

**A Preliminary Wildlife and Habitat Survey of  
Phou Dendin National Biodiversity  
Conservation Area,  
Phongsali**

A report prepared for  
the Center for Protected Areas and Watershed Management,  
Department of Forestry, Ministry of Agriculture and Forestry  
Lao People's Democratic Republic

by the  
Cedar Grove Ornithological Research Station, Inc. (USA)

William Robichaud (CGORS)  
and  
Bounhom Sounthala (DoF)

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## INTRODUCTION

The principal focus of this survey was an investigation of reports made three years ago by residents of Muang Hat Hin, Phongsali Province that White-eyed River Martins (*Pseudochelidon sirintarae*) were present along the Nam Ou near the village, in Phou Dendin National Biodiversity Conservation Area. The White-eyed River Martin is a species known only from several winter records in central Thailand. It has not been seen for many years and is believed possibly extinct (Lekagul and Round, 1991). The secondary goal of the survey, as time allowed, was a preliminary assessment of the wildlife and habitat of Phou Dendin NBCA. The survey spent a total of ten days in the reserve, from 24 May to 2 June, 1995.

### Abbreviations, Conventions and Geographic Corrections

DoF: Department of Forestry of the Lao PDR.

gbh: girth at breast height

MAF: Ministry of Agriculture and Forestry

NBCA: National Biodiversity Conservation Area

In this report the NBCA surveyed is spelled Phou **Dendin** rather than ‘Dene Dinh’ as has been used in other reports. The former matches the spelling on standard topographic maps of the mountain for which the area is apparently named, and it is suggested that this spelling be adopted by future workers. (Note: The 1987 edition 1:200 000 Lao government topographic maps show two “Phou Dendins” in the NBCA, one on the Vietnamese border east of the Nam Va and one on the Vietnamese border east-northeast of the Nam Ou/Nam Khang confluence; the latter mountain, however, is the highest point in the NBCA at 1948m and is probably the one after which the NBCA has been named).

The provincial MAF office has established a buffer zone (where tree cutting is permitted, but hunting is not) around the main core of the NBCA (where both tree harvesting and hunting are prohibited, officially if not in reality as yet.) In this report ‘Phou Dendin NBCA’ is taken to mean only the core area, which southern boundary is the Nam Va.

For birds, species order follows that of King *et al.* (1975), but common names and taxonomy follow Ledagul and Round (1991). Mammal taxonomy follows Cornet and Hill (1992).

The villages of Ban Phou Mange, Ban Sop Khan and Ban Than mentioned in the text are absent from the 1987 edition 1:200 000 topographic maps, and their locations (or approximate locations) are shown in Figure 1. In addition, the topographic maps mislocate Muang Hat Hin. It stands at the site shown for ‘Ban Sing’ (which apparently does not exist), and there is currently no village where the maps site Muang Hat Hin (see Figure 1).

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recorded during the survey. In Phongsali the prompt and cordial assistance of the provincial office of the MAF was most helpful. We thank it's director, Mr. Oon Kham, its vice-director, Mr. Bualui (to whom we owe a special debt for his help) and our local MAF guide, Mr. Taonu. Lastly, we acknowledge the kind assistance given to us by the headmen and people of the villages of Muang Hat Hin and Ban Than.

### **Personnel**

William Robichaud (WGR), Cedar Grove Ornithological Research Station, Inc.  
Bounhom Sounthala (BS), DoF

### **Itinerary**

22 May 1995: WGR and BS traveled by air to Luang Pabang; checked the Phousi Hotel for captive wildlife (none found). Continued by air to Udomxai; checked the Udomxai market for wildlife (none found) and the Phousai Hotel. Traveled by road to Muang Khoa and stayed the night there.

23 May: Traveled by motor boat up the Nam Ou to Ban Hatsa,, and from Ban Hatsa traveled by truck to Phongsali. In Phongsali met with officials from the MAF, Phongsali Province. Checked the afternoon market for wildlife (none found), and stayed the night in Phongsali.

24 May: Acquired a guide (Mr. Taonu) provided by the MAF office, and returned by MAF truck to Ban Hatsa. In Hatsa hired a motor boat and continued upriver on the Nam Ou. In mid-afternoon reached Nam Va, the southern boundary of Phou Dendin NBCA. Stopped briefly at a new village, Ban Phou Muang, to interview the residents. In late afternoon reached the mouth of Nam Khan and made camp. WGR birded on foot up the Nam Khan until dusk.

25 May: At dawn WGR birded on foot up the Nam Ou and around a saltlick upriver from camp. At 07h 10 the party continued up the Nam Ou by motor boat, and arrived at Muang Hat Hin at 10h 10; questioned villagers about the presence of White-eyed River Martins in the area. WGR spent the afternoon birding on forest trails behind Hat Hin. BS interviewed residents of Hat Hin about the presence of other wildlife in the area. Stayed overnight in Hat Hin.

