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NATURAL HISTORY
OF THE
ANIMAL KINGDOM,
FOR
THE USE OF YOUNG PEOPLE.

IN THREE PARTS,

COMPRISING:

I.—MAMMALIA. II.—BIRDS.

III.—REPTILES, AMPHIBIA, FISHES, INSECTS,
WORMS, MOLLUSCS, ZOOPHYTES, &c.,

WITH 91 COLOURED PLATES, INCLUDING ABOUT 850 FIGURES,
AND NUMEROUS ADDITIONAL ILLUSTRATIONS IN THE TEXT.

ADAPTED FROM THE GERMAN OF PROFESSOR VON SCHUBERT

BY

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The Brown Rat (*Mus decumanus*, Plate XIII. fig. h) sometimes measures nearly a foot in length, without the tail. It is greyish brown above, and greyish white beneath. It is an Asiatic animal, which has migrated to Europe, and nearly exterminated the indigenous Black Rat (*Mus rattus*). Rats and mice are very prolific animals, which feed on everything which serves for food for man, and penetrate everywhere into our dwellings and storehouses.

The long-tailed Field-Mouse (*Mus sylvaticus*, Plate XIII. fig. i) not only lives in woods and thickets, but also likes to visit human dwellings. In the country it feeds on nuts, seeds, insects and even on small birds. It is brownish yellow above, and white below, and measures seven inches in length.

The *Arvicolidae*, or Voles, are sometimes classed with the true mice, but may be distinguished from them by their large incisors, stouter body, large head, and short ears and tail. They inhabit the northern parts of both hemispheres, and live in burrows in the ground.

The Field-Mouse (*Arvicola arvalis*, Plate XIII. fig. f) is yellowish grey above, and dirty white beneath; it is rather smaller than the common mouse. It lives in fields, where it makes galleries and chambers in the ground, and lays up a store of grain, nuts &c. for the winter. But it sometimes ventures into houses too.

The *Spalacidae* or Mole-Rats are ugly animals with cylindrical bodies, small, hardly perceptible eyes, and paws formed for digging. They are very mischievous, because they burrow in the ground in all directions. They feed on the roots and bulbs of plants.

The Mole-Rat (*Spalax typhlus*, Plate XIII. fig. k) has a large head, without visible eyes or ears, which seems to pass immediately into the body, owing to the shortness of the neck. There is no tail, and the legs are furnished with broad paws and strong claws. The Mole Rat is really blind, for its eyes are very small, and covered by the skin. It is found in Hungary, Russia and part of Western Asia, and is a vicious unsociable animal.

The *Leporidae* or Hares are easily known by their prominent head, large eyes and ears, long slender body, disproportionately long hind legs and short tail. The Hares are the only Rodents which have two small rudimentary teeth in each jaw behind the two incisors.

Hares are found in all parts of the world except Australia, and feed on juicy herbs and roots. They are active and graceful animals, and seem never wearied with running. They generally live gregariously, and multiply very rapidly.

The Common Hare (*Lepus timidus*, Plate XIV.

fig. a) is nearly of the colour of the ground, and consequently the animal can easily be overlooked when it crouches down. It inhabits Central Europe, and part of Central Asia.

The Alpine Hare (*Lepus variabilis*, Plate XIV. fig. b) is rather smaller than the common hare, the head is rounder, the ears longer, the hind legs longer and the soles of the feet more hairy. When the first snow falls, the black tips of the ears turn white, but in the spring they gradually return to their usual colour. It is found in the mountainous parts of Continental Europe, and in Scotland and Ireland.

The Rabbit (*Lepus cuniculus*, Plate XIV. fig. c) is smaller and more slender than the hare, and has a shorter head and shorter ears. The hind legs, too, are shorter. The skin is usually greyish brown, and the tail is black above and white below. The domesticated varieties, however, vary much in colour. The Rabbit is very gregarious, and prefers bushy sandy places, where it digs burrows in the ground. It is more active in the evening or morning than in the heat of the day.

