

Conservation and ecology of Javan fuscous leaf monkey, in Mt. Slamet, Central Java Indonesia

Final Report

To

Rufford Small Grant for Nature Conservation
February 19, 2008
Ref no: 16.04.07

Submitted by:

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Summary

Project Conservation and ecology of Javan fuscous leaf monkey (*Presbytis fredericae*) conducted during rain season (November 2007-February 2008), has goal to provide basic data for the conservation of this endemic species, specific aims are to know recent population and distribution in southeastern slope of Mt. Slamet, also to enhance conservation awareness and education towards local people. We found 12 groups of *P.fredericae* on 33.334 km of transect length in Mt. Slamet, with individual density around 8 up to 19 individuals per km. Conservation road show to promote Mt. Slamet and its mountain forest conservation has been done toward selected 150 students, especially junior high schools in the foot of Mt. Slamet.

Background

The Javan fuscous leaf monkey (*Presbytis fredericae*) is one of the Indonesian endemic primates, which located in remaining forested habitat in Central Java, there are insufficient data to determine conservation status of this primate, and even it could be to get extinct before any scientific assessment available because of habitat destruction. According to Nijman 1997) *Presbytis* species in central java are the same species with Grizzled leaf monkey (*Presbytis comata*) where usually found in west Javan region, however their have different coloration. Since Brandon-Jone (1995), who was used skin specimens from southern slope of Mt. Slamet for identification, this *Presbytis* proposed as distinct species. Therefore, IUCN stated as Data Deficient species in RedList data book.

Mt. Slamet is the remaining forested habitats in Central Java province of Indonesia (see map, figure.1) where several Javan endemic primates lived there such as Javan gibbon (*Hylobates moloch*), Javan langur (*Trachypithecus auratus*), and Javan fuscous leaf monkey. Mt. Slamet is second highest mount in Island of Java, also categorized as active normal volcano. South and eastern slope of Mt. Slamet situated at Purbalingga and Banyumas regency, and the other slope belong to administrative regency of Brebes, Tegal and Pekalongan.

