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 Dr. Madinah
Adrus

Regional Sustainable Development in Malaysia and Australia

Editors:
Mazlin Mokhtar & Sharina Abdul Halim



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AUSTRALIA**

Editors:
Mazlin Mokhtar
Sharina Abdul Halim

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6. Review and Validation of Selected Materials on Illicit Hunting in Malaysia

Kishen Bunya¹, Madinah Adrus¹ & M.T. Abdullah^{1,2}

Introduction

Tropical rainforest of Malaysia is high in species richness and diversity of flora and fauna and one of the 12 megabiodiversity countries in the world (Abdullah *et al.*, 2005). However, to maintain the sustainability of this diversity for the indigenous wildlife species in the long run is very challenging. This difficult situation occurred over the last five decades due to the threats of very rapid economic and land use development for human settlement, infrastructure, urbanisation and agricultural plantations.

Indigenous forest dwellers in Malaysia long have existed, interacted and adapted as an ecological component since the late Pleistocene period (Rambo, 1979). They are responsible for direct selection, dispersal, habitat modification, utilization and domestication of the natural gene pool. They are culturally and traditionally associated with sustainable and consumptive wildlife utilization in the tropical rain forest. In Peninsular Malaysia, there were remains of currently endangered wildlife species (e.g. *Rhinoceros sondaicus*) utilised by the primitive hunter-gather Hoabinhian settlement (Abdullah, 1983). In another aspect of indigenous forest dwellers, the abandoned slash and burn land provide nutritious browse from regenerated vegetation (Rambo, 1997). The second group of local communities are those living on the forest fringes but frequently use the forest resources for self-consumption or being a third party to hunt wildlife for subsistence or to earn extra income. The third groups of local community are the city and suburban migrants and dwellers who utilised and consumed wildlife provided by illegal hunters and vendors (Caldecott, 1986; Abdullah, 1996; Rahman *et al.*, 2003).

Recently, there are higher cases of illegal taking of wildlife either by hunting, poaching, trading and cross boarder wildlife trafficking (Christy, 2010). The recent arrest and jailed of internationally a wildlife dealer (Anon, 2010) have highlighted some problems in the management of wildlife in Malaysia.

These uncontrolled taking of wildlife activities are effecting the natural wildlife population dynamics and stability of natural tropical rain forest ecosystems in

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Malaysia. Hence, to solve this problem, many laws are instituted especially for conservation of wildlife in Malaysia, such as, the Wildlife Protection Act 1972, Wildlife Protection Ordinance 1998, Wildlife Conservation Enactment 1997 and recently, the International Trade in Endangered Species Act 2008. However, many questions need to be addressed on the effectiveness of the laws and factors influencing on the taking of wildlife.

This paper reviews the past and recent challenges in the wildlife conservation and verifies the illegal taking of wildlife in selected areas.

Approach of The Study

We examined the database by IUCN Red List (2006) for threatened species of mammals in Malaysia either as as Critically Endangered (CR), Endangered (EN), Vulnerable (VU) or data deficient (DD). There are also previous records of illegal taking of wildlife that are found in selected literatures by Caldecott (1986), Abdullah (1996), Chin (2002), Pereira *et al.* (2002), Rahman *et al.*, (2003), Azlan and Mohd Faisal (2006), Pantel and Chin (2008). Later an investigation and validation was done by rapid interview of local communities and hunters living around Kota Samarahan and Kuching areas.

Selected sites were visited from September 2010 to October 2010, namely, Kampung Entingan, Kampung Bukit Tinggi Merdang Gayam, Kampung Melaban and Kampung Segong Bau. Other secondary, villages visited were Kampung Nangka, Kampung Merdang Lumut, Bintulu and Kampung Tian as they were mentioned by the wildlife hunters. Local communities consisting of hunters, shaman and elders were approached during this survey. Interviews were conducted to obtain some information on the local community who utilised wildlife as well as interaction among local hunters and to document their point of views on the conservation of wildlife within their community. Identification of the animals by using Das (2006) for snakes and other reptiles, Inger and Stuebing (1997, 1999) for frogs, MacKinnon and Phillipps (1993) for birds and Medway (1978) and Payne *et al.* (1985) for mammals.

