

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

**MONTHLY REPORT**

**MAY 2001**

**BY**

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**&**

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## **INTRODUCTION**

Ara bred Rima twice this month, on 3/5/01 and 25/5/01 respectively. On 1/5/01, blood was collected from Rima and Seputeh and the result revealed that both females are not pregnant. Rima was mixed with Ara starting from 2/5/01 but Ara bred her on 3/5/01. Seputeh was expected to come into estrus on 24/5/01 but Ara bred her on 25/5/01 morning about 25 minutes. The pair was mixed again the next day but no breeding occurred. The latest blood result on 26/5/01 showed that the other females had a high level of progesterone level except for Panjang. Therefore, she was pair with Ara on 27/5/01 but no breeding recorded. Since then, the rhinos were mixed daily to establish breeding. As for Shah and Mas Merah, they were mixed together but no positive response observed.

As for the bleeding procedure, it is still carried out twice weekly on all females for progesterone analysis. However, blood will be collected once a week on the bred females. Blood samples were also collected from all rhinos for DNA work and these samples will be sent to Canada.

All rhinos were dewormed with Mebendazole orally on 22/5/01. The weighing procedure could not be carried out since the weighing machine is still at the Zoo Melaka. A call to the zoo confirmed that the scale was out of order and was sent for repair.

## **RHINO MANAGEMENT**

### **A) Daily Management**

#### **i) Night stall**

##### *Daily work*

Adam, Shariff and Umor managed the night stalls. Shariff and Umor will clean the night stalls while Adam and other rangers will mix Shah and the two females. Then, he will checked 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 1.5kg every morning. On Monday and Thursday, Adam will help the veterinarian to collect the blood from all females.

##### *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*

Mohd Noor inspects the electric fencing every morning. The fencing was 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**

### **1) Daily Introduction**

The program was conducted between Shah and the two females: Mas Merah and Panjang. Panjang will be mixed with the male first followed by Mas Merah. The procedure sometimes took about five to ten minutes depending on the behavior shown by the rhinos. The mixing period will be prolonged if breeding behavior was observed. However, no positive behaviour was observed throughout the month despite of the daily introduction of the rhinos. The latest blood result on 25/5/01 showed that Panjang was approaching estrus but no positive response showed by Shah although the two rhinos were paired until 26/5/01. Therefore, Ara was used to establish breeding.

### **2) Breeding Introduction**

Ara bred Rima twice this month. The first breeding was on 3/5/01 and the second one is on the 25/5/01. Based on the last breeding on 8/4/01 for Seputeh and on 11/4/01 for Rima, both rhinos were expected to be in estrus on 29/4/01 and 2/5/01 respectively if they are not pregnant. On 27/4/01, blood was collected from Rima and Seputeh and sent to UPM. The result revealed that both females had a high level of progesterone: 0.98ng/ml and 2.16ng/ml respectively. Seputeh was not paired with the male based on the result and the second blood sample was collected on 30/4/01 for further confirmation.

The result revealed that Rima and Seputeh progesterone level had dropped to 0.25ng/ml and 0.38ng/ml. Therefore Seputeh was mixed with Ara on 1/5/01 but no breeding was recorded. The plan to mix her with the male on the next day was not agreed but instead, Rima was paired with Ara on 2/5/01 morning. However, she was only bred on 3/5/01 for 31 minutes. Both rhinos were paired again the next day but no more breeding was recorded.

As for Seputeh, she was paired again with Ara starting from 4/5/01 to 8/5/01 but no breeding was recorded. Aggression and head butting was observed and the rhinos were separated to avoid fighting. The second breeding for Rima was on the 25/5/01 after the blood result revealed that she was not pregnant. Ara bred her for about 25 minutes. The pair was mixed again the next day but no breeding occurred.

On 25/5/01, blood was also sent to UPM to confirm the status of the females. The result showed that Panjang had a low progesterone level and she was mixed with Ara starting from 27/5/01 and on 31/5/01, Ara bred her for about 26 minutes. Other females still has a high level of progesterone and they will be mixed with the male when the level is low.

### **3) Bleeding Program**

Blood collection was done twice weekly on all females. However, blood was collected once a week on bred female. Once a month, blood will be collected on all rhinos for health check and the result showed that all rhinos are in a good condition. The program is summarized in Table 1.

