

In a wild state the African elephant has a wide range—from the Cape country on the south to Senegal on the western side, throughout the whole of Central Africa, and along the oriental coast to the valley of the Nile; but it is not very certain whether the elephant of the eastern countries of Africa is the African species or a variety of the Asiatic kind. The African elephant is said to be fiercer than that of Asia; but this is a doubtful statement; and perhaps the habits of the two do not materially differ, farther than might be expected from a difference of climate, food, and other external circumstances.

## The Hippopotamus, Rhinoceros, and Tapir.



THOUGH these three kinds of creatures belong to different genera, there is a certain family likeness among them that entitles them to be classed together ; and since there are not many species of each, they will conveniently form a group.

Of late the hippopotamus has been the most notorious of the three ; though he is far from being as interesting an animal as the rhinoceros. Since, however, he is at present the most popular, we shall give him the foremost place in our sketch.

The Hippopotamus was known to the Greeks and Romans. His name is Greek, and, as every one knows, signifies the River-horse. Why so called ? you may ask—since between this unwieldy creature and the beautiful horse there does not appear a single point of resemblance. The answer is, that the cry of the hippopotamus was fancied to resemble the neighing of a horse ; and in some respects this is really the case. Hence the misnomer. The Dutch of the Cape Colony call the creature a Cow, or Sea-cow, which is also an ill-adapted name. The cow is well enough, for the head and mouth of the animal bear a very striking resemblance to those of a broad-muffled cow ; but what the

“sea” has to do with it is not so clearly understood: since the hippopotamus is found only in fresh water—in lakes and rivers.

Every one knows that this huge creature is of amphibious habits; and lives equally well on land, in the water, or even under the water. It requires air, however, and at intervals rises to the surface to breathe. On such occasions it usually projects a jet of water from its nostrils—in other words, it spouts, after the manner of the whales.

It is altogether herbivorous; and grass and the leaves of succulent plants form its subsistence. A vast quantity of these are required to sustain it; and a single individual will consume as much as two hundred pounds' weight in a day.

The hippopotamus, notwithstanding its formidable appearance, is not a dangerous enemy if suffered to go unmolested, or rather if persons do not come in its way. When wounded, however, or even intruded upon in its solitary haunts, it will attack man himself; and a boat or canoe passing along a river frequented by these creatures is in danger of suffering a similar fate to that resulting from an encounter with the great whale—that is, of being tossed out of the water or broken to pieces.

The River-horse, or Sea-cow (whichever you prefer to call the creature), is exclusively confined to the African continent; and is found in all the great lakes and rivers from the Cape Colony to the southern limits of the Sahara. It is indigenous to the Upper Nile; but does not show itself in the lower half of that river. In fact, its range appears to be exactly coterminal with that of the African elephant.

There is a question about the number of species. For long it was supposed there was only one, but now it is ascertained that two, or even more, exist. The hippo-

potami of the Nile differ considerably from each other and also from the species known as Sea-cow in South Africa; while a smaller kind than either has been observed in the rivers of Western Africa.

The *Rhinoceros* is altogether a more curious and interesting animal than the hippopotamus; but, being more common, and oftener encountered by modern travellers, it is at present less an object of curiosity.

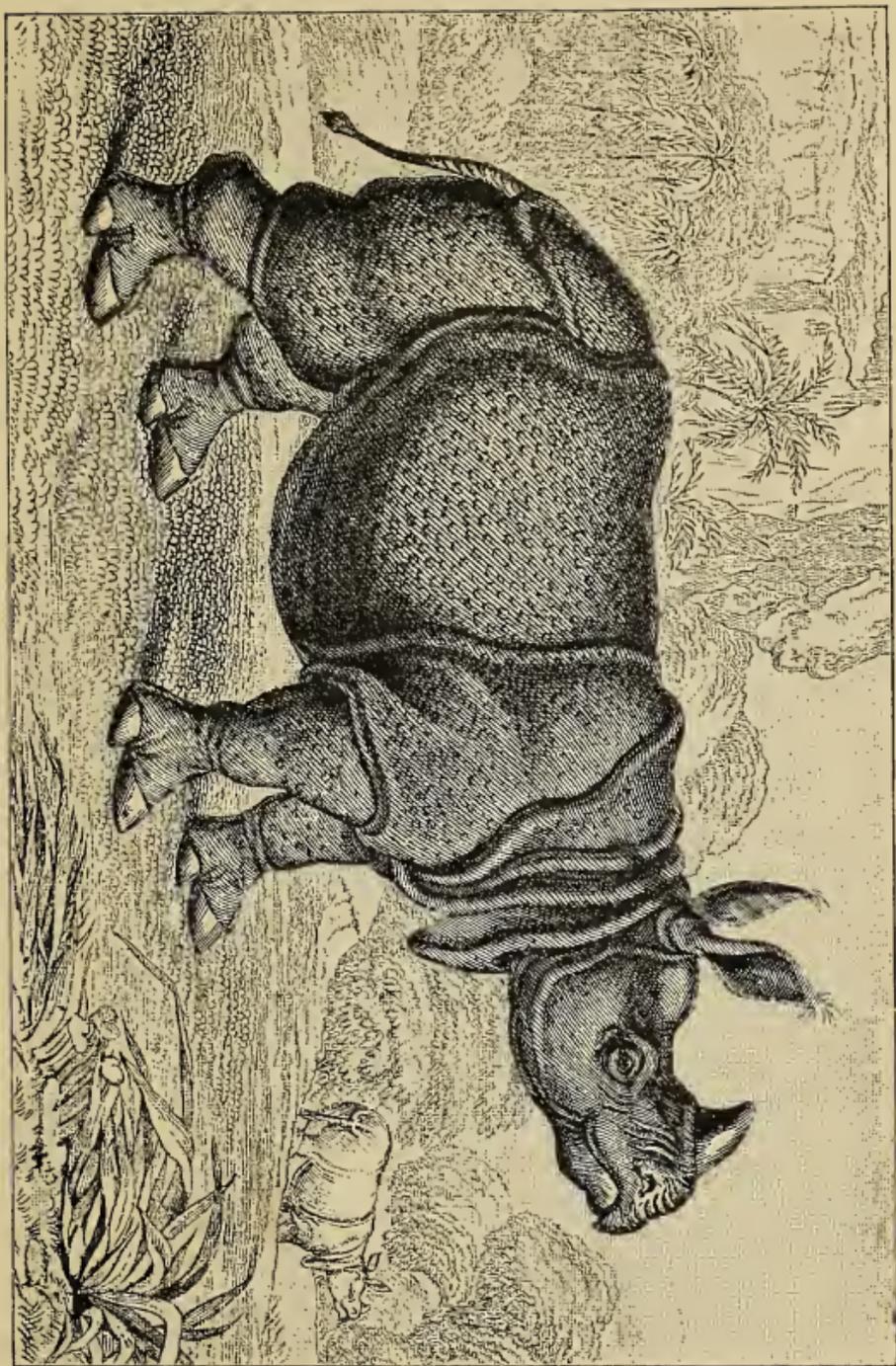
Of rhinoceroses at least seven distinct species are known—three of them being Asiatic, and four African.

The largest of all is the Indian rhinoceros, which inhabits a part of Bengal and the countries beyond—Burmah, Siam, and Cochin China. This species is easily distinguished from the others by the thick rough skin, which is placed on the animal's body in such a fashion as to resemble a coat of ancient armour. The singular protuberances have a complete resemblance to the "bosses" which were worn on the shields and breast-plates of warriors of the olden time.

A second species, the Warak, which inhabits Java, is somewhat similarly accoutred; but the third Asiatic kind, the Sumatran rhinoceros, has a smoother skin—more resembling that of the African rhinoceros.

These last mentioned are denizens of the African continent; but especially of the regions extending northward from the Cape. They do not all four frequent the same district; but two, and sometimes three of them, are found in one locality. They are distinguished as the black and white rhinoceroses—there being two species of the black, and two of the white. The black ones are much fiercer than their white congeners; although the latter are by far the largest, and present a far more formidable appearance, from the extreme length of their horns.

The *Tapir* was for a long time supposed to be exclusively an American animal, but later research



THE RHINOCEROS.



proves that there is also a species in Asia. It is found in the Island of Sumatra, and is larger than the American species, though very much resembling it in other respects. A new species has also been discovered in South America, altogether differing from the American tapir already so well known.

The habits of the American tapir are not unlike those of the rhinoceros. It is a creature of great strength, and heavy in its movements. It can live for a long time under water; and its haunts are the banks of the great rivers—especially where these are marshy, and covered with reeds and other aquatic plants, which constitute its food. It can swim or walk under the water at will; but its lair is generally in some bushy retreat at a distance from the banks; and its visits to the water are usually nocturnal. It is an object of chase among the native Indians, who prize both its flesh and skin; but its capture is by no means an easy matter, since its thick hide renders it impervious to the tiny arrow of the blow-gun.

This species is found in all the rivers of South America, from Paraguay to the Isthmus of Darien; but its range terminates very abruptly on the north—a fact which puzzles the naturalist, since for many degrees further northward, climate and other circumstances are found similar to those which appear to favour its existence in the southern part of the continent.

The other species of American tapir differs considerably in the nature of its haunts and habits. In these it is said more to resemble the tapir of Sumatra. The latter is found dwelling at a great elevation, in fact, on the tops of the highest mountains of that island; whereas the Danta, or American tapir, is altogether confined to the low hot plains. In the same district of country, and even in the same rivers—but further up among the mountains—the smaller species of American

tapir is met with, but never upon the low level of the plains.

When we consider that for more than three centuries, in a country inhabited by a civilized people, this new species of American tapir has remained not only undescribed but even unknown to the scientific world, we may fairly conjecture that other species of this, as well as of many other animals, may yet be brought to light to gratify the lover of nature, and add to his store of pleasant knowledge.

## Giraffes, Camels, and Llamas.



STRICTLY speaking, the Giraffes cannot be considered as belonging to the same family with the Camels, nor yet the Camels be classed with the Llamas; but there is a very great resemblance between these three genera of animals, and, except for scientific purposes, they form a group sufficiently natural. Indeed any one of the three is more like to the other two than to any other kind of mammalia; although some naturalists prefer considering the giraffe as a species of deer. This classification, however, rests principally upon an erroneous supposition—that the oblong protuberances on the head of the giraffe are horns, which in reality they are not, but mere continuations of the frontal bone. It would be as absurd, therefore, to call the giraffe a deer, as to consider it a species of camel, and perhaps more so. It may be regarded as an animal *sui generis*; but in making a series of groups—such as we have here attempted—it appears more natural to place it alongside the camels than elsewhere; and it is certainly as much like the true camel or dromedary as either the llama or vicuña. One of its most popular names—that of Camelopard, or Spotted Camel—shows the resemblance which suggests itself to the eye of the traveller and ordinary observer; and this resemblance extends also to many

characters that are not external. Indeed, after all that has been said by anatomical naturalists, we might hazard assertion of the belief, that the camelopard is neither more nor less than a species of wild camel.

Its appearance need not be described. Every eye is familiar with the slender form, long neck, smooth coat, and spotted skin of this singular animal. But its habits are less understood, and this arises from several distinct causes. In the first place, the giraffe inhabits only those countries about which very little is known by civilized people; secondly, it is but rarely seen, even by travellers; and, thirdly, when it is encountered in its native haunts, it is of so shy a disposition, and so ready to take flight, that scarce any opportunity is ever obtained for properly observing it.

The giraffe is exclusively confined to the continent of Africa; but its range is by no means limited. It was formerly common enough as far south as the Cape itself, whence it was driven by the Dutch and Hottentot hunters. It is not now met with to the south of the Great Orange River. Northward from this point, it extends to Nubia and Abyssinia; but it does not appear that it inhabits the western section of the continent, since it is not heard of in Guinea, or any of the countries on the Atlantic coast. In the interior it is common enough.

The giraffes herd together in small troops—consisting of ten or a dozen individuals—and prefer the open forests, or rather the hills covered with copses of acacia and other African trees. Their principal food is the foliage of these trees; and one species of mimosa—the *camel-doorn* (camel-thorn) of the Dutch hunters—is their especial favourite. The leaves of this tree, like all others of the acacia tribe, are of pinnate form, and sweet to the taste; and the giraffe browses upon them, standing erect, with its long neck outstretched to a

height of nearly twenty feet! Its tongue is possessed of a peculiarly prehensile power, and with this extended a foot or more beyond the lips, it can sweep in the leaves and twigs for a wide circle around its muzzle.

When affrighted and put to its speed, the giraffe appears to go with an up-and-down gait, and some travellers have alleged that it limps. This arises from the fact, that every time it lifts its fore-feet, it throws back its long neck, which on other occasions is always held erect. It sometimes travels with a pacing step, but it can also gallop after the manner of a horse, and is even so swift that it requires a horse at full speed to overtake it.

Notwithstanding that its food consists principally of the leaves and twigs of trees, the giraffe will also eat grass. While browsing thus, it usually bends one of its knees downward; and while stretching upwards to a high branch, it brings all its feet nearer to each other. It often lies down to "chew its cud" or to sleep; and this habit produces the callosities upon the sternum and knees, which resemble those of the camels.

The giraffe is a peaceful and timid animal, and is often the prey of the lion—the fierce beast of prey taking it unawares, springing upon its back, and destroying it by breaking the cervical vertebræ with his powerful teeth. Sometimes, however, it is enabled to drive the lion off by kicking out against him with its heels, and tiring or discouraging him from the attack.

The Hottentots and Kaffirs hunt the giraffe for the sake of its flesh, which in young individuals is very good eating. Sometimes, however, it smells strongly of a species of shrub upon which the animal feeds, and which gives it a disagreeable odour. The Bushmen are particularly fond of the marrow produced in its long shank bones, and to obtain this, they hunt the animal with their poisoned arrows. They also make out

of its skin bottles and other vessels for containing water.

