

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

**MONTHLY REPORT**

**AUGUST 2001**

**BY**

**Dr. AIDI MOHAMAD**

**&**

**STEVE ROMO**

## **INTRODUCTION**

There were two breeding occurred throughout the month. The first was between Ara and Seputeh and the second was between Ara and Mas Merah. Ara bred Seputeh for about 58 minutes and he bred Mas Merah for about two minutes only. Ara and Mas Merah were paired based on the ultrasound done previously by Dr. Radcliffe. Rima was supposed to come into estrus this month but she refused the male when paired with Ara.

As for the other females, Panjang and Minah still had a low level of progesterone. Dr. Robin and Rolfe Radcliffe visited the center for two weeks to evaluate the rhinos especially Minah. Ultrasound was carried out on all females and a full report will be sent later.

The bleeding procedure was carried out as usual, twice weekly. As for the bred females, blood will be collected once a week. Other than that, the fecal sampling was stopped at the end of the month.

## **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**

### **i) Breeding Introduction**

Seputeh was expected to come into estrus on 13/08/01. Blood sample was sent to UPM on 10/08/01 for confirmation. The result showed that her progesterone level was going down (0.26ng/ml) and she was mixed with Ara in the morning of 13/8/01. The male kept trailing the female but no mounting observed and the rhinos were separated after 20 minutes. In the afternoon around 3.00 o'clock, the rhinos were paired again. No breeding occurred and the rhinos were separated after 45 minutes. The male trailed the female throughout the procedure but the female refused to be mounted.

The next day (14/8/01), Seputeh and Ara were mixed again around 8.30 a.m. The first mounting occurred after 14 minutes of mixing and 8 mountings were recorded throughout the procedure. The intromission occurred during the eighth mounting and lasted for 57 minutes. The rhinos were mixed again the next day but no positive response observed.

As for Rima, she was expected to be in estrus on 20/08/01. The blood result on 16/8/01 revealed that her progesterone level was high (1.83ng/ml) and she probably coming into estrus on 23/08/01. She was paired with Ara on 23/08/01 morning around 9.50 a.m. The male kept trailing her but she vocalized a lot and tried to avoid the male. The rhinos were separated after 32 minutes. She was paired again with Ara the next day and the same result obtained. Blood samples were taken on 21/08/01 and 24/08/01 and the result showed that her progesterone level is quite high; about 0.73ng/ml and 0.75ng/ml respectively.

Mas Merah was scanned by Dr. Radcliffe on 29/08/01 morning and a large follicle about 26 mm in diameter was observed on the left ovary. Some small follicles were also observed on the right ovary. Based on these findings, she was mixed with Ara in the afternoon around 2.00 o'clock.

The male trailed the female as soon as the two rhinos were mixed. The female was very quite and did not look afraid of the male. This situation is totally different on the previous introduction where the female usually will run away from the male and vocalizing a lot. Mountings were observed and resulting one intromission which lasted for only two minutes. The rhinos were separated when aggression occurred and both rhinos looked very tired. Both rhinos were paired again the next day but no positive behaviour observed. Mas Merah was scanned again and the follicle had ovulated.

## **ii) Bleeding Program**

### **a) Blood Collection**

The bleeding was still carried out twice weekly. As for the bred females, the blood was collected once a week. The blood procedure was summarized in Table 1.

### **b) Progesterone Hormone Profile**

The latest blood result was attached below.

## **iii) Ultrasound**

Dr. Robin and Rolfe Radcliffe visited the centre and did some scanning on all females during on 29/08/01 to 30/08/01 to evaluate their reproductive status. The findings revealed that Minah uterus looked normal and there was no fluid. However, her ovaries are small and some small follicles were also observed. No evidence of corpus luteum was observed. Based on these, she was given 500µg of Gonadotrophin (GnRH) IM to stimulate her to cycle and she should be monitored with ultrasound.

Rima was observed having a few cysts and this could be considered as a minor pathology and should not effect her fertility. A large vesicle was also observed and this could relate to pregnancy but the second examination revealed that she was not pregnant. Mas Merah has a large follicle about 26 mm in diameter and was mixed with Ara and was bred for two minutes. The next day, she was examined again and the follicle has been ovulated.

As for Panjang, her big mass has gone and she has a lot of pathology in her reproductive tract. Prior to the ultrasound, the keeper has found a big mass sized about 12 inches on the floor inside her night stall. Sample has been taken and will be sent to the lab for confirmation. Seputeh condition could be described as bad as Panjang. She had a few pathologies and could be relate to infertility. However, she should be mixed with the male since she has been cycling regularly.