### **4) Serum Progesterone Profile**

#### **a) Rima**

Since last year, Rima has a regular estrus cycle based on the progesterone profile. She will be bred on 21 to 22 days interval if she is not pregnant. However, her cycle did late last month (April) about 25 days interval. Ara has been bred her for 15 times since last year.

#### **b) Seputeh**

This female also has a regular cycle since the end of last year. Ara has been bred her for 10 times since last year on 21 days interval. However, for the past two cycles on May 2001, she could not be bred when her cycle falls on the same date as Rima.

#### **c) Mas Merah**

Mas's cycle has been irregular and could not be predicted since her progesterone level has been fluctuating. She has been mixed with Shah since last April but no positive behaviour observed between the two rhinos. However, the daily introduction will be continued and Ara will be used instead to establish breeding.

#### **d) Minah**

Minah's progesterone level has been at the basal line since last year. According to Dr. Terri's report, she is having a mild uterine infection or endometritis. However, this should be confirmed first before applying any treatment.

e) Panjang

Panjang has an irregular cycle since she had a bloody discharge from her vagina on November last year. The evaluation done by Dr. Terri confirmed that she had a uterine mass that could reduce her fertility. However, she has been mixed with the male starting April 2001 and her cyclic activity was observed since then. Based on the blood result, Panjang has been in estrus between April 17 to 20 but no response was observed between the female and male although they were mixed for the whole month.

The pairing was continued and the latest blood result on 25/5/01 revealed that she has a low level of progesterone (0.16ng/ml). No positive behaviour was observed between her and Shah although the two rhinos were paired together. Therefore on 27/5/01, Panjang was mixed with Ara to confirm her estrus cycle. Ara followed her but the female refused to be mounted. The pair was mixed daily and on 31/5/01, Ara bred her for about 26 minutes.

## **B) HEALTH STATUS**

Generally, all rhinos are in the good condition. Weighing program could not be carried out since the weighing machine is at Zoo Melaka. The rhino will be weighed in May. The result from Veterinary Research Institute (VRI) showed that all rhinos are in a good condition.

## **C) FEEDING**

The feeding program had no changes. The browses and fruits were supplied by the contractor, which deliver them around 9.30 a.m. daily. The feed was checked to ensure their quantity and quality upon receiving them. They were cleaned and weighed before giving to the rhinos. The rhinos were given about 40 kg of browses, 3 kg of concentrates and 7 kg of fruits daily.

**Table 1: Blood Collection from the Rhinos, May 2001**

<b>Date</b>	<b>Rhino ID</b>	<b>Area taken</b>	<b>Remarks</b>
01/05/01	Rima Seputeh	Tail Tail	Samples were taken for pregnancy test.
03/05/01	Panjang Mas Merah Minah	Tail Tail Tail	
17/05/01	Seputeh Rima Panjang Mas Merah Minah	Tail Tail Tail Tail Tail	Get blood samples from all females. The rhinos seem very cooperative.
21/05/01	Rima Seputeh Mas Merah Panjang Minah	Tail Tail Tail Tail Tail	Get samples via tail from all females.
25/05/01	Rima Mas Merah Panjang Seputeh Shah Ara	Tail Tail Tail Tail Tail Tail	Samples were taken from all females for P4 analysis. Blood were taken from all rhinos for DNA work.
29/05/01	Minah Mas Merah Panjang Seputeh	Tail Tail Tail Tail	Samples were taken from all females for P4 analysis.
31/05/01	Rima Minah Mas Merah Panjang Seputeh	Tail Tail Tail Tail Tail	Blood collected for P4 analysis

