

WILDLIFE IN LAO PDR

1999 STATUS REPORT

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LARGE MAMMALS

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INTRODUCTION

Species Included

The following list includes all species of large mammal recorded (in some cases, provisionally) from Lao PDR, or believed likely to occur. 'Large mammals' are taken as those identifiable under typical field conditions (see Dorst and Dandelot 1970), with some modification to keep related species together. For example, most squirrels can be identified in the field, so even though species of *Hylopetes* are difficult to separate, all squirrels are treated in this chapter. Conversely, while some insectivores, bats and rats are readily identifiable under field conditions, most are not, so all species in these groups are considered in subsequent chapters.

Species are listed as confirmed in Lao PDR only where a documented record has been traced. Portrayal of parts of Lao PDR in generalised range maps (e.g. Lekagul and McNeely 1977, Corbet and Hill 1992) is not sufficient, as most maps extrapolate to some degree. Compared with birds, recent recording of mammals in Lao PDR has been less complete, and documentation of historical specimens less thorough. There seem to be no confirmed Lao records yet for several species likely to occur (or formerly to have done so), some of which are of high conservation concern (e.g. Wild Water Buffalo). Species likely to occur in Lao PDR are included in the following list (in square brackets). To place them in an appendix of hypothetical species would deflect attention from them, yet many merit high priority in conservation planning. Some of the species listed recently and/or widely for Lao PDR for which no acceptable evidence has been traced, and which seem unlikely to occur, are relegated to an appendix at the back of this list. Other species have been claimed from Lao PDR but inclusion in the appendix is restricted to those listed in otherwise authoritative sources or other cases where genuine confusion may result. Domestic species are not discussed at all if there is little likelihood of the establishment of feral populations, based on known behaviour and habitat requirements (e.g. horse, donkey). The four domestic species listed (dog, cat, cattle and water buffalo) are square-bracketed as there is no recent evidence of feral populations in Lao PDR. There is reasonable historical evidence and/or good behavioural or ecological reasons to expect that feral populations of all four could exist, or may once have done so, within Lao PDR.

Well over a hundred species defined here as large mammals are likely to occur in Lao PDR. A precise total of species so far confirmed from the country would mean little. The pace at which further species are being confirmed to occur, and the ongoing investigation of groups of uncertain

taxonomy (notably lorises, langurs, pigs, muntjacs and squirrels) would make any calculated figure obsolete within months of publication.

Taxonomy and Scientific Nomenclature

Sequence, species limits and scientific names follow *Mammals of the Indomalayan Region* (Corbet and Hill 1992), with, in addition to the incorporation of species discovered subsequently, two exceptions:

1. the gibbon taxon *siki* is regarded as a race of *Hylobates leucogenys*, not of *H. gabriellae* (Geissmann 1995);
2. the pig taxon *bucculentus* is considered a full species, not questionably synonymous with *Sus verrucosus* (Groves *et al.* 1997).

Alternative species limits or scientific names in selected works are given: ^{M1}Prater (1971), ^{M2}Lekagul and McNeely (1977), ^{M3}Payne *et al.* (1985), ^{M4}Corbet and Hill (1991), ^{M5}Corbet and Hill (1992), ^{M6}Wilson and Reeder (1993) and ^{M7}IUCN (1996).

World species totals for families are taken from Wilson and Reeder (1993), adjusted to reflect differing family limits in Corbet and Hill (1992). For example, Corbet and Hill separated flying squirrels Pteromyidae from non-flying squirrels Sciuridae, while Wilson and Reeder placed all species within Sciuridae.

English Names

No single source lists English-language names for all Lao large mammals. While careful consideration about the role and desirable characters of common names has been given to the region's birds (e.g. King *et al.* 1975, Sibley and Monroe 1990, Inskipp *et al.* 1996), this subject has received little attention for mammals, despite its high conservation importance (see Pine 1993). Thus, an English name has been selected for each species, using the principles (of non-ambiguity, stability of usage, accuracy and brevity) of King *et al.* (1975) and Inskipp *et al.* (1996). Comprehensive listing of all alternatives to the selected name would be impracticable and of limited value, but a selection is given, including all those in the following sources: ^{M1}Prater (1971), ^{M2}Lekagul and McNeely (1977), ^{M3}Payne *et al.* (1985), ^{M4}Corbet and Hill (1991), ^{M5}Corbet and Hill (1992) and ^{M7}IUCN (1996). These include all of the books in wide use in Lao PDR containing English names of mammals. A separate document explaining the choice of individual names is under preparation.

