

XII. *On the Rhinoceroses now or lately living in the Society's Menagerie.*

By P. L. SCLATER, M.A., Ph.D., F.R.S., Secretary to the Society.

Read June 15, 1875.

[PLATES XCV. to XCIX.]

THE main object of my remarks on the present occasion is to illustrate the very beautiful drawings by Mr. Wolf now before us. The series of the living species of the genus *Rhinoceros* now or lately living in the Society's Gardens being much larger than any that has ever yet been brought together, and the figures of these animals hitherto published having been mostly taken from stuffed and distorted skins, it has been thought that the present opportunity of obtaining correct outlines of the external form of the five species in our Gardens should not be passed by. Under these circumstances the finished water-colour drawings which I now exhibit have been prepared by Mr. Wolf. Taking them in order, one by one, I propose to say a few words, chiefly on the life-history of the individual specimens figured, and on points in immediate connexion therewith.

I. RHINOCEROS UNICORNIS. (Plate XCV.)

Rhinoceros unicornis, Linn. S. N. i. p. 104 (1766).*Rhinoceros indicus*, Cuv. Ménag. d. Mus. d'H. N. (1801).*Rhinoceros unicornis*, Selater, Rev. Cat. Vert. p. 79.

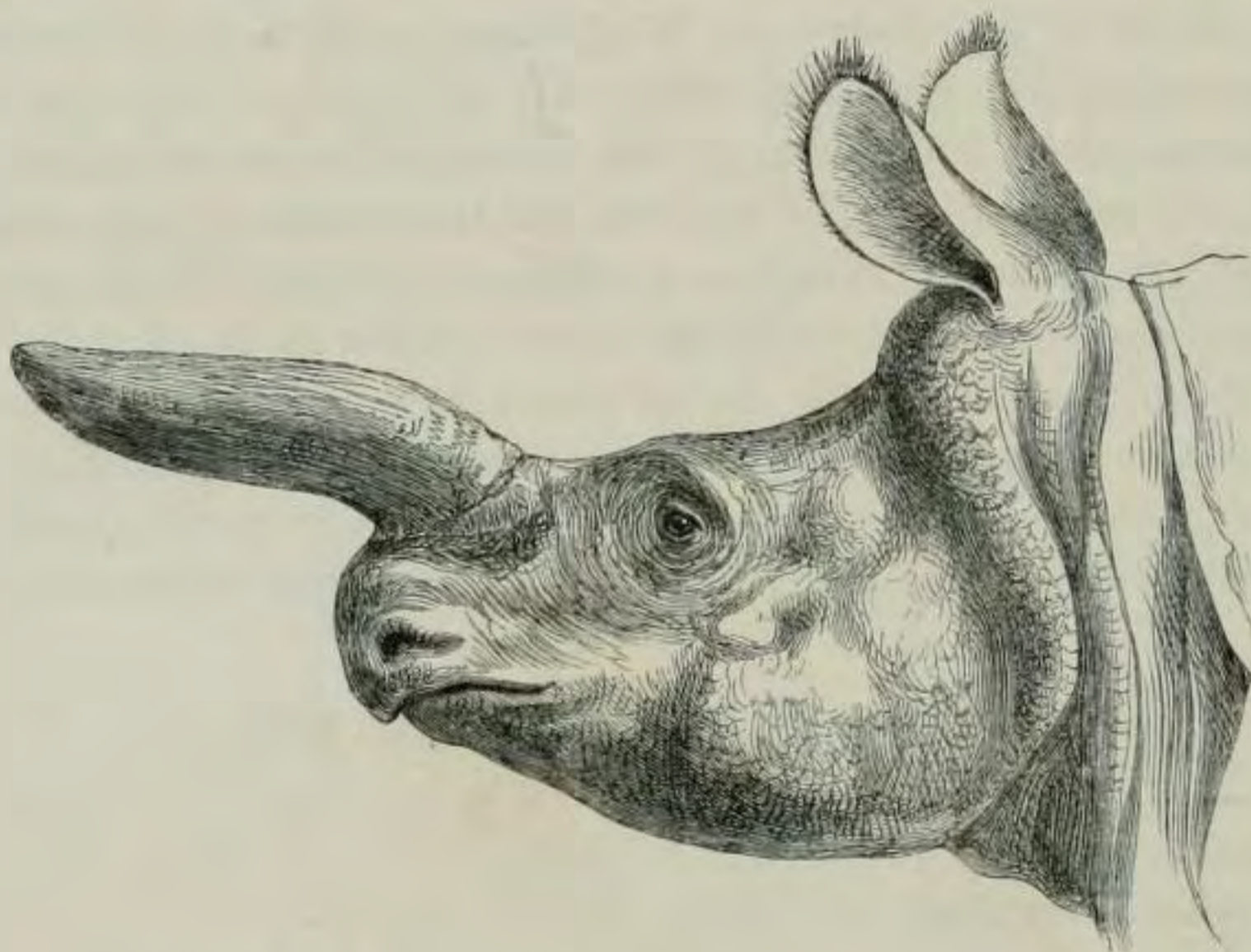
Of this huge animal the first specimen obtained by the Society was a male, purchased on the 28th of May, 1834, from Capt. Fergusson, for the sum of £1050¹, as I find on reference to the 'Minutes of Council' of that date. It died in November 1849, and was dissected by Professor Owen, who has given us the results of his examination of it in the excellent memoir published in the Society's 'Transactions'². Its skin was mounted, and is now in the Gallery of the British Museum.

In the following year this loss was replaced by the acquisition of a young female of the same species, purchased on the 5th of July, 1850, for the sum of £350. This animal lived more than twenty-three years in the Gardens, and died on the 14th of December 1873³. A few years before her death this Rhinoceros grew a horn of very abnormal size and shape, which I described as follows in a communication to the Society on this subject in 1871⁴:—

¹ See P. Z. S. 1834, p. 41, and Minutes of Council, vol. iii. p. 413.² Trans. Zool. Soc. vol. iv. p. 31.³ Cf. Garrod, P. Z. S. 1874, p. 2.⁴ P. Z. S. 1871, p. 10.

“I beg leave to exhibit a drawing of the present state of the horn of our old female Rhinoceros, which has now been in the Gardens since 1850 (fig. 1). Instead of rising nearly perpendicularly from the nose, as in the ordinary form of this species, the horn in this animal projects forward beyond the end of the nostrils, and has now attained a length of 18 inches or thereabouts. This may perhaps be due to the practice indulged in by this animal for several years of grinding down her horn against the bars of her cage; for it is only within the last few years that this appendage has grown into its present shape.”

Fig. 1.

Head of *R. unicornis* ♀, with distorted horn.

