

MALAYAN TAPIR CONSERVATION PROJECT. INDONESIA

A report to Rufford Small Grant (for Nature Conservation)



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Principal Investigator:

Wilson Novarino
Jurusan Biologi FMIPA Universitas Andalas
Kampus Limau Manis Padang
Sumatera Barat, Indonesia 25163
E-mail: Wilson_n_id@yahoo.com

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Rufford
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**Undergraduate students of Andalas University and Forest
Ranger from BKSDA SUMBAR who joined and volunteering
during this year:**

Oktawira
Desman Alfajri
Aadrean
Robby Febrian
Junaidi
Heru Handika
Syafriwandi
M. Silmi
Muzakir
Maswar
Tawar
Sriyono
Jamin

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SUMMARY

Since 1998 we made continuous studies about Malayan tapir in Taratak Forest reserve. The results has figured out some basic information of Malayan tapir which crucial for their conservation effort both in field and ex situ. Due to the lack information on landscape scales, in the third year (TY) of monitoring program, the study areas were enlarged to the other small conservation areas in West Sumatra.

The main objectives of this TY program are to monitor Malayan tapir in small conservation areas in West Sumatra and use the information gained to improve management, local participation and public awareness on tapir conservation. Monitoring program was conducted by using camera trap. Public awareness initiated by conducting and dissemination information of Malayan tapir to local people, TV Program, Presentation on BKSDA, training on camera trapping and preparing a book which consist of how to conduct monitoing by using camera trap and information about mammals of Sumatra.

The occurrence of Malayan tapir recorded on two conservation areas (Lembah Anai and Malampah), and there is no their evidence in Rimbo Panti Nature Reserve. In total, Malayan tapir images captured 16 times (3 images in Lembah Anai and 13 images in Malampah).

Totally 597 images were captured during the study, which 168 In Lembah Anai, 230 in Malampah and 199 in Rimbo Panti. Totally 14 mammal species, one species of amphibian and bird recorded during this study. Based on camera trapping project that supported by Rufford Small Grant, until this time 24 Mammal species has been recorded in West Sumatra. New records that gain during this study are Marbled cat and one unidentified rodent.

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I. INTRODUCTION

The Malayan tapir (*Tapirus indicus*) is the only Old World extant tapir species. Currently their distribution remained ranges from Southern Thailand and Myanmar, Peninsular Malaysia and southern part of Sumatra. However, some publication stated their occurrences in Java, Borneo and part of other South East Asia in prehistoric era. Malayan tapir has listed as Endangered species by IUCN, mainly because of the habitat loss, their population also believed has decreased during the past two decades. However their precise numbers remain unknown.

As an herbivore, Malayan tapir play a crucial role as seed disperser and forest regeneration process. It's noted as their contribution in make the forest more diverse. The occurrence of Malayan tapir also can be use as indicator for the existence of other herbivores in Sumatra.

Sumatra is homeland for charismatic megafauna such as Malayan tapir, Sumatran tiger, Sumatran orang-utan, Sumatran rhinoceros and Sumatran elephant. More than 600 bird species also live on this island, and nowadays new record on the amphibian and reptiles still published. That the way, Sumatra well recognized internationally as a world biodiversity hotspot.

Almost 100 conservation areas have been declared by Indonesia government to protect biodiversity in Sumatra, which nine of them were National Parks and others were small conservation areas such as Nature Reserve, Wildlife Reserve and Nature Park. However forest conversion to the oil palm plantation were made fragmentation and small conservation areas becomes an islands which unviable to be occupied by megafauna population. Therefore, identification of

distribution, protection and monitoring of key areas that contain significant tapir populations has been listed as a high priority for their conservation action.

Currently issues of Malayan tapir conservation have been arises. Some new information has been discussed during the First Regional Malayan Tapir Conservation in Malaysia (2008). However there was limited information on *insitu* tapir conservation presented. Specially for Sumatra, several aspects has been studied, such as feeding biology (Novarino *et al.* 2000), population monitoring by using track plot (Novarino *et al.* 2004), daily activity and also monitoring their population (Novarino *et al.* 2005, 2006).

