

The fate of Uganda's Northern white rhino translocated to Murchison Falls National Park in 1961 and 1964

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Abstract

This historical note records the demise of Uganda's northern white rhino (*Ceratotherium simum cottoni*) population for the scientific record. *Ceratotherium simum* was distributed in Africa between the Mahgreb and the southern Cape, wherever there was suitable grazing (though not necessarily in all places at the same time), until after the appearance of *Homo sapiens* on the continent. By the eighteenth century this extensive range had contracted into two widely separated and taxonomically distinct populations, one Sudanic and the other southern African. The Sudanic population of northern white rhino (NWR) were scientifically recognised in 1907 as (*Ceratotherium simum cottoni*) taxonomically separate from *C.s.simum*. The NWR previously occurred in Uganda but is currently believed to be extinct in the country. Given low human densities and the inaccessibility of much of the Central African Republic and Southern Sudan, it is possible that a few undetected individuals still exist in remote places. For example, while extinct in the Democratic Republic of the Congo's Garamba National Park, a few may possibly remain in the contiguous 'domain de chasse'.

Résumé

Cette note historique enregistre la disparition de la population de rhinocéros blancs du Nord (*Ceratotherium simum cottoni*) en Ouganda aux fins de l'enregistrement scientifique. *Ceratotherium simum* a été distribué en Afrique entre le Mahgreb et la région du Cap, partout où il y avait un pâturage convenable (mais pas nécessairement partout en même temps), jusqu'à l'apparition de l'*Homo sapiens* sur le continent. Au dix-huitième siècle, cette vaste aire de répartition s'était réduite en deux populations largement séparées et taxonomiquement distinctes, l'une soudanienne et l'autre d'Afrique australe. La population soudanienne de rhinocéros blancs du Nord (RBN) a été reconnue scientifiquement en 1907 comme étant (*Ceratotherium simum cottoni*) distincte sur le plan taxinomique de *C.s.simum*. Auparavant, le RBN se trouvait en Ouganda, mais on pense actuellement qu'il est éteint dans le pays. Compte tenu de la faible densité humaine et de l'inaccessibilité d'une grande partie de la République Centrafricaine et du Sud-Soudan, il est possible que quelques individus non détectés existent encore dans des lieux isolés. Par exemple, même s'ils sont éteints dans le Parc National de Garamba en République Démocratique du Congo, quelques-uns peuvent rester dans le «domaine de chasse» contigu.

The Uganda Record

Historically, NWR only occurred in Uganda to the west of the Nile among the Lugbara and Madi people who had an aversion to their flesh (Kingdon 1979). In this region NWR were tame and readily seen. Concern over the sub-species' survival (e.g. Lang 1924) led to

them being protected from hunting under Uganda's Game Ordinance (Anon. 1928). By 1965, several small reserves had been proclaimed (Mt Kei, Otze, Lomunga and Ajai's at Inde). The largest—Ajai's <50 km² gazetted in 1965—were more statements of concern than realistic conservation refuges.

In the late 1950s, Uganda's Governor, the National

Park Trustees and Game Department decided to translocate some NWR from West Nile to Murchison Falls National Park (MFNP) where there was space and they could be better protected. Initial plans were to put them in the Park south of the Victoria Nile, but this was later changed to release them north of the Nile in the open short/medium grassland of the Park's westernmost Buligi area (Fig. 1; see colour plates: page v). The sub-species was said to be extinct in Uganda in 1982 (Edroma 1982).

Methodology

Moving rhino was accomplished in two separate operations, in 1961 and 1964. For the first a Kenya animal trapper—Ken Randall—was contracted with his team to undertake the project (Savidge 1961). Randall employed a technique that, up until then had been widely used. The selected animal was chased in a vehicle from which, by means of a long pole, a noose was dropped around its neck. The vehicle to which noose rope was attached then stopped, the tether rope shortened until the rhino was restrained next to the vehicle and its legs hobbled. A truck then brought a large wooden crate alongside, into which the animal forced. Alternatively in lieu of the crate, the rhino was trussed, cast and roped onto a sledge. The crate or sledge was winched onto the truck and taken to a base camp where suitable pens for retaining the captures had been prepared, into which the captives were released. The technique was very stressful for the rhino.

In 1964 the *modus operandi* was changed (Savidge 1964). The Kenya Game Department had formed a Capture Unit to translocate black rhino and had had some success using anaesthetising drugs in lieu of roping victims. This unit was loaned to the Uganda authorities under its warden Nick Carter. Rhino were located from a light aircraft, which circling them indicated their positions to a ground crew in a chase vehicle. This crew then approached the selected animal to close range and injected it with a drug-laden dart launched from a cross-bow, before falling back and following at a distance. The aircraft overhead watched the animal from a height so as not disturb it. Once it became ataxic or recumbent

from the drug, the aircraft directed the ground crew to its location by radio. The recumbent rhino was then trussed and loaded onto a sledge and moved to holding pens in the same manner as roped animals were in 1961. Eight rhino were captured this way.

