

Records of birds from Laos during January-July 1994

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During January-July 1994, ornithological surveys were conducted in Nakay-Nam Theun National Biodiversity Conservation Area (NBCA), the Nakay Plateau, Nam Theun Extension Proposed NBCA and Xe Bang Nouan NBCA and briefer visits were made to several other sites, covering parts of North, Central and South Laos (*sensu* King *et al.* 1975). Nakay-Nam Theun NBCA, Nam Theun Extension Proposed NBCA and the Nakay Plateau were found to have the richest community of globally and regionally threatened birds so far known in the Lao protected area system. In comparison, Xe Bang Nouan NBCA was found to have a threatened bird community of only moderate importance. Spotted Wren Babbler *Spelaeorhis formosus* was recorded for the first time in Indochina. Eight other species new to Laos were recorded, namely Greylag Goose *Anser anser*, Oriental Cuckoo *Cuculus saturatus*, Yellow-vented Green Pigeon *Treron seimundi*, White-bellied Green Pigeon *T. sieboldii*, Asian House Martin *Delichon dasypus*, Short-tailed Scimitar Babbler *Jabouilleia danjoui*, Red-tailed Minla *Minla ignotincta* and Fork-tailed Sunbird *Aethopyga christinae*. A further 55 species new for Central Laos were confirmed, and two others provisionally identified.

INTRODUCTION

This is one of a series of papers (Thewlis *et al.* 1996, Duckworth 1996, Duckworth *et al.* 1998, Evans *et al.* in prep., Tizard *et al.* in prep.) documenting recent observations of birds in Laos.

Faunal surveys were conducted in Nakay-Nam Theun National Biodiversity Conservation Area (NBCA), Nam Theun Extension Proposed NBCA, the Nakay Plateau, Xe Bang Nouan NBCA and several minor sites during January-July 1994, as part of a programme conducted by the Wildlife Conservation Society in conjunction with the Centre for Protected Areas and Watershed Management of the Department of Forestry of the Ministry of Agriculture and Forestry of the Government of Laos. Rapid assessments of populations of birds and large mammals were the main objectives, concentrating on species of elevated conservation concern (termed 'Key species'). This paper discusses bird communities and new distributional data: detailed accounts of individual Key bird species are presented by Thewlis *et al.* (in prep.) and records of mammals in a number of papers, principally Evans *et al.* (in prep.).

ABBREVIATIONS AND CONVENTIONS

BM(NH) The Natural History Museum, Tring, U.K.

NBCA National Biodiversity Conservation Area

Conventions follow Thewlis *et al.* (1996). The terms North, Central and South Laos refer to the regions described by King *et al.* (1975). Central Laos is bounded in the south by the course of the Xe Banghiang and in the north by a line running East-North-East to a point a little north of Ban Nape (Figure 1). Habitat classification follows Thewlis *et al.* (in prep.), based on Round (1988). Species order and taxonomy follow Inskipp *et al.* (1996).

Place names are based on the 1:100,000 maps of the most recent series of the Lao Service Geographique d'Etat, which use French transliterations of the original Lao pronunciations. For sites not mapped the authors have transliterated the locally used name as best they can. Common

elements of place names include *Ban* (village), *Phou* (mountain), *Nong* (pool or lake) *Nam* (river or large stream), *Xe* (river or large stream) and *Houay* (stream). Sites are shown on Figures 1-3 and their co-ordinates listed in Appendix 3.

All dates refer to 1994 unless otherwise stated. There was a long period, from 1950-1990, when no ornithological surveys were conducted in Laos. Records from after this period are referred to in the text as 'recent records'. The only recent records which the authors are aware of up to the end of the period covered by this paper are those incorporated in the following sources: Robichaud (1992), Thewlis *et al.* (1996), Salter (1993) and the records of the Asian Waterfowl Census. Subsequent records were available for comparison from Duckworth (1996), Duckworth *et al.* (1998), Evans *et al.* (in prep.) and Tizard *et al.* (in prep.). Reviews of historical records are based heavily on the checklist and bibliography of Indochinese ornithology (Mlikovsky and Inskipp in prep.) which lists most or all published and unpublished references for each species.

Keyspecies are defined as birds of recognized conservation concern in the following categories: Globally Threatened and Globally Near-threatened (following Collar *et al.* 1994), At Risk in Laos, Potentially At Risk in Laos and Little Known in Laos (Thewlis *et al.* in prep.).

STUDY SITES AND COVERAGE

Figure 1 shows the locations of all major and minor study sites.

Main study sites and survey dates

Nakay-Nam Theun NBCA, Central Laos.

8 person-weeks during 7 January - 30 April.

See Timmins and Evans (1994) and WCS (1996b). Figure 2.

The reserve covers about 3,445 km² of the Annamite Mountains and adjacent Nakay Plateau (treated as a separate study site, below) in the provinces of Khammouane and Bolikhamxai. The reserve is dominated by dry broadleaved

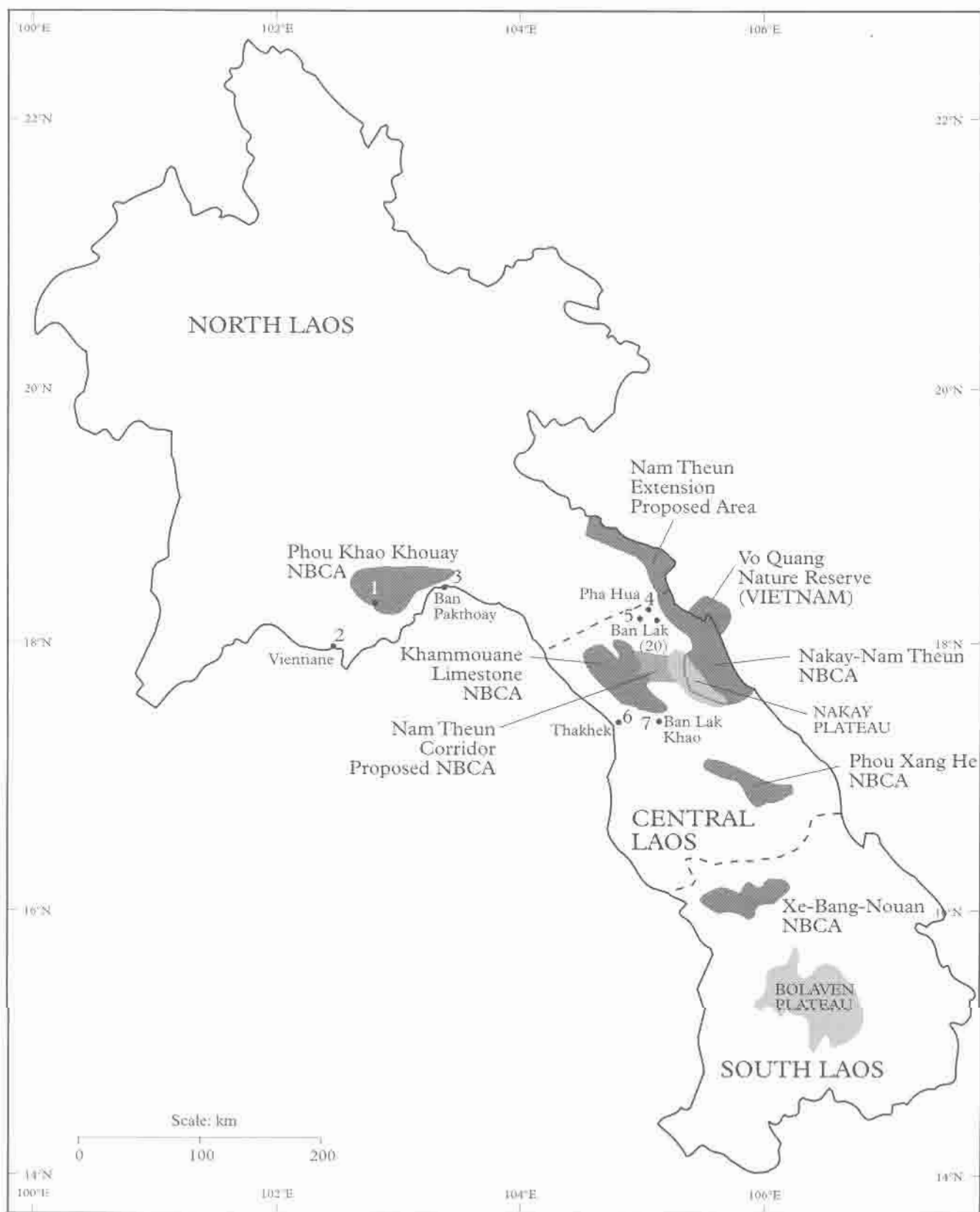


Figure 1. Laos, showing localities mentioned in the text

evergreen forest from 500-1,800 m, much of it in excellent condition. This is probably one of the largest and most pristine areas of this habitat in the Annamites. Other habitat types surveyed included forest in the east of the reserve at 1,400-1,800 m which is dominated on ridge-tops and valley-sides by a cypress-like conifer *Fokiema hodginsii*

(surveyed during 7-18 April), stunted mossy upper montane forest at 1,800-2,284 m (14-15 April) and semi-evergreen forest at 200-500 m along the southern border of the reserve (10-11 March).

Some parts of the reserve received additional coverage in 1995 (Duckworth *et al.* 1998) and 1996 (Tizard *et al.* in prep.).

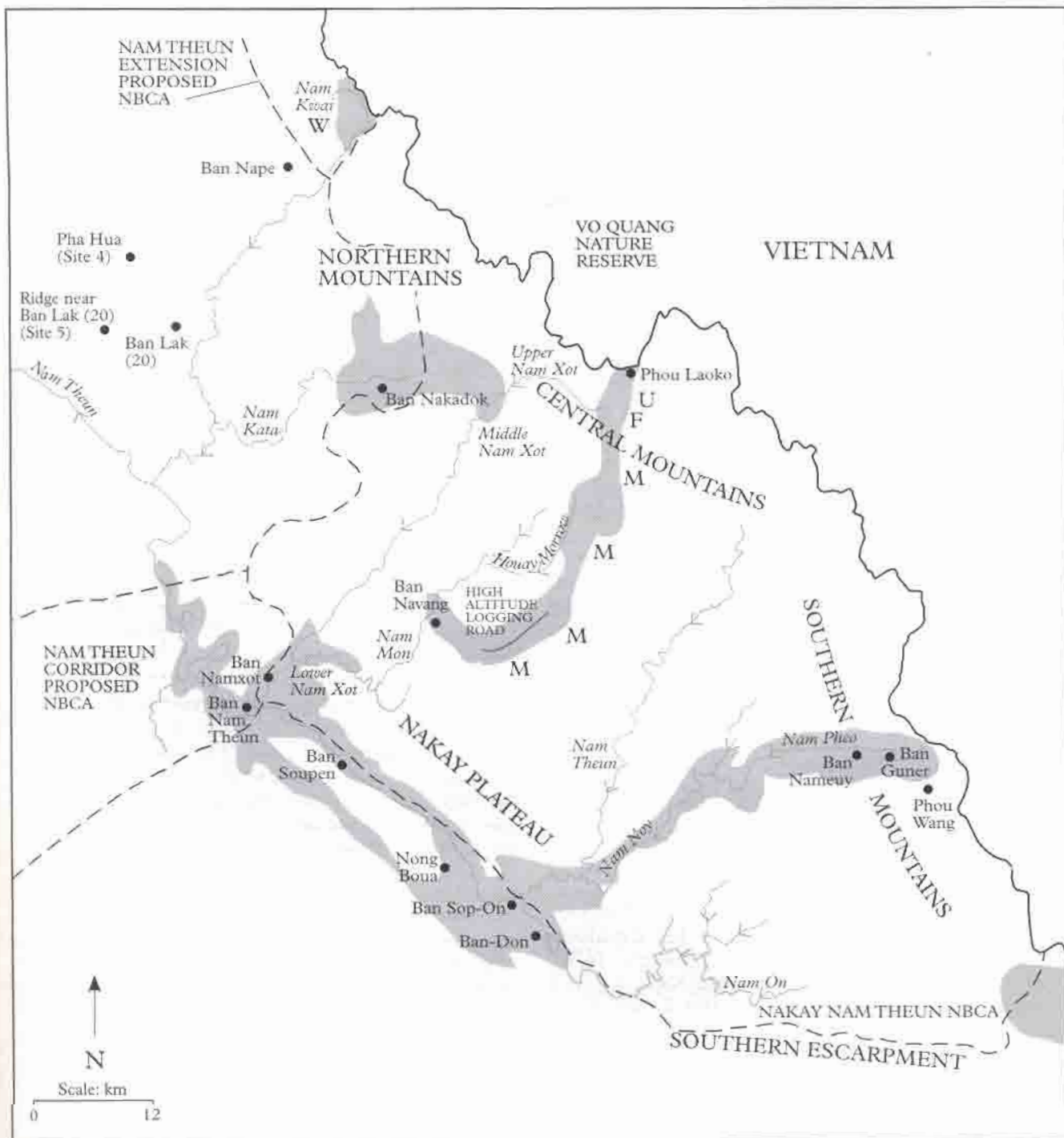


Figure 2. Nakai-Nam Theun NBCA and surroundings

The reserve is linked by an unprotected corridor of habitat to the karst habitats of Hin Namno NBCA to the south. This corridor has been recommended for improved protection (Berkmüller *et al.* 1995).

During the survey, logging of *Fokienia hodginsii* was taking place in the mountainous heart of the reserve. The target area was at around 1,500 m in the headwaters of Nam Xot and the logs were being removed by helicopter. A road had been built to allow access from outside the reserve to the lowland enclave of Ban Navang and from there construction was underway to extend the road right across the remotest parts of the reserve to reach the logging area and allow timber to be removed by truck. By April 1994 this high-altitude

logging road already allowed easy access to formerly remote forest up to 1,100 m. Road construction and *Fokienia* logging had apparently ceased by early 1995 but this may be temporary.

Nam Theun Extension Proposed NBCA, North Laos.

3 person-weeks during 24 January-2 February; and several visits in April.

See Timmins and Evans (1994) and WCS (1996b). Figure 2.