The problem designing conservation action of Malayan tapir in Sumatra is that in many parts the Malayan tapir distributed outside or in small protected areas. The issue about Malayan tapir conservation were also covered by other Sumatran large mammals. Further conservation action of Malayan tapir in Sumatra should considering on population that occupy those areas and linked to other monitoring project. These factors were justifying the urgency for the ecological studies in landscapes level.

This report covers our monitoring project which conducted on three small conservation areas in West Sumatra. This project has been conducted simultaneous with conservation awareness program, which listed as top priorities recommended during the Malayan Tapir PHVA in Malaysia (2003).

II. PROJECT STATUS

2.1. PROJECT LOCATION

Monitoring of Malayan tapir was focused on three conservation areas which named as Cagar ALam Lembah Anai (Anai Valley Strict Nature Reserve), Suaka ALam Malampah (Malampah Nature Reserve) and Rimbo Panti Nature Reserve. The location varied on size and shapes, Rimbo Panti were located on northern part of equator line, in contrast two other locations were on southern part (Fig 1.).

Anai Valley Nature Reserve

This Conservation area located administratively within the sub district X Koto, Tanah Datar, however the management authority belong to BKSDA SUMBAR. The elevation varied from 400 – 850 m asl. This area crossed by main road from Padang to Bukittingi, around 64 km from Padang the capital city of West Sumatra. The waterfall which found on this area is very famous and noted as one of West Sumatra landmark. There is not much activity of local people inside of the forest, however, as a tourist destination area, main road and roadside which crossing this area are very busy. The camera traps were deployed on hill area.

Malampah Nature Reserve

This nature reserve located administratively within the Pasaman District, but the management also belongs to BKSDA SUMBAR. The elevation varied from 250 – 1200 m asl. This conservation area coverage around 14.555 Ha, consisted of hilly Dipterocarpaceae forest, secondary and high disturbed forest, and surrounded by local people agricultural land. Malampah located around 150 km northern part of Padang. Access to this area can reach from two directions; from the west coast and the middle part of West Sumatra. The demand economic issue, both on agricultural yields and log has made local

People do massive forest conversion around this area. Camera trap were deployed on lowland and hilly area.

Rimbo Panti Strict Nature Reserve

Rimbo Panti located about 200 km northern part of Padang. Same with Malampah, this area administratively located at Pasaman District and managed by BKSDA SUMBAR. This Nature Reserve very famous because they have the healthy forest and hot spring. Vegetation varied from the wetlands into hill Dipterocarpaceae forest. Camera trap were located on hill area.