Result & Discussion

Table 1 shows the taxonomic list of six critically endangered, 17 endangered and 28 vulnerable mammals in Malaysia. Some of these mammals are listed as either totally protected or protected in Peninsular Malaysia, Sabah and Sarawak. Among the critically endangered, the Javan rhino is already extinct in Malaysia. Some of these endangered animals are now facing the prospect of localised extinction due to hunting pressure and habitat loss.

From the survey to validate the information, 39 species of mammals, seven species of reptiles, two species of amphibians and five species of birds were utilised as part of the diet of the local communities and for other uses (medicine,

side income and pet). As shown in table 2, it was found that Iban and Bidayuh communities were the largest consumers of wild meat.

Wildlife were hunted mostly during fruiting season (November – March but varied according to fruits and localities as some animals became pests to fruit trees and plantation areas. Some wildlife were also reported became threats to the communities were hunted and killed. Most of the wildlife were killed by using guns such as wild boar (*Sus barbatus*), pangolin (*Manis javanica*), long tailed macaque (*Macaca fascicularis*), mouse deer (*Tragulus javanicus* and *T. napu*), muntjacs (*Muntiacus muntjack* and *M. atherodes*). Some of the large mammals such as long tailed porcupine (*Trichys fasciculata*), common porcupine (*Hystrix brachyura*) and thick-spined porcupine (*Thecurus crassispinis*) were caught by using man made trap (*panjuk*). Small mammals such as rodents and chiropteran were caught using cage trap and mist nets and *panjuk*. Clouded leopard (*Neofelis nebulosa*) was reported to prey on poultry at (Site 7: Bintulu) was hunted and the skin was made as decoration at the long-house and its meat was eaten by the local peoples.

Birds were caught by using mist net, *panjuk*, by miming the animal's calls and glue. Most of the birds become pets while some were source of cheap protein (emerald dove, *Chalcophaps indica* and eggs of white breasted waterhen, *Amaurornis phoenicurus*).

The local communities observed that wildlife nowadays are decreasing drastically compared to many years before. Based on their point of views, this situation was due to many factors such as forest clearing for human settlement and large-scale agricultural estates. Therefore, hunting activities were infrequent especially in Sites 1-6 but was active in Site 7 as it was located in rural areas and the forests was well conserved.

In term of conservation point of view, local communities were aware to maintain stable population as they were only hunting at certain period such as during fruiting season; when encountered the wildlife or indirect signs (footprints and vocalization) at their orchards, *temuda* and farms. Some of the hunters went hunting alone or in a group. One of their ways was to hunt the adults of the animals while the offsprings were let free to ensure that the immatures became adults to maintain the populations for the next hunting season.

Wildlife hunters were related to each other and used to go hunting together in 3-5 persons from Kampung Entingan, Kampung Nangka, Kampung Melaban, Kampung Bukit Tinggi Merdang Gayam and Kampung Merdang Lumut all within Samarahan Division. Wild meats from the group hunting were divided proportionally between members, however, owner of the shotgun or bullets, hunting leader and those who shot the animals would receive extra amount as sign of gratefulness. In term of individual hunting, meats were shared amongst their family members. Sometimes excess meats were sold to the nearby villagers to generate additional income.

In term of medicinal value, little information was acquired. Communities approached in this survey did not have traditional practitioners. As for decoration or spiritual belief, information was acquired from one shaman in Kampung Bukit Tinggi Merdang Gayam.

Some of the reasons for uncontrolled hunting of wildlife are:

(a) Poverty: In rural area, locals are living in poor condition with lack of basic facilities in their villages. They depend on wild animals as a food and as a protein sources. They have to trade the hunted animals as supplementary income (Caldecott, 1986; Chin, 2002; Rahman *et al.*, 2003; Azlan & Mohd Faisal, 2006).

(b) High demand of exotic wildlife animals as traditional medicinal: Some wildlife animals such as pangolins, sun bear, porcupine have higher value for medicinal. Hence, there are higher demands of this wildlife and they hunt even though they know about the protection laws (Azlan & Mohd Faisal, 2006).

(c) An increase in the number of shotgun cartridges used, as restrictions on the sale of cartridges have been lifted since the unrest of the 1950s and 1960s (Braken *et al.*, 1999).

(d) More roads: This situation creates easy access into the forest area and allows hunters into areas which were previously unreachable. It allows rural people easy access to markets to buy technologies such as shotgun cartridges, flash lights and vehicles, and also to markets to sell wild meat from the forest (Braken *et al.*, 1999 and Chin, 2002).

