

THE  
NATURAL HISTORY  
OF  
ANIMALS

(CLASS MAMMALIA—ANIMALS WHICH SUCKLE THEIR YOUNG).

IN WORD AND PICTURE.

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The Malayan or Shabrack Tapir, the Maiba of the natives (*Tapirus indicus* (*malayanus*)), fig. 147, is distinguished from the Brazilian only by its rather shorter proboscis flattened underneath, by the less abrupt profile of the head, by the absence of the mane, and by the colour and markings of the skin. The whole body is very dark with the exception of the

hinder part, which is of a dirty-white colour, and makes it appear as if the whole of the body from the shoulders to the root of the tail and the top of their thighs were covered with a shabrack or horse-cloth fastened under the belly. This rare species, found chiefly on the Malay Peninsula and the island of Sumatra, was first made known to science in

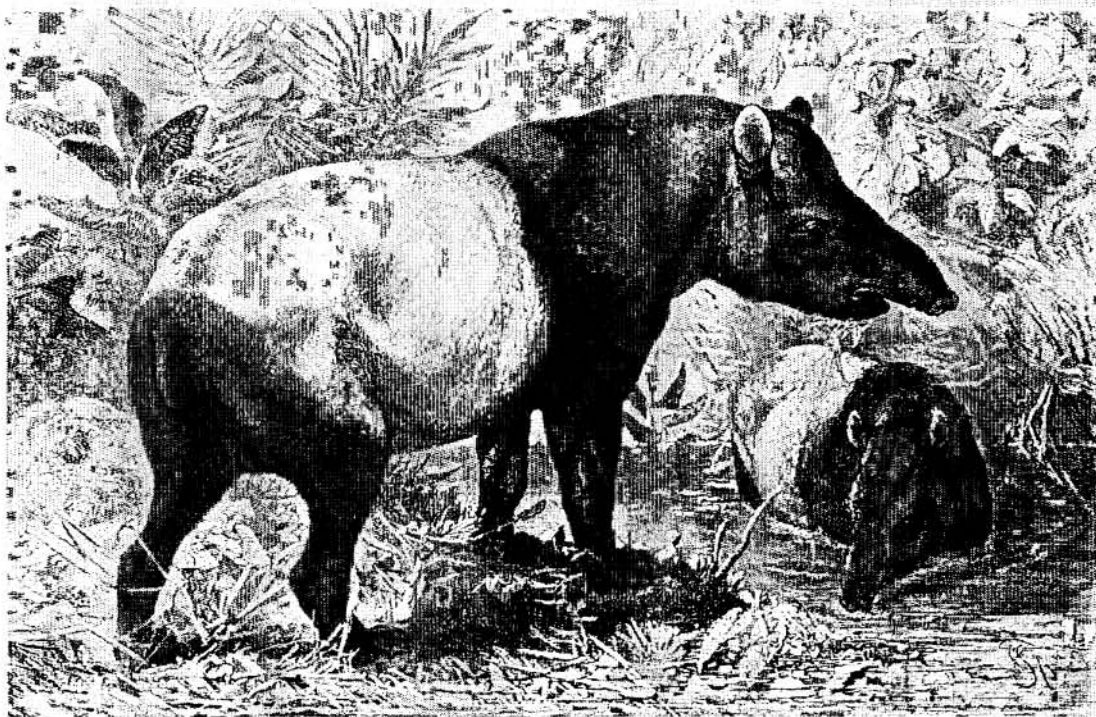


Fig. 147.—The Malayan Tapir (*Tapirus indicus*).

1820. A few specimens have been brought to Europe, but they have not lived long.

An American species, the Andes or Hairy Tapir (*T. Roulinii* or *villosus*), has a still more sloping forehead than the previous one, very thick and dense hair, quite black, with an indistinct whitish patch on the lips. By this development of a woolly covering the species has adapted itself to a life in the high valleys of the Cordilleras at a height of 10,000 feet and more, where severe winters prevail.

Finally Baird's Tapir (*Elasmognathus* (*Tapirus*) *Bairdii*), of a uniform dark brown, with white lips and without a mane, has only recently been discovered in Guatemala and on the isthmus of Panama. This tapir is distinguished in a very marked manner from

the others by the very level brow like that of a boar, by the bony septum of the nose, and by the more delicate and narrower hoofs. The structure of the nose causes the skull to resemble that of the following family.

