

Protecting mammal diversity: opportunities and constraints for pragmatic conservation management in Cat Tien National Park, Vietnam

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Appendix

The mammals of Cat Tien National Park, Vietnam

English name	Status (evidence) ¹	Reference ²	Red List status ³
Pangolins (Pholidota, Manidae)			
Sunda pangolin <i>Manis javanica</i>	Confirmed (Ph, Cp)	9, 12	LR/nt
Insectivores (Insectivora)			
Moon rats & gymnures (Erinaceidae)			
Pig-tailed shrew <i>Hylomys suillus</i>	Possible (Cp)	4	
Moles (Talpidae)			
Himalayan mole <i>Talpa micrura</i>	Possible (Cp)	4	
Shrews (Soricidae)			
House shrew <i>Suncus murinus</i>	Possible (Cp)	4	
Grey shrew <i>Crocidura attenuata</i>	Possible (?)	1	
Tree shrews (Scandentia, Tupaiidae)			
Northern treeshrew <i>Tupaia belangeri</i>	Confirmed (Sp, Si)	9, 11, 12	
Northern smooth-tailed treeshrew <i>Dendrogale murina</i>	Confirmed (Si, Ph)	7, 9, 12	
Flying lemurs (Dermoptera, Cynocephalidae)			
Malayan flying lemur, colugo <i>Cynocephalus variegatus</i>	Possible (Si)	1, 12	
Bats (Chiroptera)			
Old World fruit bats (Pteropodidae)			
Leschenault's rousette <i>Rousettus leschenaulti</i>	Possible (?)	1	
Lesser dog-faced fruit bat <i>Cynopterus brachyotis</i>	Confirmed (Sp)	8	
Short-nosed fruit bat <i>Cynopterus sphinx</i>	Confirmed (Sp, Ph)	8, 10, 11	
Ratanaworabhan's fruit bat <i>Megaerops niphanae</i>	Confirmed (Sp)	8	
Dawn bat <i>Eonycteris spelaea</i>	Confirmed (Sp)	8	
Greater long-tongued fruit bat <i>Macroglossus sobrinus</i>	Confirmed (Sp)	10	
Sheath-tailed bats (Emballonuridae)			
Pouch-bearing tomb bat <i>Saccolaimus saccolaimus</i>	Possible (Si)	10	
False vampire bats (Megadermatidae)			
Lesser false vampire bat <i>Megaderma spasma</i>	Confirmed (Sp)	8, 10	
Greater false vampire bat <i>Megaderma lyra</i>	Confirmed (Sp)	8	
Horseshoe bats (Rhinolophidae)			
Acuminate horseshoe bat <i>Rhinolophus acuminatus</i>	Confirmed (Sp)	10	
Blyth's horseshoe bat <i>Rhinolophus lepidus</i>	Confirmed (Sp)	1, 8	
Least horseshoe bat <i>Rhinolophus pusillus</i>	Confirmed (Sp)	8	
Bornean horseshoe bat <i>Rhinolophus borneensis</i>	Confirmed (Sp)	8	
Lesser Brown horseshoe bat <i>Rhinolophus stheno</i>	Confirmed (Sp)	8	
Woolly horseshoe bat <i>Rhinolophus luctus</i>	Confirmed (Sp, Ph)	12	
Intermediate horseshoe bat <i>Rhinolophus affinis</i>	Confirmed (Sp, Ph)	8, 11	
Old-world leaf-nosed bats (Hipposideridae)			
Least roundleaf bat <i>Hipposideros cineraceus</i>	Confirmed (Sp, Ph)	10, 12	
Cantor's leaf-nosed bat <i>Hipposideros galeritus</i>	Confirmed (Sp, Ph)	8, 10, 12	
Himalayan leaf-nosed bat <i>Hipposideros armiger</i>	Confirmed (Sp, Ph)	1, 9, 11	
Intermediate leaf-nosed bat <i>Hipposideros larvatus</i>	Confirmed (Sp, Ph)	1, 8, 10, 11	
Tail-less leaf-nosed bat <i>Coelops frithii</i>	Confirmed (Sp)	10	
Evening bats (Vespertilionidae)			
Himalayan whiskered bat <i>Myotis siligorensis</i>	Confirmed (Sp)	8, 10	

