

**SUMATRAN RHINO CONSERVATION CENTRE
DEPARTMENT OF WILDLIFE AND NATIONAL PARKS
SUNGAI DUSUN, SELANGOR
MALAYSIA**

MONTHLY REPORT

MARCH 2003

BY

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&

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INTRODUCTION

No breeding occurred this month but Rima was suspected to be pregnant based on her progesterone and ultrasound result but lost her pregnancy although she was supplemented with Regumate. Seputeh is still recovering from her surgery and will be mixed with Ara by end of the month. Both Minah and Panjang were scanned throughout the month and Minah showed a good follicular growth but no breeding occurred although she had an ovulatory follicle. Mas Merah was given prostaglandin (PGF) after giving her Regumate for 15 consecutive days to mimic the estrus cycle and hopefully she could be bred and her cycle will become normal.

Blood sample were collected as usual, twice weekly and the samples were sent to UPM for hormonal analysis.

RHINO MANAGEMENT

A) Daily Management

i) Night stall

Daily work

Starting this month, Mohd Noor will manage the night stalls together with Shariff and Umor. Shariff and Umor will clean the night stalls daily while Mohd. Noor inspected the food supply when it arrived around 9.30 a.m. The browse and fruits were weighed and cleaned before giving to the rhinos. About 40 to 50 kg of browses and 7kg of fruits including papaya, banana and sweet potatoes were given daily. The rhinos were also given horse pellet about 2.0kg every morning. Every Monday and Thursday morning, blood samples will be collected from all rhinos.

The rhinos

The rhinos were let out first before cleaning the night stalls. After cleaning, the browses were put in the feed trough and the rhinos were let in for their morning meal. The drinking water was changed daily and stress vet (multi-mineral powder) was mixed inside it. Daily observation was made and recorded in the workbook for each rhino. The rhinos were fed twice daily: 9.00 a.m. and 3.00 p.m.

ii) Ten acres enclosure

Daily Work

Adam will inspect the electric fencing every morning. The fencing will be cleaned from any foreign objects such as spider web, dried leaves or creepers to avoid short circuit. Voltmeter was used to ensure that the voltage of the fencing is about 7.0 kV. They will also inspect the fencing for any damages.

During the inspection, the ranger will look for the rhino inside the enclosure and call the rhino for their morning meal. The rhino was confined in the quarter acre first before putting their browse in the feeding trough. The amount given was about 100kg for each rhino per day.

B) Breeding Program

i) Breeding Introduction

a) Rima

No introduction was carried out on Rima since she was suspected to be pregnant and she was moved into the 10 acres. Regumate was given starting on March 5.

b) Seputeh

Seputeh is still recovering from her surgery. She will be rest for 6 weeks until end of the month.

c) Panjang

Panjang was mixed on daily basis to stimulate to cycle but no positive behaviour observed. Ultrasound was conducted but her follicle did not grow to an ovulatory follicle.

d) Mas Merah

Starting March 5, Mas Merah was given Regumate for 15 days and 15mg PGF on Day 16 to mimic an estrus cycle. She was also scanned but she did not respond to the treatment.

e) Minah

Minah was also mixed on regular basis but no breeding occurred. She was scanned regularly since her follicular growth was promising. No breeding occurred although she had a good size follicle. Instead, her behaviour indicated that she seem to play with Ara with a lot of head butting and flanking. They were left together for at least 15 to 20 minutes.

ii) Bleeding Program

a) Blood Collection

The blood collection was carried out twice weekly, every Monday and Thursday. The bleeding procedure was summarized in Table 1.

b) Progesterone Hormone Profile

Blood samples were sent to UPM for hormonal analysis and the latest blood result was attached below (Table 5).

C) HEALTH STATUS

Minah showed an improvement and her weight is being monitored on weekly basis. The result is tabulated in Table 4. The other rhinos were weighed once a month.

