RECORDS OF THE SUNDARBANS RHINOCEROS *(Rhinoceros sondaicus inermis)* in India and Bangladesh

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SUMMARY

The Javan rhinos existed in the forests near the Bay of Bengal, called the Sundarbans, in southern Bangladesh and the state of West Bengal, India. It was first shot by F.V. Lamarepicquot in 1828, whose two specimens were described as a new species, Rhinoceros inermis, by Lesson in 1838. The animal was noted in the Sundarbans with some regularity until 1892. In total 11 specimens are known in different museums. The rhinos lived in small numbers in well-defined localities throughout the entire Sundarbans. It must have become extinct before 1925.

INTRODUCTION

The Javan rhino (*Rhinoceros sondaicus* Desmarest, 1822) today has a severely restricted range with very low numbers. It is easily the most endangereed species of rhino. However, in the last century it roamed much wider, from the Indonesian islands of Java and Sumatra, northwards to Malaysia, Thailand and Burma. It is also likely that most records of rhinos from Laos, South Vietnam, and southern Cambodia pertain to this single-horned species (Rookmaaker, 1980 and 1988). On the western side it extended to the northeastern states of India and into northern Assam, and in the Sunderbans of Bangladesh and India (Rookmaaker, 1984). The records concerning the existence of the Javan rhino in the Sunderbans have never been collected and an attempt is made here to map the extent of the animal's range in these forests.

The Sundarbans or Sunderbunds is a name for the tidal swamp forest formed by the estuary of the Ganges, on the sea-front of southern Bangladesh and the adjoining part of the Indian state of West Bengal. It is an area of islands surrounded by small creeks, covered by dense forest, daily flooded by the tidal currents. Swamp deer *(Cervus duvauceli)* and wild buffalo *(Bubalus bubalis)* have disappeared from the area, but it is still inhabited by larger land mammals like axis deer *(Axis axis)*, wild pig *(Sus scrofa)* and tiger *(Panthera tigris)*, known to be dangerous man-eaters (De, 1990; Chakrabarti, 1992). It would not be a habitat where one would immediately expect a rhino, as elsewhere in the world it is rare to find this animal in estuarine forests with limited supply of fresh water. The occurrence of the single-horned Javan rhino *(Rhinoceros sondaicus* Desmarest, 1822) in the Sundarbans, however, is established beyond doubt, and the animal is thought to belong to a separate subspecies, *R.s. inermis* Lesson, 1838. While there are a few early records, almost all available information pertains to the 19th century, and it is believed that the rhino must have become extinct in the area during the first decades of the 20th century.

The northern edge of the Sundarbans is just a few hours travel from Calcutta or from Dhaka, but still the area was seldom visited. It required substantial preparations to take enough water and food for several days, a boat was essential, and few braved the heat, the mosquitoes and the fear of man-eating tigers. To most sportsmen in India of the 19th century, who only looked for game in their spare time, the Sundarbans was hardly a favourite destination, generally not deemed to be worth the trouble. Still, a few people recorded how they encountered rhinos in the Sundarbans, and the present paper will try to summarize who saw the animal at which places. The area has so many waterways and islands, that it is a nightmare to a cartographer, hence there is an absence of good maps. Most of the names mentioned in the available reports cannot be found on modern maps, which is a serious obstacle in reviewing the occurrence of the Sundarbans rhino.

REPORTS

After a brief review of early records from the Sundarbans, the various reports have been roughly divided into those from the immediate vicinity of Calcutta, from the Indian part of the Sundarbans and further west in Bangladesh. The localities are indicated by numbers in square brackets found on the map in Figure 1 and also included in Table 1.

