BREEDING THE BLACK RHINOCEROS IN GREAT BRITAIN*

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The black rhinoceros *(Diceros bicornis)* have been exhibited in British zoos for over a hundred years. London Zoo received its first specimen in 1868, and from around the turn of the century, had a number of different individuals in the collection, some of which survived for upwards of fifteen years in captivity. However, most, if not all, of these were single specimens, and the first successful breeding of the species was not recorded until 1958, at Bristol Zoo.

Since the first calf was produced at Bristol, twenty-one viable births have been recorded for this species in British Zoos. Regrettably, only seven of these animals survive and the total number of specimens currently exhibited is one dozen.

Maintenance and breeding of captive populations of this species takes on additional significance in the light of its increasing rarity in most parts of its African range, almost entirely the result of excessive poaching. Consequently, the species is far less readily available for zoological collections than it was even a few years ago. This is in direct contrast to the situation surrounding the Southern race of the white rhinoceros *(Ceratotherium s. simum)* which was at one time reduced to a tiny remnant of its former numbers. Today, however, effective protection in its homelands, has made it readily available for captive breeding, and it is now well represented and breeding in an increasing number of zoological collections. Thus, the Southern white rhino has lost its endangered species status, being in almost twice as many collections as the black, which it outnumbers in captivity almost three to one. This pattern is reflected in British collections.

Breeding History

The breeding of rhinos in captivity has not always proved a straightforward procedure, particularly in zoos where enclosure size is small and facilities for introducing unfamiliar animals together is limited. Courtship and mating in the black rhino is a highly-charged affair, and usually involves a good deal of vigorous chasing and fighting. If the partners are unfamiliar with each other, this may be sufficiently serious to inhibit normal mating behaviour. However, this does not appear to have been a major problem in those British zoos exhibiting this species, and most adult pairs, with few exceptions such as a pair at Belle Vue Zoo, Manchester, which has now closed, have produced at least one calf.

The first zoo to acquire a potential breeding pair of animals was Bristol. In 1952, two young animals, aged about two years old on arrival, were imported. Despite a relatively small enclosure, 'Willie' and 'Stephanie' mated successfully as they reached maturity, and the first calf, a male called 'Roger' was born in 1958. After being successfully raised, 'Roger' was sent to Chester Zoo where he was paired with a young wildborn female. This pair later produced three calves. A second male calf 'Ronald' was born at Bristol in 1961. 'Ronald' was later sent to Dublin Zoo to join a female born at Rotterdam Zoo. In 1969, this pair produced a male calf 'Ringo', their sole offspring.

Between 1964 and 1970, Bristol's pair produced three more calves, all females but none of them surviving long enough to produce offspring themselves. The breeding female 'Stephanie' died in 1971, followed a year later by her mate 'Willie'.

Bristol Zoo then exhibited a second pair of animals, a bull 'Rupert' born in Hanover and originally obtained as a mate for one of the zoo-bred female calves, and a wildborn female 'Thelma'. However, this pair proved less compatible than their predecessors and no breeding resulted. In 1975, 'Thelma' was sent on loan to Chester Zoo, for mating with the firstborn Bristol bull 'Roger'. This attempt was also unsuccessful and 'Thelma' was later returned to Bristol. In 1981, she was again sent to Chester, this time to partner the bull 'Jasper' who was born there but subsequently sent to, and later returned from, Paignton. Unfortunately 'Thelma' was never to produce offspring before her death in 1983. Bristol's only other rhino, 'Rupert' had already been sent to London Zoo, and thence to Whipsnade where he eventually sired a single calf before his death in 1984. Today, Bristol no longer exhibits this species.

Bristol's early success with five calves born, has since been equalled by the breeding cows at both London and Whipsnade, each of which have produced five calves to date. London's pair 'Paul' and 'June' were imported in 1966, while Whipsnade received 'Bwana Mkubwa' (Big Master) and 'Mama Kidogo' (Little Mother) in 1963. First calves were born to these pairs in 1969 and

* See also page 62 of this issue.

1970 respectively. London's bull 'Paul' died in 1973, after siring two calves and subsequent calves born to 'June' have been fathered by the bull 'Bwana Mkubwa' who holds the record as the most successful sire in G.B. with seven calves to date (four at Whipsnade, one of which was stillborn, three at London). In order to achieve this feat, he has been successfully transported between the two zoos on several occasions. The last calf born to 'Mama Kidogo' at Whipsnade was sired by Bristol's 'Rupert' who was transferred there in 1978 after spending a few months at London.

'Rupert's death in 1984 means that London are again operating their breeding with only three animals. All three are aged twenty years or more and the cows in particular may be nearing the end of their productive lifespan. Of ten calves born to this group so far, only two survive. It is very important therefore, that any further calves produced are successfully raised and bred from.

The only other collection currently breeding the species in Britain is Port Lympne Wildlife Park in Kent. Two wildcaught females were obtained in 1971 and kept at Howletts Zoo with the male 'Baringo'—the first and only calf bred at Dublin. The first calf, a male was born in 1977, and two more have been successfully raised since the group was moved to Howlett's sister establishment at Port Lympne.