The extension was proposed by Berkmüller *et al.* (1995). It covers about 550 km², stretching north from Nam Phao along the Lao-Vietnamese border. In 1994 the southern extremity of this area was surveyed, around Nam Kwai east of Ban Nape. The Nam Kwai area was dominated by wet

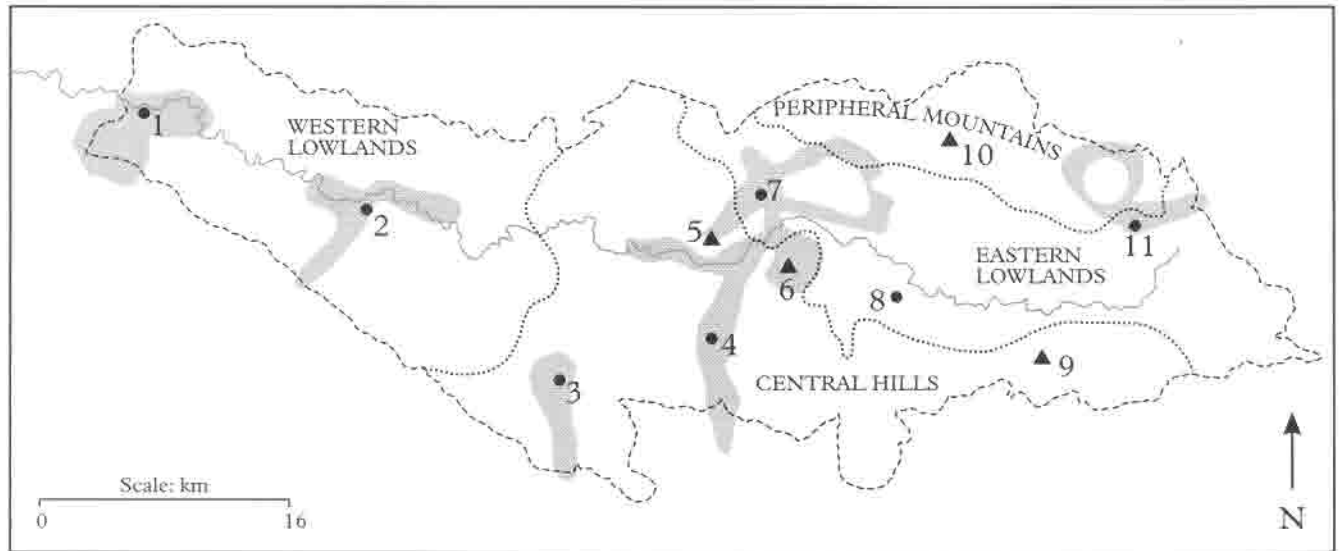


Figure 3. Xe Bang Noaun NBCA

evergreen forest. This appears to occur in the area because the summit ridges of the Annamites are relatively low (below 1,000 m) and do not bar the passage of rain-clouds carried by the south-easterly winter monsoons. Since the site also experiences the south-westerly summer monsoons which bring rain to the rest of Laos it has a much less pronounced dry season than the rest of the country. This forest type may be similar to the 'everwet' forest occurring in neighbouring Vu Quang Nature Reserve in Vietnam (MacKinnon and Dung 1992). On the basis of topography it is also predicted to occur extensively further north in the proposed reserve.

Two scientific collecting expeditions have visited the Nam Theun Extension and the Nakay Plateau. The Fourth Expedition to French Indochina, led by Jean Delacour, visited for less than four weeks during January-February 1928 (Delacour 1929). The Legendre Indochina Expedition visited for ten days in January 1932 (Dickinson 1970). They both visited the wet forests east of Ban Nape, degraded areas around Ban Nape and the Nakay Plateau (referred to as either 'Nam Theun' or 'Nakay'), the only parts of the area then accessible by car. Parts of the Nam Theun Extension received further coverage in 1996 (Tizard *et al.* in prep.).

Nakay Plateau, Central Laos.

10 person-weeks during 5 February-1 May.

See Timmins and Evans (1994), WCS (1995) and WCS (1996b). Figure 2.

The Nakay Plateau covers about 1,250 km² of which about 350 km² lies within Nakay-Nam Theun NBCA. A large area also lies in the Nam Theun Corridor Proposed NBCA, which would link Nakay Nam Theun NBCA with Khammouane Limestone NBCA. The Plateau is at 500-600 m and at the time of the survey supported an old growth pine/semi-evergreen forest mosaic, the broad-leaved trees predominating along major rivers, streams and other depressions, the frequently burnt pines occupying drier, slightly raised areas. There were also large areas of scrub and cultivation on the Plateau, around the margins of the reserve and in three large enclaves in the major river valleys amongst the mountains. Many static wetlands occurred in occupied areas of the Plateau. Although most covered only

a few hectares during the survey, in the wet season they may be much more extensive. The largest visited was Nong Boua, which during the February visit was a shallow pool less than 100 m in diameter with some short emergent vegetation and an extensive bare, heavily grazed margin.

Previous coverage of the Nakay Plateau is mentioned under the Nam Theun Extension Proposed NBCA, above. The Nakay Plateau received additional coverage in 1995 (Duckworth *et al.* 1998) and 1996 (Tizard *et al.* in prep.).

A large reservoir is planned for the Nakay Plateau as part of the Nam Theun II Hydroelectric Project. Salvage logging and road construction had begun at the time of the 1994 surveys and 1996 had destroyed very extensive areas of forest. However, at the time of writing there was some doubt as to whether the project would go ahead, due to controversy about the involvement of the World Bank (Anon. 1995, 1996). A large proportion of the Nakay Plateau, including the vast majority of the rivers and streams, would be inundated by the project. Furthermore, a stretch of the Nam Theun for 40 km downstream of the plateau may cease to flow for much of the year.

Xe Bang Nouan NBCA, South Laos.

Six person-weeks, 27 May - 8 July.

See WCS (1996a). Figure 3.

The reserve covers 1,300 km² in the provinces of Savannakhet and Salavan, comprising two flat lowland portions (280-350 m in the east, 130-240 m in the west) divided by a central range of hills that exceed 1,200 m, with other high hills along the north-eastern margin. Surveys were mainly below 800 m. The reserve includes nearly the entire watershed of the Xe Bang-Nouan River and is wholly surrounded by villages and cultivated land.

Both the Eastern and Western lowland areas are a mosaic of dry dipterocarp forest, other open habitat and denser mixed deciduous/semi-evergreen forest. The denser forests have been heavily degraded by past commercial logging and include numerous abandoned villages. The lowlands are heavily used by local people, with the Xe Bang-Nouan river the focus of activity. The Central Hills are a mosaic of mixed deciduous, semi-evergreen and evergreen forest. This area is less disturbed than the lowlands and seems degraded only at its periphery.

Other sites visited

The following sites were visited more briefly.

1. Phou Khao Khouay NBCA (North Laos). The southern fringe of this large, mountainous reserve was visited during 21–22 March. The site, near Ban Nakhay, was a gently sloping outcrop of rock several kilometres square at 250–550 m altitude with patches of thin sandy soil supporting stunted dry dipterocarp forest. Ban Nakhay was revisited in 1995 and other areas of the reserve were also surveyed (Duckworth *et al.* 1998).
2. The Mekong River in Vientiane (North Laos) on 19 February.
3. Ban Pakthoay (North Laos) on 21 May.
4. Pha Hua (Central Laos) This is part of a spectacular karst outcrop close to Ban Lak (20). Forest and fields on a small saddle along the east facing flank of this outcrop were visited on 3 February (4a) and 30 April (4b). Forest remained only in areas too steep or rocky to cultivate.
5. A ridge flanking the Nam Theun to the south of Ban Lak (20) (Central Laos). The north facing slope is a mixture of scrub and cultivation, but degraded dry evergreen forest remains on the south-facing slopes. Visited on 26 April.
6. The town of Thakhek, Khammouan Province (Central Laos). Bird records come from 7–8 January.
7. Ban Lak Khao (Central Laos). Broad-leaved forest, probably semi-evergreen, on a low ridge and around the feet of karst limestone outcrops amongst farmland. Visited on 22–23 May. Two villages nearby, Ban Nakayak and Ban Nampik, were visited briefly since Green Peafowl *Pavo muticus* had once been reported there.

A number of birds were also observed for sale, dead, in the market at Ban Lak (20), Central Laos. The exact provenance of these birds could not be established, but probably included parts of both North and Central Laos from which vendors could easily reach Ban Lak (20) by bus.

METHODS

The same field methods were used as in other recent surveys of birds in Laos (Thewlis *et al.* 1996, Duckworth 1996, Duckworth *et al.* 1998, Evans *et al.* in prep., Tizard *et al.* in prep.), namely:

- 1) Opportunistic diurnal observation, attempting to cover the full range of habitats but with an emphasis on those where Key species were most likely to occur, especially semi-evergreen forest and wetlands. Observation by night was more restricted than by day, but occurred at many sites in the four main study areas. Unknown calls by day or night were often taped for later identification.
- 2) Boat-based surveys were undertaken on the Nakay Plateau and in Nakay-Nam Theun and Xe Bang-Nouan NBCAs. Boats were usually paddled, and typically 10 km of river were explored in a day.
- 3) Discussions with local people. These provide valuable indications of the presence of some large or distinctive species/species groups (for example Green Peafowl or storks). In many cases the reported localities were investigated by subsequent field visits.

An abundance was assigned for each species at each site (Appendix 2). Common species were typically found daily; Frequent species were found on more days than not; Occasional species were found infrequently and some were

unlikely to have been regular members of the community. Many species were known to be present but abundance was not assessed, due to a variety of reasons. Categorization was determined by the number of records, viewed subjectively in the light of the ease of detection and identification of the bird and the natural density range of the species.

RESULTS

Bird communities at the study sites

The accounts concentrate on Key species communities at the main study sites, but non-Key species are also mentioned. Since Key species records are discussed in detail in Thewlis *et al.* (in prep.) it was not felt appropriate to reiterate all the information here under separate species accounts. Key species are highlighted in Appendix 2.

Phou Khao Khouay NBCA

The brief visit confirmed the continuing presence of Green Peafowl at this site, first reported to protected area staff by local people earlier in 1994. At least six calling males were detected in the communal roosting site visited, and local reports suggested birds also roosted elsewhere in the vicinity. There are very few sites where Green Peafowl have been confirmed to survive in Laos (Evans and Timmins 1995).

Nakay-Nam Theun NBCA, Nam Theun Extension Proposed NBCA and the Nakay Plateau

This group of sites proved to be exceptionally rich in birds. Nearly 400 species were recorded in 1994, and more were added in 1995 (Duckworth *et al.* 1998) and 1996. This is due in part to the great range of altitude and forest types. Many species, particularly those of higher altitudes, were found for the first time in Central Laos, since there had been almost no previous fieldwork above about 1,000 m.

Despite the great size of the area, hunting has had an impact on the avifauna in the lowlands, and it appears that Green Peafowl, vultures and breeding storks no longer occur in the area, although the habitat is still suitable. Nonetheless, ten Globally Threatened species and 21 Globally Near-threatened species have been confirmed to occur during 1994–1995 (there were no additions in 1996) This assemblage rivals that of the outstanding Xe Pian NBCA in southern Laos (Thewlis *et al.* in prep.).

The Southern Escarpment is the lowest part of the area and supported a few species (including Blue-eared Barbet *Megalaima australis*, Orange-breasted Trogon *Harpactes oreskios* and Golden-crested Myna *Ampeliceps coronatus*) at higher densities than elsewhere in this group of sites. The Nakay Plateau supported both submontane and lowland species, but the avifauna was primarily submontane in character; lowland species such as Siamese Fireback *Lophura diardi*, Banded Kingfisher *Lacedo pulchella*, Banded Broadbill *Eurylaimus javanicus*, Dusky Broadbill *Corydon sumatranus*, Heart-spotted Woodpecker *Hemicircus canente*, Black-and-buff Woodpecker *Meiglyptes jugularis* and Scaly-crowned Babbler *Malacopteron cinereum* occurred at low densities.

The lower-altitude rivers, in particular those on the Nakay Plateau, were most notable for their populations of White-winged Ducks *Cairina scutulata* (6–12 occupied home-ranges are estimated, Evans *et al.* 1997), Blyth's *Alcedo hercules* and Crested Kingfishers *Megaceryle lugubris*, Lesser Fish Eagles *Ichthyophaga humilis*, River Lapwings

Vanellus divaueclii (see Duckworth *et al.* in prep. for more details) and Green Imperial Pigeons *Ducula aenea*. Tawny Fish Owl *Ketupa flavipes* and Grey-headed Fish Eagle *Ichthyophaga ichthyaetus* were also provisionally identified. Important non-riverine species on the Plateau included Jerdon's Baza *Aviceda jerdoni*, Pied Falconet *Microhierax melanoleucos*, Siamese Fireback, Grey-headed Lapwing *Vanellus cinereus*, Yellow-vented *Treron seimundi* and White-bellied Green Pigeons *T. sieboldii*, Coral-billed Ground Cuckoo *Carpococcyx renauldi* and White-winged Magpie *Urocissa whiteheadi*. The Plateau and adjoining lower mountain slopes between them supported important populations of Brown Hornbill *Anorrhinus tickelli*, Rufous-throated Fulvetta *Alcippe rufogularis* and Yellow-vented Warbler *Phylloscopus cantator*. Great *Buceros bicornis* and Wreathed Hornbills *Aceros undulatus* were found on the lower mountain slopes in small numbers.

At higher altitudes the rich small bird fauna included several of regional or even global conservation concern, such as Spectacled Fulvetta *Alcippe ruficapilla*, Red-tailed Laughingthrush *Garrulax milnei* and Green Cochoa *Cochoa viridis*. Regular records of Rufous-necked Hornbill *Aceros nipalensis* and Beautiful Nuthatch *Sitta formosa* represented significant range extensions and suggested that Nakay-Nam Theun may be of special importance for these two species.

The wet evergreen forests in the Nam Theun Extension Proposed NBCA supported many bird species found mainly at higher altitudes in Nakay-Nam Theun NBCA, for example Golden-throated Barbet *Megalaima franklinii*, White-tailed Robin *Myiomela leucura*, Red-billed Scimitar Babbler *Pomatorhinus ochraceiceps*, Blue-winged Minla *Minla cyanouroptera*, Chestnut-fronted Shrike Babbler *Pteruthius aenobarbus*, Eyebrowed Wren Babbler *Napothera epilepidota*, Golden Babbler *Stachyris chrysaea*, Silver-eared Mesia *Leiothrix argentauris* and White-gorgeted Flycatcher *Ficedula monileger*. Species found in the Nam Theun Extension but not Nakay-Nam Theun included Striated Yuhina *Yuhina castaniceps* and Black-chinned Yuhina *Yuhina nigrimenta*. The wet evergreen forests also held some very important bird populations, in particular high densities of Crested Argus *Rheinardia ocellata* and Grey Laughingthrush *Garrulax maesi* (both of which occurred at lower densities in Nakay-Nam Theun). Spotted Wren Babbler *Spelaornis formosus* was found, the first record for Indochina. A pair of Short-billed Scimitar Babblers *Jabouilleia danjoui* was the first record outside (albeit only marginally outside) Vietnam and raises the possibility that some other Vietnamese endemics may occur in Laos.

The number and diversity of raptors seemed high in comparison with other sites in Laos surveyed before and since. Migrant raptors were seen passing through, including a total of 20 Crested Serpent Eagles *Spilornis cheela* north-west over the Nakay Plateau on 5 March; 35 Grey-faced Buzzards *Butastur indicus* north-west over Ban Lak (20) on 18 March and five on 25 March; and 40 or more Black Bazas *Aviceda lephotes* north over the mountainous centre of Nakay-Nam Theun on 15 April.

The likely impacts of the Nam Theun II project on the avifauna of the Nakay Plateau have been investigated in some depth by WCS (1995) but a great deal of additional work will be required to assess the full impact. Amongst birds, particularly significant effects are likely to be experienced by White-winged Duck, Blyth's Kingfisher, Tawny Fish Owl, Lesser and Grey-headed Fish Eagles, Pied Falconet, River Lapwing, Green Imperial Pigeon, Rufous-throated Fulvetta and White-winged Magpie.