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Thick-thumbed Myotis <i>Myotis rosseti</i>	Confirmed (Sp, Ph)	8, 10, 12	LR/nt
Moluccan whiskered bat <i>Myotis ater</i>	Confirmed (Sp)	8, 10, 12	
Nepalese whiskered bat <i>Myotis muricola</i>	Confirmed (Sp)	10	
Asiatic lesser yellow house bat <i>Scotophilus kuhlii</i>	Confirmed (Sp, Ph)	8, 10, 11	
Disc-footed bat <i>Eudiscopus denticulus</i>	Confirmed (Sp, Ph)	10, 12	
Bamboo or flat headed bat <i>Tylonycteris pachypus</i>	Confirmed (Sp, Ph)	8, 10, 12	
Kelaart's pipistrelle <i>Pipistrellus ceylonicus</i>	Confirmed (Sp)	8	
Javan pipistrelle <i>Pipistrellus javanicus</i>	Confirmed (Sp)	8	
Indian pipistrelle <i>Pipistrellus coromandra</i>	Confirmed (Sp)	8	
Thick-thumbed pipistrelle <i>Glischropus tylopus</i>	Confirmed (Sp, Ph)	10, 12	
Bent-winged bat <i>Miniopterus magnater</i>	Confirmed (Sp, Ph)	8, 10, 12	
Bent-winged bat <i>Miniopterus pusillus</i>	Confirmed (Sp, Ph)	8, 10, 12	
Hardwicke's forest bat <i>Kerivoula hardwickii</i>	Confirmed (Sp, Ph)	8, 11	
Papillose bat <i>Kerivoula papillosa</i>	Confirmed (Sp)	8	
Primates (Primates)			
Lorises (Loridae)			
Slow loris <i>Nycticebus coucang</i>	Possible (?)	1	
Lesser slow loris <i>Nycticebus pygmaeus</i>	Confirmed (Si, Ph)	4, 7, 9, 12	VU
Old-world monkeys (Cercopithecidae)			
Pig-tailed macaque <i>Macaca nemestrina</i>	Confirmed (Si, Rp)	1, 7, 9	VU
Rhesus macaque <i>Macaca mulatta</i>	Confirmed (Si, Ph)	7, 9	LR/nt
Crab-eating or long-tailed macaque <i>Macaca fascicularis</i>	Confirmed (Si, Ph)	1, 4, 7, 9, 12	LR/nt
Bear macaque <i>Macaca arctoides</i>	Confirmed (Si, Ph)	1, 4, 7, 9	VU
Langurs (Colubridae)			
Silvered leaf monkey <i>Trachypithecus cristatus</i>	Confirmed (Rp, Si)	1, 9	DD
Black-shanked douc langur <i>Pygathrix nigripes</i>	Confirmed (Rp, Ph)	1, 2, 3, 7, 9, 12	EN
Gibbons (Hylobatidae)			
Yellow-cheeked crested gibbon <i>Hylobates gabriellae</i>	Confirmed (Si, Ph)	1, 2, 3, 9, 12	VU
Carnivores (Carnivora)			
Dogs (Canidae)			
Dhole, Indian wild dog <i>Cuon alpinus</i>	Possible (Rp)	1, 7, 9	VU
Bears (Ursidae)			
Asiatic black bear <i>Ursus thibetanus</i>	Possible (Rp)	1, 9	VU
Sun bear <i>Helarctos malayanus</i>	Confirmed (Rp, Ph)	1, 7, 9	DD
Weasels, otters (Mustelidae)			
Yellow-throated marten <i>Martes flavigula</i>	Confirmed (Rp, Si)	1, 9, 12	
Hog badger <i>Arctonyx collaris</i>	Confirmed (Rp, Si)	1, 7, 9	
Large-toothed ferret badger <i>Melogale personata</i>	Confirmed (Cp, Ph)	1, 9, 12	
Eurasian otter <i>Lutra lutra</i>	Possible (Rp)	1, 9	
Smooth-coated otter <i>Lutrogale perspicillata</i>	Possible (Rm)	9	VU
Oriental small-clawed otter <i>Aonyx cinerea</i>	Confirmed (Ph)	7, 9, 12	LR/nt
Civets (Viverridae)			
Large Indian civet <i>Viverra zibetha</i>	Confirmed (Cp)	1, 9	
Large-spotted civet <i>Viverra megaspila</i>	Possible (Ph)	9	
Small Indian civet <i>Viverricula indica</i>	Confirmed (Si, Ph)	1, 9, 12	
Spotted linsang <i>Prionodon pardicolor</i>	Possible (Rm)	9	
Common palm civet <i>Paradoxurus hermaphroditus</i>	Confirmed (Si, Ph)	1, 5, 7, 9, 12	
Masked palm civet <i>Paguma larvata</i>	Possible (?)	1	
Small-toothed palm civet <i>Arctogalidia trivirgata</i>	Confirmed (Ph)	12	
Binturong <i>Arctictis binturong</i>	Confirmed (Rp, Si)	1, 9	
Mongoose (Herpestidae)			
Small Asian mongoose <i>Herpestes javanicus</i>	Confirmed (Si, Ph)	1, 7, 9, 12	
Crab-eating mongoose <i>Herpestes urva</i>	Confirmed (Rp, Si)	9	
Cats (Felidae)			
Leopard cat <i>Prionailurus bengalensis</i>	Confirmed (Rp, Ph)	1, 7, 9, 12	
Fishing cat <i>Prionailurus viverrinus</i>	Possible (Rp)	9	LR/nt
Golden cat <i>Catopuma temminckii</i>	Possible (Rp)	1, 4, 9	LR/nt
Clouded leopard <i>Pardofelis nebulosa</i>	Possible (Rp)	1, 4, 7, 9	VU