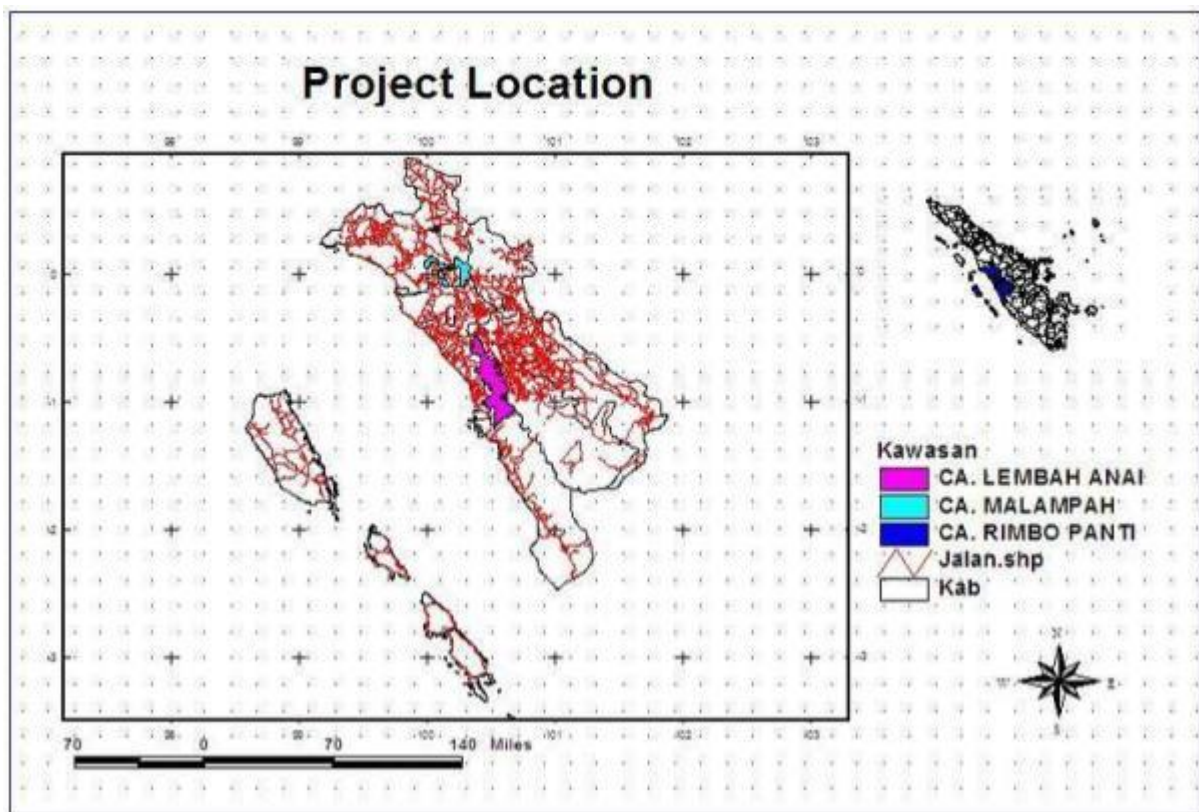


Fig 1. Map of study location

2.2. MONITORING PROJECT

2.2.1 Population

Monitoring of Malayan tapir was conducted by using camera trapping technique. Five camera traps were operated at each location for 66 days in Panti, 127 days in Anai and 92 days in Malampah. The

camera traps were deployed on each location purposively, which based on big number of track found, placement availability and distance from forest edge and between cameras.

Although Malayan tapir occupied small homerange, their population tend to decrease with the forest coverage areas. Only three images from one individual of Malayan tapir captured during the survey in Anai Valley, 13 images captured from 2 individuals during the work in Malampah (Fig 2.) and none in Rimbo Pantii. Those number very low compared with previous project in Taratak which captured 31 images from three individual (Novarino *et al.* 2006). Absence of Malayan tapir in Rimbo Pantii is interesting since they already report on some official report on BKSDA office. Old sign were found during the study, but new sign did not record on current study.



Fig. 2. Malayan tapir images captured in Lembah Anai (right) and Malampah (Left).

2.2.2. Activity time

Although the number of image captured fewer than previous study in Taratak (Novarino *et al.* 2006), current study show the Malayan tapir still active until 07.12 AM (Fig 3.). As we concluded previously based on field observation and reference available, Malayan tapir tend to expand their activity into morning if they occupy an area with low disturbance.

