

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

MONTHLY REPORT

JULY 2002

BY

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&

STEVE ROMO

INTRODUCTION

There is one breeding occurred this month between Seputeh and Ara on July 6. However, the other females especially Mas Merah, Rima and Minah were also mixed with the male but no breeding occurred. Mas Merah was mixed with Ara for a week when she was expected to be in estrus but no breeding took place. Rima and Minah were mixed on daily basis to stimulate them to cycle. Based on the progesterone result, both females had a low level. As for Panjang, she was mixed with Ara on alternate day basis to stimulate her to cycle before the surgery schedule at the end of August.

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

Based on the progesterone result, Seputeh was expected to be in estrus on July 6. She was paired with Ara from in the morning of July 6 and good behaviour was observed. The rhinos were separated and were mixed again in the afternoon. Breeding occurred after five minutes of mixing and the intromission lasted for about 25 minutes.

Rima and Mas Merah were also paired with Ara but no positive behaviour observed. Based on the progesterone result, these two females had an irregular cycle and therefore the two were monitored with both blood and ultrasound.

The observation of the mixing procedure of the females was summarized in the table below.

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.

From : Aidi Mohamad <idsrcc@tm.net.my>
To : mohdkhan@mail.com, RobinR@fossilrim.com, "Dr. Terri Roth" <terri.roth@cincyzoo.org>, irftom@aol.com
CC : romojohn@hotmail.com, Rolfemradcliffe@yahoo.com
Subject : Fw: Rhino P4 Update
Date : Thu, 21 Nov 2002 17:23:36 +0800
Attachments : Rhino_P4_graph_2002.xls (375k), P02_31.xls (30k)

----- Original Message -----

From: Yap Keng Chee <yap@vet.upm.edu.my>
To: <Dr. Aidi Mohamad : ;>
Cc: <wahid@vet.upm.edu.my>
Sent: Thursday, November 21, 2002 1:02 PM
Subject: Rhino P4 Update

> Dear Aidi,
> Mas Merah, Minah and Panjang P4 level still basal level.
> All Rima samples sent recently shows high P4 level except
> her last sample dated 20 Nov dipped slightly (1.03 ng/ml)
> compared to her other 2 samples. At this juncture it is still
> too early to know whether she will maintain her P4 level even
> though it had been day 29 or on the decline. Hopefully her
> next samples will give us better indicator.
>
> Day 0 - 22 Oct 02 > Mated
> Day 1 - 23 Oct 02 > 0.10 ng/ml
> Day 7 - 29 Oct 02 > 0.65 ng/ml
> Day 9 - 31 Oct 02 > 1.12 ng/ml
> Day 15 - 06 Nov 02 > 1.40 ng/ml
> Day 20 - 11 Nov 02 > 1.54 ng/ml
> Day 22 - 13 Nov 02 > 1.79 ng/ml
> Day 24 - 15 Nov 02 > 2.02 ng/ml
> Day 27 - 18 Nov 02 > 1.92 ng/ml
> Day 29 - 20 Nov 02 > 1.03 ng/ml
>
> As for Seputeh her P4 level is on the rise with her last sample attain
> at 1.23 ng/ml.
>
> Regards,
> Yap
>
>
>
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>
>

B) HEALTH STATUS

Generally, all rhinos are in the good condition. Minah experienced a weight drop from 476kg to 450kg but later increased to 466kg. However, her behaviour and appetite was good and her weight is being monitored on weekly basis. Her weight has been up and down and the result is showed in Table 4. The other rhinos were weighed once a month. Both weighing results are tabulated below.

