

Birth of a wild white rhino calf at Ziwa Rhino Sanctuary, Uganda

Felix Patton and Angie Genade*

Ziwa Rhino Sanctuary, Nagasongola, Uganda

*corresponding author email: ziwarhinos@gmail.com

It is extremely rare to witness the birth of a rhinoceros calf in the wild, let alone video the experience. Unlike many free-ranging rhino populations living in protected areas, the white rhino population at Ziwa Rhino Sanctuary in central Uganda is monitored 24 hours a day. The adult female named Kori was expected to have her third calf in January 2014 following a calving interval of 24 months, as had been experienced with her previous calf. The monitoring rangers were diligently watching for signs of an impending birth with the current calf being aggressively chased off.

Ziwa Rhino Sanctuary (ZRS) covers 64.2 km² in the Nagasongola district of central Uganda. Prior to becoming a wildlife sanctuary in 2004, the area was part of a cattle ranching operation. As such there is little other wildlife on the Sanctuary apart from a few numbers of small antelope and vervet monkeys, which do not offer any danger to humans.

The rhinos at Ziwa are held under heavy security, 24 hours a day by armed guards and monitoring rangers (Patton et al., 2012). The monitoring teams keep the rhinos in view but at a discrete distance so as not to disturb their normal behaviour, which is recorded on an hourly basis.

On 15 January 2015, Kori was resting from the afternoon heat in a small grass area surrounded by open tree vegetation with her calf Laloyo, and two sub-adults – four year old Justus, her first calf and two and a half year old Malaika, the second calf of a female called Nandi. Another female, Bella, with her calf Donna, and her first calf Augustu now a sub-adult of four years and three month old and the sub-adult Obama, four years and seven months old were also resting only a few metres away. Detailed data was not recorded prior to the birth of the calf. However the rangers who were monitoring the rhinos noted their observations when, around 3pm, the behaviour of Kori changed from being very calm to very agitated moving around the immediate area, urinating many times and intermittently feeding.

At 1600hr Kori made the rhinos that were accompanying her, including her calf Laloyo, move

away some 20 metres in a forceful but not aggressive manner. All moved off immediately and without any confrontation. Kori continued to be restless and did not settle for a further hour at which point she returned to an area she had visited twice before during the hour. The period of restlessness and frequent urination was similarly reported in captive rhinos, by Bean (1941), Lang (1960), Buechner et al. (1975) and Sabharwal (1989).

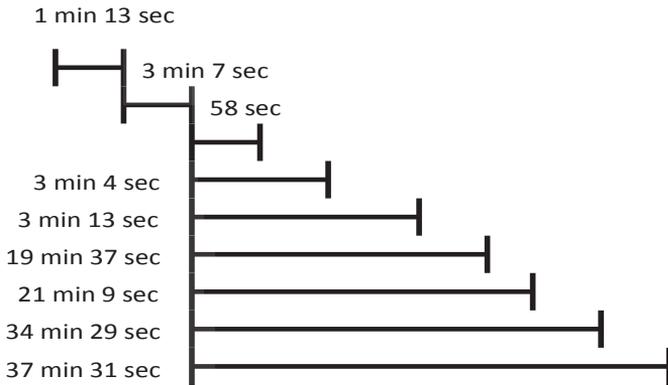
The monitoring rangers had earlier reported to Head Quarters that Kori might be due to calve. Senior personnel attended with a Sony digital high definition video camera recorder (DVS 01179747911) using Sony MiniDV tape. Filming began at 1708hr with the real time to the second displayed on each frame making this recording acceptable for analysis. The Table (below) shows the main observations made and the length of time between specified observations. For example, observation 2 - water bag breaks; and observation 3 - calf drops, time expired 3 minutes 7 seconds. The total length of time analysed was 37 minutes and 31 seconds.