In 1864 an important addition was made to our series of Rhinoceroses by the arrival of a young pair of the present species from Calcutta, along with other animals, under the care of the late Mr. James Thompson, then head Keeper. Of these the male had been sent home as a present by Mr. A. Grote; the female was purchased for us by Mr. Thompson in Calcutta, along with a third specimen destined for the Zoological Gardens of Dublin. All these Rhinoceroses were, as Mr. Grote has kindly informed me, originally obtained from Assam, through the intervention of Colonel Agnew, then Commissioner of that province.

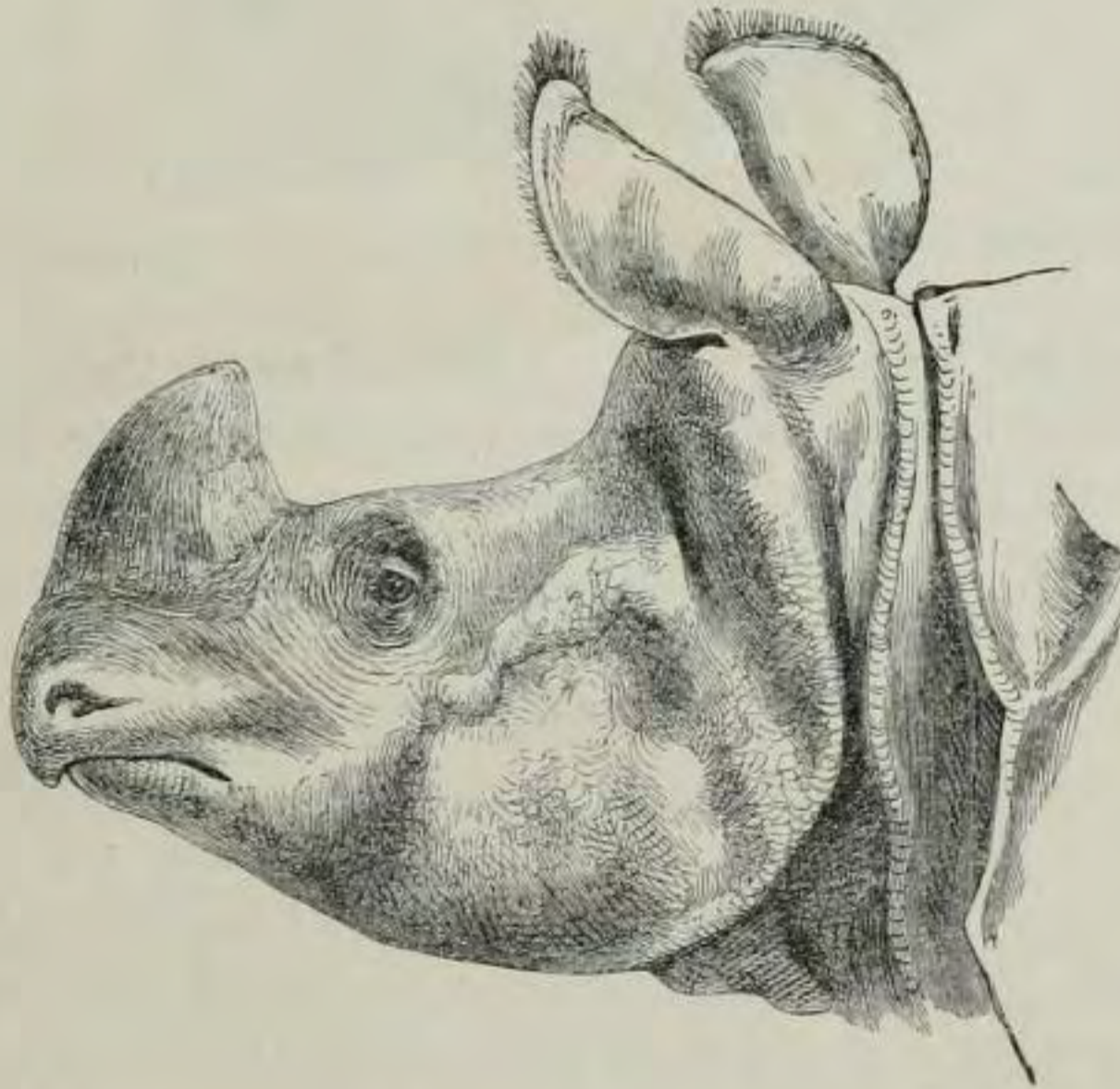
Having already a female *R. unicornis* in the Menagerie, the Council determined to part with the second example of the same sex thus acquired, and, in 1865, exchanged her with the Jardin des Plantes, Paris, for an African Elephant. The male remains still in our Gardens in excellent health and condition, and is the original of the water-

colour drawing taken by Mr. Wolf in 1872, from which Plate XCV. has been lithographed. He is of enormous size, and measures about 5 feet 3 inches in height at the shoulder, and about 10 feet 6 inches in length along the back from the tip of the nose to the root of the tail.

In August 1870 a curious accident befell this animal, which I recorded as follows in the 'Proceedings' for 1871 (p. 8 *et seq.*):—

“Our male and female Indian Rhinoceroses having been placed in the adjoining yards, in front of the new Elephant-house, on the 10th of August last the male made frequent attempts to raise the lower transverse bar of the strong iron railing that separates the two enclosures, by placing his horn under it. After repeating these attempts several times, in spite of the interference of the keepers, his efforts were such that the horn became suddenly detached under the violent pressure to which it was subjected, and rolled off into the yard. The animal appeared to be much hurt, and roared lustily for a few minutes. There was a considerable loss of blood from the wound, which, however, healed in a few days, neat's-foot oil being applied to it to keep off the flies.

Fig. 2.



Head of male Rhinoceros before the horn was torn off (August 10th, 1870).

“The horn, as will be seen (fig. 2), measures about 12 inches in length along its anterior surface, which curves gradually backwards; the widened base is $8\frac{1}{4}$ inches in long diameter, and $5\frac{1}{2}$ inches across. The lower surface presents a considerable cavity,

about $1\frac{3}{4}$ inch in depth, upon examining which it is clearly seen that the whole horn has been cleanly torn away from the matrix.

“Very soon after the loss of the old horn, we observed indications that a new horn was forming. This has increased rapidly in size, and is now already perhaps $1\frac{1}{2}$ inch in height (see fig. 3). It is thus certain that the Rhinoceros has the power of reproducing its horn

Fig. 3.