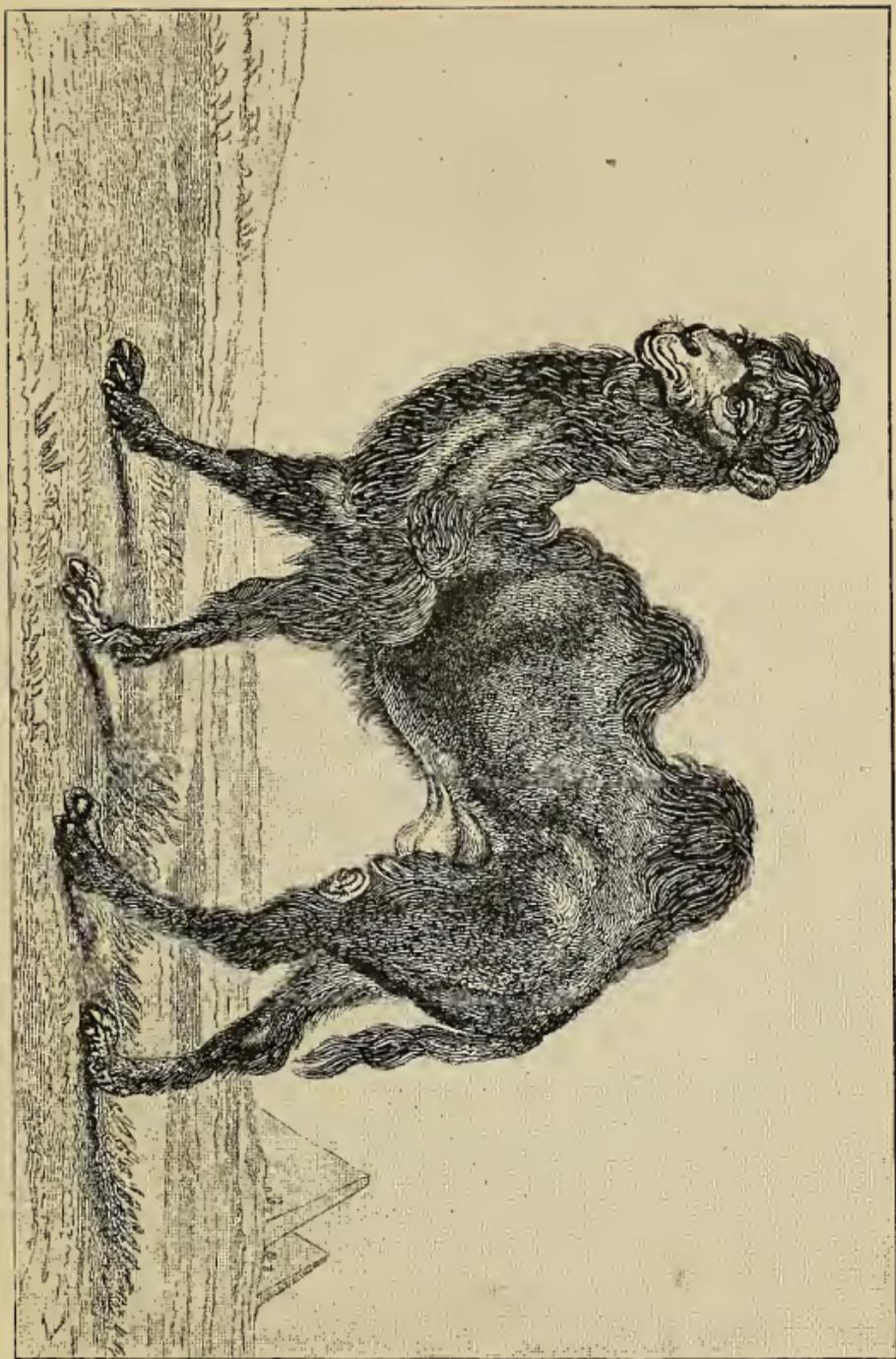
Conspicuous as is the giraffe, it is not so easy to distinguish it in the haunts where it inhabits. Seen from a distance, it has the appearance of a decayed tree, and, remaining motionless, it is often passed by the hunter or traveller without being observed. It is itself very keen-sighted; and the manner in which its large beautiful eye is set gives it a decided advantage for seeing around it, even without the necessity of turning its head. On this account it is approached with great difficulty, and usually contrives to escape from the most ardent pursuer.

The *Camels* come next in turn. Of these there exist two distinct species—the Camel, or Bactrian camel; and the Dromedary, or Arabian camel. Both are found only in a domesticated state. Both are “beasts of burthen,” and of both there are several varieties.

First, then, of the Bactrian camel—that is, the species with two humps.

This animal differs very much from the Arabian camel, and is altogether more rare. It is about ten feet in length of body, and covered generally with a thick shaggy coat of hair of a dark brown colour; but there is no difficulty in distinguishing it from its Arabian congener. The two huge humps or hunches upon its back form a sufficient token by which to identify the species.

It is found in Persia and the adjoining countries; but in no part in such numbers as in the middle zone of Asia—in the Taurus, and to the north of the Himalaya Mountains. It is also seen occasionally in Arabia and other countries; but in these it is rare, the dromedary taking its place for all purposes required by man. It is, nevertheless, of a stouter build than the latter, and stronger in proportion to its size. As already



THE DACTRIAN CAMEL.



stated, there are several varieties, produced by a difference in stature, colour, and swiftness.

The Dromedary, or Arabian camel, is altogether more widely distributed, and better known to the world. It is propagated in Arabia, Persia, the south of Tartary, some parts of India, in Africa from Egypt to Morocco, and from the Mediterranean Sea to the river Senegal. It is also numerous in the Canary Islands, and has been introduced into Italy, especially at Pisa, in Tuscany. It is not generally known that it has also been transported into the Island of Cuba, and employed at the mines of El Cobre, near Santiago; and later still—in fact, at the present hour—an attempt is being made to naturalize it upon the central plains of Texas and California.

The callosities upon the limbs and chest, and the hump on the back, have caused much perplexity among naturalists; but, perhaps, their purpose may be explained. They seem to bear some relation to the necessities of the animal, considered as the slave or man. The callosities are the points on which it kneels down to receive its burden. The hump, which is a fatty secretion, is known to be absorbed into the system when the animal is pinched for food, thus forming a provision against the casualties to which it is subject in a life evidently ordained to be passed in the desert. Add to this, that its singularly formed stomach renders it capable of containing a supply of water suitable to long journeys, and we have ample evidence of the purpose for which this singular and useful creature was designed.

The camel furnishes the Arab with flesh and milk, of its hair he weaves clothing, and even tents; his belt and sandals are the produce of its hide, and its dung affords him fuel.

The hair of the Persian camel is held in the highest

estimation. There are three kinds of it—black, red, and gray; the black being of most value, and the gray fetching only half the price of the red.

But all such uses are mere trifles when compared with the value of these animals as beasts of burden—“ships of the desert,” as they have been poetically named. By means of them, communication is kept up between distant countries separated by large tracts of frightful deserts, which, without some such aid, would be entirely impassable by man.

We arrive at the *Llamas*, or camel sheep, as the old Spanish colonists used to call them.

These animals are natives of South America, and their range is limited. They are found only on the high plateaus of the Andes; through which they extend, from New Granada on the north to Chili on the south, though one species ranges even to the Straits of Magellan. In all there are four distinct species of them—the Llama proper, the Paca or Alpaca, the Guanaco, and the Vicuña.

The Llama and Paca are both held in a state of domestication; the former as a beast of burden, and the latter for its hair or wool. On the other hand, the Guanacos and Vicuñas are wild animals, and are eagerly hunted by the mountain tribes of Indians for their flesh and skins, but in the case of the vicuña for the very fine wool which it yields, and which commands an enormous price in the markets of Peru.

The Cordilleras of the Andes, below the line of perpetual snow, is the region inhabited by these creatures. In the hot countries, lying lower, they do not thrive; and even die in journeys made to the tropic coast lands. The wild species keep together in herds—sometimes of one or two hundred individuals—feeding on a sort of rushy grass or reed—called *yca* by the natives—and they scarce ever drink, so long as they can pasture on

green herbage. They have the singular habit of going to a particular spot to drop their dung, which resembles that of goats or sheep; and this habit often costs them their lives, since the excrement points out to the hunter their place of resort. They keep a careful look-out against any danger, usually taking care to place old males as sentinels of the flock, who give warning of the approach of an enemy. When startled they run swiftly, but soon halt, stand gazing back, and then gallop on as before.

During summer they frequent the sides of the mountains; but, as winter approaches, they descend to the high table plains, and browse upon the natural meadows found there. They are captured in various ways. The Indians take them by first surrounding the herd, and then driving it within enclosures constructed for the purpose. They are also run down by dogs, trained to hunt them by the mountaineers of Chili, in which country they are found wild in great numbers. During the chase they frequently turn upon their pursuer, utter a wild shrill neighing, and then resume their rapid flight.

The Vicuñas — which are the smallest of the four kinds, and also the prettiest — are captured by the Indians in a still more singular manner. A large tract of the plains is enclosed merely by a cord, stretched horizontally upon stakes, of about four feet in height. To the cord are attached pieces of cloth, feathers, or coloured rags of any kind. Into this feeble enclosure the herd of vicuñas is driven; and, strange to say, the frightened animals will permit themselves to be crowded together, and killed with stones rather than leap over the cord.

When any guanacos chance to be mixed up with the herd, the result is likely to be very different. These, being of bolder spirit, as well as larger size, at once

overleap or break through the fictitious barrier, and sweep off to the mountains, followed by the whole flock of the vicuñas.

The capability of the llama to carry burdens is well known. They were thus employed by the ancient Peruvians, and, although at present they are less valued on this account, many are still used in carrying the ores from the rich gold and silver mines of Chili and Peru to the smelting furnaces, or ports of embarkation on the coast. The introduction of the mule, however, has to a great extent relieved the llamas of their load; and less attention is now paid either to their training or increase.

## S w i n e .



F not one of the most agreeable, the Hog—or Pig, as it is oftener called—is one of the most useful of the domesticated animals. Indeed, it would be difficult to say how culinary operations could be carried on without the valuable fat which this creature produces in such plenty, and to which both cooks and confectioners are so largely indebted. Besides, there are whole nations who feed almost entirely upon its flesh; and even its skin and bristles constitute an important item of manufacturing industry. The facility with which the flesh can be preserved under the name of bacon, the length of time it may be kept without the danger of spoiling, combined with the undoubted wholesomeness of such an article of diet, render it one of the most convenient articles of provision; and hence in agricultural districts, and other places far remote from towns, it is an almost universal article of food.

The number of species that form the group of hogs or swine is very limited indeed; in all not exceeding half a score. These, however, are found in endless varieties, and distributed over all the globe, since in each of the five great divisions one or more indigenous kind of hog has been found.

That which forms the type on which the swine family

is founded, is, of course, the *Common Pig*; and this is supposed to be descended from the wild boar, so well known in connection with the chase during mediæval times.

It is superfluous to say that the common hog of our farmyards has been propagated until an almost countless variety of breeds have been produced—not only every country, but even single counties or provinces having a breed of its own. All, however, are so much alike in habits and general appearance, and their characteristics so well known, that it would be idle to give any description of them here. We shall only remark that the pig, if fairly treated, is by no means an animal of filthy or dirty habits, as is generally supposed. On the contrary, it is cleanly in its nature; and its slovenliness is brought upon it by the manner in which it is styed up, in its own filth. Neither is it a stupid creature, but possesses considerable intelligence; as is proved by the tricks which it has been taught to perform under the name of the “learned pig;” while several individuals have been trained to follow the gun, and stand to game as stanch as the best pointers. In France it is not uncommon for the truffle-hunters to use pigs in search of this favourite esculent—the keenness of scent which the animal possesses enabling it to find this hidden treasure, just as it does potatoes or other roots, far under the surface of the ground.

The *Wild Boar*, next to the common domestic variety, is the best known and most celebrated of the swine. In earlier times it was found in every part of Europe. Even at this day, it is not rare in the forest fastnesses of most of the continental countries, and also in Asia. It was formerly common in England, and the chase of it was a favourite pastime among the kings and nobles, especially about the time of the Norman Conquest. In those days the Game laws were certainly harsh enough

THE BABIRUSSA, MALE AND FEMALE.





—much more so than those of our own time—since William the Conqueror issued an edict punishing with the *loss of his eyes* any one who should be convicted of killing a wild boar!

In Europe the famed boar spear, used in hunting this animal, has given way to the rifle; but in India, where the field is taken on horseback, the spear is still in use; and hunting the wild boar is one of the most exciting of wild sports practised in that country.

The wild boar of India, however, is in some respects different from that of Europe; and naturalists generally class it as a distinct species.

The *Babirussa* is another species belonging to the East Indian world: found principally in the Moluccas and other islands of the Indian Archipelago. It is of about the same size as the common pig; but of more slender shape, and stands higher upon its deer-like limbs. The skin is thinly furnished with soft bristles, and is of a grayish tint, inclining to fawn colour on the belly. But the most striking character of the babirussa is to be found in its tusks. Of these there are two pairs of unequal size. The lower ones are short—somewhat resembling those of the common boar—whereas the two upper ones protrude through the skin of the muzzle, and then curve backward like a pair of horns, and often downward again, so as to form a complete circle! It is not known for what purpose these appendages exist. The two lower tusks must be formidable weapons; but the upper ones, especially in old individuals, can hardly inflict a wound. They may perhaps ward off the bushes from the eyes of the animal, as it rushes through the thick cover of its jungly retreat. The females are without these tusks; and are also much smaller than the males.

The babirussa inhabits marshy thickets and forests; and is hunted for its flesh—which is highly prized both

by the natives and foreigners. It is very swift and fierce. When pursued or wounded in the chase, it will show fight like the wild boar of Europe.

The *Papuan hog*, or *bêne*, is a native of the Island of New Guinea; and is characterized by its small stature and slender and graceful form. Its tusks are not large, and are shaped like the incisor teeth. It is covered with thick, short, and yellowish-coloured bristles; and when young it is marked by bright fulvous stripes along the back. The native Papuans highly esteem its flesh; and on this account it is hunted by them in the forests where it is found. Its young are often captured, and brought up in a domesticated state—in order that their flesh may the more easily be procured. Foreigners, who have visited this island, relish it as an article of food.

We now come to the hogs of Africa—the Wart-hogs, as they are commonly called. Of these there are two species; and it would be difficult to say which is the uglier of the two. In respect of *ugliness*, either will compare advantageously with any other animal in creation. The deformity lies principally in the *countenance* of these animals; and is caused by two pairs of large protuberances, or warts, that rise upon the cheeks and over the frontal bone. These excrescences—if we may so call them—lend to the visage of the creature an aspect positively hideous, which is rendered still more ugly and fierce-looking by a pair of formidable tusks curving upward from each jaw. The body is nearly naked—excepting along the neck and back, where a long bristly mane gives a shaggy appearance to the animal—especially when these bristles, of nearly a foot in length, are erected under the impulse of rage. Other peculiarities are, a pair of whiskers of white curling hair along the lower jaws; small black eyes surrounded by white bristly hair; a long tail tufted at the ex-

tremity; and on the knees of the fore-legs a piece of thick callous skin, hard and protuberant. In fact, every characteristic of this creature seems intended to make his portrait as disagreeable as may be.

We have said there are two species. These are known as Ælian's wart-hog and the Cape wart-hog. The former is a native of Abyssinia, Kordofan, and other countries of North Africa; while the latter, as its name implies, is found at the Cape—or rather throughout the whole southern part of the continent. It is the *Vlack Vaark* of the Dutch colonists; and this species differs from Ælian's wart-hog in having the cheek protuberances much larger, its head more singularly shaped, and, if possible, in being *uglier!*

The wart-hog dwells among low bushes and forests. It creeps on its bent fore-feet in quest of food—sliding along on its knees, and propelling itself forward by its hind legs. This habit will account for the callosities already mentioned. In this posture it digs up the ground, extracting therefrom the roots and bulbs (of which its food is supposed entirely to consist); for, fierce and hideous as its aspect may be, the wart-hog is less omnivorous than several other species of the tribe.

And now for the indigenous hogs of America, the *Peccaries*. Of these, also, there are two species described by naturalists; though certainly a third kind exists in the South American forests, distinct from the two that are known.

These are the *Collared Peccary*, or *Coyametl*; and the *White-lipped Peccary*, or *Tagassou*.

For a long time these two species were confounded with each other; but it is now proved that they are distinct—not only in size and colour, but to some extent also in their geographical distribution, their haunts, and habits.

