

All three Asiatic Rhinoceroses, the Great One-horned *R. unicornis*, the lesser one-horned *R. sondaicus*, and the Two-Horned *R. sumatrensis*, merit the term "rare", but the two latter are probably the rarest to-day and the species that are threatened most.

All living rhinoceroses are included in a single family, and though externally similar, differ considerably in their history and anatomy. As a result of extensive migration and adaptation to different climates, terrains, and feeding-grounds the various species became distinct early in their history. Even the two living African representatives (which incidentally are both two-horned, the black or commoner, and the white which is a rarer and larger animal) probably separated and became distinct species as much as a million years ago.

Differences in feeding habits, which in turn develop from originally different environments, has affected the distribution of the various species, the Great One-horned Rhinoceros being mainly confined to the grassy plains of North Eastern India where its specially adapted high-crowned grinding teeth enable it to fulfil its role as a grazing animal, while the other two species are mainly browsers with short-crowned teeth, and are confined to tree-forest zones. All the species have a three-toed foot, unlike the elephant which has four toes, and all share the habit of wallowing in mud and water. The two-horned *Sumatrensis* is the smallest of the three, and its skin is smooth and covered with bristles as distinct from its one-horned cousins whose skins are tuberculated, while its ears are fringed with hair. The difference between the Lesser One-horned *Sondaicus* and the Great One-horned *Unicornis* is the more pronounced development in the latter of the horn, particularly in the female. In the *Unicornis* moreover the fold of skin in front of the shoulders is not continued right across the back as is the case in the other two species, while the great armour-like shields of thick skin are very characteristic.

All three Rhinoceroses were once found in Assam, though Lt. Colonel Pollock who was engaged in laying out roads in the Assam Valley and who did a lot of shooting in the country between the years 1860 and 1870, stated that only the two varieties of one-horned Rhinoceroses were found in Assam. A specimen of the two-horned Rhinoceros *Sumatrensis*,

whose range is extensive though everywhere is rare and extremely localised, was recorded from the Brahmaputra Valley in 1875. One specimen was killed on a tea-garden in Sui Sylhet round about 1905 while in the Tannong long sub-division of Manipur one was killed by some Kukis about 25 years ago in the valley of the Jiri, a tributary of the Burak river. A female Rhinoceros with a calf was seen by Forest Officer in 1934 near Loharband, south Cachar in hilly bamboo jungle and was probably a *Sumatrensis*. Rhinoceroses are known to exist in the extreme north-east corner of Assam in the hilly Frontier National Park of the Manabhum-Daphalum area which lies in the triangle formed by the hills that enclose the end of the Brahmaputra Valley and it is expected that the species is the *Sumatrensis*. The Sub-Divisional Officer, Hailong about 15 years ago met a Rheno near Mohan in the North Cachar Hills and took it to be specimen of the Great One-Horned, but it is more than likely that it was a *Sumatrensis* as these animals haunt hill-forests by preference only wallowing in muddy pools, and the existence of the rear horn is very difficult of detection normally, being quite small. During the Arakan Campaigns of 1943-45, Lt. General Christison took particular care to verify the existence of this species in the Arakan Yomas of Burma, and three specimens were actually seen which he believes were *Sumatrensis* though the observers saw only one horn. In Burma to-day it is estimated that there are no more than twenty specimens scattered in various parts of the country, mainly in the Shwe-u-Dauing Sanctuary in Central Burma and in the Arakan Yomas. The species is still found in Malaya, but the disturbed conditions that country is experiencing are not favourable to its survival, though its greater alertness and wariness renders it more fitted to resist persecution than its more helpless cousin, the *Sondaicus*, which probably survives only in Indonesia to-day.

The Lesser one-horned *Sondaicus* was once found along with its larger one-horned cousin in Assam to the South of the Brahmaputra, but to-day this species is probably extinct in Assam as well as in Burma. The last recorded *Sondaicus* in Assam was from Manipur State in 1874 while one was captured off Chittagong in 1868. In Western Java the species probably numbered around thirty just before World War II and in Sumatra about twenty individuals.

were believed to exist round about 1930. But the disturbed conditions in these parts since the end of World War II render the chances of survival of this species even more slender, and in fact it has been listed as requiring immediate preservation by the International Conference on Nature Protection held at Lake Success in 1949.