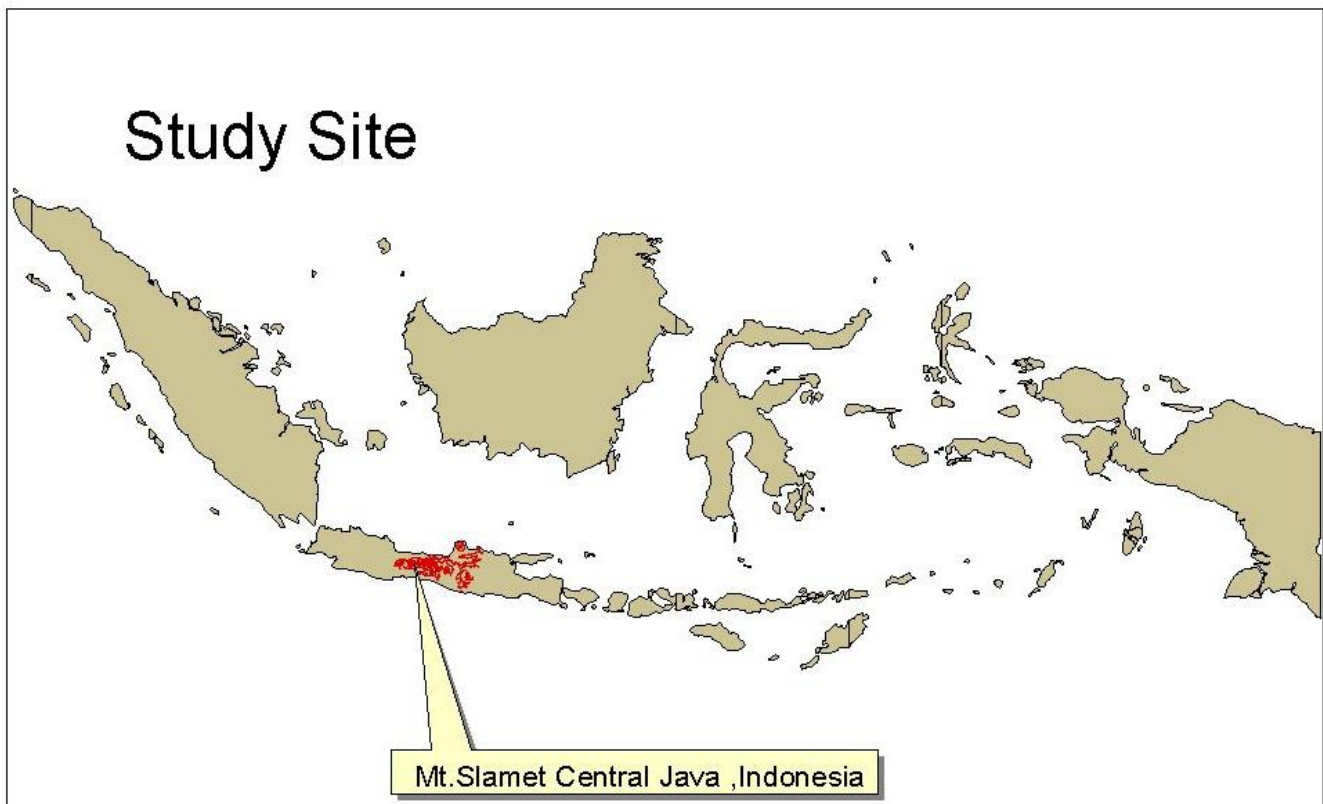


Figure 1. Mt. Slamet in Central Java, Indonesia

Aims

The goal of this research is to provide basic data for the conservation actions of *Presbytis fredericae* and specific aims are to know recent population and distribution in southeastern slope of Mt. Slamet, also to enhance conservation awareness and education towards local people

Accomplishment

The project was implemented during six months, started 15 August, 2007 to 15 February, 2008. We divided the project activities as Research activities and conservation activities. Research activities are any kind of activities related to research purposes, to estimate population and distribution of Javan fuscous leaf monkey. Conservation activities are supporting activities related to the conservation project in Mt. Slamet.

a. Research Activities

During November 20th 2007 – February 30th 2008 we work in the field to survey Mt. Slamet forest (south and eastern slope) and several localities in Central java for additional survey. We climbed the mountain up to 2100 m an s l, to find the monkeys, by direct observation, following ridge trails and also develop new method using their calling and food trace to recognize the existence of *P.fredericae*. We used Burries 8 x 45 mm binocular, rangefinder Bushnell yard age pro-500, to observe and measuring animal to observer distance, also equipped with garmin etrex vista to record position coordinate (sighting points),and to mark every 20 steps on the trails. Vegetation measurement also identified as habitat of *P.fredericae*, used 20 x 20 m plot if we met a group of *fredericae* and if we located their food trace. We recorded trees parameters such as, vernacular name of the trees (diameter > 10cm), diameter at breast height, to study the important value of the trees as microhabitat of *P.fredericae*. Scientific name of the trees, determined by its herbarium.

Result and discussion

We walked following ridge trails 33.343 km, in the new area of southeastern slope of Mt. Slamet. Map of Totally 44 individual of *P.fredericae* are detected along these trails. We estimated group density of *P.fredericae* using three different formulas of distance sampling. Result of these data analysis figured in table.1:

Table.1. Density of *P.fredericae* based on different analysis

No	Formula	Area	Density	
			individu/km ²	group/km ²
1	Mean perpendicular distance (NRC,1989)	2.513308376	19.49621482	4.774583221
2	Maximum reliable distance (NRC,1989)	3.3434	14.65573967	3.589160735
3	(Whiteside et.al,1988)	20.244287	8.1666	2.420435948

Density of *P.fredericae* shown dissimilar result according to the different formula, because of each formula has different manner to define sample area. Number of individuals or groups in definite area is animal density. Within Whiteside (1988) method, sample area determined by group spread distance, thus the result is appropriate with condition of Mt. Slamet. According to our field study in Mt. Slamet, group densities of *P.fredericae* 3-5 groups/km² seem overestimate. However, location in new area in eastern slope of Mt. Slamet, showed that in this area occupied higher density than other our previous study (Setiawan et.al, 2007 in prep)