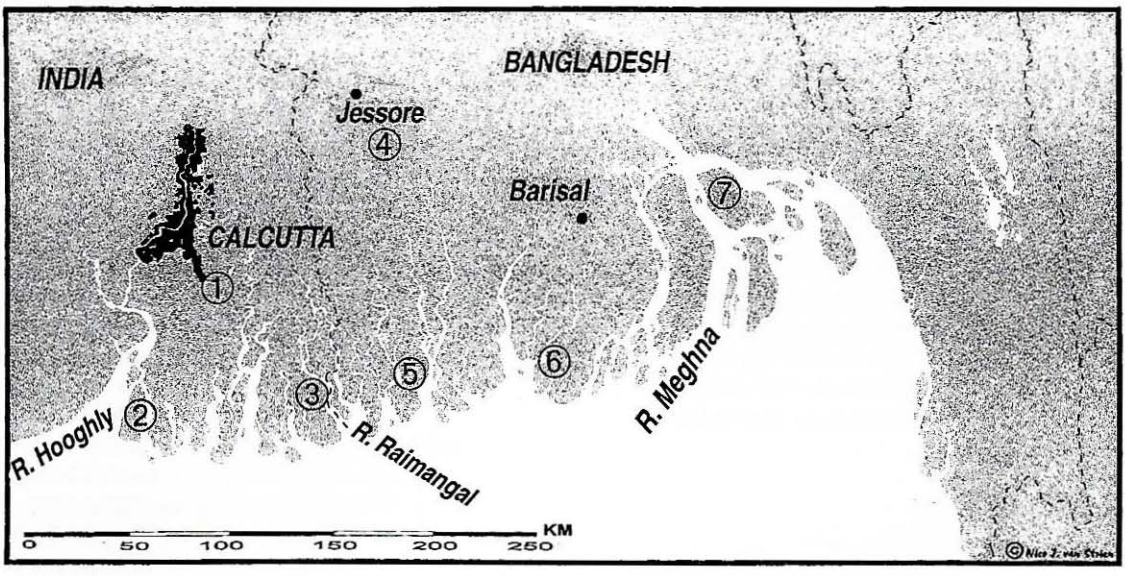


Figure 1. Map of the Sundarbans of India and Bangladesh. The numbers show localities where rhinos were sighted, see Table 1.

EARLY REPORTS (17TH AND 18TH CENTURIES)

At the end of the 18th century, Thomas Pennant published an elaborate account of a totally imaginary tour through India. When he reached the Sundarbans, he noted that 'the one-horned rhinoceros is very common in these islands, it loves forests and swampy places' (Pennant, 1798). Apparently his authority for the existence of rhinos in this region was 'a gentleman of my acquaintance', who Pennant (1793) elsewhere identified as Charles Pigot, of Peploe, Shropshire, at that time in the Indian service. Mr Pigot had landed on an island and 'roused a rhino, which rushed on him, flung him down, and ripped open his belly; the rhino proceeded without doing him any further injury; the gentleman survived the wound, and lived to a very advanced age' (Pennant, 1798). It must be realised, partly from this story, that every ship of the Dutch, French and British East India Companies trying to reach their stations along the Ganges had to pass the Sundarbans. One could suggest (but not prove) that when in those early days people mentioned rhinos in India or Bengal, they might have actually referred to the Javan species rather than the Great Indian rhino (*Rhinoceros unicornis* L., 1758).

There are three earlier reports of rhinos in the Sundarbans. Around 1630, Sebastien Manrique passed the island Xavaspur (point 7 in Figure 1), in the estuary of the Meghna River, and 'came across many Rhinos, whose horns, offensive in life, are after their death used in a defensive drug' (Manrique, 1927). On 16 January 1664, the Dutchman Wouter Schoutens (1676) passed *the River Jillisar [?], where the shores of the Ganges* are covered with bushes, inhabited by rhinos and other animals. Another traveler, Thomas Bowrey (1905) visited the 'creeks and rivolets at or about the entrance into the Ganges' around 1670 and mentioned the presence of 'rhinocerots' besides tigers and bears.

Table 1. Records of rhinos in the Sundarbans in chronological order. The map reference refers to the numbers on Figure 1.