Distribution and Habitat

National distribution for each species is indicated according to the three-way split of Lao PDR into north, central and south (see Introduction). A primary source is cited for each region, with a focus on recent (post-1988) information in refereed journals rather than data in internal survey reports

Houayxai (Bokeo Province). Fraisse (1955) was very doubtful that tapirs inhabited Indochina, despite being aware of Cheminaud's market observation: he gave no reasons for rejecting the latter. He also discussed some (rather unconvincing) local reports from Kon Tum Province, Vietnam, which Deuve (1961b) mistakenly cited as referring to Attapu, although Attapu was mentioned by Fraisse merely because some Kon Tum residents had learnt the Lao language through trade with merchants from Attapu. Deuve (1972) repeated the claim of occurrence in Attapu Province, but considered that no tapirs had been caught or killed since at least 1950. Monestrol (1952) was clearly sceptical of the species's presence in Indochina. Deuve (1961b) considered, on the basis of recent work in Khammouan, Savannakhet and Champasak Provinces, that the animal might already be extinct in Lao PDR. Tapirs were not recognised (from monochrome drawings) or indicated as ever having been present during any 1988-1993 village interviews ($n = 138$ interviews in which tapir was discussed). Of these areas, 62 were in or adjacent to areas reported by Deuve (1972) or Chazee (1990) to be inhabited by tapirs. Further investigation by KK in many areas across the country during 1994-1998 also failed to elicit any recognition of tapir. At least some interview respondents who appear to recognise a picture of a tapir are referring to Hog Badger (WGR). If it occurs, Asian Tapir would be very vulnerable to hunting, so it is classed as Conditionally At Risk in Lao PDR.

Conservation Management and Research Proposed for Asian Tapir:

- Confirmation or refutation of occurrence in Lao PDR. The recent failure to locate any local people knowing the animal, or to find any signs during field survey, suggests that the chances of finding the species are minimal. Thus, specific action has a low likelihood of producing positive results and would divert resources from higher conservation priorities. Pending information about the current presence of tapir, work should be confined to including it in interviews and being alert for possible field signs.
- Careful consideration during any further interviews of the danger of Hog Badger / tapir confusion.

Rhinocerotidae: Rhinoceroses (2 species in Lao PDR; 5 worldwide)

• **Rhinoceros sondaicus Lesser One-horned Rhinoceros** (= Javan Rhinoceros^{M4, M5, M7}; = Smaller One-horned Rhinoceros^{M1}). *Conservation Significance:* Globally Threatened - Critical: Conditionally At Risk in Lao PDR; CITES Appendix I. Among the rarest large mammals in the world, now known only from one site each in Java and southern Vietnam (Foose and van Strien 1997). *Documented Range*

and Habitat: Possibly extinct in Lao PDR; probably formerly occurred across the country (Rookmaaker 1980). Former habitat use unclear; post 1940s records of rhinos (below) were associated with isolated, heavily forested, mountainous areas (Deuve 1972) or well-watered lowlands in the vicinity of hills (Neese 1975). *Status Information:* The only documented Lao record of this species may be a sketch of an animal killed east of Louangphabang (Mouhot 1864). High levels of field work since 1991 (including many of the areas with post-1940 rhino claims), found no rhinoceros tracks or signs. The circumstantial information accumulated is considered below.