## THE RHINOCEROS FAMILY

(NASICORNIA).

At the present day this family consists of only a single genus, *Rhinoceros*, within which subordinate groups have been formed in accordance with the degree of persistence in the incisors, the presence or absence of a second horn, or even the greater or less thickness of the hide.

All rhinoceroses are huge, heavy, clumsy

animals, with bent legs so short that the belly seems almost to drag on the ground, extremely ugly in appearance, with a rather surly temper generally, and during accesses of fury terrible. They are confined at the present day to the tropics of Africa and India, and present specific differences in different localities.

The head is of moderate size, we may even say small in comparison with the huge body; it is greatly elevated behind. Above, at the back of the head, there are long ears in the form of pointed paper-cornets with a narrow thickened rim. The small eyes are placed at the side, the long projecting snout is arched above, and on this arch stands a horn of variable size, or sometimes there are two horns one behind the other. These horns, which are borne on very strong upwardly-curved nasal bones, are composed solely of fused horny fibres, and their texture is exactly like that of the hoofs or the hollow horns of oxen. But they are distinguished from the latter in that they have no bony core, being quite solid and connected only with the skin. The nasal bones are only wrinkled and spongy at the parts where these horns are attached not very firmly. The horns readily come off a few days after the death of the animal, through the destruction of the vessels and the horn-pulp. In certain districts these horns still have a considerable value. They are used to make cups, which have the reputation of destroying the efficacy of poisons poured into them.

The jaws and opening of the mouth are enormous, the lips thick, and especially the upper lip, which is covered with a very thin skin, and is produced in the middle into a finger-like prolongation, which enables the animal to seize the twigs and stems of plants on which it feeds. The neck is usually thicker than the head and surrounded by broad folds of skin, the belly very thick, the tail short, and ending in a tuft. The legs cannot be better described than by comparing them to those of a badger-hound, so twisted and unshapely are they. They terminate in three

toes, which are placed very close together, covered with arched hoofs, and which all touch the ground. Behind these hoofs there is a broad callous sole. The very thick tough hide is highly valued for the making of shields, straps, cords, and whips. In living animals it presents two very remarkable modifications, which have even been employed for the grouping of species. In the Asiatic forms there are scattered over it broad shield-like plates composed of firmer parts, which are connected together by more flexible folds all running in the same direction. The animal appears to carry a coat of armour composed of several pieces, admitting of a certain amount of mobility at the neck, shoulders, and hips. In the African species, on the other hand, the hide, though far from thin, is yet more flexible, adapts itself better to the outline of the body, and presents a smooth surface, instead of exhibiting, like the armour-clad forms, as we might call them, a number of knobs and bosses, which have a distant resemblance to the inequalities in the shields of the armadillos. Usually this skin is quite naked; only a few hairs are found on the edges of the ears and at the end of the short tail, where they form a tuft which never reaches down to the hollow of the knee. The Quaternary rhinoceros, whose remains are found in such abundance along with those of the mammoth (*Rh. tichorhinus*), had a woolly fleece interspersed with stronger bristles, manifestly as the result of adaptation to colder climates.

The skeleton of these animals everywhere shows heavy clumsy forms, with very marked ridges for the insertion of the muscles. The skull is in some species short and compact, in others greatly lengthened in consequence of the enormous size of the jaws. The rough warty patches indicating the place of attachment of the horns (which, in some species, may grow to a length of more than 3 feet) are very conspicuous on the back of the nasals. The transverse ridges at the back of the head, the processes of the vertebræ, the