Xe Bang Nouan NBCA and surroundings

Bird communities were apparently quite depauperate. The survey took place at the beginning of the rainy season, so calling rates for some elusive species (e.g. Grey Peacock Pheasant *Polyplectron bicalcaratum*) may have differed from those at other Lao sites surveyed recently during the dry season. Nonetheless, it was believed that the paucity of records of Key Species represented genuinely low densities, probably due to a combination of heavy human pressure, relative dryness of the denser forest types and lack of undisturbed wetlands.

Of greatest significance were two Globally Threatened species, Siamese Fireback and Red-collared Woodpecker *Picus rabieri*, the latter occurring quite commonly in logged forests, the first time this has been noted in Laos. Near-threatened species included Coral-billed Ground Cuckoo. Many of the larger bird species expected to occur were not recorded and are believed to be extinct (e.g. Green Peafowl, vultures and storks). This was mirrored in the low levels of many large mammal populations (WCS 1996a). Nonetheless, some hunting-sensitive species were recorded, such as Wreathed, Great and Brown Hornbills, mainly in the Central Hills sector.

Selected species accounts

A full list with status assessments for each site and sector is given in Appendix 2. The following accounts give further details for records which are of interest mainly because they are either: new for Laos (not listed by Mlikovsky and Inskipp in prep.), new to Central Laos (not listed for Central Laos by King *et al.* 1975, Delacour 1929 or Thewlis *et al.* 1996) or seldom recorded in Laos. A few species are discussed because they exhibited plumage features not described in the literature or their identification is in doubt. Only records which qualify under these criteria are detailed; if records of a species from certain sites do not qualify, they are not listed in the text, only in Appendix 2. Accounts of provisionally identified species are placed in square brackets. No records from Xe Bang-Nouan NBCA merited discussion in this section.

Spotted Wren Babbler was recorded for the first time in Indochina. Eight other species new to Laos were recorded: Greylag Goose *Anser anser*, Oriental Cuckoo *Cuculus saturatus*, Yellow-vented Green Pigeon, White-bellied Green Pigeon, Asian House Martin *Delichon dasypus*, Short-tailed Scimitar Babbler, Red-tailed Minla *Minla ignotincta* and Fork-tailed Sunbird *Aethopyga christinae*. No new species for South or North Laos were recorded in 1994, but 55 species wholly new for Central Laos were recorded, as well as two other species provisionally identified. All of these species are highlighted in the 'Historical' column of Appendix 2. Two species recorded only from Ban Lak(20) market might also be new for Central Laos but their provenance was not confirmed. Both were found elsewhere in Central Laos during 1995 (Duckworth *et al.* 1998).

In addition to those records which are certainly new to Central Laos and which are given accounts in the main text, Appendix 1 lists other species for which previous records from the region are uncertain. Appendix 1a lists the many species, which King *et al.* (1975) omitted to list for Central Laos despite being recorded there by Delacour (1929). Some of Delacour's records may have been reassessed by King *et al.* and found unacceptable, (in which case records

from 1994 would be new) but others seem likely to have been overlooked. Appendix 1b lists species which were recorded by King *et al.* (1975) for Central Laos but for which no published references can be found other than Delacour and Jabouille (1940), which is mainly a secondary source; records from 1994 for these species also represent the first explicit reports from Central Laos.

GREYLAG GOOSE *Anser anser*

On the Nakay Plateau one was seen at Nong Boua on 6 February. It was associating with about 200 wild ducks (mainly Common Teal *Anas crecca* and Garganey *Anas querquedula*). Local people assured us that it was a wild bird. In support of this, the authors have yet to see a single wild-type domestic individual of any *Anser* species in Laos.

Mlikovsky and Inskipp (in prep.) traced no records for Laos.

GREAT BARBET *Megalaima virens*

In Nakay-Nam Theun NBCA common at 1,000-1,200 m in dry evergreen forest and present, abundance uncertain, at 1,200-1,800 m in dry evergreen and *Fokienia*-dominated forest.

These are the first records for Central Laos.

RUFUS-NECKED HORNBILL *Aceros nipalensis*

In Nakay-Nam Theun NBCA common at 1,000-1,800 m in dry evergreen forest and *Fokienia*-dominated forest. They were mostly in groups of up to five in fruiting trees. Several groups could easily be seen or heard in one day, the males at least calling often. They were easily approachable, and seemed to be a prime target for hunters judging by the numerous remains along paths and in campsites in area where they were present. One was seen flying across the Nam Pheo valley, probably coming from dry or wet evergreen forest at around 700 m.

These are the first records from Central Laos.

BLYTH'S KINGFISHER *Alcedo hercules*

In Nakay-Nam Theun NBCA two singles and a pair along 10 km of the Nam Pheo (28 April) and a pair seen repeatedly on another stretch of the Nam Pheo and a smaller tributary stream (26-28 April). On the Nakay Plateau one on the Nam Mon, tributary of the Nam Xot (15 March).

These are the first records for Central Laos. Also present on the Nam Kwai in the Nam Theun Proposed Extension NBCA.

Nam Kwai, Nam Mon and Nam Pheo are all large permanent streams (up to 10 m across) flowing gently over sluggish or stony courses through forest (including quite degraded forest) at 550-650 m. No Blyth's Kingfishers were seen on larger, slow-flowing forested rivers at similar altitudes, despite a great deal of survey effort.

The calls of the birds on the Nam Pheo were noted consistently as 'sit' or 'ship', markedly less shrill than River Kingfisher and similar to the soft (rather than the harsh) flight calls of Slaty-backed Forktails *Enicurus schistaceus* found on the same stretches of river. This accords with the description in Fry and Fry (1992) but contrasts with the relatively harsh call mentioned by Long *et al.* (1992).

BLUE-THROATED BEE-EATER *Merops viridis*

On the Nakay Plateau a party of about ten was seen along the Nam On on 30 April.

This is apparently a very scarce passage migrant in Laos (David-Beaulieu 1949) and there are few records. The only

other recent records in Laos are of several parties flying over Nakay-Nam Theun NBCA in 1996 (R. J. Tizard and J. W. Duckworth *per* R. J. Tizard, verbally 1996).

ORIENTAL CUCKOO *Cuculus saturatus*

In Nakay-Nam Theun NBCA recorded 7-23 April. Commonly heard in *Fokienia*-dominated forest at 1,400 - 1,800 m and in dry evergreen forest in the Houay Morrow valley down to 1,000 m. A few were heard elsewhere in the reserve in dry evergreen forest above 1,000 m. One was heard in forest on karst limestone at Pha Hua on 30 April at 800 m.

Mlikovsky and Inskipp (in prep.) traced no previous records for Laos.

SWIFTLETS *Collocalia* sp.

Flocks of unidentified swiftlets were seen throughout the survey period at Nakay Nam Theun NBCA, the Nakay Plateau and Nam Theun Extension Proposed NBCA and on road journeys through Khammouane province (essentially, the northern half of Central Laos) over the same period. Concentrations of several thousand were seen when weather conditions were still and overcast, particularly over deforested lowland valleys (although large flocks over forest might have been overlooked). The region includes extensive karst limestone mountains where the swiftlets may breed. We can trace no previous records of swiftlets from Central Laos other than a few in 1993 (Thewlis *et al.* 1996).

HOUSE SWIFT *Apus affinis*

A few were seen amongst flocks of other swifts and swiftlets over the town of Thakhek on 7 and 8 January.

These are the first records for Central Laos.

FISH OWLS *Ketupa* sp.

In Nakay-Nam Theun NBCA there was a day-time sighting of Buffy *Ketupa ketupa* or Tawny Fish Owl *K. flavipes* in forest along Nam Xot, at 650 m on 18 January. On the Nakay Plateau there was a day-time sighting of Buffy or Tawny Fish Owl in forest along Nam Xot at 520 m on 3 March.

The river was 20-30 m wide at the locations of both sightings. The observers wish to avoid identifying these species using size alone as a criterion until they are familiar with both species, but the March bird was strongly suspected to be Tawny, since it was markedly larger than Brown Wood Owl *Strix leptogrammica*, which is itself larger than Buffy Fish Owl according to King *et al.* (1975) and Boonsong and Round (1991). Neither Buffy nor Tawny Fish Owl was then known from Central Laos. Duckworth *et al.* (1998) report feathers of Tawny Fish Owl from the Nam Theun 40 km downstream of the Nakay Plateau, on the border of North and Central Laos.

BROWN WOOD OWL *Strix leptogrammica*

In Nakay-Nam Theun NBCA calls of this species were heard on 11 April in *Fokienia*-dominated forest at 1,600 m (identified from tapes by P. Round, *in litt.* 1996). Elsewhere, an unfledged captive bird was seen in Ban Nampik on 22 May and was said to have been caught nearby.

There are no previous records for Central Laos.

[HODGSON'S FROGMOUTH *Batrachostomus hodgsoni*

In Nakay Nam Theun NBCA calls provisionally attributed to Hodgson's Frogmouth were heard several times during April in dry evergreen forest at 1,000 - 1,050 m.

These resembled calls heard in South Laos in 1993 and also attributed to this species (Thewlis *et al.* 1996). There

remain only two confirmed records of Hodgson's Frogmouths in Laos, of singles in the North (Delacour and Greenway 1940) and South (Dickinson 1970) so if confirmed these would be the first records for Central Laos.]

JAVAN FROGMOUTH *Batrachostomus javensis*

In Nakay-Nam Theun NBCA calls provisionally attributed to Javan Frogmouth were heard on 19 January in dry evergreen forest at 650 m near the middle reaches of the Nam Xot (one giving the 'gwiir hirr hirr' call, around 09h00). On the Nakay Plateau calls provisionally attributed to Javan Frogmouth were heard on 6 February in semi-evergreen forest at 550 m north of Ban Sop-On (three together giving the 'gwiir hirr hirr' call at around 12h00); 1 March in semi-evergreen forest at 550 m near Ban Namxot (one giving a loud, slightly descending whistle and later another uttering loud, quavering laughs, both by night) and 10 March in another area of semi-evergreen forest at 550 m near Ban Namxot (one giving the 'gwiir hirr hirr' calls by day).

These calls were indistinguishable from calls heard by the authors in several areas of Laos in 1992-1993 and attributed to this species (Thewlis *et al.* 1996) but their identity has yet to be confirmed. There remain no confirmed records from Indochina (Mlikovsky and Inskipp in prep.) .]

YELLOW-VENTED GREEN PIGEON *Treron seimundi*

In Nakay-Nam Theun NBCA seven or more were seen with at least three Thick-billed Green Pigeons *Treron curvirostra* and one White-bellied Green Pigeon *T. sieboldii* on 10-11 March on the Southern Escarpment and another 1 km or so away on the same day.

Mlikovsky and Inskipp (in prep.) traced no previous records for Laos.

WHITE-BELLIED GREEN PIGEON *Treron sieboldii*

In Nakay-Nam Theun NBCA two singles were seen on 10 March in heavily degraded semi-evergreen forest at 400 m on the Southern Escarpment. A Yellow-vented Green Pigeon briefly joined one and the other was with seven Yellow-vented and three Thick-billed Green Pigeons in a fruiting tree. [On the Nakay Plateau there was a provisional record of 1-3 at 520 m near the lower Nam Xot on 13 March.]

Mlikovsky and Inskipp (in prep.) traced no previous records for Laos.

SPOTTED REDSHANK *Tringa erythropus*

On the Nakay Plateau a party of about 50 at Nong Boua on 9 February and 30 flying over fields a few kilometres to the south-east next day, possibly involving the same individuals.

These are the first records for Central Laos. There have been records of single individuals from North Laos (David-Beaulieu 1944) and South Laos (Thewlis *et al.* 1996)

JERDON'S BAZA *Aviceda jerdoni*

On the Nakay Plateau one was seen flying over newly cleared fields along the Nam On on 5 February.

This is the first record for Central Laos.

CHINESE SPARROWHAWK *Accipiter soloensis*

One was seen for sale in Ban Lak (20) market on 20 April.

If the bird was caught locally, this would be the first record for Central Laos, but see comments under 'Study Sites' above. There are only two previous records from Laos, both from the North (David-Beaulieu 1944), although there were several more in 1995 (Duckworth *et al.* 1998).

RUFOS-BELLIED EAGLE *Hieraetus kienerii*

On the Nakay Plateau three singles were seen: an adult on 5 February and immatures on 15 March and 1 April.

These are the first records for Central Laos. The species was first recorded in Laos in the South in 1993 (Thewlis *et al.* 1996).

MOUNTAIN HAWK EAGLE *Spizaetus nipalensis*

[In Nakay-Nam Theun NBCA provisionally identified birds were seen on 20 January at 600 m in dry evergreen forest along the middle Nam Xot and on 11 April at 1,400 m in *Fokienia*-dominated forest.] On the Nakay Plateau one was seen in riverine forest beside the lower Nam Noy at 550 m on 2 April. Two were offered for sale in Ban Lak (20) market on 15 January (but did not necessarily come from Central Laos, see 'Study Sites and Coverage' above). [One was provisionally identified on 26 April at 750 m in dry evergreen forest on the ridge just south of Ban Lak (20).]

There appears to be only one previous record for Laos, a specimen collected at Nan Neune by A. David-Beaulieu on 3 March 1940, and originally identified as a Changeable Hawk Eagle *S. cirrhatus* (Ripley 1953). King *et al.* (1975) list the species from North Laos and this presumably refers to the Ripley record. The Nakay Plateau bird is thus probably the first record for Central Laos.

GREATER SPOTTED EAGLE *Aquila clanga*

On the Nakay Plateau one (provisionally identified) was seen before dusk on 4 April near Ban Sop-On flying over an extensive area of paddies, apparently in search of a roost site.

This is only the second record for Laos. The first was an undated specimen taken beside the Xe Banghiang (the border between Central and South Laos) by David-Beaulieu (1949-1950).]

BLACK STORK *Ciconia nigra*

On the Nakay Plateau an immature was seen soaring above the Nam Theun downstream of Ban Nam Theun on 29 February.

This is the first record for Central Laos. The species was also recorded on the Nakay Plateau in 1995 (Duckworth *et al.* 1998).

BLUE-NAPED PITTA *Pitta nipalensis*

One was seen dead in Ban Lak (20) market on 7 March 1994.

If caught locally this would be the first record for Central Laos, but see comments under 'Study Sites', above.

LONG-TAILED SHRIKE *Lanius schach*

On the Nakay Plateau one was seen on 6 February at 550 m in scrub near Ban Sop-On.

This is the first record for Central Laos.

SHORT-BILLED MINIVET *Pericrocotus brevirostris*

In Nakay-Nam Theun NBCA the species was common in small groups, as part of mixed species flocks, in *Fokienia*-dominated forest at 1,400-1,800 m. One pair was watched feeding young in the nest on 9 April.

These are the first records for Central Laos.

JAPANESE PARADISE-FLYCATCHER *Terpsiphone atrocaudata*

In Nakay-Nam Theun NBCA one was seen on 13 April in *Fokienia*-dominated forest at 1,600 m.

This is the first record for Central Laos and only the second for Laos, the first being on the Bolaven Plateau in April 1930 (Engelbach 1932).

SNOWY-BROWED FLYCATCHER *Ficedula hyperythra*

In Nakay-Nam Theun NBCA common above 1,400 m in *Fokienia*-dominated forest and upper montane forest. Commonest in the understory of areas of broad-leaved forest in valley bottoms.

These are the first records for Central Laos.

