GENERAL ZOOLOGY

— *or* —

SYSTEMATIC NATURAL HISTORY

— *by* —

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WITH PLATES

from the first Authorities and most select specimens

Engraved principally by

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RHINOCEROS.

Generic Character.

Cornu solidum, perenne, conicum, naso insidens.	*Horn* solid, perennial, conical, seated on the nose.

SINGLE-HORNED RHINOCEROS.

Rhinoceros Unicornis. *R. cornu unico. Lin. Syst. Nat. Gmel. p.* 57.
Rhinoceros with a single horn.
Rhinoceros. *Parsons Phil. Trans. vol.* 42,
Buff. 11. *p.* 174. *pl.* 7.
Edwards, pl. 221.

THE Rhinoceros is the largest of land animals, the Elephant alone excepted. It is of a highly uncouth and awkward form. The back, instead of rising, as in the Elephant, sinks in considerably: the head is moderately large and long: the upper lip protrudes or hangs over the lower in the form of a lengthened tip; and, being extremely pliable, answers the end of a small proboscis; and is useful to the animal in catching hold of the shoots of vegetables, &c. and delivering them into the mouth. On the nose is situated a very

SINGLE-HORNED RHINOCEROS.

strong, slightly curved, sharp-pointed horn, which, in the full-grown animal, is sometimes three feet in length, and eighteen inches in circumference at the base. The mouth has four cutting-teeth, which are placed at each corner of each jaw: there are also six grinders in each jaw; of which the first is remote from the cutting-teeth. (In strict propriety it may be doubted whether the four teeth first mentioned should be called by the title of cutting-teeth.) The ears are moderately large, upright, and pointed: the eyes small: the skin naked, rough, and tuberculated, or marked with very numerous, large, callous granulations: it is destitute of hair, except a few straggling and very coarse bristles on some parts of the head, &c. About the neck the skin is disposed into several large plaits or folds: another fold of the same kind passes from the shoulders to the fore legs; and another from the hind part of the back to the thighs: the tail is slender, flattened at the end, and covered on the sides with very stiff and thick black hairs: the belly is somewhat pendulous, or shaped like that of a hog: the legs very short, strong, and thick: the feet marked into three large hoofs, all standing forwards. The general height of the Rhinoceros is about eight feet; but it is said that some have been seen in Sumatra and Java which nearly equalled the size of the Elephant; though they appeared lower, on account of the sinking back; the pendulous abdomen, and short legs.

The Rhinoceros is a native of several parts of

India, as well as of the islands of Java, Sumatra, &c. This animal falls far short of the Elephant in sagacity and docility. It is, however, of a quiet and inoffensive disposition, but very furious and dangerous when provoked or attacked; he is said to run with great swiftness, and, from his strength and impenetrable covering, is capable of rushing with resistless violence through woods and obstacles of every kind; the trees bending like twigs while he passes between them. In general habits and manner of feeding the Rhinoceros resembles the Elephant; residing in cool sequestered spots, near waters, and in shady woods: it delights in rolling occasionally in the mud, in the manner of a hog. Its skin is so hard as to be impenetrable by any common weapons, except on the belly: it is even said, that, in order to shoot a full-grown Rhinoceros of advanced age, it is necessary to make use of iron bullets; those of lead having been known to be flattened against the skin.

The bones of the Rhinoceros, like those of the Elephant, are often found in a fossil state in various parts of the world; and in the year 1772 an entire Rhinoceros was found buried in the banks of a Siberian river, in the ancient frozen soil, with the skin, tendons, and some of the flesh, in the highest state of preservation. It was discovered in the sandy banks of the river Witim, which falls into the Lena, below Jakutsk, in N. lat. 64. A full account of this curious discovery is given by Dr. Pallas, in the 17th vol. of the Petersburgh Transactions.