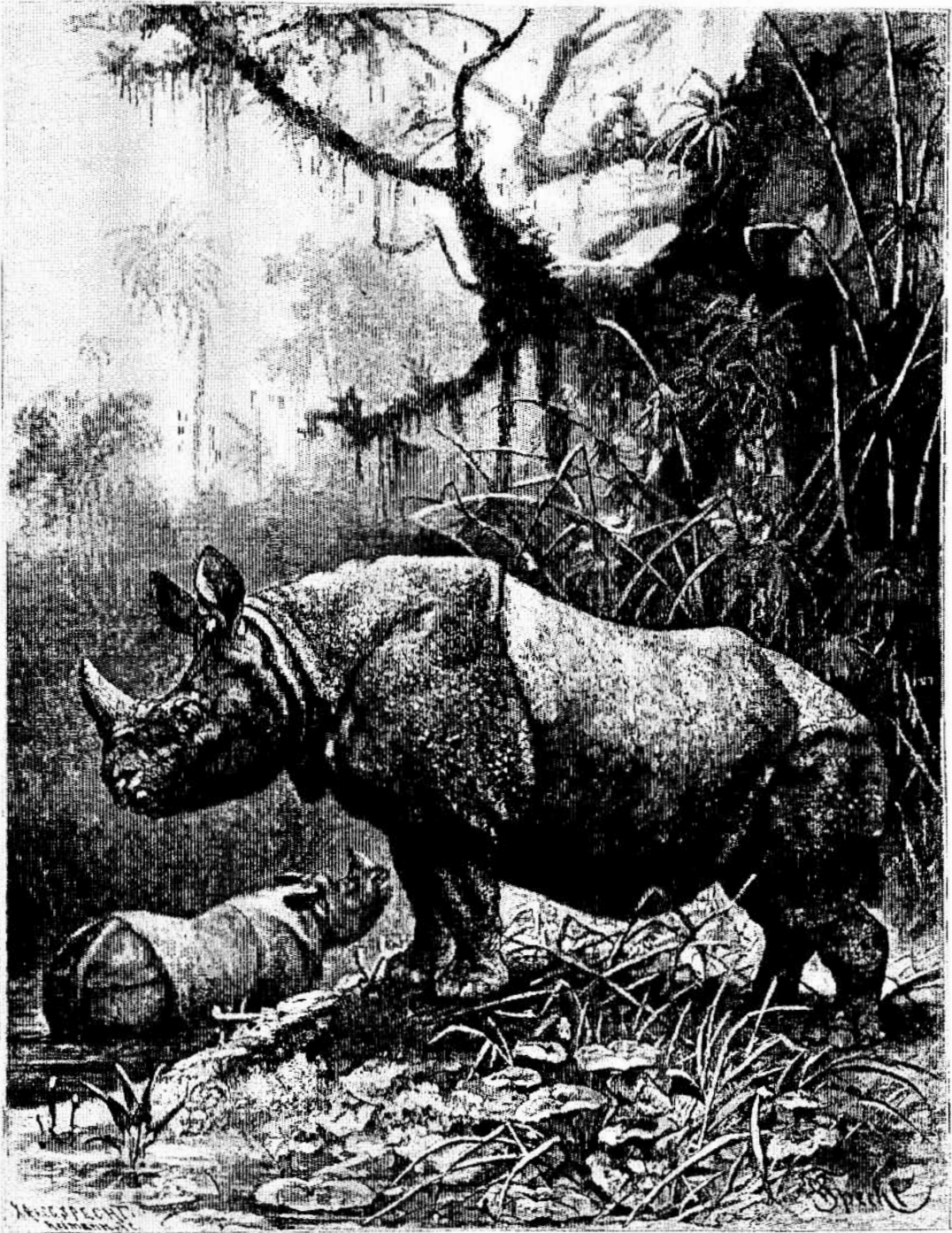
ridges on the bones of the limbs, and especially the third trochanter on the thigh, are enormous; even the ribs have oblique middle ridges throughout their entire length.

The dentition is characterized by the want of constancy in the front teeth, and the peculiar form of the enamel folds in the cheek-teeth. The canines are always wanting, so that a considerable interval separates the cheek-teeth from the incisors, which were originally (in fossil forms) four or even six in number both above and below. The rhinoceroses of the present day have at first two incisors in each half of the jaw, but their subsequent development varies greatly. In the upper jaw the incisors are very close-set; the outer pair are the smaller and first disappear. In the lower jaw the incisors are conical, almost horizontal, and directed forwards; the outer ones are often very strong, and in some fossil species developed almost in the form of tusks. They persist the longest; while the inner ones drop out early, although always subsequently to the shedding of the outer incisors of the upper jaw. At last all the incisors disappear and are never replaced. We thus have species in which there are only two incisors above and four below; others in which only two incisors are found below in the adult; and others again in which they are latterly altogether wanting, and in which the callous margins of the gum serve to root up plants. In the young animal the various stages of this gradual reduction can be observed. The cheek-teeth are seven in number in each half of each jaw, in all twenty-eight, but they are very diverse in their nature. The upper ones are much larger than the lower. They have two irregular transverse prominences, which are separated on the inside by a deep winding fissure, but on the outside are connected by a longitudinal fold. When the tooth has been worn down to some extent these prominences seem to be surrounded by a continuous curiously-twisted strip of enamel. The lower cheek-teeth are longer than broad, and

exhibit two sickle-shaped bodies surrounded by enamel, these bodies standing obliquely behind one another and having their convexity behind.