(e) The commercial sale of wildlife: There are high demands of exotic meat especially in the urban areas. Hence there is higher demand and become commercial sale of wildlife such as Wild porcupine (Braken *et al.*, 1999).

(f) Weak law enforcement agencies: There are weaknesses of law enforcement agencies to control of wildlife hunt activities because of few numbers of staff to control large tract of forests or protected areas; staff might not have enough knowledge or training to handle wildlife issues lack of funding and adequate facilities.

Table 1: List of species that are threatened and their protection status in Malaysia.

ORDER Species	Protection Status			
	IUCN Red Data List	PWA 1972 (Act 76)	Swak WPO 1998	Sbah WPE 1997
INSECTIVORA				
1. <i>Chimarrogale plaeura</i> - Sunda Water Shrew	CR			
2. <i>Suncus ater</i> - Black Shrew	CR			
3. <i>Crocidura malayana</i> - Malay Shrew	DD			
CHIROPTERA				
4. <i>Megaerops wetmorei</i> - White-collared Fruit Bat	LR/nt		P	P
5. <i>Balionycteris maculatus</i> - Spotted-winged Fruit Bat	LR/nt		P	P
6. <i>Megaderma lyra</i> - Greater False Vampire Bat	LR/nt		P	P
7. <i>Nycteris tragata</i> - Hollow-faced Bat	VU		P	P
8. <i>Rhinolophus philippinensis</i> - Philippine Horseshoe Bat	LR/nt		P	P
9. <i>Rhinolophus macrotis</i> - Big-eared Horseshoe Bat	LR/nt		P	P
10. <i>Rhinolophus robinsoni</i> - Robinson's Horseshoe Bat	LR/nt		P	P
11. <i>Rhinolophus convexus</i> - Convex Horseshoe Bat	CR		P	P
12. <i>Hipposideros nequam</i> - Malay Roundleaf Bat	CR		P	P
13. <i>Hipposideros ridleyi</i> - Ridley's Roundleaf Bat	VU		P	P
14. <i>Hipposideros dyacorum</i> - Dayak Roundleaf Bat	DD		P	P
15. <i>Hipposideros cervinus</i> - Fawn Roundleaf Bat	VU		P	P
16. <i>Hipposideros lylei</i> - Shield-faced Bat	LR/nt		P	P
17. <i>Coelops robinsoni</i> - Malayan Tailless Bat	LR/nt		P	P

18. <i>Myotis hermanni</i> - Buff-colored Bat	DD		P	P
19. <i>Myotis montivagus</i> - Burmese Whiskered Bat	LR/nt		P	P
20. <i>Myotis oreias</i> - Whiskered Bat	DD		P	P
21. <i>Myotis horsefieldii</i> - Horsefield's Bat	LR/nt		P	P
22. <i>Arielulus societus</i> - Brown Pipistrelle	LR/nt		P	P
23. <i>Hesperotenus doriae</i> - Fake Serotine	EN		P	P
24. <i>Murina rozendaali</i> - Glided Tube-nosed Bat	LR/nt		P	P
25. <i>Murina aenea</i> - Bronze Tube-nosed Bat	LR/nt		P	P
26. <i>Murina huttoni</i> - Hutton's Tube-nosed Bat	LR/nt		P	P
27. <i>Harpiocephalus mordax</i>	LR/nt		P	P
28. <i>Kerivoula minuta</i> - Least Forest Bat	LR/nt		P	P
29. <i>Kerivoula intermedia</i> - Intermediate Forest Bat	LR/nt		P	P
30. <i>Tadarida plicata</i> - Wrinkle-lipped Free-tailed Bat	LR/nt		P	P
31. <i>Cheiromeles torquatus</i> - Hairless Bat	LR/nt		TP	TP
PRIMATES				
32. <i>Tarsius bancanus</i> - Sunda Tarsius	LR/nt	TP	TP	TP
33. <i>Macaca nemestrina</i> - Pig-tailed Macaque	VU	P	P	P
34. <i>Macaca fascicularis</i> - Common Macaque	LR/nt	P	P	P
35. <i>Macaca arctoides</i> - Stump-tailed Macaque	VU	P	P	P
36. <i>Nasalis larvata</i> - Proboscis Monkey	CR	TP	TP	TP
37. <i>Pongo pygmaeus</i> - Orang Utan	EN	TP	TP	TP
38. <i>Hylobates lar</i> - White-handed Gibbon	LR/nt	TP	P	P

