

Records of the Rhinoceros in Pakistan and Afghanistan

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Abstract.— The Indus Valley Civilization flourishing in parts of Pakistan and West India between 2600 and 1900 BC depicted the rhinoceros on seals and modelled it in clay. Ibn Battuta saw the animal in the lower Indus Valley in 1333. Emperor Babur observed and hunted rhinoceros in parts of northern Pakistan, around Peshawar towards the Khyber Pass between 1519 and 1526. Sidi Ali Reis traversed the Khyber Pass in 1556 and saw rhinoceros either on the Pakistan or the Afghanistan side of the mountains. These are the only reports about the Indian Rhinoceros (*Rhinoceros unicornis*; Mammalia, Perissodactyla) from this region and they are critically discussed. A new map of the historical distribution of the rhinoceros is presented.

Key words: Indian Rhinoceros, Distribution, Indus Valley Civilisation, Babur, Sidi Ali, Ibn Battuta.

INTRODUCTION

At the beginning of the 20th century, Lydekker (1907:30) summarized the available knowledge about the distribution of the Indian Rhinoceros (*Rhinoceros unicornis* Linnaeus, 1758), including the statement that "there is historical evidence to prove that during the early part of the sixteenth century the Great Indian rhinoceros was common in the Punjab, where it extended across the Indus as far as Peshawur". He did not elaborate, but it is likely that he referred to the passages written by Ibn Battuta, Babur and Sidi Ali quoted in the historical and etymological dictionary compiled by Yule and Burnell (1886:762). Together with the artefacts later discovered in Mohenjo Daro in the lower Indus Valley, these three authors are still the only sources documenting the existence of the rhinoceros in the region now within the borders of Pakistan and further westwards.

The Indian Rhinoceros today is confined to protected areas in the states of Assam and West Bengal of North-East India and in the southern part of Nepal (Rookmaaker, 1980, 1984, 1997). In historical times, possibly upto the late eighteenth century, the animal also occurred over large tracts of northern India along the Ganges River and to the North of it (Rookmaaker, 1999b). One animal was definitely sighted, and even sketched, as late as 1789 by the British artist William Daniell in Kotdwara, near Haridwar in Uttar Pradesh, India (Rookmaaker, 1999a). When we proceed further westwards to the most western states of India and into Pakistan, the records of the existence of the

rhinoceros become increasingly fragmentary. This is strange, because the area was populated and visited by travellers from an early age. Nobody recorded the presence of a rhinoceros in western India during historical times, and that needs to be explained.

The majority of recently published maps showing the historical distribution of the Indian Rhinoceros extend the range through northern India and into northern Pakistan with apparent confidence, e.g. Guggisberg (1966), Mukherjee (1974), Laurie *et al.* (1983), Penny (1987), Menon (1995), Foose and Van Strien (1997). When one studies these maps and their explanation, however, one can feel some hesitation about the truth of their representation of the evidence. This scepticism is reflected in the words of Roberts (1977) that "it is difficult to believe that it once ranged right across the Himalayan foothills to Pakistan". Still, the evidence, scarce as it is, seems to lead unequivocally to the conclusion that in fact it did (Ali, 1927; Rao, 1947).

In the present paper, I want to re-examine the few existing records of the rhinoceros at the western end of its historical range extensively and critically. This is necessary because the modern maps are rather inconclusive of the animal's former occurrence in Pakistan and never extend to the lower Indus Valley which seems to be called for from at least two of the sources. Furthermore, one spokesman possibly saw the rhinoceros across the border in the present Afghanistan. There are actually only four known sources of information: the seals and models of the Harappa Culture of the Indus Valley, and the written accounts of Ibn Battuta, Emperor Babur and Sidi Ali Reis. Their work is not easily accessible to zoologists, even when we rely on published translations from the Turki

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and Persian languages. For that reason, I have quoted the relevant passages *in extenso*, to enable others to make their own critical judgement of the available material.