The Beaver (*Castor Fiber*, Plate XIV. fig. d) is the type of the family *Castoridae*. It is between three and four feet in length. The rather stout body is broader behind than before; the legs are short and strong, and the hind feet are webbed to the claws. The colour of the soft silky skin is chestnut-brown above, and lighter below. The flat, broad tail is only hairy for the first third of its length; the rest is naked, and is furnished with small furrows. The Beaver is much sought after for its fur, and for the odoriferous substance called castoreum, which is secreted in two glands near the tail. The Beaver is an amphibious animal, and generally rests in the reeds on the banks of streams or lakes. It builds its habitations which are often several feet high, in the water, and protects them by a dam. It feeds chiefly on the bark of trees which grow near the water. It is found in Europe, Asia and North America; but is now very scarce and local in Europe, and it has been so much persecuted that it is everywhere far less common than formerly.

The Musquash (*Fiber Zibethicus*, Plate XIV. fig. e) is an inhabitant of North America. Its whole appearance is stout and stunted, the head is short and round, and the neck thick. The tail is laterally compressed, cultriform towards the end, and covered with small scales. The feet and toes are webbed at the sides; there are four toes on the fore feet and five on the hind feet. The full-grown animal measures two feet in length, including the tail. It resembles the beaver in its very fine fur, which is brown above and grey beneath. The skin is valuable, but always retains a strong smell of musk.

Order VIII. Proboscidea. (Elephants.)

(Plate XVI.)

This Order only includes the family *Elephantidae*. They are very large and bulky animals; with a thick hide sparingly clothed with hair, a short body, and long thick legs like pillars, with five toes provided with small hoofs. The nose is produced into a long trunk, with a finger-like process at the end, which serves as an organ of prehension. These animals have a very short neck, but use the trunk to grasp their food, and likewise for drinking, for they fill it with water, which they then squirt down their throats.

The structure of the teeth is remarkable. The incisors are wanting in the lower jaw, and are represented by two large teeth in the upper, which have no fangs, and grow continually. There are only two existing species.

The Indian Elephant (*Elephas indicus*, Plate XVI. fig. b) is rather smaller than the African Elephant, from which it is distinguished by the more raised head, the smaller, moveable ears, and the shorter tusks. The hide is slate-colour, with blackish bristles.

This species rarely exceeds nine feet in height, when it measures about twelve feet in length; the trunk is six or seven feet long: and the tail four feet. The full-grown animal weighs 400 or 500 pounds. It is found in India and Ceylon in herds which may number one hundred individuals. It feeds on the leaves and branches of trees, which it breaks off with its

trunk. When not roused to fury, it is a quiet, harmless animal, and has been domesticated for many centuries, when it exhibits a sagacity and intelligence equal to that of the dog.

It lives to the age of seventy years, and some individuals are said to have lived considerably more than a century.

Order IX. Perissodactyla. (Rhinoceroses, Tapirs and Horses.)

(Plates XVI. XVII. XXVII.)

The *Rhinocerotidæ* are inferior in size to the Elephants, but are far more ugly and clumsy. They have neither tusks nor trunk, but possess strong canines, and true incisors. Their hide is thick, wrinkled and almost naked. These animals are indolent, and very deficient in intelligence; they feed on water-plants, grass and the leaves and branches of trees. Water is indispensable to them, and they swim and dive well. They are found in Central and Southern Africa, and also in Southern Asia, but always in the neighbourhood of rivers, lakes or marshes.

The Indian Rhinoceros (*Rhinoceros indicus*, Plate XVI. fig. b) is about ten feet in length, and stands nearly five feet high at the shoulder. The head is rather long when seen in profile, and there is a long horn curved backwards, on the nose. It is fixed to the bone, though it actually consists simply of a mass of modified and compressed hair. The eyes are small, and the ears erect and like those of a pig. The thick short curved feet have four toes with hoofs. The tail is short, and tufted beyond the middle. The Rhinoceros lives in pairs, and inhabits different parts of India. The lazy creature will lie in a pool for hours, or saunter quietly on his way, but a trifle will rouse him to make a headlong charge at anything, in ungovernable fury.

The other species of *Rhinoceros* resemble *Rhinoceros indicus* in form and habits, but some have two horns on the nose instead of one.