39. <i>Hylobates agilis</i> - Agile Gibbon	LR/nt	TP	P	P
40. <i>Hylobates muelleri</i> - Borneo Gibbon	LR/nt	TP	TP	TP
41. <i>Hylobates syndactylus</i> - Siamang	LR/nt	TP	P	P
PHOLIDOTA				
42. <i>Manis javanica</i> - Anteater	LR/nt	P	P	P
RODENTIA				
43. <i>Pteromyscus pulverulentus</i> - Smoky Flying Squirrel	LR/nt	TP	P	P
44. <i>Maxomys baeodon</i> - Small Spiny Rat	EN			
45. <i>Pithecheirops otion</i> - Tree Rat	LR/nt			
46. <i>Hystrix brachyura</i> - Common Porcupine	VU	TP	P	P
47. <i>Hystrix crassipinis</i> - Thick-spined Porcupine	LR/nt		P	P
CARNIVORA				
48. <i>Canis alpinus</i> - Wild Dog	EN			
49. <i>Ursus malayanus</i> - Malayan Sun Bear	DD		P	P
50. <i>Mydaus javanensis</i> - Stink Badger	LR/nt			
51. <i>Lutra lutra</i> - Eurasian Otter	NT	TP		
52. <i>Lutra sumatrana</i> - Hairy-nosed Otter	DO	TP		
53. <i>Lutrogale perspicillata</i> - Smooth-coated Otter	DO	TP		
54. <i>Aonyx cinerea</i> - Small-clawed Otter	DO	TP		
55. <i>Arctictis binturong</i> - Binturong	LR/nt	TP	P	P
56. <i>Cynogale bennetti</i> - Sunda Otter-Civet	EN	TP	P	P
57. <i>Panthera tigris</i> - Tiger	EN	TP	-	-
58. <i>Panthera pardus</i> - Panther	lc	TP	P	P
59. <i>Pardofelis nebulosa</i> - Clouded Leopard	VU	TP	TP	TP
60. <i>Pardofelis marmorata</i> - Marbled Cat	VU	TP	TP	TP

61. <i>Catopuma temmincki</i> - Golden Cat	VU	TP	P	P
62. <i>Catopuma badia</i> - Bay Cat	EN	TP	TP	TP
63. <i>Prionailurus planiceps</i> - Flat-headed Cat	VU	TP	TP	TP
64. <i>Prionailurus viverrinus</i> - Fishing Cat	VU	TP	P	P
PROBOSCIDEA				
65. <i>Elephas maximus</i> - Asian Elephant	EN	P		
PERRISODACTYLA				
66. <i>Tapir indica</i> Desmarest, 1819 - Malayan Tapir	VU	TP	TP	TP
67. <i>Dicerorhinus sumatrensis</i> - Sumatran Rhinoceros	CR	TP	TP	TP
ARTIODACTYLA				
68. <i>Bos javanicus</i> - Banteng	EN	TP	TP	TP
69. <i>Bos gaurus</i> - Gaur	VU	TP		
70. <i>Naemorhedus sumatrensis</i> - Serow	VU	TP		

EX	Extinct	No reasonable doubt that the last individual has died.
EW	Extinct in the wild	Known only to survive in captivity or as a naturalised population well outside its previous range.
CR	Critically Endangered	The species is in imminent risk of extinction in the wild.
EN	Endangered	The species is facing an extremely high risk of extinction in the wild.
VU	Vulnerable	The species is facing a high risk of extinction in the wild.
NT	Near Threatened	The species does not meet any of the criteria that would categorise it as risking extinction but it is likely to do so in the future.
LC	Least Concern	There are no current identifiable risks to the species.
DD	Data Deficient	There is inadequate information to make an assessment of the risks to this species.
LR/cd	Lower Risk/conservation dependent	Species which were the focus of conservation programmes and may have moved into a higher risk category if that programme was discontinued.
LR/nt	Lower Risk/near threatened	Species which are close to being classified as Vulnerable but are not the subject of conservation programmes.
LR/lc	Lower Risk/least concern	Species for which there are no identifiable risks.

Table 2: Summary of consumptive wildlife utilization in selected areas.