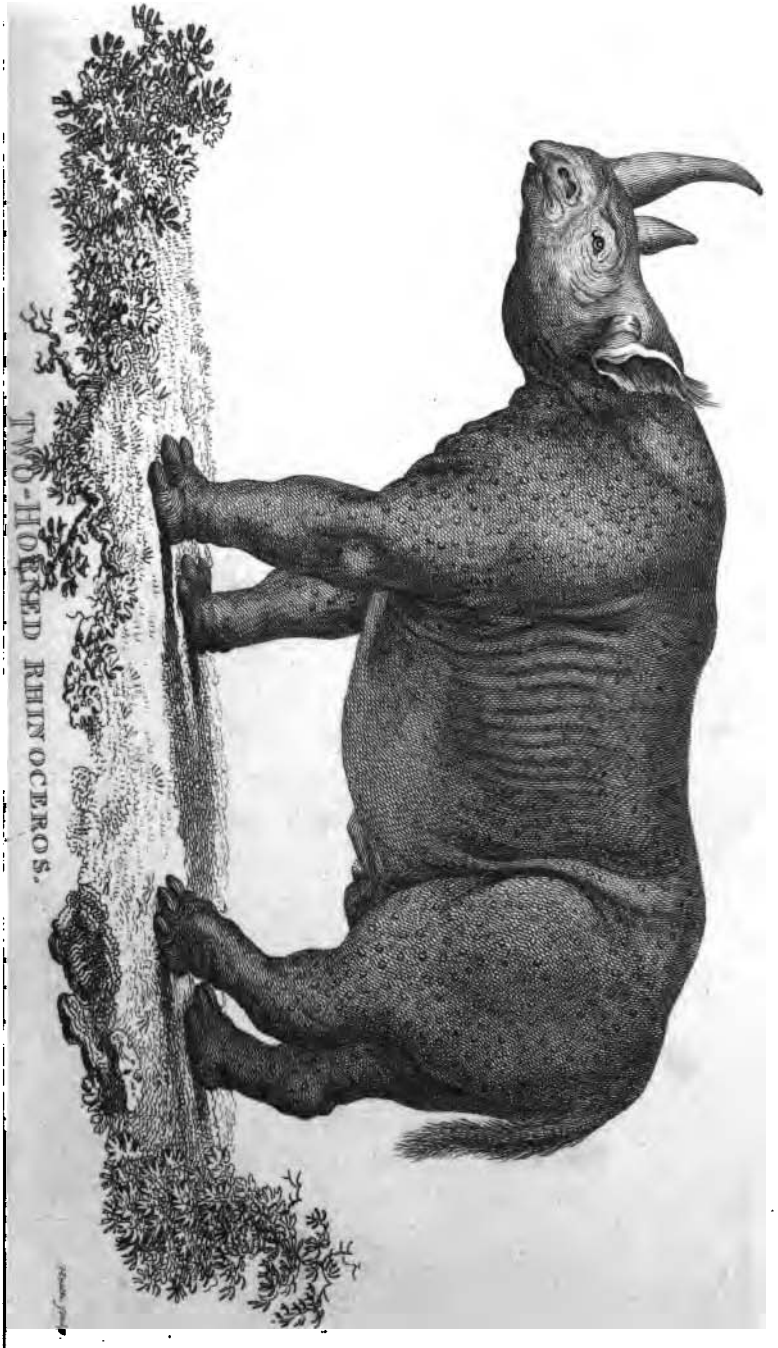
The first specimen of the common or Indian Rhinoceros ever imported into Europe since the time of the Romans, is supposed to have been that which was presented to Emanuel, king of Portugal, in the year 1513. It gave rise to the first figure of the Rhinoceros by Albert Durer; but it is concluded, and not without good reason, that he never saw the animal himself, but received from some correspondent the drawing from which he executed his figure, which evidently appears to have been decorated with fictitious folds, plaits, scales, and scollopings, and, besides the horn on the nose, has a smaller one situated on the back of the neck. This figure of Albert Durer's has been frequently copied in works on natural history, and occurs in Gesner, Aldrovandus, &c. &c. The other figures of the Rhinoceros, afterwards published, though free from Albert Durer's errors, were still faulty; and it was not till the year 1743 that a faithful representation of this animal was presented to the public. This appeared in the Philosophical Transactions, and the figure was executed under the superintendance of Dr. Parsons, an excellent zoologist of that period. The celebrated Edwards also, in the first volume of his "Gleanings of Natural History," published a beautiful representation of the same specimen. The animal, however, was but young, and the horn, of course, but in its first approach towards elongation. The figure in the Count de Buffon's Natural History seems to have been the next authentic representation, and appears to have been some-

what more advanced in age than that figured by Edwards and Dr. Parsons.

TWO-HORNED RHINOCEROS.

Rhinoceros Bicornis. *R. cornubus duobus. Lin. Syst. Nat. Gmel. p.* 57.
Rhinoceros with two horns.
Sparmann act. Holm. 1778.
Two-horned Rhinoceros. *Pennant Quadr.* 1. *p.* 150. *Buff. suppl.* 6. *pl.* 6.