Head of male Rhinoceros, with new horn growing (January 3rd, 1871).

after the existing one has been broken off. I am well aware that this fact has already been noticed by different explorers and observers; moreover Mr. Blyth has informed us (see ‘Field,’ Aug. 20, 1870, p. 173) that several years ago an accident similar to what has been here recorded occurred to an animal of the same species in the Zoological Gardens at Moscow, and that in this case likewise the horn grew again. I have nevertheless thought that the present occurrence is well worthy of a place among the records of the Society. It is notorious that the reproduced horn of an animal is liable to be materially different in structure from the normal horn; and it is very possibly due to some such accident as above mentioned, that we have been favoured with the creation of certain new species of Rhinoceroses that have been based upon horns alone.”¹

At the scientific meeting of this Society held on Feb. 16th last I read an extract from a letter addressed to me by Mr. William Jamrach, stating that he was bringing home from Calcutta an example of “a new Rhinoceros, procured in the Bhootan Terai,” and I exhibited a drawing of the animal taken in Calcutta in January 1875 by Khaliludin

¹ *Rhinoceros crossii*, Gray, P. Z. S. 1854, p. 250, probably based upon an anterior horn of *R. sumatranus* (cf. Blyth, P. Z. S. 1852, p. 1), and *R. oswellii*, Gray, P. Z. S. 1853, p. 46, which is usually considered the same as *R. simus*.

Ahmed, a native draftsman¹. Mr. Jamrach grounded his supposed new species on "the markings of the skin, which seemed to be studded with buck-shot," the "very long tail" and "extraordinary large ears."

When this animal reached London it was carefully examined by Mr. Garrod, Mr. Bartlett, and myself, who all agreed that it was merely a young *R. unicornis*; as might have been supposed to be probable from the locality in which it was obtained. The animal died in Mr. Rice's establishment; and the skin was not preserved; but the skull is in the Museum of the Royal College of Surgeons. Mr. Garrod, who has carefully examined it, assures me that it agrees in every respect with the skull of *R. unicornis* of corresponding age.

The present Rhinoceros, so far as is yet positively known, is only met with in a wild state in the Terai region of Nepal and Bhootan and in the upper valley of the Brahmaputra or province of Assam.

2. RHINOCEROS SONDAICUS. (Plate XCVI.)

Rhinoceros sondaicus, Desm. Mamm. ii. p. 399 (1822); Selater, P. Z. S. 1874, p. 182, pl. xxviii.

Rhinoceros javanicus, Geoff. St.-Hil. et F. Cuv. in Hist. Nat. Mamm. sub tab. 309.

"*Indian Rhinoceros*, Liverpool Zool. Gardens," Nat. Libr. vol. xxiii. plates 8 and 9.

Of the smaller One-horned Asiatic Rhinoceros the only specimen yet acquired by the Society is the original of Mr. Wolf's second drawing (Pl. XCVI.), which was executed in the summer of 1874. This animal, which is of the male sex, was purchased by us of Messrs. Cross and Jamrach on the 1st of March, 1874, for £800². We were informed that it had been obtained at Batavia, and had been previously for some time in captivity in some tea-gardens near the city. It stands about 3 feet 9 inches in height at the shoulder.

Mr. Blyth, in a note to his memoir on Indian Rhinoceroses published in 1862³, has stated that the adult male Rhinoceros which lived for many years in our gardens, and for which the sum of £1000 was paid (meaning, I suppose, the specimen purchased in 1834), belonged to this species and not to *R. unicornis*. But there can be no doubt that he was mistaken, as may be proved by reference to the specimen itself, now in the British Museum.

On the other hand it seems probable that there had been a specimen of *R. sondaicus* living in England previously to the arrival of our example. On referring to the figure of the "*Indian Rhinoceros in the Liverpool Zoological Gardens*," given by Sir William Jardine in the volume of the 'Naturalist's Library' on "*Thick-skinned Quadrupeds*," the second fold of the skin across the back of the neck which distinguished *R. sondaicus* from *R. unicornis* is plainly visible. So far, therefore, as can be ascertained from the figure, the Rhinoceros living in the Liverpool Zoological Gardens in 1836, or there-

¹ See P. Z. S. 1875, p. 82.

² See Report of the Council for 1875, p. 25.

³ J. A. S. B. xxxi. p. 151.

abouts, must have been *R. sondaicus*¹. In the 'Naturalist's Library' we are told that this animal was brought from Bengal, having been for some time kept in the gardens of the Governor-General at Calcutta. At the time Sir William Jardine's correspondent who describes it was writing, it had been sixteen months in Great Britain, during which time it had visited London, Glasgow, and Edinburgh, and was the property of the Managers of the Zoological Gardens at Liverpool. It was then supposed to be six years old, and measured 4 feet 8 inches in height at the highest part of the back.

This Lesser One-horned Indian Rhinoceros was, as is well known, formerly supposed to be only found in Java. From the researches of Mr. Blyth² and other Indian naturalists, we now know that this is an error, and that *R. sondaicus* (or a very closely allied form) occurs also in various parts of British Burmah, and in the Sunderbans of Bengal, in the immediate neighbourhood of Calcutta. Of a specimen obtained in this last-named locality I exhibit a drawing by a native artist, taken from the specimen in the Indian Museum at Calcutta, which, so far as I can see, indicates no material differences from *R. sondaicus verus*.

In the spring of 1874 Mr. W. Jamrach imported from Calcutta a young Rhinoceros, stated to have been obtained in the Munipore district, of which I exhibit a drawing made while the animal was at Hamburg. The example is rather remarkable for its large head, long ears, and the numerous boss-like excrescences which cover its body; but after examining it in company with Mr. Bartlett and Mr. Garrod I came to the conclusion that it was a young *R. sondaicus*³, although it appeared to have a rather squarer, shorter upper lip than is usual in that species. This animal, after remaining some time in London, was transferred to the Zoological Gardens at Berlin, where it now remains. Dr. Peters, who, with his usual kindness, has more than once carefully examined it for me, believes it to be *R. sondaicus*.

3. RHINOCEROS SUMATRENSIS. (Plate XCVII.)

Double-horned Rhinoceros of Sumatra, Bell, Phil. Trans. 1793, p. 283, *undè*
Rhinoceros sumatrensis, Cuv. Règn. An. i. p. 240 (1817).

¹ It would have been more satisfactory, of course, to have been able to examine the preserved specimen of this animal; but this unfortunately cannot be done. The specimen in question was acquired after its death by the Trustees of the British Museum, and mounted, and is entered in the 'Catalogue of Mammals,' published by Dr. Gray in 1843, as "*Rhinoceros unicornis*, a. From Mr. Atkins' Menagerie". When our *R. unicornis*, which died in 1849, was received at the British Museum, its skin was, as I have been informed, mounted over that of the Liverpool specimen, which is consequently rendered inaccessible. It will be observed that notwithstanding this, in the new 'Handlist of the Edentate, Thick-skinned, and Ruminant Mammals,' published by Dr. Gray in 1873, the former entry is continued (p. 46) "88 a. Animal stuffed, Atkin's Menagerie" whereas it should be "Zool. Society's Gardens."

² See Mr. Blyth's memoir on the living Asiatic species of Rhinoceros, J. A. S. B. xxxi. p. 151 (1863).

³ This conclusion did not please Mr. Jamrach, who in October 1874 printed an account of the supposed new species on a sheet of green paper, and proposed to call it *R. jamrachii*!