## **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. Minah suffered some weight loss and the keeper has been force-fed her. As for the other rhinos, their condition are good based on the routine blood checking.

## **C) FEEDING**

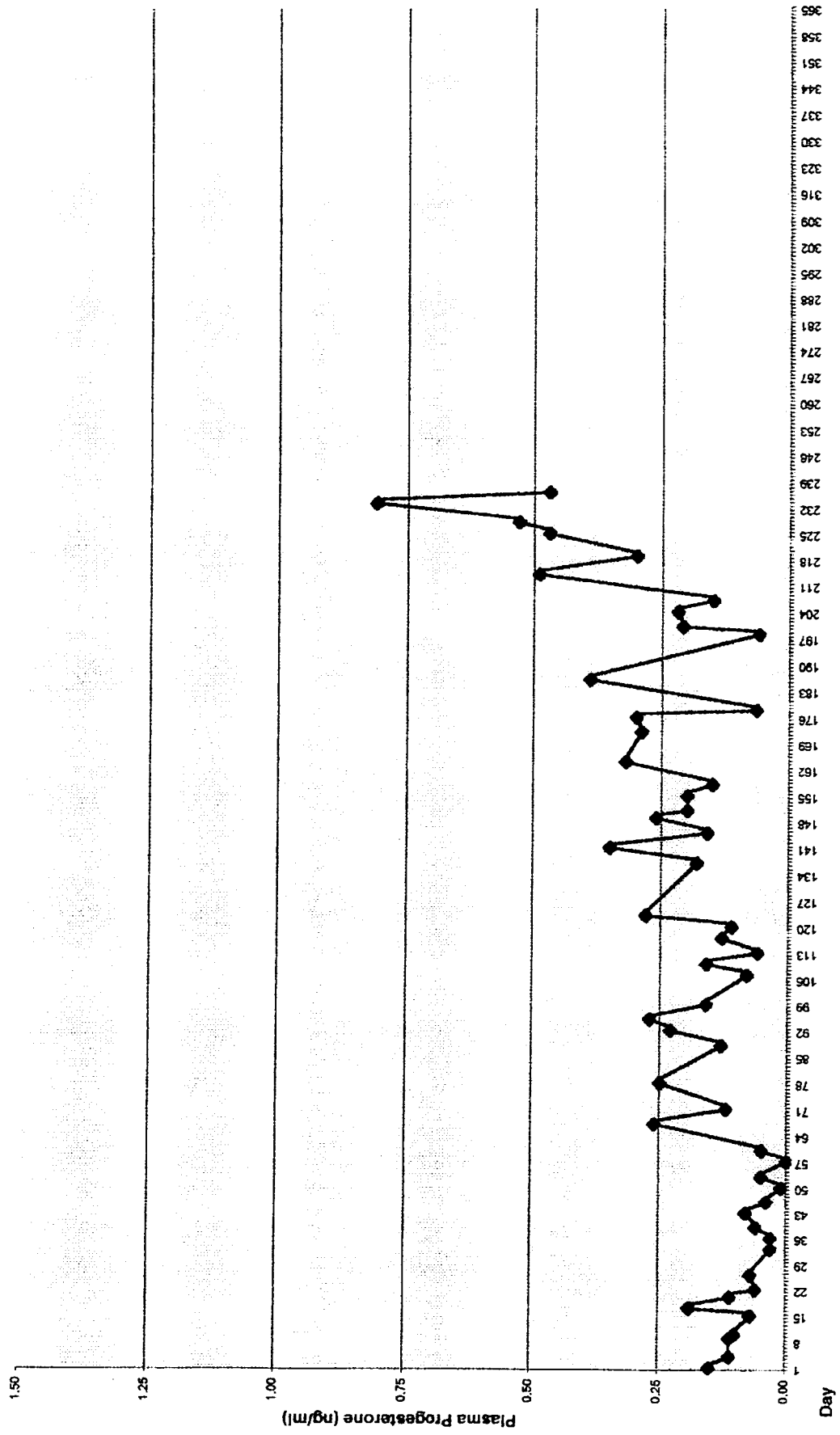
No changes were made for the feeding program. The browses and produces were supplied by the contractor, which deliver them around 9.30 a.m. daily. The feed was checked to ensure their quantity and quality upon receiving them. They were cleaned and weighed before giving to the rhinos. The rhinos were given about 40 kg of browses, 3 kg of concentrates and 7 kg of fruits daily. Jackfruit or cempedak was ordered (2-4kg) on bleeding days especially for Seputeh.