Class Order Family Species	Previous Study			This Study				
	Ethnic groups	Hunting areas	Uses	Ref.	Present (√)	Ethnic groups	Hunt areas	Uses
MAMMALIA								
Insectivora								
Erimacidae								
<i>Echinosorex gymmurus</i> (Moon rat)	Na	q,r,s,t,u,v,w	Tr,P	1				
Scandentia								
Tupaiaidae								
<i>Tupaia glis</i> (Common treeshrew)	Ib,Bi	h,i,j	F,M	5	√	Ib,Bi	b,d,e,g	F
<i>Tupaia minor</i> (Lesser treeshrew)	Ib,Bi	h,i,j	F,M	5				
<i>Tupaia montana</i> (Mountain treeshrew)	Ib,Bi	h,i,j	F,M	5				
<i>Tupaia tana</i> (Large treeshrew)	Ib,Bi	h,i,j	F,M	5	√	Ib,Bi	b,d,e,g	F,C
<i>Tupaia picta</i> (Painted treeshrew)					√	Ib,Bi	b,d,e,g	F,C
<i>Tupaia sp.</i> (Treeshrew)	Ib,Bi	Na	F,S,Td	5				
Dermoptera								
Cynocephalidae								
<i>Cynocephalus variegatus</i> (Flying lemur)	Ib,Bi	h,i,j,q,r,s,t,u,v,w	F,Tr,P	1,5	√	Ib,Bi	a,d,g	F
Chiroptera								
Pteropodidae								
<i>Pteropus campyrius</i> (Large flying fox)	Ib,Bi	h,i,j,q,r,s,t,u,v,w	F,M,T,r,P	1,5	√	Ib,Bi	a,b,c,d,e,f,g	F,M,P

Primates									
Lorisidae									
<i>Nycticebus coucang</i> (Slow loris)	lb	h,i	F	5	✓	lb	d,g	F	
Tarsiidae									
<i>Tarsius bancanus</i> (Western tarsier)	lb, Bi	h,i,j	F,C	5	✓	lb, Bi	a,d,g	F,C	
Cercopitheciidae									
<i>Presbytis nicolophos</i> (Banded langur)	Bi	j	F	5	✓	lb	b,d,g	F	
<i>Presbytis hosei</i> (Hose's langur)	Bi, Pe	j,m,q,r,s,t, u,v,w	F, Tr, P	1,2,5					
<i>Presbytis rubicunda</i> (Silvered langur)	lb	j,q,r,s,t,u, v,w	F, Tr, P	1,5	✓	lb, Bi	b,d,g	F	
<i>Presbytis cristata</i> (Maroon langur)	lb	h	F	5	✓	lb	g	F	
<i>Macaca fascicularis</i> (Long-tailed Macaque)	lb, Bi	h,i,j,p,q,r,s, t,u,v,w	F,M,T r,PS,C, Td	1,4,5	✓	lb, Bi	a,b,c, d,e,f,g	F,P	
<i>Macaca nemestrina</i> (Pig-tailed macaque)	lb, Bi, Pe	h,j,n,p,q,r, s,t,u,v,w	F, Tr, PS	1,2,4,5	✓	lb, Bi	a,b,c,d, e,f,g	F	
Hylobatidae									
<i>Hylobates muelleri</i> (Borncon gibbon)		q,r,s,t,u,v,w	T,P	1					
Pholidata									
Manidae									
<i>Manis javanica</i> (Pangolin)	lb, Bi	h,i,j,q,r,s,t, u,v,w	F,M,Tr, PS,C,Td,D	1,5,6	✓	lb, Bi	a,b,c,d, e,f,g	F,M	
Rodentia									
Sciuridae									
<i>Ratufa affinis</i> (Giant squirrel)	lb, Bi	h,i,j,q,r,s,t, u,v,w	F,M,Tr,P	1,5	✓	lb, Bi	d,g	F	
<i>Callosciurus preoxitii</i> (Preost's squirrel)	lb, Bi	h,i,j	F,M	5	✓	lb, Bi	a,b,c,d, e,f,g	F,P	