During the 1964 operation a British Army helicopter was made available for three days, and replaced the chase car on the ground, speeding up this section of the capture process. Two rhino were darted from the helicopter.

The fast-acting drug Etorphine, or its close derivatives that are readily reversed, were not available to the Kenya Capture Unit in 1964 and Phencyclidine (Sernylan) was used in Uganda. Its influence cannot be reversed, took up 30 minutes to take full effect (during which time the recipient could travel several miles and into difficult terrain). Recovery from the drug's effects took many hours. A further risk in using it was that the margin between doses too light to immobilise and those that were fatal was dangerously narrow.

The 1964 base camp was in the Lomunga Game Reserve where prior to the operation eight rhino had been located. A further 12 at Laufori and 2 at Pororinya (Fig. 1) had been seen, making a potential catch of 22.

In both operations the rhinos were held at base camps in West Nile for up to a week to settle after the trauma of capture, before being trucked to MFNP and for a similar period at the release site, again to recover from the truck journey. Once settled and feeding in their new environment, the pens were opened for the animals to walk freely into the park.

Results

Figure 1 diagrammatically shows the area from whence white rhino were captured and where they were released in MFNP's Buligi area. In the process of the first capture project 44 rhino skeletons were fortuitously recorded, confirming both previous abundance and a high level of recent mortality. Table 1 presents the number of rhino caught in 1961 and 1964 (Risley 1964, Savidge 1964).

From Table 1 it will be seen that in 1961 3 are listed as lost. One adult female died from capture trauma leaving an orphaned calf, and another adult female with an attendant calf were released back to the wild. Randall's cautious policy was that if an animal did not settle in captivity to his satisfaction, in the prevailing absence of veterinary expertise as was the case, it was better to let it

go back to the wild where its chances of recovery were assumed greatest. Of the ten transported to MFNP in 1961, two adult females died shortly after their release. The orphaned female calf named 'Obongi' whose mother died was hand reared at the Park HQ at Paraa.

In 1964, 10 of the 22 potential rhino available were caught, of which three died (two adult females and a small calf). No deaths were recorded before or immediately after the remaining seven were released. The eight survivors of the 1961 operation and the seven from 1964 total 15, of which six were sub-adult males, seven were adult females and two were immature females.

Obongi was released at the same time as the 1964 captures were set free in the Park. Thus in 1964 when the second operation was concluded, there was a foundation stock of 15 white rhino in MFNP, confirmed in Savidge's (1964) final paragraph as comprised of seven adults and two immature females and six young males.

Losing the official records when the Park office complex was burned down in the 1970s, we can only infer the fortunes of the translocated Murchison white rhino from informal notes in Wardens' monthly or quarterly reports (summed in Table 2). These draw not only on what they and their staff saw while on routine park duties, but also on visitors' sightings. Tourists were encouraged to record their game viewing experiences on a notice board in the lodge at Paraa. Not only did these help other visitors locate animals, but were useful information for park managers.

The figures in Table 2 include repeat records of the same animals and should not be interpreted beyond affirming how readily rhino could be seen. Occasional records like seeing 16 rhino together in 11/69 and 8/70 do set minima for the number in MFNP. However, given the overall pattern of sightings it is improbable that all animals had assembled into a single unit and it is likely that others went unseen elsewhere where there were no roads or tracks.

Most NWR sightings came overwhelmingly from the Buligi area of original release. Yet over the next ten years some animals were seen seasonally as far afield as the upper Tangi Valley, the extent of this dispersal area is shown in Figure 1.

Discussion

Hypothetically, if the seven adult female rhino became pregnant in 1964, with an optimal two year calving interval (Owen-Smith 1975), by 1972 eight years later, they could have produced 28 offspring. These (potential births) with their mothers and the six males present in 1964, could then have totalled 41 NWR in MFNP. With sexual maturity at eight years (Owen-Smith 1975), such female offspring as they may have produced would not yet have added to the group. Again, hypothetically, if the calving interval had been a more realistic three years, the seven females could have produced 21 offspring to which they and the six released males would have raised the population to 34. If the two females from the 1961 introductions had produced one calf apiece during the three years between the two operations, then these crude theoretical maxima might lain between 36 and 43.