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

Month/ Rhino ID	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	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), May to July 2002

Rhino ID / Date	5/7	10/7	16/7	24/7	1/8	6/8
Minah	466	476	4568	458	458	456

Table 1: Blood Collection from the Rhinos, July 2002

Date	Rhino ID	Area taken	Remarks
July 1	Minah Mas Merah Panjang Rima Seputeh Ara	Tail Tail Tail Tail Tail	Samples were taken from these females for P4 analysis. Blood was taken from the males for testosterone analysis.
July 4	Rima Panjang Mas Merah Ara	Tail Tail Tail Tail	Samples were taken from the females for P4 analysis. Blood was taken from the males for testosterone analysis.
July 8	Rima Seputeh Minah Mas Merah Panjang	Tail Tail Tail Tail Tail	Blood was taken for the P4 analysis
July 11	Minah Seputeh Panjang Mas Merah Rima Ara	Tail Tail Tail Tail Tail Tail	Samples were taken from all rhinos for P4 and testosterone analysis.
July 15	Minah Mas Merah Panjang Rima	Tail Tail Tail Tail	Samples were taken from these females for P4 analysis.
July 18	Minah Mas Merah Panjang Rima Seputeh	Tail Tail Tail Tail Tail	Blood was taken for the P4 analysis
July 22	Minah Seputeh Mas Merah Panjang Rima	Tail Tail Tail Tail Tail	Blood was taken for the P4 analysis

Date	Rhino ID	Area taken	Remarks
July 25	Minah Mas Merah Rima Seputeh Panjang Ara	Tail Tail Tail Tail Tail Tail	Blood was taken for the P4 and testosterone analysis
July 29	Minah Mas Merah Rima Seputeh Panjang	Tail Tail Tail Tail Tail	Samples were taken from these females for P4 analysis.

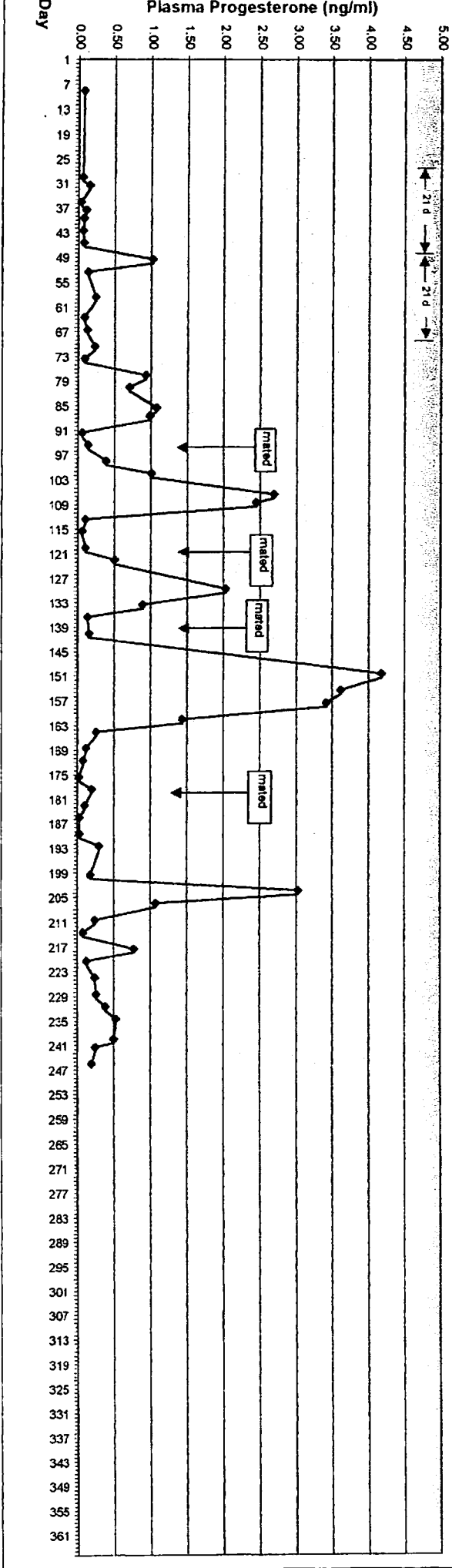
Table 3: Observation on Ara and the Females During Introduction, July 2002