Among the internal parts of the organization we may take note of the relatively small simple stomach, the enormous colon and cæcum, the small brain, the two-horned uterus, the two inguinal teats, and the diffuse placenta. The female remains pregnant seventeen months, and brings forth a single young one, which is defended by the mother with fury. The horn begins to grow only when the young animal has advanced a little in age; the new-born animal has only a slight swelling on the nose, such as characterized the hornless ancestors of our present rhinoceroses (*Aceratherium*) throughout life.

The habits of these dull, stupid, and clumsy but powerful animals are almost everywhere the same. They are exclusively herbivorous; but while most of them prefer marshy woods, the jungle, and the banks of rivers and ponds where they can wallow in the mud, we have African species (*Rh. sinus*) which show a preference for the steppes with dry stiff grasses. But in general rhinoceroses require water and mud if it is for nothing else than to defend themselves against the insects which torment them in spite of the thickness of their hide. These giants have no enemy to fear except man. Lions and tigers go out of their way, for their horns and feet are terrible weapons, and when once a rhinoceros has broken out into fury nothing can withstand the violence of his onslaughts. With head down he darts upon his enemy, throws him to the ground, and tramples him under his feet. We have heard of battles between elephants and rhinoceroses, but no recent observer has ever witnessed one. But it appears that these two giants of the forest shun one another, although in Quaternary times the mammoth and the rhinoceros with bony nasal septum manifestly lived together as peaceable neighbours.



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PLATE XIX. — THE INDIAN RHINOCEROS (*Rhinoceros indicus*).

The rhinoceroses have an acute sense of hearing and a keen scent. They avoid man when they have come to know his power, and in hunting these animals it is necessary to observe carefully the direction of the wind and to proceed without noise. But when met unexpectedly or driven into a corner the rhinoceros becomes terrible, and woe to the sportsman who misses his aim! In the forests which they inhabit they make paths for themselves through the densest underwood by treading down everything in their way, and although the hunters make use of these paths they nevertheless carefully avoid meeting with these stupid and passionate animals. In captivity the rhinoceroses are sluggish, unintelligent, and unsocial. They can scarcely be rendered attached to their keepers, who are obliged to behave with great caution towards them. They astonish but do not attract visitors.

The rhinoceroses may be divided into two groups.

The Asiatic Rhinoceroses have permanent incisors, and armour-plates on the hide separated by deep folds. They have sometimes one, sometimes two horns.

In a full-page illustration (Pl. XIX.) is shown a one-horned species known from time immemorial, the Indian Rhinoceros (*Rh. indicus*), which is distributed over the region from Bengal to Cochin-China. It attains a length of 13 and a height of 6½ feet. The horn, more than a foot and a half long, is curved backwards and is rather slender; the upper lip is very large. It has the most complete armour of all. One plate covers the back of the neck, another the shoulder, a third the belly, a fourth the rump, and a fifth the thigh. The hide is of a dirty-gray colour. Pompey caused the first specimen which was ever seen in Europe to be brought to Rome in the year 61 B.C. It is eagerly pursued on account of the tremendous ravages it commits in plantations. Among the other eastern species the Javan Rhinoceros (*Rh. javanicus*)

(*sondaicus*) is one-horned like the preceding species; while that of Sumatra (*Rh. sumatrensis*), and another from Malacca, with tufts of hair on the ears (*Rh. lasiotis*<sup>1</sup>), have two horns and form the transition to the African species.

The African Rhinoceroses have all two horns and a thinner hide forming folds without plates. Their incisors drop out.

