

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

**MONTHLY REPORT**

**AUGUST 2002**

**BY**

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**&**

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## **INTRODUCTION**

No breeding occurred throughout the month despite of mixing the females with Ara. Based on the latest blood result, Mas Merah should be in estrus but no breeding occurred when she was mixed with the male. As for Rima and Minah, their progesterone level is low but not enough to initiate estrus.

Dr. Robin and Rolfe Radcliffe were at Sg. Dusun from Aug 25 to Sept 3 to do surgery on Panjang as well as to examine other females. The surgery was successfully conducted on Aug 26 and the vaginal tumour was removed. Ultrasound was also carried out to evaluate the status of the females and the result was discussed below. Based on the ultrasound and blood result, prostaglandin therapy was initiated on three females; Mas Merah, Rima and Minah followed by daily introduction with Ara. As for Panjang, she was rest for four weeks following the surgery.

Bleeding procedure was carried out as usual, twice weekly and the samples were sent to UPM for hormonal analysis. Minah was weighed twice weekly as to monitor her weight. Her weight has been up and down despite her normal behaviour. The other rhinos were weighed once a month.

## **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**

Three females i.e. Mas Merah, Rima and Minah were mixed with Ara on a daily basis to ensure not to miss breeding. However, no breeding occurred and the breeding observation was summarized in the table below. As for Panjang, she was also mixed with Ara for a short period prior to her surgery to stimulate estrus cycle.

### **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.

## **C) HEALTH STATUS**

Generally, all rhinos are in the good condition. However, Minah experienced a weight drop from 476kg to 456kg. Her behaviour and appetite was good although she did not finish her pellets sometime but finish the browse. Her weight is being monitored on a weekly basis and the result is shown in Table 4. The other rhinos were weighed once a month. Blood was also sent to Veterinary Research Institute, Ipoh for health check and the result is attached below.

**APPENDIX B**  
**Sumatran Rhinoceros Hematology Summary; Sungai Dusun, August 2002**

Hematology Parameter	Unit		MINAH	RIMA	ARA	MAS MERAH	SEPUTIH	PANJANG
White blood cell count	(x 10 <sup>3</sup> ul)	12.1	9.1		12.5	10.2	9.9	8.5
Red blood cell count	(x 10 <sup>6</sup> ul)		5.73	6.27	6.28	6.68	5.94	3.84
Hemoglobin	(g/dl)		13.7	15.3	14.4	16.7	15.4	10.3
PCV	(%)		42.8	47.7	46.8	51.7	47.1	31.3
MCV	(u <sup>3</sup> )		74.7	76.0	74.5	77.4	79.3	81.4
MCH	(p.g.)		23.9	24.4	22.9	25.0	25.9	26.8
MCHC	(g/dl)		32.0	32.1	30.8	32.3	32.7	32.9
Neutrophils	(%)		90	80	48	80	68	32
Lymphocytes	(%)		8	12	36	12	20	6
Monocytes	(%)		2	8	8	0	0	4
Eosinophils	(%)		0	0	8	8	12	4
Basophils	(%)		0	0	0	0	0	0
Blood Protozoa			NEG	NEG	NEG	NEG	NEG	NEG

**Table 3: Rhinos' Body Weight (Kg), June 2002**

Month/ Rhino ID	Jan	Feb	Mar	Apr	Ma y	Jun e	July	Aug	Sep t	Oct	Nov	Dec
RIMA	552	542	542	554	580	576	562					
MAS MERAH	612	590	578	586	595	594	584					
MINAH	462	450	476	476	480	450	458					
SEPUTIH	738	752	742	736	*	724	764					
PANJANG	532	*	523	512	538	514	528					
ARA	610	588	574	574	613	592	634					

REMARKS:

\* In the 10 acres enclosure

**Table 4: Minah's Weekly Body Weight (Kg), July to Aug 2002**

Rhino ID / Date	5/7	10/7	16/7	24/7	1/8	6/8
Minah	466	476	458	458	458	456

**Table 1: Blood Collection from the Rhinos, August 2002**

<b>Date</b>	<b>Rhino ID</b>	<b>Area taken</b>	<b>Remarks</b>
Aug 1	Minah Mas Merah Panjang Rima Seputeh	Tail Tail Tail Tail Tail	Samples were taken from these females for P4 analysis. Blood was taken from the males for testosterone analysis.
Aug 5	Rima Panjang Mas Merah Seputeh Minah	Tail Tail Tail Tail Tail	Samples were taken from the females for P4 analysis. Blood was taken from the males for testosterone analysis.
Aug 8	Rima Seputeh Minah Mas Merah Panjang Ara	Tail Tail Tail Tail Tail Tail	Blood was taken for the P4 and testosterone analysis
Aug 12	Minah Seputeh Panjang Mas Merah Rima	Tail Tail Tail Tail Tail	Samples were taken from all rhinos for P4 analysis.
Aug 16	Mas Merah Rima Minah Seputeh Panjang	Tail Tail Tail Tail Tail	Samples were taken from the females for P4 analysis.
Aug 19	Minah Seputeh Panjang Mas Merah Rima	Tail Tail Tail Tail Tail	
Aug 22	Minah Mas Merah Panjang Rima Seputeh	Tail Tail Tail Tail Tail	Blood was taken for the P4 analysis

Date	Rhino ID	Area taken	Remarks
Aug 26	Mas Merah Rima	Tail Tail	Blood was taken for the P4 analysis
Aug 27	Seputeh Panjang Minah	Tail Tail Tail	Blood was taken for the P4 analysis
Aug 29	Minah Mas Merah Rima Seputeh Panjang	Tail Tail Tail Tail Tail	Samples were taken from these females for P4 analysis.