<i>Callosciurus notatus</i> (Plantain squirrel)	Ib,Bi,Pe	h,i,j,n	F,M,S,Td	2,5	√	Ib,Bi	a,b,c,d, e,f,g	F,P	
<i>Callosciurus baluensis</i> (Kinabalu squirrel)	Pe	n	F	2					
<i>Sundasciurus hippurus</i> (Horse's-tailed squirrel)	Ib,Bi	h,i,j	F,M	5	√	Ib,Bi	g	F	
<i>Sundasciurus tenuis</i> (Slender squirrel)	Ib,Bi	h,i,j	F,M	5					
<i>Rheithrosciurus macrotis</i> (Tufted ground squirrel)	Pe	m	F	2					
Unknown species of Scuridae		p	F	4					
Petauristinae									
<i>Iomys horsfieldi</i> (Horsfield's flying squirrel)	Ib,Bi	h,i,j	F,M	5					
<i>Acromys leptomelas</i> (Black flying squirrel)					√	Ib,Bi	d,g	F	
<i>Petinomys genibarbis</i> (Whiskered flying squirrel)					√	Ib,Bi	g	F	
<i>Petaurista elegans</i> (Spotted giant flying squirrel)	Ib,Bi	h,i,j	F,M	5	√	Ib,Bi	g	F	
<i>Petaurista yetaurista</i> (Red giant flying squirrel)		q,r,s,t,u,v,w	M,Tr,P	1	√	Ib,Bi	g	F	
Muridae									
<i>Sundamys muelleri</i> (Muller's rat)					√	Ib,Bi	b,c,d,e	F	
Hysteriidae									
<i>Trischys fasciculata</i> (Long-tailed porcupine)	Ib,Bi,Pe	h,i,j,n	F	2,5	√	Ib,Bi	a,b,c,d, e,f,g	F,M	
<i>Hystrix brachyura</i> (Common porcupine)	Ib,Bi,Me, Ma,Pe	h,i,j,k,l,n,p, q,r,s,t,u,v,w	F,M,Tr,P, S,Td,D	1,2,4,5	√	Ib,Bi	a,b,c,d, e,f,g	F,M,P	
<i>Thecurus crassispinis</i> (Thick-spined porcupine)	Ib,Bi	h,i,j	F	5	√	Ib,Bi	a,b,c,d, e,f,g	F,M	
Carnivora									
Ursidae									
<i>Helarctos malayanus</i> (Sun bear)	Ib,Bi	h,i,j,p,q,r,s,t, u,v,w	F,M,Tr,P, S,Td,D	1,3,4,5	√	Ib,Bi	g	F	

Natural Heritage Conservation

Mustelidae								
<i>Mustela flavigula</i> (Yellow-throated marten)	Ib, Bi	h,j,q,r,s,t,u, v,w	F, Tr, P	1,5	√	Ib, Bi	a,b,c,d, e,f,g	F
<i>Mustela nudipes</i> (Malay weasel)	Ib, Bi	h,j	F	5				
<i>Lutra perspicillata</i> (Smooth otter)								
Viverridae								
<i>Viverra zibetha</i> (Malay civet)	Ib, Bi, Pe	h,j,i,n,q,r,s, t,u,v,w	F, Tr, P	1,2,5	√	Ib, Bi	g	F
<i>Prionodon linsang</i> (Banded linsang)	Ib, Bi	h,q,r,s,t,u,v,w	F, Tr, P	1,5				
<i>Paradoxurus hermaphroditus</i> (Common palm civet)	Ib, Bi	h,j,i,p	F,S,D	4,5	√	Ib, Bi	a,b,c,d,g	F
<i>Paguma larvata</i> (Masked palm civet)	Ib, Bi	h,j,q,r,s,t,u, v,w	F, Tr, P	1,5				
<i>Arctictis binturong</i> (Binturong)	Ib, Bi	h,j,q,r,s,t,u, v,w	F, Tr, P,S,D	1,5	√	Ib, Bi	b,d,g	F
<i>Arctogalidia trivirgata</i> (Small-toothed palm civet)	Ib, Bi	h,j,i,q,r,s,t, u,v,w	F, Tr, P	1,5				
<i>Cynogale benneti</i> (Otter civet)	Ib, Bi	h,i,j	F	5	√	Ib, Bi	a,d	F
<i>Hemiglitis derbyanus</i> (Banded palm civet)	Ib, Pe	h,n	F	2,5				
<i>Herpestes leucogyrus</i> (Short-tailed mongoose)	Ib, Pe	h,n	F	2,5				
<i>Herpestes semitorquatus</i> (Collared mongoose)	Ib	h	F	5				
Unknown viverridae sp.		P	F,S	4				
Felidae								
<i>Pardofelis marmorata</i> (Marble cat)	Ib	h,q,r,s,t, u,v,w	F, Tr, P	1,5				
<i>Prionitris bengalensis</i> (Leopard cat)	Ib, Bi	h,j,q,r,s,t, u,v,w	F, Tr, P,D	1,5	√	Ib, Bi	d	F

