
CHAPTER 3 – Study Sites

3.1 Introduction

Following a preliminary survey in the University of Malaya's Field Research Station in the Gombak / Semantan Forest Reserve just outside Kuala Lumpur, a 3-month country-wide survey was made at Sungai Dusun, Selangor; Lumut (Bukit Hantu), Perak; Krau Wildlife Reserve/Kuala Ganda in Pahang; and the Kampung around Krau Reserve (Kg Bolok / Kg Chempaka / Kg Bukit Tamah / Kuala Krau / Mentakab in Temerloh District, Pahang. The aim was to find at least two areas suitable for the prolonged field observations of the Slow Loris.

3.2 Study Sites:

Two areas were eventually selected for intensive study within the following localities (1) Bukit Bolok Ulu (3° 32' 59.78" / 102 09'32.44") which has an area of approximately 2.5 km² and (2) Kampung Cempaka (3° 31'53.34" / 102 10'04.73") 5.5 km², both located in the District of Temerloh State of Pahang, Peninsular Malaysia (Figure. 3.1).

Data presented here in this thesis were collected during an 8 months long ecological study of *Nycticebus c. coucang* identified, collected and tracked in these study sites, and which was conducted from June, 2006 to January, 2007. Behavioral data were collected using the five minutes instantaneous scan sampling regime (Altmann, 1974; Fragaszy, 1992). These localities mentioned above are considered buffer areas of *Krau Wildlife Reserve* which with an area of 60,355 hectare in the State of Pahang, is the largest wildlife protected area in Peninsular Malaysia,. This Wildlife Reserve consists of a large area of old-growth forest, which rises from 50 m at Kuala Lompat to over 2000 m at the summit of Gunung Benom. (Clark 1996). It lies in the rain shadow of Gunung Benom. Kuala Lompat is comparatively dry for the region, averaging 1982 mm of rain annually -