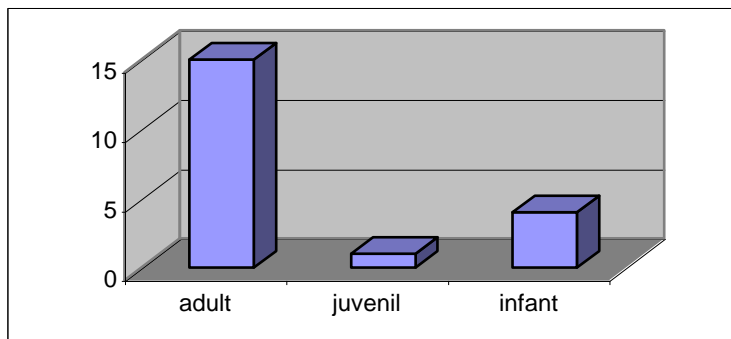


Figure.2. Group composition of *P.fredericae*.

There were 12 groups of *P.fredericae*, mean group size 4 individuals (range 2 – individuals) within eastern southeastern slope of Mt. Slamet. Group composition shows those infants are higher than juvenile also (see figure.2). It could be habitat in eastern slope of Mt. Slamet providing adequate source for the monkey, also forest in this new location is fewer disturbances than another facing slope, however it should be more intensive study to know their population dynamic and effect of disturbance toward population density. We recorded vegetation data as one of the components of *P.fredericae* habitat. This data are significant for the next researches, for population and habitat management, because the monkey using vegetation as food resources and cover. In this new area, there are several dominated tree species, which could be essential for the monkey. Within table.2 we noted 10 tree species, which dominated in the habitat of *P.fredericae*.

Table. 2. Vegetation in the *P. fredericae* habitat

No	Vernacular name	Scientific name	Family	Density (%)	Dominance (%)	Freq (%)	Value index
1	kemiri sepet	Unidentified	Euphorbiaeae	8.4337	19.863	9.375	37.67162
2	panggung	<i>Cinamomum javanicum</i>	Lauraceae	14.458	12.002	9.375	35.83437

3	putihan	Unidentified	Myrtaceae	9.6386	10.581	7.8125	28.03181
4	pasang	<i>Quercus Sp</i>	Fagaceae	6.0241	12.9	6.25	25.17446
5	bleber	Unidentified	Unidentified	8.4337	6.9166	9.375	24.72535
6	pariyan	Unidentified	Euphorbiaceae	3.6145	17.246	3.125	23.98584
7	wadangan	Unidentified	Unidentified	7.2289	5.1234	7.8125	20.16484
8	jirek	<i>Xanthophyllum excelsum</i>	Polygalaceae	7.2289	1.9065	7.8125	16.94789
9	tutub	<i>Macaranga rhizoides</i>	Euphorbiaceae	6.0241	3.2095	6.25	15.48364
10	kemoyang	Unidentified	Rosaceaea	4.8193	1.52	4.6875	11.02677

Additional survey distribution of *P.fredericae* in Central Java

During this project duration, we conduct survey to other sites in central java that inhabited possible for *P.fredericae* (table.3) this the first survey after more than a decade that *Presbytis fredericae* proposed as separated species (Brandon-Jones, 1995). Theses data are significant for further conservation of this Javan endemic primate. Some localities are isolated and fragmented by human settlements, farmland, plantation, and agriculture; even enforcement and management of these remaining forests are least.