REVIEW OF THE SOURCES

The Indus valley civilization

The Indus Civilization or Harappan Culture flourished in the vast river plains and adjacent areas of the present Pakistan and western India between the years 2600 and 1900 BC. To date, hundreds of Harappan settlements have been discovered, while the early excavation in the 1920's focused on the larger ancient cities like Mohenjo-Daro on the Indus (Sindh, southern Pakistan 27° 20'N, 68° 10'E; locality [2] in figure 1) and Harappa on the Ravi River (Punjab, northern Pakistan, 30° 35'N, 72° 56'E; locality [3] in figure 1). Among the objects found in the excavations, there were many square seals made of stone and engraved with symbols and animal motifs. Some of these have short inscriptions in a writing which has not yet been deciphered. A small number of these seals represents a single-horned rhinoceros, as illustrated by Marshal (1931, pl. CXI), Lang (1961), Gee (1964), Bhaduri *et al.* (1972), Brentjes (1978), Dutta (1991), Millet (1995), and Rookmaaker (1998). Two of these seals are illustrated here (Figs. 3 and 4).

The rhinoceros in these examples is rather stylized, but in all cases we observe a single horn on the nose and well-defined skin folds, characteristic of *Rhinoceros unicornis*. In a few cases the rhinoceros stands above an object which looks like a manger, possibly indicating life in captivity. Conrad (1968) suggested, judging from different objects depicted together with the rhinoceros on some of the seals, that the animal was without doubt revered by the people of the ancient Indus culture.

The rhinoceros is also represented in a number of clay pottery models, of which four preserved in the National Museum of India in Delhi (nos. B236, HR69, L1108, VS 1284) were enumerated by Marshal (1931). According to that author, these models were all roughly made "and in every case a child's handiwork" (Marshall, 1931). Another pottery model preserved in the Museum at Mohenjo-Daro (no. 50.765) is illustrated here (Fig. 2).

In view of the abundance of the seals and the pottery objects in the various excavations, we must assume that the people of the Harappan culture

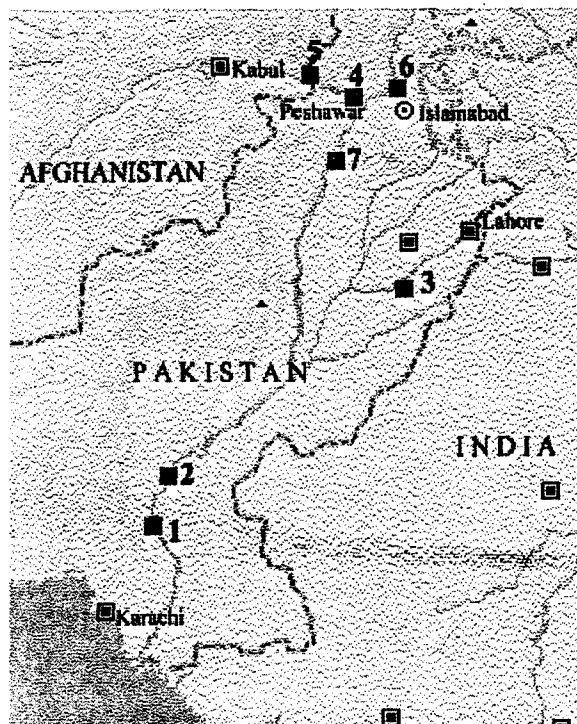


Fig. 1. Map showing the localities of rhinoceros sightings in Pakistan and Afghanistan as mentioned in the text. The following places are shown. [1] Sewan or Siwasitan, 26° 26'N, 67° 50'E (cf. Ibn Battuta 1333). [2] Mohenjo Daro, 27° 24' N, 68° 10'E. [3] Harappa, 30° 39'N, 72° 55'E. [4] vicinity of Peshawar, 34° 00'N, 71° 57'E (cf. Babur, December 1526). [5] Khyber Pass and Babur's Hashnagar, 34° 10'N, 71° 00' E. [6] Sawati, 34° 09'N, 72° 52'E (cf. Babur, 16 Feb. 1519). [7] Kalibagh or Dinkot, 32° 57'N, 71° 34'E (cf. Babur).