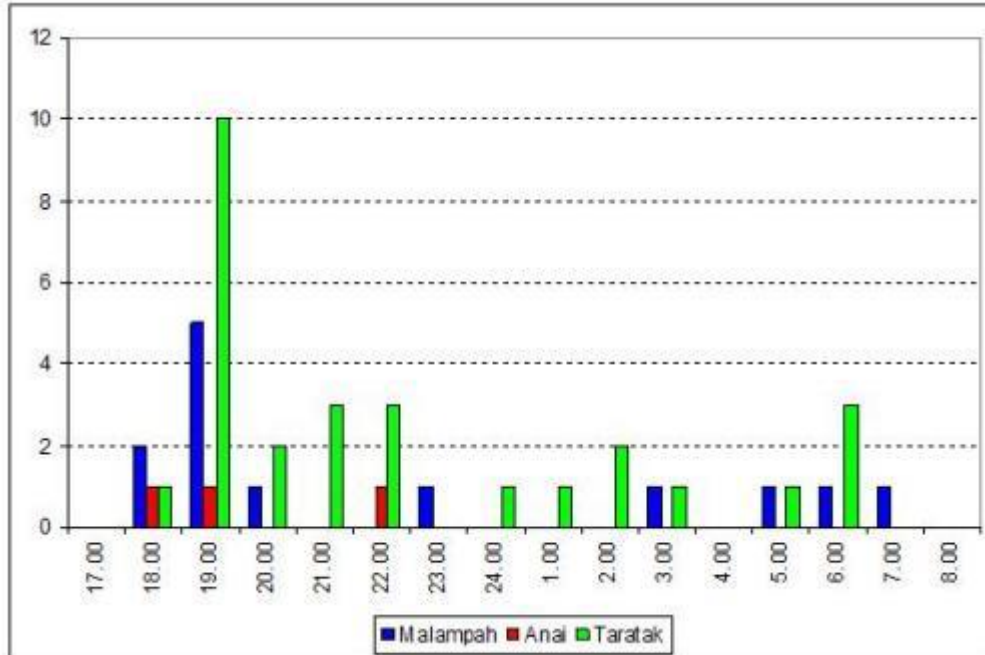


Fig 3. Malayan tapir images capturing based on time captured on three location, Taratak data were based on Novarino *et al.* (2006).

2.2.3. Other wildlife data coverage during the study

Present study show the lower number of species captured compared with the number of species captured on previous study. The duration of study period and access to the nearest forest maybe act as main factor. In Taratak, study was conducted throughout of year, and the forest still have corridor to the Kerinci Seblat National Park, and have a good condition. However, although listed as conservation areas, the current project locations have alteration of human impact, such as road, tourist, encroachment, and almost isolated from other forested areas (See table 1.).

Table 1. List of wildlife image captured during the study. A. Taratak (Novarino *et al.* 2006); B. Rimbo Panti NR; C. Lembah Anai NR; D. Malampah NR.

No	Scientific name	Common name	A	B	C	D
	ARTIODACTYLA					
1	<i>Capricornis sumatraensis</i>	Mainland serow	√		√	
2	<i>Cervus unicolor</i>	Sambar deer	√		√	
3	<i>Muntiacus muntjak</i>	Barking deer	√	√	√	√
4	<i>Sus barbatus</i>	Bearded pig	√	√		
5	<i>Sus scrofa</i>	Wild boar	√	√	√	
6	<i>Tragulus javanicus</i>	Lesser mouse-deer	√			
7	<i>Tragulus napu</i>	Greater mouse-deer		√		
	CARNIVORA					
8	<i>Cuon alpinus</i>	Asian wild-dog	√			
9	<i>Felis teminckii</i>	Golden cat	√	√		√
10	<i>Helarctos malayanus</i>	Malayan sun-bear	√	√	√	√
11	<i>Martes flavigula</i>	Yellow-throated marten	√			
12	<i>Neofelis nebulosa</i>	Clouded leopard	√			
13	<i>Paguma larvata</i>	Masked palm-civet	√	√		√
14	<i>Panthera tigris</i>	Sumatran tiger	√	√	√	√
15	<i>Pardofelis marmorata</i>	Marbled cat		√		√
16	<i>Mustela nudipes</i>	Malay weasel				√
	PERISODACTYLA					
17	<i>Tapirus indicus</i>	Malayan tapir	√		√	√
	PHOLIDOTA					
18	<i>Manis javanica</i>	Sunda pangolin	√			
	PRIMATA					
19	<i>Macaca fascicularis</i>	Crab-eating monkey	√	√		
20	<i>Macaca nemestrina</i>	Pig-tailed monkey	√	√	√	√
21	<i>Presbytis melalophos</i>	Mitered leaf-monkey	√		√	
	RODENTIA					
22	<i>Hystrix brachyura</i>	Common porcupine	√	√	√	√
23	<i>Leopoldamys sabanus</i>	Long-tailed giant-rat	√			
24	<i>Ratufa affinis</i>	Common giant-squirrel	√			
25	<i>Sundasciurus hippurus</i>	Horse-tailed squirrel	√			
26	<i>Ratufa sp.</i>					√
	COLLUMBIFORMES					
27	<i>Macropygia ruficeps</i>	Little cuckoo-dove	√			
	GALLIFORMES					
28	<i>Argusianus argus</i>	Argus pheasant	√	√		√
	AMPHIBIA					
29	<i>Rana sp.</i>	Toad				√

Note: (√) indicate recorded / image captured

2.3. CAMPAIGN FOR MALAYAN TAPIR CONSERVATION

2.3.1. Training on Camera Trapping Technique

Camera trapping has been shown the high efficiency for wildlife monitoring program. This research took the chance to encourage more people to conduct the monitoring program on their own area. Training has given to Forest Ranger from BKSDA SUMBAR, BKSDA RIAU, student of Andalas University.