Pythoniidae						
<i>Python reticulatus</i> (Reticulated python)	Ib, Bi	h, i, j	F, M	5	✓	Ib, Bi a, b, c, d, e, f, g F, M
<i>Python breitensteini</i> (Bornean short python)					✓	Ib, Bi a, b, c, d, e, f, g F, M
<i>Python</i> sp.	Na	P	F, M	4		
Elapidae						
<i>Opisthinotus hannah</i> (King cobra)	Ib, Bi	h, i, j	F, M	5		
<i>Naja naja</i> (Common cobra)	Ib, Bi	h, i, j	F, M	5		
Trionychidae						
<i>Dyegoiia subplana</i> (Malayan soft-shelled turtle)	Ib, Bi	h, i, j	F, M, P	5	✓	Ib, Bi a, b, c, d, e, f, g F
<i>Trionyx</i> sp.	Na	P	F, S	4		
Bataguridae						
<i>Cuora ambionensis</i> (Malayan box turtle)	Ib, Bi	h, i, j	F	5	✓	Ib, Bi a, b, c, d, e, f, g F, P
<i>Cyclentis dentata</i> (Asian leaf turtle)					✓	Ib, Bi a, b, c, d, e, f, g F, P
<i>Orlitia borneensis</i> (Malayan giant turtle)					✓	Ib b, d F
AMPHIBIANS						
Anuran						
Ranidae						
<i>Fejervikia camerivorus</i> (Crab-eating frog)	Ib, Bi	h, i, j	F	5	✓	Ib, Bi a, b, c, d, e, f, g F
<i>Limonectes mulesianus</i> (Poat swamp frog)	Ib	h, i, j	F, M	5	✓	Ib, Bi a, b, c, d, e, f, g F
AVIAN						
Rallidae						

<i>Amnitornis phoeniceurus</i> (White breasted waterhen)	✓	Ib, Bi	a,b,c,d, e,f	F
Columbidae				
<i>Streptopelia chinensis</i> (Spotted dove)	✓	Ib, Bi	a,b,c, d,e	F,P
<i>Chalcophaps indica</i> (Emerald dove)	✓	Ib, Bi	a,b,c,d, e,f	F,P
Sturnidae				
<i>Gracula religiosa</i> (Thong)	✓	Ib, Bi	a,b,c, d,e	F,P
Phasianidae				
<i>Argusianus argus</i> (Great argus)				Tr
<i>Rollulus rouloul</i> (Crested wood partridge)				F
		Na		2
Bucerotidae				
<i>Acrocyridulatus</i> (Weathad hornbill)				C, Tr
		Na	p,q,r,s,t,u, v,w	1,4
Timaliidae				
<i>Malacopteron magnum</i> (Rufous-crowned babbler)				F, D
		Pe	n	2
Trogonidae				
<i>Harpactes diuaceii</i> (Scarlet-rumped trogon)				F
		Pe	n	2

Ethnic group: Ib = Iban, Bi = Bidayuh, Ma = Malay, Me = Melanau, Pe = Penan

Hunt areas: a = Kampung Melaban, b = Kampung Entingan, c = Kampung Nangka, d = Kampung Bukit Tinggi Merdang Gayam, e = Kampung Merdang Lumut, f = Kampung Tian, g = Bintulu, h = Nanga Segenok, Kapit, i = Kampung Sungai Buloh, Samarahan, j = Kampung Bidak Plawan, Serian, k = Kampung Bako, Kuching, l = Matu/Daro, m = Long Sabai, n = Long Main, o = Ba'Buboi, p = Upper Reach Batang Rajang, q = Baram, r = Belaga, s = Julau, t = Kapit, u = Lawas, v = Limbang, w = Song.

Uses: F = Food, M = Medical, Tr = Trophies, P = Pet, Td = Trade, S = Sale, C = Cultural, D = Decoration.

References: 1 = Caldecott (1986), 2 = Chin (2002), 3 = Pereira et al., (2002), 4 = Rahman et al., (2003), 5 = Azlan & Mohd Faisal (2006), 6 = Pantel & Chin (2008).

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Malayan box turtle
Cuora amboinensis

Black flying squirrel
Aeromys tephromelas
Photo by



Malay civet
Viverra zibetha



Sambar deer
Cervus unicolor