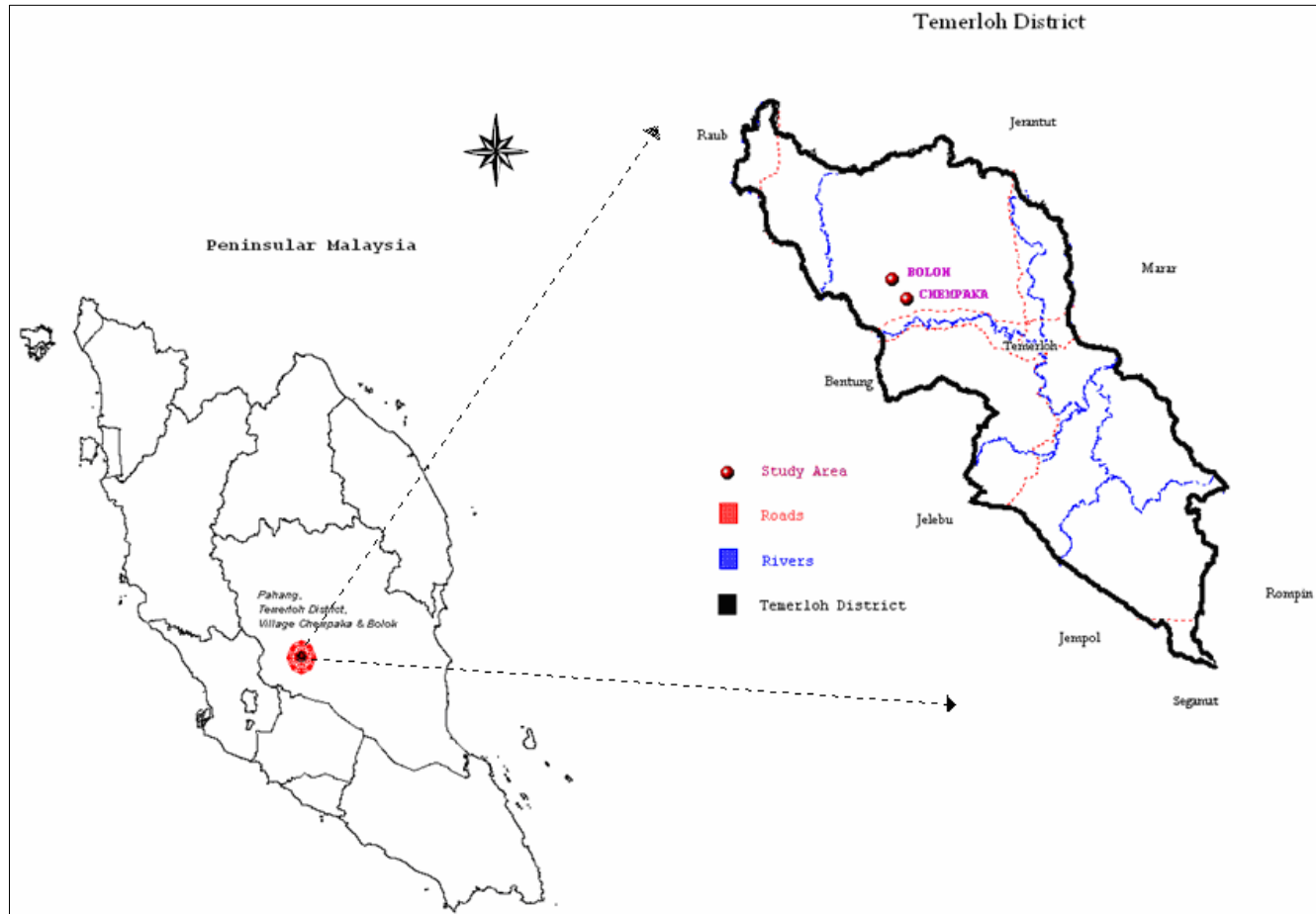


Figure 3.1 Map showing the Study Areas Bukit Boloh and Cempaka, Temerloh District, State of Pahang, Peninsular Malaysia

(Raemaekers,1980). The settlements of Bukit Boloh Ulu and Cempaka are located 4 km to 6 km within the buffer of KWR respectively (Figure 3.2). Both areas have been used for agriculture purposes and are inhabited. The major ethnic group is the Malay with a population of 421 individuals. The land is currently used for agriculture, cattle and fishery. The local community for several decades has been planting rubber, oil palm, tapioca, *Coffee robusta* and various fruits which are inter-cultivated in orchards.

Moreover, these area presents patches of different forest types in various stages of regeneration, containing a number of pockets of regeneration high forest. Regenerating high forest can be observed in both areas characterized by the presence of isolated high forest trees. They are grouped together in small, isolated patches within a matrix of secondary forest (*belukar*). The Malay common name of those trees within the study areas were given by the local experts helping in the field and by those growers of trees in plantations in the local villages. The trees were identified at the species level by collecting samples which were checked at the University Malaya Herbarium Collection (Wyatt-Smith, 1952 V17; Whitmore T, 1973 V1 & V2; Hooper, 1929) (see Table 2.1) (see Photos 3.1 below, taken of the landscape and vegetation within the study areas).







Photo 3.1 These pictures show typical landscape and vegetation within the study areas, A. Kampung (Village) small road surrounded by orchards and patches of Belukar; B. Active Rubber Plantation; C. Fresh water surrounded by Belukar Forest and Rubber Plantations, D. Orchards ; E. Secondary Forest; F. Fresh Water Swamp, surrounded by Belukar ; G. Abandoned Rubber Plantation mixed with Belukar; H. High Secondary Forest; I. Banana Plantation surrounded by Belukar and Orchards; J. Abandoned Rubber Plantation covered by Rattan Palm.