The Two-horned Rhinoceros (*Rh. bicornis*), Pl. XX., is quite as large as the Indian species, but the head is shorter and carries two horns, the foremost of which is the longest. The hide has a dark-brown colour inclining to black. The animal formerly inhabited the whole of the mainland of Africa down to the Cape, but has been driven northwards towards the interior by the colonists on account of the ravages it committed in their plantations. It is regarded as much more stupid and much wilder than the Indian species. The hide has only small folds.

[The Hon. W. H. Drummond, author of *The Large Game of South and South-east Africa*, speaks on several occasions of the ferocity of *Rh. bicornis*, which he considers the most dangerous of all African game. This ferocity, however, is exhibited only towards man, and without doubt there is good reason for its manifestation. "Their cunning," he writes, "is only equalled by their viciousness. In most, if not in all cases, they will at once charge on getting the wind of a human being, and if they cross his track they will often follow it up like a dog, making none of the puffing sounds natural to them when angry, till they absolutely see him. When wounded, and occasionally when much disturbed, their spoor consists of parallel straight lines, so that it is next to impossible to overtake them without being discovered, and giving them an opportunity of charging you from one side. They will wait with the utmost patience concealed in thick jungle, until you almost touch them, and then rush out at you. When they do catch an unfortunate being, they knock him down and knead him with their feet, returning again and again until nothing but a shapeless mass remains,

<sup>1</sup> This is a very rare animal. Only two examples are said to be as yet known. See *Nature*, vol. xxix. p. 427.—T.R.



uttering all the day their shrill squeal of rage. This I once saw myself.

"Four of us, consisting of myself, three native hunters, and my gun-bearer, were on our way to join a native hunting-party some twelve miles off, and just after crossing a small stream about half-way we saw a flock of rhinoceros-birds hovering over an ukaku thicket, and evidently accompanying some game passing through it. The place was of no great size, so two of the hunters ran round to the further sides, while I and the remaining one went into it, and in a few seconds struck the spoor of an upetyanc.<sup>1</sup> I am thankful now to recollect that I at once suggested leaving the vicious brute alone, partly because it was such dangerous work and its death would do us no good, partly on account of the time it would waste and the distance we had yet to go. However, the hunter wanted to go after it, and to have said more would have implied fear on my part, a thing one has to guard against when, being the only white man among natives far in the interior, one's comfort, and not impossibly one's life, depends upon one's prestige; and so we went on, and in scarcely five minutes I saw it, having already heard it snorting like a steam-engine, trotting along, tossing its head, and looking like mischief personified, having evidently got the wind of some of us, and being quite as anxious to find us as we it. It was about fifteen yards off, and I instantly let drive with both barrels into its shoulder, springing as I did so into the tree under which I was.

"My unlucky companion, who was a little distance on one side, and had hitherto only heard it, came running towards the shots, and absolutely met it face to face; he at once fired and turned to run, but it was too late, and he was caught on the spot, thrown up with a single toss, which must probably have stunned him, and was then trampled out of all semblance to humanity by the bloodthirsty brute. Any description would be sickening. I could do nothing, for my gun-bearer had disappeared, seeking safety in some other spot, and I found that I had not a single cartridge left in the little pouch I carried; but after a minute I could stand the inaction no longer, and getting down from the tree unperceived I stole away, and as soon as I was out of reach began to shout to the others. Two of them soon came up, my gun-bearer and a hunter, one of them having hidden himself on finding the sort of animal we had to

deal with; and I having got a supply of cartridges, we went back to the spot until we got sight of the brute, still trampling and squealing, when, kneeling down, we fired at it together.

"My nerves had been so much shaken that I was unsteady and missed clean, not twenty yards off, but the ball from my companion's great elephant-gun sped more truly, and the brute fell on its knees, where, by dint of repeated if not very well-aimed shots, I succeeded in keeping it until he had reloaded, when we finished it off together."