LITTLE PIED FLYCATCHER *Ficedula westermanni*

In Nakay-Nam Theun NBCA common at 1,400-1,800 m in *Fokienia*-dominated forest and present, abundance uncertain, above 1,000 m in dry evergreen forest and above 1,800 m in upper montane forest.

These are the first records for Central Laos.

LARGE NILTAVA *Niltava grandis*

In Nakay-Nam Theun NBCA common above 1,000 m in dry evergreen forest and at 1,400-1,800 m in *Fokienia*-dominated forest and present, abundance uncertain, above 1,800 m in upper montane forest. Areas of open, ridge-top forest were preferred.

These are the first records for Central Laos.

SMALL NILTAVA *Niltava macgrigoriae*

In Nakay-Nam Theun NBCA common above 1,000 m in dry evergreen forest and at 1,400-1,800 m in *Fokienia*-dominated forest. Areas of broad-leaved, valley bottom forest were preferred. One was recorded on 15 January at 600 m in dry evergreen forest near Ban Nakadok.

These are the first records for Central Laos.

FUJIAN/RUFUS-BELLIED NILTAVA *Niltava davidi/sundara*

In Nakay-Nam Theun NBCA present, abundance uncertain, in dry evergreen forest at 600-900 m around Ban Nakadok. In Nam Theun Extension Proposed NBCA common at 600-900 m in wet evergreen forest near Nam Kwai. On the Nakay Plateau occasional in semi-evergreen forest at 500-550 m.

Six males (five during 25-29 January near Nam Kwai and one on 9 March on the Nakay Plateau) showed clearly the shining blue forecrown and darker hindcrown which distinguish Fujian Niltava according to Dickinson (1973) and Eoonsong and Round (1991). Several also had the flanks and belly paler than the breast. Most other males seen moderately well were also suspected to be Fujian by these criteria. The females are not thought to be identifiable in the field.

The identification and taxonomy of this closely related and possibly conspecific pair are not fully understood (Inskipp *et al.* 1996) and in view of this we prefer to treat these records as provisional. The only record of either form from Central Laos appears to be the report that an unspecified number were found in January-February at Nam Theun (and the nearby Ban Nape, in North Laos) by Delacour (1929). This record appears to be treated as *davidi* by Delacour and Jabouille (1940), but Dickinson (1973) reassigned it to *N. sundara*. Thus our records from Nakadok and the Nakay Plateau may prove to be the first records of *davidi* for Central Laos.

PYGMY BLUE FLYCATCHER *Muscicapella hodgsoni*

In Nakay-Nam Theun NBCA there were records of singles or groups of two on 8, 13 and 14 April at 1,400-1,800 m in *Fokienia*-dominated forest. All were in broad-leaved valley-bottom forest. A pair was watched nest-building on 8 April.

These are the first records for Central Laos. The only other records for Laos are from the Bolaven Plateau in 1993 (Thewlis *et al.* 1996)

WHITE-CAPPED WATER REDSTART*Chaimarrornis leucocephalus*

In Nakay-Nam Theun NBCA two were seen repeatedly during 17-20 January on the Nam Xot at 600 m.

These are the first records for Central Laos. One was also seen on the Nam Phao (Nam Theun Extension Proposed NBCA, marginally in North Laos) at 600 m on 31 January. None was seen along the upper reaches of the Nam Xot at 1,500 m in April. David-Beaulieu (1944) suggested that the species was an altitudinal migrant in the province of Tranninh (roughly equivalent to the modern province of Xieng Khouang, North Laos). He thought that the species bred at high altitudes and descended to the lowlands at 300-500 m from November to March.

[PURPLE COCHOA *Cochoa purpurea*

In Nam Theun Extension Proposed NBCA a putative record made on 29 January was mentioned by Timmins and Evans (1994) and quoted in several secondary sources. The observer has now withdrawn this since the birds could not be distinguished from the unusually dark-plumaged Green Cochoas *Cochoa viridis* recently recorded elsewhere in Central Laos. There are no historical or recent records from Laos.]

BEAUTIFUL NUTHATCH *Sitta formosa*

In Nakay-Nam Theun NBCA one was seen alone in dry evergreen forest at about 950 m. A group of three and two singles were seen in mixed flocks at 1,500-1,700 m in *Fokienia*-dominated forest.

Elsewhere it is known from 1,300-2,000 m in Bhutan, India, North Burma, north Laos, north Vietnam, small parts of Yunnan and one site in Thailand (Collar *et al.* 1994) so these records represent the most south-easterly population known, the first records for Central Laos and the lowest published altitudinal record.

YELLOW-CHEEKED TIT *Parus sibilonotus*

In Nakay-Nam Theun NBCA present in dry evergreen forest, *Fokienia*-dominated forest and upper montane forest from 1,200-2,100 m and common at least from 1,400-1,800 m.

These are the first records for Central Laos.

BLACK-THROATED TIT *Aegithalos concinnus*

In Nakay-Nam Theun NBCA seen four times at 1,000-1,400 m in dry evergreen forest and twice in *Fokienia*-dominated forest at 1,400-1,800 m.

These are the first records for Central Laos.

ASIAN HOUSE MARTIN *Delichon dasypus*

On the Nakay Plateau a group of two was watched in excellent viewing conditions for 15 minutes on 28 February along the course of the Nam Theun below Ban Nam Theun. They were accompanied by 30 or more unidentified Asian/Northern House Martins *Delichon dasypus/urbica*. Another party of five Asian/Northern House Martins was seen on 30 April near Ban Don.

Mlikovsky and Inskipp (in prep.) traced no confirmed records of Asian House Martin for Laos, and the first record for Vietnam was reported as recently as 1989 (Laurie *et al.* 1989).

Identification was based chiefly on the black underwing coverts, markedly darker than the greyish flight feathers. This feature was clearly visible due to the elevated viewpoint, so the birds were seen against a dark neutral background. Supporting features were the shallow tail fork and sullied chest, but see Duckworth *et al.* (1998) for a discussion of these features.

MOUNTAIN BULBUL *Hypsipetes maclellandii*

In Nakay-Nam Theun NBCA common above 1,000 m in dry evergreen and *Fokienia*-dominated forest and present, abundance uncertain, in mossy upper montane forest above 1,800 m.

These are the first records for Central Laos.

SLATY-BELLIED TESIA *Tesia olivea*

In Nakay-Nam Theun NBCA common in dry evergreen forest above 1,000 m and in *Fokienia*-dominated forest at 1,400-1,800 m and present, abundance uncertain, in upper montane forest above 1,800 m.

There are no known records from Central Laos. Delacour (1929) reported the similar Grey-bellied Tesia *T. cyaniventris* from east of Ban Nape, on the border of North and Central Laos, but only Slaty-bellied was recorded there in 1994. At the time of Delacour's record the taxonomy of these two tesias was uncertain. It is therefore possible that some confusion surrounds the naming of these tesias in historical accounts and a careful review of all existing specimens is needed.

JAPANESE BUSH WARBLER *Cettia diphone*

In Nakay-Nam Theun NBCA one was seen on 4 March in a large bamboo thicket amongst scrub and farmland at 520 m near Ban Soupen.

This is the first record for Central Laos.

[SULPHUR-BREASTED WARBLER *Phylloscopus ricketti*

On the Nakay Plateau one was seen in semi-evergreen forest at 520 m on 27 February.

This is the first record for Central Laos, but remains provisional in view of the presence of a similar, apparently undescribed form of *Phylloscopus* warbler in a nearby part of Central Laos (Duckworth *et al.* 1998).

WHITE-TAILED LEAF WARBLER *Phylloscopus davisoni*

In Nakay-Nam Theun NBCA common above 1,000 m in dry evergreen forest, *Fokienia*-dominated forest and upper montane forest.

These are the first records for Central Laos.

YELLOW-VENTED WARBLER *Phylloscopus cantator*

In Nakay-Nam Theun NBCA common in dry evergreen forest at 600-750 m around Ban Nakadok and the middle Nam Xot. On the Nakay Plateau frequent in semi-evergreen forest at 520-550 m around Ban Namxot.

These are the first records for Central Laos. Individuals often joined mixed flocks and called frequently. The latest record was of four separate individuals near Ban Namxot on 8 March.

LEMON-RUMPED WARBLER *Phylloscopus chloronotus*

In Nakay-Nam Theun NBCA frequent in *Fokienia*-dominated forest at 1,400-1,800 m.

These are the first records for Central Laos.

GREY-CHEEKED WARBLER *Seicercus poliogenys*

In Nakay-Nam Theun NBCA common at 1,400-1,800 m in *Fokienia*-dominated forest (preferring the lush, broad-leaved forest of the valley floors) and present, abundance uncertain, above 1,800 m in upper montane forest.

These are the first records for Central Laos. They showed yellow throats, creamy chins and all grey lores.

CHESTNUT-CROWNED WARBLER *Seicercus castaniceps*

In Nakay-Nam Theun NBCA one on 12 April at about 1,100 m in dry evergreen forest, locally common in valley-bottom broad-leaved forests in the area of *Fokienia*-

dominated forest at 1,400-1,800 m and present in upper montane forest above 1,800 m.

These are the first records for Central Laos.

RUFIOUS-FACED WARBLER *Abroscopus albogularis*

In Nakay-Nam Theun NBCA found from 600-1,800 m in dry evergreen forest and *Fokienia*-dominated forest. It was commonest above 1,000 m.

These are the first records for Central Laos.

GREATER NECKLACED LAUGHINGTHRUSH *Garrulax pectoralis*

In Nakay-Nam Theun NBCA parties on 8 and 9 April in *Fokienia*-dominated forest at 1,400-1,800 m. On the Nakay Plateau parties on 28 February and 2 March in semi-evergreen forest at 520 m.

Lesser Necklaced Laughingthrushes *Garrulax monileger* were also present in these areas, sometimes in the same mixed-species flocks, and there were several records which could not be assigned to species. These are the first records from Central Laos.

CHESTNUT-CROWNED LAUGHINGTHRUSH

Garrulax erythrocephalus

In Nakay-Nam Theun NBCA common above 1,800 m in upper montane forest on Phou Laoko, with one record from an isolated summit away from this area at 1,750 m.

These are the first records from Central Laos.

RED-TAILED LAUGHINGTHRUSH *Garrulax milnei*

In Nakay-Nam Theun NBCA five records in dry evergreen forest at 1,000-1,200 m and two records in *Fokienia*-dominated forest at 1,400-1,800 m.

These are the first records from Central Laos.

SHORT-TAILED SCIMITAR BABBLER *Jabouillea danjoui*

In Nam Theun Extension Proposed NBCA a party of two was seen at 750 m on 28 January in wet evergreen forest near Nam Kwai

Mlikovsky and Inskipp (in prep.) traced no previous records for Laos. The species was previously thought endemic to Vietnam (Collar *et al.* 1994).

STREAK-BREASTED/WHITE-BROWED SCIMITAR BABBLER

Pomatorhinus ruficollis/schisticeps

In Nakay-Nam Theun NBCA four records, as follows:

11 January, 650 m, above Ban Nakadok. One seen with streaks on the sides of the breast meeting across the middle, a pale area below that and streaks across the belly.

13 April, 1,100 m, dry evergreen forest above Ban Navang. One seen with slight brown streaking on the sides of the breast.

16 April, 1,000 m, dry evergreen forest above Ban Navang. One seen with streaks on breast sides, which met across the top of the breast.

17 April, 1,600 m *Fokienia*-dominated forest. Two seen with heavy streaking along flanks and sides of breast.

On the Nakay Plateau two records as follows:

6 February, 520 m, Nakay Plateau. Two seen with faint streaking on the sides of breast almost meeting across the centre. Lower flanks and lower belly brownish.

4 March, 520 m, Nakay Plateau. One seen with the sides of the breast strongly washed brown and streaked white. Centre of the breast flecked brown, flanks with scattered brown streaks.

All eight of these birds were less well-streaked than any *ruficollis* in the collection of the BM(NH). However, seven of them were markedly more heavily streaked than normal *schisticeps*. A few specimens from Laos, labelled *P. r. beauhieu*,

have less extensive and more variable streaking than most *ruficollis* and so come closest to the well-streaked birds seen in 1994, but even *beaulieu* tends to show a completely streaked breast and only one, a specimen from Tengyueh in west-central Yunnan, has a pale, unmarked breast patch below a streaked breast band, a feature shown by several of the 1994 birds. The bird of 13 April was indistinguishable from White-browed Scimitar Babbler, but the identity of the others remains uncertain. The Nam Theun headwaters may well represent a zone of hybridization between these two forms, which elsewhere in their range act as distinct species (see Duckworth *et al.* 1998 for further discussion).

RED-BILLED SCIMITAR BABBLER *Pomatorhinus ochraceiceps*
In Nakay-Nam Theun NBCA frequent or occasional to common from 600-1,800 m in dry evergreen forest and *Fokienia*-dominated forest.

These are the first records for Central Laos.

CORAL-BILLED SCIMITAR BABBLER *Pomatorhinus ferruginosus*
In Nakay-Nam Theun NBCA common at 1,000-1,400 m in dry evergreen forest and noticeably commoner in *Fokienia*-dominated forest at 1,400-1,800 m.

These are the first records from Central Laos.

The birds were very markedly paler below than those pictured in Boonsong and Round (1991). There are only two skins of the Indochinese race *orientalis* in the BM (NH) but comparison of these with our field notes and photographs of an individual netted in Nakay-Nam Theun NBCA suggests that birds there are paler below than *orientalis* and might represent a new race. They were whitish below, washed light brown, with a wholly white chin and throat standing in slight contrast. They were not wholly white below, unlike the birds seen on the Bolaven Plateau in 1993 (Thewlis *et al.* 1996) which may thus represent another new form, or the extreme of a cline (C. Robson, *in litt.* 1995).

An occupied nest with three eggs was found on 13 April at 1,200 m. It was about 50 cm above ground on the side of a low mound amongst a pile of leaves and twigs. The nest cavity was conical, about 15 cm deep and 10 cm wide at the mouth, and sloped gently upwards. The nest was constructed of twigs, leaves and fronds from rattans and ferns. The eggs were pure white. When one of the adults was mist-netted, two other individuals circled the observers repeatedly making scolding calls and feigning injury to distract them.

PYGMY WREN BABBLER *Phoepygia pusilla*

In Nakay-Nam Theun NBCA one was seen on 13 April in thick vegetation along the banks of Nam Xot at 1,500 m. Calls taped in the same area on 10 April were subsequently identified as this species (C. Robson and P. Round, *in litt.* 1994).

These are the first records for Central Laos.

SPOTTED WREN BABBLER *Spelaeornis formosus*

In Nam Theun Extension Proposed NBCA calls recorded from wet evergreen forest at 600-900 m near Nam Kwai on several dates during 24 January - 2 February were identified as this species by C. Robson (*in litt.* 1994). There was also a sighting on 30 January in the same area, but this remains provisional. It was clearly a *Spelaeornis* and resembled *formosus* closely in body size, tail shape and size, bill structure, the large pale feet, the warm brown remiges, rectrices and rump all finely barred with black, the dark brown upperparts and head with fine white speckles and

the dull brown underparts. However, all the skins examined in the BM(NH) showed white spotting on the breast and particularly the throat (though this was rather inconspicuous on some), whereas the 1994 bird apparently had none.