The Collared Peccary is of small stature: not larger

than a half-grown Berkshire pig. It is thickly covered with hairy bristles of a grayish-brown colour, and has a whitish band or collar around the neck—from which circumstance it derives its trivial specific name. Its geographical range is more extensive than that of its congener. It is found not only in South America, but throughout the whole of Central and North America, as far as the borders of the United States territory: in other words, the limits of its range are co-extensive with what was formerly *Spanish America*. It exists in Texas; and still further to the north-west, in New Mexico and California—though nowhere to the east of the Mississippi river. In Texas it is common enough; and stories are related of many a redoubtable Texan hunter having been “tree’d”—that is, forced to take shelter in a tree from a band of peccaries, whose rage he may have provoked while wandering in their haunts, and too recklessly making use of his rifle. The same is related as occurring to South American hunters with the white-lipped peccaries—that have a similar habit of trooping together in droves, and acting in concert, both for defence and attack, against the common enemy.

The chief points of distinction between the two species are in the size and colour. The white-lipped kind is much the larger—frequently weighing one hundred pounds—while a full-grown individual of the collared peccary does not exceed in weight over fifty pounds. The former are of a deeper brown colour, want the white collar around the neck; but in its stead have a whitish patch around the mouth or lips, from which also comes *their* specific appellation. These are also thicker and stouter, have shorter legs, and a more expanded snout. They troop together in larger droves, that often number a thousand individuals of all ages and sizes. Thus united, they traverse extensive dis-

tricts of forest—the whole drove occupying an extent of a league in length—all directed in their march by an old male, who acts as leader. Should they be impeded in their progress by a river, the chief stops for a moment to reconnoitre; then plunges boldly into the stream, followed by all the rest of the troop. The breadth of the river, and the rapidity of the current, seem to be but trifling obstacles to them; and are overcome easily, since the peccaries are excellent swimmers. They continue their onward march through the open grounds; over the plantations, which, unfortunately for their owners, may chance to lie in their way; and which they sometimes completely devastate, by rooting out the whole of the crops of maize, potatoes, sugarcane, or manioc. If they should meet with any opposition, they make a singular noise—chattering their teeth like castanets; and if a hunter should chance to attack them when moving thus, he is sure to be surrounded and torn to pieces: unless he find some tree or other convenient object, where he may make escape, by getting out of their reach.

The white-lipped peccaries are found in all the forests of South America—from the Caribbean Sea to the Pampas of Buenos Ayres. They are abundant in Paraguay; and Sonnini, the traveller, has observed them in Guyana. Others report their presence on the Orinoco and its tributaries—as also on all the waters of the Amazon. Most probably, it was from the number of these animals observed upon its banks by the early travellers, that the last-mentioned river obtained one of its Spanish names—the Rio Marañon—which signifies the “river of the wild hogs.”

## XVII.

### Horses and Asses.



THE Horse — *par excellence* the noblest of animals—is represented by only a limited number of species; but, like other creatures domesticated by man, he is found of many different breeds and varieties: too many to be minutely described in these pages. Suffice it to say, that almost every civilized nation possesses several kinds of horses—differing from one another in size, shape, colour, and qualities: in size especially—since this fine animal may be observed not much bigger than a mastiff; while other members of his family attain almost to the dimensions of an elephant! Even savage tribes, both in Asia and America, are in possession of peculiar breeds of horses; and it may be assumed as a fact, that more than a hundred varieties exist upon the earth. These have all been regarded as springing from one original stock; but here again there is only vague conjecture; and it is far more probable, that the domesticated horses are the descendants of several kinds originally distinct in their wild state.

There are wild horses at the present day in Asia, Africa, and America; but it is questionable whether any of these are the descendants of an originally wild stock. More likely they are the progeny of horses escaped from the domesticated breeds. Of course we

refer to the *true* horses of the genus *equus*; and not to the dziggetais, quaggas, and zebras—to which we shall presently refer. These last-mentioned kinds are still found wild, as they have ever been; and, with one or two exceptions, none of their species have been tamed to the use of man.

In America—both in the northern and southern divisions of the continent—herds of wild horses are numerous. These have all sprung from individuals that escaped from their owners, and in process of time have multiplied to a great extent. Of course they could have no other origin: since it is well known that, previous to the time of Columbus, no animal of the horse kind existed in America. The wild horses now found there are descended then from a domestic breed; and this breed has been easily ascertained to be that used by the Spaniards in their conquests of Mexico and Peru. It is a race known as the Andalusian horse—nearly allied to the Arabian—and no doubt at an earlier period imported into the peninsula of Spain by the Moors. These horses are much smaller than the English hunter; but possess all the properties of a true horse—the shape, action, &c.—and cannot, therefore, be considered as mere *ponies*. They are, in reality, well-blooded horses, of small stature; and no breed could be better suited to the climate of most parts of Spanish America, where they now run wild.

On the pampas of South America these horses exist in vast droves. The Gauchos, a half-civilized race of men, live amidst their herds, and hunt them chiefly for the hides. They early learn to capture and ride them; and a Gaucho is seldom seen off the back of his horse. He can capture and break one in in the course of an hour. The flesh also serves him as an article of food. Down as far as the Straits of Magellan the droves of wild horses are found. There the native Indians have

tamed many of them—even the women and children going most of their time on horseback. On the llanos, or great plains, that extend northward from the Amazon and Orinoco—that is, in the provinces of Venezuela—other droves of wild horses exist; and these, along with half-wild oxen, form the sole property and pursuit of a class of men called Llaneros, who in many respects resemble the Gauchos. Again, proceeding to North America, we find the same species of horse running wild on the great plains to the north of Mexico; in California, and upon the prairies east of the Rocky Mountains. In Mexico Proper, as also in California, they are *owned* by great landed proprietors; and are annually caught, branded, and sold. Many of these proprietors can count from 10,000 to 20,000 head roaming within the boundaries of their estates, besides large droves of horned cattle and mules. In the vast regions between the settled parts of Mexico and the frontier settlements of the United States, the wild horses are the property of no one, but range freely over the prairies without mark or brand. These are hunted and captured by different tribes of Indians—Comanches, Pawnees, Sioux, Blackfeet, &c., who also possess large numbers of them tamed and trained to various uses. Like the Gauchos and Llaneros of the south, these Indians use the flesh of the horse for food, and esteem it the greatest delicacy! Among some tribes, where the buffalo is not found, the horse takes the place of the latter as an article of diet; and forms the principal article of subsistence of thousands of these people. Among most of the prairie tribes the chase of this animal, or the buffalo, is the sole pursuit of their lives.

Still further north ranges the wild horse, even as far as the prairies extend; and among the tribes of the Saskatchewan he is also found—used by them for the

saddle, and also as a beast of burden. In these regions, however, the buffalo still exists in great numbers; and the horse, besides being eaten himself, is also employed to advantage in the chase of this animal.

The wild horses of America are not all exactly of one breed. Those of the Mexico-American prairies, called by the Spaniards *musteños* (mustangs), differ slightly from those found upon the llanos of South America; and these again from the horses of the pampas, and the parameros of Peru. These differences, however, are but slight, and owing solely to climatic and other little causes. But the mustangs of the northern prairies have among them an admixture of breeds, derived from American runaways along the borders of the Mississippi, and others escaped from travellers on the prairies; and there have latterly been discovered mustangs of large size—evidently sprung from the English-Arabian horse.

In the Falkland Islands the horse is also found in an untamed state. These were introduced by the French in 1764; but have since become perfectly wild. Strange to say, they are only found in the eastern part of the island—although the pasture there is not more rich than in the west, and there is no natural boundary between the two!

In Asia the horse runs wild in large herds—just as in America. The range in which they are found in this state is chiefly on the great plains, or steppes—stretching from the Himalaya Mountains to Siberia. The Calmuck Tartars tame them; and possess vast droves, like the Gauchos and Indians. They also eat their flesh; and among many tribes of Tartars mare's milk is esteemed the most delicious of beverages.

After the true horse, the most beautiful species is the *Zebra*. Every one knows the general appearance

of this handsomely marked animal, which appears as if Nature had painted his body for effect.

Of the zebra there are two distinct kinds—both of them natives of Africa, and belonging to the southern half of that great continent. They are easily distinguished from each other by the stripes. One of them is literally striped to the very hoofs—the dark bands running around the limbs in the form of rings. The stripes extend in the same way over the neck and head, to the very snout or muzzle. This is the true zebra, an animal that inhabits the mountainous regions of South Africa, and which differs altogether from the *dauw* or Burchell's zebra, also found upon the great plains or karroos of the same region. The latter has the stripes only over the body; while the head and legs are very faintly streaked, or altogether of a plain brownish colour. Attempts have been made at taming both of these kinds, and with some success. They have been trained both to the saddle and draught; but, even in the most tractable state to which they have been yet reduced, they are considered as “treacherous, wicked, obstinate, and fickle.”

Another species of horse found also in South America is the *Quagga*. This is very much like the zebra in size, shape, and in fact everything except colour. In the last respect it differs from both, in being of a plain ashy brown hue over the upper parts of the body, very indistinctly striped, and of a dirty white colour underneath. Like the *dauw*, it frequents the open plains—trooping together in vast droves, and often herding with several species of antelopes.

Another species of quagga, called the *Isabella quagga*, is supposed to exist in South Africa; but there are doubts upon this subject. The name is derived from the colour of a specimen seen by a very untrustworthy traveller, which was of the hue known as *Isabella*

THE ZEBRA MALE.





colour; but nothing is known of the animal, and most naturalists believe that the *Isabella quagga* is identical with the other species, and that the specimen reported by Le Vaillant was only a young quagga of the common kind.

All these species of African horses are generally classed with the genus *Asinus*; that is, they are considered as *asses*, not *horses*.

We now come to other species of the ass genus, which were all originally natives of Asia.

First, then, there is the domestic *Ass*; and of this species there are almost as many varieties as of the horse,—some of them, as the *Guddha* of the Mahrattas, not larger than a mastiff, while others exist in different parts of the world as large as a two-year-old heifer. Asses are found of a pure white, and black ones are common, but the usual colour is that to which they have given their name—the “colour of an ass.”

Besides the domestic species, there are several others still found wild. There is the *Koulán*, which is exceedingly shy and swift—so much so that it is difficult to capture or even kill one of them; since before the hunter can approach within rifle range of them, they take the alarm and gallop out of sight. They live in troops, inhabiting the desert plains of Persia and Mesopotamia in winter, while in summer they betake themselves to the mountain ranges. They are also found on the steppes bordering the Caspian and Aral Seas.

Another species of wild ass is the *Kiang*. This inhabits Thibet. It is of a bright bay colour, and has a smooth coat; but the males are deeper coloured than the females. They live in troops of about a dozen individuals under a solitary male; and frequent places where the thermometer is below zero—though they dwell indifferently either on open plains or mountains.

The *kiang* has a variety of appellations, according

to the country in which it is found. It is the Dziggetai, and the Wild Ass of Cutch, and also the Yototze of the Chinese; but it is very probable that all these are the names of different species. It is further probable, that there exist several other species of wild asses in the Thibetian and Tartar countries of Asia—and also in the vast unknown territories of North-eastern Africa—yet to be classified and described; for it may be here observed that a monograph of the horse tribe alone, fully describing the different species and breeds, would occupy the whole life of a naturalist.

## XVIII.

### The Ox Tribe.



OUR common domestic cattle furnish the type on which this family is founded; and it is well known that of this type there are many varieties in different countries. Even in our own, so many are there, that a mere list of their names would fill one of our pages. We shall refrain therefore from giving any description of the different varieties—simply remarking that they are all supposed to spring from one original. This is, to say the least, a very doubtful hypothesis, since cattle have been found domesticated in many countries, and the period of their first introduction to the society of man is altogether unknown. It is far more likely that different species have furnished the varieties now known as domestic cattle.

We shall proceed to describe the other bovine animals—which, although of the same family, are beyond doubt of a distinct species from the common cattle.

The *Zebu* is one of the most remarkable. Its home is India and the adjacent regions; where it branches off into almost as many varieties as there are breeds of our own oxen. These varieties have different names; and they differ in size, shape, and other particulars; but the hump and long hanging dewlap render the zebu easily recognizable.

In India they are sometimes employed as beasts of the saddle and draught; and their flesh is also eaten, though with the exception of the hump (which is esteemed a great delicacy) it is not equal to English beef. Among the Hindus the zebus are regarded as sanctified creatures; and to slaughter them is deemed sin. For all that, these fanatics do not hesitate to *work* them—sometimes hard enough. There are some zebus, however, that are considered more holy than common. These may be seen wandering idly about the villages, fed from the hands of the people; and if neglected in this regard, they walk uninvited into the rice enclosures, and help themselves!

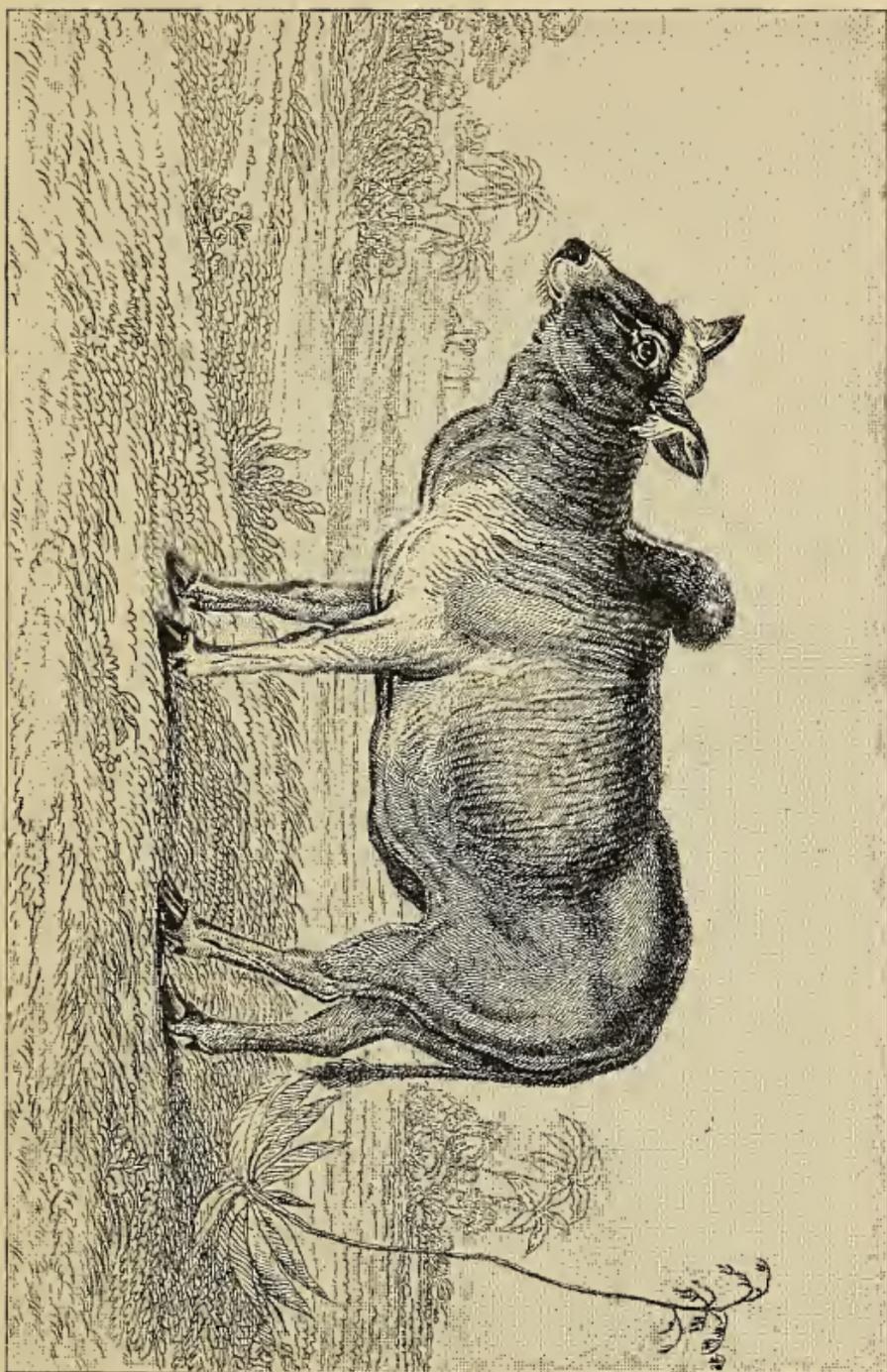
The zebus are usually of an ashy-gray colour, though many are white; and their size varies from that of an ordinary calf, to the stature of a full-grown bull.