It is against such hypothetical totals that the estimate of 32 white rhinos in MFNP in 1971 by one of the authors (RJW), was derived from periodic aerial reconnaissance over the whole white rhino range in MFNP. Few of the sightings shown in Table 2 could have been from the trackless upper Tangi Valley which tourist visitors could not reach, and were only occasionally patrolled by park staff. Those that did come from this area were mainly those seen from the air (by RJW).

No mortality is considered in deriving our theoretical maxima. That at least a low level of poaching was taking place is apparent in Table 2: e.g. Obongi killed 2/69; 1 calf killed 7/69; calf released from snare 9/70; snare removed from leg 3/72. For the same reason that sightings are absent in the upper Tangi Valley, evidence of poaching there, may also have been missed. As Senior Warden of the Park at the time RJW can confirm that poaching levels were low and considered more a routine nuisance than a serious problem.

Yet while the highest number of NWR reached in MFNP is moot, the picture produced in Table 2 between 1964 and 1972 is of a thriving group. Of 44 adult females sighted, 39 (87%) were with a calf. Sightings of 60 immatures are 136% of the 44 adult females seen and reasonable evidence of population increase. Females break the mother/calf bond just before giving birth to their next offspring and weaned young tend to form associations with others in the same age set (Owen-Smith 1975). Of immatures sighted 23 (38%) were without an adult female and

associating with other immatures. Again the imputation is that the group was reproducing satisfactorily. Records of 16 rhino together were, even for this most sociable of rhinoceroses, evidence of a burgeoning population. Combined, the content of Table 2 infers that the introduced NWR thrived in MFNP and that, up until 12/1972 their introduction was a success.

The last group of 13 rhino in a group was reported in 9/72. In the following 19 quarterly reports (previously they had been prepared monthly) available to us, mention of white rhino is made in 13 reports, while actual sightings are given in only four (the last in 3/77). Of the four one was of 7, one of 3 and two of 2. In five quarters no white rhino were mentioned and in one more it was noting a calf snared. Until 3/72 the reports shown in Table 2 are monthly. Thereafter they are quarterly, emphasising the dearth of information until the last report in 1984. Between 1964 and 1972 the picture is of a rising population that collapsed after that date. The last sighting of a NWR in MFNP was from the air in 1982— though not in a quarterly park report we show it in Table 2 (Douglas-Hamilton pers. comm. to R. Brett unpublished in 1997).

There is no dispute about the subsequent demise of Uganda's NWR. They were casualties of the general collapse of law, order and governance itself, initiated after 1966 by Uganda's President Obote but carried to its apogee under his deposer Idi Amin after 1971, then continued when Obote returned in 1980 until he was ousted in 1985 by Yoweri Museveni (Meredith 2005).

This illustrates how conservation is subordinate in the realm of Africa's tumultuous politics. All four countries that once had NWR, Central African Republic, Southern Sudan, the Congo and Uganda, have experienced similar periods of political chaos (Meredith 2005). It is in the light of this that clarity in conservation planning is called for.

Conservation's primary goal is to ensuring the existence of a particular genetic entity—in this case a sub-species. Restricting *where* to only where it occurred in the past century and further qualifying *where* to gratify nationalist sentiments are secondary and tertiary restrictions upon the basic preservation goal. They limited conserving to where it was politically most difficult and

this is the proximate cause for the NWR's putative extinction. Poachers responding to demand for rhino horn executed that act, but that they were able to do so was the consequence of failed governance.

In circumstances where a species' survival *in situ* is unlikely to succeed for whatever reason, surely the logical solution is to do so *ex situ*? The concept is neither radical nor untried, and produced nuclei that have gone back to their origins to re-establish new groups, the Arabian oryx (*Oryx leucoryx*), eastern bongo (*Tragelaphus euryceros*) and Hawaiian goose (*Branta sandvicensis*) being examples. The southern white rhino was recovered from >100 animals to over 20,000, and now exists widely in its original range as well as in new populations, e.g. in both Kenya and Zambia and ironically, now in southern Uganda. If, as suspected, a few NWM exist in the *Domaine de Chasse* contiguous to Garamba National Park (Kes Hillman-Smith pers. comm. 2019), we suggest their recovery *ex-situ* warrants serious consideration. The recent introduction of five black rhino from Europe into the Akagera National Park, is an exemplar of this policy in use.

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Table 1. A tabulation of rhinos captured and released in 1961 and 1964. *One adult female and her calf at heel were released back into the wild and counted here as lost—i.e. not relocated to MFNP.

Year	Captured						Moved to MFNP						
	Total Caught	Males		Females		Died or Lost*	Total arrived	Males		Females		Died	Survived release
		Ad	Imm	Ad	Imm			Ad	Imm				
1961	13	0	4	6	3	3	12	0	4	4	2	2	10
1964	10	0	2	5	3	3	7	0	2	3	2	0	7

Table 2. Sightings of white rhinos recorded in wardens' monthly or quarterly reports.

