

CONSERVATION LESSONS

from the past

PART 5

Who would have thought that a simple request as far back as 1960 would culminate in a vitally important conservation outcome for the East African black rhinoceros. The only source at the time, had none to spare, so a decision was taken to import some animals from Kenya.

East African black rhinoceros (*Diceros bicornis michaeli*).
Photo courtesy Thaba Tholo.



John Mackie

Having retired from corporate life last year, John is fully focused on the continuous development and improvement of Nondo Private Game Reserve, a 638ha safe haven for a full spectrum of smaller mammals, birds, predators and a thriving free-ranging tsessebe population situated in the western bushveld of the Limpopo Province.



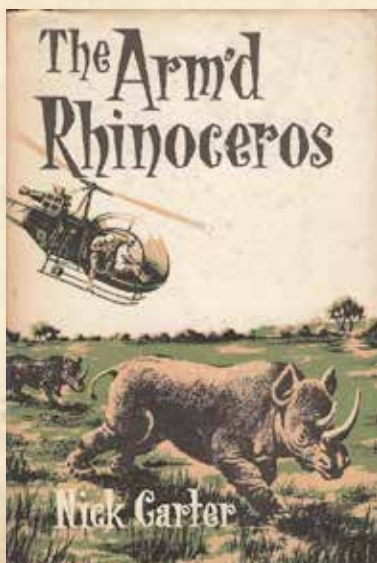
Kilindini Harbour, Mombasa, Kenya.

FULL CIRCLE: THE EAST AFRICAN BLACK RHINOCEROS, *DICEROS BICORNIS MICHAELI*

Who would have thought that a simple request from SANParks to their colleagues in Natal as far back as 1960 would culminate in a vitally important conservation outcome for the East African black rhinoceros, *Diceros bicornis michaeli* (1)?

The Board was keen to restock Addo Elephant National Park (Addo), founded in 1931, with black rhino but Natal, the only source at the time, had none to spare, so a decision was taken to import some animals from Kenya. In 1960 there may well have been as many as 100 000 black rhinos left in Africa with around 20 000 in Kenya itself, where they were already coming under severe poaching pressure, particularly outside formally protected areas.

In those days the use of game capture drugs was still in its infancy and the general idea was that the first pair successfully captured would be sent to South Africa as a pilot project. If they acclimatised well, they were to be followed up by a further three pairs, graduated in age if possible, two full-grown, two half-grown and two youngsters (2). >>



This lot befell Nick Carter of the Kenya Game Department and his amusing account of it, *The Arm'd Rhinoceros*, is well worth a read. Operations commenced in 1960 around Kiboko in the Simba District west of Tsavo National Park and on 18 September a large bull was captured followed three days later by a cow, which had a half-grown calf with her that Nick was unable to capture at the time. The bull was promptly christened J.A. in honour of legendary hunter J.A. Hunter, which was somewhat ironic as he is mostly remembered today for having shot 1 000 black rhinos in and around Makueni south east of Nairobi to make way for agricultural settlement! The cow was named Brunni after well-known Simba District Game Warden David McCabe's wife.

Addo Elephant National Park, Eastern Cape, South Africa.

Photo © Quintus Strauss



The rhinos were railed to Mombasa and shipped to Port Elizabeth. The pair were quarantined for six weeks before arriving at Addo on 20 March 1961.

The Board had agreed to pay directly for the crates as well as all travelling expenses and also made an *ex gratia* payment to the Kenya Wildlife Society who then held the money on behalf of the Kenya Game Department.

Having been persuaded to switch from their favourite browse to a diet of lucerne, the rhinos were railed to Mombasa and, escorted by Nick himself, shipped to Port Elizabeth. Calm seas ensured an uneventful trip and the pair were quarantined for six weeks before arriving at Addo on 20 March **1961**. Having settled down they were then released into a small, fenced enclosure of 152ha on 12 June (3).

Following the same the modus operandi, a further five animals were delivered on 22 January **1962**. (As per the original request six had been captured but one bull had managed to escape from the pens. A young replacement was then caught but another bull succeeded in breaking up his crate and had to be released, thus only two bulls and three cows making the final journey). On this occasion they were not quarantined and were released into the same 152ha enclosure on 24 February.

East African black rhinoceros.

Photos © Meldt van der Spuy

Events rapidly took a turn for the worse. Serious fighting erupted and two cows (one being Brunni's half-grown calf, which had arrived with the second consignment) and a bull were killed during the first three weeks. With great difficulty Addo's Warden finally succeeded in isolating a large cow on 6 April by fencing her off in a 32ha portion of the enclosure, leaving the other three in the remaining 120ha.

On 14 October the Warden succeeded in getting one of the bulls into the 32ha section. In August 1963 105ha was added to this enclosure, creating a more equitable division between the two remaining pairs.