There is a variety of the zebu—or perhaps a distinct species—known as the Dante. It is an African animal—that is, Egypt is the country where it is chiefly found. Very little knowledge of it exists among naturalists. It is distinguished from the Indian zebu by having a smaller hump upon the withers and a narrower face; and it is supposed to be the animal represented on the ancient Egyptian tombs.

We next come to the kind of oxen termed *Buffaloes*; and of these there are several species.

First, there is the *Indian buffalo*; and it may here be remarked, that when the word buffalo is used, an animal with a huge hump upon its shoulders is usually understood. This is an error, arising, no doubt, from the fact that the *bison* of America, which *has* a hump, is generally called a buffalo. But the Indian buffalo has no such protuberance; nor yet the African species. The Indian animal is found both in a domesticated and wild state; but both are clearly of the same species. The wild one is called the Arna, and the tame one

THE INDIAN OX, OR ZEBU.





Bhainsa, in the language of the natives. The former is of much greater size than the latter—standing, when full grown, as high as the tallest man! So strong are these animals, that an arna bull has been known to butt down a good-sized elephant with a single stroke of his horns!

It is the Indian buffalo that is found in Italy—where it has been introduced, and is used for draught; its great strength giving it the advantage over horses, especially on the deep miry roads that exist in some parts of the peninsula.

The *Manilla buffalo* is a smaller variety or species of the arna, inhabiting, as its name imports, the Philippine Islands.

The *African buffalo*, sometimes known as the *Kaffir buffalo*, is another of these great oxen, and not the least celebrated of the tribe. It is an inhabitant of Africa, and is found chiefly in the southern half of that continent, from the Cape of Good Hope northwards. It is an animal of vast size and strength; often waging war with the lion, and frequently with man himself. In these encounters the buffalo is but too successful; and it is asserted among the natives of South Africa, that there are more deaths among them, caused by buffalo bulls, than by all the other wild beasts of the country. Like his Indian congener, the shock from the massive horns of an African buffalo is almost irresistible; and both the lion and elephant at times succumb to it.

There is a smaller African species about which less is known. This is the Zamouse or Bush cow, which differs from the true buffalo in having a flatter forehead, and being altogether without the dewlap.

We now come to the *American buffalo*, or *Bison*, as it should be called. This is indigenous to North America; and its present range is confined to the great

prairies that extend eastward from the foot of the Rocky Mountains. It was formerly found much farther to the east—in fact, to the Atlantic coast; but its limits are now far beyond the meridian of the Mississippi. Hunters (both red and white) have driven it across the Rocky Mountains; and of late years it has been met with in the territory of the Upper Columbia. Its habits are too well known to call for a description here, and its shaggy coat, with the deformity of its huge shoulder-hump, are familiar to every eye. With one exception, it is the only species of the ox tribe indigenous to America—and it may be added, to North America—since no native bovine animal is known to exist in the southern half of the Transatlantic continent.

The *European buffalo*—or as it is sometimes called *Lithuanian buffalo*—bears a considerable resemblance to that of the prairies. In size it is perhaps superior; but the two are much alike in general appearance—especially in their massive form, and the long brown hair, of woolly texture, so thickly set upon their necks and shoulders.

The European buffalo is nearly extinct, and exists only in some of the forests of Lithuanian Poland, where it is rather half-wild than wild; that is, it freely roams the forests, but only as the deer in our own extensive parks, or the white cattle, known as the wild Scotch oxen—in other words, it has an owner.

A very remarkable species is the *Yäk*, or *Grunting Ox*. This is found only in the high, cold countries that lie to the north of the Himalayan Mountains—in Thibet and Tartary. There is only one species, but this is both wild and tame—the wild sort being the larger and more formidable animal. The domestic variety is used by the people of Thibet for carrying burdens; and both its milk and flesh are in great demand in these cold countries of poverty and hunger.

The yäks dislike the warmth of summer; and during that season seek to hide themselves in the shade, or under water, in which they swim well. Their grunt exactly resembles that of a hog. The calves are covered with rough black hair like a curly-haired dog; but, when three months old, they obtain the long hair that distinguishes the full-grown animal, and which hangs so low as to give it the appearance of being without legs! They willingly live with common cattle, and will breed with them; but the wild yäk bull is an exceedingly fierce and dangerous animal. The tail of the grunting ox is very full, or bushy; and although the hair of the body is usually black, that upon the tail is universally of a pure white. This hair, when dyed red, is used by the Chinese to form the tufts worn in the caps of the mandarins. It is the *chowry* or fly-brush of India.

Like other domesticated cattle, the yäk is found of different breeds—known by the names of Noble yäk, Plough yäk, &c.

Next in succession comes the *Musk Ox* of America, which, from its long hanging hair, and also from many of its habits, bears a good deal of resemblance to the grunting ox. The musk ox is a native of North America; and there his range is confined to the most remote regions of the Hudson's Bay territory. He is met with in the inhospitable track known as the Barren Grounds—and also along the coasts and islands of the Arctic Ocean—but nowhere so far south as the boundary of the United States or the Great Lakes. But for the land expeditions of several Arctic explorers, the existence of the musk ox would hardly have been known; and, as it is, his habits are but little understood. He is not of large size—being between the stature of an ox and a sheep—and in general appearance he resembles the latter more than the former; hence, among natural-

ists, he is styled the Sheep ox (*ovibos*). He and the Bison, as already remarked, are the only *indigenous* oxen of America.

To return to Asia. In its south-eastern parts—the Indies—we find several other species of the ox tribe. There is the *Gayal* or *Jungly-gau*, which inhabits the eastern parts of Bengal, especially the mountains that separate this province from Arracan. Of this there is a tame and wild species—the latter an inhabitant of forests, living rather upon the shoots of trees than upon grass. It is a large animal, more like the common ox than any of the buffaloes; and it is also less fierce in its disposition than the latter.

Next to the gayal is the *Gam*—also a forest-dwelling ox, of large size; and, like the other, browsing upon the leaves and twigs of trees.

The gam inhabits several forest-covered mountains in Central India, where it is only found wild. Attempts have been made to domesticate it, but without success—since it is both a shy and fierce animal; so much so that even the calves will not live in captivity!

Another Indian ox is the *Takin*, which inhabits the country of the Kamptis, in the eastern ranges of the Himalayas, and about which there is a dispute among naturalists, as to whether *it is an ox!*

We conclude our sketch with the *Anoa*, which belongs to Celebes—a small species bearing some resemblance to the antelopes; and the *Banting* or *Sumatran Ox*, a native of Java, Borneo, and also, as its second name denotes, of the Island of Sumatra.

## XIX.

### Sheep.



THE Sheep is one of the animals which man has subjected to his use ; and one, too, of primary importance in the domestic economy of almost every civilized nation.

Like the horse, dog, cat, ox, and pig, it has assumed the greatest possible variety. Many naturalists have treated these varieties as species ; but those writers of greatest authority agree in considering all the domestic breeds as having originated from one common stock ; and it would be idle here to speculate upon this question.

Of the *tame sheep* there are not less than forty very distinct kinds, besides numerous varieties of each of these kinds ! These, of course, are distributed among many nations, and exhibit a very great difference in point of size and general appearance. Some are without horns, while others have these appendages very large, and of eccentric shape ; some are covered with long crisp wool ; others have the wool lank and straight ; while still others have no wool at all, but instead a coat of hair resembling that of a spaniel or Newfoundland dog ! But, besides these distinct kinds, as already stated, there are numerous varieties of each kind. For instance, the common sheep of England is itself branched out into quite as many as twenty breeds, each of which

has a name of its own, and differs from all the others in many essential characteristics.

Leaving the common sheep of our own country, we shall say a few words of some of the more noted kinds that are in the possession of different nations abroad.

From Spain comes the Merino, so celebrated for the quality of its wool; while in Astracan and other Oriental countries there is a breed, the lambs of which furnish the well-known Astracan lambs'-skin, one of the most beautiful and valuable of furs. The Wallachian sheep, bred in Hungary, Transylvania, and the Danubian principalities, also produces a fine fur-like skin, much worn by the peasantry of Eastern Europe, in jackets and cloaks termed "bundas."

A very similar kind of hairy-coated sheep is propagated throughout Asiatic Russia and Siberia—the skins affording a warm and comfortable clothing for the natives of these cold countries.

In the Indian countries there are many varieties, such as the Barwall of Nepaul, and also the Huniah, Cago, and Seeling, belonging to the same kingdom. Again, in the Deccan there is a breed known as Deccan sheep, another called Garar, and two others in Mysore denominated respectively the Carrimbar and Shaymbliar. China has a variety known as the Morvan, with very long legs; and in Russia, again, there is a kind with tails so long that their tops drag upon the ground; and another in Northern Russia, with tails so short that they appear altogether wanting!

With regard to tails, no breed has these appendages so developed as the broad or fat-tailed sheep. This kind is supposed to have originally come from Barbary; but they are now propagated in different parts of the world. In Asia they are found among the Tartars, Persians, Bucharrians, and Thibetians. In Africa itself they are common among the Abyssinians, and are

also kept in large flocks by the Dutch colonists of the Cape. The tails of these sheep are sometimes so large and heavy, that it is with difficulty the animals can carry them; and in some instances they are dragged along the ground as the sheep move from place to place! The fat of which this appendage is composed is esteemed a great delicacy; and at the Cape, as elsewhere, it constitutes an important article of the *cuisine*.

There are several other curious breeds of sheep reared in the different countries of Africa. These are, the Guinea sheep of the western coast; the Morocco sheep, bred in the kingdom of the same name; the African sheep, an inhabitant of the Sahara; and the smooth-haired African sheep. There are also the Tezzan sheep, belonging to Tripoli; the St Helena sheep, of the celebrated Island of St. Helena; the Congo sheep, of Congo; and the Angolas, of the same region, famous for the quality of their wool—not to be confounded, however, with the Angora wool, which is the produce of a goat. There are sheep in Tartary that eat bones like dogs, and in Hindustan and Nepaul there are kinds that have four horns each. These are the Dumbas. A little species exists in Iceland, in which the horns sometimes grow to the number of eight—though four is the more common number. America, too, has its varieties. These are the Brazilian sheep, the Demerara breed, the South American sheep, and a variety known as the West Indian.

In fact, go to whatever part of the world you may, you will find a species or variety of this valuable animal, different in some respects from all the others.

The *wild sheep*, like the wild goats, do not number a great many species; but there are certainly several that are yet undescribed, and perhaps there may be about a dozen in all. No doubt the great central mountains of Asia, and also the ranges of Northern Africa, still

unexplored, will in time yield several new species of wild sheep. Indeed, late travellers in the Himalayas speak of wild sheep that appear to be essentially different from the *argali*, and other species already known.

One species of wild sheep belongs to Europe—the Moufflon, which is to this day found plentifully in the mountainous parts of Corsica, Cyprus, and Candia. It was supposed to be the original of the tame breeds; but this is a mere conjecture.

In America there is also but one species of wild sheep, though it has also a variety. This is the Bighorn of the Rocky Mountains, lately much spoken of by prairie travellers and fur-hunters. It is not known in tropical North America, nor does its range extend to the Andes of the south; but it is found to the west, in the mountains of California, in a variety called the Californian sheep. The bighorn is extremely like the Asiatic *argali*, and was for a long time regarded as identical with the latter; but this was an error. It is now ascertained that not only is the American animal of another species, but also that there are several distinct species of the *argali* itself in the different ranges of Asiatic mountains.

Africa has its wild sheep, but only in its northern parts. This is the Aoudad, which dwells in the mountains of Barbary.

Asia appears to be the head-quarters of the wild sheep. One species is found in Armenia, and another in the Caucasus. Siberia has an *argali*, that appears altogether to differ from the *argali* of the Himalayas. Again, in the Himalayan Mountains themselves, there is one species which ranges north only as far as Thibet; while on the Thibetian plateaux, as far as the Altai Mountains, there is another, if not two other species, quite distinct from the latter.

It has been observed by competent travellers, that

THE SIGHORN OF THE ROCKY MOUNTAINS, MALE AND FEMALE.





these Thibetian argalis bear a very strong resemblance to the different breeds of tame sheep found in the same regions; from which it may be reasonably inferred that the domesticated varieties of different countries have sprung from several wild species, instead of being all descended from one common origin.

## Goats.



Y young readers will be surprised to hear that nothing is more difficult than to tell a *Goat* from a *Sheep*. Yet such is in reality the fact. Of course the common goat is easily distinguished from the common sheep; but then there are species and varieties of both these animals so like in shape, size, colour, and habits, that the most accomplished naturalists are unable to pronounce which are goats and which are sheep! Indeed, some naturalists make no distinction at all, but class both under the same genus. This, however, is not a correct view, since there is an essential difference in the *nature* of these two animals, notwithstanding the frequent resemblance in their outward appearance. It was upon this very point—their *nature*—that the renowned Buffon relied in separating them; he alleging that the sheep differed only from the goats in the greater gentleness and timidity of their disposition. It is true that this is not a very scientific mode of classification; yet, strange to say, it is held to be one of the safest guides for distinguishing the one from the other. Of course, it can only be relied upon when taken in connection with other indices of a physical character. Perhaps you may fancy that goats and sheep may be distinguished from each other by the “coat”—the former having a *hairy*

coat, while that of the latter is *woolly*. For you who reside in the British Islands, this mark would stand good enough, since British goats are in reality clothed with hair, and British sheep with wool; but in many other countries the case is not only different, but directly the reverse, the goats being *woolly*, while the sheep are *hairy*!

It may be further remarked, that there are both goats and sheep so very nearly akin to antelopes, that it is again difficult to draw a line of distinction among the three. Indeed, there is a section of the antelope tribe, called the *goat-antelopes*, so called on account of this very approximation. Several species of antelopes—as the chamois of the Alps, and others—are by many naturalists classed as goats; and the bighorn of the Rocky Mountains, which is a true wild sheep, is also classed by some zoologists as a species of antelope.

The goats approach nearer to the nature of antelopes than do the sheep. In fact, the mountain antelopes are extremely like goats in their nature and habits. On this account the latter are supposed to stand between the sheep and antelopes.