THIS species is found in various parts of Africa, and seems to have been the kind which was known to the ancient Romans, and by them exhibited in their public shows and combats of animals. In size it equals the common or single-horned species; and its habits and manner of feeding are the same: but it differs greatly in the appearance of its skin, which, instead of the vast and regularly marked armour-like folds of the former, has merely a very slight wrinkle across the shoulders, and on the hinder parts, with a few fainter wrinkles on the sides, so that, in comparison with the common Rhinoceros, it appears almost smooth: the skin, however, is rough or tuberculated, especially in the larger specimens: but what constitutes the specific or principal distinction is, that the nose is furnished with two horns, one of which is smaller than the other, and situated above it, or higher up on the front. These horns are said to be loose when the animal is in a quiet state,



TWO-HORNED RHINOCEROS.

but to become firm and immoveable when it is enraged. This observation is confirmed by Dr. Sparman, who observed, in a specimen which he shot in Africa, that they were fixed to the nose by a strong apparatus of muscles and tendons, so as to allow the animal the power of giving them a steady fixture on proper occasions. This, indeed, is treated by Mr. Bruce, the celebrated Abyssinian traveller, as an absurd idea; but, on inspecting the horns and skin on which they are seated, it does not appear that they are firmly attached to or connected with the bone of the cranium.

Mr. Bruce is also of opinion that the common or Single-horned Rhinoceros is found in many parts of Africa, as well as in Asia; and in this there surely seems no improbability.

The figure of the two-horned species in Mr. Pennant's History of Quadrupeds seems to represent the whole animal scaly; the roughness of the skin being probably somewhat too harshly expressed in the engraving.

That in the supplement to Buffon, vol. 6. pl. 6. is a much superior representation.

The figure of the Two-horned Rhinoceros, in Mr. Bruce's travels, is unquestionably a copy of Buffon's representation of the common Rhinoceros, with the addition of a second horn. Whether this was done merely to save trouble, or whether the specimen seen by Mr. Bruce had really the same kind of folds and roughnesses on its skin as the common species, or, lastly, whether it was

a real variety of that animal, it is not easy to determine; but the latter seems the most favourable construction, and (if we allow that species to be found in Africa) is by no means an improbable supposition; since all other travellers, who have seen and described the two-horned species, agree in affirming that the very strong plaits and armour-like appearance of the skin, which so strikingly distinguish the common Rhinoceros, are not visible, or, at least, but very obscurely visible, in the two-horned species.

Mr. Bruce's description of the manner of feeding, as well as of some other particulars relative to the Two-horned Rhinoceros, seems highly worthy of notice. He informs us, that, "besides the trees capable of most resistance, there are, in the vast forests within the rains, trees of a softer consistence, and of a very succulent quality, which seem to be destined for his principal food. For the purpose of gaining the highest branches of these, his upper lip is capable of being lengthened out so as to increase his power of laying hold with this in the same manner as the Elephant does with his trunk. With this lip, and the assistance of his tongue, he pulls down the upper branches which have most leaves, and these he devours first; having stript the tree of its branches, he does not therefore abandon it, but, placing his snout as low in the trunk as he finds his horns will enter, he rips up the body of the tree, and reduces it to thin pieces, like so many laths; and when he has thus prepared it, he embraces as much of it

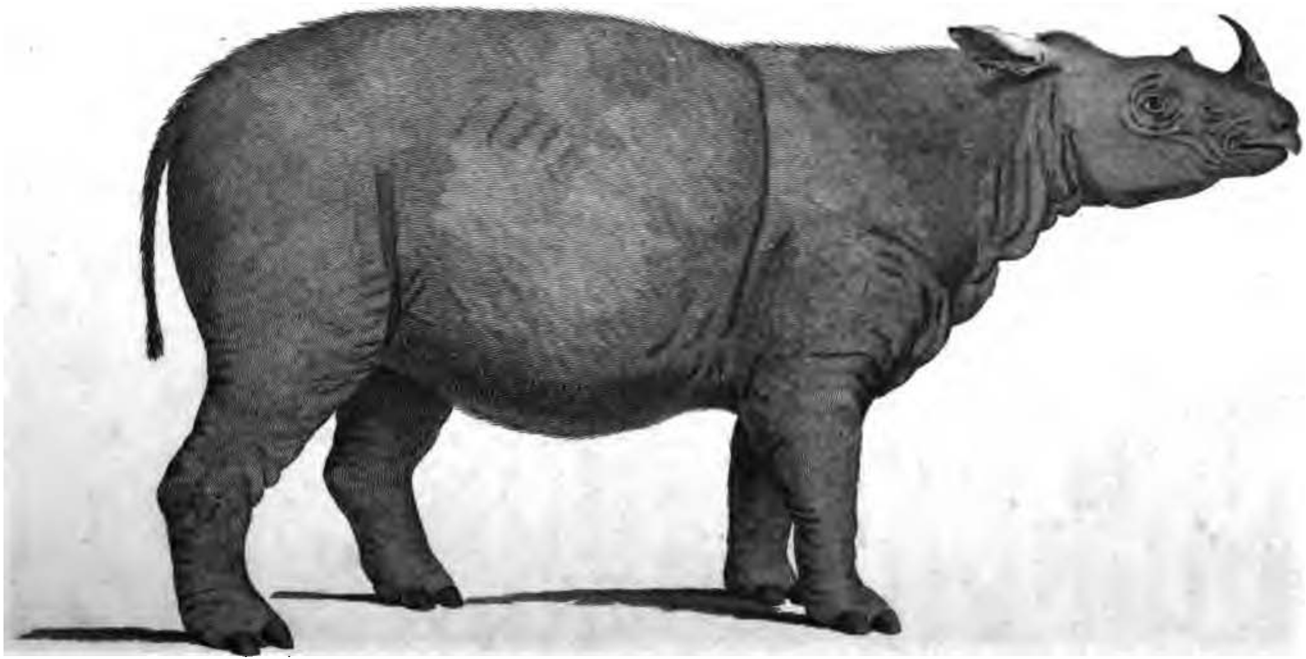
as he can in his monstrous jaws, and twists it round with as much ease as an ox would do a root of celery, or any such pot-herb or garden-stuff.