Table 3: Rhinos' Body Weight (Kg), March 2003

Month/ Rhino ID	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
RIMA	*	565	569									
MAS MERAH	610	*	603									
MINAH	522	530	539									
SEPUTIH	762	762	772									
PANJANG	572	566	569									
ARA	614	615	623									

*Inside the 10 acres enclosure

Table 4: Minah's Weekly Body Weight (Kg), March 2003

Rhino ID / Date	5/3	12/3	19/3	26/3	2/4
Minah	529	526	539	527	530

Table 5: Summary of Blood Progesterone (P4) Profile, March 2003

Date	Mas Merah	Minah	Panjang	Rima	Seputeh
4/3	0.19	2.41	2.80	0.40	
6/3	0.10	0.40 (5/3)	0.76	4.75	
10/3	0.16	0.06	1.21	1.20	0.05
13/3	0.16	0.06	0.10	1.30	0.06
17/3	0.13	0.07	0.13	1.15	0.02
20/3	0.08	0.07	0.15	0.91	0.04
24/3					
27/3					
31/3					

Table 1: Blood Collection from the Rhinos, March 2003

Date	Rhino ID	Area taken	Remarks
Mar 4	Mas Merah Rima Minah Panjang	Tail Tail Tail Tail	Samples were taken from two females for P4 analysis.
Mar 5	Minah	Tai	
Mar 6	Panjang Mas Merah Rima	Tail Tail Tail	Samples were taken from the females for P4 analysis.
Mar 10	Rima Minah Panjang Seputeh Mas Merah	Tail Tail Tail Tail Tail	Blood was taken for P4 analysis
Mar 13	Minah Panjang Mas Merah Rima Seputeh	Tail Tail Tail Tail Tail	Samples were taken from all rhinos for P4 analysis.
Mar 17	Mas Merah Minah Seputeh Panjang Rima	Tail Tail Tail Tail Tail	Samples were taken from the females for P4 analysis.
Mar 20	Minah Panjang Mas Merah Rima Seputeh	Tail Tail Tail Tail Tail	Samples were taken from the females for P4 analysis.
Mar 24	Minah Seputeh Rima Panjang Mas Merah	Tail Tail Tail Tail	Blood was taken for the P4 analysis
Mar 27	Rima Panjang Minah Mas Merah Seputeh	Tail Tail Tail Tail Tail	Samples were taken from the females for P4 analysis
Mar 31	Rima Panjang Minah Mas Merah Seputeh	Tail Tail Tail Tail Tail	Samples were taken from the females for P4 analysis

Table 2: Observation on the Rhinos During Introduction, March 2003

Date	Rhino ID	Observation
Mar 3	Minah & Ara	Head butting a lot. Seputeh wanted to fight. Separated to avoid aggression.
	Panjang & Ara	Ara sniffed Panjang & followed her for a while. Panjang went into the wallow & Ara approached her but she screamed and vocalized.
Mar 4	Minah & Ara	No interest observed between the two rhinos.
	Panjang & Ara	Ara checked Panjang, followed her for a while and then lost interest.
Mar 5	Panjang & Ara	Ara checked Panjang, followed her for a while and then lost interest.
	Minah & Ara	No interest observed between the two rhinos.
Mar 6	Panjang & Ara	Some interest, Ara followed for a while.
	Minah & Ara	Headbutting a lot
Mar 7	Minah & Ara	Not much interest.
	Panjang & Ara	Ara checked Panjang, followed her for a while and then lost interest.
Mar 8	Minah & Ara	Not much interest.
	Panjang & Ara	Ara checked Panjang, followed her for a while and then lost interest.
Mar 10	Minah & Ara	Not much interest.
	Panjang & Ara	Ara checked Panjang, followed her for a while and then lost interest.
Mar 11	Minah & Ara	Not much interest.
	Panjang & Ara	Ara checked Panjang, followed her for a while and then lost interest.

Date	Rhino ID	Observation
Mar 12	Minah & Ara	No interest observed between the two rhinos. Ara checked Panjang, followed her for a while and then lost interest.
Mar 13	Minah & Ara	No interest observed between the two rhinos. Ara checked Panjang, followed her for a while and then lost interest.
Mar 14	Panjang & Ara	Ara checked Panjang but no further response. Panjang walked away & Ara ignored her. No interest observed.
Mar 15	Panjang & Ara	Ara checked Panjang but no further response. No interest observed.
Mar 17	Minah & Ara	Not much interest. Ara checked Panjang, followed her for a while and then lost interest.
Mar 18	Minah & Ara	Not much interest. Ara checked Panjang, followed her for a while and then lost interest.
Mar 19	Minah & Ara	Not much interest. Ara checked Panjang, followed her for a while and then lost interest.
Mar 20	Minah & Ara	Ara checked Minah & followed for a while. Head butting a lot. No interest. Ara checked Panjang & ignored her when she walked away.
Mar 21	Minah & Ara	The rhinos were left together for 20 minutes but ni much interest observed. No interest. Ara checked Panjang & ignored her when she walked away.