• **Dicerorhinus sumatrensis (= Didermocerus sumatrensis^{M1}) Asian Two-horned Rhinoceros (= Sumatran Rhinoceros^{M4, M5, M7}; = Asiatic Two-horned Rhinoceros^{M1}).** *Conservation Significance:* Globally Threatened - Critical; Conditionally At Risk in Lao PDR; CITES Appendix I. *Documented Range and Habitat:* Possibly extinct; formerly at least north (David-Beaulieu 1944). Former habitat use unclear, but remains were observed in villages in hills and mountains. *Status Information:* Delacour (1940) observed a 'beautiful double horn' at Ban Nonghet (Xiangkhouang Province), but gave no details; his statement that the species could be extinct in Indochina suggests that the specimen was not recent. He suspected that the species had occurred in Indochina mainly in the north. Monestrol (1952) reported a head skin retaining both horns, reportedly from Lao PDR, but gave no details. Rookmaaker (1980) reviewed information possibly pertaining to this species in Indochina, but overlooked the most conclusive evidence of its presence: David-Beaulieu (1944) found in local keeping an unspecified number of remains of two-horned rhinoceroses in Xiangkhouang Province in five years' residence. The species was by then evidently very rare as he knew of none being killed during the period. Deuve (1972) stated that local hunters reported the species to survive in isolated areas of the Annamites. Rookmaaker (1980) felt that the lack of evidence of the species from Indochina argued against its existence. The discovery of several new species of ungulate in recent years in the Annamites, however, suggests that the lack of historical evidence of this rhinoceros in Lao PDR means little, especially as it may well have inhabited hills and mountains (see Groves 1967), which were the least explored areas of Indochina.

Status Information on Rhinoceroses: After 1940, rhinos disappeared from much of their Lao range (Deuve 1972). Locality records since then (all assigned by Deuve 1972 to Lesser One-horned Rhinoceros) come from the Nam Tha Plain (Area A on map in Annex 5, 1961), the Nam Phoun (B, 1957), south of Ban Nonghet (C, 1940-1959), upper Nam Mouan and drainages on the right bank of the Nam Kading (D, 1945-1961), Kengkabao (E, 1954), and the wild area between the Nam Mo and the Nam Kading (C-D). Neese (1975) received reports, again suggesting Lesser One-horned

Table 15. Summary of observations of rhinoceros products, 1988-1993.¹

<i>Vientiane 1988-1993</i> Whole horns and pieces displayed by a number of jewellery shops. No comprehensive inventory was made, but up to 10 horns and 75-100 small pieces were observed in shops in the central market on a given day. The eventual destination of the larger horns is believed to be Chinese pharmacies in Bangkok (Martin 1992). Of eight horns examined in 1990 four were considered to be from Asian Two-horned Rhinoceros, two were possibly from Lesser One-horned Rhinoceros, and two were unidentifiable (Martin 1992).
<i>Louangphabang 1989</i> Three to five horns observed in market (Chazee 1990).
<i>Pakxe 1989</i> Three small pieces of horn in jewellery shops.
<i>Savannakhet 1990, 1993</i> Advised by three jewellery shop owners in 1990 that old rhino horn offered for sale by villagers is purchased by them for resale to buyers from Thailand. Estimated 13 horns purchased and resold by two shops in 1989. Origin Kengkok in south of Savannakhet Province. One horn ~5 cm diameter and two small pieces in silver bases seen in 1993 (RJTim own data).
<i>Xam-Nua 1991</i> One old horn in shop in central market, purchased from villager resident near Vietnamese border. Stall owner estimated ~10 horns sold in recent past, largest 0.5 kg. Destination Thailand.
<i>Thakhek 1991</i> One piece of horn in jewellery shop, set in silver base.
<i>Attapu 1992</i> One old piece of horn in jewellery shop, origin reportedly Attapu.
<i>Salavan 1992</i> Two pieces of horn and one small piece of skin in jewellery shop, bought from villagers resident in Vietnamese border area.

Some 'rhinoceros horn' for sale is fake, and although the best effort was made to restrict data in this table to genuine horn, it is possible that some data refer to fake horn. Additionally, in most cases it was not possible to age the horn, and the balance between old and fresh horn is unknown.

¹all information is from Salter (1993a) unless otherwise specified. Very little specific checking for this product has been carried out since.

Rhinoceros, from areas now in Dong Hua Sao and Xe Sap NBCAs, the northern part of Nam Ghong Provincial PA, and from a scatter of other areas across south Lao PDR. He considered that rhinos survived at low density. These records and other historical information were reviewed by Rookmaaker (1980: 254), whose cautions about identifying South-east Asian rhinos to species attach some doubt to the identifications of past Lao reports. Past workers assigned the Lao name *Het* to *Rhinoceros*, and *Sou* to *Dicerorhinus*, names which accord with those in Thai for the two, *Raed* and *Krasou* respectively (J. Baker verbally 1999). Recent investigation by KK found, however, that villagers from Nam Phoun, Nakai-Nam Theun and Dong Ampham NBCAs (i.e. spanning the country) all stated that *Het* refers to a male, and *Sou* to a female, rhinoceros. Past usage, and any regional variations in it, can probably never be elucidated. The predominance of past Lao rhinoceros records to '*Het*' may well indicate that Lesser One-horned Rhinoceros was more common than was Asian Two-horned. The frequency of reports of one-horned animals cannot be taken alone to suggest Lesser One-horned; the second horn of Asian Two-horned Rhino is sometimes barely visible, thus suggesting a one-horned animal (Rookmaaker 1980).