Four species of primates were found by the researcher to be present in the study areas: These are: the Crab Eating Monkey (*Macaca fascicularis*), Banded Leaf Monkey (*Presbytis femolaris*), Greater Slow Loris (*Nycticebus coucang coucang*) and the Pig-tailed Macaque (*Macaca nemestrina*). Others species of animals observed included: Common Palm Civet (*Paradoxurus hermaphroditus*), Wild Boar (*Sus scrofa*); Malayan Porcupine (*Hystrix brachyuran*) and Flying Lemur (*Colugo cynocephalus variegates*). Local villagers informed to the researcher that in the Cempaka area footprints of the Malayan Tapir (*Tapirus indicus*) have been observed, but this researcher saw no evidence of this animal during the course of his field study.

Tree Species	Common Malay Name
1. <i>Alstonia angustilaba</i>	Pulai
2. <i>Artocarpus elasticus</i>	Terap Nasi
3. <i>Barringtonia racemosa</i>	Putat
4. <i>Bouea oppositifolia</i>	Kundang
5. <i>Durio Zibethinus Murray</i>	Durian paya
6. <i>Elaterios permum tapos</i>	Perah
7. <i>Archidendrun clypearia</i>	Jering monyet
8. <i>Archidendrun ellipitikum</i>	Jering hutan
9. <i>Mallotus macrostachyus</i>	Balik angin
10. <i>Microcos tormentosa</i>	Cenderai
11. <i>Parkia speciosa</i>	Petai
12. <i>Dialum indum</i>	KerANJI paya
13. <i>Nephelium maingayi</i>	Redan
14. <i>Pimelo dendron griffithianum</i>	Perah ikan
15. <i>Rhodamnia cinerea jack</i>	Mempoyan
16. <i>Vitex Pinnata</i>	Leban
17. <i>Shorea acuminata dyer</i>	Meranti rambai daun
18. <i>Shorea ovalis</i>	Meranti Kepang
19. <i>Scaphium macropodum</i>	Kembang semangkok Jantung
20. <i>Pithecellobium clyperia</i>	Petai belolang
21. <i>Trema cannabina</i>	Mengkirai
22. <i>Aguilaria malaccensis</i>	Gaharu
23. <i>Eucalyptus cornuta</i>	Yate
24. <i>Zizyphus jujube</i>	Bedara
25. <i>Baccaurea lour</i>	Rambai
26. <i>Delima sarmentosa</i>	Mempelas
27. <i>Macaranga gigantea</i>	Mahang
28. <i>Cocos nucifera</i>	Kelapa
29. <i>Mikania scandens</i>	Selaput tunggul
30. <i>Citrifolia marinda</i>	Mengkudu
31. <i>Hevea brasiliensis</i>	Pokok Getah
32. <i>Amomum kepulaga</i>	Pelaga
33. <i>Artocarpus heterophyllus</i>	Nangka
34. <i>Garcinia atroviridis</i>	Asam Gelugur
35. <i>Calophyllum molle King</i>	Bintangor
36. <i>Fagraea racemosa</i>	Mepulih
37. <i>Gironniera nervosa</i>	Hampas tebu
38. <i>Koompassia malaccensis Maingay</i>	Kempas
39. <i>Willughbeia</i>	Jolok hantu
40. <i>Abrus precatorious</i>	Saga
41. <i>Psidium guajava</i>	Jambu biji
42. <i>Anthocephalus indicus</i>	Pulasan Hutan
43. <i>Dendrocalamus pendulus</i>	Buloh
44. <i>Schizostachyum zollingeri</i>	Buloh
45. <i>Magnifera odorata</i>	Kuini
46. <i>Melanorrhoea wallichii</i>	Rengas manau
47. <i>Intasia palembonica</i>	Merbau
48. <i>Bouea macrophylla</i>	Kundang
49. <i>Zalacca edulis</i>	Salak
50. <i>Mangifera foetida</i>	Bachang
51. <i>Canarium odoratum</i>	Nerian
52. <i>Bridelia stipularis</i>	Kenidai
53. <i>Arthrophyllum diversifolium</i>	Susun dahan

