

**ECOLOGY OF GAPS AFFECTING LOCOMOTION
IN BORNEAN AGILE GIBBONS (*Hylobates
albibarbis*)**

**Final Report for the Rufford Small Grants for Nature
Conservation**

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Project Summary

The Sebangau is home to almost 30,000 of the remaining world population of Bornean agile gibbons (*Hylobates albibarbis*). In October 2004, 5,780km² of the total 9,000km² of forest in the Sebangau catchment was designated a national park to try and protect this and the 7,000 strong orang-utan population. In recent years, illegal logging has become rampant in the Sebangau and has had a devastating effect on the primate populations. Information is urgently needed on the causes of this decline. Furthermore, it is still far from certain whether the national park will be effective in preventing further population declines and large populations still live in unprotected parts of the Sebangau. This project provides essential information on how gibbon locomotion is affected by habitat disturbance and what levels of disturbance they can tolerate before their behaviour is permanently changed. These data were obtained by carrying out detailed observations of gibbon travel behaviour and habitat quality analyses.

Specific Project Aims

1. To habituate at least six groups of gibbons.
2. To train two Indonesian field assistants in data collection.
3. To assess the impact of varying levels of disturbance on locomotion.
4. To identify if any age-sex classes (including females carrying infants ventrally) are particularly vulnerable to disturbances.
5. To assess and evaluate the density and reason for gaps in the study area.

Objectives achieved

During the course of the study, good progress was made towards achieving these aims. I have:

1. Successfully habituated over six groups of gibbons (some being semi-habituated).
2. Fully trained field assistants in collecting specialised locomotion data, estimating tree heights and distances.
3. Completed two quadrangulation studies to enable accurate group home-ranges to be identified and give an accurate estimation of the density of gibbons in the area (which was later extrapolated to give estimation for the whole Sebangau region).
4. All gibbon groups followed are identified and individuals named where possible. Where this is not possible, age-sex class is still recorded, so that the age-sex class (and the presence or absence of a ventral infant) of every gibbon followed is known. This will enable recognition of any differences in locomotion behaviour between age-sex classes, and any potential implications of this for affecting their survival.
5. Habitat quality analyses were conducted in June, towards the end of the study. Temporary vegetation plots were set up in each of the gibbon's territories (established by use of the quadrangulation studies) to assess the frequency of gaps and general level of disturbance present.

Despite the success of the study, a number of data deficits still exist however. Firstly, it was not plausible to make use of the long-term habitat data collected since 2003 as this turned out not to be randomly plotted within each group's territories. However, the habitat data I collected was randomly plotted with four plots in each gibbon territory, therefore providing a more accurate picture of the disturbance levels.

A lot of receipts in the financial breakdown are unaccounted for as in Indonesia, they are not always given and it is not always wholly appropriate to request them. Some are also in the name of Mr. D Thompson, my father, whom I reimbursed for the two items he bought and sent out to me, as they were not available in the immediate area. I assure you the funds were spent entirely on the project and not used for any other purpose.

Data findings

I am still in the final stages of completing my Masters degree. The results have been analysed and some interesting findings made. I discovered the presence of ventral infants can affect the way the mother moves, thus decreasing her travel efficiency, resulting in a negative energy balance. The differences between age-sex classes vary enormously. The habitat data demonstrated a difference between areas, some being a lot more disturbed than others, which ultimately affected the locomotion of the gibbons. These data are still to be analysed further and I would be happy to provide you with an abstract once the project is fully completed. I hope that the Sebangau National Park will benefit from the work, as it highlights the importance for good quality habitat for both gibbon and other primates' survival. The information I have produced will lead to further understanding of how adaptable gibbons are to different levels of forest disturbance, thus improving the scientific status of the national park and helping develop effective management plans for the protection of the forest and the reduction of gaps.

I plan to submit my findings to a top conservation journal and to the Gibbon Conservation Alliance when completed. Also the results will be disseminated to all interested parties, including the CIMTROP education team, who work closely with the local community and will be able to relay my findings to the community and hopefully create awareness of the importance of gibbon conservation. My results will also be incorporated into the post-doc and PhD studies of Dr. Cheyne and Mr. Harrison who are looking at the effects of anthropogenic disturbance on gibbons and orang-utans.

Financial Report

Amount awarded: GBP 3,333

For purpose: The cost of conducting field research

Calculated using the exchange rate of IDR 17,000: GBP 1. PTO for a full breakdown of expenses covered by Rufford. Please find the original receipts attached.