We shall separate the goats into two kinds: first, the *tame* or *domesticated* goats; and secondly, the *wild* ones. Of the domesticated kind there is an endless list of varieties; and upon the question as to which of the wild species was the parent stock, thousands of opinions have been expressed, and long treatises written. It is just as with the dog, and other domestic animals—no one can certainly say what species was first introduced to the society of human beings; and it is far more likely that it was not any one wild species, but several, and belonging to different countries, that gave origin to the numerous kinds of goats now in the possession of man.

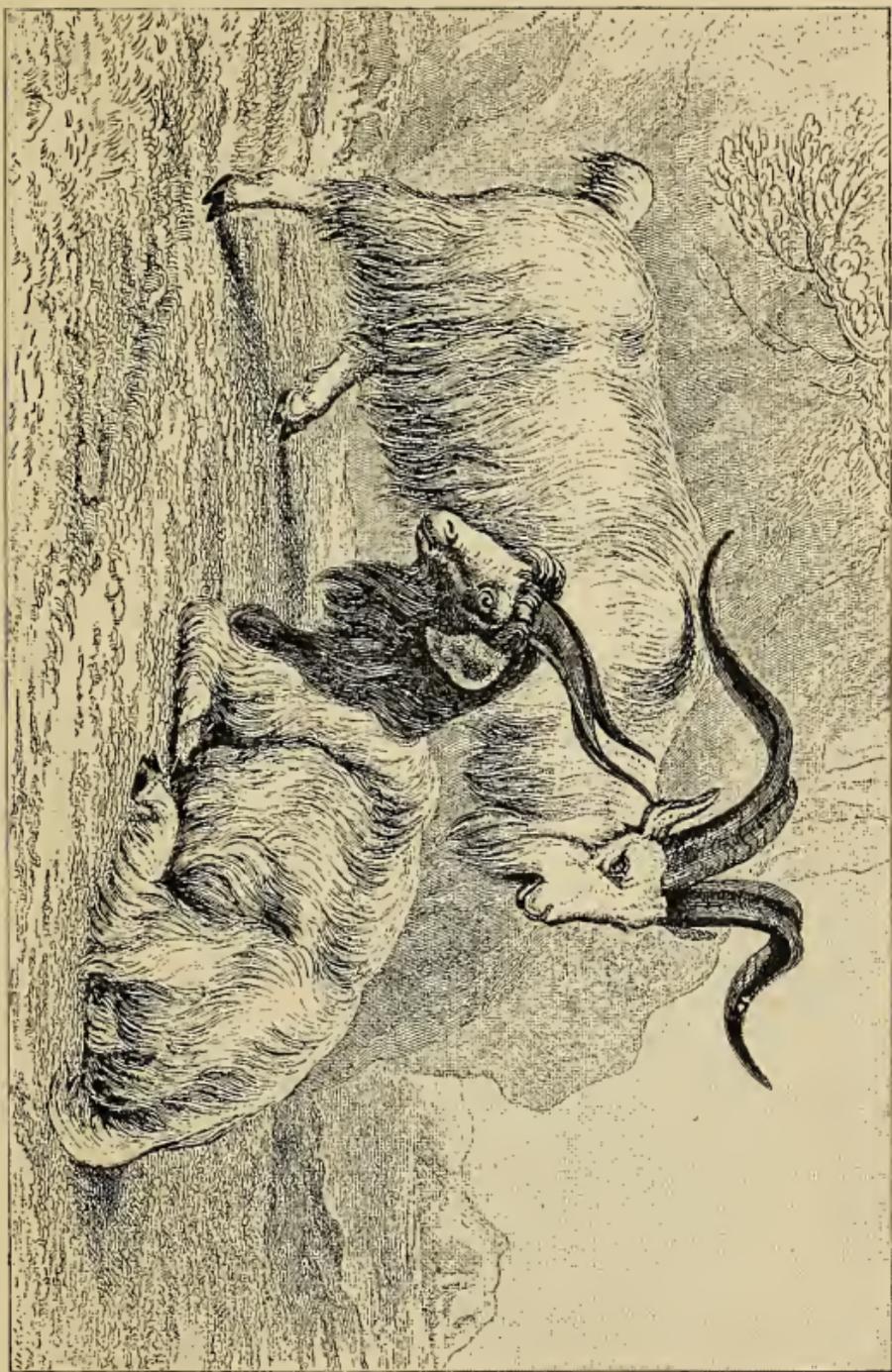
It would be a troublesome task to describe these

numerous varieties. Every country has its kind ; and, in fact, every district of country can show a breed distinct from all the others. Instead of specifying each breed, we shall only mention a few of the more noted and valuable sorts.

The Thibet or Cashmere goat is perhaps the most celebrated of the tribe ; its celebrity arising from the fineness of its wool, out of which are manufactured the costly Cashmere shawls. An attempt was made to introduce this variety into England ; but it has not been successful, though the cause of its failure has not been communicated to the public. We can easily find a very good reason in the fact, that a first-class Cashmere shawl requires a year in its manufacture ; and therefore, if an English weaver were to have the raw material for nothing, his labour would amount to more than the shawl was worth in the market ! It is just the same with the culture of the tea-plant. There are many districts in America where the tea-tree would flourish as well as in China ; but what would be the use of growing it there, since the labour required to bring it to a state of readiness for the teapot would also raise it to an unsaleable price ! These are the important principles that people who talk of protective duties entirely lose sight of.

The best Cashmere goats are brought from the Thibet country ; and then wool sells for a rupee a pound in Cashmere itself. It is spun by the women, and afterwards dyed. The persons employed in making the shawls sit on a bench around the frame. If it be a *pattern* shawl, four persons labour at its manufacture ; but a plain one requires only two. The borders are marked with wooden needles, there being a separate needle for each colour ; and the rough side of the shawl is uppermost while it is being made.

The best shawls are manufactured in the kingdom



CASHMERE GOATS.



of Cashmere itself, though many are made in other Oriental countries, and also in France; and the wool of several varieties of the goat, besides the Thibet, is used in the manufacture. In Cashmere alone 30,000 shawls are made annually—giving employment to about 50,000 people.

The Angora goat is another noted variety—esteemed for its fine silky hair. It inhabits the countries of Angora and Beibazar, in Asiatic Turkey, where it is kept in large flocks, the goatherds bestowing much care upon the animals—frequently combing and washing them!

The Syrian goat, remarkable for its excessively long ears, is reared in Aleppo and other parts of Asiatic Turkey, and is kept for the use of its milk, with which many of the towns are supplied.

There are other varieties less noted, among which may be mentioned the Spanish goats, without horns; the Juda, or African goat, with two hairy wattles under the chin; and the pretty little Whidaw goat—also a small African variety. There is also a Nepaul goat, and one belonging to the Deccan, called Bukee—a very large gaunt fellow, with long shaggy hair. The Irish goat, too, is a peculiar variety of the common or domestic species.

Tame goats are distributed very generally over all the Old World. They thrive well in the cold climate of Norway; and are equally at home in the hottest parts of Africa and the Indian islands. In America they are rare, in the territory inhabited by the Anglo-Saxon races—it not being considered a valuable speculation to “raise” them; but throughout the Spanish territories, both in North and South America, large flocks may be seen, and the wild goats of Juan Fernandez are descendants of these Spanish-American domesticated breeds.

The species of true *wild goats* are not numerous, but are very generally distributed over the world—particularly over the old continents. In America only one wild species is indigenous: that is, the Rocky Mountain goat. Some authors have asserted that this species is not indigenous to America; but most certainly this statement is an error. From its peculiar appearance, as well as from the locality in which it is found, it could never have sprung from any known domesticated breed. It is a long-haired creature, snow-white in colour, and with very short straight horns. Its hair is of silky hue and fineness, and hangs so low that the animal appears as if without legs. Its skin makes one of the most beautiful of saddle covers; and for this purpose it is used; but the animal itself being rare, and only found in the most remote and inaccessible regions of the Rocky Mountains, a good skin is as costly as it is valuable. It is met with in the great central range, from Northern Mexico, as far north as the Rocky Mountains extend; and it is supposed also to exist among the higher summits of the Californian mountains.

The Ibex is another species of wild goat, somewhat celebrated. It is the wild goat of the European Alps, where it is known by the Germans as Stein-boc, and as Bouquetin among the French.

Another ibex belongs to the Caucasian Mountains, called Zebudor, or Hach; and still another kind inhabits the Himalayas, where it passes under the name of Sakeen. There is also an ibex in Siberia; and still another in the Pyrenees.

In addition to these, there is a large wild goat in the loftiest Himalayas, known as the Jaral, or Tur; and another in India called the Jungle Kemas, or Wild Sheep of Tenasserim. In Northern Africa, again, there are several species of native wild goats, as the

Jaala in Egypt, and the Walie of the African-Arab countries; but in South Africa no indigenous wild goats have been observed—their place in that region being supplied by their near congeners the Klip-springers, and other rock-loving antelopes.

## Antelopes.



THE Antelope tribe is so closely related to that of the Deer, that it is often difficult to distinguish one from the other. Indeed, certain species of antelopes are more like to certain species of deer, than either to their own kind. This is more especially true of the females, where the horns—the chief point of distinction—are absent. In such cases, even the accomplished naturalist is perplexed by the close resemblance—which extends beyond mere outward appearance, and is found throughout all their habits.

It may be remarked, however, that the different species of antelopes differ not only in size, shape, and colour, but quite as much in their modes of existence. Some, like the African Eland and the Nyl-gbau of India, are clumsy creatures both in shape and movements; while others, as the Gazelles, are models of symmetry and grace. Some are dwellers in the arid recesses of the desert; while others affect the most fertile pastures, or the deepest shades of the thick forest. Others, again, find their home amidst the sedge on the banks of lakes and rivers, passing half their time in the water; while several species—as the Chamois of Europe and the Klipspringer of South

Africa—dwell in the mountains, making their way among cliffs and ravines, with an agility scarce equalled by any other animal. Again, some species are gregarious, and herd together in vast flocks; while others are found only in small droves, or families, and not a few species lead what is termed a solitary life. In all these respects the antelopes resemble the deer; and, indeed, no very marked distinction can be pronounced between the two. As already remarked, the main point of difference, upon which scientific naturalists rely, is found in the horns; those of the deer being termed osseous, or bony, while these appendages in the antelopes are true horns—that is, of the same material as the horns of oxen. Furthermore, the horns—or rather antlers—of the deer are caducous, shedding annually; while those of the antelopes are persistent, remaining throughout the life-time of the animal—as with goats, sheep, and oxen.

The antelopes appear to stand, as it were, in a central position, surrounded by these three last-mentioned groups; in other words, there are species of antelopes that can scarcely be distinguished from goats, others equally like sheep, and others that come very near being true oxen! Nay, further, there are one or two species—the Gnus of South Africa—that bear a considerable resemblance to horses!

At one time the antelopes were all classed in a single genus; but since the species have increased—or rather the knowledge of them—this arrangement has been deemed inconvenient; and the systematic naturalists have separated them into a great many genera—twenty or more—and to these genera they have given such a variety of pedantic titles, that it would be well-nigh impossible for one man's memory to retain them all. I do not hesitate to say, that it would have been much wiser to have retained the nomenclature of the

old naturalists, and called all these animals *antelopes*—leaving the specific appellations to distinguish them from one another.

In a popular sketch it is necessary to treat them in this way; for to give even a list of the generic characters of the systematic naturalists would occupy the whole of our space.

First, then, of the number of these ruminants—that is, the number of kinds. In this respect they exceed the deer tribe, amounting in all to between eighty and ninety distinct kinds. Perhaps there are one hundred species upon the whole earth, since several new ones have been recently discovered in the interior regions of Asia and Africa.

It is scarcely necessary to say that Africa is the great head-quarters of the antelope tribe—more than half the species belonging to that continent. In number of individuals, too, it far excels; the vast herds of these animals that roam over the karroos and great plains of South Africa consisting sometimes of numbers countless as locusts or the sands of the sea! Asia, however, is not without its share of species; and especially that portion of it—the Oriental region—so rich in other mammalia. In Australia no antelope has yet been found; nor even in the large island of Madagascar, so African in its character. Only one representative of the antelopes is indigenous to the New World—the Prong-horn of the prairies; for the Big-horn of the Rocky Mountains is a sheep, not an antelope. To say the least, this is a natural fact of some singularity; for from all we know of the habits of these animals, no country could be better suited to their existence than the great prairies of North America, or the llanos of the Orinoco, the paramos of Brazil, and the pampas of Buenos Ayres and Patagonia. And yet on these South American plains no animal of the genus *antelope* has

yet been discovered;—and on the prairies, as already mentioned, only one species, the Prong-horn.

It is worthy of remark, also, that in Africa, where the antelopes most abound, no deer are found to exist: the few African species of the latter being denizens only of the extreme north of Africa, where that continent approximates in character to the southern countries of Europe.

In Europe there are two species—the well-known Chamois of the Alps, and the Saiga of Eastern Europe, which last is also an Asiatic animal.

In describing the different species—and we can only say a word or two of each—we shall class them, not according to generic distinctions, but rather by their geographical distribution; and we shall begin with the *Antelopes of Africa*.

Of these the Eland is the largest (as it also is the largest of antelopes), being sometimes of the size and weight of a full-grown horse! It is an animal of rather an ungainly appearance; but its beautiful buff colour and mild disposition make up for its ungraceful shape; and it is scarcely ever out of good condition. Its home is Southern Africa, where it is still found in large herds; and its flesh affords a plentiful subsistence both to travellers and the half-savage natives of the land.

Hunting the eland is a common pastime; and no craft is required to insure success, since these creatures are almost as tame as domestic cattle; so tame that the horseman usually rides into the middle of the drove, and, singling out the fattest bull, shoots him down without any difficulty. The eland thrives well in England; and Dr. Livingstone remarks it strange that it has not long since been introduced to our pastures—since its flesh is better than beef, and the animal itself is as large as an ox.

The Gingi Jonga is a distinct variety of the eland, found in Western Africa.

The Koodoo is another large species, of which South Africa is the home. This is remarkable for a noble appearance; but its most striking characteristic is its magnificent horns—each of which is four feet in length, sweeping widely outwards in an elegant spiral curvature. The koodoo loves the shade of the forest, and especially delights to dwell on the banks of rivers—taking freely to the water and swimming well.

The Gnu next merits attention. In point of fact this is the most singular of the whole genus—being that which in many respects resembles the horse. There are two kinds, both belonging to South Africa, and known as the Gnu and Brindled Gnu. When seen galloping at a distance, they bear a marked resemblance to quaggas, or wild horses. They live in extensive herds on the karoo; and are hunted by the natives for their skins—out of which the Kaffirs make their karosses. Their flesh is eaten; though it is not so much esteemed as that of some other antelopes.

The Oryx, or Gemsbok, is a middle-sized species, dwelling in the same neighbourhood with the gnus. It is a heavy, stout animal, with a long bunch tail, and a pair of tapering slender horns, almost perfectly straight, and sweeping back towards the shoulders. It is truly a creature of the open desert plains; and can go for a long time without water. It is bold and dangerous—especially when wounded—and will give battle to the hunter even, it is said, when that hunter chances to be the lion himself!

The true Oryx, or Milk-white Antelope, mentioned by early writers, is a kindred species to the Gemsbok; and is found in Northern Africa—in Sennaar, Nubia, Abyssinia, and Senegal. This last is a celebrated species, on account of the supposition that it is the

animal figured on the temples of Egypt, and known as the *Unicorn*. It would not be difficult, I imagine, to point out the absurdity of this belief; and to prove that the Unicorn of the ancients was either the Gnu of South Africa, or an allied species—supposed to exist at the present time in the intertropical region of the same continent.