Map	Locality	Date and Collector	Source	Section
7	Island Xavaspur	1630	Manrique 1927	Early Reports
?	River Jillisar	1664	Schoutens 1676	Early Reports
	Sundarbans	1670	Bowrey 1905	Early Reports
	Sundarbans	1828, Lamarepicquot	Berlin Museum	Eastern Sunderbans; Naturkunde der Humboldt - Universitat- No 1 and 2
2	Saugor Island, Middleton Point	1832	Shekarea 1832	Western Sunderbans (India)
4	Baugundee, Jessore district	1834, J.H. Barlow	Calcutta Museum	Calcutta, Indian Museum - No. 2
	Sundarbans	1850, C.Huffnagle	Calcutta Museum	Calcutta, Indian Museum - Museum No. 1
1	Pealee River, near Barrapoor	c.1850	Baker 1887	South of Calcutta
6	Eastern part of Sundarbans	c.1850	Baker 1887	Eastern Sunderbans (Bangladesh)
	Sundarbans	1859, A. Grote	London Museum	London, Museum of the Royal College of Surgeons of England - No. 1
6	Foolzurree, S. of Backergunge	1860	Simson 1886	Eastern Sunderbans (Bangladesh)
	Sundarbans	1867, W.W.Shepperd	Calcutta Museum	Calcutta, Indian Museum No. 5
	Sundarbans	1872, J.F. Barckley	Calcutta Museum	Calcutta, Indian Museum No. 4
	Sundarbans	1874, O.L.Fraser	Calcutta Museum and J.F. Barckley Fraser 1875	Calcutta, Indian Museum No. 3
6	Matabangah River, Barisal district	1875	Calcutta Museum	Calcutta, Indian Museum No. 6
3	Ray Mangal River	1876, Jamrach	Sclater 1876	Western Sunderbans (India)
	Sundarbans	1876	London Museum	London, Natural History Museum - No. 1
	Sundarbans	1877, Jamrach	Sclater 1877	Western Sunderbans (India)
?	Chillipang / Chillipangpi Creek	1879, Capt.Charling	Calcutta Museum	Calcutta, Indian Museum - No. 7
	Sundarbans (one killed)	1888	De 1990	Discussion
5	R.Pizon Khalee, S.Issuripore	1892	de Poncins 1935	Eastern Suderbans (Bangladesh)
	Sundarbans (one seen)	1900	Shebbeare 1953	Discussion
	Sundarbans (present)	1908	Hussain 1985	Discussion

SOUTH OF CALCUTTA

There were many sportsmen in Calcutta in the 19th century. Around the middle of the century they had organized themselves in the Tent Club, going out for short excursions in the environs of the town. On one of these outings, villagers told the party that a rhino was in the neighbourhood, according to Edward Baker, 'late deputy inspector-general of police, Bengal' on the title-page of his book published in 1887. The presence of a rhino met with disbelief, as the town was just a few hours away. However, the next day a few people went to explore the banks of the Pealee River (point 1 in Figure 1), some six miles from Barrapoor (or Piali River near Baruipur, 22°30'E 88°10'E, just south of Calcutta). In a patch of jungle, they disturbed a 'huge bull rhinoceros' which made off across a field, and although wounded, it disappeared without being killed. The villagers had known these animals a bit further south, but not in this particular patch of jungle (Baker, 1887).

WESTERN SUNDARBANS (INDIA)

On 16 March 1832, A. Shekarea wrote a letter to the editor of the *Bengal Hurkara and Chronicle* (quoted here from the *Oriental Sporting Magazine*, probably a reprint). The author maybe used a pseudonym, based on the Indian name for a hunter, a shikari. He reported that while visiting Edmondstone Island, he received information that a rhino was seen 'close to the residence at Middleton Point, on Saugor Island; I was requested (being a killer) to go over and try my luck.' Saugor should be Sagar (point 2 in Figure 1), the most western island of the Sundarbans on the mouth of the Hooghly River in West Bengal. It was known to be a dangerous place, as parties who landed here by mistake in 1786 and 1792 were attacked by tigers (Burton, 1931). Despite some mishaps, Shekarea and a friend located and shot the rhino: it was 12 feet long (366cm) (plus a tail of 2 feet - 61cm), 7 feet (213cm) high and 13 feet (397cm) in circumference. The hide and the horn were taken as a trophy.