Fig 4. One of team member teach local forest ranger how to set the camera trap

2.3.2. Conservation awareness among kindergarten kids

Campaign also conducted by inviting kids from kindergarten. By this chance we want send the message how important the nature of west Sumatra, not only for own but also as a part of world biodiversity. We also want to encourage curiosity of the kids to the nature around them.



Fig 5. Campaign to kindergarten kids

2.4. PUBLISHING FIELDWORK ON TV PROGRAM

During the monitoring activity in Malampah Nature Reserve, we invite local television crew to shoot up our activities. Unfortunately, we can not get Malayan tapir video directly.

2.5. RESULTS PRESENTATION

Results of this study have been presented during Joint Workshop of JSPS International Training Program (ITP) and Ecological Society Of Indonesia (HEI) to Protect Diversity of Bioresources in The Tropical Area, in 25-26 September 2009. Partially, results that focused on Carnivore in Anai valley and Sumatran tiger in Malampah Nature Reserve has been used to gain bachelor degree at Andalas University (Oktawira and Desman). Result in Rimbo Panti Nature reserve also has been published in Biospectrum journal. Compilation of all Malayan tapir data during the project will be presented on fifth international tapir symposium in Malaysia which will be held in 2011. The photo taken

during the study also has been used on making "Biodiversity Profile of Pasaman District". The document is an official document that made by district authority.

2.6. BOOK PUBLISHING

During this previous and current project, we already involved forest ranger, student and local NGO's. In future we hope they would like to conduct monitoring activities by their own. To conduct their own monitoring program, of course need kind of field guide, we made a field guide of camera trap which also included pictorial guide of Sumatran mammal captured during the project.

2.7 PROJECT ANALYSIS

After finishing this year calendar on our monitoring project, we are conducting self evaluation on our activities.

Strengthens: This study is the only one project in Sumatra focused on Malayan tapir monitoring and also the only one such project which based on local university, and involving many student during the project. This project also cover other threatened Sumatra wildlife species inhabit study area. We have a full support from Nature conservation bureau in West Sumatra.

Weakness: Number of camera traps not enough for better placement (systematically). The camera trap which purchased later did not have a good perform, almost all image that captured print as black and white, because the lack of light in dense forest floor.

Opportunity: This project is potentially to linked with other large mammals survey in Sumatra. Data also can be used to set up corridor among big conservation areas such as National Park.

Targets: To expand coverage area and number of camera traps for future works. By doing this our data will useful not only for Malayan tapir but also other threatened Sumatran wildlife. Since studying Malayan tapir homerange and activity are very crucial, and appropriate method is radio collar, we will try to improve our activity by collaring Malayan tapir.

Outcome: During monitoring project which supported by Rufford small grants, several students has been involved on this program. The students also took part or hole of their bachelor research project based on the studies. After finishing their studies, two of them already got a job as lecturer at University of Bengkulu, one be a government staff in environtmental department, two became a member of Zoo Society of London, one work with FFI. Photographed and data which taken during the study also used by BKSDA, Andalas University, Tapir Specialist Group, Malay Tapir Breeding center in Malaysia, Local district, and during the making of National Action Plan to Conserve Malayan tapir in Indonesia.



Fig 6. PI stand in front of Sign Board in Malayan tapir Breeding Centre

III. CONCLUSION

Result of the study confirmed the occurrence of Malayan tapir in two small conservation areas in West Sumatra. The absence of Malayan tapir in Rimbo Panti indicates that their current distribution on specific areas needs to be conducted.