26 May: While BS remained in Hat Hin with a fever, WGR and Mr. Taonu left in the morning on foot for Ban Than, a Hmong village above the Nam La. They walked north along the west bank of the Nam Ou until opposite the mouth of Nam La, crossed the Nam Ou by boat, and walked slowly east-northeast along the north side of Nam La. In the afternoon they ascended a mountain trail north of Nam la and reached Ban Than at 17h 40. In the evening interviewed villagers about wildlife in the area. Stayed the night in the village.

27 May: WGR birded in the morning near the village. At 08h 30 he left with two guides and descended to a forested stretch of the Nam La northeast of the village. Spent the day walking slowly up the Nam La's forested upper reaches. Stopped and made camp at 16h 10, elevation 1025m. After setting camp WGR birded nearby until dusk.

Back in Hat Hin, BS boated up the Nam Khang to Ban Sop Khang, where he interviewed the residents about the area's wildlife.

28 May: Heavy rain kept WGR and the two guides in camp until 09h 00, at which time they crossed to the south side of the Nam La and began to ascend a ridge. Reached the top

(approximate elevation 1200m) at about 10h 30 and walked southwest down the spine. In the afternoon they descended back down to the Nam La and arrived back in Ban Than at 17h 00. Spent the night in the village.

29 May: In the morning WGR birded along trails near Ban Than. AT 09h 00, WGR and Taonu left the village and retraced their route back to Muang Hat Hin, with the exception that this time they boated down the Nam Ou instead of walking along the bank. Arrived back in Hat Hin at 18h 33, and spent the night.

30 May: WGR birded in the morning along the trail that leads from Hat Hin to Phongsali. By mid-morning, however, a health problem (severe skin rash) forced him back to the village where he remained for the rest of the day. In the morning BS and Taonu crossed the Nam Ou by boat and walked up the Nam Nu to survey the habitat along this tributary. They returned to Hat Hin at midday. Stayed the night in Hat Hin.

31 May: AT 06h 20 WGR, BS and three guides left Hat Hin by motor boat and headed up the Nam Ou to survey riverine wildlife and habitat. At about 16h 00 the party stopped to make camp on the north bank at approximate coordinates 22° 06'N x 102° 07'E. Heavy rain delayed birding in the forest and examination of a nearby temple ruin until nearly nightfall.

1 June: WGR birded along wildlife trails in the area from dawn until 10h 45, but activity was suppressed by continuing rain. At 11h 30 the party departed camp for Hat Hin, paddling down the river without motor power to facilitate wildlife observations. Resumed motor power from 12h 40 to 13h 20, following which time the motor was removed to facilitate easing the boat over the many rapids. Arrived back in Hat Hin at approximately 18h 30 and stayed the night.

2 June: WGR birded along the trail leading upriver from Hat Hin from 05h 45 to 07h 00. AT 08h 00 WGR, BS and Taonu left Hat Hin by motor boat to return to Phongsali. Stopped to interview locals at the mouth of Nam Va. Reached Ban Hatsa at 13h 20 and in late afternoon traveled by MAAF truck up to Phongsali, arriving at 20h 30, where the party stayed the night.

3 June: WGR birded in scrub forest above Phongsali from 05h 15 to 07h 00, but rain and fog hampered observations. In mid-morning WGR and Bs met with Mr. Bualui of MAF and reported the findings of the Phou Dendin survey. WGR and Taonu birded on Phou Fa mountain above Phongsali from 15h 00 (delayed by rain) to 18h 15. Stayed overnight in Phongsali.

4 June: In the morning WGR and BS returned by truck to Ban Hatsa, and from there traveled by fast boat to Muang Khoa, arriving at about 12h 00. Remained in Muang Khoa for the afternoon and stayed the night.

5 June: At 07h 30 departed Muang Khoa by slow motor boat down the Nam Ou and Mekong toward Luang Pabang. WGR birded in the morning from the roof of the boat, but was eventually forced inside by rain. Arrived in Luang Pabang just after 17h 00 and spent the night.

6 June: Returned by plane to Vientiane.

## *FINDINGS*

### **WHITE-EYED RIVER-MARTIN**

No White-eyed River-Martins were found and it was determined that the residents of Muang Hat Hin who had previously reported their presence had confused the bird with Common Blackbird (*Terodus merula*). Nor was any of the presumed breeding habitat of the species, riverine sand bars and banks, found along the Nam Ou.

## **PHOU DENDIN NBCA: HABITAT**

### **Forest Cover**

Along the Nam Ou: The provincial MAF office in Phongsali has mapped two sets of boundaries for Phou Dendin NBCA, one inside the other. The smaller, interior area, which corresponds to the one on maps WGR examined in the DoF office, Vientiane, is bordered on the south by the Nam Va. In this area felling trees and killing wildlife is prohibited. This core area is surrounded by a buffer belt in which cutting trees is permitted but hunting is still prohibited.