In 1876 and 1877, the animal dealer William Jamrach, based in London, tried to import a living Javan rhino. His men captured one specimen in 1876, at the Ray Mangal River (point 3 in Figure 1) (or Raimangal River, the border between India and Bangladesh). The animal died and only the skin reached London (Sclater, 1876). In the next year, Jamrach imported a rhino caught in an unknown place in the Sundarbans. It lived in his quarters in London for six months, but for some reason, nobody was interested in buying it (Sclater, 1877). After its death, the viscera were extensively studied by Garrod (1877).

EASTERN SUNDARBANS (BANGLADESH)

On 2 November 1828, the Frenchman François Victor Lamarepicquot (1785-1865) set out from Calcutta. In an appendix hidden away in the back of a booklet on other matters, he told how he shot the 'rhinoceros without horn' (Lamarepicquot, 1835). Unfortunately, where he went in the Sundarbans is not clear.

One gets the feeling, however, that he traveled quite a distance from the town. He shot a female and its calf of 4 months old. The adult female was 11 feet 7 inches (353cm) long and 5 feet 3 inches (160cm) high. Neither had any sign of a horn. Both specimens were taken to France and there described as a new species of rhino.

Frank B. Simson, of the Bengal Civil Service, published his Letters on Sport in Eastern Bengal in 1886, combining incidents from 1847 onwards. Some time during this forty year period, he found himself stationed at Backergunge, now called Bakarganj, south of Barisal, Bangladesh. The people told him that no rhinos were known to reside near the town, but the animals should be plentiful further south towards the shores of the Bay of Bengal. It took Simson two nights and a day in a boat to reach those parts, near a village which he called 'Isla Foolzurree' (point 6 on Figure1), established by a colony of people of Arakan. He spent a few days in that area and he saw six rhinos in the dense forest. He wounded one, and shot another, the head of which he took with him (Simson, 1886).

Another book combining tales of some forty years appeared in 1887 by Edward B. Baker. He is very vague where he encountered the rhino, except that it was in the eastern part of the Sundarbans (possibly point 6 in Figure1) 'within reach of an ebb tide of the mouth of one of the many rivers' (Baker, 1887). This is what he saw: 'On the margin of a mud-hole twenty or thirty feet in diameter stood a huge rhinoceros in deep contemplation of two shapeless slate-coloured lumps just showing above the muddy water; in other words, two companions enjoying a mud-bath, while he, having had his, as his well-plastered hide testified, was basking in the sun half asleep, working his ears and stamping with a foot now and then as flies pestered him'. Baker truly lived in different days, thinking nothing special of witnessing three Javan rhinos taking

a mudbath, while today tourists brave long journeys to remote parts with far less certainty to see anything like it. Baker shoots two of these animals, one a male 'of the largest size, carrying a well-worn horn of moderate size', the other a full-grown cow. The heads and some parts of the hide were taken. Later, he shot a third rhino, 'a large male, with a better horn than the other two had.'

Presumably the last person to go after the Sundarbans rhino, certainly the last to tell his story (in 1935), was Viscount Edmund de Poncins. He traveled in January and February 1892. In those days, the rhinos were quite rare, and de Poncins believed that there could not be more than a maximum of six specimens alive. These lived on islands 165, 172, 171, 170, 169, numbers taken from the map which he used, near the River Pizon Khalee (point 5 in Figure1), some 15 miles south of Issuripore (probably the present Iswaripur, 22°19'E 89° 07'S). He believed that the animals were attracted by a well of sweet water in the area. He only saw one: 'For the first and, I am sorry to say, the last time in my life I saw that long, grey, hornless head and everything was explained: these rhinos were *R. sondaicus*, they had no trophy worth having and shooting them was without excuse.'

SPECIMENS

There have been eleven specimens of *R. sondaicus* from the Sundarbans in natural history museums, in Calcutta, Berlin and London.