"When pursued, and in fear, he possesses an astonishing degree of swiftness, considering his size, the apparent unwieldiness of his body, his great weight before, and the shortness of his legs. He is long, and has a kind of trot, which, after a few minutes, increases in a great proportion, and takes in a great distance; but this is to be understood with a degree of moderation. It is not true, that in a plain he beats the horse in swiftness. I have passed him with ease, and seen many worse mounted do the same, and though it is certainly true that a horse can very seldom come up with him, this is owing to his cunning, but not his swiftness. He makes constantly from wood to wood, and forces himself into the thickest part of them. The trees that are frush, or dry, are broke down, like as with a cannon shot, and fall behind him and on his side in all directions. Others that are more pliable, greener, or fuller of sap, are bent back by his weight and velocity of his motions. And, after he has passed, restoring themselves like a green branch to their natural position, they sweep the incautious pursuer and his horse from the ground, and dash them in pieces against the surrounding trees.

"The eyes of the Rhinoceros are very small, and he seldom turns his head, and, therefore, sees nothing but what is before him. To this he

owes his death, and never escapes if there is so much plain as to enable the horse to get before him. His pride and fury, then, make him lay aside all thoughts of escaping, but by victory over his enemy. He stands for a moment at bay, then, at a start, runs straight forward at the horse, like the wild boar, whom, in his manner of action, he very much resembles. The horse easily avoids him, by turning short to aside; and this is the fatal instant: the naked man, with the sword, drops from behind the principal horseman, and, unseen by the Rhinoceros, who is seeking his enemy, the horse, he gives him a stroke across the tendon of the heel, which renders him incapable of further flight or resistance.

"In speaking of the great quantity of food necessary to support this enormous mass, we must likewise consider the vast quantity of water which he needs. No country but that of the Shangalla, which he possesses, deluged with six months' rain, and full of large and deep basons, made in the living rock, and shaded by dark woods from evaporation, or watered by large and deep rivers, which never fall low or to a state of dryness, can supply the vast draughts of this monstrous creature: but it is not for drinking alone that he frequents wet and marshy places; large, fierce, and strong as he is, he must submit to prepare himself against the weakest of all adversaries. The great consumption he constantly makes of food and water necessarily confine him to certain limited spaces; for it is not every place that can maintain



SUMATRAN RHINOCEROS. *from the Phil. Trans.*

1800 Feb'y London Publish'd by G. Kearsley Fleet Street. Heath sc.

him; he cannot emigrate, or seek his defence among the sands of Atbara."

The adversary just mentioned is a fly (probably of the genus Œstrus), which attacks the Rhinoceros, as well as the Camel and many other animals, and would, according to Mr. Bruce, as easily subdue him, but for the stratagem which he practises of rolling himself in the mud by night, by which means he clothes himself in a kind of case, which defends him from his adversary the following day. The pleasure that he receives from thus rolling in the mud, and the darkness of the night, deprive him of his usual vigilance and attention. The hunters steal secretly upon him, and while lying on the ground, wound him with their javelins; mostly in the belly, where the wound is mortal.

SUMATRAN RHINOCEROS.