Circumstantial evidence for the survival of rhinoceroses in Lao PDR into the late 1980s comes from several villagers' reports, and from observations on trade in horns and other

parts (Table 15). Post-1940 and recent records are grouped along the central Annamites (areas C-D, 3-5), incorporating the Nam Xam, Nam Chouan (proposed), Nam Kading, Nakai-Nam Theun and Khammouan Limestone NBCAs, and this region is perhaps the most likely in Lao PDR to support living rhinoceroses. Reports also came from the Lao/Thai border in Xaignabouli Province, Phou Khaokhoay NBCA, the far south, and other areas as listed in Duckworth and Hedges (1998a). Fieldwork during 1992-1998 found no field evidence of rhinos, and further interviews in these and other areas have traced no detailed first-hand description of a recent incident. Robichaud (1998d), who received 1998 assurances that rhinos persisted near Nam Chouan PNBCA but could get no detail, speculated that it may be difficult to get details as some ethnic groups have taboos against speaking about rhinos. Neese (1975) also discussed this issue. The strongest recent evidence is from remote parts of the Nam Theun catchment, where it appears that a rhinoceros was shot around 1990; at least one small piece of skin from the animal was stated to be retained by a villager (reported, independently, to RJTim in 1994 and to J. Baker in 1998). According to villagers, rhinos disappeared from most of south Lao PDR during the 1940s to 1960s. They also seem to have disappeared from the north; no rhinos were reported in 17 village interviews conducted in 1991 in the Louang-Namtha region indicated by Deuve (1972) as supporting them into the 1960s, although one

recent interview claimed the presence of rhinos in the area in the 1950s. Even in the areas with recent local reports, most respondents made clear that these were isolated events.

Rhinoceroses have long been hunted in Lao PDR, as the horn and other parts are used in traditional medicine (Deuve 1972, Baird 1995b). The main destination of rhinoceros products appears to be Bangkok, where during the 1960s and 1970s traders purchased large quantities of horn originating in Lao PDR (Martin 1992). Horns, and less frequently toenails, blood and skin, were marketed openly in Vientiane and provincial centres into the 1990s (Martin 1992, Salter 1993a); there is little recent information. The main agents are jewelers, probably because they can afford the stock brought in by villagers (Martin 1992). The main use is believed to be medicinal, although some small pieces are polished and set in silver bases for display. Many small pieces are obvious fakes made from bone, buffalo horn or wood. Much horn observed (see below) was clearly antique but some may have come from recently killed animals (Martin 1992).

Both species, if present in Lao PDR, are clearly on the verge of extinction and so are classed as Conditionally At Risk in Lao PDR.

Conservation Management and Research Proposed for Rhinoceroses:

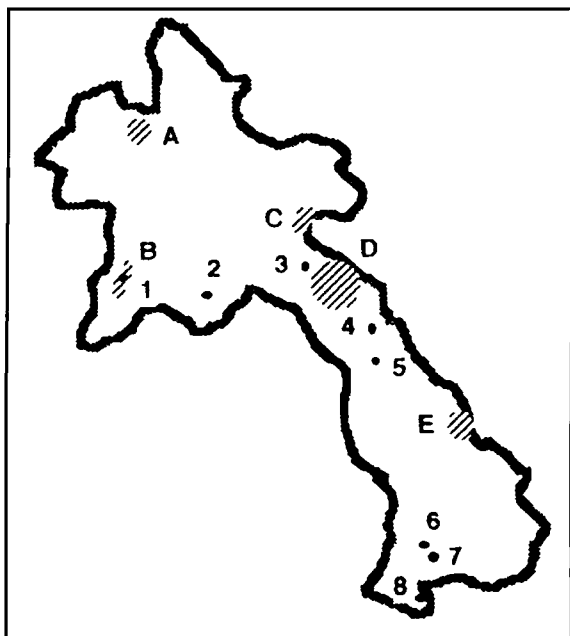
- Specific searches for rhinos in Nam Chouan PNBCA, from which there are several plausible reports of recent presence. On general bird and mammal grounds, Nam Chouan PNBCA is a high priority for survey as it is likely to support a very important community. Work for rhinos should therefore be in the context of a general wildlife and habitat survey of the area.
- These two rhinoceroses are among the world's most endangered mammal species. Any populations confirmed to persist in Lao PDR would be of the highest global and national conservation priority, but the chances of finding either species are low. Thus, survey action away from Nam Chouan PNBCA should largely be confined to including the species in interviews and remaining alert for field signs, particularly in the area of Nakai-Nam Theun NBCA and Nam Theun Extension PNBCA (see also tapir).
- Immediate field follow-up of any suggestive interview results, signs found during general wildlife surveys, or other indications of presence.
- Development of effective protective measures for any remaining wild populations, guided by the discussion in Foose and van Strien (1997). *Ex-situ* activity, perhaps as fenced, guarded enclosures within natural habitat might be advisable. True *in situ* conservation (management of populations within their natural range and habitat) would be extremely challenging, given the lure of the species to poachers.
- Resolution of the legal protection status of species of rhinoceros in Lao PDR and control of the domestic use and marketing of all rhinoceros products.

- Educational campaigns across the country concerning the conservation impacts of medicinal use of rhinoceros horn and other body parts are needed in Lao PDR, for the global conservation of the species, even if no rhinoceroses remain in Lao PDR.

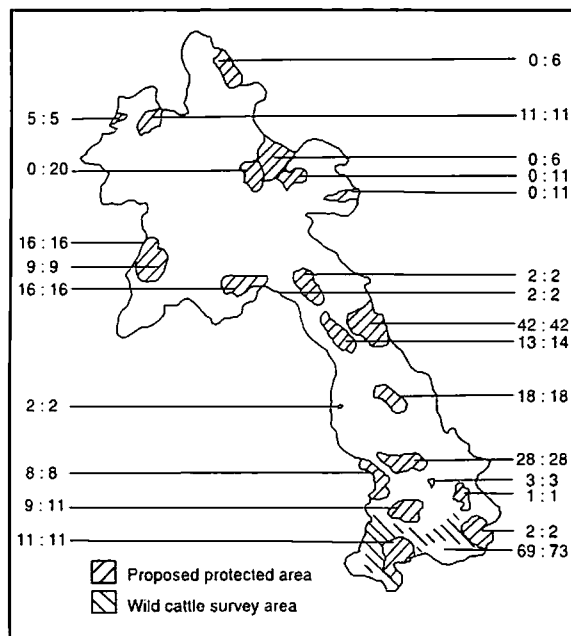
Suidae: Pigs (2 species in Lao PDR; 16 worldwide)

- *Sus scrofa* Eurasian Wild Pig (= Wild Boar^{M4, M5}; = Common Wild Pig^{M2}; = Indian Wild Boar^{M1}). *Conservation Significance*: Little Known in Lao PDR. *Documented Range and Habitat*: Range unclear; past records need re-evaluation. Wild pigs (species unclear) occur in many habitats, from cultivation to wet forests, surviving well in degraded areas. *Status Information*: The many previous pig records from Lao PDR given as *S. scrofa* should not be assumed to relate to that species, now that *S. bucculentus* has been found in Lao PDR. The latter is known only from bones, meaning that pig sign and sight records from across Lao PDR (Table 12) are best considered as of 'unidentified pig sp.'. Historical specimens of '*S. scrofa*' merit re-examination. Pigs (species unclear) are widespread and common in Lao PDR, but pending clear guidelines on distinguishing the two species, *S. scrofa* can only be considered Little Known in Lao PDR. *Taxonomic issues*: The effects, if any, of interbreeding with domestic pigs on the genetic purity of wild pigs in Lao PDR are unknown. The whole *Sus scrofa* complex needs taxonomic revision: it is unlikely that only one species is involved (C. P. Groves *in litt.* 1999).