Date	Rhino ID	Observation
July 1	Rima & Ara	No interest observed from both rhinos. Ara tried to chase Rima and the pair was separated.
	Minah & Ara	Minah started to follow Ara when the male walked away. Later, both rhinos were rubbing each other side by side. Head butting was observed and the rhinos were separated after 15 minutes.
	Mas Merah & Ara	Mas Merah reluctant to approach Ara. She blew a lot and looked afraid.
July 2	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.
	Rima & Ara	The pair was mixed for about five minutes. No mating behaviour noted.
	Mas Merah & Ara	Both rhinos eating side by side. No response from Ara when Mas walked passed him.
July 5	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.
	Rima & Ara	No interest observed from both rhinos
	Mas Merah & Ara	Mas Merah started to scream when she saw Ara. She blows a lot and the pair was separated.
July 6	Minah & Ara	Minah was observed following Ara and later they were side by side. Head butting occurred and separated after 20 minutes to avoid aggression.
July 8	Minah & Ara	The rhinos were eating side by side. Minah followed Ara and later head butting was observed. Separate after 15 minutes.

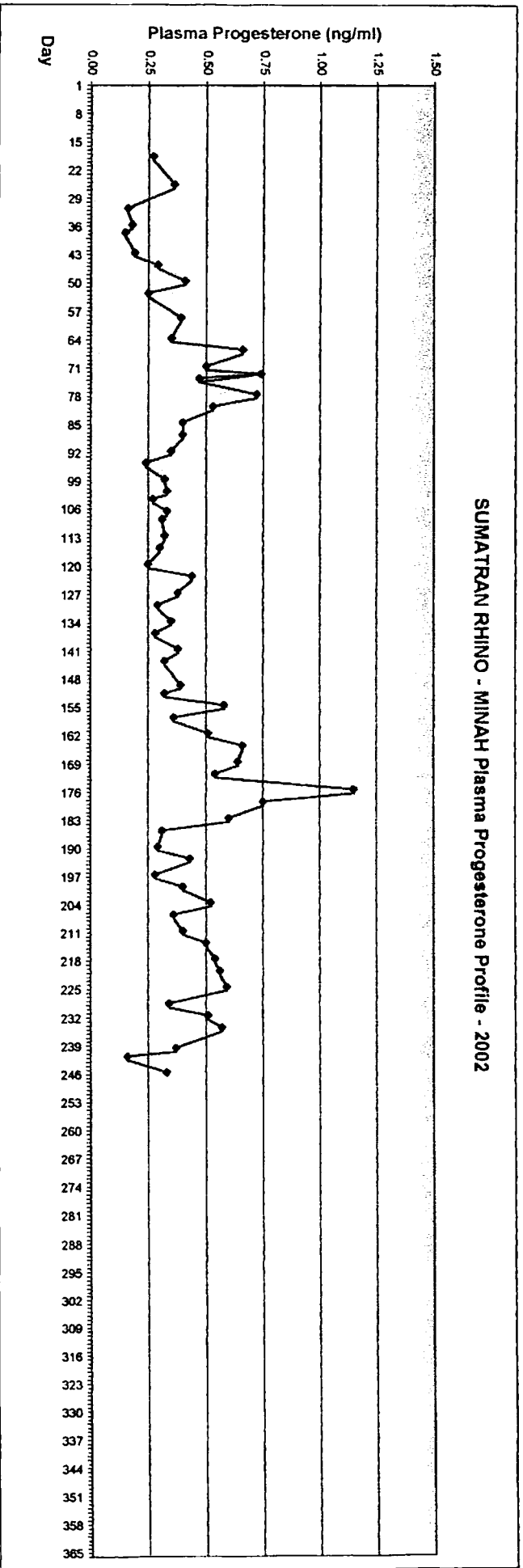
Date	Rhino ID	Observation
July 9	Minah & Ara Seputeh & Ara	Minah still followed Ara but no breeding occurred. Head butting occurred and the pair was separated. Ara followed Seputeh and the female turned around and head butting occurred. Separated to avoid aggression.
July 10	Minah & Ara Panjang & Ara	No positive behaviour observed from both rhinos. Ara followed Panjang and Panjang screaming and walked away from him.
July 11	Minah & Ara	No positive behaviour observed from both rhinos.
July 13	Rima & Ara	Both rhinos were eating together. Rima vocalized when Ara approached her. No further response and the rhinos were separated.
July 14	Rima & Ara	Both rhinos were eating side by side. Ara sniffed Rima but no further response. Rima vocalized a lot.
July 15	Minah & Ara Rima & Ara Mas Merah & Ara	Ara followed Minah but the female vocalized a lot. She turned around and head butting occurred.
July 16	Minah & Ara Panjang & Ara Rima & 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. Both rhinos were eating together. Ara sniffed Seputeh but no positive response.
July 17	Minah & Ara Rima & Ara Mas Merah & Ara	Ara walked away and Minah followed him but no positive behaviour observed. Rima vocalized when Ara tried to follow her. Ara sniffed her but no further response.