were acquainted with the rhinoceros, even that they knew the animal well. It is likely that they could encounter them near their settlements in the Indus Valley either in the lower part of the valley or possibly slightly more to northwards where Harappa is located. Although the manger depicted in the seals may suggest life in captivity, the reason for this confinement has not been explained. If the rhinoceroses were in fact kept in captivity, they obviously could have been imported from regions further to the East, say from the Ganges Valley, where they most certainly lived in those days (Rookmaaker, 1999b). One could debate the practicalities of such movements, and again, what possibly could have been the reason? It is more



Fig. 2. Clay figure of a rhinoceros produced by the Indus Culture, ca. 2500 BC. Size 3.1 x 3.0 x 0.77 cm (Mohenjo Daro Museum, Acc. No. 50.273, DK 5462)



Fig. 3. Seal with a rhinoceros from the Indus Culture, ca. 2500 BC. Size: 9.0 cm long, 7.4 cm high. (Mohenjo Daro Museum, Acc. No. 50.765).



Fig. 4. Rhinoceros seal from the Indus culture showing a manger-like object below the animal. Present location uncertain, probably National Museum in Delhi, India.

plausible that the rhinoceros actually occurred in the vicinity of the settlements. The conclusion appears inevitable that the Indian Rhinoceros existed in the Indus Valley until about 2000 BC.

Ibn Battuta

Ibn Battuta (born in Tangier, Morocco in 1304) wrote about his extensive travels in many parts of Asia and Africa in a book dictated before 1356. He travelled in 1333 from Kabul, Afghanistan towards the lower Indus Valley. His account of the route of this particular section is confused and makes no sense if the text is correct as it stands. The editor of a recent English translation, H.A.R. Gibb (1971), proposed that Ibn Battuta went from Kabul to Ghazni, proceeding southwards on the western side of the Sulaiman Range and into the plain of Sind. He

probably reached the lower course of the River Indus at a spot located about 50-100 km North of Siwasitan of Sehwan ($26^{\circ} 26'N$, $67^{\circ} 50'E$; locality [1] in figure 1), in the district of Larkana, Pakistan, in the same general region where the ancient city of Mohenjo Daro is located. At this stage of his account we encounter the following passage:

"After crossing the river of Sindh called Banj Ab, we entered a forest of reeds, following the track which led through the midst of it, when we were confronted by a rhinoceros. In appearance it is a black animal with a huge body and a disproportionately large head. For this reason it has become the subject of a proverb, as the saying goes, *Al-karkaddan ras bila badan* ('rhinoceros, head and no torso'). It

is smaller than an elephant but its head is many times larger than an elephant's. It has a single horn between its eyes, about three cubits in length and about a span in breadth. When it came out against us, one of the horsemen got in its way; it struck the horse which he was riding with its horn, pierced his thigh and knocked him down, then went back into the thicket and we could not get at it. I saw a rhinoceros a second time on this road after the hour of afternoon prayer. It was feeding on plants but when we approached it, it ran away. I saw a rhinoceros yet another time when in the company of the King of India we had entered a jungle of reeds. The sultan was mounted on an elephant and we too were mounted on elephant along with him. The foot-soldiers and horsemen went in and beat it up, killed it and conveyed its head to the camp".

Ibn Battuta here relates two distinct occurrences. Firstly, he saw the rhinoceros twice on his own in a forest of reeds on the shore of the lower River Indus, probably near Sehwan. Secondly, he hunted the rhinoceros in the company of the Indian Sultan, Muhammad ibn Tughlug, in a place near Bahrayij in Eastern Uttar Pradesh, India (Gibb, 1971; Rookmaaker, 1999b).