All the three species of Rhinoceros have suffered persecution at the hands of man throughout the ages as the result of superstitious beliefs in the magical effects of the horn in rendering poison innocuous, while the Chinese believe that it has a rejuvenating effect, and some Hindus believe that every part of its body is sacred and valuable. A habit which has probably assisted in their reduction is that of depositing their dung in the same place for some time in what eventually become large heaps as also their habit of wallowing in mud-holes which make it easy for man to lay in wait for them. All the species of Rhinoceroses are reputed to have good hearing and scent, but poor sight, and as a result are inclined to be touchy at times, but they will not attack man unless provoked or suddenly surprised, though like the rogue elephant there is the rogue Rhino! Rhinoceroses held their own fairly well in recent time until advent of the fire-arm, but they have rapidly lost ground since then. In the case of the Sandaicus and Sumatrensis, which mostly inhabit tree-forest, there is less excuse for man to interfere with it, but in the case of the Great One-Horned Rhinoceros, which as I pointed out before, is a grazer and is mainly confined to low-lying grassy areas, there has been a direct clash between its interests and that of man during the past century with the opening up of the grassy plains of North Eastern India for cultivation and grazing.

In Assam this Rhinoceros, which is to-day our sole surviving representative of the race, is found in two distinct types of forests the first type a belt which stretches along the foot-hill of the Himalayas from Nepal through North Bengal as far as the Darrang district of Assam and in which it moves between the grassy swamp of the Terai up through the Bhabar tree forests to the foot-hills, and the second type the grassy areas found near the Brahmaputra river, of which the last surviving remnants to-day are the Kaziranga, Laokhowa and Orange Sanctuaries. Pollok found the animal extremely plentiful eighty years ago in the plains of Goalpara, Kamrup, Nowgong and Darrang in areas where to-day jute and paddy fields stretch in un-broken monotony. He shot 44 in seven years and wounded many more!

Those were the days of the smooth-bore gun firing spherical balls and the big-bore black-powder rifle, and quantities of game must have been wounded and lost with such weapons when compared to our modern high velocity rifles, which at any rate have the merit of being clean and merciful killers! He records that the horn of the Rhinoceros was useless as a trophy though prized "by the natives of the country as drinking cups in temples," and that it fetched from 30/- to 45/- rupees a seer (as compared with to-day's price of over 1,000/- rupees per seer!) But while those were the days when the Rhinoceros was allowed to be killed for sport, to-day it is strictly protected and if killed it is by poachers or by excitable people who in some localities, such as the Majuli, apparently cannot resist the temptation to slaughter a Rhinoceros when they see one. In either case in Assam with the great demand among the superstitious for parts of the Rhinoceros, very little remains of the carcasses! Recently a male which had wandered across to the Majuli from the Kaziranga Sanctuary was chased and done to death by a crowd of otherwise law-abiding villagers who quickly disposed of every bit of its carcase leaving only the skeleton. Some years ago an almost identical incident took place at Kamalabari-ghat near Jorhat when a Rhino that was swimming across the river was hacked to death in full view of the people at the ghat by men who followed it in boats as it swam. Once a skin which was left to dry under a tree in an Inspection Bungalow had its feet removed while the Forest Officer slept at night, and this in the heart of a large forest Colony!

Turning to conditions in Assam, to-day, for all practical purposes there is only one Rhinoceros—the Great One-horned Unicornis that holds the stage. This Assam 'Gor' has the distinction of being the largest Rhinoceros in existence to-day, and is the emblem of the State. It was once found in large numbers, and it is said that the ancient Assamese had domesticated it and used it for ploughing. It was also used in battles, if we are to judge from extent illustrations showing a formidable spike mounted on its horn! It was Bengt Berg, the Danish photographer-naturalist, who first drew attention to this animal in 1933 when he photographed them in their natural haunts with the active assistance and encouragement of Sheb-beare, who as Conservator in Bengal was then struggling to protect the last surviving Rhinos there, and who hoped to gain in his fight from the publicity which he knew would accrue from Berg's efforts. Berg in his painstaking efforts to get photographs came to the conclusion that

there were not more than 35 to 40 Rhinos left in the whole of Bengal. In Assam at the same time Milroy, who was so akin to Shebbeare in his outlook and methods as a Forest Officer, was struggling with a wave of Rhino-poaching and had to call in the aid of Armed Police. His premature death in 1935 was a great loss to the drive in Assam to put Sanctuaries and Wild Life protection on its feet. But he had laid the foundations and it is on these that all subsequent activities have been based.