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

<b>Date</b>	<b>Rhino ID</b>	<b>Area taken</b>	<b>Remarks</b>
02/08/01	Mas Merah Panjang Rima Minah	Tail Tail Tail Tail	Samples were taken from all females for P4 analysis.
07/08/01	Minah Seputeh Rima Panjang	Tail Tail Tail Tail	Get blood samples from all females. The rhinos seem very cooperative.
10/08/01	Rima Seputeh Mas Merah Panjang	Tail Tail Tail Tail	Blood was taken for P4 analysis
13/08/01	Minah Rima Seputeh Panjang Mas Merah	Tail Tail Tail Tail Tail	Samples were taken from all females for P4 analysis.
16/08/01	Rima Mas Merah Panjang Minah Seputeh	Tail Tail Tail Tail Tail	Get samples via tail from all females.
21/08/01	Minah Mas Merah Panjang Rima Seputeh	Tail Tail Tail Tail Tail	Samples were taken from all females for P4 analysis.
23/08/01	Minah Seputeh Panjang	Tail Tail Tail	Get samples via tail from three females.
24/08/01	Minah Rima	Tail Tail	
29/08/01	Mas Merah Seputeh	Tail Tail	Samples were taken from two females for P4 analysis.

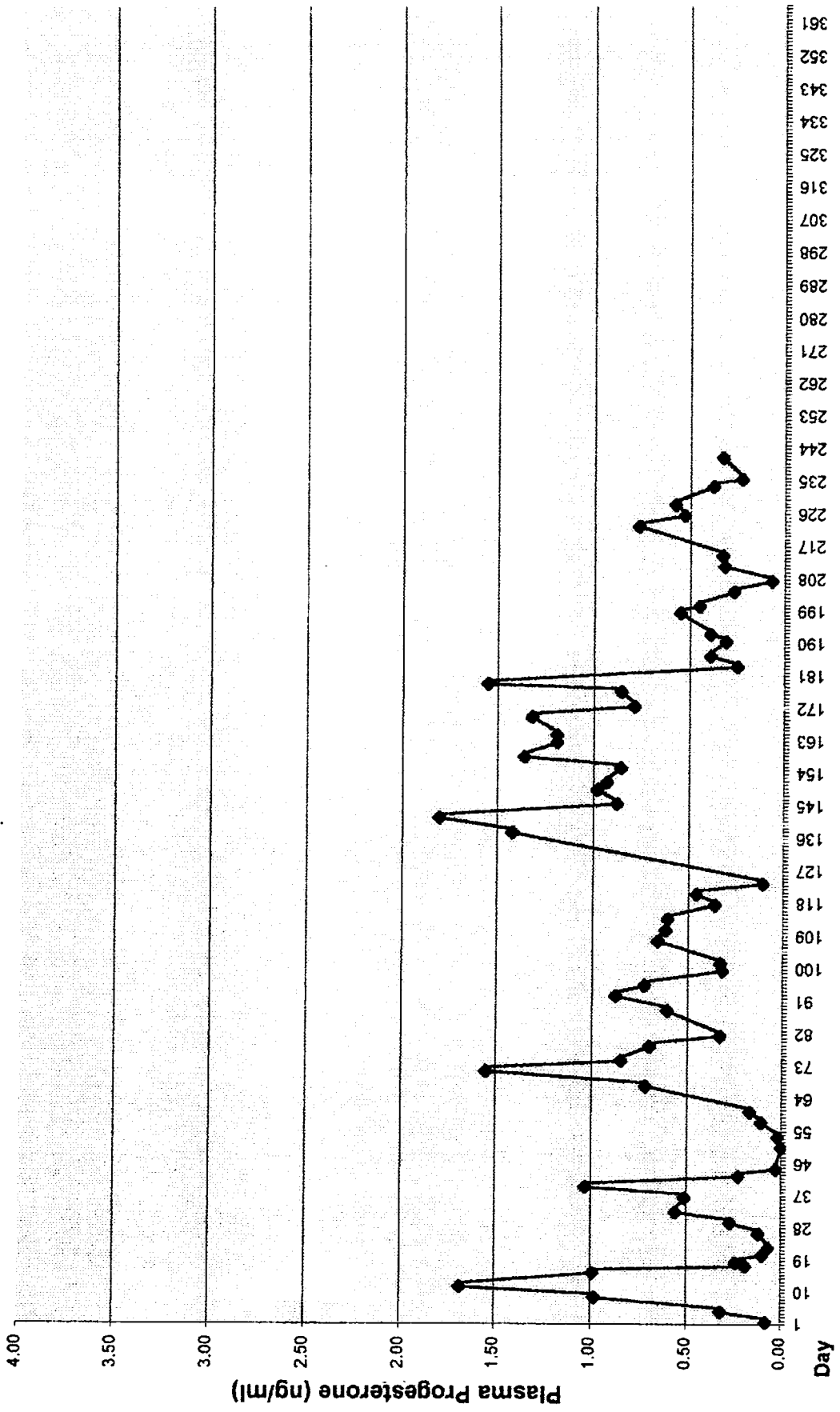


SUMATRAN RHINO - MINAH Plasma Progesterone Profile - 2001

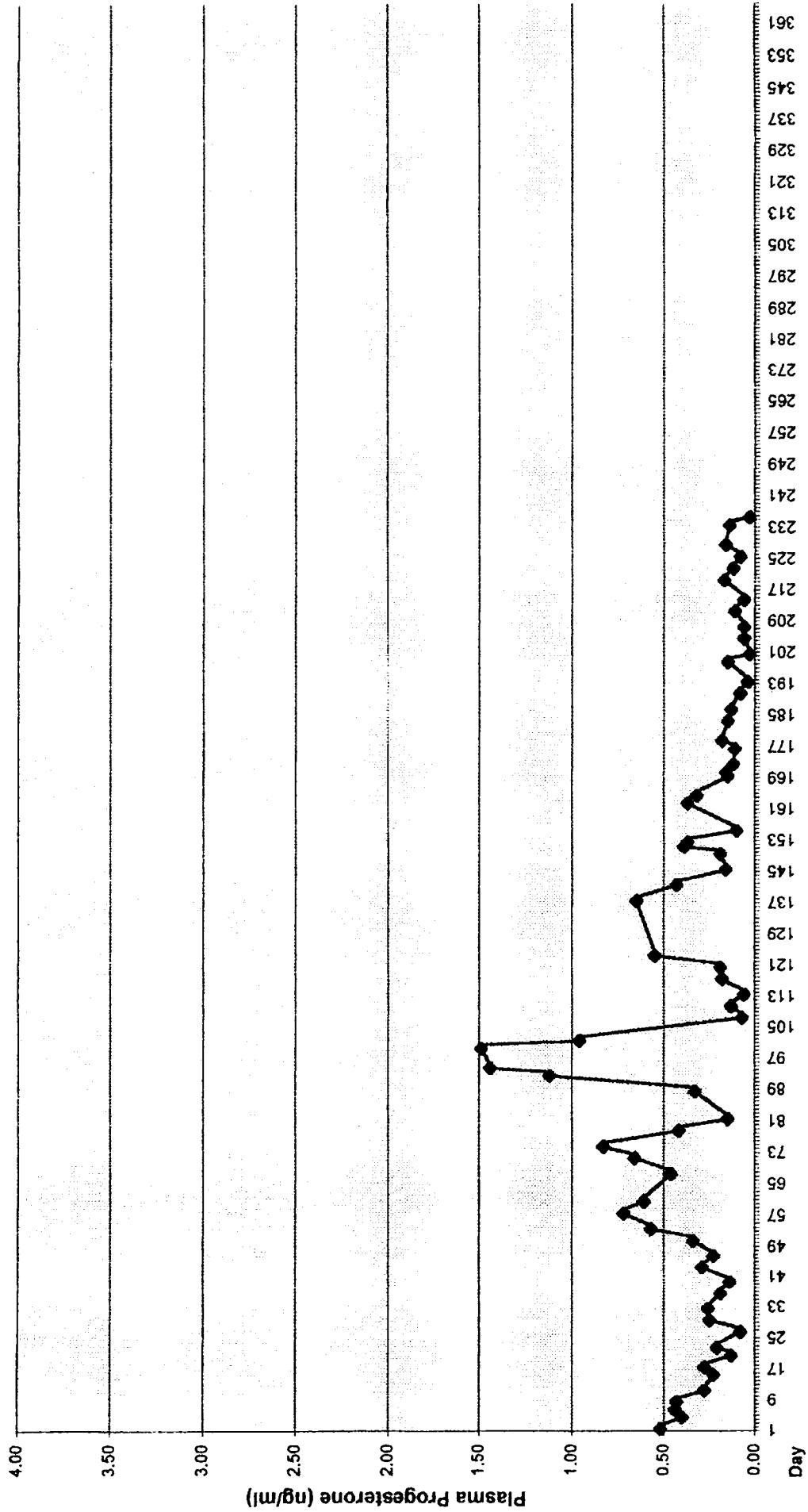




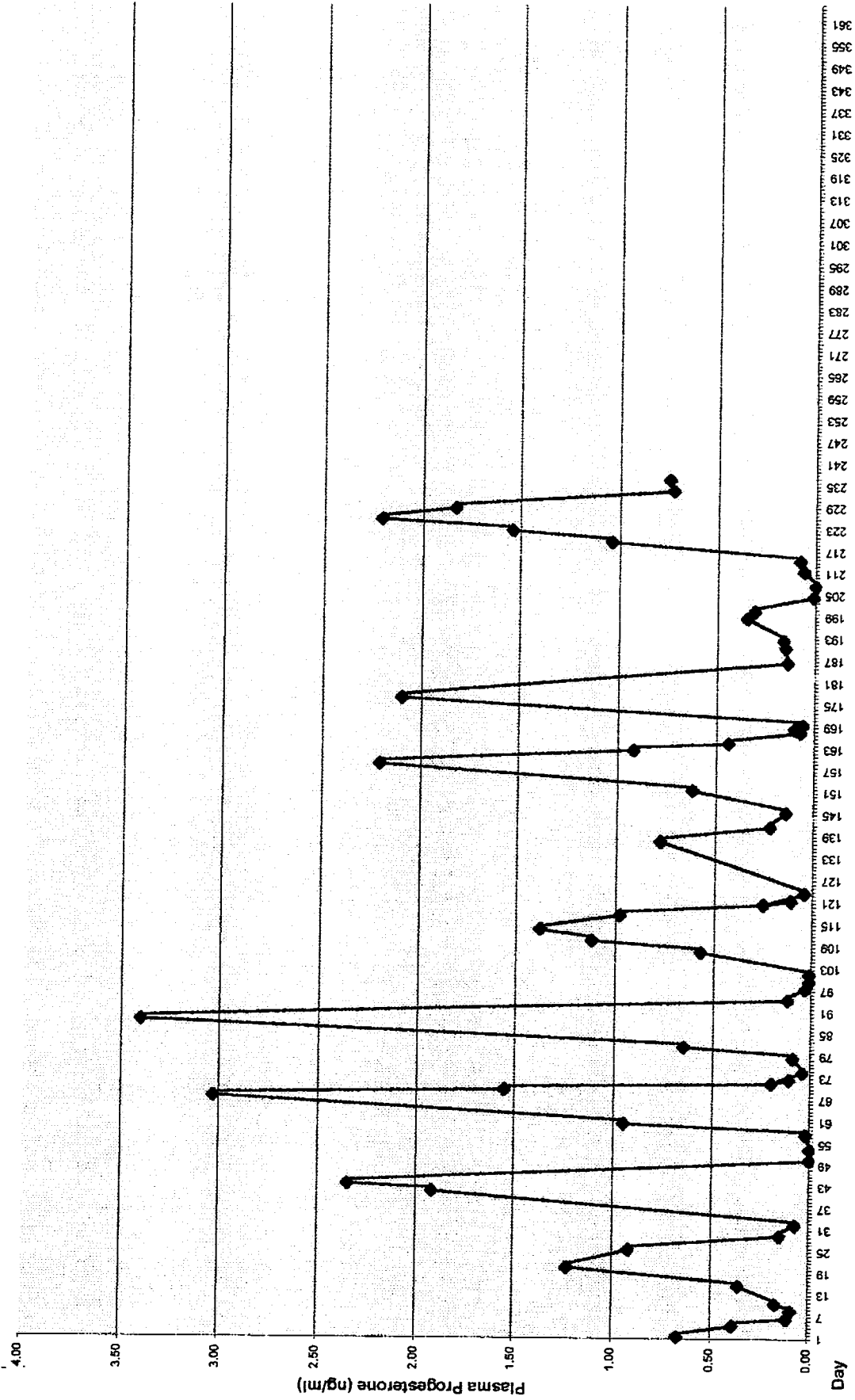
**SUMATRAN RHINO - MAS MERAH Plasma Progesterone Profile - 2001**



SUMATRAN RHINO - PANJANG Plasma Progesterone Profile - 2001



SUMATRAN RHINO - RIMA Plasma Progesterone Profile - 2001



SUMATRAN RHINO - SEPUTIH Plasma Progesterone Profile - 2001