It must be noted that Ibn Battuta did not know how to look. His *karkaddan* had a head too large for its body and a single horn between the eyes. From the name and the presence of a horn it is assumed that he saw a rhinoceros, and he must have had a close look at it, but a rhinoceros does not have such a big head and the horn is located on the tip of the nose. According to Ettinghausen (1950), Ibn Battuta's "preconceived notions of the rhinoceros obscured his perception of the animal on the several occasions that he saw it". However, his description, faulty as it is, seems to fit the rhinoceros better than any other animal, and we should accept that he saw the animal on the lower reaches of the Indus River.

Emperor Babur

The Moghul emperor Zahiruddin Mohamed Babur (1483-1530) who reigned in India from 1505 to 1530 wrote his memoirs documenting his various interests. This work is now well-known and the original text existing in Persian and Turki versions has been translated in various modern languages (Babur 1826, 1922, 1980; Suleiman, 1970; see also

Störk, 1977). There are four passages in the *Babur-Nama* in which the rhinoceros is mentioned, and these are more or less similar in all four translations consulted. One of these, relating an incidence in March 1529 near the Fort of Chunar in the Ganges River Valley does not need to concern us here (Rookmaaker, 1999b). The other three may here be quoted from the translation by Suleiman (1970). The first passage is dated 16 February 1519 (Suleiman, 1970:46).

"After starting off the camp for the river, I went to hunt rhinoceros on the Sawati side which place people call also *Karg-khana* [Rhinoceros home]. A few were discovered but the jungle was dense and they did not come out of it. When one with calf came into the open and betook itself to flight, many arrows were shot at it and it rushed into the near jungle. That jungle was fired but that same rhinoceros was not had. Another calf was killed as it lay, scorched by the fire, writhing and palpitating. Each person took a share of the spoil. After leaving Sawati, we wandered about a good deal; it was the bed-time prayer when we got to camp".

Babur used the Persian word *karg* to denote the animal seen and this has been taken to mean the rhinoceros. Sawati (34° 9'N, 72° 53' E; locality [6] in figure 1) refers to a place on the east bank of the Indus River on the same longitude as the city of Peshawar.

The second passage of tells how Babur hunted the rhinoceros in the vicinity of Peshawar on 9 and 10 December 1526 (Suleiman, 1970:51).

"We dismounted near Bigram [Peshawar], and next morning the camp remaining on that same ground rode to Kard-awi. We crossed the Siyah-Ab in front of Bigram, and formed our hunting circle looking down-stream. After a little, a person brought word that there was a rhinoceros in a bit of jungle, near Bigram, and that people had been stationed near about it. We betook ourselves, loose-rein, to the place, formed a ring round the jungle, made a noise, and brought the rhinoceros out, when it took its way across the plain. Humayun and those come with him from that side [Tramontana] who had never seen one before, were much entertained.

It was pursued for two miles, many arrows were shot at it, it was brought down without having made a good set at man or horse. I had often wondered how a rhinoceros and an elephant would behave if brought face to face; this time one came out right in front of some elephants the mahauts were bringing along; it did not face them when the mahauts drove them towards it, but got off in another direction".

It is impossible to be very exact where Babur was when the rhinoceros was shot, but we may assume that it was in a locality between Peshawar and the Indus River (ca. 34° N, 71° 57'E; locality [4] in figure 1), a distance of about 60 km from each other.

The third passage is part of Babur's summary of the "Zoology of Hindustan", in which he presented remarks about all the Indian animals which he had encountered, in a section of the memoirs dating to 1526. This part is incomplete in Suleiman's edition, and I here quote from the translation by Beveridge (Babur, 1922, II: 489-490). The first part is a general description of the rhinoceros, which is at least partly very difficult to interpret with all the uncertainties of the translation.

"The rhinoceros is another. This also is a large animal, equal in bulk to perhaps three buffaloes. The opinion prevalent in those countries [Tramontana] that it can lift an elephant on its horn, seems mistaken. It has a single horn on its nose, more than 9 inches long [quarish]; one of two inches is not seen. Out of one large horn were made a drinking vessel and a dice-box, leaving over [the thickness of] 3 or 4 hands. The rhinoceros' hide is very thick; an arrow shot from a stiff bow, drawn with full strength right upto the arm-pit, if it pierce at all, might penetrate 4 inches [ailik, hands]. From the sides of its fore and hind legs, folds hang which from a distance look like housings thrown over it. It resembles the horse more than it does any other animal. As the horse has a small stomach [appetite?], so has the rhinoceros; as in the horse a piece of bone [pastern ?] grows in place of small bones, so one grows in the rhinoceros. It is more ferocious than the elephant and cannot be made obedient and submissive".