Rhinoceros sumatranus, Raffles, Linn. Trans. xiii. p. 268 (1820).

Rhinoceros sumatrensis, Sclater, P. Z. S. 1872, p. 790, pl. lxxvii.; Bartlett, P. Z. S. 1873, p. 104, pl. xi. (*vit.*).

Ceratorhinus sumatrensis, Garrod, P. Z. S. 1873, p. 92.

Ceratorhinus crossii, Gray, Ann. N. H. ser. 4, vol. x. p. 209.

Ceratorhinus niger, Gray, Hand-l. Edent. &c. p. 48.

The first example of the true Sumatran Rhinoceros received by the Society arrived in the Gardens on the 2nd of August, 1872, and, after some negotiations, was purchased of Mr. William Jamrach, who had deposited it in our care, for the sum of £600. Shortly after its arrival the present drawing of it (Plate XCVII.) was taken by Mr. Wolf. The animal, which was an old female with the lower incisors lost, did not thrive with us, and died about six weeks after its arrival. Professor Garrod has given us an excellent account of the anatomy of its soft parts in the Society's 'Proceedings'¹; and the skin and skull were sold to the trustees of the British Museum.

Some time afterwards I ascertained from Mr. William Krohn that this animal had been originally captured in the Sunghi-njong district of Malacca, and had been sold by him to Mr. Jamrach through a London agent.

Although after this date several Rhinoceroses from the same district or the neighbouring territory of Johore were imported into Europe², we have not up to the present time succeeded in replacing our loss of this species³.

In an article in the 'Annals of Natural History' for 1872⁴, the late Dr. Gray, without even ever having seen the two animals then living in our Gardens, endeavoured to show that the next species, which I have named *R. lasiotis*, was the true *R. sumatrensis*, and termed the present animal *R. crossii*, Blyth having previously suggested that the horn upon which *R. crossii*, Gray (P. Z. S. 1854, p. 250), was established probably might have been that of an individual of *R. sumatrensis*⁵. But in his 'Hand-list of Edentate Thick-skinned and Ruminant Mammals,' published in 1873, Dr. Gray changed his opinion, and proposed the new name *Ceratorhinus niger* for the Sumatran Rhinoceros, under which designation our specimen, now stuffed, in the British Museum, at present stands⁶.

¹ "On the Visceral Anatomy of the Sumatran Rhinoceros (*Ceratorhinus sumatrensis*)," by A. H. Garrod, B.A., F.Z.S. (P. Z. S. 1873, p. 92).

² See Mr. Bartlett's account of a female of this species that produced a young one on board ship in the Victoria Docks in December 1872 (P. Z. S. 1873, p. 104).

³ P.S., July 28th, 1876.—In July 1875, just after this paper was read, Mr. C. Jamrach deposited in the Gardens an adult female of this Rhinoceros, which was subsequently purchased by the Society for the sum of £600.

⁴ Ann. Nat. Hist. ser. 4, vol. x. p. 207.

⁵ J. A. S. B. xxxi. p. 156.

⁶ P.S., July 1876.—Blyth, however, in his 'Catalogue of the Mammals of Burmah,' published after his decease, came to exactly the contrary conclusion, and united *R. lasiotis* to *R. crossii*. So much for the value of names based on horns and such fragments of specimens!

4. RHINOCEROS LASIOTIS. (Plate XCVIII.)

Rhinoceros sumatrensis, Anderson, P. Z. S. 1872, p. 129; Sclater, P. Z. S. 1872, p. 185.

Rhinoceros lasiotis, Sclater, P. Z. S. 1872, p. 493, pl. xxiii. and p. 790; Ann. N. H. ser. 4, vol. x. p. 298; Rev. List of Vert. Suppl. p. 8.

Ceratorhinus lasiotis, Garrod, P. Z. S. 1873, p. 92.

Ceratorhinus sumatranus, Gray, Hand-list of Edentates &c. p. 47.

Ceratorhinus crossii, Blyth, J. A. S. B. vol. xliii. p. 51 (1875).

Mr. Wolf's drawings of the present Rhinoceros were taken in 1872 from the only individual of the present species yet known, which is still living in good health in our Gardens.

This animal was originally captured near Chittagong in Eastern Bengal, in January 1868, in the manner described as follows in one of the Calcutta newspapers:—

“The quiet station of Chittagong has been lately enlivened by the presence of a Rhinoceros. It appears that about a month ago some natives came into Chittagong and stated that a Rhinoceros had been found by them in a quicksand, and was quite exhausted with her efforts to release herself. They had attached two ropes to the animal's neck, and with the assistance of about 200 men dragged her out, and keeping her taut between two ropes they eventually made her fast to a tree. The next morning, however, they found the Rhinoceros so refreshed and making such efforts to free herself that they were frightened, and made application to the magistrate of Chittagong for assistance. The same evening Captain Hood and Mr. H. W. Wickes started with eight Elephants to secure the prize, and after a march of about sixteen hours to the south of Chittagong they came up with the animal. She was then discovered to be a Sumatran Rhinoceros, rather more than four feet in height, with a smooth hairy skin somewhat like that of a Pig, and with two horns (one up high, almost between the eyes, and small, the other rather larger and just above the nose), and the upper lip almost coming to a point and protruding a little.

“The Elephants at the first sight of the Rhinoceros were very much afraid and bolted one and all, but after some little exertion they were brought back and made to stand by. A rope was now with some trouble attached to the animal's hind leg and secured to an Elephant; at this juncture the Rhinoceros roared, the Elephants again bolted; and had it not been for the rope slipping from the leg of the Rhinoceros, that limb might have been pulled from the body. The Rhinoceros was, however, eventually secured with ropes between Elephants and marched into Chittagong in perfect health. Two large rivers had to be crossed:—first, the Sungoo river, where the animal was towed between Elephants, for she could not swim and could only just keep her head above water by paddling with the fore feet like a Pig; and secondly, the Kurnafoolie river, when the ordinary cattle ferry-boat was used. Thousands of natives thronged the march in, which occupied a few days, the temporary bamboo bridges on the Government road invariably falling in with the numbers collected thereon to watch

the Rhinoceros crossing the stream below; and sometimes the procession was at least a mile in length. The 'Begum,' as the Rhinoceros has been named, is now free from all ropes and kept within a stockaded enclosure, having therein a good bath excavated in the ground and a comfortable covered shed attached. She is already very tame, and will take plantain-leaves or chuppattees from the hand, and might almost be led about by a string."

The fact of a Two-horned Rhinoceros being in captivity in Chittagong having become known to the Council of the Society, various endeavours were made to come to some arrangement with the owners for its acquisition. These, however, did not lead to any result.