In 1965 the fence separating them was removed and the population, now totalling six, was given the run of the full 257ha. For reasons unknown this enclosure was reduced to 152ha in 1967 and then increased to 210ha in 1968. In June 1977 the rhinos, now numbering 11, were released into an area of 4 000ha. >>

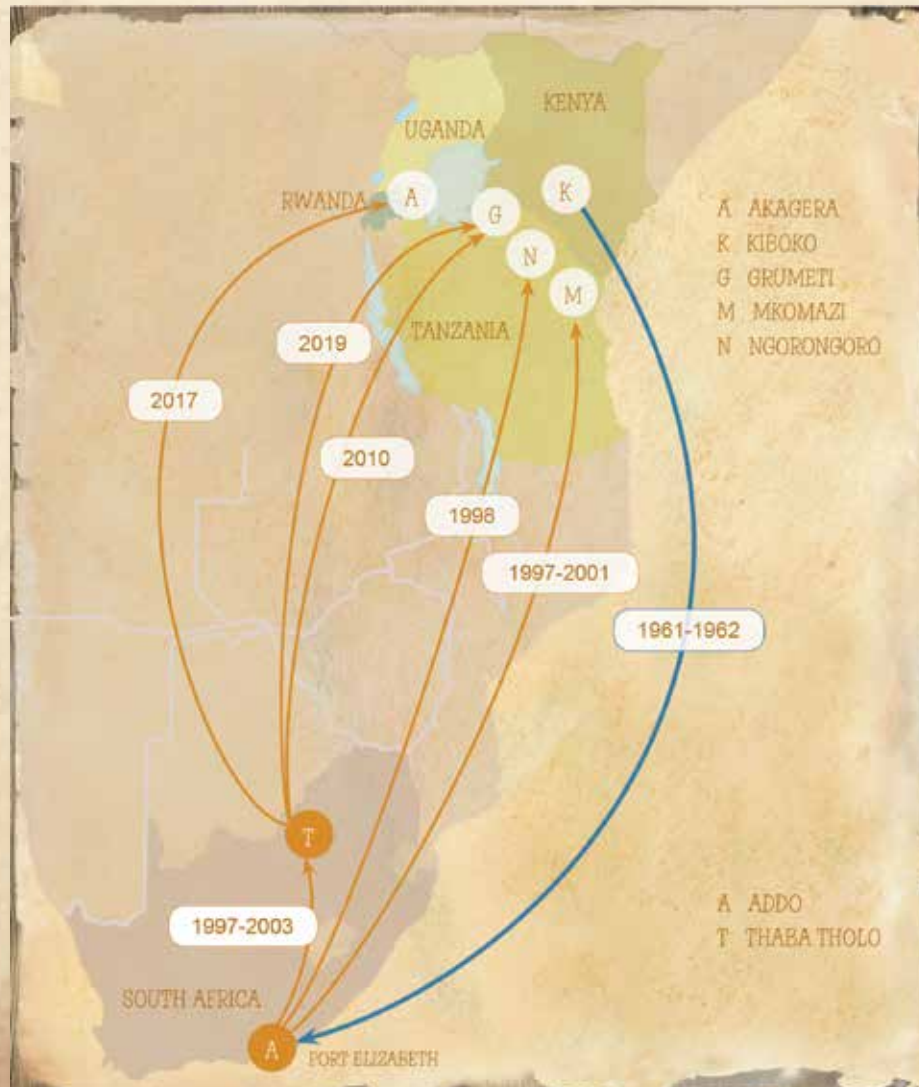


The unfortunate early losses can of course be put down to experience but what transpired later is perhaps more questionable in the light of prevailing knowledge at the time. Following the demise of the only adult bull in 1977, thus reducing the total population to 10, a decision was taken in September to introduce three breeding bulls of the subspecies *D. b. minor*. One of these animals, a unilateral earless bull, was castrated in 1979 to obviate the possibility of an undesirable earless-inducing gene being introduced into the Addo population (4).

In 1980 the IUCN/SSC African Rhino Specialist Group requested the removal of these bulls as well as any mixed parentage progeny in order to maintain a pure population of *michaeli* (5). Two were removed in May 1981, the castrated one being left behind. The removal of the hybrids took place in May 1983 and as all the rhinos in the park had been caught and marked in 1977, and all subsequent births having been accurately recorded, it was believed at the time that 100% of the known population had been accounted for. Eight calves had been born after the introduction of the *minor*, one having been conceived before their arrival and four after their removal. This left three having been conceived at Addo during the time of the '*minor* occupation', two bulls which looked like hybrids and a cow that resembled a *michaeli*. (In the field the *minor* presents as a smaller animal with a smooth skin whereas the *michaeli* is larger with a rough, strongly grooved skin.)

Erring on the side of caution all three rhinos were sent to the Pretoria Zoo leaving the *michaeli* population at 14 in 1984 (five bulls and nine cows), plus the single castrated *minor*.

Ten *michaeli* were sent to Tanzania in 1998. This marked the beginning of an ongoing programme to restock severely depleted former range states in East Africa with meaningful numbers of rhino!