Breakdown of Expenses Covered by Rufford Small Grants for Nature Conservation

Date	Item	Receipt no	Category	Amount IDR	Amount GBP	Notes
23-May-05	Return flight - London - Jakarta	1	Travel	9,248,000	544.00	
31-Jul-05	Flight - Jakarta - Palangaka Raya	2	Travel	1,598,000	94.00	Original receipt lost.
14-Feb-06	Town trip (boat and bemo)	No receipt	Travel	100,000	5.88	
28-Feb-06	Town trip (boat and bemo)	No receipt	Travel	100,000	5.88	
15-Mar-06	Town trip (boat and bemo)	No receipt	Travel	100,000	5.88	
30-Mar-06	Town trip (boat and bemo)	No receipt	Travel	100,000	5.88	
17-Apr-06	Town trip (boat and bemo)	No receipt	Travel	100,000	5.88	
30-Apr-06	Town trip (boat and bemo)	No receipt	Travel	100,000	5.88	
16-May-06	Town trip (boat and bemo)	No receipt	Travel	100,000	5.88	
30-May-06	Town trip (boat and bemo)	No receipt	Travel	100,000	5.88	
13-Jun-06	Town trip (boat and bemo)	No receipt	Travel	100,000	5.88	
30-Jun-06	Town trip (boat and bemo)	No receipt	Travel	100,000	5.88	
3-Jul-06	Flight - Palangka Raya - Jakarta	3	Travel	1,394,000	82.00	Original receipt lost.
28-Feb-06	Camp costs Feb (food and accomodation)	4	Living expenses	2,485,000	146.18	
31-Mar-06	Camp costs Mar (food and accomodation)	5	Living expenses	2,730,000	160.59	
30-Apr-06	Camp costs Apr (food and accomodation)	6	Living expenses	2,415,000	142.06	
31-May-06	Camp costs May (food and accomodation)	7	Living expenses	2,555,000	150.29	

30-Jun-06	Camp costs Jun (food and accomodation)	8	Living expenses	2,135,000	125.59	
14-Oct-05	Insurance 10 months	9	Living expenses	5,338,000	314.00	
1-Feb-06	Insurance for staff 5 months (x2)	No receipt	Field Assistants	697,000	41.00	
28-Feb-06	Otto wages Feb	10	Field Assistants	940,000	55.29	
31-Mar-06	Otto wages Mar	11	Field Assistants	1,000,000	58.82	
30-Apr-06	Otto wages Apr	12	Field Assistants	925,000	54.41	
31-May-06	Otto wages May	13	Field Assistants	915,000	53.82	
6-Jun-06	Otto wages Jun	14	Field Assistants	110,000	6.47	
28-Feb-06	Twenti wages Feb	15	Field Assistants	890,000	52.35	
31-Mar-06	Twenti wages Mar	16	Field Assistants	1,060,000	62.35	
30-Apr-06	Twenti wages Apr	17	Field Assistants	655,000	38.53	
31-May-06	Twenti wages May	18	Field Assistants	865,000	50.88	
30-Jun-06	Twenti wages Jun	19	Field Assistants	1,106,000	65.06	
25-Aug-05	GPS unit and protective cover	20	Equipment	8,616,790	506.87	Purchased by Mr D Thompson.
26-Aug-05	Binoculars (10x42)	21	Equipment	2,549,830	149.99	Purchased by Mr D Thompson.
15-Oct-05	Trousers for field staff - Morleys	No receipt	Equipment	456,923	26.88	
14-Oct-05	Field shirts for staff	22	Equipment	299,200	17.60	
28-Jan-06	Torches (x3)	No receipt	Equipment	255,000	15.00	
28-Jan-06	Batteries and recharger	No receipt	Equipment	485,000	28.53	
9-Feb-06	Field trousers - Twenty	No receipt	Equipment	50,000	2.94	
9-Feb-06	Watches x 2	No receipt	Equipment	82,000	4.82	
9-Feb-06	Batteries	No receipt	Equipment	12,000	0.71	
25-Feb-06	Megatop batteries etc	No receipt	Equipment	344,500	20.26	
24-Mar-06	Batteries AAA	No receipt	Equipment	15,000	0.88	
6-Apr-06	Watch straps for field staff	No receipt	Equipment	20,000	1.18	
12-Apr-06	Batteries	No receipt	Equipment	378,000	22.24	
21-Jun-06	Photocopy datasheets	23	General	22,000	1.29	

15-Feb-06	Photocopying	No receipt	General	75,200	4.42	
25-Feb-06	Photocopying gibbon data sheets	No receipt	General	6,900	0.41	
25-Feb-06	February visa extensions	24	General	310,000	18.24	
16-Mar-06	Photocopy data sheets	No receipt	General	8,000	0.47	
22-Mar-06	Photocopying data sheets	No receipt	General	6,000	0.35	
1-Apr-06	Photocopy	No receipt	General	22,000	1.29	
2-Apr-06	Stationary	No receipt	General	38,700	2.28	
24-Apr-06	April visa extension	25	General	310,000	18.24	
1-May-06	Stationary	No receipt	General	45,200	2.66	
2-May-06	Photocopying	No receipt	General	1,400	0.08	
14-May-06	Photocopy	No receipt	General	4,500	0.26	
26-May-06	May visa extension	26	General	310,000	18.24	
2-Jun-06	Stationary	No receipt	General	15,100	0.89	
7-Jun-06	Photocopying	No receipt	General	5,000	0.29	
30-Jun-06	Internet bill (5 months)	No receipt	General	705,500	41.50	
n/a	Miscellaneous	No receipt	Miscellaneous	1,150,220	67.66	
Total				56,660,963	3,333.00	