Date	Rhino ID	Observation
July 18	Minah & Ara	Minah pressed her head against Ara and Ara sprayed a lot. Ara looked annoyed and walked away, Minah followed. Then, head butting was observed. Ara bite Minah and she ran away.
	Panjang & Ara	Both rhinos were eating side by side. Panjang walked away and Ara followed her but she vocalized a lot.
	Mas Merah & Ara	Ara was busy eating when Mas approached the feeding area. She blows and started to eat and Ara ignored her. Later, Mas blows again and walked away.
July 19	Rima & Ara	Rima blows and chased Ara away. The rhinos were separated.
	Mas Merah & Ara	Mas came to the feeding area but blows a lot and walked away.
July 20	Mas Merah & Ara	Mas Merah blows a lot when approached the feeding area and then she walked away.
July 21	Mas Merah & Ara	No positive behaviour observed, Mas blows a lot.
July 22	Minah & Ara	Both rhinos were eating together. Ara spraying a lot. Side by side, Ara tried to bite and Minah walked away.
	Mas Merah & Ara	Mas blows when entering the paddock. Came to eat the fruits and blew again. Ara moved toward her, she turned and walked away.
	Rima & Ara	Ara ran away from her when she approached the feeding area, blowing.

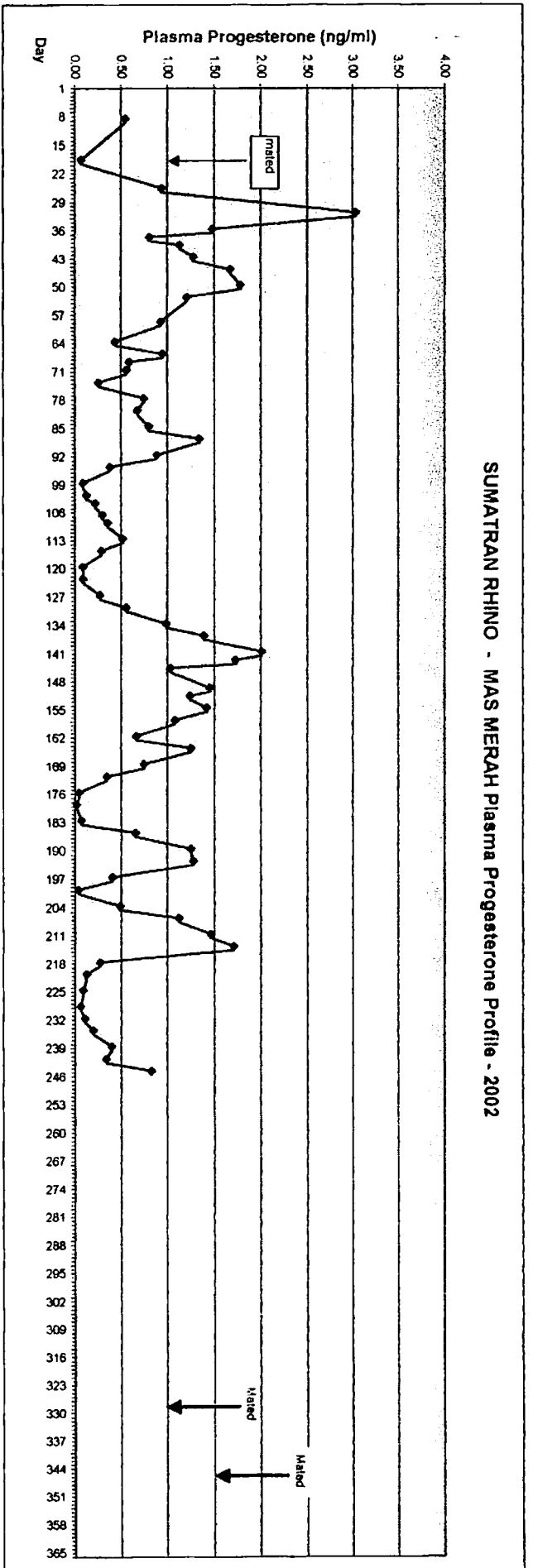
SUMATRAN RHINO - SEPUTIH Plasma Progesterone Profile - 2002