A third species of oryx, the Beisa, inhabits Abyssinia.

The Addax is a large, heavily-formed antelope, with spiral horns and ox-like appearance, inhabiting the greater part of the Central African region. It frequents sandy plains, and is noted for its broad hoofs, which seem designed to prevent it from sinking in the soft yielding sand of the desert. The addax is not gregarious, living in pairs or families.

One of the handsomest of South African antelopes is the Water Buck, a fine large species, with long, widely-spreading horns. It is called Water Buck on account of its habit of frequenting the marshy banks of rivers and lakes, where it spends most of its time half immersed in the water!

The Lecheé is another species, allied to this, and of very similar habits; and two, if not three species of *water* antelopes have been lately discovered by Livingstone and other South African explorers. The Sing-sing is an antelope belonging to Western Africa. The English on the Gambia call it the "Jackass Deer," from its resemblance to a donkey. The negroes believe that its presence has a sanitary effect upon their cattle; and hardly a flock is seen without having one or two sing-sings along with it. A similar fancy is entertained in our own country in regard to the common goat—many people keeping one in their stables, under the belief that it is beneficial to the health of the horses!

Another Sing-sing is the Equitooon, or Kob, of Senegal—often confounded with the former species.

A very beautiful antelope is the Blue buck, or Blauw-boc of the Cape colonists. It is a large, bold animal, with horns ringed, and gently curving backwards. Its skin is jet black; and it is this colour reflected through the ashy gray hair that gives the animal that purplish or blue tint, whence it derives its name. It is found in small troops on the plains north of Kurrichane; and when wounded, or in the rutting season, the males are dangerous creatures. Another similar species, but larger, is the Tah-kaitze, which is plentiful in the country of the Bechuanas. It is so ferocious in its disposition, that the native hunters fear to attack it with the assegai; but prefer capturing it in pit-falls.

The Black buck is a species of similar character and habits; and in Senegal there is one, not unlike the foregoing, known among the French as *vache-brune*, and called by the Mandingoes *white mouth*.

The Pallah is another fine species of South African antelope. Its horns are of the lyrate form, and its colour a bright rufous. It is on this account known among the Dutch colonists as the Rooye-boc (Red buck). It runs in small troops, and is found in the country of the Bechuanas, who hunt it for its flesh.

The Stein-boc is one of the slenderest and most graceful of antelopes. It lives upon stony plains and in mountain valleys in South Africa—hence its name of *stein-boc*, or stone buck. It is very swift, and, when at full speed, will often spring over fifteen feet at a single leap. Its flesh is much prized, and on this account it is hunted eagerly by the natives; so that, although one of the swiftest of animals, it is now rare in most parts of the Cape colony.

The Grys-boc is a closely allied species, but not so elegantly formed, nor yet so swift. It hides when closely pursued—thrusting its head into a bush, or

THE KLIPSPRINGER.





squatting like a hare in her form. The stein-boc has a similar habit.

The Bleek-boc, or Ourebi, is one of those antelopes which have the curious appendages upon the knees called brushes. It is a large animal, and its flesh is eaten by the Kaffirs, in whose country it is chiefly found. A very similar species, called the *gibari*, exists in Northern Africa—Abyssinia—and also on the western coast.

Of all the South African antelopes, perhaps none is more known and admired than the Spring-boc (spring-buck). Its name is derived from a curious habit the animal has of, every now and then, springing upward from the ground, while going at full speed across the plains. This leap is sometimes made to the height of many feet, in an almost perpendicular direction, and apparently without any other motive than for amusement! The spring-bucks are eminently gregarious; indeed, they may be said to swarm. Herds have been met with, numbering as many as 50,000 individuals, migrating from one part of the country to the other, and paying but little heed to the crowds of hyenas, wild dogs, and other predatory creatures, who keep them company only to destroy and devour them.

The Klipspringer is a small antelope that inhabits the most inaccessible mountains of Southern Africa; and, like its near congener, the chamois of the Alps, is as much at home on the narrow ledges of cliffs as its kindred are upon the open plains. It is a long-haired, shaggy little creature; but its long hair does not protect it from the bullet of the hunter; and its young frequently fall victims to the eagle, and the great lammer-geyer vulture, which also dwells among these mountains.

In addition to those described, there are many other species of antelopes in Africa. The Duyker-boc, or

Diving-buck—so called from its habit of ducking or diving under the bushes when pursued—is a Cape species; and there is another diving-buck, called the Black-faced; and still another of these bush antelopes, termed Burchell's bush-boc. Then there is the Four-tufted antelope of Senegal; the Red-crowned bush-boc, also of Western Africa; and, belonging to the same region, the White-backed bush-boc. In the Island of Fernando Po there is found the Black-striped bush-boc; and in Abyssinia, the Madoqua, or Abyssinian bush-goat, of a yellow colour. The Bay bush-buck and Bay bush-goat are two species described as natives of Sierra Leone; while the Black bush-boc, of a sooty black colour, is found on the coast of Guinea.

The Coquetoon is a species of a deep-reddish bay colour, belonging to Western Africa; and on the Senegal and Gambia we meet with another sooty species, called the Guevei. At Port Natal, in South Africa, there is a red species called the Natal bush-boc; and the Kleene-boc, a diminutive little creature, only about twelve inches in height—a very pigmy among the antelopes—also belongs to the same region. Several other small species—or pigmy antelopes, as they are termed—are found along the west coast of Africa, viz., the Black-rumped guevei of Fernando Po; the Grisled guevei of Sierra Leone; and the White-footed guevei of the same region. The little creature known as the Royal antelope, or Guinea-musk, is a native of Guinea. Still others in South Africa are the Ree-boc and the Reed-boc—the latter deriving its name from its habit of frequenting the reeds that grow along the banks of the South African rivers. In the Island of Zanzibar there is a very small species of antelope; and another found in Abyssinia, and called also the Madoqua, is said to be the smallest of all horned animals—being not so large as an English hare!

In North Africa—in the Sahara Desert—exists a large species, called by the Arabs the Wild Ox. It is one of the clumsiest in shape of the whole tribe. In the south two kinds are near akin to it—the Harte-beest or Se-caama, and the Sassaby or Bastard harte-beest. The Korrigun is another of these large antelopes, belonging to Western Africa; and the Bonte-boc and Bles-boc are two similar kinds, existing in the country of the Hot-tentots. The Bosch-boc, or Bush-goat, is still another of the southern antelopes, which derives its name from its dwelling-place—the bushy thickets—out of which it never shows itself; and, in addition to all these, there is the Decula of Abyssinia, the Guib of the western coast, the Ingala of Natal, and the Broad-horned antelope of the Bight of Biafra.

We have not yet mentioned the *Gazelles*, which are, perhaps, the most interesting of all the antelope tribe. It is not necessary to describe their forms, or dilate upon the gracefulness of their movements and appearance. Their beautiful eyes have been a theme for the admiration of all ages. We shall only remark here, that there are several species of antelopes called gazelles, and that they are all natives of Africa. There is the Dorcas gazelle of Egypt, Barbary, and Asia Minor; the Isabella gazelle of Egypt and Kordofan; the Mhorr of Western Africa; the Abyssinian mhorr of the eastern parts of the continent; the Andora of Sennaar, Dongola, and Kordofan; and, lastly, the Korin. These are all gazelles; and it is believed that several other species may yet be found in the interior parts of Africa. Such is the list of African antelopes.

With regard to the Asiatic species, we can only find space to give their names, and point out the localities they inhabit.

The Nil-ghau claims to be mentioned first, as it is one of the largest antelopes known. It inhabits the

dense forests of India, and is a creature of interesting and singular habits. The Goral and Serow are also two large species inhabiting the Himalayas—especially in the kingdom of Nepaul—while the Chousinga is a denizen of the wooded plains of Bengal, Behar, and Orissa. Two others, Chousingas, are the Rusty red and Full horned, both natives of India; and the Jungliburka, a species found in the Bombay Presidency. In Persia we find the well-known Sasin, or common antelope, as it is usually called; and in the Oriental Islands, Sumatra furnishes us with the Cambing outan, and Japan with the Japanese goat antelope. The Mah-rattas have the Chikara, or Ravine-deer, a species peculiar to the rocky hills of the Deccan. China is not without its representative in the Whang-yang, or yellow-goat, which also inhabits the arid deserts of Central Asia, Thibet, and Southern Siberia. The Goa is another Thibetian species; and this ends our list of the tribe: for the two European antelopes, the Chamois and Saija, and the one peculiar to the prairies of North America—the Prong-horn—have already received mention.

## Deer.



OF these graceful quadrupeds there are nearly fifty species known to the scientific naturalist. These are geographically distributed throughout the continents of Europe, Asia, and America; and several belong to the great Indian islands. In Africa we find only two kinds, and these confined to the mountain regions near the coast of the Mediterranean Sea. Throughout the central and southern parts of that vast continent no native deer exist; but their place is plentifully supplied by their very near kindred the antelopes—for which, as already seen, Africa is especially famous.

It will be evident to my young readers, that anything like a detailed description of fifty different kinds of animals would take up a volume of itself. I must therefore content myself with giving a brief account of the more remarkable species, and a word or two only about those less noted.

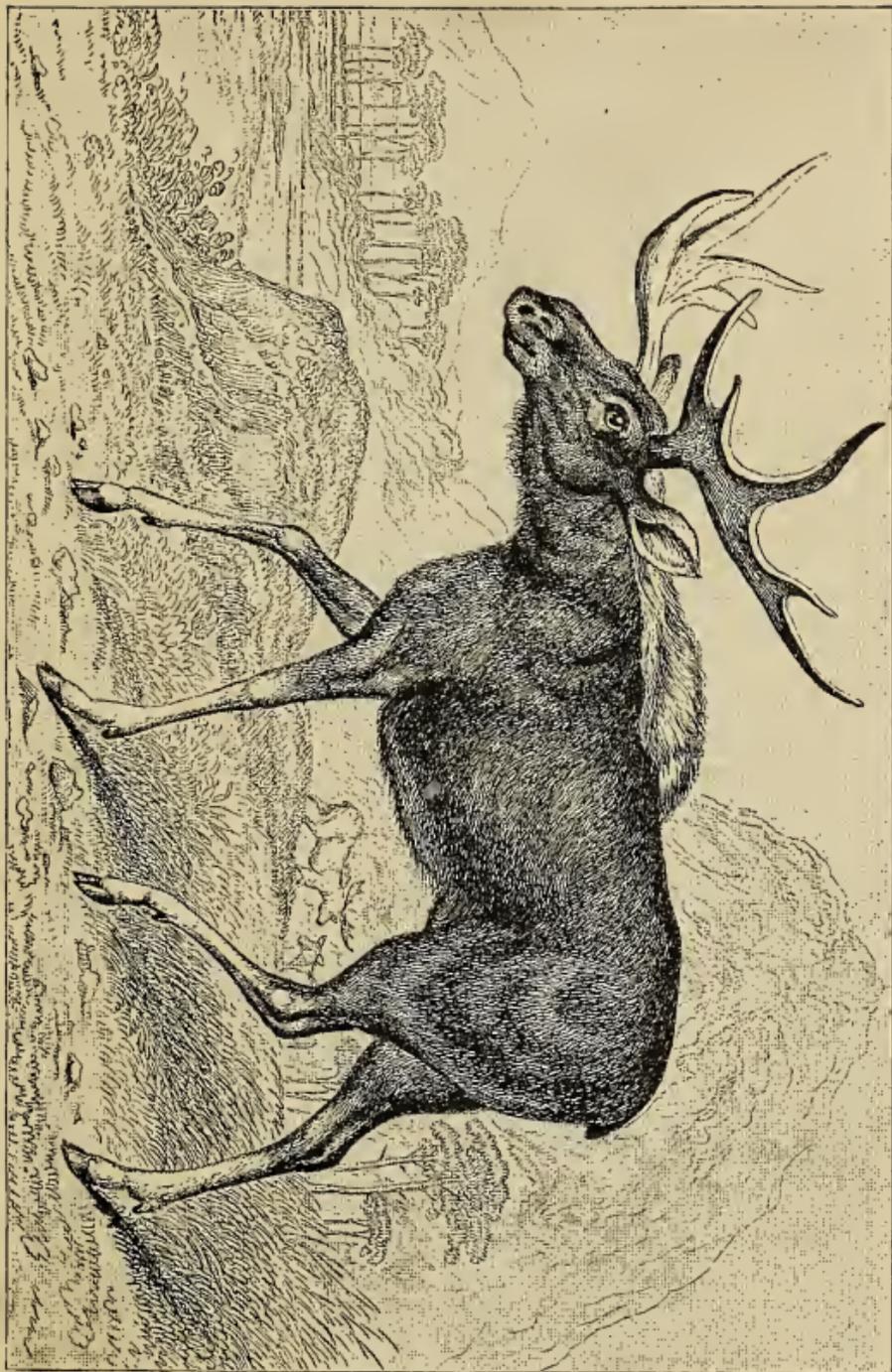
If size entitle a species to precedence, then decidedly the *Elk* should stand first. He is the largest of the deer tribe—not unfrequently standing as high as a horse, and carrying upon his crown a pair of broad, flat-branched antlers, weighing sixty pounds! Although truly an animal of the deer kind, he lacks those graceful shapes and proportions that characterize most of his congeners; and his mode of progression—a sort of

shambling trot—is awkward in the extreme. While the animal is in the act of running, its long split hoofs strike together, giving out a series of singular sounds that resemble the crackling of castanets. In the elk countries of North America the native Indians prize the skins—dressing them into a soft pliable leather. The flesh is also eaten; but it is inferior to the venison of either the fallow or red deer.

The elk belongs equally to the Old and New Worlds. His range is the wooded countries of high latitudes in the north, both of Europe and Asia; and in America he is found in similar situations. In the latter continent he is called the Moose; and the name Elk is there erroneously given to another and more southern species—the Wapiti—to be noticed presently.

In North America the range of the elk may be defined by regarding the boundary-line of the United States and Canada as its southern limit. Formerly elks were met with as far south as the Ohio—now they are rare even in Wisconsin. In Canada, and northward to the shores of the Arctic Sea, wherever timber is plenteous, the great moose deer dwell. They roam in small herds—or perhaps only families, consisting of six or seven individuals—and feed chiefly on the leaves of plants and trees. Their legs are so long, and their necks so short, that they cannot graze on the level ground, but, like the giraffes of Africa, are compelled to browse on the tops of tall plants, and the twigs and leaves of trees, in the summer; while in the winter they feed on the tops of the willows and small birches, and are never found far from the neighbourhood where such trees grow. Though they have no fore-teeth in their upper jaw, yet they are enabled somehow or other to crop from the willows and birch trees twigs of considerable thickness, cutting them off as clean as if the trees were pruned by a gardener's shears.

THE ELK OR MOOSE.