In November 1871 Mr. William Jamrach, being in Calcutta and nearer to the spot, was more successful in his negotiations, and, having obtained possession of the animal, removed it to that city. Here it was carefully examined by Dr. Anderson, and minutely described in a communication to the Society read on the 6th of February, 1872¹, under the name of *R. sumatrensis*. On its arrival in England on the 15th of the same month it was purchased by the Society for the sum of £1250, and placed in the Elephant-house, being still supposed to be an example of *R. sumatrensis*². Later in the same year, however, an example of the true *R. sumatrensis* having been obtained by the Society, it became obvious that the Chittagong animal must belong, so far as could be told from an examination of the living individual, to a different species. I accordingly proposed to name it *lasiotis*, from the peculiar fringe of long hairs on the edges of the

Fig. 4.



Right ear of *R. lasiotis*, showing long hairs on ear-conch.

ears, and described it under that name first at the meeting of the British Association at Brighton on the 16th of August³, and subsequently in a communication to this Society⁴.

Dr. Anderson, in his memoir above mentioned, has specially commented on this

¹ See P. Z. S. 1872, p. 129.

² See P. Z. S. 1872, p. 185, and Ill. London News, March 23rd, 1872.

³ See Rep. Brit. Ass. 1872, p. 140; also 'Times,' August 19th, 1872, p. 5; 'Athenæum,' Aug. 24, 1872, p. 243; and 'Nature,' Oct. 24, 1872, p. 518.

⁴ See P. Z. S. 1872, p. 790.

peculiarity, but was inclined to think it might be individual, not being aware of the other differences between the two forms. In *R. sumatrensis* the ears are filled with short bristly hairs internally, but there is no special elongated fringe on the outer edge. In *R. lasiotis* the interior of the ear-conch is nearly naked.

The Sumatran Rhinoceros is also much smaller in bulk than the Hairy-eared, and about 6 inches less in height at the shoulder.

Another point of distinction between the two animals is the longer tail of *R. sumatrensis*, which is only covered by short black straggling bristles. In *R. lasiotis* the tail is shorter and tufted, terminating in long brown hairs.

Fig. 5.

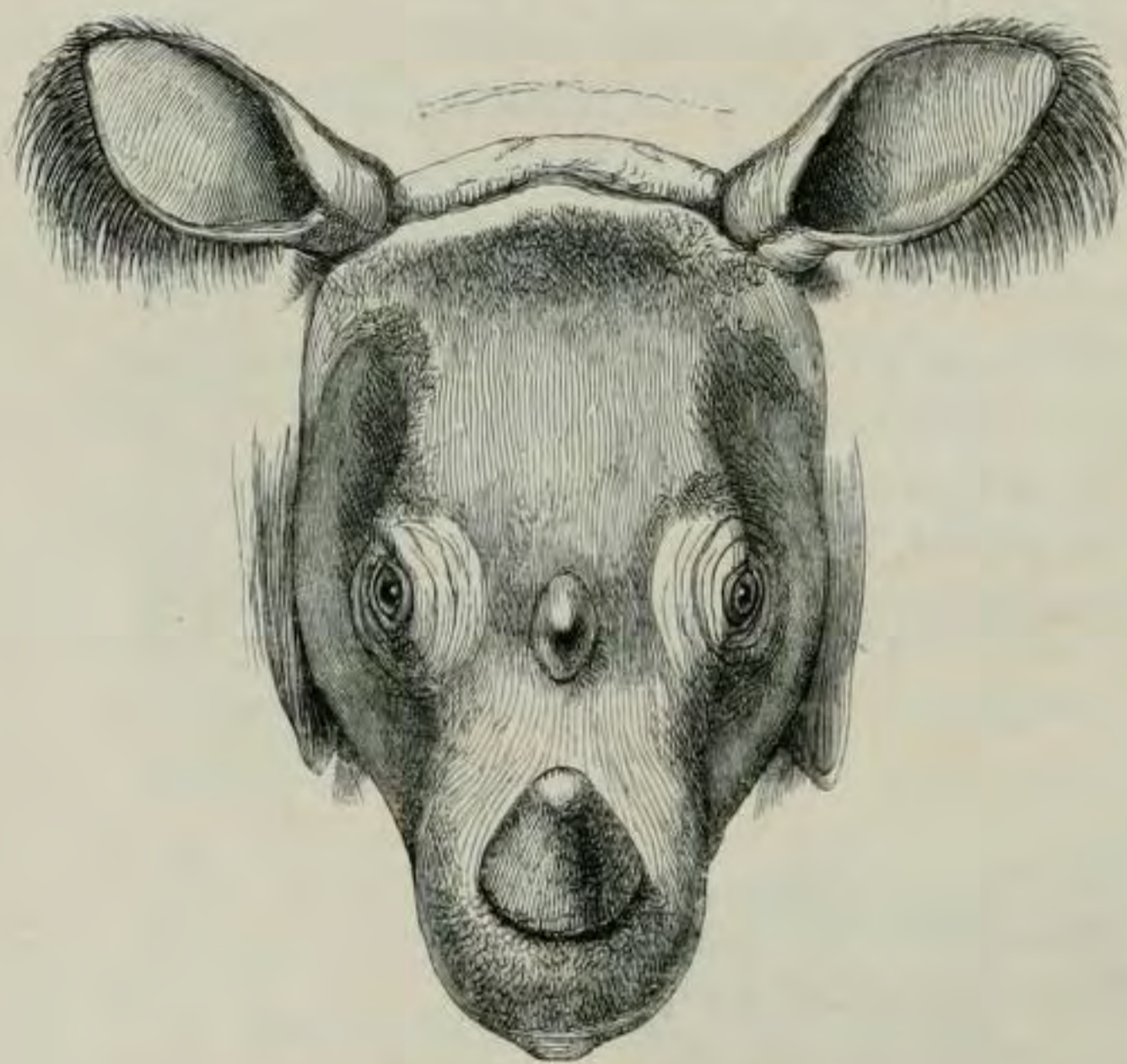
Front view of head of *R. lasiotis*.

Fig. 6.

Front view of head of *R. sumatrensis*.

The distance between the ears is much greater in *R. lasiotis* than in *R. sumatrensis*, as will be seen by the accompanying drawings (figs. 5 and 6); and there can be no doubt that the skulls of the two species, when they can be compared, will exhibit corresponding differences.

The skin of *R. lasiotis* is smoother and paler in colour; the hairs are longer and finer and of a rufescent hue, giving the animal a general colouring of lightish brown. In *R. sumatrensis* the skin is much darker and the hairs are short and bristly.

Whether these and other differences between *R. lasiotis* and the ordinary *R. sumatrensis* will be strengthened by corresponding divergences in their anatomy and osteology cannot be ascertained until the death of the present individual.

In the mean time I may be permitted to state my own opinion, that it will be found that *R. lasiotis* is a northern representative of *R. sumatrensis*, taking its place in Chittagong and Assam, where there are reports of the existence of a Two-horned Rhinoceros¹.