The birth of the new calf starting around 1700hr took place in broad daylight which was a complete change from six previous births at ZRS (Patton et al. 2012) all of which occurred during night-time hours. That study showed that the ZRS females chased away the older calf between 3 and 32 hours before the birth of the new calf. However the one exception was with Kori's first calf, Justus, who left Kori without aggression around 3 hours before her new calf, Laloyo, was born. Kori again showed no aggression towards Laloyo or her two companion rhinos and all three remained within 20 metres of Kori before and during the birth of the new calf.

Kori burst the water bag by leaning up against a tree for 6 seconds. In a report on breeding Indian rhinos at Kanpur Zoo, India, Sabharwal (1989) states that the captive rhino ruptures the water bag by suddenly standing up leading to traction of the navel cord attached to the placenta. At 1713hr the

Table 1. The time between main observations of the birth of a wild white rhino calf at Ziwa Rhino Sanctuary

1	2	3	4	5	6	7	8	9	10
Water bag in view	Water bag breaks	Calf drops	First movement	First attempt to stand	First wriggle movement	First time standing	First time staggering	First suckle	First walk
17:09:20	17:10:33	17:13:40	17:14:38	17:16:44	17:16:52	17:33:17	17:34:49	17:48:09	17:51:11



calf dropped and lay still for 58 seconds before its first movement which was to shake its head after which its main actions were to move by wriggling, attempting to stand, standing, walking by staggering, its first suckling and its first true walk.

The first time the calf attempted to stand was 3 minutes and 4 seconds after the birth. Buechner et al. (1975) reported the first time an Indian rhino calf started to struggle was after 5 minutes. Kori's calf attempted to stand a further fifteen times over a 16 minute and 33 second period. Bean (1941) reported that a captive white rhino calf stood within 5 minutes while a new Indian rhino calf took 24 minutes before standing (Lang 1960) and Buechner (1975) recorded 105 minutes. In all the attempts to stand by Kori's calf, it raised the front legs but collapsed as it tried to stand

on its rear legs. The first completed standing was with the front legs in the correct position while the rear legs were extended backwards.

During the period that the calf failed to stand, it moved its position by wriggling around on its stomach. It only did so to change the direction it was facing. It did this action seven times.

Laloyo became interested in the new calf, her sister, 2 minutes and 53 seconds after the birth and walked towards it. Kori moved to block her way but then turned aside to let the calf and Laloyo meet. The calf wriggled 90 degrees to face the head of Laloyo and the two smelled each other. After a total of one minute, Kori decided to move Laloyo away from the calf by standing between the two but with Layolo and Justus standing only a few metres away.

Bella's group moved within 10 m of Kori and calf 4 minutes and 7 seconds after the birth. Kori charged 3 steps at them as a warning and stood, then sat, as a barrier between the group and her calf. A minute later Kori's group joined Bella's group so that there were six rhinos all standing within 5 metres of Kori and the calf. After 1 minute and 36 seconds, Kori became agitated and stood up aggressively making the group disperse.

The new calf was able to stand properly 19 minutes and 50 seconds after its birth. A further 1 minute and 32 seconds later, it made its first attempt to walk but without sufficient leg strength it could only stagger using the body of the mother Kori to help it remain upright. The staggering attempts of the calf were considered to be efforts to get to the udder to suckle. After the fourth stagger, Kori lay down on her right flank to expose her udder to the calf. However, the calf, while in a good position, did not suckle but remained leaning on the flank, possibly too tired from its 3 minute and 40 second struggle to get to the udder. Kori reacted by standing and moving around to make the teats easy for the calf to access but the calf appeared to be concentrating on standing.

Kori remained standing for a further 7 minutes and 21 seconds when it lay down for a second time and 16 seconds later the calf attempted to suckle for the first time. It is not clear if the calf successfully suckled and the action lasted less than 30 seconds. This first attempt was 34 minutes and 29 seconds after the birth while Lang (1960) reported 45 minutes and Bean (1941) only 15 minutes. The next attempt to suckle appeared to occur 3 minutes and 2 seconds later and again was for only 15 seconds. During this time Kori appeared to be unsettled by the movement of the calf around her.

The first time the calf started to walk normally - without staggering or leaning against the mother - was 37 minutes and 31 seconds after the birth. (Plate 3; see centre pages ii).

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