The species was known from Mount Victoria (Burma) and nowhere else in South-East Asia (King *et al.* [1975]; see also the lack of records in Mlikovsky and Inskipp [in prep.]) so this constitutes the first record for Indochina. There is a subsequent record from northern Vietnam (Robson 1995). The nearest known population is in Yunnan (King *et al.* 1975).

The numbers of the illustrations of *S. formosus* and *S. troglodytoides* in Etchécopar and Hué (1983) are apparently transposed, which can cause confusion.

BABBLER *Stachyris* sp.

On the Nakay Plateau a babbler, closely resembling 'Buff-chested Babbler' *Stachyris ambigua* as described by King *et al.* (1975), was seen in a large thicket of tall bamboos at 500 m near Ban Soupen on 4 March 1994. Its call was an often-repeated, mellow 'hoo-hoo-hoo-hoo-hoo-hoo' without an introductory first note. The call was also heard in degraded habitats near Ban Namxot and Ban Sop-On.

There are considerable differences of opinion over the taxonomy of this group, which King *et al.* (1975) placed in four species - *S. ambigua*, *S. ruficeps*, *S. rufifrons* and *S. rodolphe* (the last of which is not reported from Indochina). The subtle plumage colours in this group change significantly after death, making the use of skins rather difficult. Examination of skins at the BM(NH) suggests the Nakay bird was closest to *Stachyris rufifrons insuspecta* (which is known from southern Laos) or *Stachyris ruficeps ruficeps* (from Burma). Deignan (1939) suggested these two forms may be conspecific. Inskipp *et al.* (1996) lump *S. rufifrons* and *S. ambigua* in *S. rufifrons* and retain *S. ruficeps* as a full species. No member of this species group is currently known from Central Laos.

CUTIA *Cutia nipalensis*

In Nakay-Nam Theun NBCA two on 14 April in *Fokienia*-dominated forest at 1,750 m.

This is the first record from Central Laos.

WHITE-BROWED SHRIKE BABBLER *Pteruthius flaviscapis*

In Nakay-Nam Theun NBCA common above 1,000 m in dry evergreen forest, *Fokienia*-dominated forest and upper montane forest. Many appeared to be holding territory, and a nest was found on 22 April.

These are the first records from Central Laos.

BLACK-EARED SHRIKE BABBLER *Pteruthius melanotis*

In Nakay-Nam Theun NBCA there were four records in dry evergreen forest above 1,000 m and three in *Fokienia*-dominated forest at 1,400-1,800 m.

These are the first records from Central Laos.

CHESTNUT-EARED SHRIKE BABBLER *Pteruthius aenobarbus*

In Nakay-Nam Theun NBCA singles on 13 and 14 April in *Fokienia*-dominated forest at 1,400-1,800 m.

These are the first records from Central Laos.

SPECTACLED BARWING *Actinodura ramsayi*

In Nakay-Nam Theun NBCA frequent in *Fokienia*-dominated forest at 1,400-1,800 m and present down to 1,000 m in dry evergreen forest.

These are the first records from Central Laos.

BLUE-WINGED MINLA *Minla cyanouroptera*

In Nakay-Nam Theun NBCA common above 1,400 m in *Fokienia*-dominated forest and upper montane forest, and present, abundance uncertain, in dry evergreen forest down to 1,000 m.

These are the first records from Central Laos.

CHESTNUT-TAILED MINLA *Minla strigula*

In Nakay-Nam Theun NBCA very common in upper montane forest above 1,800 m on Phou Laoko and seen on an isolated summit away from this area at 1,750 m.

There are no previous records for Central Laos.

RED-TAILED MINLA *Minla ignotincta*

In Nakay-Nam Theun NBCA common in mixed-species flocks above 1,400 m in both *Fokienia*-dominated forest and upper montane forest.

Mlikovsky and Inskipp (in prep.) traced no previous records for Laos.

RUFIOUS-WINGED FULVETTA *Alcippe castaneiceps*

In Nakay-Nam Theun NBCA common above 1,000 m in dry evergreen forest, *Fokienia*-dominated forest and upper montane forest.

These are the first records from Central Laos.

SPECTACLED FULVETTA *Alcippe ruficapilla*

In Nakay-Nam Theun NBCA two were seen on 15 April at 2,100 m in upper montane forest on the main ridge of Phou Laoko.

This is the first record for Central Laos. The race of these birds is not clear but in comparison with known races they were notable for their thin eyerings (which were pale but not white), their lack of a distinct wing pattern and the indistinctly marked throat, with whitish streaking. Eames *et al.* (1994) treated the record as *A. r. danisi*, based on field notes from RJT.

RUSTY-CAPPED FULVETTA *Alcippe dubia*

In Nakay-Nam Theun NBCA common in *Fokienia*-dominated forest at 1,400-1,800 m.

These are the first records for Central Laos. Birds were usually seen moving through the understory in twos as part of mixed-species flocks. They invariably showed quite heavy brown-washed underparts, leaving only the centre of the upper breast whitish. This wash on the underparts seemed more extensive than on any specimens examined in the BM(NH).

LONG-TAILED SIBIA *Heterophasia picaoides*

In Nakay-Nam Theun NBCA common at 1,000-1,800 m in dry evergreen forest and *Fokienia*-dominated forest, and present, abundance uncertain, above 1,800 m in upper montane forest.

These are the first records from Central Laos.

WHISKERED YUHINA *Yuhina flavicollis*

In Nakay-Nam Theun NBCA common above 1,800 m in upper montane forest, occasionally recorded at 1,400-1,800 m in *Fokienia*-dominated forest and present on an isolated summit away from this area at 1,750 m.

These are the first records from Central Laos.

GREY-HEADED PARROTBILL *Paradoxornis gularis*

In Nakay-Nam Theun NBCA there were sightings of singles on 13 and 17 April at 1,000 m and a party of ten on 18 April at 1,300 m, all in dry evergreen forest, and a single on 13 April in *Fokienia*-dominated forest at 1,600 m.

These are the first records from Central Laos.

GOLDEN PARROTBILL *Paradoxornis verreauxi*

In Nakay-Nam Theun NBCA two groups of two were seen on 8 April in *Fokienia*-dominated forest at about 1,500 m. They were in tall herbage and bamboo in dense broad-leaved valley-bottom forest.

These are the first records from Central Laos.

MRS GOULD'S SUNBIRD *Aethopyga gouldiae*

In Nakay-Nam Theun NBCA frequent at 1,000-1,400 m in dry evergreen forest and common at 1,400-1,800 m in *Fokienia*-dominated forest.

These are the first records for Central Laos.

GREEN-TAILED SUNBIRD *Aethopyga nipalensis*

In Nakay-Nam Theun NBCA common above 1,800 m in upper montane forest, where it apparently replaced Mrs Gould's Sunbird.

These are the first records for Central Laos.

FORK-TAILED SUNBIRD *Aethopyga christinae*

In Nakay-Nam Theun NBCA common in both wet and dry evergreen forests at 600-1,000 m. It co-existed at these altitudes with smaller numbers of Black-throated Sunbirds *Aethopyga saturata*. Present, but scarcer, in dry evergreen forest up to 1,400 m. On the Nakay Plateau present, though not common, in broad-leaved evergreen forest strips amongst pines at 500-600 m.

Remarkably, previous collectors who visited some of these sites overlooked it. Mlikovsky and Inskipp (in prep.) traced no records from Laos.

CHESTNUT-EARED BUNTING *Emberiza fucata*

On the Nakay Plateau, one on 7 February in scrub at 550 m near Ban Sop-On. Elsewhere, one in fields 3 km north of Ban Lak (20) on 3 February.

These are the first records for Central Laos.

CHESTNUT BUNTING *Emberiza rutila*

In Nakay-Nam Theun NBCA one on 14 April at 1,500 m near Nam Xot in grass clumps beside a helicopter landing pad in *Fokienia*-dominated forest.

This is the first record for Central Laos.

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APPENDIX 1

NOTES ON SPECIES LISTED FOR CENTRAL LAOS BY KING *et al.* (1975)

a) The following species were reported in Central Laos by Delacour (1929) but not listed by King *et al.* (1975). Those marked NNT/NP were found in 1994 in Nakay-Nam Theun NBCA and/or the Nakay Plateau, those marked PXH were found in Phou Xang He NBCA in 1993 (Thewlis *et al.* 1996) and those marked DJ were listed for Central Laos by Delacour and Jabouille (1940). We have examined most other historical sources for Central Laos and King *et al.* apparently included all the records they list.

BLUE-RUMPED PITTA *Pitta soror* PXH, NNT/NP, DJ
 GREY TREEPIE *Dendrocitta formosae* NNT/NP
 WHITE-TAILED FLYCATCHER *Cyornis concretus* PXH, NNT/NP
 TICKELL'S BLUE FLYCATCHER *Cyornis tickelli* [PXH], [NNT/NP]
 ORANGE-FLANKED BUSH ROBIN *Tarsiger cyanurus* NNT/NP
 WHITE-CROWNED FORKTAIL *Enicurus leschenaulti* PXH, NNT/NP
 ASHY BULBUL *Hemixos flavala* NNT/NP
 PALE-FOOTED BUSH WARBLER *Cettia pallidipes*
 HILL PRINIA *Prinia atrogularis*
 SPOT-NECKED BABBLER *Stachyris striolata* NNT/NP, listed as *Tringhorhina guttata* by Delacour (1929)
 STREAK-BREASTED SCIMITAR BABBLER *Pomatorhinus ruficollis* [NNT/NP]
 STREAKED WREN BABBLER *Napothera brevicaudata* NNT/NP, DJ
 GREY-THROATED BABBLER *Stachyris nigriceps* PXH NNT/NP, DJ
 SILVER-EARED MESIA *Leiothrix argentauris* NNT/NP
 STRIATED YUHINA *Yuhina castaniceps* NNT/NP, DJ
 BLACK-CHINNED YUHINA *Yuhina nigrimenta* NNT/NP
 LITTLE SPIDERHUNTER *Arachnothera longirostra* PXH, NNT/NP
 LITTLE BUNTING *Emberiza pusilla* NNT/NP

b) The following species are listed for Central Laos by King *et al.* (1975). The sole authority for this seems to be not primary published records but the review of distribution by Delacour and Jabouille (1940), who perhaps made use of unpublished sight records, or even inference based on distribution in surrounding areas. Alternatively, the comment 'toute l'Indochine' by Delacour and Jabouille may merely imply 'present in Laos' or 'present in Haut and Bas-Laos' and thus perhaps known from South but not Central Laos, rather than 'present in all three parts of Laos'. Codes are the same as for list 'a', above.

PALE-HEADED WOODPECKER *Gecinulus grantia*, PXH, NNT/NP
 STRIPE-BREASTED WOODPECKER *Dendrocopos atratus*, NNT/NP
 SILVER-BACKED NEEDLETAIL *Hirundapus cochinchinensis*, PXH, NNT/NP
 GREY-HEADED FISH EAGLE *Ichthyophaga ichthyaetus*, [NNT/NP]
 COMMON BUZZARD *Buteo buteo*, NNT/NP
 ORANGE-HEADED THRUSH *Zoothera citrina*, NNT/NP
 MUGIMAKI FLYCATCHER *Ficedula mugimaki*, NNT/NP
 WHITE-TAILED ROBIN *Myiomela leucura*, NNT/NP
 GREEN COCHOA *Cochoa viridis*, NNT/NP
 MOUNTAIN TAILORBIRD *Orthotomus cuculatus*, NNT/NP
 FIRE-BREASTED FLOWERPECKER *Dicaeum ignipectus*, NNT/NP

Delacour and Jabouille (1940) specifically mention Rusty-naped Pitta *Pitta oatesi* [NNT/NP] and Blyth's Leaf Warbler *Phylloscopus reguloides* PXH, NNT/NP for 'Laos central' but do not indicate where they were found, and no primary records can be found.

APPENDIX 2

LIST OF SPECIES RECORDED DURING 1994

Key species status is indicated in descending order of concern by the codes GT (Globally Threatened), GNT (Globally Near-threatened), ARL (At Risk in Laos), PARL (Potentially at Risk in Laos) and LK (Little Known in Laos). Only the highest code is given for each species.

Minor sites are: 1. Phou Khao Khouay NBCA (North Laos) 21-22 March; 2. Mekong River, Vientiane (North Laos) 19 February; 3. Ban Pakthoay (North Laos) 21 May; 4. Pha Hua (Central Laos) 3 February (4a) and 30 April (4b); 5. A ridge south of Ban Lak (20) (Central Laos) 26 April; 6. Thakhek, Khammouane Province (Central Laos) 7-8 January; 7. Ban Lak Khao (Central Laos) 22-23 May.

Provisional identifications are in square brackets. If all records are provisional, the species name is also in square brackets.

Subjective assessment of abundance is denoted by C (Common), F (Frequent) or O (Occasional), as described in the text. Many species were known to be present (P) but abundance was not assessed, due to a variety of reasons. Where a species occurrence was particularly patchy, the code is prefixed with L (Local). [R] indicates that apparently reliable local reports were received. The 'Historical' column summarizes historical records from the Nakay Plateau and Nam Theun Extension Proposed NBCA, and indicates the significance of the 1994 records. D = recorded by Delacour (1929), D1 = Ban Nape, D2 = 'Nam Theun', D3 = 'Nakay', L = recorded by the Legendre expedition (Dickinson 1970), L1 = Ban Nape, L3 = 'Nakay'. NL indicates a species new for Laos, NCL a species new for central Laos.

The following additional species were recorded only as dead birds for sale in Ban Lak (20) market: Barred Buttonquail *Tumix suscitator*, Oriental Scops Owl *Otus sunia*, Ruddy-breasted Crake *Porzana fusca*, Chinese Sparrowhawk *Accipiter soloensis*, Eared Pitta *Pitta phayrei* and Blue-naped Pitta *Pitta nipalensis* GNT. Eared Pitta was also recorded at Ban Nape by Delacour (1929).

Legend for column headings

- ddf = dry dipterocarp forest
- def = dry evergreen forest
- deg. = degraded habitats
- Fdf = *Fokienia*-dominated forest
- mdf = mixed deciduous forest
- sef = semi-evergreen forest
- umf = upper montane forest
- wef = wet evergreen forest

Footnotes to Appendix 2

1. Laced Woodpecker. Showed a strong preference for second growth rather than tall forest.
2. Wreathed Hornbill. Recorded once at 700 m in logged dry evergreen forest above Ban Navang.
3. Dollarbirds. Recorded commonly March onwards. They may be seasonal visitors.
4. Indian Cuckoo. Heard commonly only after the first week of March.
5. Plaintive Cuckoo. Present in second growth near Ban Navang.
6. Drongo Cuckoo. Apparently seasonal callers - no calls before late February; heard daily thereafter.
7. Coral-billed Ground Cuckoo. Apparently seasonal callers. Only heard March onwards.
8. Green pigeon. Type B covers calls indistinguishable from *T. curvirostra*.
9. Green pigeon. Type A covers calls unlike *T. curvirostra* and sightings of larger, wedge-tailed birds.
10. Snipe sp. Includes some Swinhoe's/Pintail Snipe *G. megala stemura*.
11. Common Snipe. Identified from congeners by distinct call and presence of extensive white trailing edge of wing, following Boonsong and Round (1991).