Calcutta, Indian Museum (now Zoological Survey of India)

The specimens available in this collection were first catalogued by Blyth (1863), and again by W.L. Sclater (1891). Since that time, the collection underwent some administrative changes. The mammal collection is now maintained by the Zoological Survey of India, and the rhinos present were discussed recently by Groves and Chakraborty (1983).

1. Stuffed skin, young male, Sundarbans. Blyth (1863): 'a. Stuffed specimen, under 3.5 feet high. Carcass presented by C. Huffnagle, Esq. in 1850.' Similar information had been recorded in the *Journal of the Asiatic Society of Bengal* (vol. 10, p.88, 1851). While its locality is not recorded here, it seems to be this specimen to which Blyth (1862) referred when he discussed a 'less than half-grown' stuffed specimen, from the 'Sundarban'. The animal was not listed by Sclater (1891), maybe it had disappeared by then.
2. Skeleton, female, from Jessore. Blyth (1863): 'b. Skeleton of a nearly full-grown female, not quite complete ... killed in the Jessore districts, and presented to the Society by J.H. Barlow, Esq. in 1834'. Pearson (1840) adds the exact locality: Baugundee, Jessore district (point 4 Figure1). The same skeleton is listed by Sclater (1891), but it was no longer present when Groves and Chakraborty (1983) investigated the collection.
3. Stuffed skin, skeleton, female, Sunderbans, presented by O.L. Fraser and J.F. Barckley, 1874 (Sclater, 1891). The skull had a partially ossified nasal septum described by Fraser (1875), who noticed the condition 'whilst cleaning the skull of a *Rhinoceros sondaicus* lately obtained by me in the Sunderbuns' in a female 5 feet 6 inches high. It had no horn. It was not listed by Groves and Chakraborty (1983).
4. Stuffed skin, skeleton, female juv. Sunderbunds, J.F. Barckley, 1872 (Sclater, 1891). It was no longer present in this century.
5. Skull, Sunderbunds, W.W. Shepperd, 1867 (Sclater 1891). It was present in 1983, registered no. 19241.
6. Skull and feet bones, adult female, Matabangah River [Barisal district], Sunderbunds (point 6 Figure1). Purchased 1875 (Sclater, 1891), present as no. 17688 in 1983.
7. Skull, female, Chillichang Creek, Sunderbunds, Capt. Charling' (Sclater, 1891), present as no. 3521 in 1983. Groves (1967) says that it was collected in 1879 or earlier at the Chillipangpi Creek.

Berlin, Museum für Naturkunde der Humboldt-Universität

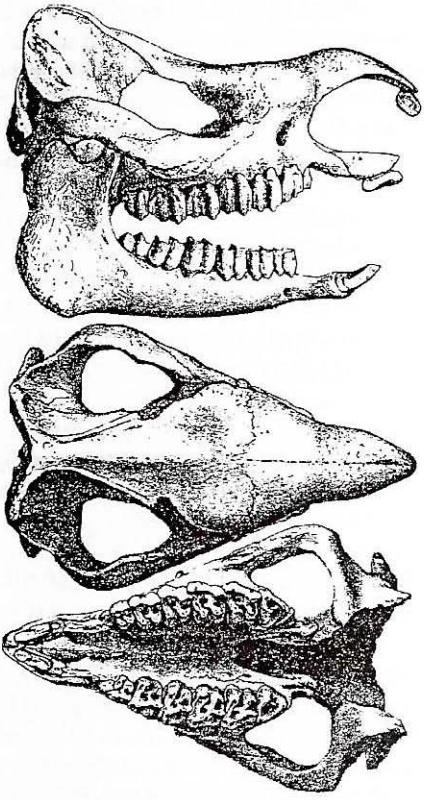
8. Stuffed skin, skull, adult female (no. 1957), type of *Rhinoceros inermis* Lesson, 1838, collected by F.V. Lamarepicquot in 1828. The skulls of this and the next specimens were described and figured by Peters (1877). These skulls are now in the same collection as the hides, but in the last century they were kept in the Museum of Anatomy, where Johannes Müller wrote the labels with numbers 10603 and 10602 for this and the next skull respectively (R. Angermann, Berlin, in litt.).
9. Stuffed, skull, young female (no.1958), collected by Lamarepicquot in 1828 together with the previous specimen.