\* Blood was not collected from 4/5/01 to 13/5/01

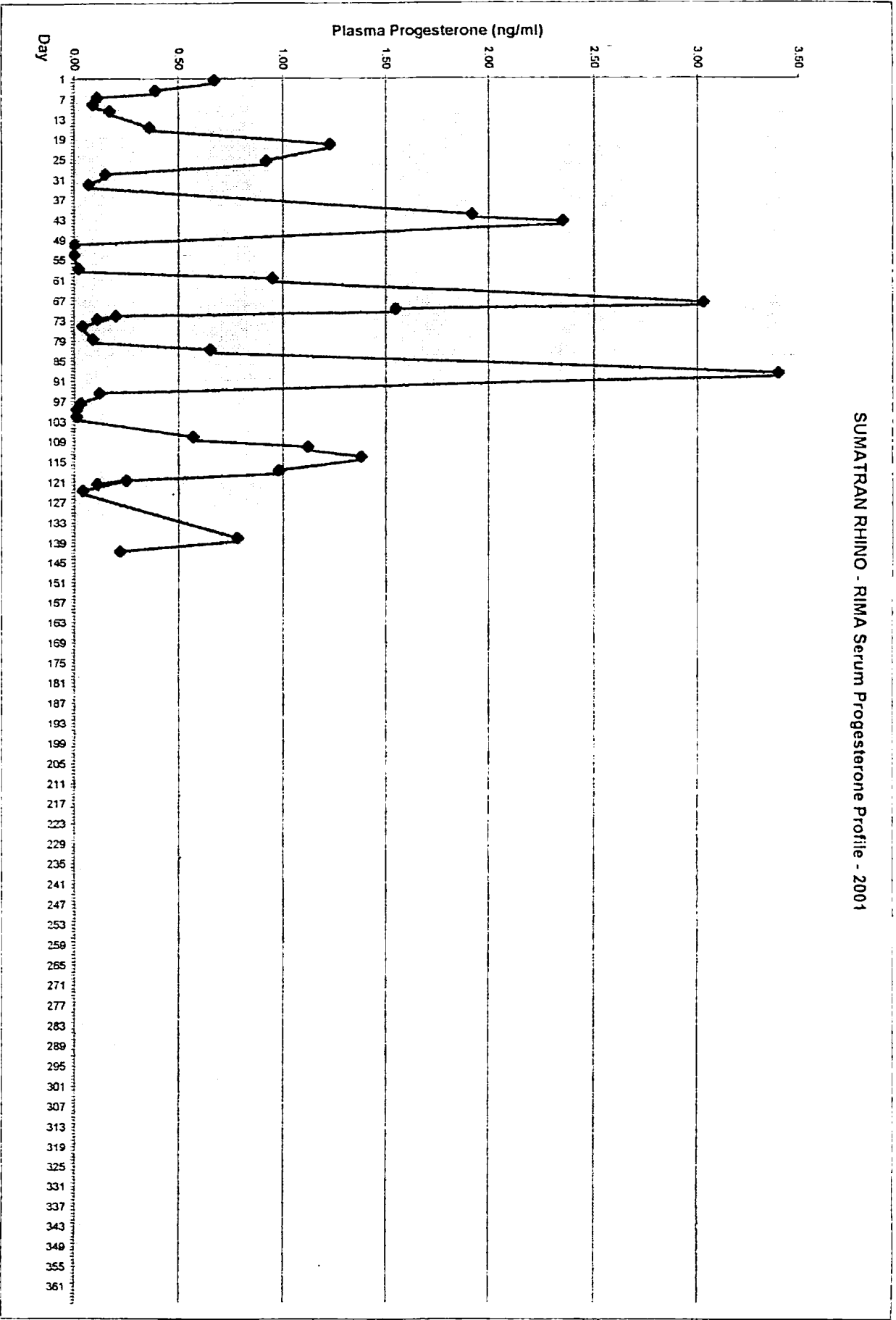
**The Breeding / Pairing Dates of Rhinos in Sg. Dusun, 2000/2001.**

<b>Date(s)</b>	<b>Rhinos</b>	<b>Remarks</b>
4/9/00	Mas Merah & Shah	Two mountings were observed without intromission.
18/9/00	Panjang & Shah	Three mountings, two in the wallow
19/9/00	Panjang & Shah	Two mountings without penetration.
20/9/00	Panjang & Shah	One mounting
21/9/00	Panjang & Shah	Twelve mountings was observed and the last one lasted about 30 minutes
5/10/00	Rima & Ara	Twelve mountings were observed and intromission was noted during the last mounting, which lasted about 46 minutes.
14/10/00	Panjang & Ara	Ara was used after Shah failed to breed. Twenty-nine mountings were recorded with fifteen erections. The last mounting was assisted and lasted about 35 minutes.
19/10/00	Seputeh & Ara	Nine mountings were observed with six erections. The last one lasted about 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.
25/01/01	Seputeh & Ara	Positive behaviour observed. Ara mounted twice.
26/01/01	Seputeh & Ara	Positive behaviour in the a.m. but no intromission. 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.