The moose is a sly animal, and in early winter all the craft of the hunter is required to capture it. In summer it is easier to do so : these animals are then so tormented with mosquitoes and gnats, that they become almost heedless of the approach of their more dangerous enemy, man. In winter the hunter follows the moose by his track, easily discovered in the snow ; but it is necessary to approach from the leeward, as the slightest sound borne to his ear upon the breeze is sufficient to start him off. A very singular habit of the moose adds to the difficulty of approaching him. When he has the intention to repose, he turns sharply out of the general track he has been following, and then, making a circuit, lies down, his body being hidden by the surrounding snow. In this lair he can hear any one passing along the track he has made ; and, thus warned, his escape is easy. The hunter who understands his business can usually give a guess (from a survey of the ground) of where these detours are likely to be taken, and takes his measures accordingly. When within range, the hunter usually makes some noise, as by snapping a twig : the moose starts to his feet, and shows himself above the snow. For a moment he squats on his hams, before starting off. This is the fatal moment, for it is the time for the hunter to take sure aim and send the fatal bullet. If the shot prove only a slight wound, and not mortal, the moose sometimes turns upon his enemy ; and if a friendly tree be not convenient, the hunter stands a good chance of being trampled to death. In the rutting season the moose will assail even man himself without provocation ; and at such times the old " bulls " (as the hunters term the males) have terrible conflicts with one another.

The habits of the elk of Northern Europe appear to be identical with the moose of America. Hunting it in Sweden and Norway is a favourite sport, and its flesh

is eaten, the nose and tongue being esteemed great delicacies, as they are in America. It is related that elks were formerly used in Sweden to draw the sledge ; but, for certain reasons, this was prohibited by law.

In point of size, the *Wapiti* stands next to the elk. In shape he resembles the well-known Stag or Red Deer of our parks, but is much larger. The wapiti is exclusively a native of North America ; and it may be remarked that his range is more southerly, and not so northerly as that of the moose. He is not found so far south as the Southern States, nor farther north than the Canadas ; but around the great lakes, and westward to the Rocky Mountains, and even to the Pacific, the wapiti is met with. He is a noble creature—perhaps the noblest of the deer tribe—and it is a boast of the backwoods' hunter to have killed an elk ; for such, as already mentioned, is the name erroneously given to this animal.

Perhaps the *Rein-deer* is the most celebrated of all the deer ; and just on that account I shall say but little of this species, since its habits are familiar to every one. Every one has read of the Laplander and his rein-deer—how these people have tamed and trained, and otherwise submitted it to a variety of useful purposes ; but the Laplanders are not the only people who have to do with the rein-deer. The tribes of the Tungusians and Tchutski, who inhabit the northern parts of Asia, have also trained it to various uses—as a beast of burden, and also to ride upon. The variety—perhaps it is a distinct species—which the Tungusians employ for the saddle, is much larger than that of the Laplanders ; but it may be remarked that there are also varieties in Lapland itself. The same remark applies to the rein-deer of America, which is found in the northern parts of the Hudson's Bay territory, and all along the shores of the Arctic Ocean, making its way over frozen seas, even to

the islands that lie around the pole. In these desolate countries the Caribou (for by such name is the reindeer known in America) is hunted by both Indians and Esquimaux; but it has never been trained by either race to any useful purpose, and is only sought for as furnishing an important article of food and clothing. At least two kinds of Caribou exist in the vast tracts of almost unknown country known as Prince Rupert's Land, or the Hudson's Bay territory.

As the three kinds described belong—at least partially—to the New World, we shall finish with the other deer of this hemisphere, before proceeding to those peculiar to the Old World.

The *Virginian Deer* is the species common to the United States proper, and, in fact, the only wild species now found in the greater number in the States. It is a small animal, very similar to the fallow-deer of Europe; and several varieties (or species), not differing much from the Virginian deer, exist throughout the forests of Mexico, California, Oregon, and South America. In Mexico there are three or four species, severally known as the Mexican Deer, the Mazama, the Cariacou, and by other appellations. Of course, the inhabitants simply know them as venados (deer). In Guyana there are one or two small species, and along the forest-covered sides of the Andes two or three more. In Bolivia there is a large kind known as the Tarush; and on the pampas of Buenos Ayres and Patagonia is a kind called Guazuti, which associates in large herds, and is remarkable for the powerful odour emitted by the bucks.

In the forests of the Amazon, and all through the Brazilian country, deer exist of different species; several, as the Guazuviva, the Pita, the Eye-browed Brocket, and the Large-eared Brocket, being tiny little creatures, not much larger than the fawns of the ordinary species.

Returning to North America, we find several varieties of the Virginian Deer in the countries lying along the Pacific coast—viz., California, Oregon, and Russian America. These have received trivial names, though it is believed that they are only varieties, as mentioned above. Two, however, appear to be specifically different from the Virginian deer. One of these is the Mule Deer of the Rocky Mountains—almost as large as the red deer of our own country, and well known to the trappers of the Upper Missouri. Another is a well-marked species, on account of the length of its tail—whence it has received its hunter appellation of the Long-tailed Deer.

The *Deer of Europe* are not numerous in species; but if we consider the large herds shut up in parks, they are perhaps as plentiful in numbers as elsewhere, over a like extent of territory.

The *Rein-deer* and *Elk*, as already stated, are both indigenous to Europe; so also the *Stag* or *Red Deer*, the greatest ornament of our parks. The red deer runs wild in Scotland, and in most of the great forests of Europe and Asia. There are also varieties of this noble animal, a small one being found in the mountains of Corsica.

The *Fallow Deer* is too well known to need description. It is enough to say that it exists wild in most countries of Europe, our own excepted. Into this country it is supposed to have been introduced from Denmark.

The *Roebuck*, another species of our parks, is indigenous to both England and Scotland. It is now found plentiful only in the northern parts of Great Britain. It is a native also of Italy, Sweden, Norway, and Siberia.

The *African Deer* consist of two species, supposed to be varieties of red deer. They are found in Barbary, and usually known as the Barbary Deer. But the

fallow deer also exists in North Africa, in the woods of Tunis and Algiers ; and Cuvier has asserted that the fallow deer originally came from Africa. This is not probable, since they are at present met with over the whole continent of Asia, even in China itself.

We now arrive at the species more especially termed *Asiatic* or *Indian Deer*. These form a numerous group, containing species that differ essentially from each other.

There is the *Rusa*, or Great Black Stag of the Japanese and Sumatrans. It is named *black* stag, from its dark brown colour during winter. It is fully as large as our own stag ; and is further distinguished by long hair growing upon the upper part of its neck, cheeks, and throat, which gives it the appearance of having a beard and mane ! It inhabits Bengal, and some of the large Indian islands.

The *Samboo*, or *Sambur*, is another large species, not unlike the *rusa*. It is found in various parts of India, and especially in the tropical island of Ceylon. Several varieties of it have been described by naturalists.

In the Himalaya Mountains there exist two or three species of large deer, not very well known. One is the Saul Forest Stag, or Bara-singa—a species almost as large as the Canadian wapiti. Another is the Marl, or Wallich's Stag, which is also found in Persia. Still another species, the Sika, inhabits Japan ; and yet another, the Baringa, or Spotted Deer of the Sunderbunds, dwells along the marshy rivers of this last-mentioned territory. Again, there is the Spotted *Rusa*, and other species, inhabitants of the Saul Forests. In fact, the number of species of Indian deer is far from being accurately ascertained, to say nothing of the very imperfect descriptions given of those that are actually known.

When we come to the great Oriental islands—the

Isles of Ind—we find many new and beautiful species; some being large noble stags, while others are tiny graceful little creatures like gazelles.

In Sumatra and Borneo we have a distinct species of Sambur Deer; in Timor a smaller one; a third exists in Java; and a fourth in the Philippines. In Java, too, we find the beautiful little Muntjak; and another tiny variety in China, called the Chinese Muntjak.

Returning again to the Himalaya country, we encounter, in the plains south of this great chain, the Spotted Axis, so well known from its beautiful markings, which resemble those of the fawn of our own fallow deer. But it may be remarked that there are two or three species of spotted deer, and that they inhabit the plains of India—from the Himalayas southward to the Island of Ceylon. Ascending these great mountains, we encounter among their lower slopes another very singular species of cervine creature—the Musk Deer—which, though but little known, is one of the most interesting of its tribe; especially so, as it is from the secreting glands of this curious little animal that most of the celebrated perfume of commerce is obtained.

Crossing the Himalayas, and advancing northwards, we find upon the plains of Central Asia a species of deer, known among the Tartars as Siaga, and to our own naturalists as the Tail-less Roe. Several species entirely unknown to scientific men will yet be discovered, when the immense steppes of Asia come to be explored by observers capable of describing and classifying.

Like many another genus of animals, a complete monograph of the deer tribe would be of itself the labour of a life.

## Quadrupeds with Pockets.



IN the year 1711 was brought to France, from the Island of New Guinea, an animal of an unknown species, and one that was singular in many respects; but especially so, from the fact of its having a double skin, covering a part of its belly, and forming a sort of pocket or pouch. This animal was Le Brun's Kangaroo; very properly named after the naturalist who first described it, since it was the first of the marsupial or pouched animals known to the scientific world.

The Opossums of America were afterwards scientifically described; but it is only of late years that the numerous species and genera of pouched animals—constituting almost the entire mammalia of the Australian world—have become generally known to Europeans.

The peculiarity of the *pouched* animals is in reality the *pouch*, common to all of them. Otherwise they differ in many respects—some being carnivorous, others graminivorous, others insectivorous, and so on. In fact, among them we have forms analogous to almost all the different groups of ordinary mammalia. Some naturalists have even classified them in the different groups, but with little success; and it is perhaps better to keep them together, retaining the “pouch” as the common characteristic.

The marsupial animals bring forth their young before they are fully developed. The mother places the mouth, of what is little more than a foetus, to her teat; and there it remains till it is able to go alone. The pouch covers the teats, and serves to protect the young, while the process of development is going on. Even after the little ones are able to run about, they continue to use this singular nest as a place of repose, and a refuge in case of attack by an enemy!

The pouched animals are not entirely confined to the Australian island. The large island of New Guinea possesses some of them; and there are species in Java, and others of the Asiatic islands. America (both North and South) has the opossums, in numerous species; but it is in Australia, and the contiguous islands of Van Diemen's Land and New Guinea, that we find both the genera and species in greatest numbers. These countries are, in fact, the head-quarters of the marsupial animals.

The true genera are not numerous, though the species of most of them are; and it is but natural to suppose that many new ones—both genera and species—will yet be discovered, when the vast *terra incognita* of Australia comes to be explored. In fact, every expedition into the interior brings home with it some new animal that carries a pouch!

As the opossums were the first of these animals whose habits became generally known to Europeans, we shall speak first of them; and it may be remarked, that although there are several species in the Australian countries resembling the true opossums, and are even called opossums, yet among naturalists the name is usually limited to the pouched animals of America.

The old writer, Lawson, gives as succinct an account of the habits of the best known species—the Virginia opossum—as may be found anywhere. We shall adopt

it *verbatim* :—"The possum," says he, "is found nowhere but in America. She is the wonder of all the land animals—being of the size of a badger, and near that colour. The female, doubtless, breeds her young at her teats, for I have seen them stuck fast thereto when they have been no bigger than a small raspberry, and seemingly inanimate. She has a paunch, or false belly, wherein she carries her young, after they are from those teats, till they can shift for themselves.

"Their food is roots, poultry, or wild fruits. They have no hair on their tails, but a sort of scale or hard crust, as the beavers have. If a cat has nine lives, this creature surely has nineteen; for if you break every bone in their skin, and smash their skull, leaving them quite dead, you may come an hour after and they will be quite gone away, or, perhaps, you may meet them creeping away. They are a very stupid creature, utterly neglecting their safety. They are most like rats than anything. I have for necessity, in the wilderness, eaten of them. Their flesh is very white and well-tasted, but their ugly tails put me out of conceit with that fare. They climb trees as the racoons do. Their fur is not esteemed or used, save that the Indians spin it into girdles and gaiters."

Bating the exaggeration about their tenacity of life, and also the error as to their mode of bringing forth, the above account hits off the opossum to a nicety. Lawson might have added that their tails are highly prehensile, and are not only used for suspending them to the branches of trees, but also employed by the female for holding her young upon her back—in which fashion she often carries them about.

The flesh of the opossum is not only eatable, but much eaten, and even sought after as a delicacy both by negroes and whites.

It is surprising how the number of species of this

animal has lately multiplied, under the research of naturalists. Perhaps no creature illustrates more forcibly the folly of setting limits to the species of animals, by simply trusting to the account of those known or described. Over thirty species have been found in America, of which five or six belong to the northern division of the continent. The tropical region is their head-quarters; but they are not confined to the torrid zone, since there are species existing everywhere, from Canada to Chili.

Another form of pouched animal that can scarcely be called an opossum is the Yapock of tropical South America. It is a smaller animal than the opossum, aquatic in its habits, and in fact approaches nearer to the family of the water-rats. Of this, too, there are several species.

Crossing to Australia we find the pouched animals, as already observed, of several different and very dissimilar genera.

Taking them in the usual order of mammalia, we have three kinds truly carnivorous. First, the Tasmanian wolf, a creature which possesses all the fierce attributes of his synonyme, and is, in fact, a wolf—only one who carries a pocket. He is an animal as active as fierce, and lives by preying on the kangaroos and other kindred animals. He is also troublesome to the breeders of sheep; as, since the introduction of these innocent animals to his country, he appears to have formed a preference for mutton over kangaroo flesh. Fortunately his range is not extensive, as he is confined to the island of Van Dieman's Land, and has not been observed elsewhere. Only one species has been yet discovered.

Another pouched animal, equally carnivorous, is the Ursine Opossum. This is a burrowing creature about the size of a badger, and of equally voracious habits.

In some places it proves extremely destructive to the poultry of the settler, though it will also eat carcass, or dead fish—in short, anything.

In a state of captivity it will not submit to be tamed, biting everything that comes near it, at the same time uttering a sort of yelling growl. Small though it be, in many of its actions and habits it resembles the bear, and might be regarded as the Australian representative of the ursine family; but several of its species approach nearer to the weasels—for it is not so poor in species as the Tasmanian wolf, there being at least five kinds of it in Australia and Van Dieman's Land. One variety of it is distinguished by the name of Native Devil!

Another genus of Australian *carnivora* is in the Phascogals. These animals are smaller than the last, and dwell upon trees like squirrels. From their having bushy tails, they might readily be mistaken for animals of the squirrel kind; but their habits are entirely different—since to birds, and other small game, they are as destructive as the weasel itself.

After the true *carnivora* come the Bandicoots. These are named after the great bandicoot rat of India, to which the early settlers fancied they bore a resemblance. They are insect-eaters, and represent in Australia the shrews and tenrecs of the Old World. They also feed upon roots and bulbs, which with their strong claws they are enabled to scratch up out of the ground. Their mode of progression is by leaps—not like those of the kangaroo, but still more resembling the pace of a rabbit or hare—and they appear to prefer mountainous regions for their habitat. There are several species of them in Australia and the adjacent islands.

The Phalangers, or Fox Opossums, come next in order. These creatures are so called from a sort of resemblance which they bear to the well-known Rey-

nard ; but, fortunately, the resemblance does not extend to their habits, as they are all supposed to be innocent creatures, living on fruits and seeds, and climbing trees for the purpose of obtaining them. The true Vulpine Opossum—which is a native of Australia, near Port Jackson—is very much like a small fox ; but there are two sub-genera of the phalangers that differ much from this form. One of these is the Scham-scham, a very beautiful spotted creature found in the Molucca and Papuan islands. Several other species of phalangers inhabit these and other Asiatic islands, especially Celebes and New Ireland.