Breeding in Britain is summarised in Table 1. Table 1 lists twenty-one viable births of the black rhinoceros in G.B. since 1958, when breeding commenced at Bristol. Just over half of these animals (eight females, three males) died before they were able to produce offspring themselves. Five died at the zoos where they were born, and six at locations to which they were later sent after weaning. Of the other ten, one was exported, two died as adults but leave surviving offspring, and the remaining seven still live in G.B. Oldest of these are two bulls, 'Baringo' born at Dublin seventeen years ago and now Port Lympne's breeding bull, and fifteen year old 'Jasper', who was the second calf produced at Chester, and currently residing there after being returned from Paignton where he lived for several years. These two bulls are cousins, descended through their fathers from the original breeding pair at Bristol.

Current Status

At present, only four British zoos exhibit this species, twelve specimens in all, seven zoo-bred and five imported from the wild. Two zoos, Bristol and Dublin, which have both kept and bred the species in the past, no longer do so. Until the beginning of this year (1986), Marwell Zoo also exhibited a pair (half brother and sister) of young animals born at London and Whipsnade. In view

Table 1. Black Rhinoceros Breeding in G.B.

Location	Parents	Arrived	Died	Remarks	Calves	Born	Died	Remarks
Bristol	m. Willie	18.10.52	17.4.72		m. Roger	22.8.58	3.6.80	sent to Chester
	f. Stephanie	18.10.52	25.6.71		m. Ronald	28.10.61	27.10.71	sent to Dublin
					f. Rhona	24.8.64	28.10.71	
					f. Rowena	16.6.68	12.2.69	
					f. Rebecca	17.5.70	12.2.71	
Chester	m. Roger	7.3.60	3.6.80	born at Bristol	m. Reginald	10.9.67	?	sent to Moscow
	f. Susie	20.10.59	19.4.75		m. Jasper	22.2.71		sent to Paignton returned Chester
					f. Linda	30.11.73	18.3.76	
Dublin	m. Ronald	24.4.63	27.10.71	born at Bristol	m. Ringo	9.7.69		sent to Howletts
	f. Laura	14.5.62	19.11.76	born at Rotterdam	(Baringo)			
Howletts/	m. Baringo	3.4.71		born at Dublin	m. Basha	11.8.77		B x N)
Port Lympne	f. Naivasha	26.7.71			f. —	18.5.80	18.5.80	(B x R) Stillbirth
	f. Rukwa	20.10.71			m. Kingo	3.10.83		(B x R)
					f. Arusha	11.11.83		(B x N)
London	m. Paul	15.7.66	18.12.73		f. Luana	26.11.69	?	sent to Dublin later sent to Toronto
	f. June	15.7.66			f. Joanna	15.11.72	14.1.74	sent to Paignton
	m. Bwana	26.6.63		sent from Whipsnade	f. Noelle	28.11.75	19.5.78	sent to Chester
	Mkubwa	(W'snade)		and returned	m. Kes	20.9.78	26.2.86	sent to Marwell
	f. June	as above			f. Esther	22.5.82		sent to Chester
Whipsnade	m. Bwana				m. Kyani			
	Mkubwa	26.6.63			Nanyuki	25.11.70	2.5.73	sent to Dublin
	f. Mama				m. M'kuzi	31.8.73	21.11.74	
	Kidogo	26.6.63			f. —	8.7.77	8.7.77	Stillbirth
					f. Katie	16.9.79	18.3.86	sent to Marwell
	m. Rupert	16.10.78	26.2.84	born Hanover				
	f. Mama			sent from Bristol				
	Kidogo	as above						
					m. Parky	4.10.82		sent to Chester

that these two were nearing maturity, their recent deaths are an outstanding tragedy. The surviving animals are currently distributed among the four zoos as shown in Table 2.

Table 2

Location	Specimen m/f	Arrival/ birth date	Place born	Remarks
Chester	m. Jasper	b. 22.2.71	Chester	at Paignton 1973-1981
	m. Parky	b. 4.10.82	Whipsnade	
	f. Esther	b. 22.5.82	London	
London	f. June	a. 15.7.66	E. Africa	aged 22+
Port Lympne	m. Baringo	b. 9.7.69	Dublin	oldest zooborn
	f. Naivasha	a. 26.7.71	E. Africa	
	f. Rukwa	a. 20.10.71	E. Africa	
	m. Basha	b. 11.8.77	Howletts	
	m. Kingo	b. 3.10.83	Port Lympne	
	f. Arusha	b. 11.11.83	Port Lympne	
Whipsnade	m. Bwana Mkubwa	a. 26.6.63	E. Africa	aged 24+
	f. Mama Kidogo	a. 26.6.63	E. Africa	aged 24+

Black rhinoceros

Summary

If the black rhinoceros is to have a chance to increase its numbers satisfactorily in British zoos, close co-operation between the zoos holding these animals will be vital. It seems unlikely that further animals will become available for importation from the wild. This isolated captive population is extremely small, but two factors may count in its favour. Firstly, the numbers of males and females is approximately equal, which, with careful management of breeding partners, would allow for maximum genetic diversity to be maintained. Secondly, the zoo-born specimens stem from two different and unrelated sets of founder animals, giving rise to two separate bloodlines. This should allow wider scope when considering possible pairings of subsequent offspring. It is on the successful accomplishment of such a planned breeding programme, together with a much needed increase in survivorship of calves born, that the future of the species is likely to depend in Britain.

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