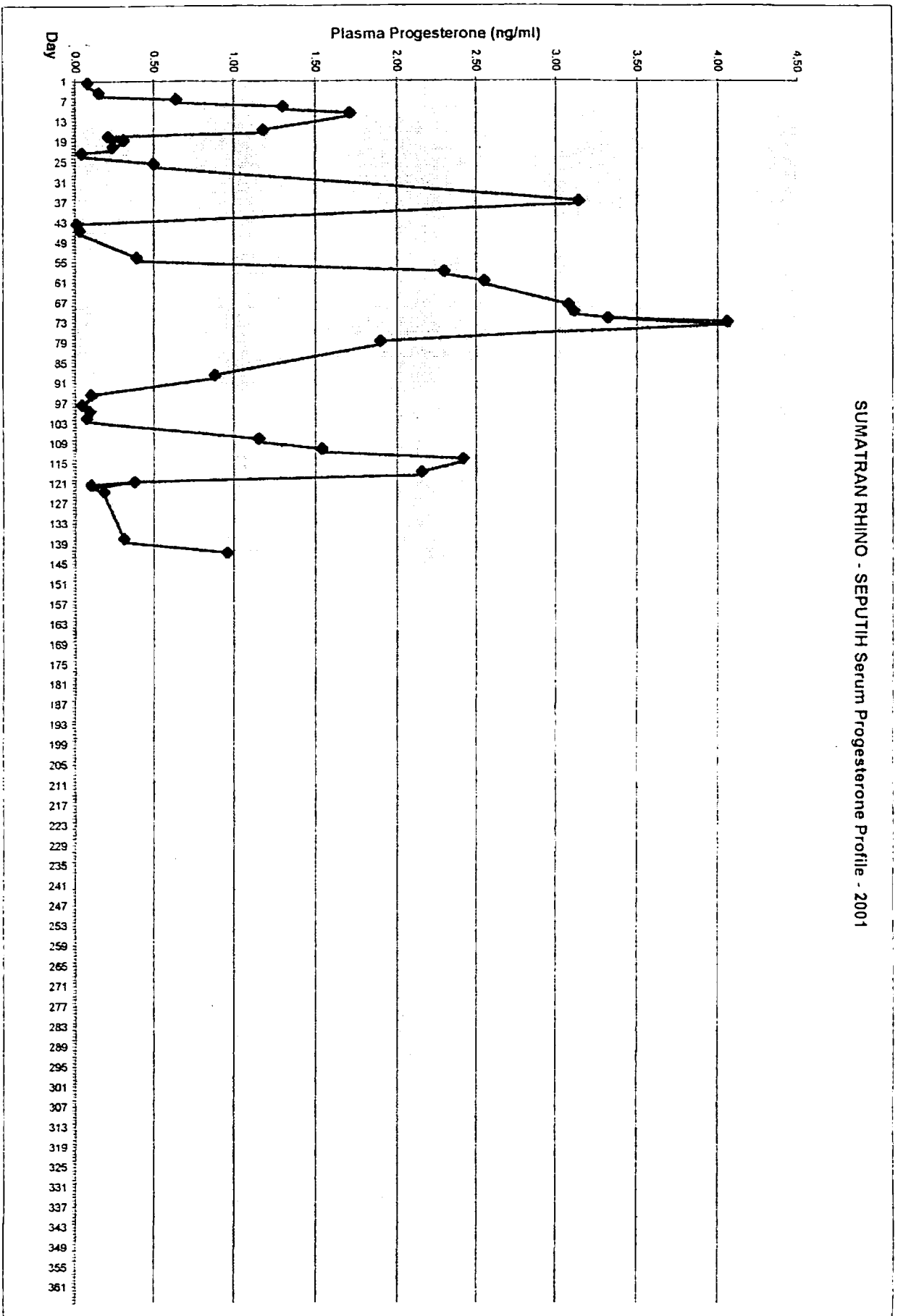




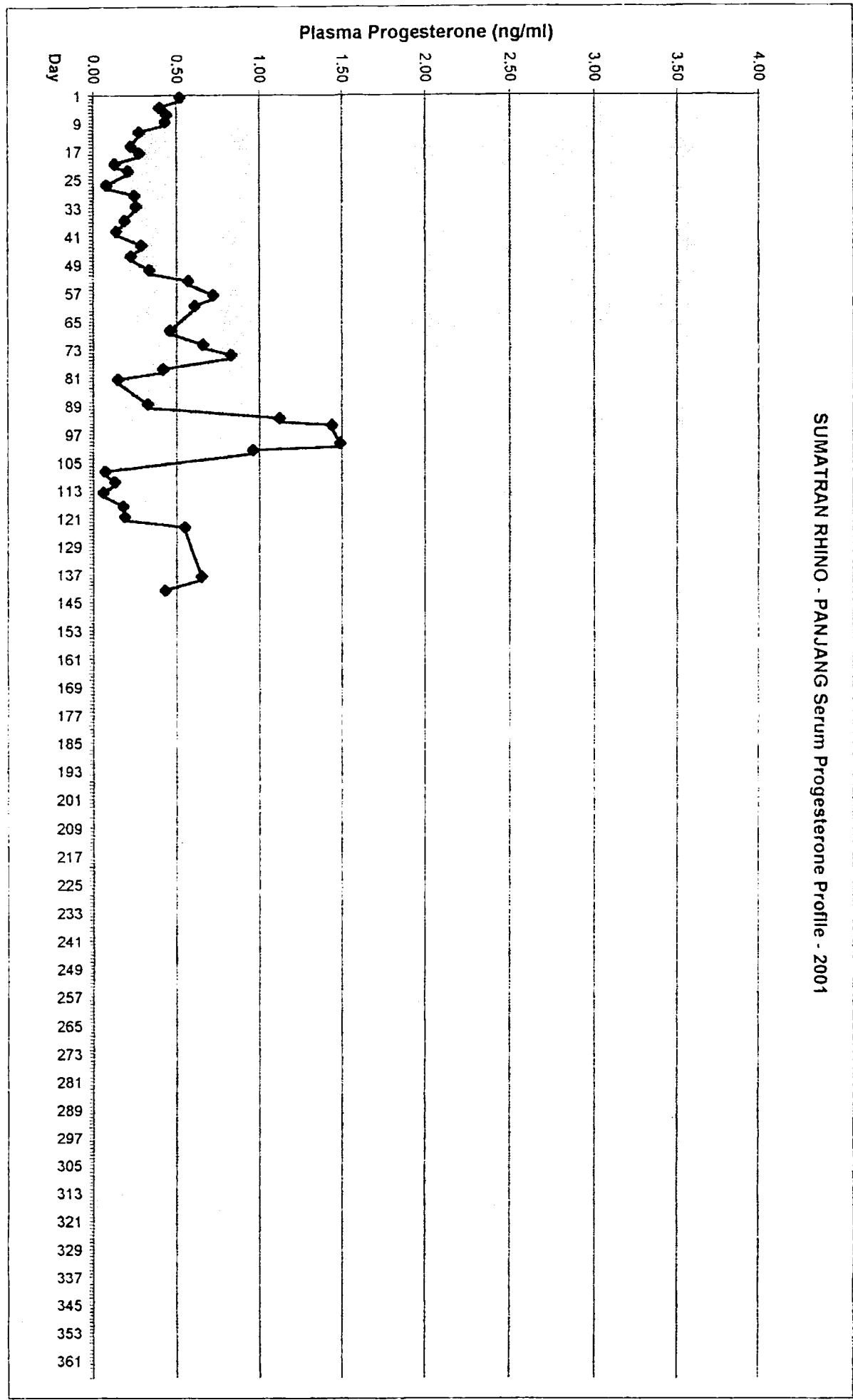
SUMATRAN RHINO - RIMA Serum Progesterone Profile - 2001