54. <i>Cinnamomum iners</i> 55. <i>Mangifera caesia</i> 56. <i>Musa Paradisiaca</i> 57. <i>Garcinia mangostana</i> 58. <i>Lansium domesticum</i> 59. <i>Nephelium lappaceum</i> 60. <i>Averrhoa carambola</i> 61. <i>Averhoa bilimbi</i> 62. <i>Artocarpus champeden</i> 63. <i>Carica papaya</i> 64. <i>Manilkara acharas</i> 65. <i>Citrullus lanatus</i>	Medang teja Binjai Pisang Manggis Langsung Rambutan Belimbing manis Blimbing asam Cempedak Betek Ciku Tembikai
NON- TREES	
PALMS 1. <i>Arenga pinnata</i> 2. <i>Carryota mitis lar</i> 3. <i>Eleiodoxa conferta</i> 4. <i>Eugeissona tristis</i> 5. <i>Iguanura Wallichiana</i> 6. <i>Daemonorops grandis</i> 6. <i>Cyrtostachys renda blume</i> 7. <i>Salacca zalacca</i> 8. <i>Areca catechu</i>	Kabung Dudur Kelubi Bertam Pinang Hutan Rotan sendang Pinang raja Salak jawa Pinang
SHRUBS	
1. <i>Ettingera litoralis</i> 2. <i>Ficus tristanifolia</i> ----- 3. <i>Chassalia chartacea</i> --- 4. <i>Coptosopelta tormentosa</i> 5. <i>Scindapsus hederaceus</i> 6. <i>Scleria sumatrensis</i> 7. <i>Scurrula ferruginea</i> 8. <i>Smilax setosa</i> 9. <i>Themeda villosa</i> 10. <i>Heliotroprum indicum</i>	Tepus Ara Jarum-Jarum Alar sebasuh Akar ular Dedalu Akar banar Rumpit Buntuu tiku

Table 3.1 Types of Trees Surveyed within the Study Areas
(Scientific and Local Malay Names Equivalents)

The topography of the study areas is categorized as lowland gentle undulating slopes with an altitudinal range from 52 to 110 meters in the area of Cempaka and Bukit Boloh from 59 to 118 meters with some nearly level areas which

occupy a small part of the total area which is used for agriculture (Figure 3.3A and 3.3 B). Although the rainfall pattern is variable, there is a slight trend toward a relatively dry season at the beginning of the year, particularly in February, followed by a wet season from October to December (Raemaekers, 1980; Hodgkison 2001). Temperature is stable throughout the year, with maximum and minimum daily air temperatures ranging from 30 to 35 degrees C and 20 to 25 degrees C, respectively (Raemaekers, 1980; Hodgkison, 2001).