The other sub-genus is that of the Flying Squirrels, usually known as Norfolk Island Flying Squirrels, though it is not even certain that they inhabit the last-mentioned island. It needs only to be said that these animals are very much like other flying squirrels ; and in fact they *are* squirrels, only squirrels of the marsupial kind. There are several species already described.

Another pouched animal is the Koala, or Ashy Koala as it is called. It differs in appearance from all the others, being of stout make, and almost without a tail. It is not unlike the bear in its form and movements ; but its bulk is scarce equal to that of a moderate sized dog. It can climb trees with great facility, though it makes its lodgment among their roots, in a den which it hollows out for itself. Its food is supposed to be fruits, and very likely it is the Australian representative of the *frugivorous* bears. It has the singular habit of carrying its young one upon its back, after the latter has grown too large to be conveniently stowed away in the pouch. Two species of koala have been spoken of, but as yet one only is described and certainly known.

The Wombat is another animal of thick stout form,



THE WOMBAT.



and also without tail. It is a slow creature, easily overtaken by a man on foot. It burrows in the ground. During the day it remains in its hole, issuing forth only at night to procure its food, which consists mainly of herbage. There is but one species known, belonging to both Van Dieman's Land and New South Wales.

I have kept the Kangaroos to the last: not that they are the least interesting, but because these very singular animals are now so well known, and their habits have been so often described, that it seems almost superfluous to say a word about them. I shall content myself with observing that the genus of the kangaroos has been divided into two sub-genera, the true Kangaroos, and those known as Kangaroo Rats. The difference, however, is not very great, since the rats are as mild and inoffensive in their habits as the kangaroos themselves. Of the kangaroo rats there are several species; but when we arrive at the true kangaroos we find a list altogether too numerous to mention. They are of all sizes, too, from that of the great giant kangaroo, that stands, or rather squats, full five feet in height, down to little tiny creatures not bigger than rabbits or squirrels. There are nearly fifty species in all inhabiting the known parts of the Australasian islands. It may be remarked, in conclusion, that two or three other kinds of pouched animals, differing from all the foregoing, have been lately brought to light by recent explorers; but, since nothing certain has been ascertained in regard to their habits, it would be idle in this place even to mention their names.

## Ant-Eaters, Armadilloes, and other Odd Animals.

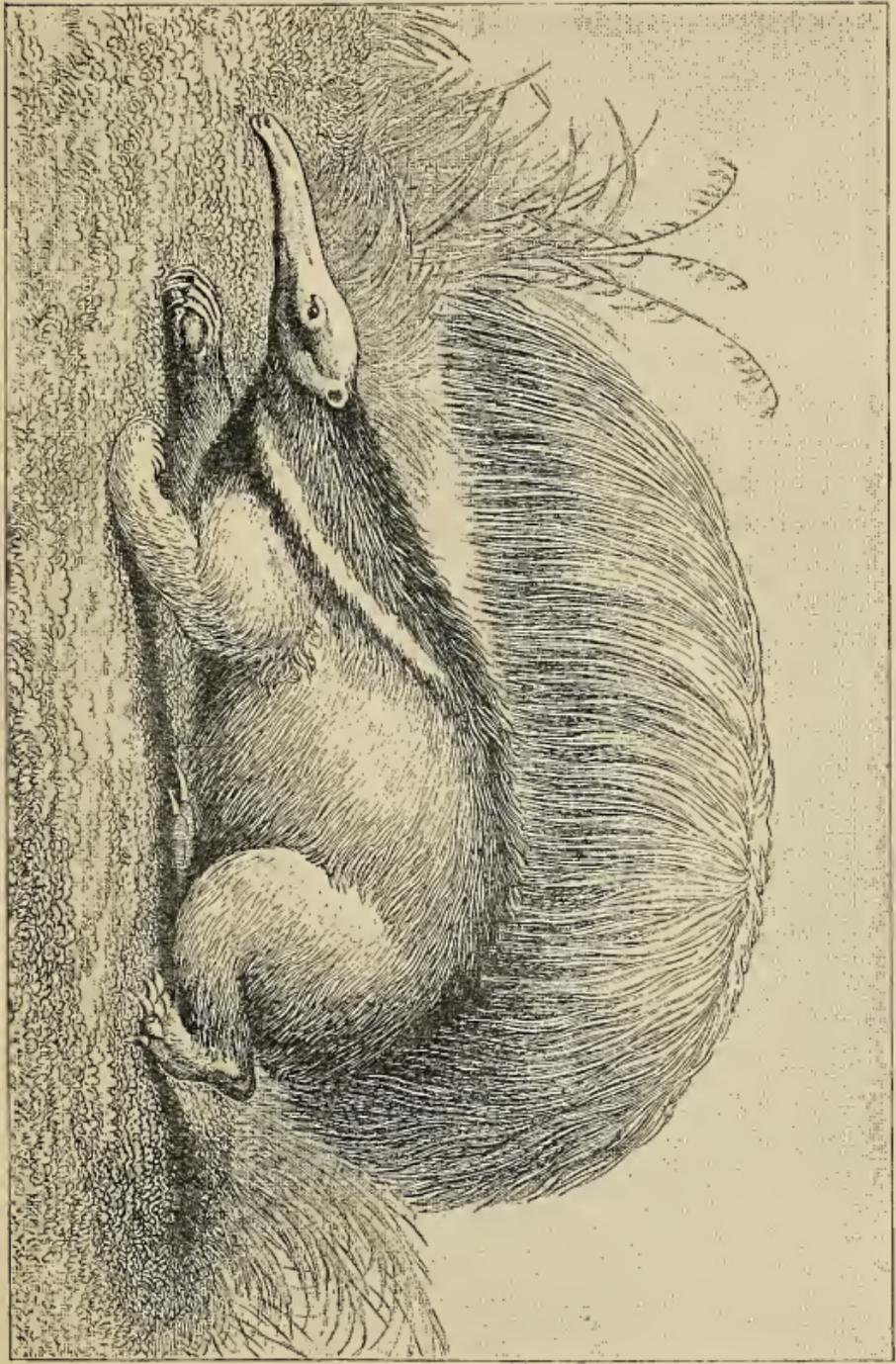


**T**HIS is, perhaps, the most interesting of the groups—interesting on account of the singular animals which compose it, every one of which may be termed an odd creature. In a strictly natural classification these animals would not come together, since many of the species are unlike the others both in appearance and habits; but in a scientific point of view the absence of incisor teeth has caused them to be ranged together in a group, known as the *edentata*, or toothless animals.

In this group we shall give the first place to the true ant-eaters, and first speak of the ant-eaters of America. Of these there are four well-known species, the great Ant-bear, or Tamanoir; the Tamandua, or little Ant-bear; another little ant-bear, the Ringed Tamandua; and a very small species that differs much from the other three. They are all inhabitants of tropical America, and there are varieties of them in different districts.

The Tamanoir is by far the largest, often attaining the size of a Newfoundland dog; and the long hair which covers its sides, together with its immense bushy tail, give to it the appearance of being much bulkier than it is.

THE GREAT ANT-EATER.





Its habits are tolerably well known, constituting a very curious chapter in natural history which we have not space to give. Suffice it to say that its food consists entirely of ants and termites, which of themselves form a strange feature in the zoology of tropical countries. These it eats—not with teeth, but by means of its long slimy tongue, by which it is enabled to draw into its mouth hundreds of the little creatures at a time.

The two species of smaller ant-bears, or Tamanduas, obtain their sustenance in a similar manner, and in other respects are like their great congener; but they possess a power with which the latter is not gifted—that of climbing trees, and making their nests high up in the cavities of the trunks. They have the further power of being able to suspend themselves from the branches with their tails, which, like those of the opossums, are highly prehensile. The tamanduas do not live solely upon ant-diet. The wild bees, that build nests among the branches, are also objects of their attention; and their thick hairy skins appear to protect them from the stings of these insects.

The smallest species—called the Ouatiri, or Two-toed Ant-eater—differs altogether from the three above mentioned. It more resembles a little monkey, and is covered all over with a thick coat of soft woolly hair of a yellowish colour. It is also a tree-climber, possesses a naked prehensile tail, and makes its nest in a hole in the trunk, or in one of the larger branches.

In Africa the ant-eaters are represented by several kinds of animals, differing essentially from each other in outward appearance, though all agreeing in their habits, or rather in the nature of their food.

The Aard-vark, or Earth-hog, of the Cape colonists, is the most noted kind. This animal is a long, low-bodied creature, with sharp-pointed snout, and an immense whip-like tongue, which he is capable of pro-

jecting to a great distance, in the same manner as the tamanoir. His body is covered with a dense shock of reddish-brown hair ; and he dwells in a burrow, which he can cleverly make for himself—hence his trivial name of Ground-hog.

The other African ant-eaters are usually called Pangolins, or Manis. These are covered with scales that resemble suits of ancient armour ; and on this account they have sometimes been confounded with the armadilloes, though the two kinds of creatures are altogether different in their habits. The pangolins possess, in common with the armadilloes, the power of rolling themselves into a ball whenever attacked by an enemy—a fashion not peculiar to pangolins and armadilloes, but also practised by our own well-known hedgehog.

The Sloths belong to this group of mammalia ; not that they have the slightest resemblance to the ant-eaters in any respect, but simply, as before stated, because they want the cutting teeth. They are not absolutely toothless, however, since they possess both canines and molars. With these they are enabled to masticate their food, which consists of the leaves and tender shoots of trees.

The name, *sloth*, is derived from the sluggishness of their movements, amounting almost to complete inactivity. They scarce stir from the spot in which they may be placed, or at all events move so slowly as to be a whole hour in getting from one tree to another, or even from one limb to another ! They spend most part of their time upon the trees (the *cecropia peltata* is their favourite), usually clinging to the branches with their backs downward ; and in this way they crawl from one to another, uttering at intervals a plaintive cry, which resembles the syllable *ā*, uttered several times in succession. From this they derive one of their trivial names of Aï, or Aye-aye.

The sloths are all inhabitants of tropical America—dwellers in the great forests of Guiana and Brazil.

As natural curiosities in the animal kingdom, the Armadilloes do not yield to any of the four-footed creatures, and an account of their habits, would space permit, could not be otherwise than extremely interesting. They are exclusively inhabitants of America; but many species, both in North and South America, are found far beyond the limits of the torrid zone. There are a great many species known—and these are of all sizes—from that of an ordinary rat, to the Giant Tatou, which sometimes attains the enormous dimensions of a moderate sized sheep! It may be mentioned that they are subdivided into a number of genera, as the sloths, &c.; and here, again, without any very sufficient reason, since they all possess the scaly armour—from which the name armadillo is derived—and their habits are nearly identical. They dwell in burrows, which they make for themselves; in fact, they are more than ordinarily clever at excavating, and have been blamed for carrying their tunnels into graveyards, and feeding upon the bodies there deposited! Of some of the species this charge is but too true; and one would think that an animal of such habit would be regarded with disgust. On the contrary, the flesh of the armadillo is in much esteem as an article of food, both among the white colonists and the natives, and men and dogs are employed in many parts of South America to procure it for the table.

Several species of armadilloes possess the power of clueing themselves up, *à la hedgehog*, and thus presenting an impenetrable front to the attacks of an enemy; while others want this power, but, in its stead, can flatten their bodies along the ground, in such a way that neither dog nor jaguar can set tooth upon anything softer than their scales, and these are as impenetrable as if they were plates of steel.

The more noted species are known by different names—as the Tatou Poyou, the Giant Tatou, the Peba, the Pichiciago, the Pichey, the Hairy Tatou, the Matáco, the Apará, and such like designations.

It may be added, that the armadilloes dwell in districts very dissimilar. According to the species, they inhabit low marshes, thick forests, or dry open hills; and several kinds are indigenous to the high table-lands of the Andes.

Their usual food consists of fruits, legumes, and roots; but they are nearly all omnivorous, and will eat carrion whenever it falls in their way.

To this group belong two very singular animals, that have only of late years become known. These are the Mullingong—better known as the *Ornithoryncus*—and the *Echidna*, or Ant-eating Hedgehog. Both are natives of what may be termed the new world of Australasia.

To give an account of the peculiar conformation or appearance of the mullingong would require many pages, and only the artist can convey any idea of what the creature is like. Suffice it to say, that it is a sort of triangular cross between a bird, a quadruped, and a fish; having the bill of a duck, the hair, skin, and legs of a quadruped, and the aquatic habits of a fish, or rather of a seal. In general appearance it is, perhaps, more like to a beaver than to any other animal. It dwells upon the banks of rivers, lakes, or marshes, burrows in the ground like a badger, swims and dives well, and feeds chiefly on aquatic insects.

The echidna is altogether a different sort of creature, both in appearance and habits. It is, in reality, an ant-eater, with the body of a porcupine, having a long slender snout and an extensile tongue, just like that of other ant-eaters. It burrows in the ground, where it can remain for a long period without food, and it is sup-

posed to issue forth only during the season of the rains. It also possesses the power of rolling itself into a ball, like the hedgehog—hence its name among the colonists of Ant-eating Hedgehog; but by far the most appropriate appellation for it is the Porcupine Ant-eater, since in general appearance it is exceedingly like several species of porcupines.

The Porcupines and Hedgehogs, though usually classed elsewhere, on account of their teeth, their food, and a few other reasons not very natural, should certainly stand in this group of odd animals; and here let us place them. We have not space to say much about either of them; and can only remark of the porcupines, that there are nearly a dozen known species inhabiting different parts of the world—as usual, separated into a great number of genera. Europe, Asia, Africa, the Asiatic Islands, North and South America, all have their porcupines—some of them entirely covered with quills, others with hair intermingled with the spines, and still others on which the spinous processes are so small as to be scarcely perceptible, yet all partaking of the habits and character of the true porcupines. It may be further remarked, that the American porcupines are tree-climbers, and feed upon twigs and bark; in fact, lead a life very much resembling that of the sloths.

The Hedgehogs, about which so much has been said, should also go with this group, though it is usual to place them among carnivorous animals.

Of hedgehogs there are also several species, and they are found in most countries of Europe, and in many parts of Asia and Africa. No true hedgehog has yet been discovered in North or South America, but they have their representatives there in other species of worm-eating animals.

It would not be proper to conclude these sketches

without remarking, that there are still a few other odd animals which we have not an opportunity of introducing here. As an instance, we may mention the little Daman, or Hyrax, a native of Africa and Asia Minor, and of which there are two or three distinct species. This is the animal over which Mr. Frederic Cuvier, and other learned anatomists, have raised such a pæan of triumph—having discovered that, notwithstanding its great resemblance to a rabbit, the little creature was, in reality, a *rhinoceros*!

M. Cuvier and his followers seem to have omitted the reflection that this wonderful discovery very naturally suggests. Putting it interrogatively, we may ask, How is it that the hyrax, whose “anatomical structure proves it to be a rhinoceros,” is *not* a rhinoceros in habits, appearance, nor, in fact, in anything but the shape of its bones?

If, then, we were to take osteology for our guide, I fear we should often arrive at very erroneous conclusions; and were the little hyrax an extinct animal, and not known to us by actual observation, we should be led by anatomical theorists to ascribe to the timid creature a very different set of manners from what it has got.

Despite anatomic theories, then, we shall continue to regard the hyrax—the coney of the Scriptures—as a *rabbit, and not a rhinoceros*!