Babur then continues with some general idea about the animal's distribution.

"There are masses of it in the Parashawar and Hashnagar jungles, so too between the Sind-river and the jungles of the Bhira country. Masses there are also on the banks of the Saru-river in Hindustan. Some were killed in the Parashawar and Hashnagar jungles in our moves on Hindustan. It strikes powerfully with its horn, men and horses enough have been horned in those hunts. In one of them the horse of a chuhra [brave man] named Maqsud as tossed a spear's length, for which reason the man was nick-named the rhino's aim [*maqsud-i-karg*]".

The localities mentioned here must be examined further. Babur's "Hashnagar" should be the equivalent of Hachnagar shown on Bacque-Grammont's map in Babur (1980), which is the region of Nangarhar (34° 10' N, 71° E; locality [5] in figure 1) in the extreme East of Afghanistan, bounded in the north by the Kabul River, in the east by the Pakistan border and in the south by Safed Koh. Babur's "Parashawar" can be taken to mean the region around the town of Peshawar in Northern Pakistan (34° N, 71° 32'E). Babur's region "between the Sind River and the jungles of the Bhira country" is the area between Dinkot in the vicinity of present-day Kalabagh (32° 57'N, 71° 33'E; locality [7] in figure 1) on the Indus River eastwards to Bhera (32° 28'N, 72° 58'E) on the Jhalum River. The last locality mentioned by Babur, the Saru River, is located in the state of Uttar Pradesh in Northern India and is outside the range of our present investigation.

The manuscript of the *Babur-Nama* preserved in the British Museum of London (accession number Or. 3714) reproduced and translated by Suleiman (1970) is not dated, but is believed to have been produced around 1590. This volume is illustrated and it includes four miniatures showing the rhinoceros (folios 305b, 351b, 352a and 379a, also reproduced by Störk, 1977). Another representation of Babur hunting the rhinoceros is found on a plate from a manuscript dating from 1595-1605 in the Walters Art Gallery, Baltimore (Figure 5, see Ettinghausen, 1950). These examples show that the word "karg" used by Babur was interpreted to mean the rhinoceros as early as 1590.