SPECIES	Minor Sites	Site										Historical	Voice useful in assessing abundance									
		Xe Bang Nouan NBCA			Nakay Plateau		Nakay Nam Theun NBCA															
		W Lowlands	Central	E Lowlands	Nakay Plateau	Highmontains S	S Mountains	N Mountains	C Mountains		Nam Theun Extension											
		Habitat	ddf	sef/mdf	sef/mdf/ddf	ddf	sef/mdf	pine/def mosaic	degraded	sef/scrub	Nam Pheo scrub forest mosaic	Ban Naladok (degraded)	Ban Naladok def	Mud Nam Xor def	def	Fdf	Phou Laotho umf	Nam Kava wof				
		Altitude (m)	130-240	130-240	200-800	280-350	280-350	300-560	300-560	200-400	320-800	350-700	600-950	380-900	1,000-1,750	1,400-1,800	1,800-2,120	900				
CHINESE FRANCOLIN <i>Francolinus pintadeanus</i>			C		C		C													L1	V	
RUFOUS-THROATED PARTRIDGE <i>Arborophila rufogularis</i>															C					D1	V	
BAR-BACKED PARTRIDGE <i>Arborophila brunneopectus</i>				P			O			P		P		P	P		C			L3, D1	V	
SCALY-BREADED PARTRIDGE <i>Arborophila charltonii</i>				O	C		F			P		P	C				O			D1	V	
RED JUNGLEFOWL <i>Gallus gallus</i>			P	C	F		P	C	C	P		P	P	P						D1, L1	V	
SILVER PHEASANT <i>Lophura nycthemera</i>					P		F			[R]	[R]	S		C	P	P	P			D1		
SIAMESE FIREBACK <i>Lophura diardi</i>	GT			O	C		O	O		[R]			[R]									
GREY PHEASANT <i>Polyplectron bicalcaratum</i>							C			P		C	C	C			C			D1	V	

SPECIES	Minor Sites	Site		Xe Bang Nouan NBCA			Nakay Plateau		Nakay Nam Theun NBCA						Nan Theun Extension	Historical	Voice useful in assessing abundance	
		Sector	Habitat	W	Central	E	Nakay Plateau	Basement	S	N	C			Nan Kwat waf				
				Lowlands	Central	Lowlands	Plateau	S	S	Mountains	Mountains							
		Altitude /m	alt/low	alt/low	alt	alt	plate/scr mosaic	degraded	scr/scrubs	Nan Pheo scrub forest mosaic	Ran Nakadok degraded	Ran Nakadok det	Ma Nam Xot det	alt				flat
		130-240	130-240	200-800	280-350	280-350	300-360	300-360	200-800	520-800	550-700	600-950	580-900	1,000-1,750	1,400-1,800	1,600-2,120	600-900	
CRESTED ARGUS <i>Rhemardia ocellata</i>	GT								P							C	D1	V
GREEN PEAFOWL <i>Pavo muticus</i>	GT	1					[R]	[R]										V
LESSER WHISTLING-DUCK <i>Dendrocygna javanica</i>			O					O										
GREYLAG GOOSE <i>Anser anser</i>								O									NL	
WHITE-WINGED DUCK <i>Cairina scutulata</i>	GT						P										D1, D3	
NORTHERN PINTAIL <i>Anas acuta</i>								P										
GARGANEY <i>Anas querquedula</i>								LC										
COMMON TEAL <i>Anas crecca</i>								LC										
Yellow-legged Buttonquail <i>Turnix tanki</i>								P										
BUTTONQUAIL SP. <i>Turnix</i>									P									
SPECKLED PICULET <i>Picumnus inornatus</i>							O				P		P					
WHITE-BROWED PICULET <i>Sasia ochracea</i>										P		P				O	D1	
GREY-CAPPED PYGMY WOODPECKER <i>Dendrocopos canicapillus</i>			C	O	C		O				P			P			D2	
STRIPE-BREADED WOODPECKER <i>Dendrocopos altatus</i>														P				
RUFOLS WOODPECKER <i>Ceolus brachyurus</i>				F	P		F				P							V
WHITE-BELLIED WOODPECKER <i>Dryocopus javanicus</i>	PARL					P	P											
LESSER YELLOWNAPE <i>Picus chlorolophus</i>			P	F	P		P	F		P		P		O		O	D2, D3	
GREATER YELLOWNAPE <i>Picus flavinucha</i>				O	P	P	O		P					P		O		
GREATER/LESSER YELLOWNAPE <i>Picus flavinucha/P. chlorolophus</i>			C	C	C/F	P	C	F						P	C	C		V
LACED WOODPECKER <i>Picus vittatus</i> (1)			C	P			F	O										
STREAK-THROATED WOODPECKER <i>Picus xanthopygaeus</i>	PARL		P			P												
RED-COLLARED WOODPECKER <i>Picus cabieri</i>	GT	5		C	C		O											
BLACK-HEADED WOODPECKER <i>Picus erythropylus</i>			C		LF	C												
GRAY-HEADED WOODPECKER <i>Picus canis</i>			P		P		P	C	F									D1, D2
COMMON FLAMEBACK <i>Dinopium javanense</i>			C	C		P		F										D1, L1
GREATER FLAMEBACK <i>Chrysocolaptes lucidus</i>				O	P		O											D1
GREATER/LESSER FLAMEBACK <i>D. javanense/C. lucidus</i>			C	C	LC	P	C	C	C		P		F	C				V
PALF-HEADED WOODPECKER <i>Gecinulus grantia</i>							LF			P								
BAY WOODPECKER <i>Blythipicus pyrrhotis</i>				P	P			C		P	P		C	C	C	C		D2
BLACK-AND-BUFF WOODPECKER <i>Meiglyptes jugularis</i>				P	P			O										D2
HEART-SPOTTED WOODPECKER <i>Hemicircus canente</i>			P	C	P			O										D1
BLACK-AND-BUFF/HEART-SPOTTED WOODPECKER <i>Meiglyptes jugularis/Hemicircus canente</i>				C	F			P	P									V
GREAT SLATY WOODPECKER <i>Mulleripicus pulverulentus</i>				C	LF		P	C										V
GREAT BARBET <i>Megalaima civeis</i>														C	P			NCL

SPECIES	Minor Sites	Site		Xe Bang Nouan NBCA		Nakay Plateau		Nakay Nam Theun NBCA						Historical	Voice useful in assessing abundance		
		Sector	W Lowlands		E Lowlands		Nakay Plateau		S Mountains		C Mountains		Nam Theun Extension				
			add/rudf	sef/mudf	add	sef/mudf	pruc/set mosaic	degraded	sef scrub	Nam Pheo scrub forest mosaic	Ban Nakadok degraded	Ban Nakadok def				Mud Nam Xoi def	def
		Habitat	add/rudf	sef/mudf	add	sef/mudf	pruc/set mosaic	degraded	sef scrub	Nam Pheo scrub forest mosaic	Ban Nakadok degraded	Ban Nakadok def	Mud Nam Xoi def			def	Fuf
Altitude (m)	130-240	130-240	200-800	280-350	280-350	300-500	300-500	200-400	520-800	530-700	600-950	580-900	1,000-1,750	1,400-1,800	1,800-2,120	600-900	
ASIAN EMERALD CUCKOO <i>Chrysococcyx maculatus</i>						O											
DRONGO CUCKOO <i>Surniculus lugubris</i> (6)			P	LC		P	C	P	P			P				C	V
ASIAN KOEL <i>Eudynamis scolopacea</i>							C	C									V
GRIFFIN-BILLED MALKOHA <i>Phaenicophaeus tristis</i>	4a,7		C	C		P	C	C	P	P	P	P	C			F	V
CORAL-BILLED GROUND CUCKOO <i>Carpococcyx renauldi</i> (7)							LC						P			O	V
GREATER GOULAL <i>Centropus sinensis</i>	7	F	C	LP		P	C	C	C	P	C						V
LESSER GOULAL <i>Centropus bengalensis</i>								P	P								
VERNAL HANGING PARROT <i>Loriculus vernalis</i>				C	C		P	C	C	C	P						V
PARAKEET SP. <i>Pittacula</i>			P			P											
GREY-HEADED PARAKEET <i>Pittacula finsi</i>							C		P								D1
SWIFTLET SP. <i>Collocalia</i>	4a		P				P	P		P	P		P	P	P	P	
SILVER-BACKED NEEDLETAIL <i>Hirundapus cochinchinensis</i>	3,7		P							P			P	P		PA	
BROWN-BACKED NEEDLETAIL <i>Hirundapus giganteus</i>	3,7		P		P		P			P							
NEEDLETAIL SP. <i>Hirundopus</i>			P	P	LC		P			P				P			
ASIAN PALM SWIFT <i>Cypsiurus balasiensis</i>			P		P			LP		P							
FORK-TAILED SWIFT <i>Apus pacificus</i>	3,6			P			P	P	P	P	P	P	P	P	P	P	
HOUSE SWIFT <i>Apus affinis</i>	3,6				P												NCL
ORIENTAL BAY OWL <i>Phodilus badius</i>					P					P							V
MOUNTAIN SCOPS OWL <i>Otus spilocephalus</i>							C			P	P		C			O	V
COLLARED SCOPS OWL <i>Otus bakkamoena</i>	1			C	P		C	C			P						V
BROWN WOOD OWL <i>Strix leptogrammica</i>	7													P			NCL
BROWN FISH OWL <i>Ketupa zeylonensis</i>								P									
TAWNY/BUFFY FISH OWL <i>Ketupa flavipes</i> /K. <i>ketupa</i>								P					P				V
COLLARED OWLET <i>Glaucidium brodiei</i>	4a,4b				C		P	C		P	P		P	P	O	O	D2
ASIAN BARRED OWLET <i>Glaucidium cuculoides</i>	1,4a		C	C	C	P	C	C	C	P		P	P	P		O	D1
BROWN HAWK OWL <i>Ninox scutulata</i>				C	P			C	C								V
SPOTTED OWLET <i>Athene brama</i>						P											
[HODGSON'S FROGMOUTH <i>Batrachostomus hodgsoni</i>]														[P]			[NCL]
[JAVAN FROGMOUTH <i>Batrachostomus javensis</i>]	[4a]							[F]						[P]			V
GREAT EARED NIGHTJAR <i>Eurostoipodus macrotis</i>				C	P			C	C								V
LARGE-TAILED NIGHTJAR <i>Caprimulgus macrurus</i>					P			C	C		P	P					V
ORIENTAL TURTLE DOVE <i>Streptopelia orientalis</i>								C	C		P	P					V
SPOTTED DOVE <i>Streptopelia chinensis</i>			F	P	LP	C			C	C	P	P					V
BARRED CUCKOO DOVE <i>Macropygia unchall</i>								F			S		P	C	C	O	LI

SPECIES	Minor Sites	Site					Nakay Plateau		Nakay Nam Theun NBCA					Nain Theun Extension	Nain Kwan-vef	Historical	Voice useful in assessing abundance
		Xe Bang Nouan NBCA		Nakay Plateau			Nakay Plateau	S S Mountains	N Mountains	C Mountains		Phou Lakou unit					
		W Lowlands	Central	E Lowlands	Nakay Plateau	S S Mountains				N Mountains	C Mountains		C Mountains				
		Habitat	Habitat	Habitat	Habitat	Habitat	Habitat	Habitat	Habitat	Habitat	Habitat	Habitat					
Altitude (m)	130-240	130-240	200-800	280-350	280-350	500-360	500-360	200-400	320-800	330-700	600-950	550-900	1,000-1,750	1,400-1,800	1,800-2,120	600-800	
<i>EMERALD DOVE</i> <i>Chalcophaps indica</i>		P	P		P	C		P	P		P					V	
<i>THICK-BILLED GREEN PIGEON</i> <i>Treron curvirostris</i>			P	P		C		C			P					D1,D2,D3	
<i>GREEN PIGEON TYPE B</i> <i>Treron (8)</i>	P	F	P		C			P		C	P					V	
<i>PIN-TAILED GREEN PIGEON</i> <i>Treron apicauda</i>						P			P							D1	
<i>YELLOW-VENTED GREEN PIGEON</i> <i>Treron seimundi</i>	GNT							P								NL	
<i>WHITE-BELLIED GREEN PIGEON</i> <i>Treron sieboldii</i>	GNT					[P]		P								NL	
<i>GREEN PIGEON TYPE A</i> <i>Treron (9)</i>												P	P		P	V	
<i>GREEN IMPERIAL PIGEON</i> <i>Ducula aenea</i>	ARL		P	LP		LF										V	
<i>MOUNTAIN IMPERIAL PIGEON</i> <i>Ducula badia</i>						C			P			P	C		C	D2	
<i>IMPERIAL PIGEON SP.</i> <i>Ducula</i>					C			P				P	C			V	
<i>WHITE-BREASTED WATERHEN</i> <i>Amaurornis phoenicurus</i>						F	F		P							V	
<i>COMMON MOORHEN</i> <i>Gallinula chloropus</i>						C	C									V	
<i>EURASIAN WOODCOCK</i> <i>Scolopax rusticola</i>						P				P						V	
<i>SNIFE SP.</i> <i>Gallinago (10)</i>						C	C									V	
<i>COMMON SNIFE</i> <i>Gallinago gallinago (11)</i>							F									V	
<i>SPOTTED REDSHANK</i> <i>Tringa erythropus</i>							P									NCL	
<i>MARSH SANDPIPER</i> <i>Tringa stagnatilis</i>		2															
<i>COMMON GREENSHANK</i> <i>Tringa nebularia</i>		2					P										
<i>GREEN SANDPIPER</i> <i>Tringa ochropus</i>		2				C	C			P						L1	
<i>WOOD SANDPIPER</i> <i>Tringa glareola</i>		2				F	C									V	
<i>COMMON SANDPIPER</i> <i>Actitis hypoleucos</i>		2				C	C		P							V	
<i>TEMMINCK'S STINT</i> <i>Calidris temminckii</i>		3															
<i>PHEASANT-TAILED JACANA</i> <i>Hydrophasianus chirurgus</i>								O									
<i>LITTLE RINGED PLOVER</i> <i>Charadrius dubius</i>		2						P									
<i>KENTISH PLOVER</i> <i>Charadrius alexandrinus</i>		2															
<i>RIVER LAPWING</i> <i>Vanellus duvaucelii</i>	ARL					C	F										
<i>GREY-HEADED LAPWING</i> <i>Vanellus cinereus</i>	GNT					O	O										
<i>RED-WATTLED LAPWING</i> <i>Vanellus indicus</i>			C					LC	P							D1,D2,D3	
<i>SMALL PRATINCOLE</i> <i>Glarvula lactea</i>	PARL	2															
<i>JERDON'S BAZA</i> <i>Aviceda jerdoni</i>	GNT							O								NCL	
<i>BLACK BAZA</i> <i>Aviceda leuphotes</i>			P	C	P		C	F				O					
<i>ORIENTAL HONEY-BUZZARD</i> <i>Pernis ptilorhynchus</i>							O	O				P	F	F		D2	
<i>BLACK KITE</i> <i>Mitvus migrans</i>								O									
<i>LESSER FISH EAGLE</i> <i>Ichthyophaga humilis</i>	GNT					LF						P					