CRITICALLY ENDANGERED

East African black rhinoceros.

Photo courtesy Thaba Tholo

In 1995 SANParks took a decision to make as much productive habitat available as possible for a third subspecies, the more arid-adapted *d b bicornis*. This entailed removing all *michaeli* from Addo and restocking the park with endemic *bicornis*. Two *michaeli* were sent to a zoo in the UK in 1994 and a further 10 to Tanzania (eight to Mkomazi Game Reserve between **1997 and 2001** and two to Ngorongoro in 1998).

This marked the beginning of an ongoing programme to restock severely depleted former range states in East Africa with meaningful numbers of rhino! An *ex-situ*, extralimital gene pool had proved its worth and finally come full circle!

CRITICALLY ENDANGERED

South-central black rhinoceros (*Diceros bicornis minor*).

Photo © Gawie Malan

In the field the *minor* presents as a smaller animal with a smooth skin whereas the *michaeli* is larger with a rough, strongly grooved skin.



Slow but steady progress: *Diceros bicornis michaeli* (Addo populations)

YEAR	POPULATION	SEX RATIO WHERE KNOWN
1962	4	2 M 2 F
1965	6	
1969	8	
1975	10	
1984	14	5 M 9 F
1988	18	8 M 10 F
1993	34	

Capturing for translocation.
 Photo courtesy Thaba Tholo



In boma before translocation.
 Photo courtesy Thaba Tholo



The balance of Addo's *michaeli* population, some 25 animals, was then sold to Thaba Tholo, a large private game reserve in the Limpopo Province. There, under sound management and strict protection, they have flourished, becoming yet another private conservation success story! Staggered over a period of six years between 1997 and 2003, combined with the fact that the sex ratio was biased in favour of males over females, makes the success of this introduction even more laudable. To make way for the arrival of *bicornis* in Addo the last two remaining *michaeli* were relocated to a botanical reserve in the park, where having bred up to four they were finally transferred to Thaba Tholo in April 2003 (6).

The agreement reached between SANParks and Thaba Tholo entailed the payment of \$5 000 per bull and \$45 000 per cow. These proceeds covered all capture and transport costs together with the purchase of some *bicornis* from Namibia as well as some additional fully fenced land in the Addo vicinity. Thaba Tholo is not permitted to sell any *michaeli* to any third party in South Africa but as early as May 2010 was in a position to relocate five rhinos to the Grumeti Reserve in Tanzania's Serengeti.

Translocation via O.R. Tambo International Airport, Johannesburg, South Africa.
 Photo courtesy Thaba Tholo

In **2017**, in the most significant repatriation so far, 18 animals were sent from Thaba Tholo to the Akagera National Park in Rwanda. During this translocation process the presence of *D. b. minor* genetic signatures was discovered in the Thaba Tholo population. As a result, only those rhinos exhibiting *D. b. michaeli* genetics of 85% and above were selected. It would appear then that despite the best efforts of all concerned all those years ago something did indeed 'slip through the net', so to speak. In addition, a handful of zoo animals have either gone directly to Thaba Tholo or in at least one instance via Addo and, although extremely unlikely, could also have played a role in this genetic admixture.

During a rhino genetics workshop held in Rwanda at Akagera National Park in February 2018, the question of genetic diversity and admixture of genes were discussed in detail by some of the foremost rhino geneticists in the world. There was strong consensus that with less than 5 500 black rhino left worldwide, genetic diversity which may enable the production and survival of more rhino, may be of uppermost importance for the survival of the species. ■



An *ex-situ*, extralimital gene pool had proved its worth and finally come full circle!

Conclusion

The genetic diversity of the Thaba Tholo rhino may be seen as one of the major contributing factors, which led to the accomplishment that by 2016 Thaba Tholo's *michaeli* population had grown to be the second largest in the world outside Kenya and one of vital global significance. A total of 107 calves were born at Thaba Tholo between 1998 and 2019.

Thaba Tholo's good work continues and as recently as August/September **2019** a further four males and five females were successfully captured and delivered to the Grumeti Reserve, adding vital impetus to a population struggling to gain traction.

References

1. Africa-Environment and Wildlife, 1998, Volume 6 Number 6 Page 71.
2. Carter Nick, *The Arm'd Rhinoceros*, Andre Deutsch, 1965.
3. Hall-Martin A.J. and Penzhorn B.L., *Behaviour and Recruitment of Translocated Black Rhinoceros Dicerus Bicornis*, Koedoe 20:147-162 (1977).
4. De Vos V, *Castration of a Black Rhinoceros Dicerus Bicornis Minor*, Koedoe 23:185-187 (1980).
5. Hall-Martin A.J., *Kenya's Black Rhinos in Addo, South Africa*, Newsletter of the African Elephant and Rhino Group, Volume 3, Page 11.
6. Bradfield Megan, *Black Rhinos Take Wing*, Earthyear 2003, Page 74.

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