In the Philosophical Transactions, for the year 1793, we also meet with a good figure of a Two-horned Rhinoceros, with an accurate description, by Mr. Bell, surgeon, who had resided some time in Sumatra. The specimen, however, which he describes, was but young, and probably far short of its full size.

"The shape of the animal was much like that of the hog. The general colour was a brownish-ash; under the belly, between the legs and folds of the skin, a dirty flesh-colour.

"The head much resembled that of the Single-horned Rhinoceros. The eyes were small, of a brown-colour; the *membrana nictitans* thick and strong.

"The skin surrounding the eyes was wrinkled. The nostrils were wide. The upper lip was pointed, and hanging over the under.

"There were six *molares*, or grinders, on each side of the upper and lower jaw, becoming gradually larger backward, particularly in the upper. Two teeth in the front of each jaw.

"The tongue was quite smooth.

"The ears were small and pointed, lined and edged with short black hair, and situated like those of the Single-horned Rhinoceros.

"The horns were black; the larger was placed immediately above the nose, pointing upwards, and was bent a little back: it was about nine inches long. The small horn was four inches long, of a pyramidal shape, flattened a little, and placed above the eyes, rather a little more forward, standing in a line with the larger horn, immediately above it. They were both firmly attached to the skull, nor was there any appearance of joint or muscles to move them.

"The neck was thick and short, the skin on the under side thrown into folds, and these folds again wrinkled.

"The body was bulky and round, and from the shoulder ran a line or fold, as in the Single-horned Rhinoceros, though it was but faintly

marked. There were several other folds and wrinkles on the body and legs; and the whole gave rather the appearance of softness.

"The legs were thick, short, and remarkably strong; the feet armed with three distinct hoofs, of a blackish-colour, which surrounded half the foot, one in front, the others on each side. The soles of the feet were convex, and of a light colour, and the cuticle on them not thicker than on the foot of a man who is used to walking.

"The whole skin of the animal is rough, and covered very thinly with short black hair. The skin was not more than one third of an inch in thickness, at the strongest part; under the belly it was hardly a quarter of an inch; any part of it might be cut through with ease by a common dissecting knife.

"The animal had not that appearance of armour which is observed in the Single-horned Rhinoceros.

"Since I dissected the male, I have had an opportunity of examining a female, which was more of a lead-colour: it was younger than the male, and had not so many folds or wrinkles in its skin; of course it had still less the appearance of armour."

The height of the first of these specimens, or the male, was, according to Mr. Bell, four feet four inches at the shoulder; nearly the same at the rump; and eight feet five inches from the tip of the nose to the end of the tail.

Upon the whole, there can be little doubt that there are, in reality, three different species of Rhinoceros, viz. the common or single-horned Asiatic Rhinoceros, which seems to admit of occasional varieties, and may, perhaps, be sometimes furnished with a second or smaller horn; the African double-horned Rhinoceros with a rough or tuberculated skin, which was the species known to the ancient Romans; and, lastly, the Sumatran double-horned Rhinoceros, described and figured by Mr. Bell in the Philosophical Transactions.

The skulls of the above animals, compared together, exclusive of other characters, afford sufficient grounds for supposing a real difference of species. It is also necessary to observe here, that the Sumatran species, being furnished with *dentes primores*, or fore teeth, seems, of course, to contradict the character of the order *Bruta*, in which it is here placed. The common Rhinoceros also, when young, is provided with fore teeth, which are afterwards lost; as is probably the case in the Sumatran species.

In the twelfth edition of the Systema Naturæ the genus Rhinoceros was stationed among the *Belluæ*. In reality, however, where other prominent characters appear, and which are of themselves sufficient for the purpose of investigation, this scrupulous attention to the nature and situation of the teeth is the less important.

Mons. Geoffroy, in the *Magazin Encyclopédique*, is inclined to believe that there either exist, or, at least, have existed, no less than five differ-

ent species of Rhinoceros, viz. 1. The Rhinoceros Africanus cornu gemino of Camper, who has given a figure of the skull in the Petersburgh Transactions for the year 1777. 2. The species found fossil in Siberia, and which, Mons. Geoffroy contends, is different from the common two-horned Rhinoceros, though of that division in the genus. 3. That of which the skull is figured by Camper, and described by him in a letter to Dr. Pallas in the abovementioned volume of the Petersburgh Transactions: this is a single-horned species, and was confounded, even by Camper, with the common Rhinoceros. 4. The common Single-horned Asiatic Rhinoceros. 5. The Sumatran Rhinoceros, described by Mr. Bell in the Philosophical Transactions.