When heading north by boat on the Nam Ou the transition from the buffer area where tree cutting is permitted to the core area where it is prohibited is dramatic. Virtually all slopes along the Nam Ou from Ban Hatsa up to the Nam Va, which marks the border between the core and buffer areas, are covered in young, nearly treeless scrub and bamboo, presumably the aftermath of recent hillside rice cultivation. Immediately north of Nam Va one encounters for the first time large bands of forest (probably semi-evergreen) of various quality. Undoubtedly none of it is primary forest, but much of it has clearly not been cut for many years. This sharp transition perhaps attests to the provincial MAF office's effectiveness in controlling tree cutting in the core area, despite the handicap of limited human and financial resources.

However, as one nears Muang Hat Hin (which lies within the core area), the habitat near the river again deteriorates. A few kilometers south of Hat Hin can be found many slopes in current and recent cultivation, and small, temporary satellite villages established for the purpose of cultivating hillside rice.

Immediately behind the village of Hat Hin is a ridge of good secondary forest, which starts at the back edge of the village. The extent of this forest to the south and west is not known, but it ends abruptly a few hundred meters north of the village where the slope facing the Nam Sing has been cleared this year for cultivation. Continuing north, level topography around the mouth of the Nam La has allowed cultivation of paddy rice on both sides of the Nam Ou. Beyond this, forest cover is intermittent until the confluence of the Nam Khang. From the Nam Khang confluence upriver as far as the survey team traveled (see Fig. 1) the Nam Ou is framed on both sides by slopes of unbroken semi-evergreen (?) forest. The forest varies in quality, with some stretches (especially down near the Nam Khang) mixed with some bamboo, but there are no areas of recent cultivation or commercial felling and no human habitation. The forest at the farthest point reached was found to contain a mix of some Dipterocarps, and some specimens of this and other broadleaf general at the site had gbh's greater than 3m. Guides reported that the forest cover along the Nam Ou remains excellent to the western boundary of the NBCA and beyond, almost to Ban Muang-OU Tai.

Along the Nam Nu: The Nam Nu is a tributary which joins the Nam Ou from the east directly opposite Muang Hat Hin. BS surveyed the habitat along the river on foot and found that scrub predominates along the first 500m nearest the Nam Ou. Beyond this forest resumes, with broadleaf trees of gbh up to 3m present. It was difficult to survey very far into this forest due to an absence of trails.

Along the Nam La: The Nam La is a tributary which joins the Nam Ou from the east, north of Muang Hat Hin and south of the Nam Khang confluence. The most recent topographic maps (1987) fairly accurately reflect the condition of habitat along the Nam La. The level area within about four kilometers of its mouth at the Nam Ou has been converted almost entirely to rice paddy. At one point the foot trail crosses the Nam La at a saltlick, which a guide said is used by muntjac and Sambar, but not Elephants. Upriver, further northeast, the topography steepens and the paddies give way to bands of secondary forest and mixed bamboo. As one continues upriver, this gives way again to another small level valley covered in low scrub and grasses, presumably the result of recent cultivation. Along the upper reaches the topography steepens again and the stream cuts through fairly good forest, broken by small patches of bamboo and wild banana on steep riverside slopes susceptible to landslides and flooding.

Ridges Above the Nam La: Two mountain ridges were ascended above the Nam La, one to reach Ban Than and one farther northeast and on the other side of the river (see Fig. 1). Predictably, the ridge on which stands the Hmong village of Bang Than is covered largely by low scrub owing to recent hillside rice cultivation. Below the village a network of trails leads through secondary forest which harbored a good variety of birds. The other ridge visited, northeast of the village and above the Southeast side of the upper Nam La, is well forested. The dominant tree species is a broadleaf with an average girth of about 90cm, but an average crown height estimated at only 15m. A month before our visit a forest fire had burned the ridge and destroyed virtually all understorey vegetation less than 2m tall.

Along the Nam Khang: The Nam Khang was not surveyed for forest cover, but it was noted that following heavy rain it, unlike the forested upper Nam Ou which meets it, flowed red with sediment. This indicates that extensive slopes upstream have been denuded.

East of the Nam Ou, between Nam Va and Nam Khan: According to Klaus Berkmueller (pers. comm.) this area probably contains the best quality forest (i.e., largest trees) in the NBCA. The survey team did not enter the area, but we interviewed local people at the Nam Va, the southern limit of this area. They reported good forest along the Nam Va, but much cultivation along its upstream tributary, Houei Vi, which cuts deeply into the area. It was noted that at the mouth of the Nam Va, downstream of Houei Vi, the water was red with sediment.

## **WILDLIFE**

### **Birds**

Following are individual accounts of Key Species found to be present in Phou Dendin NBCA. Key Species are those which are Globally Threatened or Globally Near-threatened (Collar *et al.* 1994), Regionally at Risk (Treesucon and Round 1990) or suffering a National Historical Decline (Thewlis *et al.* in prep.). Appendix 1 lists all species of birds observed during the survey, their status in Phou Dendin NBCA and sighting location. Following completion of this report Philip Round of Mahidol University, Bangkok will attempt to identify calls taped during the survey (which may prove particularly useful for identifying the various barbets [*Megalaima spp.*] heard). If any species not listed in Appendix 1 are identified those records will be added to this report as an Addendum.