5. RHINOCEROS BICORNIS. (Plate XCIX.)

Rhinoceros unicornis, β . *bicornis*, Linn. S. N. i. p. 104.

Rhinoceros bicornis, Gm. S. N. i. p. 57, 1788; Sclater, P. Z. S. 1868, p. 529, pl. 41; Rev. Cat. Vert. p. 80; Student & Int. Obs. vol. iv. p. 321, cum tab.; Ill. London News, Oct. 3rd, 1868.

Rhinoceros keitloa, Blanford, Zool. Geol. Abyss. p. 243.

Black Rhinoceros of Abyssinia, Baker, Nile-Tributaries (1872), p. 246.

On the 11th of September, 1868, the first living African Rhinoceros that had been brought to Europe since the days of the Roman Amphitheatre arrived in the Society's Gardens, where it still remains in excellent health and condition. On its arrival this animal, which is of the male sex, and was then quite young (probably not *more* than two years old), measured about 6 feet in length of body, and stood 3 feet 6 inches in height at the shoulders. In August 1872 it stood 4 feet 6 inches in height, and has not much increased in that respect since that date, though the length of its body is now rather greater (about 8 feet 6 inches), and its bulk is certainly more considerable.

Mr. Wolf's drawing (Pl. XCIX.) represents this animal as it appeared in 1872, and may be compared with Mr. Smit's drawing of the same individual (P. Z. S. 1868, pl. 41), which was taken in 1868, shortly after its arrival.

The present animal was purchased by the Council of Mr. Carl Hagenbeck, the well-known dealer of Hamburg, for the sum of £1000. Mr. Hagenbeck had received it a few days previously, along with a large collection of other animals, from the late Herr Casanova, of Vienna. For several years successively this enterprising traveller had been in the habit of visiting in winter the country inhabited by the Hamran Arabs, to the south of Cassalá, in Upper Nubia, and of bringing home thence Giraffes, Elephants, and other large animals captured by the prowess of those mighty hunters of whom Sir Samuel Baker has told us such marvellous stories². In Herr Casanova's last expedition, made in the winter of 1867-68, this living Rhinoceros was one of his spoils, previous attempts to bring home living specimens of the same animal having been unsuccessful. The African Rhinoceros in the Zoological Gardens of Berlin was received subsequently—from the same source, I believe.

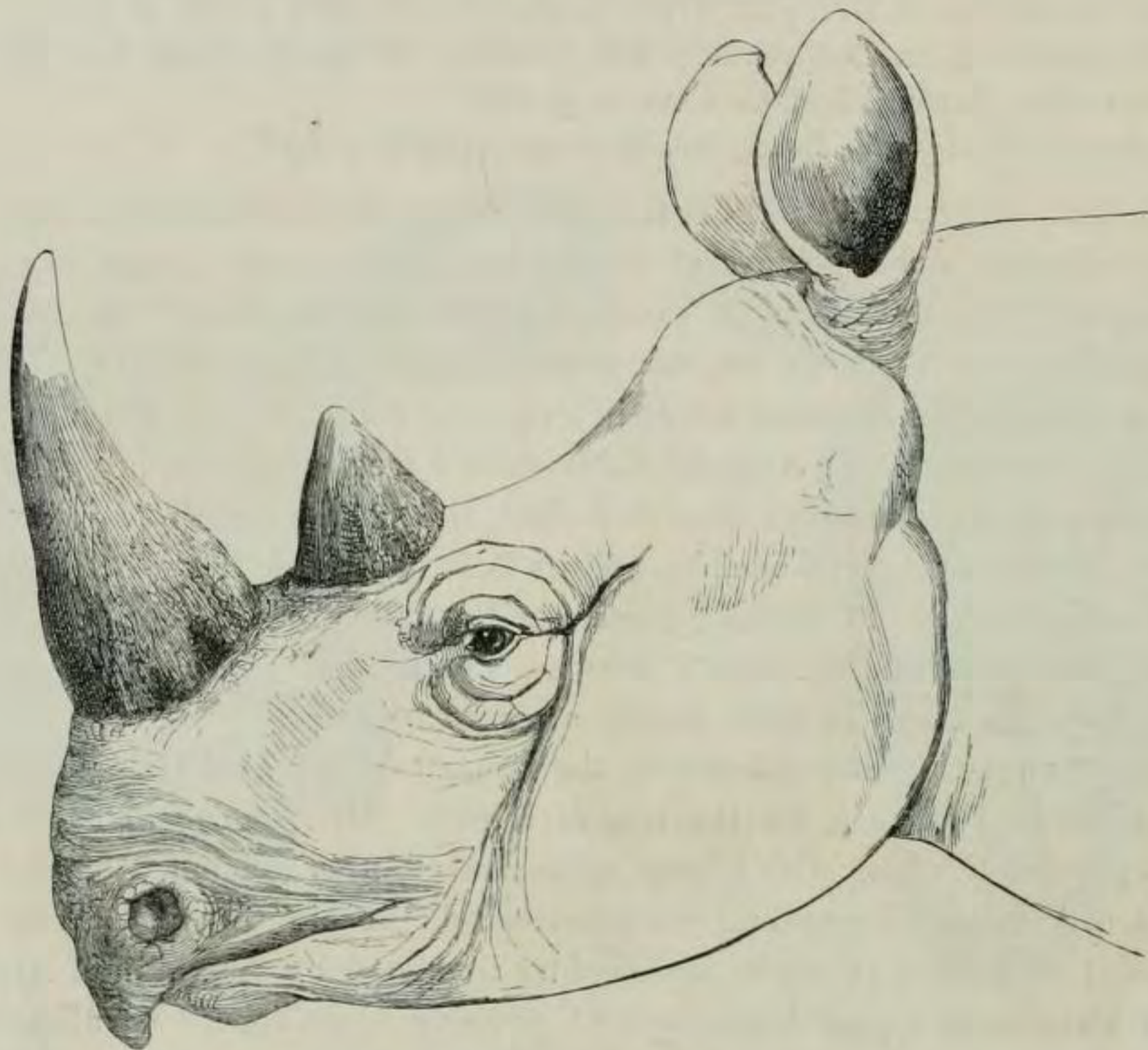
To assign to this animal its correct scientific name is a matter of some little difficulty, as I shall now endeavour to show. Of the two forms of African Rhinoceros commonly distinguished as "White" and "Black"—though, according to some authorities, there

¹ These reports have since been confirmed by more positive evidence. See P. Z. S. 1875, p. 566.

² See Baker's 'Nile-Tributaries of Abyssinia' (new edition), 1872, p. 114 *et seq.*

is much variation in the colour of both forms, and these terms do not well distinguish them—there can be no question that our specimen belongs to the latter category. The long extensile upper lip of our animal and the shape of its horns at once show that it is not referable to *R. simus*, and that it belongs to the form of which the species (if there really be more than one) are commonly known as *R. bicornis*. The late Sir

Fig. 7.