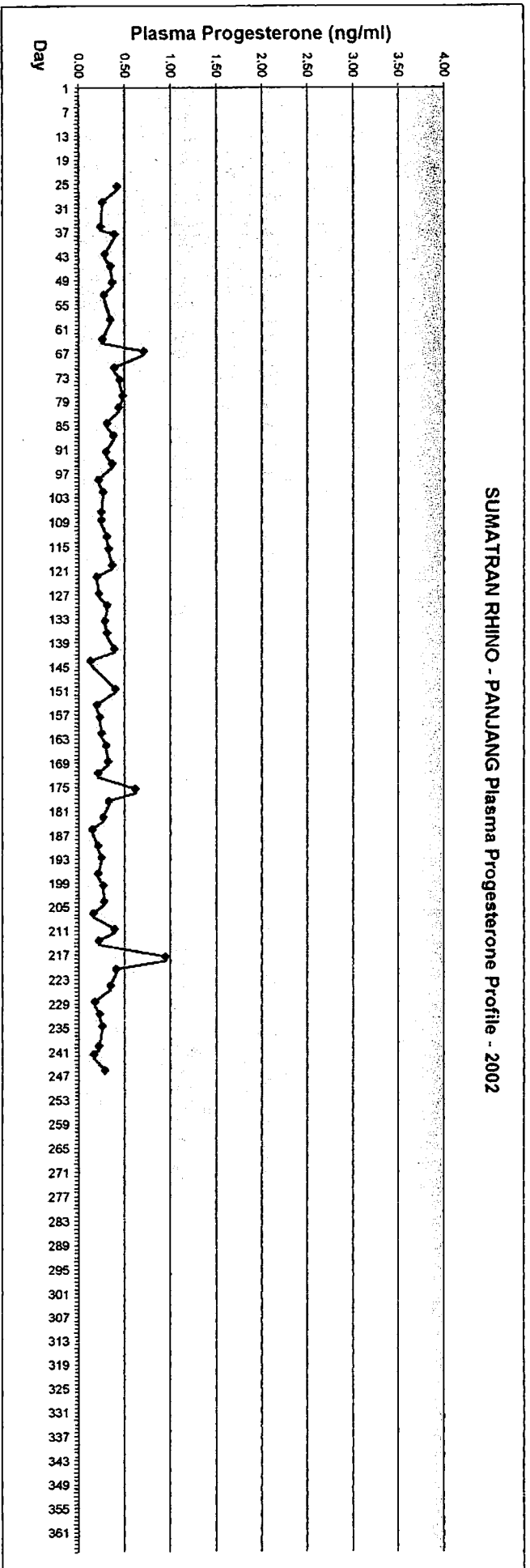
SUMATRAN RHINO - MINAH Plasma Progesterone Profile - 2002



SUMATRAN RHINO - MAS MERAH Plasma Progesterone Profile - 2002



SUMATRAN RHINO - PANJANG Plasma Progesterone Profile - 2002



SUMATRAN RHINO - RIMA Plasma Progesterone Profile - 2002