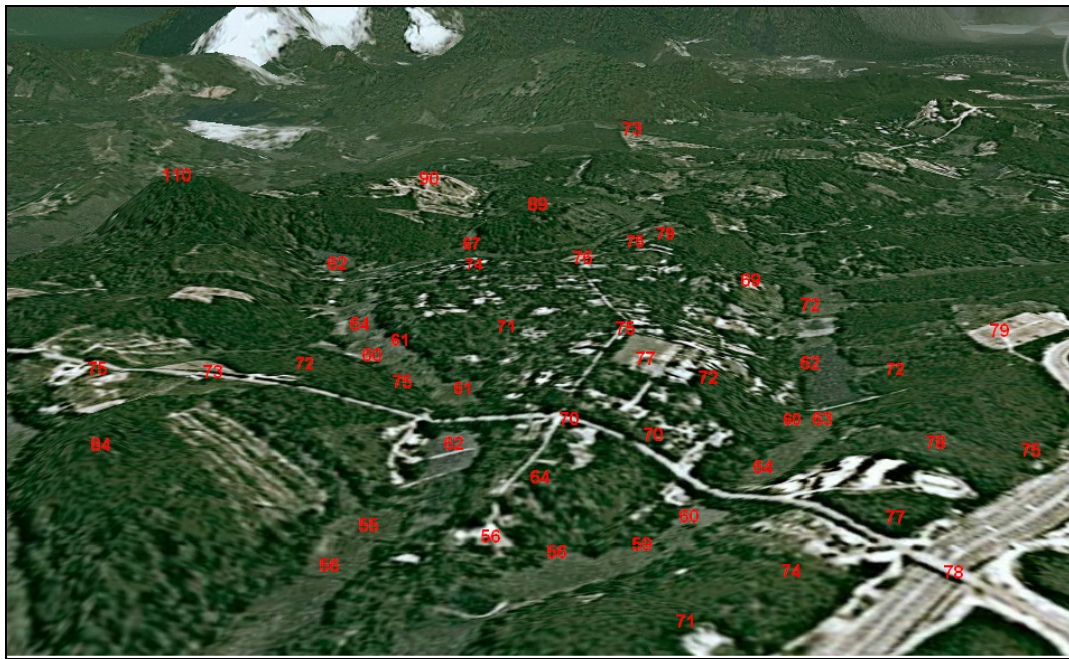


Figure 3.3 A. Elevation Values obtained from Google Earth for the Area of Cempaka

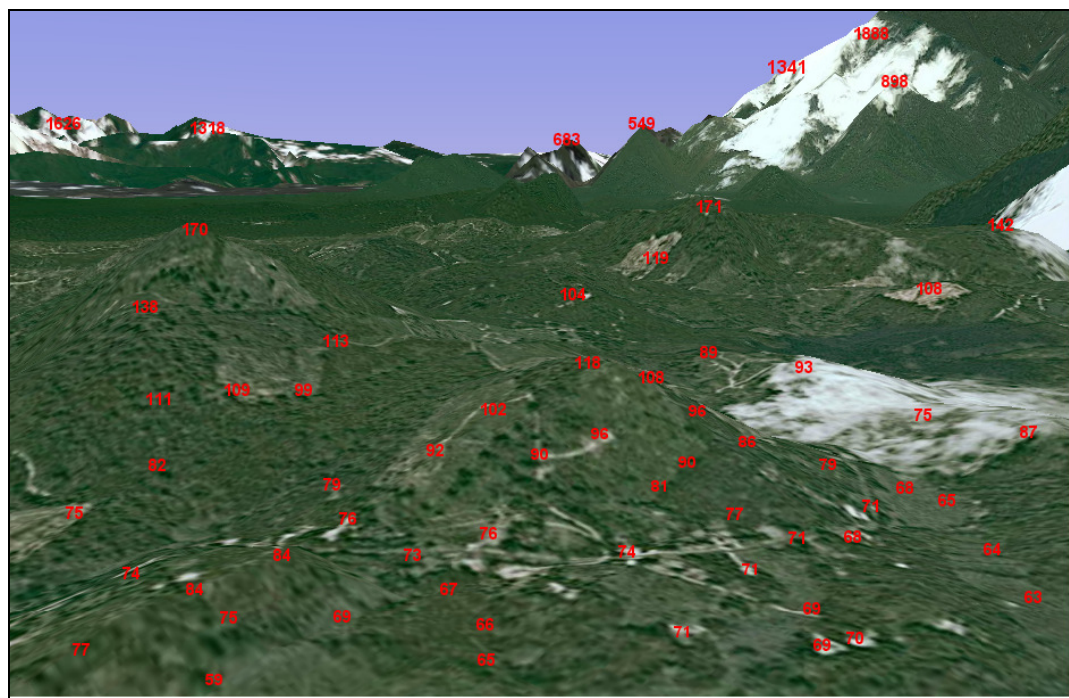


Figure 3.3 B. Elevation Values obtained from Google Earth for the Area of Bukit Boloh