### *Key Species*

LESSER FISH-EAGLE *Ichthyophaga humilis* (Globally Near-threatened)

The Nam Ou in Phou Dendin contains one of the highest densities of fish-eagles of any area recently surveyed in the Lao PDR (R. Timmins, pers. comm. and pers. obs.), it being the raptor genus most frequently encountered during the survey. Although Grey-headed Fish-Eagle has been recorded on the Nam Ou (Salter 1993) and during this survey some fish-eagles went unidentified to species, all fish-eagles which were identified were Lesser. The following records consolidate the survey's sightings for all fish-eagles and are believed to represent separate birds:

- One Lesser along the Nam Ou between Nam Va and Nam Khan
- One Lesser along the Nam Ou between Nam Khan and Muang Hat Hin
- One unidentified fish-eagle soaring above a ridge overlooking the lower Nam La
- One unidentified fish-eagle (probably Lesser) near confluence of Nam Khang and Nam Ou
- One unidentified fish-eagle on the Nam Ou within a few km. upriver of the Nam Khang confluence
- Two Lessers on the Nam Ou between the previous sighting and Nam Toho.

**BAR-BACKED PARTRIDGE** *Arbophila brunneopectus* (Regionally at Risk)

Calls of at least four individuals attributed to this species were heard in Phou Dendin during the survey. All but one were along a 1240m high ridge above the upper Nam La, the highest forest surveyed in the NBCA. It may be fairly common at these higher elevations in the NBCA, but is less common in the NBCA as a whole than its congener, Scaly-breasted partridge (*Arbophila chloropus*).

**SILVER PHEASANT** *Lophura nythenera* (Regionally at Risk)

One feather of a light race male was found on the forested trail leading up to Ban Than. All villagers questioned in the NBCA reported the presence of the species in the area.

**GREY PEACOCK-PHEASANT** *Polyplectron bicalcaratum* (Regionally at Risk)

Recorded regularly in forest in all areas surveyed, with up to five heard daily.

**RIVER LAPWING** *Vanellus duvaucelii* (National Historical Decline)

Uncommon, being confined to the Nam Ou only between Muang Hat Hin and the mouth of the Nam Long, where on two occasions a week apart three birds were seen (a pair, presumably, and a single). These were the only River Lapwings observed during the survey. Their scarcity in Phou Dendin at the time of the survey is probably due to a scarcity of its preferred habitat, riverine sandbars. Although the Nam Ou water level was at or near its annual low at the time of the survey, the river was virtually devoid of sandbars and sand islands, and the River Lapwings which were present occupied bars of stones.

**CRESTED KINGFISHER** *Megaceryle lugubris* (Regionally at Risk)

Phou Dendin contains one of the highest densities of Crested Kingfishers found in any area recently surveyed in the Lao PDR (R. Timmins, pers. comm. and pers. obs.). It was the most common kingfisher found in the NBCA. The following records consolidate the survey's observations and are believed to represent separate birds. A "pair" is defined as two birds encountered within sight of one another, and makes no assumption about their status as breeders

- A pair on the Nam Ou just above the Nam Va
- One on the Nam Ou at the mouth of the Nam Long
- A pair on the Nam Ou between the mouth of the Nam Long and Muang Hat Hin
- One on the upper Nam La

- Five (two pairs and a single) on the Nam Ou between its confluence with the Nam Khang and the mouth of Nam Toho.

BROWN HORNBILL *Ptilolaemus tickelli* (Globally Near-threatened)

Observed once, a flock of at least five in forest along the Nam Ou between the Nam Khang confluence and Nam Toho.

GREAT HORNBILL *Buceros bicornis* (Regionally at Risk)

One observed flying upstream high above the Nam Ou between the Nam Khang confluence and Nam Toho.

RUFOUS-NECKED HORNBILL *Aceros nipalensis* (Globally Threatened)

Not observed nor its presence confirmed, but Hmong villagers in Ban Than accurately described the species and reported that it is found in the NBCA.

BROWN DIPPER *Cinclus pallasii* (Regionally at Risk)

One observed along the Nam Khan near its mouth at the Nam Ou, one on the Nam Long near its mouth at the Nam Ou, and at least two (a pair), possibly three, along the upper Nam La (a third sighting was made, but it may have duplicated one of the earlier Nam La sightings).

HILL MYNA *Gracula religiosa* (Regionally at Risk)

Two along the Nam Ou between the Nam Va and Muang Hat Hin.

RUFOUS-FACED WARBLER *Abroscopus albogularis* (Regionally at Risk)

Sightings of birds that appeared to be this species, but differing in some aspects (see ***Additional Notes on Birds, below***), were made near the village of Ban Than and along the 1200m ridge above the upper Nam La.

YELLOW-VENTED WARBLER *Phylloscopus cantator* (Globally Near-threatened)

One near the village of Hat Hin.