The *Tapiridæ*, or Tapirs are small in comparison to the species of *Rhinoceros* and less unwieldy in appearance, though their bodies are also stout. The long tapering head has short ears, small eyes, and the upper lip is produced into a short trunk. The neck is slender, the body like that of a pig, and the legs are short and thick, with four toes with hoofs on the fore feet, and three on the hind feet. The skin of the Tapirs is thick, and clothed with smooth hair. They have strong teeth, all three kinds being present. They pass the day in thick forests, preferring the neighbourhood of rivers and swamps, in which they like to wallow. On the approach of darkness, they roam about to seek their food, which consists of the leaves of trees, and marsh-loving plants; but they will also work havoc in cultivated fields.

The American Tapir (*Tapirus americanus*, Plate XVII. fig. a) is of a dark brown colour, paler on the sides of the head and neck, and on the breast. There is a short stiff mane on the back. The Tapir is a quiet harmless animal, which rushes into the bushes at the approach of danger, but when it is attacked in the water, it immediately dives, and swims for some distance under the surface. It resembles a pig in the greediness with which it feeds on all sorts of food.

The *Equidæ* or Horses are long-legged, slenderly formed animals, and the existing species have only one toe with a large hoof. There are always six incisors in each jaw, and a considerable gap on each side between these and the molars. When the bones of the legs are examined, the comparative shortness of the upper bones is remarkable, while the bones of the foot corresponding to the middle toe are very strongly developed, and form, with the three toe-joints, the last of which bears the hoof, the sole support of the body. The head is pyramidal and flattened, the ears erect and pointed, and the muscular and rather long neck is adorned with a long flowing mane on the back. The body is shapely, the legs slender, and the short tail very hairy, either from the base, or towards the extremity. In general, the hair is short and smooth, and the colour, especially in the domesticated species, very variable. All the senses are well developed in horses, and they are gifted with considerable intelligence. In the wild state these animals are gregarious, and live together in large herds. When danger threatens, they not only use their hoofs for flight, but also for defence. They chiefly inhabit plains and plateaus, but are also found in the mountains, where they climb the narrowest paths with surefooted agility.

Plate XXVII. fig. a represents the Arabian variety of the Horse (*Equus caballus*). The true Horses are among the largest and handsomest of the family. They are distinguished from their allies by the short pointed ears, flowing mane, and the tail, which is clothed from the root with long and strong hair. These are the general characteristics of the horse, but there are great differences between the races in different countries. All are fine, intelligent animals and greatly valued by men, but one of the finest and handsomest races is the Arabian. There are enormous herds of wild horses in some parts of America, which are said to have originated from those introduced by the Spaniards. There are, however, herds of undoubtedly wild horses in Asiatic Russia. Their heads are large, and their appearance is far less handsome than that of the tame horse, though they may excel in speed and endurance.

The Ass (*Equus asinus*, Plate XXVII. fig. b) is properly speaking a Southern animal. In the South it is a beautiful and graceful creature, much larger, smoother, and more spirited than the asses seen in the North. The finest are met with in Egypt and Persia, but beautiful animals, worth almost as much as a horse, may also be seen in Spain and Southern Italy. The Ass has a longer head and longer ears than the Horse, the mane is short, and the tail is only provided with long hairs towards the tip. Hybrids between the horse and the ass are common. Those between a horse and a she-ass are called Hinnies, and those between a he-ass and a mare Mules.

The Zebra (*Equus zebra*, Plate XXVII. fig. c) and the Quagga (*Equus quagga*, Plate XXVII. fig. d) are striped horses which inhabit the plains of Southern Africa in large troops. They are intermediate between the horse and the ass in form, and are of about the size of a large ass.

The true Zebra, which is now almost extinct,

is striped over the whole body, and has most resemblance to an ass, especially as the tail has long hairs only at the end. The Quagga is not striped on the legs, the tail is hairy from the root, and the ears are shorter. In general appearance it shows a much closer resemblance to the Horse than does the Zebra.

Order X. Arctiodactyla. (Swine and Hippopotami.)

(Plate XVII.)

By many writers, the Ruminating Animals are placed with this group, as a section of the *Ungulata*, or Hoofed Animals, in which the *Perissodactyla*, *Proboscidea*, &c. are also included as subordinate groups. But in the present work, we have preferred to treat them separately. The restricted Order *Arctiodactyla* agrees with the *Ruminantia* in the structure of the feet, which have an even number of toes, and in the molar teeth being covered with ridges of enamel.