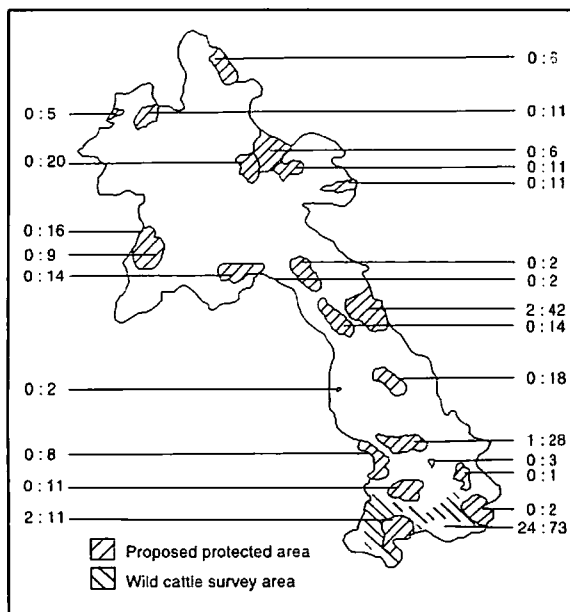
- *Sus bucculentus* Heude's Pig (= Indochinese Warty Pig; = Vietnam Warty Pig^{M7}); (?included in *S. verrucosus* Javan Pig^{M5}). *Conservation Significance*: Extinct (classification assigned before the 1995 rediscovery); Little Known in Lao PDR. Probably endemic to Lao PDR and Vietnam (Groves *et al.* 1997, RJTim). *Documented Range and Habitat*: North (Groves *et al.* 1997). Habitat use unclear. *Status Information*: A partial skull was collected from hunters along the Nam Gnouang (Nam Theun Extension PNBCA) in January 1995 (Groves *et al.* 1997). Village reports suggest that two types of pig, one of which may be this species, co-occur widely in the Annamites from Xiangkhouang Province south to Xe Sap NBCA (Table 12; Schaller and Robichaud 1996) and perhaps in Nam Et / Phou Louey NBCAs (Davidson 1998). Interpreting these reports and the field identification of pigs are both hampered by the lack of understanding of interspecific differences in signs and external appearance. Although villagers consistently describe the 'second' pig in Lao PDR as yellow or red, to use this as a diagnostic feature of *S. bucculentus* would be rash as "overall coat-colour in adult [*Sus*] is not species characteristic" and furthermore the



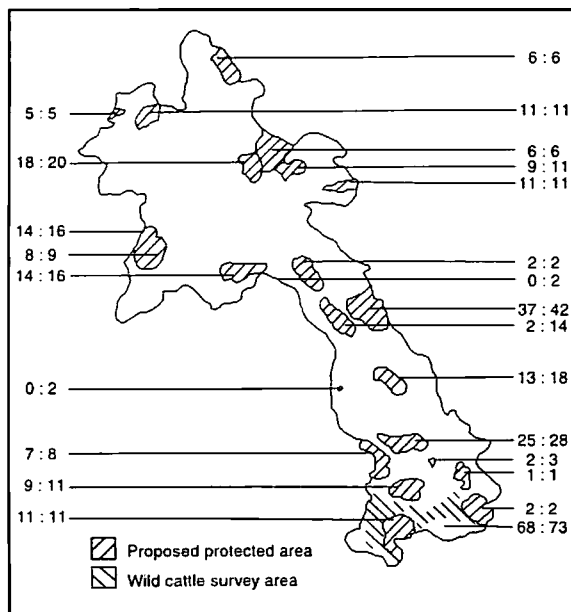
Reports of rhinoceroses during village interviews, 1988-93, compared with post-1940 distribution of Javan Rhinoceros reported by (29).



Reports of chevrotains during village interviews in and around proposed protected areas, 1988-93. xx: = number of villages reporting species in vicinity, :yy = total number of villages at which interviews were conducted.



Reports of Eld's Deer during village interviews in and around proposed protected areas, 1988-93. xx: = number of villages reporting species in vicinity, :yy = total number of villages at which interviews were conducted.



Reports of Sambar during village interviews in and around proposed protected areas, 1988-93. xx: = number of villages reporting species in vicinity, :yy = total number of villages at which interviews were conducted.