### ***Additional Notes on Birds***

- A captive Collared Scops-Owl (*Otus lempiji*) was found in Ban Sopkai, on the road between Udomxai and Muang Khoa. Survey personnel purchased it for 200 Kip (US\$0.25) and released it.
- At the time of the present survey (late May to early June) no sign was seen of a northward raptor migration along the ridges above the Nam Ou which WGR had observed in early April, 1992.
- Although King *et al.* (1975) list only Tonkin as the South-East Asian breeding range for White Wagtail (*Motacilla alba*), they were probably breeding on the Nam Ou during or shortly before the survey. The bird was very common, and many dull-plumaged birds, presumably recently-fledged immatures were seen associating and interacting with normal plumaged birds (presumably adults), sometimes in what appeared to be food-begging behavior.
- On 29 May a fledgling Sooty-headed Bulbul (*Pycnonotus aurigaster*) was found along the Nam La.

- Among birds observed which went unidentified in the NBCA were:
  - a. A warbler. It was seen first in forest, mid-story, on the Nam La Ridge (elevation approx. 1100m) and these features were noted:
    - head pattern similar to Rufous-faced Warbler (*Abroscopus albogularis*), in particular the dark streaks on the throat were noted
    - white belly, as in Rufous-faced
    - unlike Rufous-faced, it seemed to lack yellow on the underparts
    - unlike Rufous-faced, tail was rufous
    - bill (at least the lower mandible) orange
 A similar bird was seen below Ban Than in forest at approx. 800m elevation:
    - head pattern similar to Rufous-faced
    - unlike Rufous-faced, the vent was not yellow but dull brown or buff
  - b. A warbler (?). It was seen once briefly near Ban Than in very short mountainside scrub at 1020m, when these features were noted:
    - short tail and bill
    - brownish (?) upperparts
    - dark cap
    - very clean white chin and throat, dark brown breast band, and whitish belly
  - c. A thrush (?), observed below Ban Than in secondary forest at 835m elevation, when these features were noted:
    - general shape and probably size similar to Orange-headed Thrush (*Zoothera citrina*), which had been observed the previous day
    - underparts washed with unmarked orange similar in shade to that on underparts of Orange-headed Thrush
    - upperparts pale grey including, unlike Orange-headed, *approximately the entire crown and nape*, contiguous with the grey of the back.
  - d. A spiderhunter, observed below Ban Than in secondary forest at approx. 900m elevation:
    - upperparts an unmarked, dull, dark olive
    - underparts an unmarked, pale olive
    - proximal 1/3 of bill yellow

## **Mammals**

Following are accounts of all mammals (exclusive of bats and small terrestrial rodents) observed in Phou Dendin NBCA during the survey, or for which sign was found or for which villagers provided significant information not reflected in the village interview data. Attached (Appendix 2) are results of village interviews (conducted by BS) about the status of larger mammals in the area. Statuses in the following account are assigned according to Groombridge (1993) (Globally Threatened) or Salter (1993) (Regionally at Risk).

RHESUS MACAQUE *Macaca mulatta* (Regionally at Risk)

Apparently common in the NBCA. Three separate troops were seen along the Nam Ou in the NBCA, even though travel was usually by boat under motor power. Another troop of unidentified macaque (possibly Rhesus) was seen along the Nam Ou in the NBCA. Local guides also reported the presence of one other macaque in the NBCA, the description of which fits Stump-tailed (*Macaca arctoides*).

PHAYRE'S LANGUR *Presbytis phayrei* (Regionally at Risk)

One troop (six individuals were seen, but the troop was undoubtedly larger) along the Nam Ou between the confluence of the Nam Khang and the mouth of the Nam Toho.

GIBBONS *Hylobates sp.* (Globally threatened or Regionally at Risk)

Despite the presence of good forest and reports by local people that gibbons are present in the NBCA, none was heard during the survey. However, it must be noted that this may likely be a consequence of the rain which fell nearly every morning of the survey, as rainfall probably suppresses gibbon calling (J.W.Duckworth pers. comm.)

DHOLE *Cuon alpinus* (Globally Threatened)

The Hmong headman of Ban Than said wild dogs are very common in the NBCA

MALAYAN SUN BEAR *Helarctos malayanus* (Globally Threatened)

On the slope of a forested ridge above the Nam La were found two holes about five meters apart which the Hmong guides said were entrances to the den of a small Sun Bear. It was noted that each entrance hole was about the diameter of a basketball hoop, and rain-washed tracks which could have been from a small bear marked the excavated dirt outside the holes.

LEOPARD *Panthera pardus* (Globally Threatened)

The Hmong headman of Ban Than said Leopard is common in the NBCA and that one killed two pigs from the village about two months before the time of the survey.

TIGER *Panther tigris* (Globally Threatened)

The Hmong headman of Ban Than said that Tiger are present in the NBCA, but close to the Vietnamese border and not in the vicinity of his village.

ELEPHANT *Elephas maximus* (Globally Threatened)

Tracks were found at two sites, at the saltlick on the Nam Ou north of the Nam Khan (approximately two to four individuals), and along the Nam Ou a few kilometers downstream of the Nam Toho mouth (probably three or fewer individuals). Droppings were seen 40m upstream of the latter but on the opposite side of the river.