London, Museum of the Royal College of Surgeons of England

10. Skull, Bengal Sunderbunds in 1859, presented by A. Grote 1882 (Flower and Garson 1884, no. 2132). This specimen was destroyed in the second world war.

London, Natural History Museum

11. Skull, adult male from Sunderbunds, no. 76.3.30.1 (Pocock, 1946). Possibly it had belonged to the skin or the specimen imported by Jamrach in 1876.



Skull of Rhinoceros sondaicus inermis, *from Peters (1877).*

THE SUBSPECIES *RHINOCEROS SONDAICUS INERMIS*

Lamarepicquot returned to Paris around 1830 with a collection of zoological specimens obtained in India and at the Cape of Good Hope. He was a pharmacist born in Bayeux. He made a trip to South Asia specifically to collect the natural products of the country, works of arts and reports about the inhabitants. His zoological collections contained 53 mammals, 150 birds, 30 reptiles, 123 fishes, over 300 shells, 52 crustaceans, and over 500 insects (Geoffroy *et al.*, 1831).

The single-horned species of rhino which is now known as the Javan rhino had just been recognised as a separate species some ten years earlier, so it was natural that scientists were interested to see the two skins brought from India. Geoffroy-St. Hilaire, Duméril and Cuvier (1831) saw this 'rhinoceros without horn' and suggested that it was similar to the Javan species, except for the complete absence of a horn. It is mentioned that Lamarepicquot submitted a Mémoire about these animals, which apparently was never printed, but maybe it was like the story which he published in 1835. The whole collection brought home by Lamarepicquot was bought in 1836 by King Friedrich Wilhelm III for 6000 Thaler, to be deposited in the new zoological museum in Berlin (Peters, 1877).

While the French scientists had noticed the peculiar absence of a horn in both these specimens, it took a few years before the species was described by René P. Lesson in a book designed to complement Buffon's *Histoire Naturelle*, as 'Le Rhinocéros sans corne, ou Gaindar, *Rhinoceros inermis*' (Lesson, 1838). It came from the Bay of Bengal, and differed from other rhinos by the absence of a horn. Lesson referred to the published report by Lamarepicquot (1835). There has been some discussion about the date of appearance of Lesson's book. I saw a copy with a title-page with the date 1838 in the library of the Natural History Museum, London, and some other copies with the same date are known. However, others (like the one in the library of the Zoological Society of London) have a title-page with date 1848, which is probably a reprint. It appears

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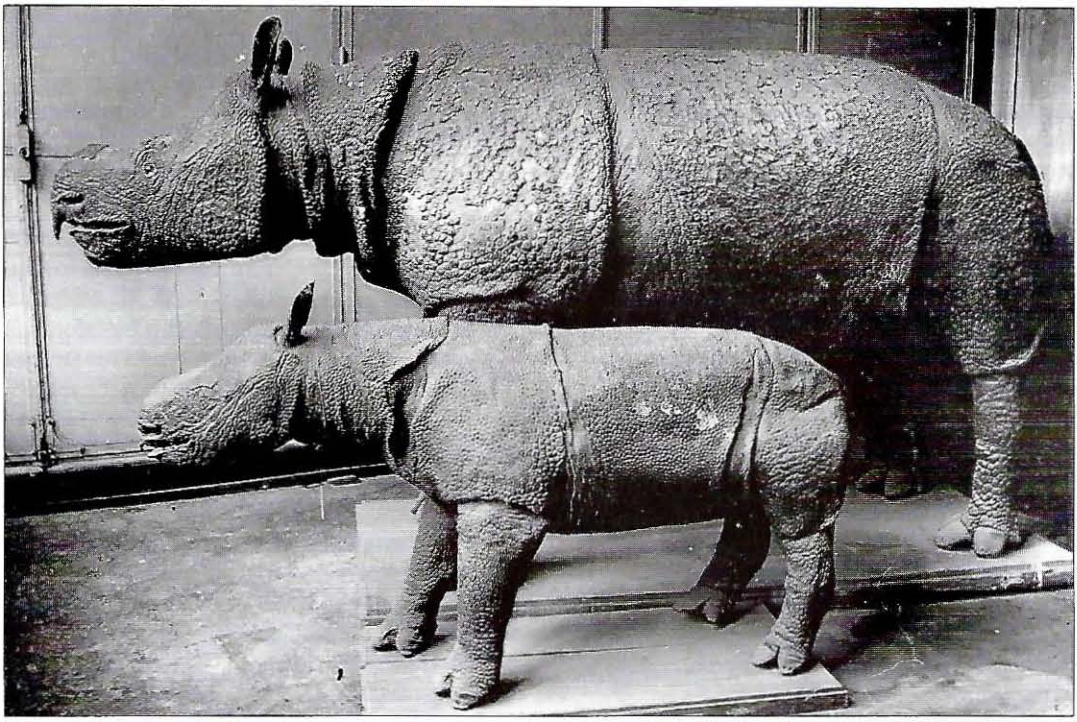