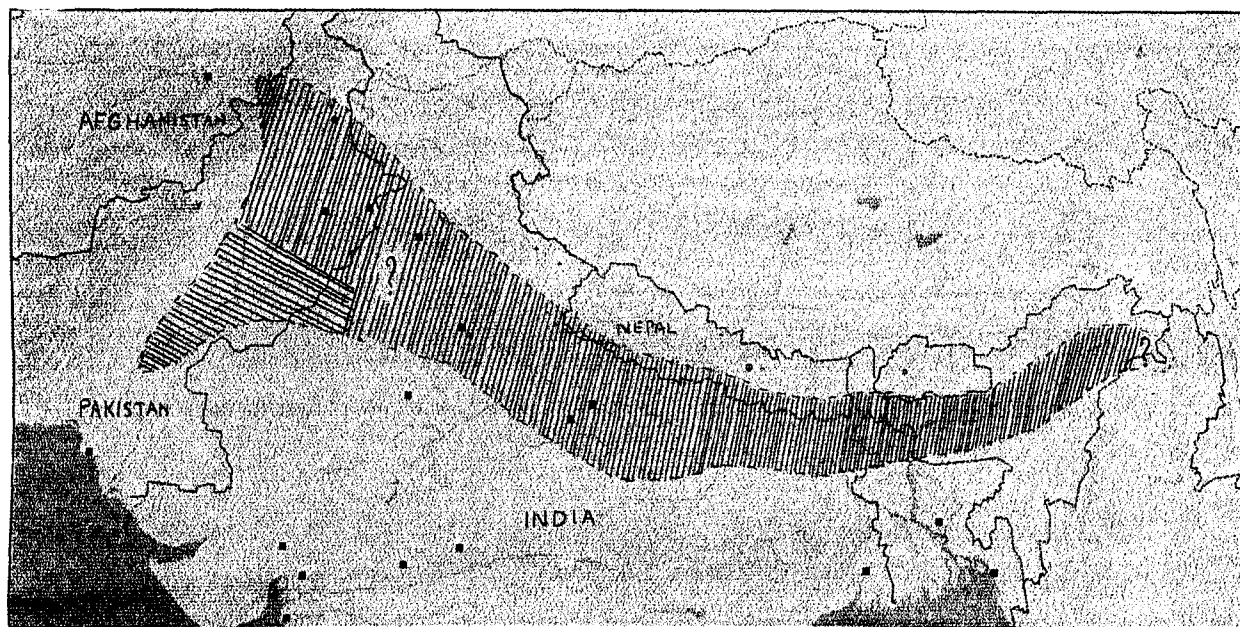


Fig. 5. Map showing historical distribution of the Indian rhinoceros (*Rhinoceros unicornis*) until 2000 BC (near-horizontal shading) and around 1600 AD (near-vertical shading).

Sidi Ali Reis

Sidi Ali Reis was the son of Husein Reis, Steward of the Imperial Arsenal in Turkey, and thus belonged to one of the most distinguished families of the country at that time. It was during the reign of Suleiman the Great in an era of continuous expansions of the Turkish empire. Sidi Ali was appointed in 1553 to the post of Admiral of the Egyptian fleet and was commanded to fetch back the remains of a fleet which had been left stranded in Basrah, Iraq by another officer. When he was preparing to leave Basrah, the fleet was attacked by the Portuguese, and Sidi Ali barely escaped with a few vessels to the coast of Gujarat in Western India. From there he traveled back overland through Pakistan, Afghanistan, Iran and Azerbaijan, reaching Istanbul via Baghdad in 1556. He wrote (in 1575) about his experience during the four years of travel in a book called "*Mirat ul Memalik*" (Mirror of Countries). There were several editions and translations, and I have used the English version of 1899 edited by A. Vambéry. Sidi Ali Reis related how he traveled from the Punjab in present-day Pakistan towards Kabul. His party reached

"the town of Pershuer, *i.e.* Peshawar. Soon after, we crossed the Khaiber Pass, and reached Djushai. In the mountains we saw two

rhinoceroses (*Kerkedans*), each the size of a small elephant, they have a horn on their nose about two inches long. In Abyssinia these animals are much more plentiful (Vambéry, 1899: 64-65)".

The passage is quite short and we can only note two things. First, Sidi Ali used the word *Kerkedans* to describe the animal. Secondly, the two specimens were seen in the mountains in the vicinity of the Khyber Pass ($34^{\circ} 7' N$, $71^{\circ} 4' E$; locality [5] in figure 1). While I have been unable to identify Djushai, it must be noted that Sidi Ali traveled from Peshawar into the mountains, and he mentioned the animals only after saying that he crossed the Khyber Pass. Although it can be debated, it is quite possible that Sidi Ali saw the rhinoceroses across the border in present-day Afghanistan.

DISCUSSION

Before briefly discussing the names used by the three authors mentioned above, it is proper to take to heart the warning issued by Allen Godbey of the University of Chicago in connection with unicorn lore: "It is apparent that the modern biologist who ventures an excursion among the peculiar idioms of an ancient people whose scientific zoological



Fig. 6. Babur on a rhinoceros hunt. From a manuscript of about 1595-1605, in Walters Art Gallery, Baltimore, Maryland, USA (W. 596 folio 21v.)

terminology he does not understand may make the Olympian Jove shake the empyrean with his laughter" (Godbey, 1939). I would like to add that in my experience the opposite is also true. Many ancient and especially relatively recent manuscripts and texts are translated and annotated by historians and geographers without the help of zoologists who have had some training in the interpretation of such kinds of work. Often it is thought that a rhinoceros is a rhinoceros and a zebra is a zebra, and no further help needs to be sought to interpret such data. Having said that, let me invoke the assistance of Ettinghausen (1950) who discussed the Arabic and Persian names of the rhinoceros in a lengthy footnote.