PIG *Sus sp.*

Tracks and rootings of pig were found were along the Nam Ou near the Nam Khan. Guides reported wild pigs to be very common and that they cause much crop damage. The headman of Ban Than said that one species is present (black in color, probably *S. scrofa*), and that it is very common.

LESSER MOUSE-DEER *Tragulus javanicus*

One set of Mouse-Deer tracks was found at the saltlick on the Nam Ou just north of Nam Khan.

SAMBAR *Cervus unicolor*

Tracks of Sambar are common around the saltlicks and were also found at one stream mouth. Based on the number of tracks seen it is probably common in the NBCA.

MUNTJAC *Muntiacus/Megamuntiacus* (possibly a species Regionally at Risk)

Tracks seen near the saltlicks. The headman of the Hmong village Ban Than reported that only one species lives in the area

#### INORNATE SQUIRREL *Callosciurus inornatus* (Regionally at Risk)

Two individuals believed to be this species were seen together in a fruiting tree on the south side of the Nam La at approximately 650m elevation.

#### OTHER MEDIUM-SIZED SQUIRRELS

An individual with grey upperparts and chestnut underparts was glimpsed on the north side of the Nam La.

#### STRIPED TREE SQUIRREL *Tamiops sp.*

The genus is common in the NBCA, being observed regularly in forest in most areas visited.

#### CRESTLESS HIMALAYAN PORCUPINE *Hystrix brachyura*

Quills of a porcupine identified by the guides as this species were found at the mouth of the Nam Khan.

#### *Additional notes on mammals*

At the Phousai Hotel in the town of Udomxai were found a captive young Asiatic Black Bear (*Selenarctos thibetanus*) and two macaques believed to be Assamese (*Macaca assamensis*).

#### SUGGESTIONS FOR FUTURE WORK

##### **Localities**

Coverage of all sites visited was poor due to a shortage of time and inclement weather, and so any future survey need not fear duplication of the present effort in any area of the NBCA. The following localities are recommended to future workers:

Muang Hat Hin: This village is probably the best one to use as a survey base. It is in the heart of the NBCA, it is the largest village in the NBCA and it has a good supply of motor boats and canoes. In addition, there is a slope of forest with a very good trail (which leads all the way to Phongsali, two or three days' walk distant) immediately behind the village.

Ban Than: Future survey workers would do well to base themselves temporarily at this Hmong village north of the Nam La, at 1010m elevation. A forested, 1200m elevation ridge can be reached from the village in a morning's walk, and other trails lead through bands of forest below the village. The forested stretches of the upper Nam La are also easily reached from Ban Than. In addition, the residents seem to have good knowledge of a trail system that reaches to the Vietnamese border. The village is small (only about 20 houses) and has few resources, so future survey workers are advised to bring all their own provisions with them. The paw ban and his family were extraordinarily hospitable to the present survey team when it stayed in the village.

Nam Ou above its confluence with the Nam Khang: This stretch of river is uninhabited for at least a day's dry season travel upstream by motor boat, and is well-forested. Although the present survey made only one roundtrip by trip on this stretch, and often under motor power, among other wildlife it recorded Rhesus Macaque, Phayre's Langur, Elephant tracks, several Fish-Eagles, several Crested Kingfishers, Great Hornbill and Brown Hornbill. It would undoubtedly be very productive to do silent floats down this stretch of the river (which was not

possible over much of its length in the late dry season). There are two saltlicks upriver near a temple ruin, in the vicinity of Nam Toho.

Forest east of the Nam Ou, between the Nam Va and the Nam Khan east to the headwaters of the Nam Houn: Klaus Berkmuller (pers. comm.) believes this to contain the highest quality forest in the NBCA. It is probably uninhabited by people and locals said there are not trails into the area, but it can probably be entered by walking along the Nam Khan or Nam Va. The area was not visited during the present survey.

Phou Fa, Phongsali: The town of Phongsali clings to the side of Phou Fa mountain, and just above the town there is secondary forest which reaches 1680m elevation, with a network of trails. Although not in the NBCA, the mountain is productive for birding and easily accessible and therefore future workers may want to allow extra time in Phongsali beyond that required for visits to the local MAF office.

### **Timing**

Although Phou Dendin NBCA can reportedly be reached by boat in all months, timing with respect to the seasonal cycle is critical for survey work there. Although this is generally true for any area in Lao, physical characteristics of Phou Dendin magnify the importance of timing. The terrain is steep, and what few trails exist in the NBCA generally traverse mountainsides or track streambeds. Large areas of the NBCA lack trails, and are entered only along stream courses. There are no roads in the NBCA and boat travel on the Nam Ou is the principal means of transportation.

During the rainy season the red clay trails on hillsides become nearly unwalkable, while those that follow streambeds disappear. Likewise, it becomes impossible to use streambeds as means of entry to those forest areas without trails.

In the late dry season surveys by foot are, of course, relatively easy. However, wildlife surveys on the Nam Ou by boat become problematic. The low water level necessitates making many portages and using motor power to push the boat up shallow chutes. It is not possible to quietly float long stretches in the NBCA and, indeed, the upper river is navigable only with the aid of considerable ingenuity and sweat on the part of the boatmen.