Date	Rhino ID	Observation
Mar 22	Panjang & Ara Minah & Ara Mas Merah & Ara	Good interest by Ara, followed for a while. Head butting 7 flanking, 20 minutes mixing Screaming and ran away when Ara checked her. Blowing.
Mar 23	Panjang & Ara Minah & Ara	Ara followed Panjang but she kept walking. Minimal interest. The rhinos were left together for 20 minutes but ni much interest observed
Mar 25	Panjang & Ara Minah & Ara Mas Merah & Ara	No interest Head butting a lot Vocalised and wanted to fight
Mar 26	Panjang & Ara Minah & Ara	Arqa checked & she walked away. Ara chased her & separated. Head butting a lot, Minah pushed Ara too much and Ara chased her. Separated after 20 minutes.
Mar 27	Panjang & Ara Minah & Ara	Arqa checked & she walked away. Ara chased her & separated. Head butting a lot, Minah pushed Ara too much and Ara chased her. Separated after 20 minutes.
Mar 31	Minah & Ara Panjang & Ara Seputeh & Ara	Head butting a lot No interest. Head butting & Seputeh wanted to fight.

Summary - Sumatran Rhino Reproductive Examination, March 2003

Exam Date	Female ID	P4 (ng/ml)	Ultrasound	Behaviour
Mar 10	Minah	0.06	10, 12 & 15mm Fo on left ovary, MSF on right ovary.	No interest observed
	Panjang	1.21	MSF (<10mm) on both ovaries.	Vocalised a lot, no interest
Mar 11	Minah		10, 12 & 15mm on left ovary, MSF (<10mm)	No interest
Mar 12	Panjang		12-13mm Fo on left ovary, MSF (<10mm) on right	Viocalised a lot
Mar 13	Rima		23mm vesicle on the right horn, whitish structure at the bottom.	No mixing
Mar 14	Minah		16 & 17mm on left ovary, MSF (<12mm)	No interest. Head butting a lot.
	Panjang		13-14mm Fo on left ovary, MSF (<12mm) on right	Vocalised, no interest
Mar 15	Minah		18mm follicle on left ovary, NSF on right	Ara followed Minah for a while, head butting a lot.
Mar 17	Rima		29mm vesicle	No mixing
	Minah		19mm follicle on left ovary	Ara checked her, flanking but head butting a lot.
Mar 18	Minah		19mm (left ovary), not much change	AM: No interest, PM: some following, HB a lot & Ara chased Minah
	Panjang		13-14mm (left ovary)	Vocalised and blowing
Mar 19	Minah		20mm (left ovary)	Ara checked and followed for a while, HB a lot.

Exam Date	Female ID	P4 (ng/ml)	Ultrasound	Behaviour
Mar 20	Minah		21mm (left ovary)	Ara checked Minah, some following but HB a lot
Mar 21	Minah		22mm (left ovary)	HB a lot, flanking (am & pm)
	Mas Merah		MSF (12-13mm)	No mixing
Mar 22	Minah		23mm (left ovary)	20 minutes mixing, HB & flanking
	Panjang		15-16mm (left ovary)	Ara followed for a while
Mar 24	Rima		29mm vesicle (not much changes - elongated)	No mixing
	Minah		Regressing follicle from 23mm to 21mm	Head butting a lot.
Mar 25	Panjang		15-16mm (left ovary), not much changes	No interest
	Mas Merah		Small follicle (12-13mm)	No mixing
Mar 26	Minah		19mm (left ovary) regressing follicle	HB a lot, Ara chased Minah after 20 minutes.
Mar 27	Panjang		14-15mm (regressing)	No interest.
	Mas Merah		NSF, small follicle (12-13mm)	No mixing
Mar 28	Rima		Collapsed vesicle. Small developing Fo (12-13mm at the left ovary)	No mixing
	Minah		19mm follicle	Head butting a lot
Mar 31	Rima		Small 14mm follicle (left ovary)	No mixing
	Minah		Regressing follicle (19mm to 17mm)	Head butting a lot.