SPECIES	Minor Sites	Site		Xe Bang Nouan NBCA				Nakay Plateau		Nakay Nam Theun NBCA						Nam Theun Extension	Historical	Voice useful in assessing abundance			
		Sector		W Lowlands		E Lowlands		Nakay Plateau		S		N Mountains		C Mountains							
		Habitat		dd/ndf	se/ndf	se/ndf/ddf	ddf	se/ndf	pr/se/mosaic	degraded	se/se/scrub	Nam Pheo scrub/forest mosaic	Ban Nakadok degraded	Ban Nakadok def	Mad Nam Xoi def				def	Fdf	Phou Lanke umf
		Altitude /m		130-240	130-240	200-800	280-350	280-350	500-560	500-560	200-400	520-800	550-700	600-950	380-400				1,000-1,750	1,400-1,800	1,800-2,120
[GREY-HEADED FISH EAGLE <i>Ichthyophaga ichthyaeus</i>]	GNT						[P]														
CRESTED SERPENT EAGLE <i>Spilornis cheela</i>		5	P	P	P		C	P		P	P	C	C	C	O		C		V		
EURASIAN MARSH HARRIER <i>Circus aeruginosus</i>								O													
[PIED HARRIER <i>Circus melanoleucos</i>]								[O]													
CRESTED GOSHAWK <i>Accipiter trivirgatus</i>				P			C	C		P				P							
SHIKRA <i>Accipiter badius</i>		7	P	C	[P]		C	C		P				[P]					V		
RUFous-WINGED BUZZARD <i>Buteo liveroti</i>	GNT					P															
GREY-FACED BUZZARD <i>Buteo indicus</i>								O													
COMMON BUZZARD <i>Buteo buteo</i>								O													
BLACK EAGLE <i>Icthyaetus malayensis</i>												P	P				O				
[GREATER SPOTTED EAGLE <i>Aquila clanga</i>]	GT							[O]													
RUFous-BELLIED EAGLE <i>Hieraeetus hienerii</i>								O											NCL		
MOUNTAIN HAWK EAGLE <i>Spizaetus nipalensis</i>		[5]						O						[O]					NCL		
WHITE-RUMPED FALCON <i>Poliobherax insignis</i>	GNT		C			C															
PIED FALCONET <i>Microherax melanoleucos</i>	GNT						LF	LF											D1		
COMMON KESTREL <i>Falco tinnunculus</i>								O													
COMMON KESTREL/LESSER KESTREL <i>F. tinnunculus/naumanni</i>								O													
LITTLE GREBE <i>Tachybaptus ruficollis</i>								LC													
LITTLE EGRET <i>Egretta garzetta</i>										P											
GREY HERON <i>Ardea cinerea</i>								O													
POND-HERON SP. <i>Ardeola</i> (12)							C	C	C	P											
LITTLE HERON <i>Butorides striatus</i>				O			C			P	P		P								
CINNAMON BITTERN <i>Ixobrychus cinnamomeus</i>								P													
BLACK STORK <i>Ciconia nigra</i>								O											NCL		
EARED PITTA <i>Pitta phayrei</i>					P														D1		
BLUE-RUMPED PITTA <i>Pitta soror</i>	GNT																O		D1		
[RUSTY-NAPED PITTA <i>Pitta natesi</i>]														[O]					V		
BLUE PITTA <i>Pitta cyanea</i>											P			C					D1		
BLUE-EARED PITTA <i>Pitta cyanea</i> (<i>P. phayrei</i>) (calls)				O	O		P	O						C	O		F		V		
BLUE-WINGED PITTA <i>Pitta moluccensis</i>				P	C																
DUSKY BROADBILL <i>Corydon sumatranus</i>				LF	P								O						V		
BANDED BROADBILL <i>Eurylaimus javanicus</i>				C	C			O					O						V		
SILVER-BREADED BROADBILL <i>Serriophus lunatus</i>								O				P	P	P			O				
LONG-TAILED BROADBILL <i>Psalisomus dalhousiae</i>								O		P	P	C	C	C	P		C		D2		

SPECIES	Minor Sites	Site		Xe Bang Nouan NBCA			Nakay Plateau		Nakay Nam Theun NBCA					Nam Theun Extension	Historical	Voice useful in assessing abundance						
		Sector		W Lowlands		(Central)	E Lowlands		Nakay Plateau		S Mountains		N Mountains									
		Habitat		def/ndf	sef/ndf	sef/ndf/dauf	ddf	sef/ndf	pure/cf mosaic	degraded	sef/scrub	S Nakay Plateau degraded forest mosaic	S Nakay Plateau degraded forest mosaic				Ban Nakadok degraded forest mosaic	Ban Nakadok def	Mud Nam Xor def	def	Fdf	Pheu Laoke unit
		Altitude (m)		130-240	130-240	200-800	280-350	280-350	500-560	500-560	200-400	320-800	320-800				320-700	600-950	580-900	1,030-1,750	1,400-1,800	1,800-2,120
ASHY DRONGO <i>Dicrurus leucophaeus</i>		4b				O		C	C	P		P	P	P	C	P			D1	V		
BRONZED DRONGO <i>Dicrurus aeneus</i>			LF	C	P			C		C		P	P	P	F	P		O	D1			
LESSER RACKET-TAILED DRONGO <i>Dicrurus tenuifer</i>					C			C					C	C	C	C		C	D2			
SPANGLED DRONGO <i>Dicrurus hottentottus</i>		1,4b	C	C		P	C	C	C	C	P	P		P					D1			
GREATER RACKET-TAILED DRONGO <i>Dicrurus paradiseus</i>			LF	C	C	P	C	C	F	C	P		P	P				C	D1			
BLACK-NAPED MONARCH <i>Hypothymis azurea</i>		1,4a,5,7	C	C		C	C	C		C			P	P								
ASIAN PARADISE-FLYCATCHER <i>Terpsiphone paradisi</i>					C						P											
JAPANESE PARADISE-FLYCATCHER <i>Terpsiphone atrocaudata</i>	GNT															O			NCL			
COMMON IORA <i>Aegithina tupaia</i>								C				P								V		
GREAT IORA <i>Aegithina lafresmayei</i>		7						F											D1	V		
LARGE WOODSHRIKE <i>Tephrodornis gularis</i>			P	P				C					P			P		O	D1, D2			
COMMON WOODSHRIKE <i>Tephrodornis pondicerianus</i>						P				O												
BROWN DIPPER <i>Cinclus pallasi</i>	PARL													P		P		P	D1			
BLUE ROCK THRUSH <i>Monticola solitarius</i> (17)		4a						LC	F		P	P		P					D1			
BLUE WHISTLING THRUSH <i>Myophonus caeruleus</i>								LC		P			P	P		P		C	D1, D2	V		
ORANGE-HEADED THRUSH <i>Zoothera citrina</i>															P							
SIBERIAN THRUSH <i>Zoothera sibirica</i>															P							
SCALY THRUSH <i>Zoothera dauma</i>								O							P				D1			
DARK-SIDED THRUSH <i>Zoothera marginata</i>															P							
JAPANESE THRUSH <i>Turdus cardis</i>																		O	D1			
EURASIAN BLACKBIRD <i>Turdus merula</i>								C	C													
EYEBROWED THRUSH <i>Turdus obscurus</i>															P		P					
LESSER SHORTWING <i>Brachypteryx leucophris</i>															[P]				D1			
DARK-SIDED FLYCATCHER <i>Muscicapa sibirica</i> (18)		5							F						P			P				
MUGIMAKI FLYCATCHER <i>Ficedula mugimaki</i>								O								[O]						
RED-THROATED FLYCATCHER <i>Ficedula parva</i>		1,4a						C	C	P		C		LP					D1, D2, D3	V		
WHITE-GORGETHID FLYCATCHER <i>Ficedula nomileger</i>															C			O	D1			
SNOWY-BROWED FLYCATCHER <i>Ficedula hyperythra</i>															C	C			NCL	V		
LITTLE PIED FLYCATCHER <i>Ficedula westermanni</i>															P	C	P		NCL	V		
BLUE-AND-WHITE FLYCATCHER <i>Cyanoptila cyanomelana</i>								O														
VERDITER FLYCATCHER <i>Eumyias thalassina</i>								O	O				P			P						
LARGE NILTAVA <i>Niltava grandis</i>															C	C	P		NCL	V		
SMALL NILTAVA <i>Niltava macgrigoriae</i>													P		C	C		O	NCL	V		
FUJIAN/RUFIOUS-BELLIED NILTAVA <i>Niltava davidi</i> GNT/N: <i>sundava</i>								O					P					C				

SPECIES	Minor Sites	Site		Xe Bang Nouan NBCA		Nakay Plateau		Nakay Nam Theun NBCA						Historical	Voice useful in assessing abundance			
		Sector	W Lowlands	Central	E Lowlands	Nakay Plateau	Escarpment		N Mountains	C Mountains			Nam Theun Extension					
							S	S		def	def	def						
		Habitat	ad/mnt	scr/mnt	scr/mnt/def	def	scr/mnt	pine/scr moor	degraded	scr/scrub	Nam Phou scribble forest moor	Ban Nakadon degraded	Don Nakadon def			Mtd Nam Xoc def	def	def
Altitude (m)	130-240		130-240	200-800	250-350	250-350	500-500	700-500	200-400	320-800	350-200	600-950	580-900	1,000-1,750	1,400-1,800	1,800-2,120	000-000	
FUJIAN NILTAVA <i>Niltava davidi</i>	GNT																D1, D2	
WHITE-TAILED BLUE FLYCATCHER <i>Cyornis concretus</i>										P	P	P	P			C		V
HAINAN BLUE FLYCATCHER <i>Cyornis hainanus</i>		4b				C			P							C		
PALE BLUE FLYCATCHER <i>Cyornis uicolor</i>											P		P					
[HILL BLUE FLYCATCHER <i>Cyornis banyumas</i>]		[4a, 4b]				[P]						[P]	[P]					
[TICKELL'S BLUE FLYCATCHER <i>Cyornis tickelliae</i>]						[P]	[P]					[P]					D1	
HILL/TICKELL'S BLUE FLYCATCHER <i>Cyornis banyumas/C. tickelliae</i>						C	C	C	C			F						
PYGMY BLUE FLYCATCHER <i>Muscicapella hodgsoni</i>														LF			NCL	
GREY-HEADED CANARY FLYCATCHER <i>Culicicapa ceylonensis</i>		4a					C		P		C	C	C	C		F	D1	V
RUFous-TAILED ROBIN <i>Luscinia sibilans</i>							O			P	P					F	D1, D2	
SIBERIAN BLUE ROBIN <i>Luscinia cyane</i>							O											
ORANGE-FLANKED BUSH ROBIN <i>Tarsiger cyanurus</i>							O										D1	
ORIENTAL MAGPIE ROBIN <i>Copsychus saularis</i>						P	LC	C	P	C						LC		V
WHITE-RUMPED SHAMA <i>Copsychus malabaricus</i>		1,7		C	C	P	C	C	C	P	C	C						V
DAURIAN REDSTART <i>Phoenicurus aureus</i>																	D1	
WHITE-CAPPED WATER REDSTART <i>Chamaerornis leucocephalus</i>													P			P	NCL	
PLUMBEous WATER REDSTART <i>Rhyacornis fuliginosus</i>													P		C	P	D1	
WHITE-TAILED ROBIN <i>Myiomela leucura</i>														P	P	O		
SLATY-BACKED FORKTAIL <i>Enturus schistaceus</i>							O		P		P	P	C	C	C	C	D1	
WHITE-CROWNED FORKTAIL <i>Enturus leschenaulti</i>								P	P		P	P			O	O	D1	
GREEN COCHOA <i>Cochoa viridis</i>	GNT														P	P		V
COMMON STONECHAT <i>Saxicola torquata</i>							C	P		C				LC			D1, D2, D3	
PIED BUSHCHAT <i>Saxicola caprata</i>		4a																
GREY BUSHCHAT <i>Saxicola ferrea</i>		4a					C			C							D1	
CHESTNUT-TAILED STARLING <i>Sturnus malabaricus</i>							O											
WHITE-SHOULDERED STARLING <i>Sturnus sinensis</i>			P				O											
BLACK-COLLARED STARLING <i>Sturnus nigricollis</i>							O											V
COMMON MYNA <i>Acridotheres tristis</i>			P				LC		P									
WHITE-VENTED MYNA <i>Acridotheres cinereus</i>							C											
GOLDEN-CRESTED MYNA <i>Ampeliceps coronatus</i>	PARL		LP	LC	LC			P										
HILL MYNA <i>Gracula religiosa</i>		5	F	C	F		P	C	C	P			P					V
CHESTNUT-BELLIED NUTHATCH <i>Sitta castanea</i>					C		O										D1	
VIOLET-FRONTED NUTHATCH <i>Sitta frontalis</i>		7	P				C					P	P	P	C		D1, D2, D3	
BEAUTIFUL NUTHATCH <i>Sitta formosa</i>	GT												P	F			NCL	