Table 3. Localities of *Presbytis fredericae* have been observed during survey in new locations in central Java region.

no	Locations	Coordinates	Forest type	Number of groups and groups size
1	Gunung Suci (western slope of Mt. Slamet)	Elevation 1177 m 49M 0300575 UTM 9205570	Hill-Submontane	1 group (5 individuals)
2	Rogo Jembangan	Elevation 1742 49 M 0359651 UTM 9204372	Hill	Information from local people
3	Linggo Asri	Elevation 711 m 49 M 0343823 UTM 9214318	Lowland	6 groups (1-6 individuals)
4	Soka Kembang	Elevation 686 m; utm 358600;9215470	Lowland	4 groups (1-4 individuals)

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b. Conservation Activities and Post project activities

1. Conservation road show, entitled : “ Selamatkan hutan sejak dini”, visited three junior high schools at 29 Nov -2 Dec 2007, we visited three schools i.e, SMP 2 Karangreja (utm 49 m,0310847;9200736,elv 1235 m asl) at the eastern slope, SMP 2 Kedung Banteng (utm 49 m,0301540;9183464, elv 189 masl) at the southern slope and SMP 2 Cilongok (utm 49 m, 0293449;91832934, elv 279 m asl) at south-western slope of Mt. Slamet. Totally 150 students are participated in our program. We conducted presentation to the students concerning forest and its important function for our life, and followed by watching environmental movie, discussion, quiz and at the end of program planting trees in their school yard. See figure .2. Map of Mt. Slamet.