The prime months for survey would encompass the later dry season: January, February, March and possibly April. The Nam Ou is high enough for easy navigation, yet its tributary streams will have drawn down enough to allow foot travel along them.

## REFERENCES

- Collar, N.J., Crosby, M.J. and Stattersfield, A.J. 1994. *Birds to Watch 2: The World List of Threatened Birds*. Cambridge, UK: Birdlife International (Conservation Series No. 4).
- Corbet, G.B. and Hill, J.E. 1992. *The Mammals of the Indomalayan Region*. Oxford, UK: Natural History Museum Publications and Oxford University Press.
- Groombridge, B.(ed.) 1993. *1994 IUCN List of Threatened Species*. Gland, Switzerland and Cambridge, UK: IUCN.
- King, B.F., Dickinson, E.C. and Woodcock, M. 1975. *A field Guides to the Birds of South-East Asia*. London. Collins.
- Lekagul, B. and Round, P.D. 1991. *A Guide to the Birds of Thailand*. Bangkok. Saha Karn Bhaet.
- Salter, R.E 1993. *Wildlife in the Lao PDR. A Status Report*. Vientiane: IUCN.
- Thewlis, R.C.M., Anderson, G.Q.A, Duckworth, J.W., Evans, T.D. and Timmins, R.J. in prep. The status of threatened birds in Laos: a preliminary assessment based upon recent surveys.
- Treesucon, U. and Round, P.D. 1990. Report on threatened birds in Thailand. *Tigerpaper* 17: 1-9.

## Appendix 1: Birds Observed

Status Codes: C: Common; found daily in appropriate habitat of which there is a significant representation in Phou Dendin NBCA.

U: Uncommon; known to occur at low density in the areas surveyed, and/or is restricted to habitat poorly represented in the NBCA; the brevity of the survey made the use of this category difficult.

P: Present; known to occur at the time of the survey, but further assessment of status not possible.

Location Codes: PF: Phou Fa mountain; the ca. 1440m to 1680m elevation slope above the town of Phongsali (outside of the NBCA)

LNO: Lower Nam Ou; the Nam Ou between Muang Khoa and the mouth of the Nam Va (outside of the NBCA)

MNO: Middle Nam Ou; the Nam Ou between the Nam Va and the Nam Ou's confluence with the Nam Khang

UNO: Upper Nam Ou; the Nam Ou between the Nam Khang and the mouth of the Nam Toho

NK: Nam Khan

HH: Hat Hin; along trails within 3 km of the village

BT: Ban Than; along trails within 3 km of the village

NL: Nam La

NLR: Nam La Ridge; a 1200m ridge and its slopes above the Nam La, northeast of Ban Than

Coverage of all areas was poor, with just one observer spending less than two survey days (often much less) in each area.

Species whose names appear in *italics* were found only outside the boundary of the NBCA (therefore, no status code is assigned).

Species whose names appear in [brackets] represent provisional sightings which need confirmation (therefore, no status code is assigned).