There are in Assam to-day three whole-time Sanctuaries, and two Reserves which are treated as such, for the protection mainly of the Rhinoceros, though other rare animals such as Buffalo, Bison, and Swamp Deer share in the protection which is aimed principally at preserving this vanishing species. Altogether there are some 164 square miles of such Sanctuaries and Reserves, distributed as follows :—

(1). Kaziranga Sanctuary, 166 square miles in extent on the South Bank of Brahmaputra at the foot of the Mikir Hills in Central Assam: a flat low-lying expanse, mainly of reeds and grasses, with streams and open spaces or Bheels where the visitor is quite certain of being able to observe Rhinos, buffaloes, deer, pig etc. at any time. Estimated to contain about 150 head of Rhino, several hundred buffaloes, about 20 elephants and a few swamp deer; this is the "Show-piece" of the Sanctuaries in Assam mainly because of its accessibility.

(2). The Laokhowa Reserve, in Nowgong District 27 square miles in area is similarly situated on the edge of the Brahmaputra and like the Kaziranga Sanctuary consists entirely of flat grassy land; it is estimated to contain about 20-30 head of Rhino and some Buffaloes.

(3). The Orang Reserve, 24 square miles in area in Darrang, is on the north bank of the Brahmaputra and almost opposite the Laokhoa Reserve and similar in type to the two areas mentioned above. Estimated to contain about half a dozen Rhino.

(4). The North Kamrup or Manas Sanctuary is 162 square miles in area, and stretches below the Bhutan hills on the east bank of the Manas river, which debouches from the Himalayas about 100 miles east of Cooch Behar and

There are supposed to be more than 100
Rhinos in this Sanctuary, as also up to 200 buffaloes, 100 elephants and 100 bison. Swamp Deer were once to be seen in numbers in this Reserve and in the Kahitama Reserve which extends on the South of this Sanctuary, but are now very scarce.

(5). The Sonai-Rupai Game Sanctuary in Darrang District is 85 square miles in area and like the Manas Sanctuary extends from the Himalayan foot-hills southwards. It is supposed to contain a few Rhino in addition to Bison and a number of elephants. This Sanctuary like the Manas, has the advantage of being bordered on the north by the Himalayan foot-hills and is part of a continuous belt of Reserves stretching East and West so that animals are free to move about, but this advantage is nullified by the resultant vulnerability of the area which can effectively be protected only from the south.

The Pabha or Milroy Buffalo Sanctuary, 19 square miles in area is situated in North Lakhimpur and deserves mention in passing, as a Sanctuary created exclusively for the protection of the magnificent species of Assam Wild Buffalo, of which there are probably some 50-100 animals here. It is possible that this area once had Rhinos and elephants.

These then are the last strongholds of Rhinoceros Unicornis in Assam, and if the small Bengal Sanctuary is included, in the World, for I deliberately exclude the few animals that are to be found in Cooch Behar and Nepal where they are still not protected. What are the prospects of preserving this animal for eternity? Bengt Berg was pessimistic and he wrote in his beautifully illustrated book, "On the Trail of the Bhino", that "in another hundred years the skeletons of this animal will be seen along with similar ones of extinct animals in the Museums of the world and people will stare in wonder... Zoologists will look with pity and envy on the photos in this book, pity for the poor man who had to put up with such inferior photographic equipment but envy at his luck to have lived before the Rhino became extinct!" Certainly, if we are to judge from the rapid rate of disappearance of this species in the last 100 years, it would appear as if the struggle is hopeless. Yet, it appears as if the Rhino is holding its own in the Kaziranga and North Kamrup (Manas) Sanctuaries.