SPECIES	Minor Sites	Site		Xe Bang Nonan NBCA			Nakay Plateau		Nakay Nam Theun NBCA						Historical	Voice useful in assessing abundance			
		Sector		E Lowlands	Nakay Plateau	Degraded	N		C			Nakay Plateau Extension							
		W Lowlands	Central				Mountains	Mountains	def	Ref	Phou Laoke and								
		Habitat	Habitat	Habitat	Habitat	Habitat	Habitat	Habitat	Habitat	Habitat	Habitat	Habitat							
Altitude (m)		110 240	130 240	200 800	280 350	280 350	500 560	500 560	200 400	520 800	750 700	800 950	580 800	1,000 1,750	1,100 1,800	1,200 2,120	600 900		
MOUNTAIN TAILORBIRD <i>Orthotomus cuculatus</i>																			
COMMON TAILORBIRD <i>Orthotomus sutorius</i>								C		P								V	
DARK-NECKED TAILORBIRD <i>Orthotomus atrogularis</i>			P	C	C		C	C	C	P	C	P	P				C	V	
DUSKY WARBLER <i>Phylloscopus fuscatus</i>							C	C		P	C							V	
RADDE'S WARBLER <i>Phylloscopus schwarzi</i>		5					F	C			P			LP				V	
LEMON-RUMPED WARBLER <i>Phylloscopus chloronotus</i>															F			NCL	
YELLOW-BROWED WARBLER <i>Phylloscopus inornatus</i>		4a,5,7						C	C	C		C	C	C	P	O	P	C	D1, D2, D3
GREENISH WARBLER <i>Phylloscopus trochiloides</i>								C				P							D2
PALE-LEGGED LEAF WARBLER <i>Phylloscopus tenellipes</i>								F			P	P							V
BLYTH'S LEAF WARBLER <i>Phylloscopus reguloides</i>								C										F	
WHITE-TAILED LEAF WARBLER <i>Phylloscopus davisoni</i>														C	C	C			NCL
YELLOW-VENTED WARBLER <i>Phylloscopus cantator</i>		GNT						LF				C	C				O		NCL
[SULPHUR-BREASTED WARBLER <i>Phylloscopus ricketti</i>]								[O]									[O]	[NCL]	
GOLDEN-SPECTACLED WARBLER <i>Seiurus burkii</i>								C			P	C	P	F	F	P	C		D1
GREY-CHEEKED WARBLER <i>Seiurus poliopteryx</i>																C	P		NCL
CHESTNUT-CROWNED WARBLER <i>Seiurus castaneiceps</i>														P	C	P			NCL
RUFOUS-FACED WARBLER <i>Abroscopus albogularis</i>												F	G	C	C		C		NCL
YELLOW-BELLIED WARBLER <i>Abroscopus superciliosus</i>		4a						C	C		P	C	P	C			O		D1
WHITE-CRESTED LAUGHINGTHRUSH <i>Garrulax leucolophus</i>			C	C	C	P	C	C	C	P			P						
LAUGHINGTHRUSH SP. <i>Garrulax</i> (calls)		4a,5										P	C	C					V
LESSER NECKLACED LAUGHINGTHRUSH <i>Garrulax moulezer</i>											P								
GREATER NECKLACED LAUGHINGTHRUSH <i>Garrulax pectoralis</i>																O		O	NCL
GREY LAUGHINGTHRUSH <i>Garrulax maesi</i>		GNT										P			C	C		C	D1
BLACK-THROATED LAUGHINGTHRUSH <i>Garrulax chinensis</i>		4b																O	D1, D2
CHESTNUT-CROWNED LAUGHINGTHRUSH <i>Garrulax erythrocephalus</i>																		C	NCL
RED-TAILED LAUGHINGTHRUSH <i>Garrulax milnei</i>		GNT													C	P			NCL
BUFF-BREASTED BABBLER <i>Pellorneum tickelli</i>		5																C	D1, D2
PUFF-THROATED BABBLER <i>Pellorneum ruficeps</i>		4a,7		G	C		C	C	C	C	P	P	P	P	P				D1
SCALY-CROWNED BABBLER <i>Malacopteron cinereum</i>				G	C		P	F											V
LARGE SCIMITAR BABBLER <i>Pomatorhinus hypoleucos</i>		7		C	C		C	O										O	V
WHITE-BROWED/STREAK-BREASTED SCIMITAR BABBLER <i>Pomatorhinus schisticeps/P. ruficollis</i>								P	P						P	P			D2
RED-BILLED SCIMITAR BABBLER <i>Pomatorhinus ochraceiceps</i>													P	P	C	P		O	NCL
CORAL-BILLED SCIMITAR BABBLER <i>Pomatorhinus ferruginosus</i>															C	C			NCL
SCIMITAR BABBLER SP. <i>Pomatorhinus</i>													F	O	C	O		F	V

SPECIES	Minor Sites	Site		Xe Bang Nouan NBCA			Nakay Plateau		Nakay Nam Theun NBCA						Nakay Theun Excretion	Historical	Voice useful in assessing abundance		
		Sector	Habitat	W	Central	E	Nakay Plateau	Escarpment	S	S	N		C						
				Lowlands	Lowlands	Lowlands	Plateau				Mountains	Mountains	Mountains	Mountains					
		Altitude /m	dd/ndd	sd/ndd	sd/ndd/ddd	ddd	sd/ndd	primeval mosaic	degraded	scrub/scrub	Nam Pheo scrub forest mosaic	degraded	Ban Nakadok	Ban Nakadok det				Mid Nam Xoi det	det
		120-240	130-240	200-800	280-330	280-350	500-500	500-400	200-400	320-800	530-700	600-950	580-900	1,000-1,750	1,400-1,800	1,500-2,120	600-900		
SHORT-TAILED SCIMITAR BABBLER <i>Jabouillea danjoui</i>	GT																P	NL	
STREAKED WREN BABBLER <i>Napothera brevicaudata</i>			4a										P	P	C		O	D1	
EYEBROWED WREN BABBLER <i>Napothera pilepudota</i>														P	P		C	D1	V
PYGMY WREN BABBLER <i>Proeopyga pusilla</i>															P			NCL	
SPOTTED WREN BABBLER S <i>pelacormis formosus</i>	GNT																P	NL	
RUFOUS-FRONTED/RUFOUS-CAPPED BABBLER <i>Stachyris rufifrons</i> / <i>S. ruficeps</i>								C											V
GOLDEN BABBLER <i>Stachyris chrysaea</i>														C	C	P	C	D1	V
GREY-THROATED BABBLER <i>Stachyris nigriceps</i>							O			P			C	C	C	C	C		V
SPOT-NECKED BABBLER <i>Stachyris striolata</i>			5									P		P			F	D1	
STRIPED TIT BABBLER <i>Macronous gularis</i>		1,4a,5,7	P	C	C	C	C	C	C	P	C	C	C	O			C	D1	V
YELLOW-EYED BABBLER <i>Chrysomma sinense</i>																		D1	
SILVER-EARED MESIA <i>Leiothrix argenteauris</i>														C	C		O	D1	V
CUTIA <i>Cutia nepalensis</i>															O			NCL	
WHITE-BROWED SHRIKE BABBLER <i>Pteruthius flaviscaps</i>														C	C	C	O	NCL	V
BLACK-EMBAY SHRIKE BABBLER <i>Pteruthius melanotis</i>														P	P			NCL	
CHESTNUT-FRONTED SHRIKE BABBLER <i>Pteruthius aenobarbus</i>															O		O	NCL	
WHITE-HOODED BABBLER <i>Gampsorhynchus rufulus</i>							O					P	P	P			O	D2	
SPECTACLED BARWING <i>Actinodura ramsayi</i>														P	F			NCL	
BLUE-WINGED MINLA <i>Minla cyanouroptera</i> (19)														P	C	C	P	NCL	
CHESTNUT-TAILED MINLA <i>Minla strigula</i>														LP		C		NCL	
RED-TAILED MINLA <i>Minla ignotincta</i>															C	C		NL	
RUFOUS-WINGED FULVETTA <i>Alcippe castaneiceps</i>														C	C	C		NCL	
SPECTACLED FULVETTA <i>Alcippe ruficapilla</i>	GNT															P		NCL	
RUFOUS-THROATED FULVETTA <i>Alcippe rufogularis</i>	GNT						O					LP						D2	V
RUSTY-CAPPED FULVETTA <i>Alcippe dubia</i>															C			NCL	
GREY-CHEEKED FULVETTA <i>Alcippe morrisonia</i> (22)			[5]				C			P	P	P	P	C	C	C	C	D1, D2	V
LONG-TAILED SIBIA <i>Heterophasia picaoides</i>															C	C	P	NCL	V
STRIATED YUHINA <i>Yuhina castaneiceps</i>																	O	D1	
WHISKERED YUHINA <i>Yuhina flavicollis</i>														LP	O	C		NCL	
BLACK-CHINNED YUHINA <i>Yuhina nigrimenta</i>																	O	D1	
WHITE-BELLIED YUHINA <i>Yuhina zantholeuca</i>		4a,5,7		F	C		C			P	P	C	C	P			C	D1	V
GREY-HEADED PARROTBILL <i>Paradoxornis gularis</i>															P	P		NCL	
GOLDEN PARROTBILL <i>Paradoxornis verreauxi</i>																P		NCL	
LARK SP. <i>Mirafra/Alauda</i> (21)			P														P		

SPECIES	Minor Sites	Xe Bang Nouan NBCA			Nakay Plateau		Nakay Nam Theun NBCA						Nakay Nam Theun Estimation	Historical	Voice useful in assessing abundance		
		Sector		E Lowlands	Nakay Plateau		S Mountains	S Mountains	N Mountains		C Mountains						
		W Lowlands	Central		Nakay Plateau	S Mountains			N Mountains	C Mountains							
		Habitat	set/mf	set/mf/ldf	ldf	set/mf	pluvial/mosaic	dry/rd/ld	set/scrub	Nam Theun scrub forest mosaic	Ban Nakhon degraded	Ban Nakhon lsd				Mul Nam Nor lsd	ldf
Altitude (m)	150-240	130-240	200-300	280-350	280-350	500-560	500-560	200-400	520-800	350-700	000-950	300-300	1,000-1,750	1,400-1,800	1,200-2,120	000-900	
THICK-BILLED FLOWERPECKER <i>Dicaeum agile</i>			P			O											
YELLOW-VENTED FLOWERPECKER <i>Dicaeum chrysorrheum</i>						O											
PLAIN FLOWERPECKER <i>Dicaeum concolor</i>						C					P						D1
FIRE-BREASTED FLOWERPECKER <i>Dicaeum ignipectus</i>													C	P			
SCARLET-BACKED FLOWERPECKER <i>Dicaeum cruentatum</i>		P	P	C		F	C										
FLOWERPECKERS spp. <i>Dicaeum</i>		C	C	C	P	P	P	P	P	P	P	P	P	P	P		
RUBY-CHEEKED SUNBIRD <i>Anthreptes singalensis</i>			P	P			O			P		P					
PURPLE-NAPEL SUNBIRD <i>Hypogrammina hypogrammicum</i>		5	P	P			C		P		P		C			O	D1 V
OLIVE-BACKED SUNBIRD <i>Nectarina jugularis</i>			P	P	P												
MRS GOULD'S SUNBIRD <i>Aethopyga gouldiae</i>													F	C			NCL
GREEN-TAILED SUNBIRD <i>Aethopyga nipalensis</i>															C		NCL
FOUR-TAILED SUNBIRD <i>Aethopyga christinae</i>							F		P		C	G	P			C	NL V
BLACK-THROATED SUNBIRD <i>Aethopyga saturata</i>											P	P	C			O	D1, D2
CRIMSON SUNBIRD <i>Aethopyga siparaja</i>		7	P				C	C	P	C	C						D1, L1 V
LITTLE SPIDERHUNTER <i>Arachnothera longirostris</i>		4a					O			P	P	P				O	V
STREAKED SPIDERHUNTER <i>Arachnothera magna</i>		4a					C		P	P	C	C	C	P		C	D1, D2 V
PLAIN-BACKED SPARROW <i>Passer flaveolus</i>			P					O									
EURASIAN TREE SPARROW <i>Passer montanus</i> (23)			P					LC		P							
FOREST WAGTAIL <i>Dendronanthus indicus</i>							O										
WHITE WAGTAIL <i>Motacilla alba</i> (24)							C	C		P		P					D1
YELLOW WAGTAIL <i>Motacilla flava</i> (25)								P									
GREY WAGTAIL <i>Motacilla cinerea</i>							C	C	P	P		P				C	D1 V
RICHARD'S PIPIT <i>Anthus richardi</i>								LC		P							D1 V
PADDYFIELD PIPIT <i>Anthus rufus</i>								C									V
OLIVE-BACKED PIPIT <i>Anthus hodgsoni</i>		4a					C	C	P		C					LP	V
RED-THROATED PIPIT <i>Anthus cervinus</i>								C									V
WHITE-RUMPED MUNIA <i>Lonchura striata</i>		4a,7	P	LP			O	F		P							
SCALY-BREASTED MUNIA <i>Lonchura punctulata</i>																	D1
CRESTED BUNTING <i>Melophus lathami</i>																	D1, D3
CHESTNUT-EARED BUNTING <i>Emberiza fucata</i>		4a						O									NCL
LITTLE BUNTING <i>Emberiza pusilla</i>												O					D1
YELLOW-BREASTED BUNTING <i>Emberiza aureola</i>		4a						O									
CHESTNUT BUNTING <i>Emberiza rutila</i>														O			NCL

APPENDIX 3

GAZETTEER

The gazetteer follows the same format as that in Thewlis *et al.* (1996). All localities are placed in two biogeographical classifications: the 'North' (N), 'Central' (C) and 'South' (S) Laos of King *et al.* (1975) and the Central Indochina (10a) or Annam Trung-Song Mountains (10b) subunits of MacKinnon and MacKinnon (1986). Co-ordinates, altitude and place-names have been standardized to follow the *Republique Democratique Populaire Lao Service Geographique d'Etat* 1:100,000 map series, except for the Bolaven Plateau and Mekong (which are mapped as, respectively, Phoupiang Bolaven and Nam Khong). Local names are used for sites not named on these maps, and are labelled 'not marked' in the first column, below. Co-ordinates are given as points for small sites and ranges for large areas or rivers.

Alternative spellings relate to the following texts indicated by superscript numbers: 1: *The Times atlas of the world* (1985) 7th edition; 2: Nelles 1:1,500,000 map of Vietnam, Laos and Kampuchea; 3: Delacour (1929); 4: Dickinson (1970). Sites within protected areas are not detailed, since they lie within the co-ordinates given for that site. Co-ordinates are rounded to the nearest minute.

Locality	Alternative names in references	Biogeographical Position	Altitude/m
Regions and protected areas			
Phou Khao Khouay NBCA 18°14' - 18°34' N 102°44' - 103°29' E	Not marked ^{1,2}	N, 10a	100-1,600
Nam Theun Extension 18°21' - 18°48' N 104°45' - 105°12' E	Not marked ^{1,2}	N, 5b	not known
Nakay-Nam Theun NBCA 17°34' - 18°23' N 105°02' - 105°46' E	Not marked ^{1,2}	C, 5b	200-2,284
Nam Theun Corridor 17°46' - 18°10' N 104°48' - 105°06' E	Not marked ^{1,2}	C, 5b/10a	not known
Hin Namno NBCA 17°25' - 17°40' N 105°43' - 106°09' E	Not marked ^{1,2}	C, 5b	100-800
Khammouane Limestone NBCA 17°26' - 18°05' N 104°25' - 105°10' E	Not marked ^{1,2}	C, 10a	200-800
Nakay Plateau 17°36' - 17°58' N 104°54' - 105°30' E	Not named ² Nakay and Nam-Teun ³ Nakai area ⁴	C, 5b	500-600
Phou Xang He NBCA 16°42' - 17°04' N 105°19' - 106°06' E	Not marked ^{1,2}	C, 10a	150-816
Xe Bang Nouan NBCA 15°44' - 16°01' N 105°33' - 106°18' E	Not marked ^{1,2}	S, 10a	100-1,200
Bolaven Plateau 14°42' - 15°30' N 106°00' - 106°30' E	Plateau des Bolovens ¹ Bolovens Plateau ²	S, 10a	500-1,700
Sites			
Mekong River in Vientiane 17°58' N 102°36' E	—	C, 10a	160
Ban Pakthoay 17°58' N 102°36' E	Not marked ^{1,2}	N, 10a	140
Ban Nape 18°18' N 105°04' E	Nape ^{1,3,4} , Ban Nape ²	N, 5b	520
Pha Hua 18°13' N 104°56' E	Not named ²	C, 5b	560
Ban Lak (20) 18°11' N 104°59' E	Lak Sao ¹ , Not named	C, 5b	520
Ridge south of Ban Lak (20) 18°08' N 104°54' E	Not marked ^{1,2}	C, 5b	500-880
Thakhek 17°23' N 104°49' E	Thakhek ¹ , Muang	C, 10a	140
Ban Lak Khao (not marked) 17°27' N 105°07' E	Khammouane ¹ , Thakkek ² Not marked ^{1,2}	C, 10a	180
Ban Nakayak 17°28' N 105°07' E	Not marked ^{1,2}	C, 10a	160
Ban Nampik (not marked) 17°28' N 105°08' E	Not marked ^{1,2}	C, 10a	160
Xe Banghiang 16°03' - 16°54' N 105°15' - 106°27' E	Se Bang Hieng ^{1,2}	C/S, 10a/5b	130-280