English name	Status (evidence) ¹	Reference ²	Red List status ³
Leopard <i>Panthera pardus</i>	Possible (Rp)	1, 4, 7, 9	
Tiger <i>Panthera tigris corbetti</i>	Possible (Rp)	1, 7, 9	EN
Elephants (Proboscidea, Elephantidae)			
Asian elephant <i>Elephas maximus</i>	Confirmed (Si, Ph)	1, 6, 7	EN
Odd-toed ungulates (Perissodactyla, Rhinocerotidae)			
Javan rhinoceros <i>Rhinoceros sondaicus annamiticus</i>	Confirmed (Si, Ph)	1, 5	CR
Even-toed ungulates (Artiodactyla)			
Pigs (Suidae)			
Eurasian wild pig <i>Sus scrofa</i> ⁴	Confirmed (Si, Ph)	1, 4, 7, 9, 12	
Chrevotains (Tragulidae)			
Lesser Malay mouse deer <i>Tragulus javanicus</i>	Confirmed (Si, Ph)	1, 9, 12	
Deer (Cervidae)			
Sambar <i>Cervus unicolor</i>	Confirmed (Si, Ph)	1, 4, 7, 9, 12	
Hog deer <i>Axis porcinus</i>	Possible (Rp)	4, 9	DD
Indian muntjac, barking deer <i>Muntiacus muntjak</i>	Confirmed (Si, Ph)	1, 4, 7, 9, 12	
Cattle (Bovidae)			
Gaur <i>Bos gaurus</i>	Confirmed (Si, Ph)	1, 7, 9, 12	VU
Banteng <i>Bos javanicus</i>	Possible (Rp)	1, 3, 7	EN
Wild water buffalo <i>Bubalus arnee</i>	Possible (Rp)	7, 9	EN
Southern serow <i>Naemorhedus sumatraensis</i>	Possible (Rm, Rp)	1, 4, 9, 11	VU
Rodents (Rodentia)			
Squirrels (Sciuridae)			
Black giant squirrel <i>Ratufa bicolor</i>	Confirmed (Si)	1, 4, 7, 9	
Pallas's squirrel <i>Callosciurus erythraeus</i>	Confirmed (Si, Ph)	1, 4, 7, 9	
Cambodian striped squirrel <i>Tamias rodolphii</i>	Confirmed (Si)	1, 4, 9	
Red-cheeked squirrel <i>Dremomys rufigenis</i>	Confirmed (Si)	9	
Indochinese ground squirrel <i>Menetes berdmorei</i>	Confirmed (Sp, Ph)	1, 4, 11	
Flying squirrels (Pteromyidae)			
Indian giant flying squirrel <i>Petaurista philippensis</i>	Confirmed (Rm, Si)	1, 9, 12	
Rats, mice (Muridae)			
Roof or house rat <i>Rattus rattus flavipectus</i>	Possible (Si)	9	
Ricefield rat <i>Rattus argentiventer</i>	Possible (?)	4	
Sladen's rat <i>Rattus remotus koratensis</i>	Possible (Si)	9	
Chestnut rat <i>Niviventer bukit</i>	Confirmed (Sp, Ph)	1, 9, 11	
Edwards's rat <i>Leopoldamys edwardsi</i>	Possible (Rp)	1, 8	
Yellow Rajah rat <i>Maxomys surifer</i>	Confirmed (Sp, Ph)	1, 4, 11	
Lesser white-toothed rat <i>Berylmys berdmorei</i>	Possible (Sp, Ph)	11	
Large bandicoot-rat <i>Bandicota indica</i>	Possible (?)	1, 4	
Burmese bandicoot-rat <i>Bandicota savilei</i>	Possible (Sp, Ph)	11	
Hoary bamboo rat <i>Rhizomys pruinosus</i>	Possible (?)	1	
Porcupines (Hystricidae)			
East Asian porcupine <i>Hystrix brachyura</i>	Confirmed (Si, Ph)	1, 9, 12	VU
Asiatic brush-tailed porcupine <i>Atherurus macrourus</i>	Confirmed (Ph)	1, 9	
Hares (Lagomorpha, Leporidae)			
Burmese hare <i>Lepus peguensis</i>	Confirmed (Si, Ph)	1, 9, 12	