**Table 3: Observation on Ara and the Females During Introduction, August 2002**

Date	Rhino ID	Observation
Aug 5	Minah & Ara	Eating side by side. Ara sniffed her but no interest. Minah walked away and came back to Ara. Head butting, flanking and Ara sniffed her again. Minah walked away, Ara ignored her.
	Mas Merah & Ara	Mas Merah blows and then come to the feeding area, eating beside Ara. Mas walked away and turned back, blowing and screaming. Separated.
Aug 6	Minah & Ara	Minah followed Ara and later head butting was observed. She pushed the male too much and the rhinos were separated after 15 minutes to avoid aggression.
	Mas Merah & Ara	Both rhinos eating side by side. No response from Ara when Mas walked passed him.
	Rima & Ara	No interest observed.
Aug 7	Minah & Ara	Ara walked away after eating the fruits and Minah followed him. The rhinos were side-by-side and later pushing each other head to head.
	Panjang & Ara	Ara followed Panjang for a while, Panjang vocalized a lot. Separated.
	Mas Merah & Ara	Mas Merah started to scream when she saw Ara. She blows a lot and the pair was separated.
	Rima & Ara	Eating together, Ara sniffed Rima but no interest. Rima walked away, Ara ignored her.
Aug 8	Minah & Ara	The rhinos were eating side by side. Minah pushed her head against Ara, Ara turned and sniffed her but no positive response.
	Rima & Ara	Eating together, spraying. Ara sniffed her, she walked away.
	Mas Merah & Ara	Side by side eating together. Mas walked away and came back to eat. Ara sniffed her, no response. Mas walked away, blowing and screaming.



Date	Rhino ID	Observation
Aug 9	Minah & Ara	Pushed her head against Ara. Ara was eating and turned, sniffed Minah but continue eating. Flanking, Ara ignored Minah and she walked away.
	Panjang & Ara	Eating together, Ara sniffed her and she vocalized. Fighting for fruits and Panjang screamed and walked away.
	Mas Merah & Ara	Mas come to feeding area and eating beside Ara. Ara sniffed her but continue eating. Head butting, Mas screamed and walked away.
Aug 11	Minah & Ara	Eating together, Ara sniffed Minah but ignored her. Minah walked away, Ara continued eating.
	Mas Merah & Ara	Both rhinos were eating together. Ara sniffed her but no interest. Mas Merah blows and screaming. Separated
Aug 12	Minah & Ara	Minah pushed her head, Ara continued eating. Ara spraying then sniffed Minah but no interest. Minah walked away, Ara ignored her.
	Panjang & Ara	Eating together, Ara checking her but she blows. Side by side, eating. Panjang vocalized, blowing and walked away, Ara ignored her.
	Mas Merah & Ara	Side by side, eating. Ara sniffed Mas, she blows and then walked away. Mas come back for fruits; Ara approached her, Mas screamed and blows, walked away from Ara.
	Rima & Ara	Eating together, side by side. Ara sniffed, Rima walked away and Ara ignored her.

Date	Rhino ID	Observation
Aug 13	Minah & Ara	Eating together, Minah put her head under Ara's belly. Ara spraying and walked away, Minah followed. Flanking and sniffing, no response. Minah walked away, Ara ignored her.
	Mas Merah & Ara	Eating together for a while, Mas blows searching for fruits. Mas walked away and turned back, screaming and blowing. Ara blows, separated.
Aug 17	Minah & Ara	Minah pushed her head against Ara but Ara continued eating. Flanking, Ara sniffed Minah but ignored her. Minah walked away.
	Mas Merah & Ara	The rhinos were eating together, side by side. Ara sniffed Mas but no response. Ara blows and mas walked away to the gate
Aug 19	Minah & Ara	Minah and Ara were eating side by side. No response when Ara sniffed Minah. Ara walked away and Minah followed him but no positive behaviour observed.
	Panjang & Ara	Both rhinos were eating together. Ara sniffed Seputeh but no positive response.
	Rima & Ara	
Aug 21	Minah & Ara	Ara walked away and Minah followed him but no positive behaviour observed.
	Rima & Ara	Rima vocalized when Ara tried to follow her. Ara sniffed her but no further response.
	Mas Merah & Ara	Side by side, eating. Ara sniffed Mas, she blows and then walked away. Mas come back for fruits; Ara approached her, Mas screamed and blows, walked away from Ara.
Aug 26	Rima & Ara	Eating together, side by side. Ara sniffed, Rima walked away and Ara ignored her.
	Mas Merah & Ara	Mas Merah blows and then come to the feeding area, eating beside Ara. Mas Merah walked away and Ara ignored her.