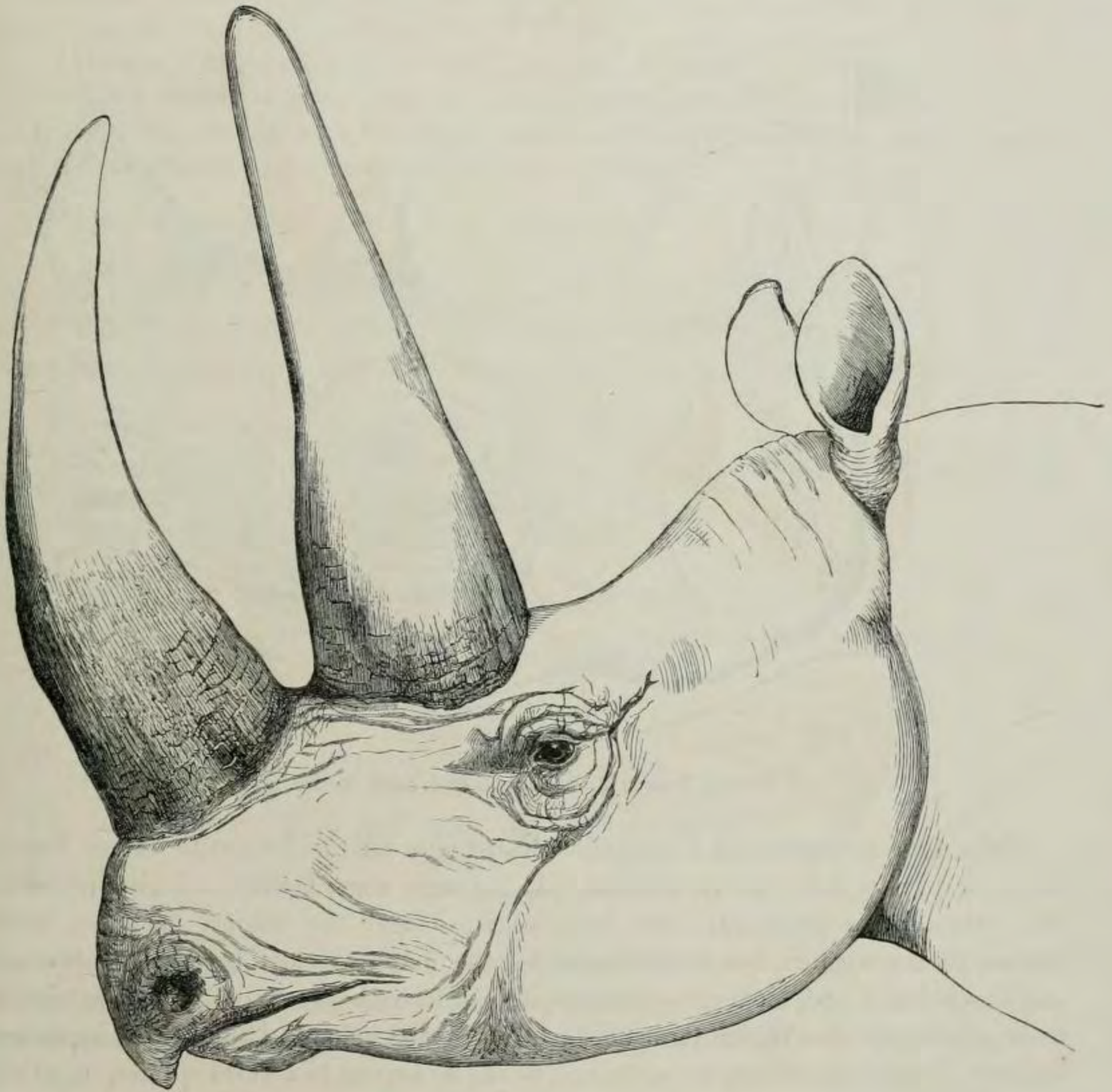
Head of *R. bicornis*, from specimen in Brit. Mus.

Andrew Smith, an excellent authority on African mammals, was the first to separate a species from *R. bicornis* under the name *R. keitloa*¹, distinguished principally by the two horns being equal or nearly equal in length, whereas in *R. bicornis* “the posterior in neither sex is ever much beyond a third of the length of the anterior.” On examining the stuffed specimens of these two supposed species in the gallery of the British Museum these differences are most satisfactorily apparent, as will be seen by the sketches which I exhibit (figs. 7 & 8).

¹ See Illustr. Zool. S. Afr., Mammals, pl. 1.

But our Nubian animal, as will be seen from Pl. XCIX., is unfortunately intermediate between the two; and the same is the case with other specimens of African Rhinoceroses that I have examined. Our beast is certainly, as regarded its horns,

Fig. 8.