Orange-bellied Leafbird <i>Chloropsis hardwickii</i>	P	NL
Red-whiskered Bulbul <i>Pycnonotus jocosus</i>	C	LNO, BT, NL
[Brown-breasted Bulbul <i>Pycnonotus xanthorrhous</i> ]		BT
Sooty-headed/Black-crested Bulbul <i>P. atriceps/melanicterus</i>	P	NL
Black-headed/Black-crested Bulbul <i>P. atriceps/melanicterus</i>	P	HH
Puff-throated Bulbul <i>Criniger pallidus</i>	C	LNO, MNO, UNO, HH, BT
Grey-eyed Bulbul <i>Hypsipetes propinquus</i>	C	MNO, HH, BT, NL
Ashy Bulbul <i>Hypsipetes flavala</i>	C	HH, BT, NLR
Black Bulbul <i>Hypsipetes madagascariensis</i> (all black race)	P	NLE
Ashy Drongo <i>Dicrurus leucophaeus</i> (dark race)	P	NLR
Bronzed Drongo <i>Dicrurus aeneus</i>	C(?)	HH, NL, probably elsewhere
[Lesser Racket-tailed Drongo <i>Dicrurus remifer</i> ]		BT
Hair-crested Drongo <i>Dicrurus hottentottus</i>	C	LNO, MNO, NL, NLR
Greater Racket-tailed Drongo <i>Dicrurus paradiseus</i>	C	MNO, UNO, NL, NLR
Maroon Oriole <i>Oriolus traillii</i>	C	BT, NL
Asian Fairy-bluebird <i>Iena puella</i>	P	NL
Green Magpie <i>Cssa chinensis</i>	C?	HH, BT
Lage-billed Crow <i>Corvus macrorhynchus</i>	C	LNO, MNO, UNO, BT, NL
<i>Fire-capped Tit Cephalopyrus flammiceps</i>		PF
[Velvet-fronted Nuthatch <i>Sitta frontalis</i> ]		BT
Brown Dipper <i>Cinclus pallasii</i>	C	MNO, NK, NL
Puff-throated Babbler <i>Pellomeum ruficeps</i>	P	HH
Buff-breasted Babbler <i>Trichastoma tickelli</i>	C	MNO, UNO, HH, NLR
White-browed Scimitar-Babbler <i>Pomatorhinus schisticeps</i>	P	NLR
Streak-breasted Scimitar-Babbler <i>Pomatorhinus ruficollis</i>	P	BT
[Red-billed Scimitar-Babbler <i>pomatorhinus ochraceiceps</i> ]	P	BT
Coral-billed Scimitar-Babbler <i>Pomatorhinus ferruginosus</i>	P	NLR
Grey-throated Babbler <i>Stachyris nigriceps</i>	P	UNO, [HH]
Striped Tit-Babbler <i>Macronous gularis</i>	C	LNO, MNO, UNO, HH, BT, NL, NLR
Chestnut-capped Babbler <i>Timalia pileata</i>	C	MNO, NK, NL
Yellow-eyed Babbler <i>Chrysomma sinense</i>	P	NL
White-crested Laughingthrush <i>Garrulax leucolophus</i>	C	[MNO], [HH], BT, NL
Greater-necklaced Laughingthrush <i>Garrulax pectoralis</i>	P	BT
[Black-throated Laughingthrush <i>Garrulax chinensis</i> ]		HH
Silver-eared Mesia <i>Leiothrix argentatus</i>	C?	PF, NLR
Brown-cheeked Fulvetta <i>Alcippe poioicephala</i>	P	BT, [NL]
Grey-cheeked Fulvetta <i>Alcippe morrisonia</i>	C	[PF], BT, NL, NLR
unid. fulvetta (Rufous-winged type) <i>Alcippe</i> sp.		PF
Striated Yuhina <i>Yuhina castaniceps</i>	C	BT, NLR
White-bellied Yuhina <i>Yuhina zantholeuca</i>	P	UNO
Grey-cheeked Parrotbill <i>Par.adoxornis gularis</i>	P	BT, NLR
Oriental Magpie Robin <i>Copsychus saularis</i>	C	LNO, MNO, NL
Plumbeous Redstart <i>Rhyacomis fuliginosus</i>	C	UNO, NL
Slaty-backed Forktail <i>Enicurus schistaceus</i>	C	LNO, MNO, UNO, NL
White-bellied Yuhina <i>Yuhina zantholeuca</i>	U	LNO, NL
Blue Whistling Thrush <i>Myiophonus caeruleus</i>	U?	NL
Orange-headed Thrush <i>Zosterops citrina</i>	P	NLR
[Rufous-faced Warbler <i>Abroscopus albogularis</i> ]		BT, NLR
Yellow-vented Warbler <i>Phylloscopus cantator</i>	P	HH
<i>Phylloscopus</i> sp. ( <i>inornatus</i> ?)		NLR
Dark-necked Tailorbird <i>Orthotomus altrogularis</i>	C	MNO, HH, NL
Grey-breasted Prinia <i>Prinia flaviventris</i>	P	HH
Spotted Bush-Warbler <i>Bradypterus thoracicus</i>	P	MNO
[Blue-and-White Flycatcher <i>Cyanoptila cyanomelana</i> ]		UNO, HH
Hainan Blue Flycatcher <i>Cyornis hainana</i>	C	UNO, HH, BT, NL
[Hill Blue flycatcher <i>Cyornis banyumas</i> ]		BT, NL
Grey-headed Flycatcher <i>Culicicapa ceylonensis</i>	C	MNO, HH, NL, NLR
White-throated Fantail <i>Rhipidura alvicollis</i>	C	PF, HH, BT, NL
Black-nape Monarch <i>Hyphymis azurea</i>	C	HH, BT
Asian paradise-flycatcher <i>Terpsiphone paradisis</i>	C	HH, NL
White Wagtail <i>Motacilla alba</i>	C	LNO, MNO, NO
Ashy wood-swallow <i>Artamus fuscus</i>	P	NL
<i>White-vented Myna Acridotheres javanicus</i>	C	LNO
Hill Myna <i>Gracula religiosa</i>	P	MNO
[Crimson Sunbird <i>Aethopyga siparaja</i> ]		BT

Streaked Spiderhunter *Arachnothera magna*  
Plain flowerpecker *Dicaeum concolor*  
unid. white-eye *Zosterops* sp.  
Spot-winged Grosbeak *Mycerobas affinis*

P  
P  
P  
P

NL  
HH  
BT  
HH





## ADDENDUM TO BIRD OBSERVATIONS

12 March 1996

After the main report was written the following additional bird species were identified by Philip Round and Uthai Treesucon from calls tape-recorded during the survey.

### **Lesser Cuckoo *Cuculus poliocephalus***

The characteristic call of this species was recorded above Phongsali on Phou Fa mountain on 3 June 1995. This is the first record for the country of Lao.

### **White-browed Shrike-Babbler *Pteruthius flaviscapis***

### **Pale-footed Bush-Warbler *Cettia major***

Two together were tape recorded in dense, tall grass and scrub along the Nam La on 26 May, 1995.