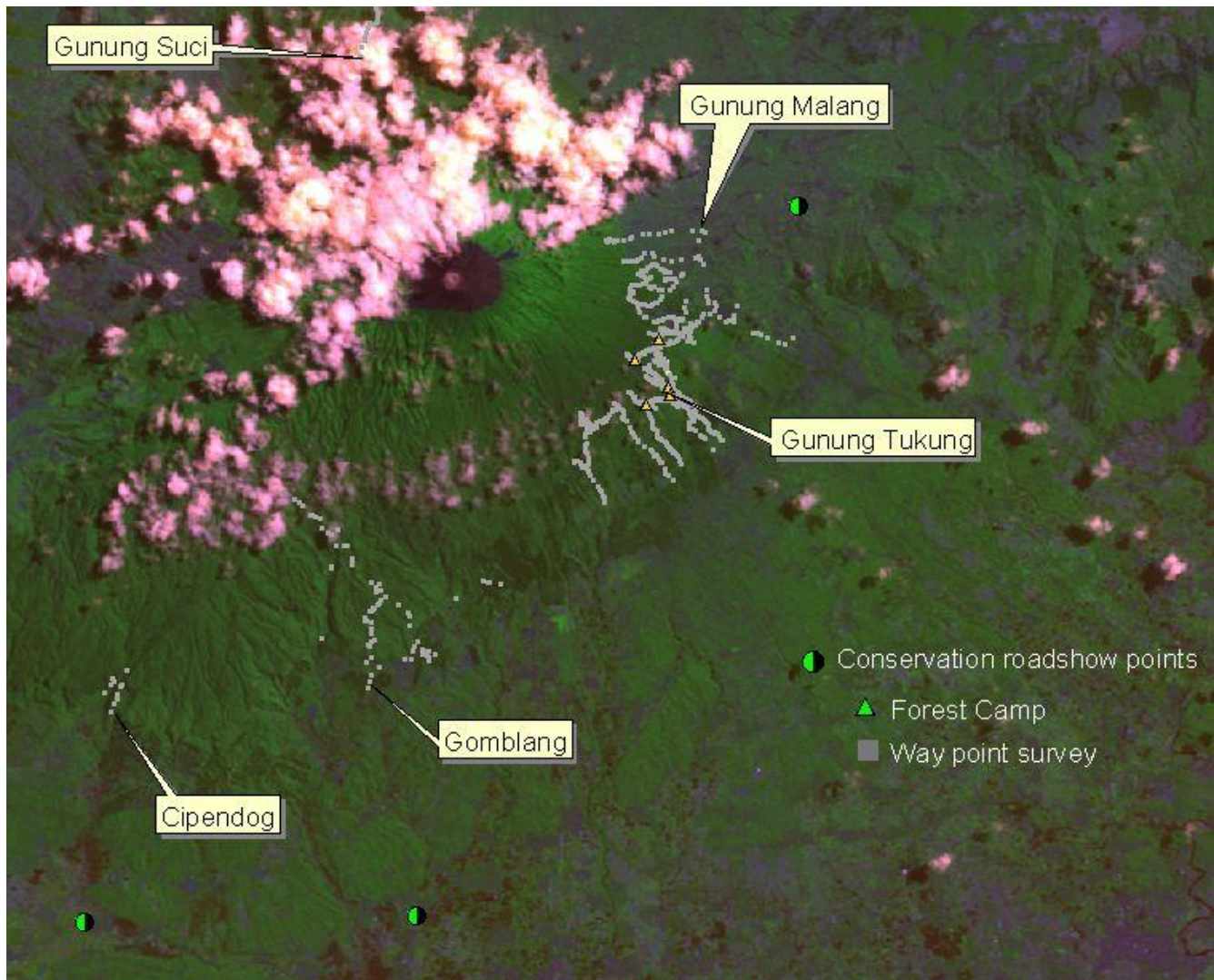


Figure 2. Mt. Slamet, Established research station (Cipendog, Gomblang, G. Tukung, G. Malang, and G. Suci), waypoints survey including camp in the forest, and location of conservation roadshow.

2. Presentation conducted to the Nature resource Conservation agency, Forestry Department. Central Java province, Indonesia (January, 31 2008)

3. Distributing sticker (200) and field guide to the Mt. Slamet primates, available in Bahasa, download here: <http://www.divshare.com/download/3760095-ef4>.

4. Abstract entitled “A Survey of the Javan Fuscous Langur (*Presbytis fredericae*) in Mt. Slamet, Central Java, Indonesia” are accepted in International Primatological congress at 3-8 august 2008 in Edinburgh, Scotland

c. Ongoing activities and Future Works

1. Publication to scientific Journals
2. Comprehensive ecological study on *Presbytis fredericae* in Mt. Slamet and Other localities in Central Java.
3. Promoting Mt. Slamet and remaining forested habitat in central java as conservation area for Javan endemic primates
4. Raising Conservation awareness
5. Fundraising, Technical and financial support to conserve Mt. Slamet.

Team

	<p>Arif Setiawan (Wawan), 29 years old (Team leader) Academic course: Graduated degree faculty of forestry, Gadjah Mada University Occupation: Junior researcher, wildlife laboratory, Faculty of Forestry, Gadjah Mada University, Yogyakarta, Indonesia. Research experiences:</p> <ul style="list-style-type: none"> • 2005-2007, (Principal Investigator) Research on “Distribution and Population of Javan Fuscous Leaf Monkey (<i>Presbytis fredericae</i>) in Mount Slamet Central Java Indonesia. • 2004 Counterpart researcher on “Population Dynamics in Hybrid Gibbons: an analysis of great call Structure of <i>Hylobates agilis</i> x <i>H. muelleri</i>” Joint research with Queensland University, Australia, Project Barito Ulu, Central Kalimantan, Indonesia.
	<p>Yohannes Wibisono, 24 years old Occupation: Student of Forest resource conservation dept., Faculty of Forestry, GMU. Experience:</p> <ul style="list-style-type: none"> • 2006-2007 Field research in Mt. Slamet Conservation project (2006-2007)
	<p>Tejo Suryo N, 20 years old Occupation: Student of Forest resource conservation dept., Faculty of Forestry, GMU. Experience:</p> <ul style="list-style-type: none"> • 2007 Field research in Mt. Slamet Conservation project (2007)
	<p>4. Hari Murti Setiawan, 20 Years old Occupation: Student of Forest resource conservation dept., Faculty of Forestry, GMU. Experience:</p> <ul style="list-style-type: none"> • Conservation education in Mt. Slamet (2006-2007)

Acknowledgement:

Massive thanks to Rufford Small Grant Foundation for financial Support, Wildlife Laboratory Faculty of Forestry Gadjah Mada University, thanks to Dr. Djuwantoko, Dr. Satyawan Pudyatmoko, Dr. Wisnu Nurcahyo for their reference. Thanks to Pak Purwanto for hospitality in G. Malang, Pak Nur in Windusari, Mas Nasim, Mas Taryo. Special thanks to Frank Momberg (FFI Indonesia) and Stanislav Lohta (researcher, Sungai wain-East Kalimantan) who visited Mt. Slamet, for discussion to develop conservation in Central java.