In the three texts currently scrutinized, Ibn Battuta used "karkaddan", Babur "karg" and Sidi Ali "kerkedans". Ettinghausen clarifies that the following variants are all among the usual Persian designations of the rhinoceros: *karkadann*, *karkaddan*, *karkand* or *karakand* and female form *karkanda*, *karkadan*, *kargadan*, *karg* (for Persian writing, see Ettinghausen). Although I have not consulted the sources in their original languages, it seems safe to assume that all three authors actually used words which are most likely to denote the rhinoceros. Of course, this is assuming that they in fact identified the animals seen in a correct way.

The evidence here presented therefore leads to the conclusion that the rhinoceros was stated to occur in the upper reaches of the Indus River of North Pakistan, from Behra on the Jhalum River in the East westwards to Peshawar, and even across the Khyber pass into Afghanistan. How far the animal wandered into that country westwards is unknown, but there is no evidence that it reached even as far as Kabul or north of the Kabul River. This first conclusion is based on the works of Babur and Sidi Ali, ensuring that the rhinoceros was still known in these regions until the middle of the sixteenth century.

The statements by Ibn Battuta about the rhinoceros on the lower reaches of the Indus River are more open to debate. The objects from Mohenjo Daro showing the rhinoceros don't give unequivocal evidence either that the animal actually occurred there in the wild, because the images might easily have been brought from related cities further to the north. Despite these uncertainties, there is no good reason to dismiss these records from the lower Indus Valley and I feel that we should extend the former

range of the Indian Rhinoceros southwards to the region of Larkana, say to about north latitude 27 degrees. This can be dated to the fourteenth century. One would like to know when and why the rhinoceros became extinct in these areas near the Indus Valley, but as no records later than Babur's memoirs of the early 16th century have been discovered, speculation seems pointless. Figure 5 shows a new map of the proposed historical distribution of *Rhinoceros unicornis*.

There are still two questions to which the answers presently seem elusive. First, how do we explain the absence of any sightings of the rhinoceros in the region lying between Delhi and the Indus Valley, a distance of roughly 700 km. Nobody in historic times ever suggested to have seen a rhinoceros or have heard of its existence. Unfortunately, it would be premature to conclude with certainty that the rhinoceros in fact never existed in these western parts of India. In fact, some subfossil rhinocerotid material has been reported from this general region, i.e. from Kalibangan, Rajasthan and from Langhnaj, Gujarat (Rookmaaker, 1984).

The second question concerns the unexpected habitat where some of the sightings were made. The Indian Rhinoceros prefers riverine habitats as found today in the Brahmaputra and Rapti Valleys, which would probably be similar to what was found in the Indus Valley. It is much more uncommon in hilly or mountainous regions, although it has been observed in such places. However, the records of the rhinoceros near the Khyber Pass seem to indicate its presence in quite high mountain ranges, which certainly would not have been expected. The two other Asian species of rhinoceros, the Sumatran Rhinoceros *Dicerorhinus sumatrensis* and the Javan Rhinoceros *Rhinoceros sondaicus* do frequent mountainous habitats more by choice. As neither species has been observed west of the states of Bihar and West Bengal in India (Rookmaaker, 1984, 1997), their presence in Pakistan would need very thorough investigation and explanation. On the basis of the present fragmentary evidence, I certainly would not like to suggest this.

The conclusion therefore should be that *Rhinoceros unicornis* occurred in the southern Indus Valley of Pakistan north of 27° N until the fourteenth century, and in the northern Indus Valley and across the mountains into eastern Afghanistan until the sixteenth century.

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