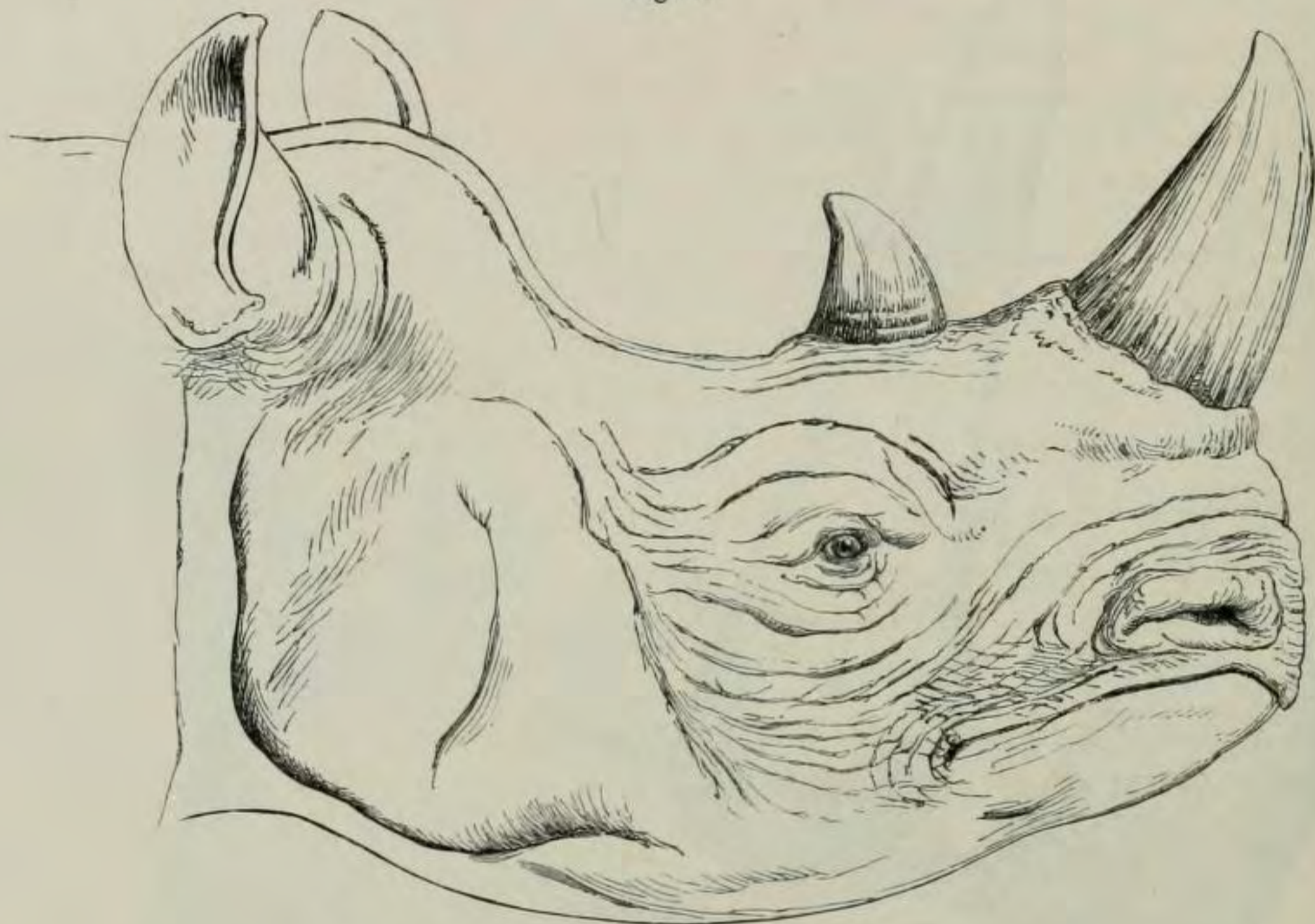


Head of *R. keitloa*, from specimen in Brit. Mus.

nearer in character to the so-called *R. keitloa*; and the same was the case with Mr. Blanford's specimen killed on the Anseba, and now in the British Museum, so

that Mr. Blanford¹ has identified the Rhinoceros of N.E. Africa with *R. keitloa*². But in the Rhinoceros at Berlin, of the head of which I exhibit a drawing kindly procured for me by Dr. Peters (fig. 9), the horns would appear to be much more nearly like those of *R. bicornis*; and we must recollect that that came from exactly the same district as our specimen. I have also seen other examples of Two-horned Rhinoceroses clearly intermediate between the two forms.

Fig. 9.



Head of Nubian Rhinoceros in Zool. Gard. Berlin.

Under these circumstances I have thought it better for the present to let our Rhinoceros stand under the name *R. bicornis*. At the same time, I think it highly probable that, when more specimens have been obtained and the subject has been more thoroughly investigated, ample difference will be found to exist between *R. bicornis* and *R. keitloa*. And, looking to the extent of country between the known patriæ of these species and the Nubian form to which our animal belongs, I think it by no means unlikely that the latter may be ultimately found to belong to a third species, or, at all events, to a third well-marked geographical race.

¹ Geol. and Zool. of Abyssinia, p. 243.

² See also Gray, Ann. N. H. ser. 4, vol. iii. p. 244 (1869), where Mr. Jesse's specimen, killed in Abyssinia, is referred to *R. keitloa*. But in the same author's 'Handlist,' published in 1873 (p. 51), Mr. Blanford's specimen killed on the same occasion is entered as *Rhinaster bicornis*! (*l. c.* p. 51. sp. 1365. *k*).

APPENDIX.

List of Rhinoceroses belonging to the Society's Collection, 1834-1875.

1. RHINOCEROS UNICORNIS, Linn. Indian Rhinoceros.
 - a. Male. Purchased, May 28th, 1834. See P. Z. S. 1834, p. 41, and Trans. Zool. Soc. iv. p. 31. Died Sept. 19, 1849.
 - b. Female. Purchased, July 5th, 1850. Died Dec. 14, 1873.
 - c. Male. Presented by A. Grote, Esq., F.Z.S., July 25, 1864. See P. Z. S. 1864, p. 373.
 - d. Female. Brought from Calcutta by the Society's Collector, July 25, 1864. Sent in exchange to the Jardin des Plantes, June 20, 1865.
2. RHINOCEROS SONDAICUS, Cuv. Javan Rhinoceros.
 - a. Male. Purchased, March 1, 1874.
3. RHINOCEROS LASIOTIS, Sclater. Hairy-eared Rhinoceros.
 - a. Female. Purchased, Feb. 14, 1872. See P. Z. S. 1872, p. 185 et p. 493, pl. 23.
4. RHINOCEROS SUMATRENSIS, Cuv. Sumatran Rhinoceros.
 - a. Female. Deposited, Aug. 2; purchased Aug. 21, 1872. Died Sept. 21, 1872. See P. Z. S. 1872, p. 794, pl. 67, et P. Z. S. 1873, p. 92.
 - b. Female. Deposited, July 14, 1875.
5. RHINOCEROS BICORNIS, Linn. Two-horned Rhinoceros.
 - a. Purchased, Sept. 11, 1868. From Upper Nubia. See P. Z. S. 1868, p. 529, pl. 41.

DESCRIPTION OF THE PLATES.

PLATE XCV.

Rhinoceros unicornis, male.

Lithographed from a water-colour drawing made by Mr. Wolf in 1872, from the male specimen presented by Mr. A. Grote, F.Z.S., July 25, 1864.

PLATE XCVI.

Rhinoceros sondaicus, male.

Lithographed from a water-colour drawing made by Mr. Wolf, in 1874, of the male specimen purchased March 1, 1874.

PLATE XCVII.

Rhinoceros sumatrensis, female.

Lithographed from a water-colour drawing made by Mr. Wolf, in 1872, from the female deposited August 2, 1872, and purchased August 21, 1872.

PLATE XCVIII.

Rhinoceros lasiotis, female.

Lithographed from a water-colour drawing made by Mr. Wolf, in 1872, from the female purchased February 14, 1872.

PLATE XCIX.

Rhinoceros bicornis, male.

Lithographed from a water-colour drawing made by Mr. Wolf, in 1872, from the male specimen purchased September 11, 1868.



J. Wolf del. J. Smit lith.

RHINOCEROS UNICORNIS

M & N Harcourt imp



J. Wolf del. J. Smith sculp.

RHINOCEROS SONDAICUS.

M. & N. Harbart imp.



MUSEUM HANNOVER

J. Wülfel & J. Smitz del. et lith.

RHINOCEROS SUMATRENSIS



Wolf del. J. Smith lith.

RHINOCEROS LASIOTIS

M & N. Harbort imp.



J Wolf del J Smit lith.

RHINOCEROS BICORNIS .

M & N Hammett imp