The mounted skin of Rhinoceros sondaicus inermis *in the Museum für Naturkunde in Berlin.*

clear that Lesson's name can be dated 1838 without problem. Lesson's taxon is still recognized as the extinct single-horned Javan rhino in India (Sundarbans, Assam) and Bangladesh, *Rhinoceros sondaicus inermis*, Lesson, 1838; it is characterized by a shorter basal length and less inclined occipital plane than specimens from Java, and large teeth (Groves, 1967). The absence of a horn in the female rhinos from the Sundarbans is a peculiarity often alluded to in the reports quoted here. The males were said to have a visible horn. Groves (1971) discussed the available evidence to see if this applied only to animals from the Sundarbans or also to those from other areas. While the evidence was not quite conclusive, it appeared that the Javan rhino of the Sundarbans had no horn, at most an indication, while in Malaysia, Sumatra and Java occasionally at least a small horn was reported.

DISCUSSION

The various localities where rhinos were encountered in the Sundarbans are summarized in roughly chronological order in Table 1 and shown in Figure 1.

The rhino probably once was distributed throughout the Sundarbans, from Sagar Island in the west to the Meghna River in the east. The paucity of early records must be due to the poor accessibility of the area. The animals were usually seen quite near the sea-shore. One also gets the impression from the few written reports that the rhinos were only known in very specific localities, not just everywhere throughout the entire estuary. The range may have been limited by the presence of sweet water, rather than the pressure of expanding human population. However, the latter may have been a limiting factor further away from the sea. The species was killed in Jessore district, just north of the boundary of the Sundarbans proper, but only once, before 1834. The sighting of a rhino just south of Calcutta, in a place now almost covered by the ever expanding estates of the sprawling city, is a surprise. There were many sportsmen, naturalists, visitors in Calcutta from early days, and nobody noticed wild rhinos there, at least not in specific terms. Still, on what basis could we deny Baker's tale?

De Poncins (1935) implied that the rhinos were quite rare at the time when he saw them, in 1892, only a handful of specimens remaining. Actually, nobody ever gave the impression that these estuarine forests were really swarming with rhinos, they were always seen in small numbers in rather well-defined localities. According to official records, the last rhino was killed in the Sundarbans in 1888 (De, 1990). De Poncins still saw a few in 1892. At the same time, Kinloch (1892) suggested that they were 'still tolerably abundant.' An officer of the Survey Department reportedly saw the animal or its tracks around 1900, said Shebbeare (1953), who admitted that there had been no 'recent' report when he started to work in the area in 1906. An unspecified record refers to 1908 (Hussain, 1985). There are no further records for the rest of the 20th century. The Sundarbans are inaccessible and rarely visited, so we may never know when the animal became extinct in the area. We could say before 1925.

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