The Breeding Dates of Rhinos in Sg. Dusun, 2000 – 2003.

Date(s)	Rhinos	Remarks
5/10/00	Rima & Ara	Bred for 46 minutes.
14/10/00	Panjang & Ara	Bred for about 35 minutes.
19/10/00	Seputeh & Ara	35 minutes.
29/10/00	Rima & Ara	Rima was bred for about 35 minutes.
8/11/00	Seputeh & Ara	Intromission was observed and lasted about 23 minutes.
9/11/00	Seputeh & Ara	Seputeh was bred for about 30 minutes.
10/01/01	Rima & Ara	Bred for 20 minutes after assisted intromission.
26/01/01	Seputeh & Ara	Bred for 30 minutes in the afternoon.
31/01/01	Rima & Ara	Bred for 20 minutes.
01/02/01	Rima & Ara	Bred for 32 minutes.
16/02/01	Seputeh & Ara	Bred for 29 minutes.
17/02/01	Seputeh & Ara	Bred for 35 minutes.
22/02/01	Rima & Ara	Bred for 55 minutes.
15/03/01	Rima & Ara	Bred for 14 & 5 minutes.
16/03/01	Rima & Ara	Bred for 10, 5 & 13 minutes.
08/04/01	Seputeh & Ara	Bred for 32 minutes.
11/04/01	Rima & Ara	Bred for 25 minutes.
03/05/01	Rima & Ara	Bred for 36 minutes.
25/05/01	Rima & Ara	Bred for 25 minutes.
31/05/01	Panjang & Ara	Bred for 26 minutes.
08/06/01	Seputeh & Ara	Bred for 13 & 19 minutes.
16/06/01	Rima & Ara	Bred for 35 minutes.
17/06/01	Rima & Ara	Bred for 30 minutes.
30/06/01	Seputeh & Ara	35 minutes
21/07/01	Seputeh & Ara	30 minutes
22/07/01	Seputeh & Ara	23 minutes
23/07/01	Seputeh & Ara	30 minutes
30/07/01	Rima & Ara	35 minutes
13/08/01	Seputeh & Ara	30 minutes
29/08/01	Mas Merah & Ara	2 minutes
03/09/01	Seputeh & Ara	27 minutes
04/09/01	Seputeh & Ara	15 mins, 32 minutes
25/09/01	Seputeh & Ara	43 minutes
26/09/01	Seputeh & Ara	34 minutes
17/10/01	Seputeh & Ara	30 minutes
18/10/01	Seputeh & Ara	30 minutes
23/10/01	Rima & Ara	30 minutes
08/11/01	Seputeh & Ara	55 minutes
13/11/01	Rima & Ara	20 mins, 20 minutes
24/11/01	Mas Merah & Ara	20 minutes

Date(s)	Rhinos	Remarks
18/01/02	Mas Merah x Ara	Bred for 35 minutes
04/04/02	Seputeh x Ara	Bred for 40 minutes
26/04/02	Seputeh x Ara	Bred for 15 & 35 minutes
17/05/02	Seputeh x Ara	Bred for 25 minutes
06/07/02	Seputeh x Ara	Bred for 25 minutes
29/09/02	Seputeh x Ara	Bred for 16 minutes
19/10/02	Seputeh x Ara	Bred for 15 minutes
20/10/02	Seputeh x Ara	Bred for 23 minutes
22/10/02	Rima x Ara	Bred for 28 minutes
10/11/02	Seputeh x Ara	Bred for 30 minutes
04/12/02	Seputeh x Ara	Bred for 52 minutes
17/12/02	Rima x Ara	Bred for 7 & 15 minutes
20/01/03	Rima x Ara	Bred for 25 minutes
21/01/03	Rima x Ara	Bred for 17 minutes
04/02/03	Seputeh x Ara	Bred for 10 minutes
05/02/03	Seputeh x Ara	Bred for 52 minutes
23/02/03	Rima x Ara	Bred for 19 minutes