The *Suidæ*, or Swine are found in all parts of the world except Australia. The head is conical, with small eyes, moderate-sized ears, a proboscis-like, truncated snout, and the jaws furnished with all three kinds of teeth, among which the projecting canines, which are larger in the males than in the females, are very conspicuous. The body is laterally compressed, the tail thin and ringed, the legs moderately long, slender, and furnished with four hoofs. They are the most voracious of all animals.

The only wild pig found in Europe is the Wild Boar (*Sus scrofa*, Plate XVII. fig. d) from which our domestic animal (Plate XVII. fig. c) is probably derived. The Wild Boar has been extinct in England for at least two centuries, but is still found wild in many parts of Europe, Asia and North Africa. He is a strong and comparatively active animal, and is

larger than the ordinary domesticated varieties; the legs are thicker, the head larger, the snout more pointed, and the tusks longer and sharper, especially in the males. The colour is dark blackish brown. These animals inhabit thickets and marshes in small herds, and generally avoid men, but when they are enraged, they will attack any enemy boldly, and can inflict fearful wounds with their tusks. They are frequently very destructive to crops. When killed, all parts of their bodies are valuable.

The Hippopotamus or River Horse (*Hippopotamus amphibius*, Plate XVII. fig. b), the representative of the family *Hippopotamidæ*, has an enormous head, a small brain, and a huge face, which is almost square. The teeth are hidden by the bulky muzzle. The great body rests on legs which are only two feet long, and are provided with four toes on each foot. The hide is naked, except that there are a few stiff bristles towards the end of the slender tail. The colour is dark brown, shading into a paler coppery hue beneath. The Hippopotamus is found in the rivers and lakes of a great part of Africa in herds of perhaps fifty individuals, but wanders out on the banks at night, where it often commits great devastation in the plantations of the natives. It is a very dangerous animal to attack.

Order XI. Ruminantia. (Ruminating Animals.)

The Ruminants form a rather large section of mammals. All have a comparatively small head, in which the face is much larger than the part containing the brain. The jaws are very prominent, and the dentition generally uniform. With the exception of a few families, there are 6 or 8 incisors in the lower jaw only, the canines are usually absent, and there are generally six molars on each side above and below, provided with enamel. The frontal bone is often decorated with peculiar outgrowths and bony projections, which are called horns or antlers. The feet are always provided with two separated hoof-bearing toes.

But the most characteristic feature of this Order is the division of the stomach into 3 or 4 compartments, an arrangement which allows the animals to throw up the undigested food which they have swallowed, and to chew it thoroughly, at their ease, mixing it with the secretions of various glands. This is called "chewing the cud".

Family **Camelidæ**. (Camels and Llamas.)

(Plates XVIII. XIX.)

These animals form the first section of the *Ruminantia*, the *Tylopoda*. They are large animals with long necks, slender loins, padded feet and long shaggy hair. The upper jaw has only two incisors,

but the lower jaw has six, and both jaws are furnished with canine teeth as well as incisors. This small group includes only the Camels and Llamas. The former are found in North Africa and Central Asia, and the latter in the west of South America.

The genus *Camelus* has an extremely long neck, and one or two large humps of fat on the back. The division of the hoofs is only visible above, for they are united beneath into a broad sole. This enables the animal to pass rapidly over a sandy surface without sinking in.

The Camels are indispensable to the nomad tribes of the desert, both for riding, and for beasts of burden. But their usefulness and endurance are the only good qualities which they possess.

The Arabian Camel (*Camelus dromedarius* Plate XVIII. fig. a) has only one hump, which increases or diminishes in size according to whether the animal is well fed or the contrary. It stands six feet high, and attains a length of about nine feet from the tip of the muzzle to the end of the tail. It is not known in the wild state, but is probably a native of Arabia and North Africa, from whence it has been introduced into Tuscany, South Spain, Mexico, &c., where it thrives well under favourable conditions. The strong breeds used for carrying burdens are called camels, and the lighter and swifter breeds used for riding are called dromedaries.



a) Indian Elephant.
Elephas indicus.

b) One-horned Rhinoceros.
Rhinoceros indicus.