¹Status: Confirmed, species recently (<5 years) sighted by reputable biologist or reported by two independent sources; Possible, species reported by one source but without clear indication of evidence (Si, sighting by author of reference, including quoted visiting specialist in reference; Sn, sign; Sp, specimen collected; Cp, captured animal examined; Rp, reports from local villagers and forest guards; Rm, remains examined in local village; Ph, photo or video footage available; ?, unknown on what basis species is listed by author).

²References: 1, FIPI (1993); 2, Eames & Robson (1993); 3, Dawson *et al.* (1993); 4, Le Xuan Canh *et al.* (1998); 5, Polet *et al.* (1999); 6, Polet & Pham Huu Khanh (1999); 7, Ling (2000); 8, Cao Van Sung *et al.* (2000); Judith Eger (unpub. field notes); 9, observations from visiting naturalists (incl. Murphy, 2001); 10, VRTC Centre (2002); 11, IEBR (2001); 12, Alex V. Borissenko & Natalia V. Ivanova, unpub. field notes.

³IUCN Red List Status: CR Critically Endangered, VU Vulnerable, LR/nt Lower Risk / near threatened, DD Data Deficient.

⁴All observations identifying *Sus scrofa* are based on exterior marks only. It is possible that *Sus bucculensis* also occurs in Cat Tien National Park and that some of the observed individuals belong to the latter species.