In illustration of the ferocious disposition of the animal one instance is related in which the consequences are little more than amusing to read, though disagreeable enough no doubt at the time of the occurrence. A small party of hunters, of which Mr. Drummond was one, were engaged in roasting an antelope, the sole resource after a hard day's work, for their evening meal. "In about an hour the first shoulder was done, and the boy brought it to me and stuck it up in front of me by means of the stick which had already been supporting it while roasting, and I, drawing my hunting-knife, and sharpening a stick for a fork, was just in the act of breaking my fast for the first time that day, when I heard a sudden succession of puffs, like a train just starting, and could distinguish the heavy footfall of some animal. In a second everybody was on his feet, and in another we were all scrambling up the tree, I, I am sorry to say, still holding on to my shoulder of antelope, and oblivious of the fact that I had left my gun down below. We were barely in time; indeed, if the rhinoceros had charged straight up to the tree it must have caught me; but it was not necessary to go very high, and I was soon able to watch its movements. Hardly ten seconds had elapsed since I had heard the first warning puff, and now our fire was scattered in every direction, and the vicious animal was stamping upon it and everything else it saw, and squealing with rage the whole time. The meat had disappeared, some of it trampled into the ground, and some thrown yards away by its feet; two great burning logs of wood were smoking on the top of my spread-out bed, and even from where I was I could smell the smouldering blankets; the remains of my water-calabash were lying in every direction, and everything in camp, save my gun, which the brute had not so far touched, was more or less destroyed. It was enough to try any one's temper, and I asked the man next me if his gun was loaded, and

<sup>1</sup> Native (Kaffir) name of the *Rh. bicornis*.



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PLATE XX. — THE TWO-HORNED RHINOCEROS (*Rhinoceros bicornis*).



on getting an affirmative answer I told him to pass it over to me, and propping myself up against the trunk to prevent myself being knocked down, for it was an elephant-gun of six to the pound, I aimed at the shoulder of the trampling and squealing beast and pulled the trigger. A stillness followed the report for a second, and then a heavy thud, and after that violent struggles on the ground. The other hunter had a double-barrel, and emptied both of them into the struggling mass below him; but despite the shots the brute regained its legs, and went away the moment after it did so, its vicious temper much sobered by the treatment it had received. Ours were not, however, improved by the incident, and it was all I could do to prevent one of the hunters, who was almost speechless with rage at losing his supper, from giving chase on the spot. . . . A shoulder of antelope was not much among four famished men."

Another African species (*Rh. simus*) is the largest of all. The head is very long, the snout rounded like that of an ox, the front horn very large, a yard and more in length, the hinder one very small. This species frequents the steppes covered with tall grass, amidst which it often grazes in very numerous herds, and in the dry seasons it undertakes great journeys in search of water. This species, notwithstanding its superior size, is regarded as the most good-natured of all. It is hunted chiefly for its flesh, which appears to be excellent.

## THE HORSE FAMILY

(EQUIDA).

In our present fauna this family forms a group so well characterized by the structure of the feet, and so natural, that if only the living types are taken into consideration one is perfectly justified in making a separate order out of them under the name of Solidungula, the single-hoofed. But the distinctions, seemingly so sharply defined, gradually disappear when we place the forms that have lived in earlier times side by side with the living ones. The feet provided with a single hoof are then seen to be the last stage in a

process of evolution in course of which there first appeared forms which had feet like the rhinoceroses and tapirs, and in which the general characters of the Perissodactyla are revealed with so much clearness and distinctness that it is impossible to assign a greater value to the equine type than that of a family. The horse is the last member in a series of forms due to a process of specialization governed by the tendency to transform many-toed and comparatively sluggish, heavily-built animals into runners, which do not yield in fleetness to any other forms. The feet are simplified by this process to the highest degree, and are modified so as to be adapted solely for running. If we adopt the standpoint which it has been our constant aim to maintain in this work with respect to the evolution theory, we must regard the Solidungula as the type of a highly-specialized family.

We all know the general characters of the horses, zebras, and asses which make up this family. The greatly-elongated head with straight profile and sharp-pointed ears, the long neck, the relatively short body borne on long slender legs, the feet ending in rounded hoofs, the tail of moderate length bearing a long brush composed of coarse hair, the mane of bristly hair on the neck, the covering of finer short hair on the body lying very thick but so closely applied to the skin that the most minute details of the form are visible; all these characters are such as the reader does not need to be reminded of. The feet with only a single hoof enable us to recognize at the first glance the not very numerous species of this family which are now found wild only in the Old World. As domestic animals the horses have not only reconquered the domains which they formerly inhabited, but have spread over the entire surface of the earth save only the extreme Polar regions.

The skull of the horses when seen from above strikes us by its narrow greatly-clon-