Date/ Month	Sightings			Totals	Source	Comments
	Males	Females	Immatures			
9/67	2	1	1	4	RJW*	
10/67	-	1	4	13	" "	
11/67	3	1	1	5	" "	"Saw all the mothers with young" – # mothers not given
12/67				5	" "	Aerial recce none seen
1/68					" "	Rhino well spread out Buligi area
2/68	1	11		5	" "	Rhino seldom seen this month
3/68	1	2	2	5	" "	Not a good month for viewing
4/68			4	12	" "	Ground Warden Ssemwezi 12, RJW aerial 5
5/68				12	" "	All seen on aerial recce
6/68					" "	Excellent month most visitors seeing rhino
10/68		1	1	12	" "	
11/68		1	1	6	" "	Heavy rains scattered animals
12/68		4	5	9	" "	Rhino moving back into the Buligi area
9/67	2	1	1	4	" "	
10/67	-	1	4	13	" "	
11/67	3	1	1	5	" "	"Saw all the mothers with young" – # mothers not given
12/67				5	" "	Aerial recce none seen
1/68					" "	Rhino well spread out Buligi area
2/68	1	11		5	" "	Rhino seldom seen this month
3/68	1	2	2	5	" "	Not a good month for viewing
4/68			4	12	" "	Ground Warden Ssemwezi 12, RJW aerial 5
5/68				12	" "	All seen on aerial recce
6/68					" "	Excellent month most visitors seeing rhino
10/68		1	1	12	" "	
11/68		1	1	6	" "	Heavy rains scattered animals
12/68		4	5	9	" "	Rhino moving back into the Buligi area
1/69		2	2	4	" "	Smallest calf released 61 now given birth. Visitor sighting board reported white rhino seen on 26 days of month
2/69	1			12	" "	Obongi killed by poachers, had 20 month old calf

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3/69					" "	Seen by visitors & staff throughout month
4/69					" "	Seen by visitors & staff throughout month
5/69				17	" "	Total sightings for month 104
6/69				12	" "	Visitors saw rhino on 28 occasions
7/69					" "	One bull calf poached
9/69					" "	Plenty of sightings in the Buligi area
10/69		2	2	4	" "	Heavy rain brought about the usual dispersal of rhino
11/69			1	17	" "	16 seen together plus one young calf = 17
12/69		1	1	2	" "	A number seen during the month
1/70					" "	Well dispersed between Tangi River and Buligi
2/70				4	" "	Animals still well dispersed
3/70	2	6	2	10	" "	4 mid-growth females all born in park
4/70	1	4	10	15	" "	
5/70					" "	No comments on white rhino
6/70				10	" "	In a single group at Buligi
7/70					" "	Estimated current population 18
8/70				16	" "	16 animals grazing together
9/70				6	" "	Most visitors observed rhino. One of the calves released from snare
10/70				6	" "	Seen in groups of up to six
11/70				12	" "	A satisfactory month for viewing
12/70					" "	Animals well scattered up to Tangi and Lolim area
1/71				8	" "	Dry weather few animals in their usual area
2/71					" "	Dry weather animals spread over large area
3/72				1	PSW**	Rhino sightings poor 1 rhino had snare removed from leg
6/72					" "	Rhino sightings not good because of tall grass
9/72				13	" "	A group of 13 regularly seen
12/72					" "	White rhino often seen in the Buligi area. One pair Emii basin
3/73					" "	White rhino often seen Buligi
6/73					" "	White rhino commonly seen BuligiPakubaarea
9/73					" "	No white rhino reports
12/73					" "	White rhino often seen Pakuba area
3/74					?	No white rhino reports
6/74					?	Few seen because of long grass
9/74					?	One year old calf snared and died
12/74		1	1	2	?	One cow with young to heel often seen Buligi
3/75					?	White rhino rare at beginning of year but more in March
6/75	1	1	7	7	?	Sightings common BuligiPakuba areas
9/75					?	BuligiPakuba. Total expected to be 25 but with calves may be higher
12/75					?	In Buligi area
3/76		1	1	2	?	In Buligi area
6/76					?	A good month for viewing both species [white and black rhino]
3/77		2	1	3	?	The usual family group of 3 near Pakuba Ranger Post
6/77					?	No report from Murchison
?/82					IDH***	One seen from the air.
6/83					?	White rhino no mention
12/84					?	White rhino no mention

*= Roger Wheeler

**=Ponciano Ssemwezi

***= Reported by Brett (ibid) and not in a UNP report