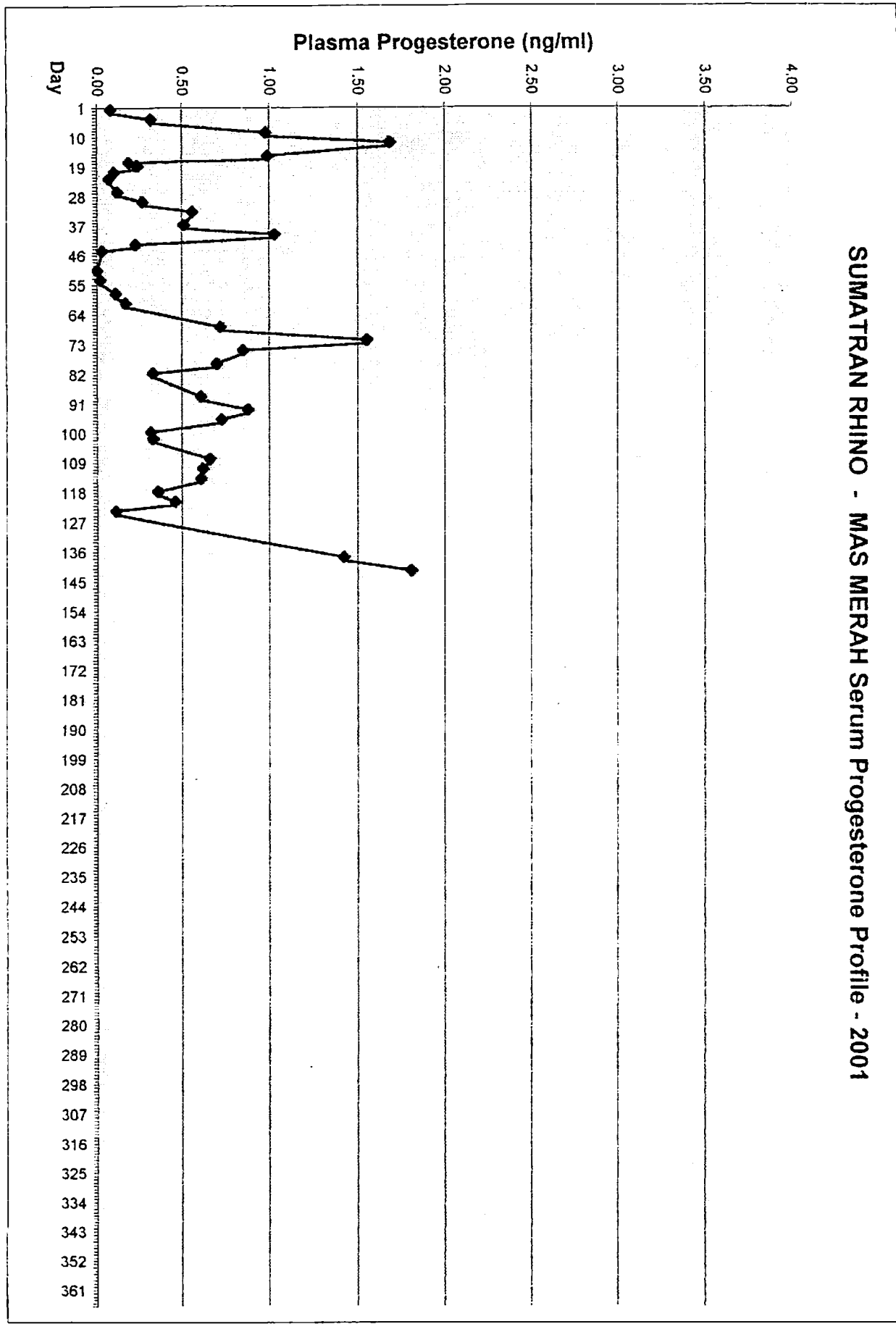
SUMATRAN RHINO - SEPUTIH Serum Progesterone Profile - 2001



SUMATRAN RHINO - PANJANG Serum Progesterone Profile - 2001



SUMATRAN RHINO - MAS MERAH Serum Progesterone Profile - 2001



SUMATRAN RHINO - MINAH Serum Progesterone Profile - 2001

